PROPERTY ASSESSMENT MANUAL

FOR

WISCONSIN ASSESSORS

VOLUME II

Residential, Apartments and Agricultural

2001

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2001 Wisconsin Real Property Assessment Manual

Volume II – Residential, Apartments and Agricultural

Introduction

The purpose of the Wisconsin Property Assessment Manual is to establish standards, procedures and guidelines to be followed by the local assessing officials in the appraisal of real estate in the State of Wisconsin.

Volume II includes instructions, cost tables, depreciation and residual schedules, area modifiers, and a glossary of terms for Residential, Apartment and Agricultural buildings. Basis of the Manual is the January 1, 2000 local construction costs. Sixteen area modifiers are included to reflect local conditions.

Careful reading of the instructions will enable assessors to make accurate appraisals with the data provided in this Manual. The Manual, which is furnished as a guide to assessors, is not meant to replace the common sense necessary in any appraisal. The combination of carefully developed data with the assessor's sound judgment will result in more uniform and equitable assessment of real property in Wisconsin.

Acknowledgements

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To the Marshall & Swift Company, for its cooperation and the efforts of its staff for completing the difficult task of updating the Manual and compiling cost data.

To the assessors who took time out of their busy schedules to review the Manual and to make suggestions to improve its value for other assessors.

To the Bureau of Equalization staff members who assisted in reviewing the Manual and providing information during their busiest time of year.

To the many contractors, builders and suppliers who provided the cost information and local experience to build this Wisconsin based cost Manual.

An appraisal, or an assessment, in itself, is nothing more than an opinion of value. This does not imply, however, that one opinion is necessarily as good as another; there are valid and accurate assessments, and there are invalid and inaccurate ones. The validity of an assessment can be measured against the supporting evidence from which it was derived, and its accuracy against that very thing it is supposed to predict—the actual behavior of the market. Each is fully contingent upon the ability of the assessor to document adequate data and to interpret that data into an indication of value.

FULL MARKET VALUE

The basis for the assessor's valuation of real property is found in s. 70.32, (1) Stats.,"Real property shall be valued by the assessor in the manner specified in the Wisconsin Property Assessment Manual under s. 73.03(2a), Stats., from actual view or from the best information that the assessor can practicably obtain at the full value which could ordinarily be obtained therefor at private sale." Numerous Wisconsin court cases have held that full value is equivalent to market value.

In the book *Real Estate Appraisal Terminology*, market value is defined as, "The highest price in terms of money which a property will bring in a competitive and open market under all conditions requisite to a fair sale. The buyer and seller, each acting prudently, knowledgeably and assuming the price is not affected by undue stimulus." Thus, the goal of the assessor is to estimate the full or market value of the real property.

TRADITIONAL APPROACHES TO VALUE

Market value can be defined for many different purposes, and the forces which create, sustain or destroy value are numerous and varied. The assessor's function is to compile and analyze related data, consider all factors influencing value, and process and translate that data into a final conclusion or estimate of value. The assessor must do this for each property.

Three approaches can be used to process this data into an estimate of market value. These approaches are: the Cost Approach, the Direct Sales Comparison Approach and the Income Approach. Each approach is based on the principle that the market value of a property is no more than the cost of acquiring and/or reproducing an equally desirable substitute property. The quantity, quality and accuracy of the data available to the assessor determines which approach or approaches the assessor should use.

THE COST APPROACH involves estimating the depreciated cost of reproducing or replacing the building and site improvements. Reproduction Cost refers to the cost of reproducing a replica property, whereas Replacement Cost refers to the cost of producing improvements of equal utility. From this cost new, depreciation is deducted for loss in value caused by physical deterioration and functional and economic obsolescence. The estimated value of the land is added to the depreciated cost to give an estimate of the market value of the property.

The benefit of the Cost Approach lies in its extent of application; it is the one approach that can be used on all types of properties. It is a starting point for assessors and therefore a very effective "yardstick" in estimating market value. Its widest application is in assessing properties lacking adequate market and income data.

THE DIRECT SALES COMPARISON APPROACH involves compiling sales of properties which are comparable to the property being assessed. These sales are then adjusted for any differences, and a value estimate is obtained by comparing the adjusted prices of the sold properties. The approach is most valid when the sold properties are very similar to the subject property. The procedure for using this approach is essentially the same for all types of property, with the only difference being the elements of comparison.

The benefit of this approach lies in its ability to produce estimates of value which directly reflect the actions of the market. Its application depends upon the availability of comparable sales.

THE INCOME APPROACH measures the present worth of the future benefits of a property by capitalizing the net income stream over the remaining economic life of the property. The approach involves making an estimate of the economic rent of a property, deducting the appropriate vacancy and collection losses and all applicable operating expenses, such as the cost of insurance and reserve allowances for replacements, to derive the net income, which is capitalized into an estimate of market value.

The income approach is most often used to assess commercial properties but can be used to assess any income-producing property. The income approach requires the assessor to be able to relate to the changing economic environment and to analyze income, expenses and capitalization rates.

These three approaches to value are discussed in greater detail in Volume I and in most assessment and appraisal textbooks.

The Cost Approach assumes that a valid indication of value may be derived by estimating the value of the land, and adding the land value to the depreciated cost of the structures on the land; the general cost approach model is:

Estimated Land Value
\+ Estimated Replacement Cost New of Structures
\- Estimated Depreciation
= Indication of Property Value

Volume II is designed to assist the assessor in estimating the Replacement Cost and the Depreciation for the various structures.

REPLACEMENT COST

Replacement Cost is the current cost of producing an improvement of equal utility to the subject property; it may or may not be the cost of reproducing a replica property. The distinction is between Replacement Cost, which refers to a substitute property of equal utility, and Reproduction Cost, which refers to a substitute replica property. In a particular situation the two concepts may be interchangeable, but they are not necessarily so. They both, however, have application in the Cost Approach to value, the difference being reconciled in the consideration of depreciation allowances.

In actual practice, outside of a few historic-type communities in this country, developers and builders for obvious economic reasons replace buildings, not reproduce them. It logically follows that if an assessor's job is to measure the actions of knowledgeable persons in the market place, the use of proper replacement costs should provide an accurate point of beginning in the valuation of most improvements.

The replacement cost includes the total cost of construction incurred by the builder, whether preliminary to, during the course of, or after completion of the construction of a particular building. Among these are material, labor, all subcontracts, builders' overhead and profit, architectural and engineering fees, consultation fees, survey and permit fees, legal fees, taxes, insurance and cost of interim financing.

DEPRECIATION

Simply stated, depreciation can be defined as a loss in value from all causes. As applied to real estate, it represents the loss in value between market value and the sum of the replacement cost new of the improvements plus the land value as of a given time. The causes for the loss in value may be divided into three broad classifications: physical deterioration, functional obsolescence, and economic obsolescence.

Physical deterioration is the wearing out of the various building components, referring to both short-life and long-life items, through the action of the elements, age and use. The condition may be considered either curable or incurable, depending upon whether it may or may not be practical and economically feasible to cure the deficiency by repair and replacement.

Functional Obsolescence is caused by either inadequacies or overadequacies in design, style, composition or arrangement inherent in the structure itself, which lessen its usefulness. Like physical deterioration, the condition may be considered either curable or incurable. Some of the more common examples of functional obsolescence are excessive wall and ceiling heights, excessive structural construction, surplus capacity, ineffective layouts and inadequate building services.

Economic Obsolescence is caused by factors extraneous to the property, such as changes in population characteristics and economic trends, encroachment of inharmonious land uses and governmental restrictions. The condition is generally incurable in that the causes lie outside the property owner's realm of control.

ESTIMATING DEPRECIATION

Depreciation represents the assessor's estimate of the degree that the present and future appeal of a property has been diminished by deterioration and obsolescence. Of the three estimates necessary to the Cost Approach, depreciation is the most difficult. The accuracy of the estimate will be a product of the assessor's experience in recognizing the symptoms of deterioration and obsolescence, and the ability to exercise sound judgment in equating all observations to the proper amount to be deducted from the replacement cost new. Several acceptable methods may be employed:

- Physical deterioration and/or functional obsolescence can be measured by observing and comparing the physical condition and/or functional deficiencies of the subject property as of a given date with either an actual or hypothetical comparable, new and properly planned structure.
- Curable physical deterioration and functional obsolescence can be measured by estimating the cost of restoring each item of depreciation to a physical condition as good as new, or estimating the cost of eliminating the functional deficiency.
- Functional and economic obsolescence can be measured by capitalizing the estimated loss in rental due to the deficiency.
- Total accrued depreciation may be estimated by first estimating the total useful life of a structure and then translating its present condition, desirability and usefulness into an effective age (rather than an actual age) which would represent that portion of its total life (percentage) which has been used up.
- Total accrued depreciation can be estimated by deriving the amount of depreciation recognized by purchasers as evidenced in the prices paid for property in the marketplace; the loss of value is the difference between the cost of replacing the structure new and its actual selling price (total property selling price less the estimated value of the land).

In addition to providing an estimate of market value, the Cost Approach provides the assessor with a data inventory of each property. The assessor must make a complete interior and exterior inspection of each property in order to apply the Cost Approach. This inspection will enable the assessor to make the comparisons and evaluations necessary to apply the Direct Sales Comparison and Income Approaches. The assessor can also use the inspection to verify the information provided on building permits and to make note of any other changes to the property since the previous inspection.

Volume II explains how the assessor can use the Cost Approach to develop market value estimates for residential, apartment and agricultural properties.

INTRODUCTION

The property record card is the most valuable single document available to the appraiser. Its main use is as a listing document. It provides space to accurately list in detail all of the pertinent characteristics of the subject property that contribute to value. This gives the appraiser a mental picture of what actually constitutes each subject property. Space is provided on the property record card (PRC) to price the land and improvement by utilizing this manual's cost approach to value. Other features of the PRC include an area for sales data, past assessment information, building permit records, etc.

The PRC is a four-sided folder card. The front side is utilized to enter property identification data such as parcel number, name and address of owner, legal description, etc. The area is large enough to incorporate preprinted labels if desired. Up to three years of assessment history can also be posted on the front side of the property record card.

The second side provides an area for a detailed listing of the dwelling characteristics, an area to sketch the dwelling and a pricing ladder to compute the value of the dwelling utilizing the cost approach to value.

Other features and additional attachments not found in the cost tables of this manual are listed and priced on the third side of the property record card. An area is also provided on the third side to list and price other minor buildings and apartments. A blank area is provided to attach a photograph and make notations.

The fourth side of the property record card provides space for all land listing data and computations including: a sketch of the parcel, property identifiers such as parcel number and property location, sales data, building permit records and the assessor's final report information.

The four-sided folder property record card was designed to meet the appraiser's needs as a functional, useful document in the assessment process. It was designed to provide the appraiser with one single detailed document containing all pertinent property characteristics necessary to make a sound, timely appraisal and to provide adequate listing documentation to assist in defending that appraisal.

The Pricing Schedules and Cost Tables in this manual are provided to assist the appraiser in arriving at accurate and uniform valuations. Used properly, they should prove to be an invaluable tool. Quality Valuations, however, are not the product of schedules and tables themselves, but rather of the appraiser's ability to use them effectively. In order to bring this about, a thorough understanding of the make-up, and the capabilities and limitations of each schedule, is essential. The appraiser must know the specifications from which the base prices were derived, the composition of the prices, and the proper techniques and procedures for applying the prices. More important, the appraiser must be able to exercise good common sense and sound judgment in selecting and using them.

Extensive effort has been made in developing the schedules to minimize these compromises and limit them to variables which have minimal influence on the final value of the building. The schedules have been designed to reflect actual building costs and practices. Field tests have proven them to be both accurate and reliable, and, when applied properly, highly effective in arriving at realistic replacement costs.

Pricing schedules and related cost tables are included in this manual to assist the appraiser in arriving at an accurate estimation of Replacement Cost New. They have been developed by applying unit-in-place costs to the construction of specified hypothetical or model buildings. Application of the schedules involves the selection of the model in terms of component construction which most nearly resembles the subject building and adjusting its price to compensate for all significant variations.

Cost adjustments for the variations which are most frequently encountered in a particular type building are included. Adjustments for other variations may be made by using either the Other Features cost tables, or other appropriate schedules.

SIDE 1: PROPERTY ID & ASSESSMENT HISTORY

A blank area on the front side of the property record card is provided for property identifiers such as parcel number, name and address of owner, legal description, etc. This area is large enough to incorporate labels preprinted with this information.

The lower portion of the front side of the property record card provides space to enter three years of assessment history by class for land, improvements and total assessments. It also provides space to enter the number of acres and dollar assessment value per acre by class. Areas not requiring entries are indicated by X's.

SIDE 2: IMPROVEMENT DATA

VACANT LOT

If the parcel is vacant, circle the descriptor V and do not enter any other data on this side of the card.

DWELLING

If there is a dwelling on the parcel, circle the descriptor D and enter the appropriate data necessary.

OTHER

If the parcel is not vacant but contains buildings that would be listed under Other Building Improvements and/or the Gross Building Summary, circle the descriptor O and enter the appropriate data necessary.

STORY HEIGHT

Circle the numeric characters that are most representative of the story height of the dwelling.

Circle 1.0 to indicate one story.
Circle 1.5 to indicate one and one-half stories.
Circle 2.0 to indicate two stories.
Circle 2.5 to indicate two and one-half stories.
Circle 3.0 to indicate three stories.

Note: Refer to story height illustrations found in the appendix of this manual.

STYLE

Circle the numeric code (01-13) which is most representative of the style of the dwelling. Only one entry may be circled.

Circle 01 to indicate RANCH
Circle 02 to indicate BI-LEVEL
Circle 03 to indicate SPLIT-LEVEL
Circle 04 to indicate CAPE COD
Circle 05 to indicate COLONIAL
Circle 06 to indicate CONTEMPORARY
Circle 07 to indicate TOWNHOUSE
Circle 08 to indicate RESIDENCE O/S
Circle 09 to indicate EXECUTIVE/MANSION
Circle 10 to indicate COTTAGE
Circle 11 to indicate DUPLEX
Circle 12 to indicate CONDOMINIUM
Circle 13 to indicate OTHER
Circle 14 to indicate MOBILE

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STYLE					
01	RANCH	06	CONTEMPORARY	11	DUPLEX
02	BI-LEVEL	07	TOWN HOUSE	12	CONDOMINIUM
03	SPLIT LEVEL	08	RESIDENCE O/S	13	OTHER
04	CAPE COD	09	EXECUTIVE/MANSION	14	MOBILE
05	COLONIAL	10	COTTAGE		

Note: Style should be circled for all residential dwellings whether they be single-family residences or multifamily such as duplexes or condominiums.

USE

If the dwelling being listed is a multifamily unit such as a duplex or condominium, the numeric code which is most representative of the use should be circled. The following example shows a Colonial-style duplex listed as Colonial under style and duplex under use.

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STYLE					
01	RANCH	06	CONTEMPORARY	(11)	DUPLEX
02	BI-LEVEL	07	TOWN HOUSE	12	CONDOMINIUM
03	SPLIT LEVEL	08	RESIDENCE O/S	13	OTHER
04	CAPE COD	09	EXECUTIVE/MANSION	14	MOBILE
(05)	COLONIAL	10	COTTAGE		

Note: If the dwelling is a single-family residence, use is to be left blank.

EXTERIOR WALL CONSTRUCTION

Circle the numeric code which is most representative of the exterior wall construction of the dwelling.

Circle 1 to indicate WOOD ..... will be priced as Frame.
Circle 2 to indicate CONCRETE BLOCK ..... will be priced as Concrete Block.
Circle 3 to indicate STUCCO ..... will be priced as Frame.
Circle 4 to indicate ALUMINUM/VINYL ..... will be priced as Frame.
Circle 5 to indicate CEMENT FIBER (ASBESTOS) ..... will be priced as Frame.
Circle 6 to indicate METAL ..... will be priced as Frame.
Circle 7 to indicate BRICK ..... will be priced as Brick or Stone.
Circle 8 to indicate STONE ..... will be priced as Brick or Stone.
Circle 9 to indicate MASONRY/FRAME ..... will be priced as Masonry Veneer or Frame with a Masonry Adjustment
Circle 10 to indicate HARDBOARD/PLYWOOD ..... will be priced as Frame.
Circle 11 to indicate SHINGLE/SHAKE ..... will be priced as Frame.
Circle 12 to indicate SYNTHETIC PLASTER on RIGID INSULATION (EIFS) ..... will be priced as Frame.
Circle 13 to indicate MASONRY VENEER ..... will be priced as Masonry Veneer.
Circle 14 to indicate STAY-IN-PLACE POURED CONCRETE (SIP) ..... will be priced as Concrete Block.
Circle 15 to indicate LOG ..... will be priced as Rustic Log.
Circle 16 to indicate HAND-HEWN LOG ..... will be priced as Hand-Hewn Log.
Circle 17 to indicate OVERSIZED LOG ..... will be priced as Hand-Hewn Log.
Circle 18 to indicate OTHER ..... to be determined by Assessor.

505	EXTERIOR WALL CONSTRUCTION					
	1	WOOD	7	BRICK	13	MASONRY VENEER
	2	BLOCK	8	STONE	14	SIP
	3	STUCCO	9	MASONRY/FRAME	15	LOG
	4	ALUM/VINYL	10	HRDBRD/PLYWD	16	HAND-HEWN LOG
	5	CEMENT FIBER	11	SHINGLE/SHAKE	17	OVERSIZED LOG
	6	METAL	12	EIFS	18	OTHER

Note: Refer to residential cost schedule section of this manual.

AGE

Space is provided to enter four numeric characters denoting the year of construction and four numeric characters denoting the year of remodeling.

510	AGE	
	ERECTED __ __ __ __	REMODELED __ __ __ __

ERECTED

Refers to the original date of construction. This item should always be entered. If the exact date cannot be determined, make the best estimate possible based on known construction dates in the immediate area.

REMODELED

Refers to the date of the last extensive remodeling, i.e., remodeling which significantly alters the "effective age" of the dwelling. If the dwelling has not been remodeled, leave the item blank.

BASEMENT

Refers to the extent or size of the basement. Three alternatives are provided. Circle the numeric code which is most representative of the subject property. Only one selection should be circled.

515	BASEMENT		
	1 NONE	2 CRAWL	3 FULL

Circle 1 NONE to indicate slab construction: no basement or crawl space.
Circle 2 CRAWL to indicate crawl space to ¼ basement excavation.
Circle 3 FULL to indicate ¾ to full basement excavation area.

Note: These basement ratings correspond to the total first floor living area (including additions).

HEATING

Refers to the presence and type of heating system. Four (4) alternatives are provided. Circle the type code which is most representative of the subject property. Only one selection may be circled.

520	HEATING			
	1	2	3	4
	NONE	BASIC	AIR CON	AIR CON (SEP DUCTS)

Circle 1 NONE to indicate that the subject dwelling does not have a heating system, which can be classified as BASIC, warranting a full deduction from the Base Price for "no heating" as indicated by the pricing schedule.

Circle 2 BASIC to indicate that the subject dwelling has a central heating system commensurate with the quality grade specifications of the dwelling, warranting no addition to or deduction from the Base Price.

Circle 3 AIR CON to indicate that in addition to the BASIC heating system, the subject dwelling has a central cooling system commensurate with quality grade specifications of the dwelling, warranting an addition to the Base Price for "air conditioning" as indicated by the pricing schedule. If a cooling system as described exists, circle this numeric code only. This code implies that a combined central heating and air conditioning system exists.

Circle 4 AIR CON (SEP DUCTS) to indicate that in addition to the BASIC heating system, the subject dwelling has a central cooling system commensurate with quality grade specifications of the dwelling, warranting an addition to the Base Price for "air conditioning" as indicated by the pricing schedule. If a cooling system as described exists, circle this numeric code only. This code implies that a separate cooling system exists.

Note: Permanent "non-central" types of heating/air conditioning systems should be listed as no heat (1-none) and priced in the Other Features section under Total Additional Other Features (field 559).

HEATING FUEL TYPE

Refers to the type of fuel used to power the heating system. Four (4) alternatives are provided, but only one may be circled.

	FUEL TYPE			
520	1 GAS	2 ELECT	3 OIL	4 WD/COAL

Circle 1 to indicate GAS
Circle 2 to indicate ELECTRIC
Circle 3 to indicate OIL
Circle 4 to indicate WD/COAL or a woodburning or coal central heating system.

Note: If NONE has been circled for heating entry, leave this entry blank.

HEATING SYSTEM TYPE

Refers to the actual type of heating system. Four (4) alternatives are provided. Only one selection should be circled.

	SYSTEM TYPE			
520	1 WARM AIR	2 ELECT	3 HOT WATER	4 STEAM

Circle 1 WARM AIR to indicate the presence of a forced warm-air system. With this system, the furnace has a fan or blower that pushes the warmed air through relatively small ducts. These ducts may run horizontally or vertically. Filters can be installed in the system to clean the air, and a humidifying system may be included to add the needed moisture.

Circle 2 ELECTRIC to indicate the presence of an electric heating system. This system is characterized by electric resistance elements that convert electricity into heat. These elements are embedded in the floors, walls and ceilings or baseboard to provide radiant heat.

Circle 3 HOT WATER to indicate the presence of a hot water (hydronic) system. With this system, water is heated in a boiler of cast iron or steel. It is then pumped by one or more circulators through small tubes into baseboard panels, radiators or tubes which are embedded in the walls, ceilings or concrete slab.

Circle 4 STEAM to indicate the presence of a steam heating system. With this system, steam heat is produced by a furnace which is a boiler with a firebox underneath it. When the water in the boiler boils, it makes steam, which is forced by pressure through pipes into radiators throughout the dwelling.

Note: If NONE has been circled for heating entry, leave this entry blank.

LIVING ACCOMMODATIONS

Blanks are provided to enter either one or two numeric characters denoting the quantities of each of the items described below. Each character position should be filled in. If the item does not exist, zeros or hash marks should be entered for assurance of a more complete, accurate and uniform record keeping system.

TOTAL ROOMS - Refers to the total number of separate rooms, excluding bathroom(s), comprising the living area of the dwelling, i.e., kitchens, living rooms, dining rooms, family rooms, dens, studies and bedrooms.

BEDROOMS - Refers to the total number of separate rooms designed to be used as bedrooms. If a room was designed to be a bedroom but is being utilized for some other purpose, such as a den, it is to be included in this count.

FAMILY ROOMS - Refers to the number of informal living rooms. The quality of finish is consistent with the general finish of the dwelling.

FULL BATHS - Refers to the number of three-fixture bathrooms which include a water closet, lavatory and bathtub or shower stall. (A bathtub with a shower outlet is considered one fixture.)

HALF BATHS - Refers to the number of two-fixture toilet rooms including a water closet and lavatory.

ADDITIONAL FIXTURES - Refers to individual fixtures that do not fall into the categories previously named, i.e., utility sinks, water closets, etc.

Note: Each style/grade of dwelling has a standard complement of fixtures built into its base price. A standard complement includes a kitchen sink, hot water heater and three bathroom fixtures (a full bath) totaling five fixtures.

Additional fixtures are those fixtures in the dwelling that are in addition to the standard complement and also in addition to any full or half bathrooms.

TOTAL FIXTURES - Refers to the total number of plumbing fixtures. This includes the standard complement of five fixtures plus any additional fixtures found in the dwelling.

ROUGH-IN - Refers to the total number of plumbing rough-ins. None are included in the Base Dwelling Price. Add as needed. A rough-in consists of a drain and water line hookup for laundry facilities or for future plumbing installations.

WHIRLPOOL TUB - Indicates a deluxe bathtub (Jacuzzi) with water jets to produce a therapeutic massage.

HOT TUB - Indicates a therapeutic tub, sometimes referred to as a redwood hot tub, which can be found either indoors or outdoors, usually for two or more persons.

The example below shows the correct listing for a dwelling with a total of eight rooms, four of which are bedrooms, and one of which is a family room; the dwelling also has two full baths, one half bath and one additional fixture (a utility sink). There are three rough-ins for a future bath. There is also one whirlpool tub.

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LIVING ACCOMMODATIONS				
TOTAL ROOMS 0 8	BED ROOMS 0 4	FAMILY ROOMS 0 1		
FULL BATHS 2	HALF BATHS 1	ADDN'L FIXTURES 1	TOTAL FIXTURES 11	
ROUGH-INS 3	WHIRLPOOL 1	HOT TUB ___		

Total fixtures equal: 5 (standard complement) + 3 (one additional full bath) + 2 (one half bath) + 1 (one additional fixture, utility sink) = 11 total fixtures.

KITCHEN RATING

Circle the numeric code which is most representative of the overall desirability of the kitchen, including the quality and number of cupboards and built-in appliances, relative to the quality and age of the dwelling.

	KITCHEN RATING			
530	1 VG	2 G	3 AV	4 P

Circle 1 VERY GOOD to indicate that you judge the overall desirability of the kitchen to be vastly superior to what you would normally expect to find in a dwelling of this type and quality.

Circle 2 GOOD to indicate that you judge the overall desirability of the kitchen to be superior to what you would normally expect to find in a dwelling of this type and quality.

Circle 3 AVERAGE to indicate that you judge the overall desirability of the kitchen to be about equal to what you would normally expect to find in a dwelling of this type and quality.

Circle 4 POOR to indicate that you judge the overall desirability of the kitchen to be definitely inferior to what you would normally expect to find in a dwelling of this type and quality.

Note: Base Dwelling Prices do not include the costs for any built-in appliances. Comments pertaining to appliances are included only to assist the lister in the valuation of the property.

The following guidelines are provided to assist the lister in making the proper judgment:

EXCELLENT QUALITY GRADE A — An abundantly lighted, spacious and attractive kitchen of coordinated styling and decor, having high-quality components consisting of an extensive amount (20 to 25 linear feet of floor-standing cabinets with ceramic tile, marble or the highest-quality laminated plastic countertops and splash. A comparable complement of wall-mounted cabinets and all major built-in appliances and modern conveniences will be found.

GOOD QUALITY GRADE B — A well lighted, relatively roomy and attractive kitchen of coordinated styling and decor, having good-quality components consisting of at least 16 to 20 linear feet of floor-standing cabinets with countertops and splash of either ceramic tile, simulated marble or good-quality laminated plastic. A comparable complement of wall-mounted cabinets and most of the major built-in appliances, as well as a limited number of other modern conveniences will be found.

AVERAGE QUALITY GRADE C — An adequately lighted, compact, color-coordinated kitchen having average-quality components consisting of at least 12 to 16 linear feet of floor-standing cabinets with countertops and splash of either laminated plastic or ceramic tile. A comparable complement of wall-mounted cabinets, a range exhaust and at least two additional major built-in appliances, i.e., garbage disposal, oven, range or dishwasher will normally be found.

FAIR QUALITY GRADE D	A scantly lighted, relatively small, and unattractive kitchen having fair but below average quality components consisting of at least 8 to 12 linear feet of floor-standing cabinets with countertops and small splash of laminated plastic. A comparable deficiency of wall-mounted cabinets and no built-in appliances.

Note: These descriptions are supplied as guidelines only. They are not meant to be strictly adhered to. Sound judgment and consistency should always prevail.

BATHROOM RATING

Circle the numeric character provided which is most representative of the overall desirability of the bathroom(s) relative to the quality and age of the dwelling.

530	BATHROOM RATING			
	1 VG	2 G	3 AV	4 P

Circle 1	VERY GOOD to indicate that you judge the overall desirability of the bathroom(s) to be vastly superior to what you would normally expect to find in a dwelling of this type and quality.
Circle 2	GOOD to indicate that you judge the overall desirability of the bathroom(s) to be superior to what you would normally expect to find in a dwelling of this type and quality.
Circle 3	AVERAGE to indicate that you judge the overall desirability of the bathroom(s) to be about equal to what you would normally expect to find in a dwelling of this type and quality.
Circle 4	POOR to indicate that you judge the overall desirability of the bathroom(s) to be definitely inferior to what you would normally expect to find in a dwelling of this type and quality.

The following guidelines are provided to assist the lister in making the proper judgment:

EXCELLENT QUALITY GRADE A	An abundantly lighted, relatively large and attractive, color-coordinated bathroom, having high-quality fixtures and built-ins, including a large vanity with a molded plastic, ceramic tile, marble or comparable top, an expansive mirror, ceramic tile bath and/or shower recesses with high-quality shower doors, vinyl inlay, ceramic tile or comparable quality floor covering, and a quality ventilation system.
GOOD QUALITY GRADE B	A well lighted, relatively roomy and attractive, color-coordinated bathroom, having good-quality fixtures and built-ins including a medium sized laminated plastic, ceramic tile or comparable top, a large mirror, ceramic tile bath and/or shower recesses with good-quality shower doors, ceramic tile, vinyl or comparable quality floor covering, and a quality ventilation system.
AVERAGE QUALITY GRADE C	An adequately lighted, compact, color-coordinated bathroom, having average-quality fixtures and built-ins including a small vanity with a laminated plastic or ceramic tile top, a standard mirror, ceramic tile bath recesses, vinyl tile, ceramic tile or comparable quality floor covering and an adequate ventilation system.

FAIR QUALITY GRADE D	A scantily lighted, relatively small and plain bathroom, having fair but below average quality fixtures, plastic tile or comparable bath recesses, and a below average quality floor covering.
POOR QUALITY GRADE E	A poorly lighted, unattractive bathroom, having cheap, poor-quality fixtures and floor covering.

Note: These descriptions are supplied as guidelines only. They are not meant to be strictly adhered to. Sound judgment and consistency should always prevail.

INTERIOR CONDITION RELATIVE TO EXTERIOR

This criterion refers to a composite judgment of the overall physical condition or state of repair of the interior features of the dwelling—those features which are an integral part of the dwelling as opposed to furnishings, etc.—when compared with the physical condition or state of repair of the exterior features of the dwelling. Three alternatives are provided. Only one selection should be circled.

540	INTERIOR CONDITION RELATIVE TO EXTERIOR		
	1 BETTER	2 SAME	3 POORER

Circle 1 BETTER to indicate that the physical condition of the interior features of the dwelling is substantially better than the physical condition of the exterior features of the dwelling.

Circle 2 SAME to indicate that the physical condition of the interior features of the dwelling is about equal to the physical condition of the exterior features of the dwelling.

Circle 3 POORER to indicate that the physical condition of the interior features of the dwelling is substantially poorer than the physical condition of the exterior features of the dwelling.

PHYSICAL CONDITION

Refers to a composite judgment of the overall physical condition or state of repair of the interior and exterior features of the dwelling relative to its age; or the level of maintenance which you would normally expect to find in a dwelling of a given age.

Consideration should be given to foundation, porches, walls, exterior trim, roofing, chimneys, wall finish, interior trim, kitchen cabinets, heating system and plumbing. Four alternatives are provided: circle the numeric code which is most representative of the subject property. Only one selection should be circled.

550	PHYSICAL CONDITION			
	1 GD	2 AV	3 PR	4 UN

Circle 1 GOOD to indicate that the dwelling definitely exhibits an above ordinary standard of maintenance and upkeep in relation to its age.

Circle 2 AVERAGE to indicate that the dwelling shows only minor signs of deterioration caused by normal wear and tear. The dwelling exhibits an ordinary standard of maintenance and upkeep in relation to its age.

Circle 3 POOR to indicate that the dwelling shows many signs of deferred maintenance and definitely exhibits a below ordinary standard of maintenance and upkeep in relation to its age.

Circle 4 UNSOUND to indicate that the dwelling is definitely unsound and unfit for use.

Note: Deferred maintenance may be defined as desirable repairs and rehabilitation that will require immediate expenditures. It does not necessarily imply inadequate prior maintenance.

OTHER FEATURES

Eight features are included for consideration, seven individual features and one composite. Space is provided to enter the actual square footage or dimensions for masonry adjustment or recreation room.

	OTHER FEATURES		AMOUNT
551	1 MASONRY ADJ [ ]	__ __ x __ __	
552	2 REC ROOM	__ __ x __ __	
553	3 WB FP: STACKS __	OPENINGS __	
554	4 METAL FP: STACKS __	OPENINGS __	
555	5 GAS FP __		
556	6 BASEMENT GARAGE, NO. CARS __		
557	7 BUILT-IN GARAGE, NO. CARS __		
558	8 DORMERS, TYPE: _____	____ L.F.	
559	9 TOTAL ADDITIONAL OTHER FEATURE AMT.		
	TOTAL OTHER FEATURE AMT. _____		

MASONRY ADJUSTMENT

A bracket [ ] is provided to enter a plus sign (+) to indicate the presence of brick or stone walls on a dwelling listed to be priced as frame, or a minus sign (-) to indicate the presence of frame or equivalent walls on a dwelling listed to be priced as masonry. Enter the appropriate dimensions or square footage in the character positions provided. Space is provided at the far right to enter the actual value of the masonry adjustment. Please refer to the Other Features section of the cost schedules in this manual for appropriate square foot masonry adjustment costs.

The example below for a frame constructed house shows a positive masonry adjustment for 4 feet of stone wainscoting across the front of the house. The stone covers an area 4 feet high by 30 feet long or 120 square feet. The cost is $6.75 per square foot (taken from the cost table) or $810 for the adjustment.

	OTHER FEATURES		AMOUNT
551	1 MASONRY ADJ [+]	04 x 30	810

RECREATION ROOM

Space is provided to enter either the square foot or dimension measure of a basement recreation room in the dwelling plus the dollar value attributable to it. Please refer to the Other Features section of the cost schedules in this manual for appropriate square foot recreation room costs.

The example below shows a 14 ft. by 20 ft. basement recreation room, or 280 square feet. The cost is $7.25 per square foot (taken from the cost table) or $2,030 attributed to the recreation room.

	OTHER FEATURES		AMOUNT
552	2 REC ROOM	14 x 20	2,030

Note: A recreation room is always considered to be of lesser quality construction than the rest of the dwelling. If a recreation room is of the same quality as the rest of the dwelling, it should be listed as finished living area.

WOODBURNING FIREPLACE

This parameter indicates the presence of one or more woodburning masonry fireplaces. No other type is considered in this field. Character positions are provided to enter the number of stacks and the number of openings, as well as the dollar value of the fireplace(s). Please refer to the Other Features Section of the cost schedules for appropriate woodburning masonry fireplace costs.

The example below shows one woodburning masonry fireplace with two openings and two stacks (for a two-story dwelling). The value taken from the cost table for this fireplace is $5,375 plus $1,625 (for the additional opening) plus $850 (for the additional stack above the base of one). $5,375 + $1,625, + $850 = $7,850.

	OTHER FEATURES		AMOUNT
553	3 WB FP: STACKS 2	OPENINGS 2	7,850

METAL FIREPLACE

Indicates the presence of prefabricated metal fireplace(s). A character position is provided to enter the number of stacks as well as the dollar value of the fireplace(s). Please refer to the Other Features section of the cost schedules for appropriate metal fireplace costs.

The example below shows one prefabricated metal fireplace with two stacks (for a two-story dwelling). The value taken from the cost table for this fireplace is $1,825 plus $475 (for the additional stack above the base of one). $1,825 + $475 = $2,300.

	OTHER FEATURES		AMOUNT
554	4 METAL FP: STACKS 2	OPENINGS 1	2,300

GAS FIREPLACE

Indicates the presence of a gas-only (not wood burning) prefabricated metal fireplace(s). A character position is provided to enter the number of fireplaces as well as the dollar value of the fireplace(s).

	OTHER FEATURES	AMOUNT
555	5 GAS FP	

BASEMENT GARAGE

Indicates the presence of a garage in the basement level of the dwelling. A character position is provided to enter the car capacity of the basement garage. Space is also provided to enter the additional dollar value necessary for the basement garage. Please refer to the Other Features section of the cost schedules in this manual for appropriate additional costs attributed to basement garages.

The example below shows a dwelling with a 2-car basement garage. The additional cost necessary for the 2-car basement garage is $2,025 (taken from the cost table).

	OTHER FEATURES	AMOUNT
556	6 BASEMENT GARAGE NO. CARS 2	$2,025

BUILT-IN GARAGE

Indicates the presence of a garage at grade level having living areas both adjacent to and above the garage. A character position is provided to enter the car capacity of the built-in garage. Space is also provided to enter the additional dollar value necessary for the built-in garage. Please refer to the Other Features section of the cost schedules in this manual for appropriate additional costs attributed to built-in garages.

The example below shows a dwelling with a 2-car built-in garage. The additional cost necessary for the 2-car built-in garage (frame in this example) is $7,875 (taken from the cost table).

	OTHER FEATURES		AMOUNT
557	7 BUILT-IN GARAGE NO. CARS 2	Type: Frame	7,875

DORMERS

Whether gable, hip or shed, the cost is per linear foot of the projected face. The cost is an adjustment to the dwelling price and accounts for the exterior construction. When finished, the interior should be included with the total floor area and priced with the dwelling. Space is provided for the type, i.e., shed, gable, and for the linear footage.

The example below shows 28 linear feet of gabled dormer. The additional cost for these dormers is (taken from the cost page). $115 x 28 linear feet = $3,220.

	OTHER FEATURES	AMOUNT
558	8 DORMERS, TYPE: *Gable* *28* L.F.	*3,220*

TOTAL ADDITIONAL OTHER FEATURES

This entry is provided as a dollar value summary of any additional other features not found in 1 through 7. Each additional other feature should be listed on side 3 in the Additional Other Features area by using an abbreviated written description. Each item must then be soundly valued utilizing the appraiser's best judgment of value. Cost tables are not provided for Additional Other Features.

Once each item has been valued, the values are summed and the total is carried to the (559 field) Total Additional Other Features line on side 2 under Other Features.

The following example shows two entries under Additional Other Features. One is for sliding glass patio doors with an estimated value of $2,300. The other entry is $3,000 for a residential (indoor) fountain.

ADDITIONAL OTHER FEATURES	AMOUNT
1 *Sliding glass patio doors*	*2,300*
2 *Residential fountain*	*3,000*
3	
4	
5	
6	
7	
8	
TOTAL ADD'L. OTH. FEATURES CARRY TOTAL TO 559	*5,300*

	OTHER FEATURES	AMOUNT
559	TOTAL ADDITIONAL OTHER FEATURE AMT.	*5,300*

The total of the two additional other features ($5,300) is then carried to the Total Additional Other Features line.

Note: As a guideline, an item should be listed under Other Features if it is permanently affixed or part of the original dwelling structure and has approximately the same life. If it does not meet either of these requirements, it should be listed and priced as an attachment.

TOTAL OTHER FEATURES

This one-line dollar value entry is the total of all other features.

The example below shows the positive masonry adjustment of $810; a recreation room worth $2,030; a woodburning masonry fireplace worth $7,850; a metal fireplace worth $1,825 plus $475 (additional stack); the additional cost for a basement garage of $2,025; the cost for a two-car built-in frame garage of $7,875; the cost of 28 linear feet of gable dormer or $3,220; and a total estimate figure for sliding patio doors and a residential fountain of $5,300. The items are totaled to $31,410 for all of the other features.

	OTHER FEATURES	AMOUNT
551	1 MASONRY ADJ x S/B [+] *4* x *30*	*810*
552	2 REC ROOM *14* x *20*	*2,030*
553	3 WB FP: STACKS *1* OPENINGS *2*	*7,850*
554	4 METAL FP: STACKS *2* OPENINGS ____	*2,300*
555	5 GAS FP ___	
556	6 BASEMENT GARAGE, NO. CARS *2*	*2,025*
557	7 BUILT-IN GARAGES, NO. CARS *2* TYPE: *Frame*	*7,875*
558	8 DORMERS, TYPE: *Gable* *28* L.F.	*3,220*
559	9 TOTAL ADDITIONAL OTHER FEATURE AMT.	*5,300*
	TOTAL OTHER FEATURE AMT.	*$31,410*

GRADE FACTOR

The letter grades are preprinted on the card. Circle the appropriate letter grade. A bracket [ ] is provided to enter a plus or minus, if necessary.

Four principal Quality Grade classifications are utilized, plus two additional classifications: AA grade is for the very best of materials and workmanship, and E grade is for the cheapest, most inferior quality of materials and workmanship.

The grade classifications are:

AA Grade - Very Best Quality
A Grade - Excellent Quality
B Grade - Good Quality
C Grade - Average Quality
D Grade - Fair Quality
E Grade - Poor Quality

Each of the six grades or classifications above is assigned a factor based on the models utilized to establish the cost tables. This promotes and maintains uniformity in value relationship between grades.

These factors are:

AA Grade - 2.50
A Grade - 1.55
B Grade - 1.28
C Grade - 1.00
D Grade - 0.85
E Grade - 0.55

However, in an effort to more precisely define dwelling grade, intermediate factors of pluses (+) and minuses (-) were developed. A grade of C+ is better than a straight C grade, and a C- poorer than a straight C grade.

By utilizing these intermediate ratings, a full range of quality grade factors is listed below. These factors are:

AA Plus (+)	3.25	C Plus (+)	1.10
AA	2.50	C	1.00
AA Minus (-)	2.00	C Minus (-)	0.95
A Plus (+)	1.75	D Plus (+)	0.90
A	1.55	D	0.85
A Minus (-)	1.45	D Minus (-)	0.75
B Plus (+)	1.35	E Plus (+)	0.65
B	1.28	E	0.55
B Minus (-)	1.20	E Minus (-)	0.45

The quality grade factor should represent a composite judgment of the overall quality of materials and workmanship throughout the dwelling. Extreme caution must also be exercised so as not to confuse the concepts of "quality" and "condition." The grade cannot be influenced in any way by the physical condition of the dwelling. The example listing below shows a (B-) dwelling with a grade factor of 1.20. The (B) is circled, a minus is placed in the bracket, and the grade factor is written in the space to the right of the bracket.

Note: Please refer to the residential photographs section of this manual for further quality grade specifications.

COST AND DESIGN FACTOR

Space is provided to enter a plus or minus symbol (within the brackets) and a percentage (to the right of the bracket).

Examples of the cost and design factor are: architectural fees, material quantities, labor efficiency, etc., i.e., factors that influence total construction costs and could vary from dwelling to dwelling.

The proper selection of the cost and design factor is largely a product of the experience and sound judgment of the appraiser, who must have the ability to analyze various variable construction components and determine the influence of each upon the overall cost.

The following example illustrates one appraiser's utilization of the cost and design factor for a raised ranch. The appraiser's judgment and experience indicated that a 5% additional cost was necessary to construct that particular dwelling.

Note: Please refer to the residential section of this manual for a further explanation of the cost and design factor and its use.

CONDITION, DESIRABILITY AND USEFULNESS (CDU) FACTOR

This is the most critical entry the appraiser must estimate based upon sound judgment and experience. This single percentage entry must reflect the normal "loss of value" attributed to depreciation as well as the influence of desirability of that property in the marketplace.

To better understand and determine CDU, depreciation and desirability must first be defined. The standardized causes for depreciation are:

1. Physical Depreciation - pertains to the wearing out of various building components through the action of the elements, age and use.
2. Functional Obsolescence - is a condition caused by either inadequacies or overadequacies in design, style, composition or arrangement inherent to the structure itself, which tend to lessen the usefulness and utility.
3. Economic Obsolescence - is a condition caused by factors extraneous to the property itself such as changes in population characteristics and economic trends, encroachment of inharmonious land uses, excessive taxes and governmental restrictions.

Estimates of the causes above for depreciation are all necessary to determine CDU in the cost approach but do not constitute the entry in themselves. It is also necessary to estimate desirability, which is judged on those qualities that make a dwelling either more or less desirable to a typical purchaser in the market. To determine each cause of depreciation, along with desirability as four separate entities, is very difficult under normal conditions because of the tendencies of these factors to overlap. Therefore, this manual has segregated each under the heading it is most apt to represent. The causes for depreciation and desirability are treated throughout this manual as the following table illustrates:

Condition	Desirability	Usefulness
Physical depreciation	Economic Obsolescence Market Influence	Functional Obsolescence

"Condition" is physical depreciation and "usefulness" is functional obsolescence. Desirability, however, may involve both economic obsolescence and market influences.

"Depreciation" is a loss of value or, in other words, a negative factor. "Desirability," on the other hand, may have either a negative or positive effect.

To combine depreciation and desirability into one factor represented by a "percent good" is a most difficult judgment for the appraiser. To aid the appraiser in making this decision, two workspaces are provided on the property record card. One utilizes checkmark entries for exterior components, mechanical systems and interior room CDU's. The second workspace is a locational checkmark entry to aid the appraiser in determining a portion of desirability.

The large grid workspace provides an area to indicate CDU based individually on each room, each major exterior characteristic, and each major system found in the dwelling. It also indicates the number of rooms and where each room is located with reference to floor level. The grid provides the appraiser with a more detailed and defendable summary of each dwelling. It also aids the appraiser in determining the overall CDU and assists in analyzing comparable properties.

The locational checkmark entry is provided as an aid to determine a portion of desirability by indicating whether the location of the subject property is improving, stable or declining.

The following example shows how one appraiser utilized the CDU workspace as an aid in determining CDU:

COND/DES/USFL		NO.	EX	VG	G	AV	FR	PR	VP	UN	UNF
EXTERIOR WALLS						X					
ROOF & COVER					X						
WINDOWS & DOORS						X					
HEATING						X					
ELECTRICAL						X					
PLUMBING							X				
B	REC ROOM	1					X				
	OTHER										
1st	KITCHEN	1				X					
	DINING RM										
	LIVING RM	1				X					
	BATHROOM	1					X				
	POWDER RM										
	BEDROOM										
	FAMILY RM										
	OTHER										
2nd OR ATT	KITCHEN										
	DINING RM										
	LIVING RM										
	BATHROOM	1			X						
	BEDROOM	3				X					
	OTHER										
3rd	LIVING AREA										
LOCATION		❑ IMPROVING ■ STABLE ❑ DECLINING									

560	CDU	EX	VG	GD	(AV)	FR	PR	VP	UN

As a final note, in making any appraisal, be it individual or comparative, the appraiser must consider each cause for depreciation and desirability as separate factors.

ATTACHMENTS

Space is provided for six (6) separate entries of attachments. However, listing procedures are different for the last, or number (6), entry. In the first five entries, only those attachments which have been coded may be entered, although the same attachment code may be entered any number of times. The appropriate two-digit attachment code is to be entered in the column that corresponds to its position of floor location, either first, second or third. Square footage is to be entered in the Area column, and a cost in the last column. For example, an appraiser listed an open frame porch on the first floor, 80 square feet in area with a value of $1,900 (value taken from cost table section of this manual).

ATTACHMENTS						ATTACHMENT CODES
	1st	2nd	3rd	AREA	AMOUNT	11 OFP 21 OMP
601	1 11				1,900	12 EFP 22 EMP
602	2					13 FR GAR 23 M GAR
603	3					30 CARPORT
604	4					31 WOOD DECK
605	5					32 CANOPY
606	6					33 CONC/M PATIO
TOTAL ATTACHMENT AMOUNT					$ 1,900	34 STN/TL PATIO
						35 MS/TERRACE
						99 ADD'L ATTACHMENT

The last entry, or the 606 field, must be handled differently from those above. This entry is for additional attachments. It is a dollar value summary of any additional attachments not coded in 1 through 5 above. Each additional attachment should be listed on side 3, in the additional attachment area, by using an abbreviated written description. Each item must then be soundly valued utilizing the appraiser's best judgment of value. Cost tables are not provided for additional attachments.

The following example illustrates one appraiser's use of the additional attachments field.

ADDITIONAL ATTACHMENTS	AMOUNT
1 *Masonry flower box*	*500*
2 *Built-in trash compactor*	*530*
3 *(-) Energe Adj. for frame, 1,900 SF*	*(5,225)*
4 *(-) Att Gar. Adj., 20 LF*	*(230)*
5 *Concrete driveway, 680 SF*	*2,550*
6	
7	
TOTAL ADDITIONAL ATTACHMENTS CARRY TOTAL TO 606	*(1,875)*

This appraiser listed a masonry flower box and a built-in trash compactor which, based on his best judgment and experience, he felt were worth $500 and $530 respectively.

This older home does not meet current building codes for energy, so a negative (-) adjustment (from Page 3-61) of -$2.75 is applied to the total square footage of 1,900 square feet. 1,900 x -$2.75 = -$5,225.

It also lacks drywall interior finish on the common wall of the attached garage. From Page 3-62, the cost of -$11.50 x 20 linear feet = a deduction of $230.

Finally, the cost for the 680 square feet of concrete driveway from Page 3-63 must be added. 680 x $3.75 = $2,550.

The amounts were then totaled and the total, -$1,875, carried to the 606 field of the attachment section.

TOTAL ATTACHMENT AMOUNT

Space is provided to enter the total of the dollar values entered in the attachment's category. For example, utilizing the preceding examples plus additional examples for illustration, the attachments section would look like the following:

ADDITIONAL ATTACHMENTS						
	1st	2nd	3rd	AREA	AMOUNT	
601	1 1 1			8 0	1,900	
602	2 2 3			4 0 0	10,500	
603	3	3 1		6 0	1,000	
604	4					
605	5					
606	6 9 9				(1,875)	
	TOTAL ATTACHMENT AMOUNT				$ 11,525	

ADDITIONAL ATTACHMENTS	AMOUNT
1 *Masonry flower box*	*500*
2 *Built-in trash compactor*	*530*
3 *(-) Energy Adj. for frame, 1,900 SF*	*(5,225)*
4 *(-) Att.Gar. Adj., 20 LF*	*(230)*
5 *Concrete driveway, 680 SF*	*2,550*
6	
7	
TOTAL ADDITIONAL ATTACHMENTS CARRY TOTAL TO 606	*(1,875)*

This attachment section shows an open frame porch on the first floor, 80 square feet in area, with a value of $1,900; a masonry attached garage, 400 square feet in area, with a value of $10,500; and a wood deck on the second floor, 60 square feet in area, with a value of $1,000. (The values for the coded attachments are taken from the cost table section of this manual.) Also shown is a 99 entry which is the total of the additional attachments found on side 3 of the property record card that had to be soundly valued. In this example positive (+) adjustments for the masonry flower box and built-in trash compactor, negative (-) adjustments for energy and the attached garage common wall, and finally the positive adjustment (+) for the concrete driveway were totaled for an additional attachment total of -$1,875. The attachments were then totaled to $11,525.

LIVING AREAS

BASEMENT

Space is provided to enter the square footage of the basement area of the dwelling. When a basement extends under an attachment such as an open or enclosed porch, this area should also be included. Enter the entire basement area, whether or not it is finished.

LIVING AREAS		
570	575	580
BSMT _ _ _ _	ADD'L FLOOR _ _ _ _	ATTIC UNFIN _ _ _ _
FIN BSMT LIV _ _ _ _	ATTIC FIN _ _ _ _	½ STORY UNFIN _ _ _ _
FIRST FLOOR _ _ _ _	½ STORY FIN _ _ _ _	UNFIN ROOM _ _ _ _
SECOND FLOOR _ _ _ _		

FIN BSMT LIV (Finished Basement Living Area)

Space is provided to enter the square footage of the basement area which is finished with a quality of materials and workmanship consistent with that of the main living area of the dwelling—such as the lower or grade level of Raised Ranch or Split Level dwellings. To be included, rooms must be fully finished with interior walls, ceilings, and floor coverings, as well as heating and electrical facilities in keeping with the rest of the dwelling. These rooms should also have larger than normal basement windows for good light and ventilation and should be intended for year-round occupancy.

LIVING AREAS		
570	575	580
BSMT _ _ _ _	ADD'L FLOOR _ _ _ _	ATTIC UNFIN _ _ _ _
FIN BSMT LIV _ _ _ _	ATTIC FIN _ _ _ _	½ STORY UNFIN _ _ _ _
FIRST FLOOR _ _ _ _	½ STORY FIN _ _ _ _	UNFIN ROOM _ _ _ _
SECOND FLOOR _ _ _ _		

FIRST FLOOR

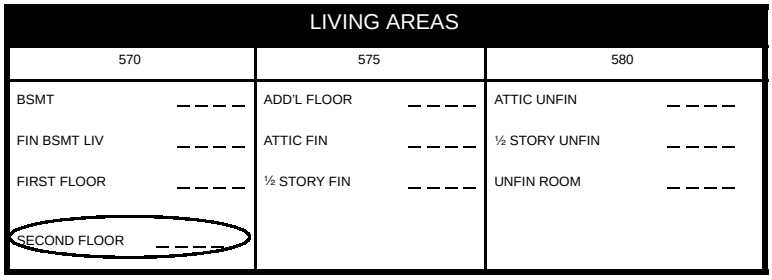
Space is provided to enter the square footage of all living area on the first floor of the dwelling. This area should not include any area which would be considered an attachment, such as a garage or porch.

Note: A sunroom or enclosed porch should be included if and only if it has a finished interior, and is heated and intended for year-round occupancy.

LIVING AREAS		
570	575	580
BSMT _ _ _ _	ADD'L FLOOR _ _ _ _	ATTIC UNFIN _ _ _ _
FIN BSMT LIV _ _ _ _	ATTIC FIN _ _ _ _	½ STORY UNFIN _ _ _ _
FIRST FLOOR _ _ _ _	½ STORY FIN _ _ _ _	UNFIN ROOM _ _ _ _
SECOND FLOOR _ _ _ _		

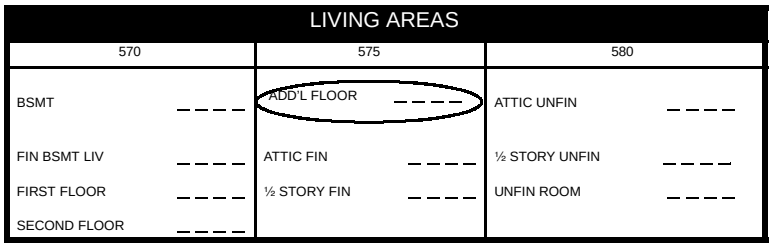
SECOND FLOOR

Space is provided to enter the square footage of living area on the second floor. A dwelling is usually considered to have a second story if the wall height at the eaves is 5 feet or more. When judging from exterior observation, if the roof line at the eaves is above the top of a full double-hung window, the house is a two story dwelling. (Please refer to the Appendix for story height illustrations.)



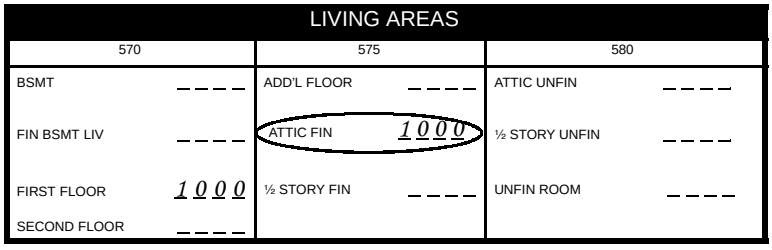
ADDITIONAL FLOOR

Space is provided to enter the square footage of living area of a third floor.



ATTIC FINISHED

Space is provided to enter the square footage of the finished attic area. This square footage should be based upon the exterior dimensions of the attic floor. For example, a full finished attic on a 1,000-square-foot house should be listed as 1,000 square feet in the first story entry and 1,000 square feet in the finished attic entry.



Note: If the attic space could be finished and utilized as living area, it is termed an attic in this manual. Any other attic space (i.e., storage attics) which cannot be utilized as living area is not treated as an attic. This manual defines attics as having usable living area square footage equivalent to 50% of the attic exterior floor dimensions. (Please refer to the appendix for story height illustrations.) Stated another way, 50% of the area as listed in the finished attic entry is actual usable area. This representation has been designed as such to provide an efficient pricing procedure with a negligible compromise to the final property value estimate.

If, however, the actual square footage of attic finished area is known and you desire to price it as such, in order to employ the cost tables accurately, the known square footage must be doubled and listed in the finished attic area entry, and a note should be made on the card to that effect. (Remember that the costs for finished attic area have been calculated at 50% of the area listed.)

ONE-HALF STORY FINISHED

Space is provided to enter the square footage of finished area in a half story. This square footage should be based upon the exterior dimensions of the half story floor. For example, a full one-half story on a 1,000-square-foot home should be listed as both 1,000 square feet in the first story entry and 1,000 square feet in the one-half story entry.

LIVING AREAS					
570		575		580	
BSMT		ADD'L FLOOR		ATTIC UNFIN	
FIN BSMT LIV		ATTIC FIN		½ STORY UNFIN	
FIRST FLOOR	1000	½ STORY FIN	1000	UNFIN ROOM	
SECOND FLOOR					

Note: For the purposes of this manual, half stories are defined as having usable square footage equivalent to 75% of the half-story exterior floor dimensions. (Please refer to the Appendix for story height illustrations.) Simply stated, 75% of the area as listed in the one-half story entry is actual usable area. This representation has been designed as such to provide an efficient pricing procedure with a negligible compromise to the final property value estimate.

If, however, the actual square footage of half-story living area is known and you desire to price it as such, in order to employ the cost tables accurately, the known square footage must be multiplied by 1.33 and listed in the one-half story entry, and a note should be made on the card to that effect. (Remember that the costs for finished one-half stories have been calculated at 75% of the area listed.)

ATTIC UNFINISHED

Space is provided to enter the square footage of unfinished attic area. The unfinished attic area entry is determined in the same manner as the finished attic entry, with the square footage based upon the attic exterior floor dimensions.

LIVING AREAS					
570		575		580	
BSMT		ADD'L FLOOR		ATTIC UNFIN	500
FIN BSMT LIV		ATTIC FIN	500	½ STORY UNFIN	
FIRST FLOOR	1000	½ STORY FIN		UNFIN ROOM	
SECOND FLOOR					

The example above shows an attic with one-half the area finished on a 1,000-square-foot house would have 1,000 square feet listed in the first floor area, 500 square feet listed in the finished attic area and 500 square feet in the unfinished attic area. The total attic floor area of 1,000 square feet would be transferred to the dwelling computation area, and all attic structural components including finish would be priced. It is then necessary to deduct that finish which does not exist. This is accomplished by first adjusting the unfinished square footage to the actual available area. For attics, this adjustment figure is 50%; this procedure in our example would be to multiply the 500 square feet of unfinished area by 50%, yielding 250 actual square feet. The 250 actual square feet would then be multiplied by the unfinished area cost per square foot adjustment to yield the total dollar deduction for that unfinished area. In the case of unfinished areas, the cost is not previously adjusted as with finished attic areas. It is necessary therefore to adjust the listed square footage by the 50% prior to costing.

Stated differently, the entire attic is priced as finished in order to include all structural components. Then, the amount attributable to the unfinished area is deducted. The remaining area is the actual square footage of finished attic.

ONE-HALF STORY UNFINISHED

Space is provided to enter the square footage of unfinished one-half story area. The unfinished one-half story entry is determined in the same manner as the finished one-half story, with the square footage based upon the exterior dimensions of the half-story floor.

LIVING AREAS					
570		575		580	
BSMT		ADD'L FLOOR		ATTIC UNFIN	500
FIN BSMT LIV		ATTIC FIN	500	½ STORY UNFIN	500
FIRST FLOOR	1000	½ STORY FIN		UNFIN ROOM	
SECOND FLOOR					

The example above, which shows a one-and-one-half story house with 1,000 square feet of ground area and half of the upper story finished, would be listed as 1,000 square feet in the first floor area, 500 square feet in the one-half story finished area and 500 square feet in the one-half story unfinished area. The total half-story area of 1,000 square feet (500 + 500) would be transferred to the dwelling computation area, thereby pricing all half-story structural components including finish. It is then necessary to deduct that finish which does not exist. This is accomplished by first adjusting the unfinished square footage to the actual usable area. For one-half stories, this adjustment figure is 75%. This procedure in our example would be to multiply the 500 square feet of unfinished area by 75%, yielding 375 square feet. The 375 actual square feet would then be multiplied by the unfinished area cost per square foot adjustment to yield the total dollar deduction for that unfinished area. In the case of unfinished areas, the cost is not previously adjusted as with finished half-story areas. It is necessary therefore to adjust the listed square footage by 75% prior to costing.

Stated differently, the entire attic is priced as finished in order to include all structural components. Then, the amount attributable to the cost of finish is deducted.

UNFINISHED ROOM

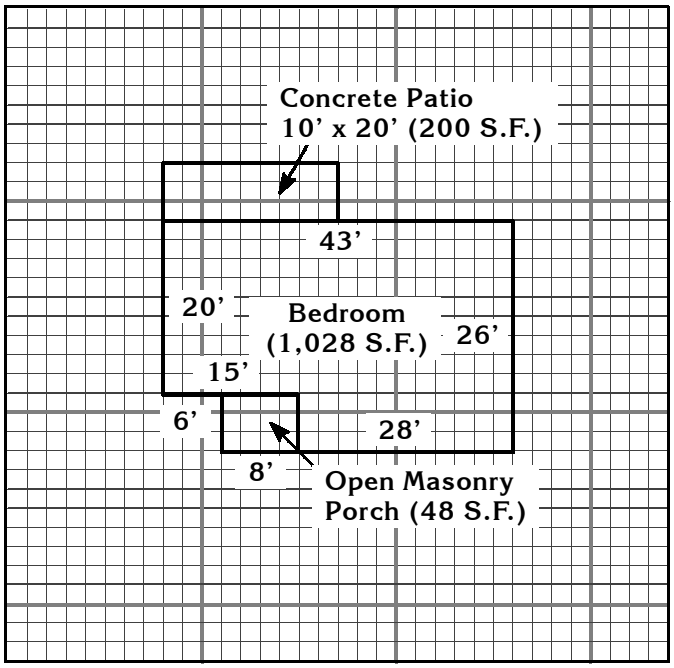
Space is provided to enter the square footage of floor area of a portion of the main living area of the subject dwelling that has been left unfinished. An example would be a room on the first floor planned for later finishing as a den, study or family room, or a room on the second floor planned for later finishing as a spare bedroom. If more than one such room exists, enter the total square footage of all unfinished rooms in this field.

LIVING AREAS					
570		575		580	
BSMT		ADD'L FLOOR		ATTIC UNFIN	
FIN BSMT LIV		ATTIC FIN		½ STORY UNFIN	
FIRST FLOOR		½ STORY FIN		UNFIN ROOM	
SECOND FLOOR					

SKETCH AREA

Space is provided to record a sketch of the principal building(s). The sketch should consist of a plan view showing the main portion of the structure along with any significant attached additions such as porches, etc. All components should be identified by the proper abbreviations or symbols, and the exterior dimensions and square foot area shown for each.

Example:



DWELLING COMPUTATIONS

The following is a step-by-step explanation of the general application of the residential dwelling pricing ladder utilizing the cost tables from this manual.

1. Enter the type of wall construction and square foot area for each floor level in the columns provided. Be sure to enter the total of finished and unfinished areas for attics and half stories.

2. Select the whole dollar amounts from the cost tables of this manual for each level based on exterior wall construction and square foot area, and enter the amount in the appropriate value entry.

3. Add the value amounts obtained from the cost schedules for the following finished areas:

   A. First Floor

   B. Second Floor

   C. Additional Floor

   D. One-half Story

   E. Attic

   and enter the total in the base price area provided.

   Note: The values above are taken from the cost table section of this manual. At this point, this figure implies that all areas above the basement are finished. Adjustments for unfinished areas are now necessary.

4. Unfinished Area: enter the floor square footage of unfinished areas—unfinished room, ½ story unfinished and attic unfinished; adjust the unfinished area by the appropriate factor and sum the square footages for each; multiply the sum by the cost per square foot of unfinished area (square foot cost taken from the cost table of this manual); and enter the total as a negative adjustment in the unfinished value area provided.

5. Basement Adjustment: Space is provided to calculate the net basement adjustment when the size of the basement does not correspond to the first floor living area of the dwelling. Enter the actual basement, crawl and first floor area in the space provided. From the basement cost schedule, enter the appropriate dollar amount of each item as indicated in the examples below. Then total the column. This can be either a positive (+) or negative (-) adjustment, which is entered in the net basement adjustment area provided.

   Example A: Full Crawl Area

   An example of this pricing procedure is a dwelling with a 1,000-square-foot floor area and a full crawl space. The basement adjustment area would be tested as follows:

Basement Area	0	= +	0
Crawl Area	1,000	= +	8,020
First Floor Area	1,000	= -	14,840
Net Basement Adjustment		= -	-6,820

Example B:

This example has 1,000 square feet of first floor area with a 500-square-foot crawl and 500-square-foot basement. The basement adjustment area would be listed as follows:

Basement Area	500	= +	8,370
Crawl Area	500	= +	4,520
First Floor Area	1,000	= -	14,840
Net Basement Adjustment		= -	-1,950

Note: Dwellings with full basements require no adjustments.

6. Enter the square footage of finished basement living area and the price per square foot of finished basement living area (from the cost schedules) if applicable. Compute the cost and enter the amount in the area provided.

7. If the dwelling has no central heating system or if it does have central air conditioning, enter the total square footage of living area and select the appropriate amount (from the cost schedules) for the required adjustment. Be certain to adjust the ½ story finished living area (as listed) by 75% and the finished attic area (as listed) by 50% prior to summing the living area for the adjustment.

   Note: This can be either a positive or negative adjustment.

8. Enter the total number of plumbing fixtures. Subtract the standard complement of five fixtures. Multiply the remaining number of fixtures times the value per fixture (taken from the cost schedules of this manual) and enter the product in the plumbing value space provided.

   Note: This can be either a positive or negative adjustment.

9. Enter the amount of the total other features value in the area provided.

10. Enter the amount of the total attachment value in the area provided.

11. Add the value amounts of the following:

    A. Base Price

    B. Unfinished Area

    C. Basement Adjustment

    D. Finished Basement Living Area

    E. Heating/Air Conditioning

    F. Plumbing

    G. Total Other Feature Amount

    H. Total Attachment Amount

    and enter the total in the adjusted base price area provided.

12. Enter the appropriate quality grade factor and multiply the quality grade factor times the adjusted base price; enter the result in the area provided.

13. If applicable, enter the Cost and Design Factor and multiply that factor times the graded value; enter the result in the area provided.

14. Enter the appropriate local modifier, multiply the local modifier times the last previous entry in the pricing ladder and enter the Replacement Cost New in the area provided.

15. Enter the appropriate CDU rating (from the dwelling percent good table) in the area provided and multiply the Replacement Cost New times the CDU rating, entering the result in the Replacement Cost New Less Depreciation area provided.

16. If applicable, enter the total Replacement Cost New Less Depreciation from the Other Building Improvements section in the area provided. (Other Building Improvements are addressed in another section.)

17. If applicable, enter the total Market Value from the Gross Building Summary in the area provided.

18. Then total the following value amounts:

    A. Replacement Cost New Less Depreciation of the dwelling

    B. Replacement Cost New Less Depreciation of the Other Building Improvements

    C. Market Value of Gross Building Summary

    and enter the total for the Total Improvement Value in the space provided.

SIDE 3: OTHER BUILDING IMPROVEMENTS, ADDITIONAL OTHER FEATURES AND ATTACHMENTS AND APARTMENT DATA

OTHER BUILDING IMPROVEMENTS

This section provides guidelines for collecting and recording characteristics of additional structures which affect property value.

STRUCTURE TYPE CODES

Refers to a category of improvements such as pools, sheds, etc. The structure type code, therefore, stands for the overall structure itself and is made up of three parts. The first character stands for the overall property component with which the structure is associated.

R = Residential

A = Agricultural

The second character in the structure type code stands for the structural category of the improvement. There are many of these, and several examples are listed below.

G = Garage

S = Shed

P = Pool

The third character is numeric and distinguishes one type of structure from another within the same category. Two examples are listed below.

Structure Type Code	1st Character Meaning	2nd Character Meaning	3rd Character Meaning
RG1	Residential	Garage	Frame or CB
RG2	Residential	Garage	Brick, Stone or Log
RG3	Residential	Garage	Pole Frame

QUANTITY

This item refers to the number or quantity of like structures being listed.

CONSTRUCTION

This category refers to the general construction of the item being listed. Circle the appropriate construction type.

F - Denotes Frame/Concrete Block Construction.

M - Denotes Masonry/Brick/Stone/Log Construction.

P - Denotes Pole Frame Construction

0 - Denotes Construction other than Frame or Masonry. An example would be a fiberglass pool.

YEAR

This entry refers to the year the item was constructed.

SIZE

Enter either the square foot area or the dimensions (width and length) of the item.

Space is provided to enter the square foot area of the item (up to 999,999 square feet). The square footage should be entered to the right.

To enter the dimensions, space is provided to enter the width or diameter, a multiplication symbol (X), and the length or height of the item. The multiplication symbol should be entered on the third character position from the left (within the two vertical hash marks).

GRADE

Space is provided to enter the quality grade of the item.

Note: Refer to the cost schedule section of this manual for applicable grades.

RATE

Space is provided to enter dollar and cent positions to denote the pricing rate utilized from the cost schedules for the item(s).

MODIFICATIONS

This topic refers to an addition or deduction to modify the cost complement to match the base specification. Modifications should only be utilized for the specific structure(s) intended. If more than one modification is necessary for a specific structure, they should be noted in the memorandum, totaled and the combined total dollar value modification listed in the Other Building Improvements under modifications.

SPECIAL MODIFICATIONS

This area refers to a special modification made to the cost component from the base specifications. Special modifications are also identified by three-character codes, similar to the structure codes. The difference between using special modification codes as opposed to structure type codes is that a special modification code necessitates a separate line entry immediately below the structure type code being modified. Other items necessary to describe the special modification must also be entered to allow for proper processing of the modification to an indication of value.

Note: Special modification codes should only be utilized for the specific structures intended.

LOCAL MODIFIER

Space is provided to enter the appropriate local modifier utilized in the jurisdiction.

REPLACEMENT COST NEW (RCN)

Space is provided to enter the calculated replacement cost new of the item(s) after application of the local modifier. Replacement cost new is defined as the current cost of replacing the improvement with a substitute improvement of equal utility.

COND.

Space is provided to enter one (1) alpha character denoting the overall condition of the item. Enter “E” for excellent, “G” for good, “A” for average, “F” for fair, “P” for poor, and “U” for unsound.

PERCENT (%) GOOD

Space is provided to enter the percent good of the improvement being described. Percent good is defined as the resultant estimate of the diminishing value of an improvement after subtracting the amount of estimated depreciation from the Replacement Cost New. For example: a structure which is estimated to be 45 percent depreciated as of a given time has a percent good of 55. Therefore, depreciation and percent good are complements of each other.

Note: For further explanation, refer to the Percent Good tables in this manual.

OBSOLESCENCE/MARKET ADJUSTMENT (OB/MA)

This area refers to the resultant value after deduction of functional obsolescence and deduction or addition of a market adjustment factor, expressed as a percentage.

Note: If this entry is utilized, it will function as a deduction or addition to the resultant value generated from the percent good entry.

REPLACEMENT COST NEW LESS DEPRECIATION (RCNLD)

This topic refers to the resultant value of the improvement after deduction of all forms of depreciation and/or the deduction or addition of a market adjustment factor.

To further explain the concept of Other Building Improvements, the following examples are provided:

RESIDENTIAL

1. Detached brick garage, 22' x 24'.
2. Metal utility shed, 12' x 20'.
3. Reinforced concrete pool, 16' x 32', with electric heating, a diving board and four underwater lighting fixtures.

OTHER BUILDING IMPROVEMENTS

	TYPE CODE	QUAN	CONST.	YEAR	SIZE	G	HGT	RATE	MODIFICATIONS	LM	RCN	COND	% GOOD	OB/MA	RCNLD
701	RG2	1	FMPSO	1990	528	C		30.85		.980	15,963	A	75		11,972
702	RS2	1	FMPSO	1985	12 x 20			11.10		.980	2,611	F	30		783
703	RP3	1	FMPSO	1995	16 x 32			48.00		.980	24,084	A	35		8,429
704	SP1	1	FMPSO	1995				.		.980	613		35		215
705	SP3	4	FMPSO	1995				.		.980	2,136		35		748
706			FMPSO					.		.					
707			FMPSO					.		.					
708			FMPSO					.		.					
709			FMPSO					.		.					
710			FMPSO					.		.					22,147

Note: For the reinforced concrete swimming pool, it is necessary to adjust the rate per square foot price to accommodate the modification adjustment for electric heating.

Note: For the special modifications of a diving board and underwater lighting fixtures, it is only necessary to enter the type code, quantity of each, Replacement Cost New after application of the local modifier, percent good (same as the base structure type being described) and Replacement Cost New Less Depreciation.

RESIDENTIAL OTHER BUILDING IMPROVEMENT CODES

RESIDENTIAL CARPORTS AND GARAGES STRUCTURE TYPE CODES

RC1 - Carport ..... SF
RC2 - Canopy ..... SF
RC3 - Driveway, concrete ..... SF
RC4 - Driveway, asphalt ..... SF
RC5 - Driveway, gravel ..... SF

RG1 - Frame or concrete block detached garage ..... SF
RG2 - Brick, stone or log detached garage ..... SF
RG3 - Pole frame detached garage ..... SF

RESIDENTIAL POOLS STRUCTURE TYPE CODES

RP1 - Plastic liner pool ..... SF
RP2 - Prefabricated vinyl pool ..... SF
RP3 - Reinforced concrete pool ..... SF
RP4 - Fiberglass pool ..... SF
RP5 - Gunite pool ..... SF

RESIDENTIAL POOLS MODIFICATION CODES

1. No filter
2. Gas or propane heating
3. Electric heating

RESIDENTIAL POOLS SPECIAL MODIFICATION CODES

SP1 - Diving board ..... QTY
SP2 - Chrome or steel ladder ..... QTY
SP3 - Underwater lighting ..... QTY

RESIDENTIAL SHEDS STRUCTURE TYPE CODES

RS1 - Frame utility shed ..... SF
RS2 - Metal utility shed ..... SF

GROSS BUILDING SUMMARY & TOTAL OTHER IMPROVEMENTS

This section is provided to list, price and summarize all buildings (improvements) other than those processed in DWELLING DATA and/or OTHER BUILDING IMPROVEMENTS. The data is entered into a series of columns allowing one line per item. The column entries are as follows:

ID

This refers to an alpha or numeric item identifier as it appears in the sketch.

USE

This entry refers to the present use of the item, i.e., tennis court, cabana, etc.

CONSTRUCTION

This refers to the story height and exterior wall construction of the item.

GRADE

This topic refers to the Quality Grade of the subject item.

AGE

Erected refers to the year the item was originally constructed; remodeled refers to the date of the last extensive remodeling—i.e., remodeling which significantly altered the "effective age" of the item.

Note: If the year is estimated, it should be followed by a plus and/or minus sign, i.e., 1932+/-, 1900-, etc.; if the year submitted by the owner is questionable, it should be followed by a question mark, i.e., 1932?

SIZE

This refers to the dimensions, square foot area or volume of the item.

RATE

This is the unit value to be applied to the size in order to compute the Replacement Cost New of the item.

LOCAL MODIFIER

This item refers to the local modifier to be used in calculating the Replacement Cost New of the item.

REPLACEMENT COST NEW

This term refers to the current cost of replacing the item with a substitute item of equal utility.

COND.

Space is provided to enter the overall condition of the item. Enter "E" for excellent, "G" for good, "A" for average, "F" for fair, "P" for poor and "U" for unsound.

PERCENT GOOD

This concept refers to the resultant value after deduction of physical depreciation from Replacement Cost New, expressed as a percentage.

OBSOLESCENCE/MARKET ADJUSTMENT

This term refers to the resultant value after deduction of functional obsolescence and deduction or addition of a market adjustment factor, expressed as a percentage.

MARKET VALUE

This refers to the actual value of the item.

TOTAL OTHER IMPROVEMENTS

Space is provided to enter a general description of the item or items described in the Gross Building Summary. All "Improvement Market Values" shown in the Summary should be totaled and entered in the area provided, denoting the total market value of all improvements other than those processed in the DWELLING Data and/or OTHER BUILDING IMPROVEMENT DATA.

PERSONNEL DATA

Space is provided to enter the name or number and the date of the person measuring, listing, calculating and reviewing the property data.

ADDITIONAL OTHER FEATURES

See the instructions for other features entries on Page 2 of the property record card.

ADDITIONAL ATTACHMENTS

See the instructions for attachments entries on Page 2 of the property record card.

APARTMENT DATA

See “Apartments, 2 to 7 units” in this manual for apartment data listing instructions.

NOTATIONS AND PHOTOGRAPH

Space is provided for any notations pertinent to the subject property. Space is also provided to attach a photograph of the subject property.

SIDE 4: OWNERSHIP, PARCEL IDENTIFICATION AND LAND DATA

OWNERSHIP

BUILDING PERMIT RECORD

Space is provided to record building permit data as required. The data entered in this section should include: the issuance date of the permit, the appropriate permit number and the amount and purpose of the permit. This data is useful in the valuation process—i.e., determining remodeling, new construction of building additions, etc.

PROPERTY IDENTIFICATION

The upper right hand portion of the Property Record Card is reserved for entering the parcel identification information utilized by the taxing jurisdiction. Property identification must be entered for each parcel. The property identification will be the key to establishing a file of all property and is utilized for file maintenance.

MAP NUMBER

Space is provided to enter the alpha and/or numeric characters used to denote the division of properties generally defined on an individual tax map.

ROUTING NUMBER

Character positions are provided to enter three numeric characters ranging from 001 to 999 to the left of the vertical hash mark and two numeric characters ranging from 01 to 99 to the right of the vertical hash mark denoting a sequential routing number assigned to each parcel of property. The character positions to the right of the hash mark are provided to facilitate the identification of property splits, the first split from a property being identified as 01, the second as 02, etc.

Note 1: This entry should be utilized when a jurisdiction's mapping system is deemed inadequate to account for all parcels and/or inadequate to facilitate an easy property by property inspection of all parcels.

Note 2: For parcels requiring multiple card listing, the same routing number must be entered on each card.

CARD NUMBER

Character positions are provided to enter two sets of two numeric characters each. The last two positions are reserved to enter the total number of cards required to list the parcel, and the first two positions are reserved to enter the sequential number assigned to each particular card: i.e., for parcels requiring one card, enter 01 of 01; for parcels requiring two cards, enter 01 of 02 on the first card and 02 of 02 on the second card; for three cards, 01 of 03,02 of 03, and 03 of 03, etc., up to 01 of 99 and 99 of 99. For record-keeping purposes, a card number should be entered on every card.

When listing a parcel requiring multiple cards, it is generally necessary for the data collector to insert the additional card(s) in the field. The owner's name and the permanent parcel identification data, along with any other information specified, should be entered on each of the additional cards.

NEIGHBORHOOD

Character positions are provided to enter three numeric characters ranging from 001 to 999 to the left of the vertical hash mark to denote a specific neighborhood identification number. A character position is provided to the right of the vertical hash mark to enter an additional digit, 1 to 9, to denote the creation of a subneighborhood within a neighborhood subsequent to the initial neighborhood delineation. For example: Neighborhood 200 is being redefined as Neighborhood 200/1 and 200/2. If the subject property's neighborhood identification number does not include the subneighborhood, simply leave it blank. A neighborhood may be defined as a geographical area exhibiting a high degree of homogeneity in residential amenities, land use, economic trends, and housing characteristics, such as structural quality, age and condition.

LAND USE

Character positions are provided to enter a three-digit numeric code denoting the present use of each particular parcel of land. A land use code should be entered on all cards. In the case of multiple uses on the same parcel, enter the land use code which is predominant. If multiple cards are used to list the parcel, enter the land use code which is most representative of the improvements listed on that particular card.

Note: Appropriate land use codes may be found in the appendix of this manual.

LIVING UNITS

Three character positions are provided to denote the number of living units which exist in the subject dwelling. Enter the number of living units.

A living unit is defined as any room or group of rooms designed as the living quarters of one family or household, equipped with cooking and toilet facilities and having an independent entrance from a public hall or from the outside.

Note: A single-family residence contains one (1) living unit.

ZONING

Character positions are provided to enter up to six alpha and/or numeric characters denoting "local" zoning symbols. A bracket is provided to enter a check mark [✓] to denote that the property does not conform to local zoning regulations.

PROPERTY LOCATION

Twenty-four character positions are provided to enter alpha and numeric characters denoting the existing property address. This may include any combination of street number, street direction, and street name. If there is no street number, leave this space blank. Always enter street, road, or route number in the street name area.

Note: The property address is not necessarily the same as the mailing address.

SALES DATA

TRANSFER OF OWNERSHIP

Space is provided to record ownerships which are subsequent to the present ownership. The data entered in this section should include the name or names of the grantee, the conveyance, and the volume and page number identifying where the original transfer document is recorded.

Space is provided to enter the data for three sales. The data is arranged in vertical columns. All the data should be listed in order of occurrence, allowing one line for each sale.

DATE

Character positions are provided to enter the number of the month and the last two digits of the year of the sale.

UNIQUE SALES NUMBER

Space is provided to enter the five-digit unique sales number assigned to the real estate transfer form by the Department of Revenue.

TYPE

This entry refers to the distinction between a type of sale involving LAND ONLY as opposed to a sale involving both LAND & BUILDINGS. Enter the numeric code which is representative of the sale.

Enter 1: LAND to indicate that the sale involved land only.

Enter 2: LAND & BUILDINGS to indicate that the sale involved both land and buildings.

Note: For building only sales on leased land, enter 2.

SALE PRICE

Space is provided to enter the sale price.

SOURCE

The category refers to the source of the sales data entered in this section. Enter the numeric code which is representative of the source.

Enter 1 BUYER to indicate that the information was obtained from the grantee, or buyer.

Enter 2 SELLER to indicate that the information was obtained from the grantor, or seller.

Enter 3 FEE to indicate that the information was obtained from conveyance fee, or similar transfer records.

Enter 4 AGENT to indicate that the information was obtained from an agent representing the current owner.

SALES VALIDITY CODES

This entry refers to the verification of available sales data. Enter the numeric code which is most representative of the validity of the sale.

Enter 1 to indicate that the sale can be considered a valid "arm's length" transaction for validity purposes.

Enter 2 to indicate that the sale involved more than one parcel.

Enter 3 to indicate that the property was not exposed to the open market or that the marketing time on the property could be considered abnormal.

Enter 4 to indicate that either one or both of the parties in the transaction were acting under any form of duress or coercion.

Enter 5 to indicate that the highest and best use of the property has changed since the sale or that construction and/or demolition of improvements has taken place after the transaction occurred.

Enter 6 to indicate that the parties of the transaction were either related or individuals of corporations.

Enter 7 to indicate that the cause of the transaction was either a liquidation of assets or a foreclosure of a mortgage.

Enter 8 to indicate that the sale involved abnormal financing or that the transaction was a land contract arrangement.

Enter 9 to indicate that the sale included an excessive amount of personal property or any other situation that would make the sale not an "arm's length" transaction.

Note: All of the sales data fields are required if a sales entry is made.

LAND DATA & COMPUTATIONS

There are five categories of land entries: NONE, LOTS, SQUARE FEET, ACREAGE and GROSS. Each category is designated by a descriptor. The descriptors are N, L, S, A and G, respectively.

Each category comprises a number of coded land type descriptions, such as Primary Site, Secondary Site, etc.

Each entry is preceded by a descriptor. In the same column, immediately following the descriptor, is a space to enter the code number of the land type (within the category) involved in that particular entry. As an example, a regular lot would have a descriptor of L and a code entry of 1 to indicate a regular lot as in the sample entry below.

LAND DATA & COMPUTATIONS										
NONE	300	N	ACTUAL FRONTAGE	EFFECTIVE FRONTAGE	EFFECTIVE DEPTH	ACTUAL UNIT PRICE	DEPTH FACTOR	INFLUENCE FACTOR	LAND USE CODE	LAND VALUE
LOTS **1 Regular lot** **2 Rear lot** **3 Apartment site** **4 Waterfront**	301	L 1	176.5	177	150	400	1.06			75,048
	302	L								
	303	L								
	304	L								
SQUARE FEET **1 Primary site** **2 Secondary site** **3 Residual** **4 Waterfront**	311	S	SQ FT				Influence Factors 1 Unimp 2 Exc Fr 3 Topo 4 Shape or Size 5 Econ Misimp 6 Restric Noncon 7 Land Locked 8 Corner Alley (+) 9 View (+)			
	312	S	SQ FT							
	313	S	SQ FT							
ACREAGE **1 Homesite** **2 Tillable** **3 Pasture** **4 Woodland** **5 Wasteland** **6 Primary site** **7 Secondary site** **8 Residual** **9 Waterfront** **0 Other**	321	A	ACRES		PROD RTG					
	322	A	ACRES							
	323	A	ACRES							
	324	A	ACRES							
	325	A	ACRES							
	326	A	ACRES							
GROSS **1 Irregular lot** **2 Site value** **3 Residual** **4 Waterfront** **0 Minus R.O.W.**	330	G								

SUMMARY OF VALUES	
TOTAL VALUE LAND	
TOTAL VALUE BUILDING	
TOTAL VALUE LAND & BLDGS	

NONE

Use this field for computations on sales involving no land. Enter the code number 0.

LOTS

Use this field for all Lot and Apartment Site computations. Enter the proper code number (1 to 4 inclusive). Complete the remaining corresponding areas as indicated below. Space is provided for four (4) entries.

REGULAR, REAR, WATERFRONT

Enter the code number 1, 2 and/or 4. Complete the corresponding areas of each entry—actual frontage, effective frontage, effective depth, actual unit price (price per front foot) and depth factor expressed as a percent.

Note: Refer to the appendix of this manual for depth factor tables. Land Computations are based on the following:

Effective Frontage x Actual Unit Price x Depth Factor = Land Value

Note: Effective frontage and effective depth are determined by applying the lot sizing procedures found in the appendix of this manual.

Note: All character positions in actual frontage, effective frontage and effective depth should be filled in for more effective record keeping.

LAND DATA & COMPUTATIONS										
NONE	300	N__	ACTUAL FRONTAGE	EFFECTIVE FRONTAGE	EFFECTIVE DEPTH	ACTUAL UNIT PRICE	DEPTH FACTOR	INFLUENCE FACTOR	LAND USE CODE	LAND VALUE
LOTS **1 Regular lot** **2 Rear lot** **3 Apartment site** **4 Waterfront**	301	L 1	176.5	177	150	400	1.06			75,048
	302	L								
	303	L								
	304	L								

SQUARE FEET

Use this part of the form for square foot computations. Enter the proper code number (1 to 4 inclusive). Complete the remaining corresponding areas—square foot size and unit price. Space is provided for three entries. If additional entries are required, use an additional property record card.

Land computations are based on the following:

Square Footage x Actual Unit Price = Land Value

LAND DATA & COMPUTATIONS										
NONE	300	N__	ACTUAL FRONTAGE	EFFECTIVE FRONTAGE	EFFECTIVE DEPTH	ACTUAL UNIT PRICE	DEPTH FACTOR	INFLUENCE FACTOR	LAND USE CODE	LAND VALUE
SQUARE FEET **1 Primary site** **2 Secondary site** **3 Residual** **4 Waterfront**	311	S 2	20000 SQ FT			2.40	Influence Factors 1 Unimp 2 Exc Fr 3 Topo	34 - 20		38,400
	312	S	SQ FT			.				
	313	S	SQ FT			.				

ACREAGE

Use for acreage computations. Enter the proper code number (0 to 9 inclusive). Complete the remaining corresponding areas—acreage size, productivity rating and unit price. Space is provided for six entries. If additional entries are required, use an additional property record card.

Land computations are based on the following:

Acreage x Actual Unit Price = Land Value

LAND DATA & COMPUTATIONS										
NONE	300	N__	ACTUAL FRONTAGE	EFFECTIVE FRONTAGE	EFFECTIVE DEPTH	ACTUAL UNIT PRICE	DEPTH FACTOR	INFLUENCE FACTOR	LAND USE CODE	LAND VALUE
ACREAGE **1 Homesite** **2 Tillable** **3 Pasture** **4 Woodland** **5 Wasteland** **6 Primary site** **7 Secondary site** **8 Residual** **9 Waterfront** **0 Other**	321	A 5	1.25 ACRES		PROD RTG	500	4 Shape or Size 5 Econ Misimp 6 Restric Noncon 7 Land Locked 8 Corner Alley (+) 9 View (+)		512	625
	322	A	. ACRES							
	323	A	. ACRES							
	324	A	. ACRES							
	325	A	. ACRES							
	326	A	. ACRES							

PRODUCTIVITY RATING

The Department of Revenue will provide, on request, the productivity ratings and instructions in their use, to counties with detailed soil surveys.

GROSS

Use to 1) site value Irregular Lots, Residual Land, Waterfront and any other such sites for which you cannot or do not wish to show computations; or 2) make a gross value deduction for utility, rights of way and other similar property obstructions, (code 0). Enter the proper code number. Enter the gross sound value. Space is provided for one entry.

Note: The total gross value in this entry should be added to or deducted from the other land entries in arriving at the total Land Value. Codes 1 to 4 inclusive can be used without other

land entries. However, accurate record keeping is lost when this field is used as the only land entry. Therefore, it should be utilized with discretion. Code 0 can only be used with other land entries, and providing that the total amount deducted does not exceed the sum of the other entries. In the following example, the total value of the land is the sum of the four entries described.

LAND DATA & COMPUTATIONS

NONE			ACTUAL FRONTAGE	EFFECTIVE FRONTAGE	EFFECTIVE DEPTH	ACTUAL UNIT PRICE	DEPTH FACTOR	INFLUENCE FACTOR	LAND USE CODE	LAND VALUE
LOTS **1 Regular lot** **2 Rear lot** **3 Apartment site** **4 Waterfront**	301	L 1	176.5	177	150	200	1.06			75,048
	302	L								
	303	L								
	304	L								
SQUARE FEET **1 Primary site** **2 Secondary site** **3 Residual** **4 Waterfront**	311	S 2	20000 SQ FT			2.40	Influence Factors	34 [-] 20		38,400
	312	S	SQ FT				1 Unimp			
	313	S	SQ FT				2 Exc Fr 3 Topo			
ACREAGE **1 Homesite** **2 Tillable** **3 Pasture** **4 Woodland** **5 Wasteland** **6 Primary site** **7 Secondary site** **8 Residual** **9 Waterfront** **0 Other**	321	A 5	1.25 ACRES	PROD RTG		500	4 Shape or Size		512	625
	322	A	ACRES				5 Econ Misimp			
	323	A	ACRES				6 Restric Noncon			
	324	A	ACRES				7 Land Locked			
	325	A	ACRES				8 Corner Alley (+)			
	326	A	ACRES				9 View (+)			
GROSS **1 Irregular lot** **2 Site value** **3 Residual** **4 Waterfront** **0 Minus R.O.W.**	330	G 1				2000	SUMMARY OF VALUES			
							TOTAL VALUE LAND			116,073

INFLUENCE FACTORS

Each land entry with the exception of the "Gross" entry provides two character positions for entering up to two, separate one-digit influence factor codes, a bracket in which to enter either a plus or minus symbol, and two character positions to enter the corresponding influence factor as a percentage to be added to (plus) or deducted from (minus) the calculated land value for each entry. Up to two (any combination of two) influence factors may be used with each entry. In entries where a single factor is used, enter the factor in the first character position to the left and leave the second character position blank.

Enter 1 [-] to indicate comparative value loss attributable to a lack of improvements.

Enter 2 [-] to indicate comparative value loss attributable to excessive frontage in relation to utility.

Enter 3 [-] to indicate comparative value loss attributable to topographical features.

Enter 4 [-] to indicate comparative value loss (over and above the adjustment considered in lot sizing procedures) attributable to the shape or size of the lot in relation to its utility.

Enter 5 [-] to indicate comparative value loss attributable to economic misimprovement (either underimprovement or overimprovement) of the site.

Enter 6 [-] to indicate comparative value loss attributable to restrictions regulating its use.

Enter 7 [-] to indicate comparative value loss attributable to the site being land-locked.

Enter 8 [+] to indicate comparative value enhancement attributable to corner and/or alley influence.

Enter 9 [+] to indicate comparative value enhancement attributable to the capability of the site to provide an appealing and desirable view.

LAND DATA & COMPUTATIONS										
NONE	300	N __	ACTUAL FRONTAGE	EFFECTIVE FRONTAGE	EFFECTIVE DEPTH	ACTUAL UNIT PRICE	DEPTH FACTOR	INFLUENCE FACTOR	LAND USE CODE	LAND VALUE
LOTS **1 Regular lot** **2 Rear lot** **3 Apartment site** **4 Waterfront**	301	L 1	10.0	100	150	400	.82	9 [+] 20		39,360
	302	L 1	176.5	177	150	150	1.06	1 [-] 15		23,922
	303	L						[ ]		
	304	L						[ ]		

The example shows that the first land entry was enhanced twenty percent because it had a great view; the second entry indicates a fifteen percent loss due to lack of sewer and water.

LAND USE CODE

Character positions are provided to enter a three-digit numeric code denoting the present use of each entry of land that deviates or is an exception to the predominant land use code entered in field 102—Land Use. If no entry is necessary, simply leave the field blank.

Note: Refer to the appendix of this manual for the appropriate land use codes.

PROPERTY FACTORS

TOPOGRAPHY

This entry refers to the topographical features of the subject property. Seven alternatives are provided. Enter a check mark [✓] in the space provided to the immediate right of the numerical code which is most representative of the subject property. Only one code may be checked. This code reflects the predominant topographical feature of the subject property.

Check 1 LEVEL to indicate the subject property is level to the access street.

Check 2 ABOVE STREET to indicate the property is above the street level.

Check 3 BELOW STREET to indicate that the property is below the street level.

Check 4 ROLLING to indicate the property comprises many small hills.

Check 5 STEEP to indicate the property has excessive grade as compared to the access roadway.

Check 6 LOW to indicate the property has a low terrain.

Check 7 SWAMPY to indicate wet, spongy land, marsh or bog.

Additional topographical features may be indicated by writing in the left hand margin the percentage of the total parcel represented by each feature. As the sample below shows, the major topography of the parcel is level, indicated by the check mark after the numeric identifier of 1 for level. The left hand margin shows the percentage entries: 60% is level, 20% is rolling and 20% is swampy.

400		
TOPOGRAPHY		
60% LEVEL	1	✓
ABOVE STREET	2	
BELOW STREET	3	
20% ROLLING	4	
STEEP	5	
LOW	6	
20% SWAMPY	7	

UTILITIES

This topic refers to services which are available to the property. These can be private or public. Six alternatives are available, and any number of codes may be checked. Enter a check mark [✓] in the space provided to the immediate right of the numerical codes which are most representative of the subject property.

Check 1 ALL PUBLIC to indicate all public utilities to include water, sewer, gas and electric are available.

Check 2 PUBLIC WATER to indicate public water is available to the property.

Check 3 PUBLIC SEWER to indicate public sewer is available to the property.

Check 4 GAS to indicate that natural gas is available to the property.

Check 5 WELL to indicate that the only water available to the property is a private well.

Check 6 SEPTIC to indicate only private sewer (septic tank) is available to the property.

Note: If code 1 is checked, no other code or combination of codes should be checked.

STREET OR ROAD

This category refers to the primary fronting street or the street providing the most immediate access to the subject property and the features which exist at the property. Enter a check mark [✓] in the space provided to the immediate right of the numerical codes which are representative of the subject property. Six (6) alternatives are provided. Only one (1) entry should be made for codes 1 through 5.

Check 1 PAVED to indicate concrete, blacktop or a comparably surfaced street.

Check 2 SEMI-IMPROVED to indicate a gravel or comparably semi-improved street.

Check 3 UNPAVED to indicate an existing street or road which has no surface improvements.

Check 4 PROPOSED to indicate that a street or road does not actually exist but is planned (and approved) for the future. This is commonly referred to as a paper road.

Check 5 LANDLOCKED to indicate a property without access to any type of street or road.

Check 6 SIDEWALK to indicate the presence of a paved sidewalk available for public use.

DWELLING SETBACK

This topic refers to the amount of setback (in feet) from which a dwelling is separated from its primary fronting street or most immediate access way, and its relationship to other dwellings in the neighborhood. Three (3) alternatives are provided. Enter a check mark [✓] in the space provided to the immediate right of the numerical code which is most representative of the subject property. Only one (1) code should be checked.

Check 1 MORE THAN NEIGHBORHOOD AVERAGE to indicate that the subject dwelling is situated significantly farther back from its primary fronting street when compared with others in the neighborhood.

Check 2 SAME AS NEIGHBORHOOD AVERAGE to indicate that there is no significant difference in the setback of the dwelling when compared with others in the neighborhood.

Check 3 LESS THAN NEIGHBORHOOD AVERAGE to indicate that the subject dwelling is located significantly closer to its primary fronting street when compared with others in the neighborhood.

Note: If the property has no dwelling, leave this entry blank.

FRONTING TRAFFIC

This subject refers to the volume of vehicular traffic on the street fronting the subject property. Five (5) alternatives are provided. Enter a check mark [✓] in the space provided to the immediate right of the numerical code which is most representative of the subject property. Only one (1) code should be checked.

Check 1 LIGHT to indicate a negligible volume of traffic, peaking at a level which is typical of residential neighborhood ingress and egress and causing no significant degree of traffic hazards and nuisance.

Check 2 MEDIUM to indicate a significant volume of traffic comparable to that found on main interneighborhood thoroughfares, and causing some degree of traffic hazards and nuisance.

Check 3 HEAVY to indicate a heavy volume of traffic comparable to that found on main ingress and egress arteries connecting residential neighborhoods to primary centers of activity, and causing a significant degree of traffic hazards and nuisance.

Check 4 NONE to indicate no traffic.

Check 5 CUL-DE-SAC to indicate a street open at one end only, having an enlarged turnaround area at the enclosed end.

OWNERSHIP

This issue involves the type of present ownership of the subject property. Nine (9) alternatives are available. Enter a check mark [✓] to the right of the numerical code which is most representative of the subject property. Only one code should be checked.

Check 1 PRIVATE if the property is privately owned by an individual or individuals.

Check 2 CITY if the property is owned by the city government.

Check 3 COUNTY if the property is owned by the county government.

Check 4 STATE if the property is owned by the state government.

Check 5 FEDERAL if the property is owned by the federal government.

Check 6 RELIGIOUS if the property is owned by a religious organization.

Check 7 FRATERNAL if the property is owned by a fraternal organization.

Check 8 UTILITY if the property is owned by a public utility company.

Check 9 PUBLIC SERVICE if the property is owned by a public service organization.

ENTRANCE CODES

This field refers to the type and ability of contact made with the occupant of the subject dwelling. Seven (7) alternatives are available. Enter the numeric code which is most representative of the type and ability of contact. Space is also provided for the responsible occupant from whom the information was obtained, to sign the Property Record Card, verifying that the property was inspected.

ASSESSOR'S FINAL REPORT

Space is provided to enter up to four (4) adjustments on each Property Record Card such as gains due to annexations, shift in class, etc.

EFFECTIVE DATE

Space is provided to enter the four digits of the effective date (year) of a change to the assessment roll.

REASON

Space is provided to enter a two-digit numeric code denoting the reason for change to the assessment roll.

ASSESSOR'S FINAL REPORT					
	EFF DATE	REASON	L or I	+ –	AMOUNT
901	__ __ __ __	__ __	__	__	__ __ __ □ __ __ □ __ __
902	__ __ __ __	__ __	__	__	__ __ __ □ __ __ □ __ __
903	__ __ __ __	__ __	__	__	__ __ __ □ __ __ □ __ __
904	__ __ __ __	__ __	__	__	__ __ __ □ __ __ □ __ __
910	**DEACTIVATE** __ __ __ __				

REASON CODES

01 Gains due to annexation	06 Shift in class
02 Higher land use, N/C, new plats	07 Losses by annexation
03 New machinery	08 Machinery removed
04 Formerly exempt, now assessed	09 Formerly assessed, now exempt
05 Reval increase	10 Reval decrease

LAND OR IMPROVEMENT (L or I)

Space is provided to enter either L (Land) or I (Improvement), denoting whether the change in the assessment roll was made to land or improvements.

PLUS OR MINUS (+ or -)

Space is provided to enter either a plus (+) or a minus (-) sign, denoting whether the change in the assessment roll was positive or negative.

AMOUNT

Space is provided to enter the amount of change to the assessment roll.

DEACTIVATE

Space is provided to enter the four digits of the year when a parcel is to be removed from the assessment roll, as in the cases of annexation by another taxing authority. However, in the current year it will not be removed from the file until after the Assessor's Final Report is produced.

The quality grade of materials and workmanship is the one most significant variable to be considered in estimating the replacement cost of a structure. Two buildings may be built from the same general plan, each offering exactly the same facilities and with the same specific features, but with widely different costs due entirely to the quality of materials and workmanship in their construction. For instance, the cost of a dwelling constructed of high-quality materials and with the best workmanship throughout can be more than twice that of one built from the same floor plan but with inferior materials and workmanship prevailing.

The schedules included in this manual have been developed to provide the appraiser with a range of grades comprehensive enough to distinguish all significant variations in the quality of materials and workmanship which may be encountered; the basic specifications for each grade as to the type of facility furnished remain relatively consistent throughout, and the primary criterion for establishing the grade is the overall quality of materials and workmanship prevailing.

The majority of buildings erected fall within a definite class of construction, involving the use of average-quality materials with average-quality workmanship. This type of construction being the most common, it can readily be distinguished by the layman as well as the professional appraiser. Consequently, better- or inferior-quality construction can be comparatively observed. The quality grading system and pricing schedules in this manual are keyed to this obvious condition; the basic grade being representative of that cost of construction using average-quality materials with average-quality workmanship. The four principal Quality Grade classifications are as follows:

Grade A ..... Excellent Quality

Grade B ..... Good Quality

Grade C ..... Average Quality

Grade D ..... Fair Quality

To cover the entire range of construction quality, two additional Quality Grade classifications must be established: AA Grade, incorporating the very best quality materials and workmanship, and E Grade, incorporating materials and workmanship of the cheapest and most inferior quality.

The six established grades or classes of quality discussed above will cover the entire range of dwelling construction from the cheapest to the finest quality. The general quality specifications for each grade follow:

AA GRADE: Buildings generally having an outstanding architectural style and design, constructed with the finest-quality materials and workmanship throughout. Superior-quality interior finish and built-in features. Deluxe heating system and high-grade plumbing and lighting fixtures.

A GRADE: Architecturally attractive buildings constructed with excellent-quality materials and workmanship throughout. High-quality interior finish and built-in features. Deluxe heating system and very good grade plumbing and lighting fixtures.

B GRADE: Building constructed with good-quality materials and above average workmanship throughout. Moderate architectural treatment. Good-quality interior finish and built-in features. Good grade heating, plumbing and lighting fixtures.

C GRADE: Buildings constructed with average-quality materials and workmanship throughout, conforming to the base specifications used to develop the pricing schedule. Minimal architectural treatment. Average-quality interior finish and built-in features. Standard grade heating, plumbing and lighting fixtures.

D GRADE: Buildings constructed with economy-quality materials and fair workmanship throughout. Void of architectural treatment. Cheap-quality interior finish and built-in features. Low grade heating, plumbing and lighting fixtures.

E GRADE: Buildings constructed with a very cheap grade of materials, usually culls and seconds, and very poor quality workmanship resulting from unskilled, inexperienced, do-it-yourself type labor. Low grade heating, plumbing and lighting fixtures.

By assigning the factor 1.00 to C Grade construction, the other factors either above or below C Grade can be illustrated as follows:

AA Grade 2.50

A Grade 1.55

B Grade 1.28

C Grade 1.00

D Grade 0.85

E Grade 0.55

In order to facilitate using this grading system, and again to promote and maintain uniformity in approach, the value relationship of grade to grade as described above has been incorporated into the development of the base specifications relating to each schedule used in the manual.

Note: The appraiser must exercise extreme caution not to confuse the concepts "quality" and "condition" when selecting the proper grade. This is especially applicable to older buildings, wherein a deteriorated condition can have a noticeable effect on physical appearance. A building will always retain its initial grade of construction, regardless of its existing deteriorated condition. The Quality Grade ultimately selected must reflect that original built-in quality, and the selection of that grade cannot be influenced in any way by the physical condition of the building.

Grading would be a relatively simple process if all buildings were built to conform to the quality grade specifications outlined above. The fact is, however, that this ideal condition does not exist. It is not unusual for any conventional building to incorporate construction qualities that fall between the established grade levels. The grading system in this manual has been designed in such a way as to provide the appraiser with a method for accounting for such variations by establishing intermediate grades.

If the subject building is judged to be of a better or inferior quality compared to these actual grade levels, a grade factor of plus (+) or minus (-) should be applied; i.e., C+ would be better than a straight C Grade, B- poorer than a straight B Grade, etc.

Following these procedures results in the full range of Quality Grade Factors, which are listed below:

AA Plus (+)	2.75	C Plus (+)	1.10
AA	2.50	C	1.00
AA Minus (-)	2.00	C Minus (-)	0.95
A Plus (+)	1.75	D Plus (+)	0.90
A	1.55	D	0.85
A Minus (-)	1.45	D Minus (-)	0.75
B Plus (+)	1.35	E Plus (+)	0.65
B	1.28	E	0.55
B Minus (-)	1.20	E Minus (-)	0.45

Note: The quality factor ultimately selected is to represent a composite judgment of the overall Quality Grade. Generally, the quality of materials and workmanship is fairly consistent throughout the construction of a specific building; however, since this is not always the case, it is frequently necessary to weight the quality of each major component in order to arrive at the proper overall Quality Grade. Equal consideration must also be given to any attachments which are constructed of materials and workmanship inconsistent with the quality of the main building.

Note: The AA Plus (+) factor has been reduced since the last update of Volume II. The new Executive Residence section of this pricing manual, starting on Page 3-77, will have the appropriate pricing for these upscale dwellings. When the factor above is applied to the base dwelling pricing (Pages 3-55 to 3-60), the resulting prices can approach the Grade E executive Residence prices. If this occurs, the valuator should consider whether or not to use the price from the Executive Residence section.

Architectural fees, material quantities, labor efficiency and other factors influencing total construction costs may vary considerably from one building to another depending upon the particular design. For instance, two dwellings showing no marked difference in size or quality may still show a measurable difference in cost, attributable primarily to a difference in design.

In computing the replacement cost of any building, therefore, it is necessary to adjust the cost to account for any features varying significantly from the base specifications from which the pricing schedules were developed.

The pricing schedules included in this manual, unless otherwise specified, have been developed to reflect perimeter-to-area wall ratios of rectangularly shaped buildings, uniform eave lines and roof slopes, overhangs, ceiling heights and other architectural features most typical of conventional designs.

The adjustment for variations in design must be made by applying a Cost and Design Factor denoting a percentage adjustment of the subtotal replacement cost, i.e., apply a +5% to indicate a 5% increase in the replacement cost, apply a +10% to indicate a 10% increase, etc.

The Cost and Design Factors applicable to dwellings will normally range from 0 to 15%. However, the Cost and Design Factors applicable to special architectural designs may range considerably higher. The selection of the proper Cost and Design Factor is largely a product of the experience and sound judgment of the appraiser. The appraiser must have the ability to analyze various construction components and determine the influence of each upon the overall cost.

Dwellings constructed of the finest-quality materials and workmanship, exhibiting unique and elaborate architectural styling and treatment and having all the features typically characteristic of mansion-type homes.

FOUNDATION

Masonry walls, waterproofed; reinforced concrete footings, drain tile. Full basement.

EXTERIOR WALLS

Shake shingles; cedar or redwood siding; stucco or synthetic plaster on rigid insulation (EIFS); half timbers; bevel siding; face brick or native stone veneers; hand-hewn or oversized logs; stucco, common or face brick, stone or ashlar granite over concrete block; or solid brick. Framing will consist of 2" x 6" wood or 6" steel studs, 16" o.c., for the walls, with 1" D&M sheathing, Finest-quality solid-core exterior doors and wood, metal or vinyl windows. Three coats of exterior paint or stain. All doors and windows weather-stripped with wall insulation (see Energy Package below).

ROOF

Gable, hipped or gambrel type, heavy slate, tile, wood shingle roofing or equal. 1" D&M sheathing, 2" x 10" rafters 16" o.c., insulation, ornamental wood cornice, copper flashing, gutters and conductors.

FLOORS

Basement 4" cement floor with monolithic finish on gravel base. Upper floors - 1" clear oak, herringbone or parquetry pattern, sanded, filled and varnished including areas with marble, tile, slate, solid vinyl and fine grade of carpet. 1" D&M subfloor or 3/4" plywood on 2" x 12" wood joist, 16" o.c. with bridging; steel girders and column supports for first floor. Attic floor and stairs not included in base price.

INTERIOR FINISH

Hardwood or enamel doors and trim throughout, excellent built-in kitchen and china cabinets, broom and linen cabinets with abundant shelving; 2" x 4" wood stud partition walls, plaster and paint on interior walls, ceiling and partitions. High-grade decorating, ornamental moldings in main rooms and high-grade hardwood paneled rooms. Tiled bathroom with high-quality shower doors, and large vanity with the highest quality laminated plastic, ceramic tile or marble countertops.

HEATING

Forced warm air, steam, vapor, hot water, radiant or equal with thermostatic controls. Automatic fired furnace or boiler. Exhaust fans in kitchen and bathroom.

PLUMBING

Fine-grade vitreous fixtures, copper piping, one bathroom with shower outlet over tub, kitchen sink, water heater.

LIGHTING

Electric lighting, conduit wiring, fine-grade fixtures throughout.

ENERGY PACKAGE

The Dwelling Base Prices are for residences that meet current building codes. Base Dwelling Prices include costs of meeting current energy guidelines for extreme climate locations. This can include a weighting of double and triple glazing, 2" x 6" studs or comparable construction, with R-19 to R-25 wall insulation and R-33 to R-45 ceiling insulation. Use the negative (-) adjustments listed on Page 3-61 for dwellings that do not meet current standards. See the example on Page 2-17 on the proper use of these adjustments.

RESIDENCE - Grade AA

RESIDENCE - Grade AA

RESIDENCE - Grade AA

RESIDENCE - Grade AA

Dwellings constructed of excellent-quality materials and workmanship, exhibiting outstanding architectural styling and treatment and having an abundance of built-in features. Architect designed and supervised homes would normally fall into this classification.

FOUNDATION

Masonry walls, waterproofed; concrete footings, drain tile. Full basement.

EXTERIOR WALLS

Shake shingles; high-grade aluminum, vinyl, metal, cement fiber or wood siding, stucco or synthetic plaster on rigid insulation (EIFS); hand-hewn, oversized or rustic logs; brick or native stone veneers; stucco, common or face brick or native stone over concrete block; solid brick. Framing will consist of 2" x 6" wood or 6" steel studs, 16" o.c., with 1" D&M sheathing, Best quality solid-core exterior doors and wood, metal or vinyl windows. Three coats of exterior paint or stain. All doors and windows weather-stripped with wall insulation (see Energy Package below).

ROOF

Gable, hipped or gambrel, stained wood, slate or heavy asphalt shingles, 1" D&M sheathing, 2" x 8" rafters, 16" o.c., insulation, boxed cornice, copper flashing, gutters and conductors.

FLOORS

Basement, 4" cement on gravel base. Upper floors, 1" first grade oak or equal, sanded, filled and varnished, and areas with vinyl tile, ceramic tile or carpet; 1" D&M or 5/8" plywood subfloor, 2" x 10" wood joists, 16" o.c. with bridging; steel girder and column supports for first floor. Attic floor and stairs not included in base price.

INTERIOR FINISH

Hardwood or high-grade enameled doors and trim throughout; good-grade built-in kitchen cabinets, broom closet, linen closets and clothes closets. Plaster or drywall interior walls and ceilings, painted or papered. Tiled bathroom with best quality laminated plastic, ceramic tile or simulated marble countertops.

HEATING

Forced warm air; steam, vapor, hot water, radiant or equal with thermostatic controls and automatic fired furnace or boiler. Exhaust fan in kitchen and bathroom.

PLUMBING

High-grade vitreous fixtures, copper piping, one bathroom with shower over tub, kitchen sink, water heater.

LIGHTING

Electric lighting, conduit wiring, ample outlets, high-grade fixtures throughout.

ENERGY PACKAGE

The Dwelling Base Prices are for residences that meet current building codes. Base Dwelling Prices include costs of meeting current energy guidelines for extreme climate locations. This can include a weighting of double and triple glazing, 2" x 6" studs or comparable construction, with R-19 to R-25 wall insulation and R-33 to R-45 ceiling insulation. Use the negative (-) adjustments listed on Page 3-61 for dwellings that do not meet current standards. See the example on Page 2-17 on the proper use of these adjustments.

RESIDENCE - Grade A minus (-)

RESIDENCE - Grade A

RESIDENCE - Grade A

RESIDENCE - Grade A

RESIDENCE – Grade A

RESIDENCE – Grade A plus (+)

RESIDENCE – Grade A plus (+)

RESIDENCE – Grade A

RESIDENCE – Grade A

RESIDENCE – Grade A

Dwellings constructed of good-quality materials and workmanship, exhibiting pronounced architectural styling and treatment and having an ample number of built-in features. Custom-built homes would normally fall into this classification.

FOUNDATION

Masonry or concrete block walls, concrete footings, drain tile. Full basement.

EXTERIOR WALLS

Shake shingles; aluminum, vinyl, metal, cement fiber or wood siding, stucco or synthetic plaster on rigid insulation (EIFS); hand-hewn, oversized or rustic logs; brick or native stone veneers; stucco, common or face brick or native stone over concrete block; solid brick. Framing will consist of 2" x 6" wood or 6" steel studs, 16" o.c., with 1" D&M wood sheathing or plywood, Solid-core exterior doors and good-quality wood, metal or vinyl windows. Two coats of exterior paint or stain. All doors and windows weather-stripped with wall insulation (see Energy Package below).

ROOF

Gable, hipped or gambrel-type, wood, asphalt shingles, 1" D&M or plywood sheathing, 2" x 6" rafters, 16" o.c., insulation, plain cornice, metal flashing, gutters and conductors.

FLOORS

Basement 4" cement on gravel base. Upper floors, 1" hardwood, sanded and varnished, and areas with vinyl tile or sheet, ceramic tile and carpet; 1" D&M subfloor or 5/8" plywood subfloor; 2" x 10" wood joists, 16" o.c., timber on steel girders and pipe columns supports first floor. Attic floor and stairs not included in base price.

INTERIOR FINISH

Enameled trim, fir or white pine doors, good kitchen cabinets, linen and clothes closets. Drywall or plaster walls and ceilings, papered or painted, tiled bathroom, with good-quality laminated plastic or ceramic tile vanity top.

HEATING

Forced warm air, steam, vapor, hot water, radiant or equal with thermostatic controls and automatic fired furnace or boiler. Exhaust fan in kitchen and bathroom.

PLUMBING

Good grade fixtures, copper piping, one bathroom, kitchen sink, water heater.

LIGHTING

Electric lighting, BX or nonmetallic cable wiring, good-grade fixtures throughout.

ENERGY PACKAGE

The Dwelling Base Prices are for residences that meet current building codes. Base Dwelling Prices include costs of meeting current energy guidelines for extreme climate locations. This can include a weighting of double and triple glazing, 2" x 6" studs or comparable construction, with R-19 to R-25 wall insulation and R-33 to R-45 ceiling insulation. Use the negative (-) adjustments listed on Page 3-61 for dwellings that do not meet current standards. See the example on Page 2-17 on the proper use of these adjustments.

RESIDENCE – Grade B

RESIDENCE – Grade B

RESIDENCE – Grade B

RESIDENCE – Grade B

RESIDENCE – Grade B plus (+)

RESIDENCE – Grade B

RESIDENCE – Grade B

RESIDENCE – Grade B

RESIDENCE – Grade B

RESIDENCE – Grade B

RESIDENCE – Grade B

RESIDENCE – Grade B plus (+)

RESIDENCE – Grade B

RESIDENCE – Grade B plus (+)

Dwellings constructed of average-quality materials and workmanship, exhibiting moderate architectural styling and treatment and having a minimal number of built-in features. Typical tract-built homes would normally fall into this classification.

FOUNDATION

Masonry or concrete block walls and concrete footings. Full basement.

EXTERIOR WALLS

Average-quality aluminum, vinyl, metal, cement fiber or wood siding, plywood or hardboard; stucco or synthetic plaster on rigid insulation (EIFS); rustic logs; brick or native stone veneers; stucco, common or face brick or stone over concrete block. Framing will consist of 2" x 6" wood or 6" steel studs, 16" o.c., with 1" D&M sheathing or plywood, Paneled exterior doors and average-quality wood, metal or vinyl windows. Two coats of exterior paint or stain. All doors and windows weather-stripped with wall insulation (see Energy Package below).

ROOF

Gable or hipped, wood or asphalt shingles, 1" sheathing, 2" x 6" rafters 16" o.c., plain cornice, galvanized metal flashing, gutters and conductors.

FLOORS

Basement: 4" cement on compacted earth. Upper floors: hardwood, sanded and varnished, and areas with vinyl sheet or tile, ceramic tile and carpet; 1" wood subfloor or ½" plywood subfloor, 2" x 8" wood joists, 16" o.c., timber or steel beam and lolly column first floor supports. Attic floor and stairs not included in base price.

INTERIOR FINISH

Pine or fir doors and trim enameled or varnished, average-quality built-in kitchen cabinets, broom closet, linen and clothes closets. Drywall or plaster walls and ceilings, papered or painted. Average-quality laminated plastic or ceramic tile countertops.

HEATING

Forced air, steam, vapor, hot water or radiant with thermostatic controls and automatically fired furnace or boiler. Exhaust fan in kitchen.

PLUMBING

Average-grade fixtures, copper piping, one bathroom, kitchen sink, water heater.

LIGHTING

Electric lighting, nonmetallic cable wiring, average-grade fixtures.

ENERGY PACKAGE

The Dwelling Base Prices are for residences that meet current building codes. Base Dwelling Prices include costs of meeting current energy guidelines for extreme climate locations. This can include a weighting of double and triple glazing, 2" x 6" studs or comparable construction, with R-19 to R-25 wall insulation and R-33 to R-45 ceiling insulation. Use the negative (-) adjustments listed on Page 3-61 for dwellings that do not meet current standards. See the example on Page 2-17 on the proper use of these adjustments.

RESIDENCE – Grade C

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RESIDENCE – Grade C plus (+)

RESIDENCE – Grade C

RESIDENCE – Grade C plus (+)

RESIDENCE – Grade C plus (+)

Dwellings constructed of fair-quality materials and workmanship, generally lacking architectural styling and treatment and having only a scant number of built-in features. Economy mass-built homes would normally fall into this classification.

FOUNDATION

Concrete block walls, concrete footings. Full basement.

EXTERIOR WALLS

1" drop siding, aluminum siding, 4" face brick or split block, ½" insulation board, 2" x 6" studs 16" o.c., 1-3/8" wood doors and double-hung wood sash or aluminum frame windows. Two coats exterior paint.

ROOF

Gable or hipped type asphalt shingles, wood sheathing, 2" x 4" rafters 16" o.c., wood cornice, galvanized metal gutters and conductors.

FLOORS

Basement: 3" cement on compacted earth. Upper floors: 1" D&M pine flooring with areas of linoleum, asphalt tile or carpet, 2" x 8" wood joists, 16" o.c. wood girder and lolly column first floor supports. Attic floor and stairs not included in base price.

INTERIOR FINISH

Pine doors and trim throughout, drywall or plaster, painted walls and ceilings. Cheap kitchen cabinets and clothes closets.

HEATING

Radiant, steam, forced warm air system or equal, with thermostat and automatically fired furnace or boiler.

PLUMBING

Cheap-quality piping and fixtures, one bathroom, kitchen sink, water heater.

LIGHTING

Electric lighting, nonmetallic wiring, scarcity of outlets, and low cost fixtures.

ENERGY PACKAGE

The Dwelling Base Prices are for residences that meet current building codes. Base Dwelling Prices include costs of meeting current energy guidelines for extreme climate locations. This can include a weighting of double and triple glazing, 2" x 6" studs or comparable construction, with R-19 to R-25 wall insulation and R-33 to R-45 ceiling insulation. Use the negative (-) adjustments listed on Page 3-61 for dwellings that do not meet current standards. See the example on Page 2-17 on the proper use of these adjustments.

RESIDENCE – Grade D

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RESIDENCE – Grade D

Dwellings constructed of cheap-quality materials and poor workmanship, devoid of any architectural treatment and built-in features. Normally self built, with assistance from a mechanical contractor.

FOUNDATION

Cement block walls, concrete footings. Full basement.

EXTERIOR WALLS

Inexpensive aluminum, vinyl, cement fiber or wood lap siding, plywood or hardboard; stucco, rustic logs; brick or stone veneers; stucco, common brick or stone over concrete block; painted or unpainted concrete block or solid brick. Framing will be 2" x 4" wood, 16" o.c., paneled exterior doors, aluminum or wood windows. Two coats of exterior paint. All doors and windows weather-stripped with wall insulation (see Energy Package below).

ROOF

Gable or shed-type, roll-type, cheap shingles or metal roofing, 1" sheathing, 2" x 4" wood rafters 24" o.c., no cornice, gutters or conductors.

FLOORS

Basement: 3" cement on earth. Upper floors: softwood flooring, 2" x 8" wood joists, 20" o.c., wood girders and columns supporting first floor. Attic floor and stairs not included in base price.

INTERIOR FINISH

Cheap pine doors and trim. Cheap kitchen cabinets and closets. Drywall, cheap panel or equal walls and ceilings, painted.

HEATING

Forced warm air system with thermostat control.

PLUMBING

Cheap-quality piping and fixtures, one bathroom, kitchen sink, water heater.

LIGHTING

Electric lighting, nonmetallic wiring, cheap fixtures, scarcity of outlets.

ENERGY PACKAGE

The Dwelling Base Prices are for residences that meet current building codes. Base Dwelling Prices include costs of meeting current energy guidelines for extreme climate locations. This can include a weighting of double and triple glazing, 2" x 6" studs or comparable construction, with R-19 to R-25 wall insulation and R-33 to R-45 ceiling insulation. Use the negative (-) adjustments listed on Page 3-61 for dwellings that do not meet current standards. See the example on Page 2-17 on the proper use of these adjustments.

RESIDENCE – Grade E

RESIDENCE – Grade E

RESIDENCE – Grade E

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RESIDENCE – Grade E

RESIDENCE – Grade E

The Dwelling Pricing Schedule is to be used for computing the replacement cost new of all dwellings. Whole-dollar C Grade base prices are provided for different floor levels of frame and masonry exterior wall construction, along with tables of base price adjustments, attachments and other features.

GENERAL APPLICATION

The general application of the pricing schedule is to select the base price which is most representative of the subject dwelling, and to adjust that base price to account for any variations between the subject dwelling and the model. Refer to the dwelling computations section of the property record card specifications for detailed pricing procedures.

SPECIAL APPLICATION

Figure 1. A typical Bi–Level Dessign

Bi-level designs (as shown in Figure 1) are also referred to as "raised ranches." These are basically two-level designs with approximately one half of the lower level above grade level and the other half below, with the two levels split by a foyer at grade level, thus giving the effect of three-level dwelling. The upper level (2) generally houses the main living areas as found in a typical one-floor plan. The lower level (1) generally houses the family room, utility area and garage, but depending on the size of the dwelling, may house additional living space such as a den and an extra bedroom, as well as a utility room partially finished for use as a recreation room.

Classify as a one-story dwelling with a full basement; the first story area is equal to the size of the upper level (2). Follow the general pricing procedures as described, being certain to consider the following items as applicable:

1. ADD for finished basement living area.

2. ADD for finished basement recreation room.

3. ADD for basement garage.

4. ADD for masonry trim below the upper floor level.

5. ADD a cost and design factor of 0% to 5%, (depending upon the extent to which the design and related features add to the construction cost over and above base considerations) to account for the bi-level design.

Split-level designs, also referred to as tri-level and four-level dwellings. These are three- or four-level designs distinguishable by their irregular wall heights and different roof elevations. The split may be side to side or front to back. There are three basic variations:

A. A typical tri-level dwelling is shown in Figure 2. The upper two levels (2 and 3) generally house the main living area as found in a typical one-story plan, with bedrooms in the upper level (3), and the living, dining, kitchen and foyer areas at the grade level (2).The lower level (1) is normally the same size as level 3, approximately one half above and one half below grade level, and generally houses the family room or recreation room and utility areas. It may also house the garage, but with this design the garage is more often attached to level 2. (Note the similarity between level 1 in Figure 1 and Figure 2.)

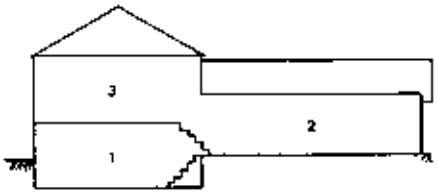


Figure 2. A typical Tri–Level Dessign

Classify as a one story and dwelling with a partial basement and a first-story area equal to the combined size of the two upper levels (2 and 3), and follow the general pricing procedures described, being certain to consider the following items as applicable:

1. DEDUCT for partial basement.
2. ADD for finished basement living area and/or finished basement recreation rooms. (There is generally one or the other.)
3. ADD for masonry trim below the upper two levels (levels 2 and 3).
4. ADD a cost and design factor of 5% to 10%,(depending upon the extent to which the design and related features add to the construction cost over and above base considerations) to account for the split-level design.

B. A typical four-level dwelling is shown in Figure 3. It is the same design as that shown in Figure 2, with the addition of level B to house the utility area, generally, and recreation room, leaving level 1 to house the family room and garage.

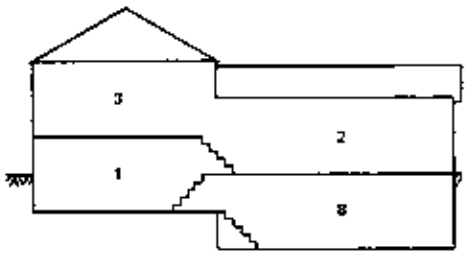


Figure 3. A typical Four–Level Dessign

Classify as a one-story dwelling with a full basement and a first-story area equal to the combined size of the two upper levels (2 and 3), and follow the general pricing procedures described, being certain to consider the following items as applicable:

1. ADD for finished basement living area.
2. ADD for finished basement recreation rooms.
3. ADD for basement garage.
4. ADD for masonry trim below the upper two levels (levels 2 and 3).
5. ADD a cost and design factor of 5% to 10% (depending upon the extent to which the design and related features add to the construction cost over and above base considerations) to account for the split-level design.

A. A typical variation of the four-level dwelling is shown in Figure 4. The difference between this design and that shown in Figure 3 is that level 1, rather than level 2, is at grade and level is approximately one half above and one half below grade. The foyer, family room and garage are generally located at the grade level (l), giving the appearance of a part two-story and part one-story dwelling with a basement.

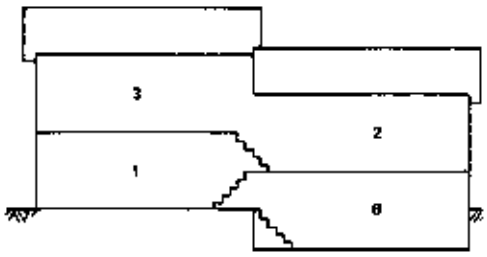


Figure 4. A Typical Four–Level Design

Classify as a one-story and full basement dwelling with a first-story area equal to the combined size of the two upper levels (2 and 3), and follow the general pricing procedures prescribed, being certain to consider the following items as applicable:

1. ADD for finished basement living area.
2. ADD for finished basement recreation rooms.
3. ADD for basement garage.
4. ADD for masonry trim below the upper two levels (levels 2 and 3).
5. ADD a cost and design factor of 10% to account for the split-level design and related features.

Crop Drying System - Building-mounted Solar Collector - The cost is per square foot of building area.

For Unique Residence Types - Grade factors may be used in addition to cost and design factors to recognize quality differences in homes. Use the Dwelling CDU table for depreciation.

A-Frame - List as one-story frame. The loft is handled through the cost and design factor.

Envelope Homes - The area of the home should be determined by using the interior wall dimension. The exterior wall is handled through the cost and design factor.

Residential Greenhouses - For depreciation, use Percent Good Table 5 on Page 6-14.

LARGE RESIDENCE MULTIPLIERS

To estimate a dwelling price for residences greater than 4,000 square feet, apply the following multipliers to the 4,000-square-foot base price for the appropriate exterior wall (Pages 3-55 through 3-60). Use these same multipliers for Upper and Half Story, Attic Finish and all Base Price Adjustments found on Page 3-61.

AREA	MULTIPLIER	AREA	MULTIPLIER	AREA	MULTIPLIER	AREA	MULTIPLIER
4050	.998	**4800**	.969	**5550**	.945	**6300**	.925
4100	.996	**4850**	.967	**5600**	.944	**6350**	.924
4150	.994	**4900**	.966	**5650**	.942	**6400**	.922
4200	.992	**4950**	.964	**5700**	.941	**6450**	.921
4250	.990	**5000**	.962	**5750**	.939	**6500**	.920
4300	.988	**5050**	.961	**5800**	.938	**6550**	.919
4350	.986	**5100**	.959	**5850**	.937	**6600**	.917
4400	.984	**5150**	.957	**5900**	.935	**6650**	.916
4450	.982	**5200**	.956	**5950**	.934	**6700**	.915
4500	.980	**5250**	.954	**6000**	.933	**6750**	.914
4550	.978	**5300**	.953	**6050**	.931	**6800**	.913
4600	.976	**5350**	.951	**6100**	.930	**6850**	.912
4650	.974	**5400**	.950	**6150**	.929	**6900**	.910
4700	.973	**5450**	.948	**6200**	.927	**6950**	.909
4750	.971	**5500**	.947	**6250**	.926	**7000**	.908

DWELLING PRICING SCHEDULE

FRAME BASE PRICES				
AREA	1ST STORY & BSMT.	UPPER STORY	HALF STORY	ATTIC, FIN.
400	35,970	22,660	14,870	8,510
450	39,680	24,650	16,120	9,230
500	43,320	26,570	17,320	9,930
550	46,900	28,430	18,490	10,610
600	50,420	30,240	19,620	11,270
650	53,890	32,010	20,720	11,900
700	57,320	33,740	21,790	12,530
750	60,710	35,430	22,830	13,130
800	64,070	37,080	23,850	13,730
850	67,380	38,710	24,850	14,310
900	70,670	40,300	25,830	14,880
950	73,920	41,870	26,790	15,440
1000	77,150	43,410	27,740	15,990
1050	80,350	44,930	28,670	16,520
1100	83,520	46,430	29,580	17,050
1150	86,670	47,900	30,480	17,580
1200	89,790	49,360	31,360	18,090
1250	92,900	50,790	32,240	18,600
1300	95,980	52,210	33,100	19,100
1350	99,050	53,610	33,950	19,590
1400	102,090	55,000	34,780	20,080
1450	105,120	56,370	35,610	20,560
1500	108,130	57,720	36,430	21,030
1550	111,120	59,060	37,240	21,500
1600	114,100	60,390	38,040	21,960
1650	117,060	61,710	38,830	22,420
1700	120,010	63,010	39,610	22,870
1750	122,940	64,300	40,380	23,320
1800	125,850	65,570	41,150	23,760
1850	128,760	66,840	41,910	24,200
1900	131,650	68,100	42,660	24,640
1950	134,530	69,340	43,400	25,070
2000	137,390	70,580	44,140	25,490
2050	140,250	71,800	44,870	25,910
2100	143,090	73,020	45,600	26,330
2150	145,920	74,220	46,310	26,750

FRAME BASE PRICES				
AREA	1ST STORY & BSMT.	UPPER STORY	HALF STORY	ATTIC, FIN.
2200	148,740	75,420	47,030	27,160
2250	151,550	76,610	47,730	27,570
2300	154,350	77,790	48,430	27,970
2350	157,140	78,960	49,130	28,370
2400	159,920	80,120	49,820	28,770
2450	162,690	81,280	50,500	29,170
2500	165,450	82,430	51,180	29,560
2550	168,200	83,570	51,860	29,950
2600	170,940	84,700	52,530	30,330
2650	173,670	85,830	53,200	30,710
2700	176,400	86,950	53,860	31,100
2750	179,110	88,060	54,510	31,470
2800	181,820	89,170	55,170	31,850
2850	184,520	90,270	55,810	32,220
2900	187,210	91,360	56,460	32,590
2950	189,890	92,450	57,100	32,960
3000	192,570	93,530	57,730	33,320
3050	195,240	94,610	58,370	33,690
3100	197,900	95,680	58,990	34,050
3150	200,560	96,740	59,620	34,410
3200	203,200	97,800	60,240	34,760
3250	205,840	98,850	60,860	35,120
3300	208,480	99,900	61,470	35,470
3350	211,100	100,950	62,080	35,820
3400	213,720	101,980	62,690	36,170
3450	216,340	103,020	63,290	36,510
3500	218,940	104,040	63,890	36,860
3550	221,550	105,070	64,490	37,200
3600	224,140	106,090	65,090	37,540
3650	226,730	107,100	65,680	37,880
3700	229,310	108,110	66,260	38,210
3750	231,890	109,110	66,850	38,550
3800	234,460	110,110	67,430	38,880
3850	237,030	111,110	68,010	39,210
3900	239,590	112,100	68,590	39,540
4000	244,690	114,070	69,760	40,190

DWELLING PRICING SCHEDULE

MASONRY VENEER BASE PRICES				
AREA	1ST STORY & BSMT.	UPPER STORY	HALF STORY	ATTIC, FIN.
400	38,310	24,090	15,770	8,960
450	42,220	26,180	17,080	9,720
500	46,060	28,190	18,340	10,450
550	49,830	30,150	19,560	11,150
600	53,530	32,050	20,740	11,840
650	57,190	33,910	21,890	12,500
700	60,790	35,720	23,010	13,150
750	64,360	37,490	24,110	13,780
800	67,870	39,220	25,170	14,400
850	71,360	40,920	26,220	15,010
900	74,800	42,590	27,240	15,600
950	78,210	44,230	28,240	16,180
1000	81,590	45,840	29,230	16,750
1050	84,940	47,430	30,200	17,310
1100	88,270	48,990	31,150	17,860
1150	91,560	50,530	32,090	18,400
1200	94,840	52,050	33,010	18,940
1250	98,090	53,550	33,920	19,470
1300	101,310	55,030	34,820	19,980
1350	104,510	56,500	35,700	20,500
1400	107,700	57,940	36,580	21,000
1450	110,860	59,370	37,440	21,500
1500	114,010	60,780	38,290	21,990
1550	117,130	62,180	39,130	22,480
1600	120,240	63,560	39,960	22,960
1650	123,330	64,930	40,780	23,430
1700	126,410	66,290	41,600	23,900
1750	129,470	67,630	42,400	24,370
1800	132,510	68,960	43,200	24,830
1850	135,540	70,280	43,990	25,280
1900	138,550	71,590	44,770	25,730
1950	141,560	72,880	45,540	26,180
2000	144,540	74,170	46,310	26,620
2050	147,520	75,440	47,070	27,060
2100	150,480	76,710	47,820	27,490
2150	153,430	77,960	48,570	27,920

MASONRY VENEER BASE PRICES				
AREA	1ST STORY & BSMT.	UPPER STORY	HALF STORY	ATTIC, FIN.
2200	156,370	79,210	49,310	28,350
2250	159,290	80,440	50,040	28,770
2300	162,210	81,670	50,770	29,190
2350	165,110	82,890	51,490	29,610
2400	168,000	84,100	52,210	30,020
2450	170,890	85,300	52,920	30,430
2500	173,760	86,490	53,620	30,830
2550	176,620	87,670	54,320	31,240
2600	179,470	88,850	55,020	31,640
2650	182,320	90,020	55,710	32,030
2700	185,150	91,180	56,400	32,430
2750	187,970	92,340	57,080	32,820
2800	190,790	93,490	57,750	33,210
2850	193,590	94,630	58,430	33,590
2900	196,390	95,770	59,090	33,980
2950	199,180	96,890	59,760	34,360
3000	201,960	98,020	60,420	34,740
3050	204,730	99,130	61,070	35,110
3100	207,500	100,240	61,720	35,480
3150	210,260	101,350	62,370	35,860
3200	213,010	102,440	63,010	36,220
3250	215,750	103,540	63,650	36,590
3300	218,480	104,620	64,290	36,960
3350	221,210	105,700	64,920	37,320
3400	223,930	106,780	65,550	37,680
3450	226,640	107,850	66,180	38,040
3500	229,350	108,920	66,800	38,390
3550	232,050	109,980	67,420	38,750
3600	234,740	111,030	68,030	39,100
3650	237,430	112,080	68,650	39,450
3700	240,110	113,130	69,250	39,800
3750	242,780	114,170	69,860	40,140
3800	245,450	115,200	70,460	40,490
3850	248,110	116,230	71,060	40,830
3900	250,770	117,260	71,660	41,170
4000	256,060	119,300	72,870	41,850

DWELLING PRICING SCHEDULE

CONCRETE BLOCK BASE PRICES				
AREA	1ST STORY & BSMT.	UPPER STORY	HALF STORY	ATTIC, FIN.
400	37,980	23,360	15,370	8,850
450	41,870	25,400	16,660	9,610
500	45,680	27,380	17,900	10,330
550	49,420	29,300	19,100	11,030
600	53,110	31,170	20,260	11,710
650	56,740	32,990	21,390	12,360
700	60,330	34,770	22,500	13,010
750	63,870	36,510	23,570	13,630
800	67,370	38,210	24,630	14,250
850	70,840	39,880	25,660	14,850
900	74,260	41,530	26,670	15,430
950	77,660	43,140	27,660	16,010
1000	81,020	44,730	28,630	16,570
1050	84,360	46,300	29,590	17,130
1100	87,670	47,840	30,530	17,670
1150	90,950	49,360	31,450	18,210
1200	94,210	50,860	32,360	18,740
1250	97,440	52,340	33,260	19,260
1300	100,650	53,800	34,150	19,780
1350	103,840	55,250	35,020	20,280
1400	107,010	56,670	35,890	20,780
1450	110,160	58,090	36,740	21,280
1500	113,290	59,480	37,580	21,760
1550	116,410	60,870	38,420	22,250
1600	119,500	62,240	39,240	22,720
1650	122,580	63,590	40,050	23,190
1700	125,650	64,930	40,860	23,660
1750	128,690	66,260	41,660	24,120
1800	131,730	67,580	42,450	24,570
1850	134,750	68,890	43,230	25,030
1900	137,750	70,180	44,000	25,470
1950	140,740	71,470	44,770	25,910
2000	143,720	72,740	45,530	26,350
2050	146,680	74,010	46,280	26,790
2100	149,630	75,260	47,030	27,220
2150	152,570	76,500	47,770	27,640

CONCRETE BLOCK BASE PRICES				
AREA	1ST STORY & BSMT.	UPPER STORY	HALF STORY	ATTIC, FIN.
2200	155,500	77,740	48,500	28,060
2250	158,420	78,970	49,230	28,480
2300	161,320	80,180	49,960	28,900
2350	164,220	81,390	50,670	29,310
2400	167,100	82,600	51,380	29,720
2450	169,970	83,790	52,090	30,120
2500	172,840	84,970	52,790	30,530
2550	175,690	86,150	53,490	30,930
2600	178,530	87,320	54,180	31,320
2650	181,370	88,490	54,860	31,710
2700	184,190	89,640	55,550	32,110
2750	187,010	90,790	56,220	32,490
2800	189,820	91,930	56,900	32,880
2850	192,610	93,070	57,560	33,260
2900	195,400	94,200	58,230	33,640
2950	198,180	95,320	58,890	34,020
3000	200,960	96,440	59,540	34,390
3050	203,720	97,550	60,190	34,760
3100	206,480	98,660	60,840	35,130
3150	209,230	99,750	61,490	35,500
3200	211,970	100,850	62,130	35,870
3250	214,710	101,940	62,760	36,230
3300	217,440	103,020	63,400	36,590
3350	220,160	104,100	64,030	36,950
3400	222,870	105,170	64,650	37,310
3450	225,580	106,240	65,270	37,660
3500	228,280	107,300	65,890	38,010
3550	230,970	108,360	66,510	38,360
3600	233,660	109,410	67,120	38,710
3650	236,340	110,450	67,730	39,060
3700	239,010	111,500	68,340	39,400
3750	241,680	112,540	68,940	39,750
3800	244,340	113,570	69,540	40,090
3850	246,990	114,600	70,140	40,430
3900	249,640	115,620	70,740	40,770
4000	254,920	117,660	71,940	41,440

DWELLING PRICING SCHEDULE

BRICK OR STONE BASE PRICES				
AREA	1ST STORY & BSMT.	UPPER STORY	HALF STORY	ATTIC, FIN.
400	44,230	25,940	16,800	9,270
450	48,550	28,170	18,180	10,050
500	52,780	30,320	19,520	10,800
550	56,920	32,410	20,810	11,520
600	60,980	34,440	22,060	12,230
650	64,970	36,420	23,280	12,920
700	68,900	38,360	24,460	13,590
750	72,770	40,250	25,620	14,240
800	76,580	42,100	26,750	14,880
850	80,350	43,920	27,860	15,500
900	84,070	45,700	28,940	16,120
950	87,750	47,450	30,000	16,720
1000	91,390	49,180	31,050	17,310
1050	94,990	50,880	32,080	17,890
1100	98,550	52,550	33,090	18,460
1150	102,080	54,200	34,080	19,030
1200	105,580	55,820	35,060	19,580
1250	109,050	57,430	36,030	20,130
1300	112,490	59,010	36,980	20,670
1350	115,910	60,580	37,920	21,200
1400	119,290	62,130	38,850	21,720
1450	122,660	63,660	39,770	22,240
1500	125,990	65,170	40,670	22,760
1550	129,310	66,670	41,570	23,260
1600	132,600	68,150	42,450	23,770
1650	135,870	69,620	43,330	24,260
1700	139,120	71,070	44,200	24,750
1750	142,360	72,520	45,060	25,240
1800	145,570	73,940	45,910	25,720
1850	148,770	75,360	46,750	26,200
1900	151,960	76,770	47,590	26,670
1950	155,140	78,170	48,420	27,140
2000	158,290	79,560	49,240	27,610
2050	161,430	80,940	50,060	28,070
2100	164,550	82,300	50,860	28,530
2150	167,660	83,660	51,670	28,990

BRICK OR STONE BASE PRICES				
AREA	1ST STORY & BSMT.	UPPER STORY	HALF STORY	ATTIC, FIN.
2200	170,760	85,000	52,460	29,440
2250	173,840	86,340	53,250	29,880
2300	176,900	87,660	54,030	30,330
2350	179,950	88,980	54,810	30,770
2400	182,990	90,290	55,580	31,200
2450	186,020	91,590	56,350	31,640
2500	189,030	92,880	57,110	32,070
2550	192,030	94,160	57,860	32,500
2600	195,020	95,440	58,610	32,920
2650	198,000	96,710	59,360	33,340
2700	200,960	97,970	60,100	33,760
2750	203,920	99,220	60,840	34,180
2800	206,860	100,460	61,570	34,590
2850	209,790	101,700	62,290	35,000
2900	212,710	102,930	63,010	35,410
2950	215,630	104,160	63,730	35,820
3000	218,530	105,380	64,440	36,220
3050	221,420	106,590	65,150	36,620
3100	224,300	107,790	65,860	37,020
3150	227,170	108,990	66,560	37,420
3200	230,040	110,190	67,250	37,810
3250	232,890	111,370	67,950	38,210
3300	235,740	112,550	68,640	38,600
3350	238,570	113,730	69,320	38,980
3400	241,400	114,900	70,000	39,370
3450	244,220	116,060	70,680	39,750
3500	247,030	117,220	71,360	40,140
3550	249,830	118,380	72,030	40,520
3600	252,630	119,530	72,700	40,900
3650	255,410	120,670	73,360	41,270
3700	258,190	121,810	74,020	41,650
3750	260,960	122,940	74,680	42,020
3800	263,730	124,070	75,340	42,390
3850	266,480	125,190	75,990	42,760
3900	269,230	126,310	76,640	43,130
4000	274,710	128,540	77,950	43,860

DWELLING PRICING SCHEDULE

RUSTIC LOG BASE PRICES				
AREA	1ST STORY & BSMT.	UPPER STORY	HALF STORY	ATTIC, FIN.
400	38,180	23,700	15,560	8,900
450	42,080	25,770	16,860	9,660
500	45,910	27,770	18,110	10,380
550	49,680	29,710	19,320	11,080
600	53,380	31,590	20,490	11,760
650	57,040	33,430	21,630	12,420
700	60,640	35,230	22,740	13,070
750	64,200	36,990	23,830	13,700
800	67,720	38,710	24,890	14,310
850	71,200	40,390	25,920	14,910
900	74,640	42,050	26,940	15,500
950	78,060	43,680	27,940	16,070
1000	81,440	45,280	28,920	16,640
1050	84,790	46,860	29,880	17,200
1100	88,120	48,420	30,830	17,740
1150	91,410	49,950	31,760	18,280
1200	94,690	51,460	32,680	18,810
1250	97,940	52,950	33,580	19,330
1300	101,170	54,430	34,470	19,850
1350	104,370	55,880	35,350	20,350
1400	107,560	57,320	36,220	20,850
1450	110,730	58,740	37,080	21,350
1500	113,870	60,150	37,920	21,830
1550	117,000	61,540	38,760	22,320
1600	120,120	62,920	39,590	22,790
1650	123,210	64,280	40,410	23,260
1700	126,290	65,640	41,220	23,730
1750	129,350	66,970	42,020	24,190
1800	132,400	68,300	42,810	24,640
1850	135,440	69,620	43,600	25,090
1900	138,450	70,920	44,370	25,540
1950	141,460	72,210	45,140	25,980
2000	144,450	73,490	45,910	26,420
2050	147,430	74,760	46,660	26,850
2100	150,400	76,030	47,410	27,280
2150	153,350	77,280	48,160	27,710

RUSTIC LOG BASE PRICES				
AREA	1ST STORY & BSMT.	UPPER STORY	HALF STORY	ATTIC, FIN.
2200	156,300	78,520	48,890	28,130
2250	159,230	79,750	49,620	28,550
2300	162,150	80,980	50,350	28,960
2350	165,060	82,190	51,070	29,370
2400	167,960	83,400	51,780	29,780
2450	170,840	84,600	52,490	30,190
2500	173,720	85,790	53,190	30,590
2550	176,590	86,980	53,890	30,990
2600	179,450	88,150	54,590	31,380
2650	182,290	89,320	55,270	31,780
2700	185,130	90,480	55,960	32,160
2750	187,960	91,640	56,640	32,550
2800	190,790	92,790	57,310	32,940
2850	193,600	93,930	57,980	33,320
2900	196,400	95,060	58,650	33,700
2950	199,200	96,190	59,310	34,070
3000	201,980	97,310	59,970	34,450
3050	204,760	98,430	60,620	34,820
3100	207,540	99,540	61,270	35,190
3150	210,300	100,640	61,910	35,550
3200	213,060	101,740	62,560	35,920
3250	215,800	102,830	63,190	36,280
3300	218,550	103,920	63,830	36,640
3350	221,280	105,000	64,460	37,000
3400	224,010	106,080	65,090	37,350
3450	226,730	107,150	65,710	37,710
3500	229,440	108,220	66,330	38,060
3550	232,150	109,280	66,950	38,410
3600	234,850	110,330	67,560	38,760
3650	237,540	111,390	68,170	39,100
3700	240,230	112,430	68,780	39,450
3750	242,910	113,470	69,390	39,790
3800	245,580	114,510	69,990	40,130
3850	248,250	115,540	70,590	40,470
3900	250,920	116,570	71,180	40,800
4000	256,220	118,610	72,390	41,470

DWELLING PRICING SCHEDULE

HAND-HEWN LOG BASE PRICES				
AREA	1ST STORY & BSMT.	UPPER STORY	HALF STORY	ATTIC, FIN.
400	41,860	25,450	16,640	9,420
450	46,080	27,640	18,010	10,210
500	50,220	29,760	19,340	10,980
550	54,280	31,810	20,610	11,710
600	58,270	33,810	21,850	12,430
650	62,200	35,750	23,060	13,120
700	66,080	37,650	24,230	13,800
750	69,900	39,500	25,370	14,460
800	73,680	41,310	26,490	15,110
850	77,420	43,090	27,580	15,740
900	81,120	44,840	28,650	16,360
950	84,770	46,550	29,700	16,970
1000	88,400	48,240	30,730	17,560
1050	91,990	49,900	31,740	18,150
1100	95,540	51,530	32,740	18,720
1150	99,070	53,140	33,720	19,290
1200	102,570	54,730	34,680	19,850
1250	106,050	56,300	35,630	20,400
1300	109,490	57,850	36,570	20,940
1350	112,920	59,370	37,490	21,470
1400	116,320	60,880	38,400	22,000
1450	119,700	62,380	39,300	22,520
1500	123,050	63,850	40,190	23,030
1550	126,390	65,310	41,070	23,540
1600	129,710	66,760	41,940	24,040
1650	133,000	68,190	42,800	24,540
1700	136,280	69,600	43,650	25,030
1750	139,540	71,000	44,490	25,510
1800	142,790	72,390	45,320	26,000
1850	146,020	73,770	46,140	26,470
1900	149,230	75,130	46,960	26,940
1950	152,420	76,480	47,760	27,410
2000	155,600	77,830	48,560	27,870
2050	158,770	79,160	49,360	28,330
2100	161,920	80,480	50,140	28,780
2150	165,060	81,780	50,920	29,230

HAND-HEWN LOG BASE PRICES				
AREA	1ST STORY & BSMT.	UPPER STORY	HALF STORY	ATTIC, FIN.
2200	168,190	83,080	51,690	29,670
2250	171,300	84,370	52,460	30,120
2300	174,400	85,650	53,220	30,550
2350	177,480	86,920	53,970	30,990
2400	180,560	88,180	54,720	31,420
2450	183,620	89,440	55,460	31,850
2500	186,670	90,680	56,200	32,270
2550	189,710	91,920	56,930	32,690
2600	192,740	93,140	57,650	33,110
2650	195,760	94,360	58,370	33,520
2700	198,770	95,580	59,090	33,940
2750	201,770	96,780	59,800	34,340
2800	204,760	97,980	60,500	34,750
2850	207,730	99,170	61,210	35,150
2900	210,700	100,350	61,900	35,550
2950	213,660	101,530	62,590	35,950
3000	216,610	102,700	63,280	36,350
3050	219,550	103,860	63,970	36,740
3100	222,480	105,020	64,650	37,130
3150	225,410	106,170	65,320	37,520
3200	228,320	107,320	65,990	37,900
3250	231,230	108,450	66,660	38,290
3300	234,130	109,590	67,320	38,670
3350	237,020	110,710	67,980	39,050
3400	239,900	111,840	68,640	39,420
3450	242,770	112,950	69,290	39,800
3500	245,640	114,060	69,940	40,170
3550	248,500	115,170	70,590	40,540
3600	251,350	116,270	71,230	40,910
3650	254,190	117,360	71,870	41,280
3700	257,030	118,450	72,500	41,640
3750	259,860	119,530	73,130	42,000
3800	262,690	120,610	73,760	42,360
3850	265,500	121,690	74,390	42,720
3900	268,310	122,760	75,010	43,080
4000	273,910	124,880	76,270	43,790

DWELLING PRICING SCHEDULE – BASE PRICE ADJUSTMENTS

BASEMENTS			
AREA	CRAWL	BSMT.	FIN BSMT. LIV. AREA
400	3,750	6,960	8,120
450	4,140	7,670	9,040
500	4,520	8,370	9,940
550	4,890	9,050	10,840
600	5,250	9,730	11,730
650	5,610	10,390	12,620
700	5,970	11,050	13,490
750	6,320	11,700	14,360
800	6,660	12,340	15,230
850	7,010	12,970	16,090
900	7,350	13,600	16,950
950	7,680	14,220	17,800
1,000	8,020	14,840	18,650
1,050	8,350	15,450	19,490
1,100	8,680	16,050	20,330
1,150	9,000	16,650	21,170
1,200	9,320	17,250	22,000
1,250	9,640	17,840	22,830
1,300	9,960	18,430	23,660
1,350	10,280	19,010	24,480
1,400	10,590	19,590	25,300
1,450	10,900	20,170	26,120
1,500	11,220	20,740	26,940
1,550	11,520	21,310	27,750
1,600	11,830	21,880	28,560
1,650	12,140	22,440	29,370
1,700	12,440	23,000	30,170
1,750	12,740	23,560	30,980
1,800	13,040	24,120	31,780
1,850	13,340	24,670	32,580
1,900	13,640	25,220	33,380
1,950	13,940	25,760	34,170
2,000	14,230	26,310	34,970
2,050	14,530	26,850	35,760
2,100	14,820	27,390	36,550
2,150	15,110	27,930	37,340
2,200	15,400	28,470	38,120
2,250	15,690	29,000	38,910
2,300	15,980	29,530	39,690
2,350	16,260	30,060	40,470
2,400	16,550	30,590	41,250
2,450	16,840	31,110	42,030
2,500	17,120	31,640	42,810
2,550	17,400	32,160	43,590
2,600	17,690	32,680	44,360
2,650	17,970	33,200	45,130
2,700	18,250	33,710	45,910
2,750	18,530	34,230	46,680
2,800	18,800	34,740	47,450
2,850	19,080	35,250	48,210
2,900	19,360	35,760	48,980
2,950	19,630	36,270	49,750
3,000	19,910	36,780	50,510
3,050	20,180	37,290	51,270
3,100	20,460	37,790	52,030
3,150	20,730	38,290	52,790
3,200	21,000	38,800	53,550
3,250	21,270	39,300	54,310
3,300	21,540	39,800	55,070
3,350	21,810	40,290	55,830
3,400	22,080	40,790	56,580
3,450	22,350	41,280	57,340
3,500	22,620	41,780	58,090
3,550	22,890	42,270	58,840
3,600	23,150	42,760	59,590
3,650	23,420	43,250	60,340
3,700	23,690	43,740	61,090
3,750	23,950	44,230	61,840
3,800	24,210	44,720	62,590
3,850	24,480	45,200	63,330
3,900	24,740	45,690	64,080
4,000	25,270	46,650	65,570

HEATING			
AREA	NO HEATING (–)	AIR COND. Same Ducts (+)	AIR COND. Sep. Ducts (+)
400	2,760	1,460	3,030
450	2,950	1,530	3,180
500	3,120	1,610	3,330
550	3,290	1,680	3,460
600	3,450	1,740	3,590
650	3,610	1,800	3,720
700	3,760	1,860	3,830
750	3,900	1,920	3,950
800	4,040	1,980	4,060
850	4,180	2,030	4,160
900	4,310	2,090	4,260
950	4,440	2,140	4,360
1,000	4,570	2,180	4,450
1,050	4,690	2,240	4,550
1,100	4,810	2,280	4,640
1,150	4,930	2,330	4,720
1,200	5,040	2,380	4,810
1,250	5,160	2,410	4,890
1,300	5,270	2,460	4,970
1,350	5,380	2,500	5,050
1,400	5,490	2,540	5,130
1,450	5,590	2,590	5,210
1,500	5,700	2,620	5,280
1,550	5,800	2,660	5,360
1,600	5,900	2,700	5,430
1,650	6,000	2,740	5,500
1,700	6,100	2,770	5,570
1,750	6,200	2,810	5,640
1,800	6,300	2,840	5,700
1,850	6,390	2,880	5,770
1,900	6,490	2,910	5,840
1,950	6,580	2,940	5,900
2,000	6,670	2,980	5,960
2,050	6,760	3,010	6,020
2,100	6,850	3,040	6,090
2,150	6,940	3,070	6,150
2,200	7,030	3,100	6,210
2,250	7,110	3,140	6,270
2,300	7,200	3,170	6,320
2,350	7,290	3,190	6,380
2,400	7,370	3,220	6,440
2,450	7,450	3,260	6,490
2,500	7,540	3,280	6,550
2,550	7,620	3,310	6,600
2,600	7,700	3,340	6,660
2,650	7,780	3,370	6,710
2,700	7,860	3,400	6,760
2,750	7,940	3,420	6,820
2,800	8,020	3,450	6,870
2,850	8,100	3,470	6,920
2,900	8,170	3,510	6,970
2,950	8,250	3,530	7,020
3,000	8,330	3,550	7,070
3,050	8,400	3,580	7,120
3,100	8,480	3,600	7,170
3,150	8,550	3,630	7,220
3,200	8,630	3,650	7,270
3,250	8,700	3,680	7,310
3,300	8,770	3,710	7,360
3,350	8,850	3,730	7,410
3,400	8,920	3,750	7,450
3,450	8,990	3,780	7,500
3,500	9,060	3,800	7,540
3,550	9,130	3,830	7,590
3,600	9,200	3,850	7,630
3,650	9,270	3,870	7,680
3,700	9,340	3,900	7,720
3,750	9,410	3,920	7,770
3,800	9,480	3,940	7,810
3,850	9,550	3,960	7,850
3,900	9,610	3,990	7,900
4,000	9,750	4,030	7,980

QUALITY GRADE FACTOR

	+ 2.75
AA	2.50
	– 2.00
	+ 1.75
A	1.55
	– 1.45
	+ 1.35
B	1.28
	– 1.20
	+ 1.10
C	1.00
	– .95
	+ .90
D	.85
	– .75
	+ .65
E	.55
	– .45

PLUMBING

Base Price Includes: 5 Fixtures equal to $4,500 w/ no rough-ins
ADD: $900 for each additional fixture
DEDUCT: $900 for each fixture less than 5
ADD: $325 for each rough-in
ADD: For whirlpool tub $3,200
For hot tub $2,600

ENERGY ADJ. (–)

For older residences that do not meet current energy guidelines: DEDUCT per sq. ft. of living area, based on the type of exterior walls.

Frame and mason. ven: $2.75
CB, brick or stone: $2.40
All log walls: $1.75

UNFINISHED AREA (–)

Refers to an area within the living area of the dwelling which lacks interior construction and finish such as interior walls and doors, cabinetry, ceiling, wall and floor finishes. Use a prorated amount for areas with some of the interior components listed above.

Deduct per square foot of unfinished area $20.25

SPACE HEATERS: Add for each: $850

WOOD-FIRED FURNACES: Add: for indoor $1,500 for outdoor $1,950

DWELLING PRICING SCHEDULE – ATTACHMENTS VALUES IN HUNDREDS OF DOLLARS

TYPE	PORCHES								CAR-PORT	WOOD DECK*	CAN-OPY	PATIOS		MS or TERR	TYPE	ATTACHED GARAGES‡	
	FRAME or CB				MASONRY or LOG												
CODE	11		12		21		22		30	31	32	33	34	35	CODE	13	23
AREA	OPEN		ENCLOSED		OPEN		ENCLOSED		Open		Wood or Alum.	Conc. or Brick	Flgstn. or Tile	Conc. or Brick	AREA	Frame or CB	Mas. or Log
	First Floor	Upper Floor	First Floor	Upper Floor	First Floor	Upper Floor	First Floor	Upper Floor									
20	6	6	13	12	8	7	15	13	2	5	2	2	4	5	**160**	51	61
40	11	10	21	20	15	12	25	22	3	8	3	4	7	9	**180**	55	66
60	15	13	26	25	21	16	32	28	5	10	4	5	9	12	**200**	59	70
80	19	16	32	29	26	20	40	33	6	12	5	6	11	14	**220**	63	75
100	22	17	38	33	31	22	47	37	8	14	7	7	14	17	**240**	66	80
120	26	20	43	37	37	25	54	42	9	16	8	8	16	19	**260**	69	84
140	30	22	48	40	42	28	60	46	10	17	9	9	18	22	**280**	72	88
160	33	24	52	43	47	31	66	50	12	19	10	10	20	24	**300**	75	92
180	37	26	57	46	52	34	72	54	13	21	11	10	22	26	**320**	77	95
200	40	28	61	49	57	37	78	57	14	22	12	11	24	28	**340**	79	98
220	43	30	65	52	62	39	84	61	16	24	13	12	25	30	**360**	80	101
240	46	31	70	54	66	41	90	64	17	25	15	13	27	32	**380**	81	103
260	49	32	74	56	71	43	95	67	18	26	16	13	29	34	**400**	82	105
280	52	33	77	58	75	44	100	69	20	28	17	14	31	36	**420**	85	108
300	55	33	81	59	78	45	104	71	21	29	18	15	33	37	**440**	87	112
320	57	34	84	61	82	47	109	73	22	30	19	15	34	39	**460**	89	116
340	60	35	87	62	86	48	113	75	23	31	20	16	36	40	**480**	91	119
360	62	37	90	65	89	50	117	78	25	33	21	17	38	42	**500**	93	123
380	65	39	93	67	92	52	121	81	26	34	22	17	39	43	**520**	94	126
400	67	40	96	69	96	54	124	83	27	35	23	18	41	44	**560**	97	132
420	69	42	98	71	99	57	128	86	28	36	24	18	43	46	**600**	99	137
OVER	16.40	9.90	23.35	16.90	23.45	13.45	30.45	20.40	6.75	8.65	5.75	4.40	10.15	10.85	**OVER**	16.55	22.85

*Factors for wood decks other than base (base = softwood, fir or pine): cedar or redwood, 1.45; metal 1.35; wood polymer, 1.30; vinyl, 1.55.

‡**ATTACHED GARAGE ADJUSTMENT (–)** Deduction for exposed stud common wall (no drywall). Priced per linear foot of common wall. $11.50

"OVER" line is expressed in dollars per square foot.

QUALITY GRADE FACTORS FOR ALL ATTACHMENTS AND OTHER FEATURES

AA = 2.50 A = 1.55 B = 1.28 C = 1.00 D = 0.85 E = 0.55

CODE	DWELLING PRICING SCHEDULE – OTHER FEATURES				
551	**MASONRY ADJUSTMENT (+ or –)**	Adjustment per square foot of wall area			$6.75
552	**FINISHED BASEMENT RECREATION ROOMS**	Refers to a relatively open, undivided area not necessarily finished with a quality of materials and workmanship consistent with the main living area of the dwelling. Price includes interior wall finish, flooring, ceiling, lighting and built-ins. Add per square foot of finished area.			$7.25
553	**WOODBURNING FIREPLACES**	Add per item Stack and one opening Each additional opening Each additional story of chimney stack (base = one story)			 $5,375 1,625 850
554	**PREFABRICATED METAL FIREPLACES**	Stack and one opening Each additional story of chimney stack (base = one story)			$1,825 475
555	**GAS FIREPLACES**	Add for each			$1,875
556	**BASEMENT GARAGES**	Refers to any garage located within that area of a dwelling priced as a basement. Price includes doors, enclosure walls, interior finish and lighting. Add per car space	1-Car Garage $1,500	2-Car Garage $2,025	3-Car Garage $2,725
557	**BUILT-IN GARAGES**	Price includes doors, enclosure walls, slab, interior finish of common wall and ceiling, and lighting. Add per car space. Frame or concrete block Masonry or log	1-Car Garage $4,950 6,050	2-Car Garage $7,875 9,400	3-Car Garage $10,675 12,550
558	**DORMERS**	Add per linear foot of roof dormer; measure across the face.		Shed $100.00	Gable/Hip $115.00

DETACHMENT PRICING SCHEDULE
(COSTS PER SQUARE FOOT)

TYPE	*DETACHED GARAGE		
CODE	RG1	RG2	RG3
AREA	FRAME OR CONCRETE BLOCK	MASONRY OR LOG	POLE FRAME
160	33.05	48.30	19.15
180	31.85	46.50	18.40
200	30.60	44.70	17.65
220	29.90	43.60	17.20
240	29.20	42.50	17.65
260	28.50	41.35	16.30
280	27.80	40.25	15.85
300	27.10	39.15	15.45
320	26.40	38.05	15.00
340	25.70	36.95	14.60
360	25.00	35.85	14.15
380	24.30	34.70	13.75
400	23.60	33.60	13.35
420	23.35	33.15	13.15
440	23.05	32.70	13.00
460	22.75	32.25	12.80
480	22.45	31.75	12.60
500	22.20	31.30	12.45
520	21.90	30.85	12.30
540	21.60	30.40	12.10
560	21.30	29.95	11.90
580	21.05	29.45	11.75
600	20.75	29.00	11.60
620	20.55	28.70	11.45
640	20.40	28.45	11.35
660	20.20	28.15	11.25
680	20.05	27.85	11.15
700	19.85	27.60	11.05
720	19.70	27.30	10.95
760	19.35	26.70	10.75
800	19.00	26.15	10.50
840	18.80	25.85	10.40
880	18.60	25.55	10.25
920	18.40	25.25	10.15
960	18.25	24.95	10.05
1000	18.05	24.65	9.95
OVER	18.05	24.65	9.95

*For interior finish, use the Attached Garage Adj. on p. 4-62.

DETACHED GARAGE QUALITY GRADE FACTOR

AA = 2.50 A = 1.55 B = 1.28 C = 1.00 D = 0.85 E = 0.55

CARPORT	RC1	$7.55 S.F.
CANOPY	RC2	$6.95 S.F.
DRIVEWAY		
Concrete	RC3	$3.75 S.F.
Asphalt	RC4	2.00 S.F.
Gravel	RC5	.90 S.F.
UTILITY SHEDS		
Frame	RS1	$13.60 S.F.
Metal	RS2	11.10 S.F.
Add for shop additions	RS3	5.00 S.F.

RESIDENTIAL SWIMMING POOL PRICING SCHEDULE

BASE SPECIFICATIONS

Base prices include — Basic pool structure, filter and pump equipment, all plumbing and drains, minimum of 3" perimeter concrete deck, completely contractor erected.

RP1 PLASTIC LINER TYPE

Sand hopper or sloping bottom, concrete block walls or equal.

RP2 PREFABRICATED POOLS

Vinyl liner, sand hopper bottom, galvanized steel walls or equal.

RP3 REINFORCED CONCRETE POOLS

Good-quality poured concrete walls and bottom.

RP4 FIBERGLASS POOLS

1/4" rigid fiberglass self-supporting pools.

RP5 GUNITE-TYPE POOLS

Gunite sprayed steel walls and bottom.

BASE PRICES

STRUCTURE TYPE	DEPTH	SIZE	AREA	COST PER S. F.
	40" to 7'	12 x 27	**324**	29.20
PLASTIC	40" to 7'	16 x 32	**512**	22.00
LINER	40" to 7'	18 x 36	**648**	19.85
RP1	40" to 7'	20 x 40	**800**	17.85
	44" to 7'	12 x 27	**324**	39.10
PREFABRICATED	44" to 7'	16 x 32	**512**	29.30
RP2	44" to 7'	18 x 36	**648**	26.40
	44" to 7'	20 x 40	**800**	23.65
	3' to 7'	12 x 27	**324**	58.20
REINFORCED	3' to 7'	16 x 32	**512**	48.00
CONCRETE	3' to 7'	18 x 36	**648**	43.85
RP3	3' to 8'	20 x 40	**800**	39.00
	44" to 7'	12 x 27	**324**	42.90
FIBERGLASS	44" to 7'	16 x 32	**512**	33.40
RP4	44" to 7'	18 x 36	**648**	30.60
	44" to 7'	20 x 40	**800**	27.25
	3' to 7'	12 x 27	**324**	50.55
GUNITE	3' to 7'	16 x 32	**512**	41.75
RP5	3' to 7'	18 x 36	**648**	38.15
	3' to 8'	20 x 40	**800**	33.95

BASE PRICE ADJUSTMENTS

CODE	MODIFICATION CODES
1	Filter – None (–) . . . . . $ 725
2	Pool heating, gas or propane (+) 1,525
3	Pool heating, electric (+) 2,375
4	Ceramic or quarry tile walls and bottom (+), per S.F. 9.40
5	Plastic tile walls and bottom (+), per S.F. 6.95

CODE	SPECIAL MODIFICATION CODES
SP1	Diving board (+), each . . . . . $ 625
SP2	Pool ladder (+), each 530
SP3	Underwater lighting (+), per fixture 545
SP4	Pool heating (+), per solar collector 1,175

RESIDENTIAL GREENHOUSES

Conventional

BASE SPECIFICATIONS
Two glass-enclosed ends, concrete floor, masonry sidewall, heat, electric.

BASE PRICES	
AREA	STRUCTURE TYPE RN1 Cost per Square Foot
60	67.50
80	62.30
100	58.50
120	55.55
140	53.20
160	51.25
180	49.60
200	48.15
220	46.85
240	45.75
260	44.70
280	43.80
300	42.95
350	41.15
400	39.60
450	38.35
500	37.20
600	35.35

Solar

BASE SPECIFICATIONS
Double, insulated, tempered glass on ends and sidewall, aluminum extrusions, concrete floor, electric, no heat.

BASE PRICES	
AREA	STRUCTURE TYPE RN2 Cost per Square Foot
60	107.85
80	97.85
100	90.75
120	85.30
140	81.00
160	77.40
180	74.40
200	71.80
220	69.50
240	67.50
260	65.70
280	64.05
300	62.60
350	59.40
400	56.80
450	54.55
500	52.65
600	49.50

For Conventional Greenhouses – For gable end doors, add $650 for each door. For tempered or laminated safety glass or structural polycarbonate or for tinted or heat-reflective glass, use a factor of 1.25. For insulated glass, use a factor of 1.50. For polyethylene cover, use a factor of .75; for double polyglazed, use a factor of .80; for semicircular structure, use a factor of .75; for a modified bow (3'side wall), use a factor of .80.

Deduct for floors other than concrete: dirt, $2.35; gravel, $2.00; asphalt, $.85. Add for the following: humidifiers, $700; ventilating fans, $475; planting benches, $9.65 per square foot; for glazed partitions, $8.40 per square foot of partition.

For Solar Greenhouses (Sunrooms) – For additional gable end doors, add $750 for each door. For laminated wood framing, use a factor of 1.10. For built-in shades, add $12.25 per square foot of covered area. For motorized operation, add $835 per operator. For heaters, add $575. For two-sided greenhouses reduce by one quality.

QUALITY GRADE FACTORS FOR GREENHOUSES AA = 2.50 A = 1.55 B = 1.28 C = 1.00 D = 0.85 E =0 .55

SAUNA BATHS – Per square foot of floor area.

Prefabricated units including interior wall finish, door, heater and controls.

15 sq. ft. to 24 sq. ft.	$200	50 sq. ft. to 74 sq. ft.	$100
25 sq. ft. to 48 sq. ft.	160	75 sq. ft. to 100 sq. ft.	85

SOLAR HEATING SYSTEMS

Domestic water heating and space heating systems – Include installation and equipment – Add $1,625 per solar collector.
Attic system – Use Finished Attic prices from Dwelling Pricing Schedule for total living area heated.
Photovoltaic system – Add $2.75 per watt.
Trombe wall heating system – Add $2.50 per square foot of living area.
Water wall heating system – Includes installation, heat exchanger, control panel and storage tanks – Add $1,875 per panel.
Window wall – Priced per linear foot of wall (8 ft. high) – $1,150

Solar Energy components may be exempt under Wisconsin Statute Section 70.111(18).

UNIQUE RESIDENCE TYPES

These are types of dwellings that, due to their uniqueness in style of construction or materials utilized, require a cost and design factor to be added in order to allow the pricing tables to value them correctly. Factors are to be applied to the Frame Base Prices, unless otherwise stated.

A-Frames

List as one story.

Pine exterior – No cost and design factor is necessary.

Cedar exterior – Add a cost and design factor of (+) 15%.

Geodesic Dome Homes

List as 1-story masonry construction.

Add a cost and design factor of (+) 10%.

Earth Homes

List as 1-story masonry construction – no basement.

Add a cost and design factor of (+) 15%.

Envelope House

Add a cost and design factor of (+) 10%.

WIND ENERGY SYSTEMS

Electrical

15/50 Hz Wind Turbine – Three-phase

Turbine is designed to cut in at 4.6 meters/second and to reach a rated output of 50 kilowatts at 11.3 meters/second. Peak output of 66 kilowatts is reached at 15 meters/second. Assuming 100% availability, turbine is calculated to produce 153,000 kilowatt-hours/year at an average wind speed of 6.7 meters/second. 80-foot galvanized tower.

Price range: $83,000 – $86,000

Mechanical Windmills

Tower Height	Windmill Cost					
	6-Ft.	8-Ft.	10-Ft.	12-Ft.	14-Ft.	16-Ft.
21	$3,850	$3,950	$5,175	-----	-----	-----
27	4,100	4,225	5,800	$8,475	$11,250	-----
33	4,425	4,525	5,950	8,750	11,725	$15,950
40	4,950	5,050	6,400	9,275	12,075	16,650
47	5,300	5,400	6,975	9,900	13,625	17,700

SPECIAL LISTING INSTRUCTIONS

Solar and Wind Energy costs may be exempt under Wisconsin Statute Section 70.111(18).

Solar Energy Costs are to be treated as a "total other" feature, so that a grade factor and a local modifier can be applied to them.

For Unique Residence Types - Grade factors may be used in addition to cost and design factors to recognize quality differences in homes. Use the Dwelling CDU table for depreciation.

A-Frame - List as one-story frame. The loft is handled through the cost and design factor.

Log Cabins - The cost and design factor should be applied only to recently constructed log cabins. The small and cheaply built log cabins should be handled through the use of the grading system.

Envelope Homes - The area of the home should be determined by using the interior wall dimensions. The exterior wall is handled through the cost and design factor.

Residential Greenhouses - For depreciation, use Percent Good Table 5 on Page 6-15.

WIND ENERGY SYSTEMS

Pumping capacities* of windmills shown in the table below are approximate, based on the mill set on the long stroke, operating in a 15- to 20-mile-per-hour wind. The short stroke increases elevation by one third and reduces pumping capacities by one fourth. See the cost table at the top of this page.

Size of Cylinder, Inches	*Capacity, Gallons per Hour		Elevation in Feet to Which Water Can Be Raised: Size of Windmill					
	6 Ft.	8 – 16 Ft.	6 Ft.	8 Ft.	10 Ft.	12 Ft.	14 Ft.	16 Ft.
1 7/8	125	180	120	175	260	390	560	920
2	130	190	95	140	215	320	460	750
2 1/4	180	260	75	110	170	250	360	590
2 1/2	225	325	65	95	140	210	300	490
2 3/4	265	385	55	80	120	180	260	425
3	320	470	45	65	100	150	220	360
3 1/2	440	640	35	50	75	110	160	265
3 3/4	-----	730	-----	-----	65	95	140	230
4	570	830	25	35	55	85	125	200
5	900	1,300	15	25	35	55	80	130
6	-----	1,875	-----–	15	25	35	55	85

The following is a guideline for estimating percent of completion for typical residential construction.

		Percent of Total	Cumulative Percent of Total
1.	Plans, permits and survey	2	2
2.	Foundation, excavation, forms	4	6
3.	Water/sewage hookup	2	8
4.	Concrete	5	13
5.	Concrete flatwork	3	16
6.	Rough framing and sheathing	21	37
7.	Windows and exterior doors	4	41
8.	Roof cover	3	44
9.	Rough-in plumbing	4	48
10.	Insulation	1	49
11.	Rough-in electrical and mechanical	11	60
12.	Exterior cover	5	65
13.	Interior drywall	8	73
14.	Built-in cabinets, interior doors, trim, etc.	9	82
15.	Plumbing fixtures	5	87
16.	Flooring covers	4	91
17.	Built-in appliances	2	93
18.	Light fixtures and finish hardware	2	95
19.	Painting and decorating	4	99
20.	Landscaping	1	100
TOTAL		100%	

GENERAL

Mobile homes, also referred to as *Manufactured Housing,* are residential structures built on steel undercarriages with necessary wheel assemblies to be transported to permanent or semipermanent sites. The wheel assembly can be removed when a unit is placed on a permanent foundation, but the steel undercarriage may remain intact if it is a necessary structural component. In some instances, the presence of a steel undercarriage as a necessary structural component is the primary distinguishing factor between a higher-quality mobile home and a modular house.

Note: Manufactured homes built (in the U.S.) after June 15, 1976, must meet the Federal Manufactured Home Construction and Safety Standards as outlined in Title VI, Housing and Community Development Act of 1974. A HUD seal certifying compliance with these standards must be displayed on each unit. For purposes of estimating replacement cost for those built prior to the enactment of these standards, as well as for those manufactured homes built after 1976, this section should be used.

Mobile homes consist of single or multisectional units, eight feet or greater in width and at least thirty-two feet in length. After being transported on their own wheel chassis to the site, the units are set up as permanent or semipermanent residences and are connected to the necessary utilities.

The residences are usually described in terms of width and length and are priced accordingly (i.e., 12' x 52', 24' x 64', with a 10' x 40' tag, etc.). In calculating actual square footage, *do not include the hitch in the overall dimensions*. Mobile homes are categorized into six quality levels: AA, A, B, C, D and E.

Costs are retail prices, including normal charges for delivery and setup on post and piers within *100 miles* of the dealer. Although some units are sold furnished, furnishings or appliances are not included in the base costs. Generally these structures are purchased directly from factory dealers/installers and can, at times, be influenced by inventory discounting, predatory pricing, etc., which are not contemplated here. Local fees, licenses and utility costs are not included and should be added when applicable. Appliances, drapes, skirting, patio roofs, carports and other optional items can be priced separately from other pages in the section.

Double sections, triple sections or quads (four sections) are terms used to describe manufactured houses having two or more sections. Square foot costs for double sections, based on length and gross width, are provided on the cost page.

Triple sections are priced by using the double section costs for the two main sections and a single section cost for the third section. The third section is often considered a tagalong and requires a cost adjustment as provided on the cost page.

Quads (four sections) are to be priced as two double sections with the tagalong percentage adjustment applied to the second double section base cost.

A tagalong is an attached section, usually a full width, but not necessarily the full length of the main section(s). It is the same in both structure and quality as the unit to which it is attached. A tagalong is priced as a single section but requires a percentage cost adjustment as indicated on each of the cost pages.

The higher-quality mobile homes are similar in both design and appearance to modular manufactured houses and, to an extent, site-built residences as found in tract developments. Costs for these types of construction will overlap. The higher-quality mobile homes will often exceed minimum manufactured home code requirements and will often meet, in part, local building codes.

These homes are similar in both design and appearance to modular constructed houses and to an extent, site-built residences typically found in tract development. Costs for these types of construction will overlap. Mobile homes at this quality level will exceed minimum requirements of manufactured home codes and will often meet, in part, local building codes.

FOUNDATION

Setup on concrete or steel piers. Add for continuous perimeter wall foundation.

FRAME

Heavy steel beam undercarriage with outriggers and cross members. The undercarriage is a necessary structural component.

FLOOR STRUCTURE

Wood floor joists with particleboard or plywood decking, waterproofing and insulation.

FLOOR COVER

High-quality, medium-weight carpet and vinyl.

EXTERIOR WALL

2'' x 6'' wood or steel studs. Exterior finish is plywood with batts or hardboard sheets. Ample fenestration with aluminum or wood sash windows. Exterior trim could typically consist of brick or stone veneer.

ROOF

Engineered truss system and sheathing. Roof covers can include composition shingles, wood shake or shingles, concrete or clay tile. Roof slope is typically 3 in 12 to 4 in 12, with a minimum overhang of 16''.

INTERIOR FINISH

2'' x 4'' stud interior walls. Interiors have good tape and textured finished drywall with some paper or vinyl wall covering or natural wood veneer paneling. Good natural wood veneer cabinets and vanities with laminated plastic or simulated marble countertops and backsplash. Veneered hollow-core or raised-panel doors. Walk-in closets or large sliding-door wardrobes. Typical ceiling height is 8' 0''. Ceilings are drywall, textured, and, where practical, may be dropped, sloped or cathedral, and have exposed beams.

HEATING

A forced-air furnace based on an extreme climate, with adequate output and ductwork is included in the basic residence cost.

LIGHTING

Numerous convenience outlets. Some recessed fluorescent fixtures in kitchen and bath areas.

PLUMBING

Five plumbing fixtures are included in the base cost. The fixtures can include any of the following: deluxe whirlpool tub, lavatory, toilet, tub with shower over, tiled or modular stall shower, kitchen sink, laundry tray, water heater and wet bar.

INSULATION

Floor, wall and ceiling insulation for an extreme climate is included in the basic residence cost. Use the negative (-) adjustment list on the cost page.

These homes are typically found in high-quality manufactured housing parks. Exterior finishes and interior refinements will resemble those of site-built housing. They will exceed minimum requirements of manufactured home codes.

FOUNDATION

Setup on concrete or steel piers. Add for continuous perimeter foundation wall.

FRAME

Heavy steel beam undercarriage with outriggers and cross members.

FLOOR STRUCTURE

Wood floor joists with particleboard or plywood decking, waterproofing and insulation.

FLOOR COVER

High-quality, medium-weight carpet and vinyl.

EXTERIOR WALL

Wood or steel 2'' x 6'' studs. Exterior finish is plywood with batts or hardboard sheets. Ample fenestration, with aluminum or wood sash windows, and may have a sliding glass door and an ornamental, recessed entrance. Exterior trim could typically consist of some imitation stone or brick.

ROOF

Engineered truss system and sheathing. Roof covers can include composition shingles, wood shingles, concrete or clay tiles. Roof slope is typically 3 in 12 to 4 in 12, with a moderate overhang.

INTERIOR FINISH

2'' x 4'' stud interior walls with paper, vinyl or paint and textured drywall or natural wood veneer. Natural wood veneer cabinets and vanities with laminated plastic or simulated marble countertops and backsplash. Veneered hollow-core doors. Walk-in closets or large sliding-door wardrobes. Typical ceiling height is 8' 0''. Ceilings are drywall, textured and, where practical, may be dropped, sloped or cathedral, and have exposed beams.

HEATING

A forced-air furnace based on an extreme climate, with adequate output and ductwork is included in the basic residence cost.

LIGHTING

Numerous convenience outlets. May have recessed fluorescent fixtures in kitchen and bath areas.

PLUMBING

Five plumbing fixtures are included in the base cost. The fixtures can include any of the following: lavatory, toilet, tub with shower over, tiled or modular stall shower, kitchen sink, laundry tray, water heater and whirlpool tub.

INSULATION

Floor, wall and ceiling insulation for an extreme climate is included in the basic residence cost. Use the negative (-) adjustment list on the cost page.

These homes will generally exceed the minimum manufactured home code requirements. Exterior design and interior finishes will include some detail and ornamentation. Connection seams will be somewhat apparent on multisectional houses.

FOUNDATION

Setup on steel or concrete piers. Add for continuous foundation wall.

FRAME

Rigid steel beam undercarriage with outriggers and cross members.

FLOOR STRUCTURE

Wood floor joists with particleboard or plywood decking, waterproofing and insulation.

FLOOR COVER

Good-quality, medium-weight carpet and vinyl composition tile.

EXTERIOR WALL

2'' x 4'' studs. Exterior finish is aluminum, vinyl, plywood or hardboard, sometimes a combination of two. The finish is often in various textures such as horizontal siding and board and batten. Ample fenestration, with aluminum or vinyl windows and a sliding glass door. Exterior finish often will include some ornamentation.

ROOF

Engineered truss system and sheathing. Roof covers can include composition shingles, wood shingle, and metal, corrugated or ribbed. Roof slope is typically 3 in 12, with a minimal overhang.

INTERIOR FINISH

Good-quality prefinished plywood paneling, natural wood or paper veneer on 2'' x 4'' studs. Large wardrobe closets and ample storage space. Laminated plastic or simulated marble countertops and backsplash. Veneered hollow-core doors. Paint-grade, vinyl-covered particleboard or inexpensive wood veneer kitchen cabinets and bathroom vanity. Ceiling typically 8' 0'' high and, where practical, sloped or cathedral with exposed beams.

HEATING

A forced-air furnace based on an extreme climate, with adequate ductwork is included.

LIGHTING

Ample number of convenience outlets. Some fluorescent fixtures in kitchen and bath areas.

PLUMBING

Five plumbing fixtures are included in the base cost. The fixtures can include any of the following: lavatory, toilet, tub with shower over, tiled or modular stall shower, kitchen sink, laundry tray and water heater.

INSULATION

Floor, wall and ceiling insulation for an extreme climate is included in the basic residence cost. Use the negative (-) adjustment list on the cost page.

These homes meet or exceed manufactured home code requirements. The overall quality of materials and workmanship is average and of standard grade. The front elevation will often have some ornamentation.

FOUNDATION

Setup on steel or concrete piers. Add for continuous foundation wall.

FRAME

Medium-weight steel beam undercarriage with outriggers and cross members.

FLOOR STRUCTURE

Wood floor joists with particleboard or plywood decking, waterproofing and insulation.

FLOOR COVER

Lightweight carpet and pad, asphalt or vinyl composition tile.

EXTERIOR WALL

Exterior finish is prefinished aluminum, hardboard or plywood sheet, vinyl or hardboard lap siding on 2'' x 4'' studs. Adequate fenestration with some trim around aluminum windows. Often the exteriors will have a combination of two textures or two colors.

ROOF

Engineered trusses and sheathing with corrugated or ribbed metal roofing or composition shingles. Roofs are typically sloped or arched, with front overhang.

INTERIOR FINISH

Medium-quality prefinished plywood or hardboard paneling on 2'' x 3'' or 2'' x 4'' studs. Adequate wardrobe closets and storage. Laminated plastic countertops and backsplash. Standard-grade hollow-core doors. Paint-grade, vinyl-covered particleboard or inexpensive wood veneer kitchen cabinets and bathroom vanity. Ceiling height is typically 7' 6'' to 8' 0''.

HEATING

A forced-air furnace based on an extreme climate, with adequate ductwork is included.

LIGHTING

Ample number of convenience outlets. Some luminous fixtures in the kitchen and bath areas.

PLUMBING

Five plumbing fixtures are included in the base cost. The fixtures can include any of the following: lavatory, toilet, tub with shower over, tiled or modular stall shower, kitchen sink, laundry tray and water heater.

INSULATION

Floor, wall and ceiling insulation for an extreme climate is included in the basic residence cost. Use the negative (-) adjustment list on the cost page.

These homes are designed to meet standard manufactured home code requirements. The overall quality of materials and workmanship, while average, will be relatively plain in finish and appearance. The floor plan is usually simple, with plumbing wet wall on a single outside wall.

FOUNDATION

Setup on steel or concrete piers. Add for continuous foundation wall.

FRAME

Medium-weight steel beam undercarriage with outriggers and cross members.

FLOOR STRUCTURE

Wood floor joists with particleboard or plywood decking, waterproofing and insulation.

FLOOR COVER

Inexpensive carpet and pad, asphalt or vinyl composition tile. Floor cover is not included in the basic residence cost.

EXTERIOR WALL

Exterior finish is aluminum prefinished or hardboard sheet siding on 2'' x 3'' or 2'' x 4'' studs. Limited standard fenestration with little ornamentation.

ROOF

Engineered trusses and sheathing with corrugated or ribbed metal roofing or composition shingles. Roofs are typically low-pitched, arched or sloped, with minimal overhang on front elevation.

INTERIOR FINISH

Low-quality prefinished plywood paneling, printed hardboard or thin, paper-veneered drywall on 2'' x 3'' or 2'' x 4'' studs. Small wardrobes. Laminated plastic countertops and backsplash. Standard-grade hollow-core doors. Paint-grade or vinyl-covered particleboard kitchen cabinets and bathroom vanity. Ceiling height is typically 7' 6'' to 8' 0''.

HEATING

A forced-air furnace based on an extreme climate, with adequate ductwork, is included.

LIGHTING

Minimum number of convenience outlets. Low-cost lighting fixtures.

PLUMBING

Five plumbing fixtures are included in the base cost. The fixtures can include any of the following: lavatory, toilet, tub, tub with shower over, kitchen sink and water heater. All fixtures are usually located along one side of the house (wet wall) with minimal runs.

INSULATION

Floor, wall and ceiling insulation for an extreme climate is included in the basic residence cost. Use the negative (-) adjustment list on the cost page.

These homes are designed to meet minimum manufactured home code requirements. The overall quality of materials and workmanship is below average. The floor plan is usually simple, with little or no attention given to detail.

FOUNDATION

Setup on steel or concrete piers. Add for continuous perimeter wall.

FRAME

Light steel beam undercarriage with outriggers and cross members.

FLOOR STRUCTURE

Wood floor joists with particleboard or plywood decking, waterproofing and insulation.

FLOOR COVER

Inexpensive carpet and pad, asphalt or vinyl composition tile.

EXTERIOR WALL

Exterior finish is prefinished aluminum wall and roof panels. Minimum fenestration using economy-grade windows.

ROOF

Engineered trusses and sheathing with corrugated or ribbed metal roofing or composition shingle. Roofs are flat or slightly arched, with no overhang.

INTERIOR FINISH

Low-quality printed hardboard or prefinished plywood paneling on 2'' x 3'' studs. Small wardrobes. Economy-grade hollow core doors. Paint-grade or vinyl-covered particleboard kitchen cabinets and bathroom vanity. Ceiling height is typically 7' 6'' to 8''.

HEATING

A forced-air furnace based on an extreme climate.

LIGHTING

Minimum number of electrical outlets. Low-cost lighting fixtures.

PLUMBING:

Five plumbing fixtures are included in the base cost. The fixtures can include any of the following: lavatory, toilet, tub, tub with shower over, kitchen sink and water heater. All fixtures are usually located along one side of the house (wet wall) with minimal runs.

INSULATION

Floor, wall and ceiling insulation for an extreme climate is included in the basic residence cost. Use the negative (-) adjustment list on the cost page.

Grade AA

Grade A

Grade B

Grade C

Grade D

Grade E

MOBILE HOME PRICING SCHEDULE

LENGTH	SINGLE WIDE							DOUBLE WIDE			
FEET	8	10	12	14	16	18	20	24	28	32	36
20	45.20	42.20	39.85	37.90	36.25	34.85	51.30	48.20	45.70	43.65	41.90
24	44.70	41.45	38.95	36.90	35.20	33.80	48.90	45.55	42.90	40.75	38.90
28	44.20	40.85	38.20	36.10	34.40	32.90	46.95	43.45	40.65	38.40	36.55
32	43.85	40.30	37.60	35.45	33.65	32.15	45.30	41.65	38.80	36.50	34.60
36	43.50	39.85	37.05	34.85	33.05	31.50	43.90	40.15	37.25	34.90	32.95
40	43.20	39.45	36.60	34.35	32.50	30.95	42.70	38.90	35.90	33.55	31.55
44	42.90	39.05	36.15	33.85	32.00	30.45	41.65	37.75	34.75	32.35	30.35
48	42.65	38.75	35.80	33.45	31.55	30.00	40.70	36.75	33.70	31.30	29.30
52	42.45	38.45	35.45	33.10	31.15	29.55	39.85	35.85	32.75	30.35	28.35
56	42.25	38.15	35.10	32.75	30.80	29.20	39.10	35.00	31.95	29.50	27.50
60	42.05	37.90	34.80	32.40	30.45	28.85	38.40	34.30	31.20	28.75	26.75
64	41.85	37.65	34.55	32.10	30.15	28.55	37.75	33.60	30.50	28.05	26.05
68	41.70	37.45	34.30	31.85	29.85	28.25	37.15	32.95	29.85	27.40	25.40
72	41.55	37.25	34.05	31.60	29.60	27.95	36.55	32.40	29.25	26.80	24.85
76	41.40	37.05	33.80	31.35	29.35	27.70	36.05	31.85	28.70	26.25	24.30
80	41.25	36.85	33.60	31.10	29.10	27.45	35.55	31.35	28.20	25.75	23.80

EXTERIOR WALL ADJUSTMENTS

For other than hardboard sheet wall finish (Base) adjust the price above by the following factors: Aluminum, .97; Lap siding, 1.04; Cement fiber, lap, 1.03; Cement fiber, sheet 1.01; Plywood with batts, 1.02; Stucco, 1.07; Wood stresskin sandwich panels, 1.05; Log siding, 1.05.

TRIPLE WIDE: Apply a factor of .85 to the single-wide price for a tagalong section; use full price for the double-wide portion. See example below.

QUADS (four sections): Use full price for the first double-wide portion; use a factor of .85 for the second double-wide portion.

BASE PRICE ADJUSTMENTS

HEATING: Add for air conditioning at $2.45 per square foot of living area.

PLUMBING: Base price includes: Five fixtures equal to $2,250, with no rough-ins. Add or deduct per fixture, $450. Add for each rough-in at $150.

FOUNDATION ADJUSTMENTS: Priced per linear foot of perimeter: concrete wall $10.75; concrete block walls, $10.15; treated wood, $9.85.

SKIRTING: Priced per linear foot of perimeter: metal or vinyl, $6.25; simulated stone or brick panels, $8.00; brick or stone veneer, $18.50.

OTHER

ATTACHMENTS AND OTHER FEATURES . . . . . Price from Residential pricing schedule.

POOLS . . . . . Price from the appropriate Residential pricing schedule.

OTHER BUILDING IMPROVEMENTS . . . . . Price from the appropriate Residential pricing schedule.

QUALITY GRADE FACTORS

AA = 1.75 A = 1.45 B = 1.20 C = 1.00 D = 0.85 E = 0.75

EXAMPLE

Dwelling Computations for a Triple-wide Mobile Home

HOME: Double-wide Section: 24' x 64' = 1,536

TAGALONG: 8' x 40' = 320

1,856 Sq. Ft.

BASIC SQUARE FOOT PRICE

Double: $33.60 x .828 (82.8% of the total square footage) = $27.82

Tagalong: $43.20 x .85 x .172 (17.2% of the total square footage) = $ 6.32

TOTAL BASIC SQUARE FOOT PRICE $34.14

TOTAL MOBILE HOME PRICE

$34.14 per sq. ft. x 1,856 sq. ft. = $63,364

Executive residences (commonly referred to as Mansions) are individually designed with many varied interior appointments. They will normally have extensive ornamentation or special design features of top-quality materials and workmanship. There are six broad classifications based upon the amount and finish of the custom features encountered. Certain residences may fit into one grade by the overall size and exterior finish of the basic structure, and another by the quality of the interior finish and other appointments. However the price given, even with the grade factor adjustments, may not be high enough for the most luxurious residences, built without regard to cost, since each listed price represents the average of the costs within that grade range, excluding extremes.

Review the following base specifications to determine the proper grade for the residences being valued. A residence can be of one grade on the exterior and another on the interior. Each of these custom residences, when designed, will be heavily influenced by the owner: hence the varied qualities among exterior and interior details.

For consistency with the rest of Volume II, these executive residences have the same quality grades, AA, A, B, etc. The six grades, while all of the best-quality materials and workmanship, could easily be defined as Executive Residences Grade I, Grade II, etc. see below.

GRADE AA ..... GRADE VI QUALITY
GRADE A ..... GRADE V QUALITY
GRADE B ..... GRADE IV QUALITY
GRADE C ..... GRADE III QUALITY
GRADE D ..... GRADE II QUALITY
GRADE E ..... GRADE I QUALITY

Note: The AA Plus (+) factor (found on Page 3-3) has been reduced since the last update of Volume II. When that factor is applied to the base dwelling pricing (Pages 4-56 to 4-60), the resulting price can approach the Grade E Executive Residence price. If this occurs the valuator should consider whether or not to obtain the price from the Executive Residence section.

ADJUSTMENTS

ATTACHMENTS AND OTHER FEATURES: Price from Residential pricing schedule.

POOLS: Price from the appropriate Residential pricing schedule.

OTHER BUILDING IMPROVEMENTS: Price from the appropriate Residential pricing schedule.

LARGE RESIDENCE MULTIPLIERS

To estimate a dwelling price for executive residences greater than 8,000 square feet, apply the following multipliers to the 8,000-square-foot base price (Pages 3-96 to 3-99) for the appropriate exterior wall. Use these same multipliers for Upper and Half Story, Attic Finish and all Base Price Adjustments found on Page 3-100.

AREA	MULTIPLIER	AREA	MULTIPLIER	AREA	MULTIPLIER	AREA	MULTIPLIER
8200	.998	**9200**	.988	**10200**	.980	**11200**	.972
8400	.996	**9400**	.987	**10400**	.978	**11400**	.971
8600	.994	**9600**	.985	**10600**	.977	**11600**	.969
8800	.992	**9800**	.983	**10800**	.975	**11800**	.968
9000	.990	**10000**	.981	**11000**	.974	**12000**	.966

Residences of Grade AA Quality are individually designed and are characterized by the very finest quality of workmanship, finishes and appointments, and considerable attention to detail. Although residences at this quality level are inclusive of the very finest quality materials and workmanship, and each is unique in its design, these costs still do not represent the highest costs in residential construction.

FOUNDATION

Poured concrete or concrete block perimeter walls to accommodate the wider-studded exterior walls or wide masonry exterior walls and interior bearing-wall foundation. Concrete footing, drain tiles, full basement.

FRAME

A partial steel frame is included to allow for long spans in great rooms, living rooms, etc.

FLOOR STRUCTURE

Wood or steel joists and subfloor on the first and upper floors. Joists are properly spaced to accommodate the additional interior components of this finest-quality housing. Foamed concrete surfacing throughout is included for leveling of the floors, as well as for sound insulation. Floor covers include the very finest quality carpet or hardwoods (parquet or plank), as well as the very finest custom carpets and hardwood floors. Also, terrazzo, ceramic or quarry tile and imported tile of the very finest quality can be found. Marble and granite floor tile of the very finest quality in entries and/or in master bath, etc. Resilient floor covers of the very finest quality for areas of heavy wear, in laundry room, bonus rooms, etc.

EXTERIOR WALL

Fenestration is of the very finest custom designs, and the custom entry and sash are of the highest quality. The very finest custom ornamentation and trim above windows, doors, roofline, etc., are displayed. Wall ornamentation of the finest wood, select brick, cut stone, glass block, local stone, marble, granite, etc., is used throughout the exterior walls. Extra-heavy-framed exterior walls are of 2" x 6" or 2" x 8" or appropriate steel stud construction with some pocket doors. Masonry exterior walls are approximately 12 inches thick.

ROOF

A roof of the very finest quality custom design, with many ridges and valleys. With heavy wood or steel rafters and sheathing. Roof covers are typically concrete or clay tile, copper or terne, or formed metal or wood shake or shingle. Additional features include good flashing, ample gutters and downspouts, along with some skylights. Roofline is of a steep slope with a pitch up to 6:12 for one-story homes. Large roof overhangs up to 3 feet can also be found.

INTERIOR FINISH

Interior walls are plaster, as well as taped and painted drywall, with the very finest grades of paper or vinyl wall coverings, hardwood paneling or the very finest quality custom ceramic, marble, granite and glass tiles. Built-in book shelving and the very finest custom cabinets, which may include such specialty cabinetry items as a cooking island, wet bar, built-in desk, walk-in pantry, peninsula (double sided), etc. All kitchen cabinetry will display the very finest quality resins or baked enamel finishes, or the very finest natural, lacquer-finished woods. Drawer and door hardware will be of the very finest quality grades. Kitchen counters and sinktops will be of the very finest grades of solid plastics (Avonite, Corian, Nevamar, etc.), the very finest custom ceramic tiles, or the finest marble or granite and woods. Some floor plans may even

have two kitchens, one for everyday use, the other for entertaining or special occasions. At this quality, the kitchen can be a focal point of the residence. In some floor plans, though, the kitchen may be used only by servants. In such cases, the quality of the cabinetry may not equal that of other residences at this quality level. However, such a kitchen is usually larger in square footage, and this should offset the costs of the finer-quality cabinetry. The very finest quality pullmans or vanity cabinets in the bathrooms and dressing areas. Countertops, splash and walls will be of the very finest quality custom ceramic tile, the very finest quality solid plastics and the very finest quality marble. The very finest quality tub and shower enclosures throughout. The very finest quality raised-panel, solid-hardwood or enameled doors with the very finest quality hardware. All baseboards, casings and moldings around doors, windows and cabinetry will have tight-mitered corners. Spacious walk-in closets, his and hers in the master suite, with many built-in features. Large linen storage closets and pantry are fully shelved. Master suite can have sitting room, exercise room, private den, vaulted or cathedral ceilings, etc. More than one master suite can be found in some plans. Other bedrooms can have sitting-room areas, with large baths and walk-in closets. Ceilings are plaster, as well as taped and painted drywall, with the very finest custom wallpaper or stenciling, suspended ceiling systems with the very finest light panels, decorative hardwood with coffered/vaulted panels with molding, the very finest embossed metal tiles, mirror-face panels, etc. For multistory homes, main stairways will be of custom hardwood with tile, stone, marble or granite and with the very finest hardwood or marble railings. Not included in the base dwelling price, these homes will include numerous built-in appliances, including commercial-quality range tops, double ovens, dishwashers, trash compactors, refrigerators and freezers, custom stainless steel or copper exhaust fans and hoods, intercoms and vacuum-cleaning systems, to name a few.

HEATING/COOLING

A complete heating/cooling system with multiple controls, large capacity and insulated ductwork to all main areas is included in the basic residence cost. The system is based on an extreme climate.

LIGHTING

Numerous well-positioned outlets and the very finest quality fixtures throughout. Large luminous fixtures in kitchen, bath and dressing areas, and finally, cabinetry lighting and undercounter lighting are found thoughout.

PLUMBING

Five of the very finest quality white or colored plumbing fixtures with one plumbing rough-in are included in the basic residence cost. The fixtures can include any of the following: water heater, laundry tray, tiled shower stall, toilet, bidet, vanities, pedestal-type vanities (all designs), tub, tub with shower over, kitchen sink, wet bar, hydrotherapy tub (Jacuzzi).

ENERGY PACKAGE

The Dwelling Base Prices are for residences that meet current building codes. Base Dwelling Prices include costs of meeting current energy guidelines for extreme climate locations. This can include a weighting of double and triple glazing, 2" x 6" or 2" x 8" studs or comparable construction, with R-19 to R-25 wall insulation and R-33 to R-45 ceiling insulation. Use the negative (-) adjustments listed on Page 3-100 for dwellings that do not meet current standards. See the example on Page 2-17 on the proper use of these adjustments.

Grade A

Grade AA

Grade AA

Grade AA

Residences of Grade A Quality are individually designed and are characterized by the finest quality of workmanship, finishes and appointments, and considerable attention to detail. Residences at this quality level are inclusive of finest-quality materials and workmanship, and each is unique in its design.

FOUNDATION

Poured concrete or concrete block perimeter walls to accommodate the wider-studded exterior walls or wide masonry exterior walls and interior bearing-wall foundation. Concrete footing, drain tiles, full basement.

FRAME

A partial steel frame is included to allow for long spans in great rooms, living rooms, etc.

FLOOR STRUCTURE

Wood or steel joists and subfloor on the first and upper floors. Joists are properly spaced to accommodate the additional interior components of this finest-quality housing. Foamed concrete surfacing throughout is included for leveling of the floors, as well as for sound insulation. Floor covers include the finest-quality carpet or hardwoods (parquet or plank), as well as the finest custom carpets and custom hardwood floors. The finest-quality terrazzo, ceramic or quarry tile and the finest custom imported tiles can also be found. Marble and granite floor tile of the finest quality in entries and/or in master bath, etc. Resilient floor covers of the finest quality for areas of heavy wear, in laundry room, bonus rooms, etc.

EXTERIOR WALL

Fenestration is of the finest custom designs, and the entry and sash are of the highest quality. The finest custom ornamentation and trim above windows, doors, roofline, etc., are displayed. Wall ornamentation of wood, select brick, cut stone, glass block, local stone, marble, granite, etc., is used throughout the exterior walls. Extra-heavy-framed exterior walls are of 2" x 6" or 2" x 8" or appropriate steel stud construction with some pocket doors. Masonry exterior walls are approximately 12 inches thick.

ROOF

A roof of the finest-quality custom design, with many ridges and valleys. With heavy wood or steel rafters and sheathing. Roof covers are typically concrete or clay tile, copper or terne, or formed metal or wood shake or shingle. Additional features include good flashing, ample gutters and downspouts, along with some skylights. Roofline is of a steep slope with a pitch up to 6:12 for one-story homes. Large roof overhangs up to 3 feet can also be found.

INTERIOR FINISH

Interior walls are plaster, as well as taped and painted drywall, with the finest grades of paper or vinyl wall coverings, hardwood paneling or the finest-quality custom ceramic, marble, granite and glass tiles. Built-in book shelving and the finest custom cabinets, which may include such specialty cabinetry items as a cooking island, wet bar, built-in desk, walk-in pantry and peninsula (double sided). All kitchen cabinetry will display the finest-quality resins or baked enamel finishes or the finest natural, lacquer-finished woods. Drawer and door hardware will be the finest quality grades. Kitchen counters and sinktops will be of the finest grades of solid plastics (Avonite, Corian, Nevamar, etc.), the finest custom ceramic tiles, the finest marble or granite and woods. Some floor plans may even have two kitchens, one for everyday use, the other for entertaining or special occasions. At this quality and the next, the kitchen can be a focal point of the residence. In some floor plans though, the kitchen may be

used only by servants; in such cases the quality of the cabinetry may not equal that of other residences at this quality level. However, such a kitchen is usually larger in square footage, and this should offset the costs of the finer-quality cabinetry. The finest-quality pullmans or vanity cabinets in the bathrooms and dressing areas. Countertops, splash and walls will be of the finest-quality custom ceramic tile, the finest-quality solid plastics and the finest-quality marble. The finest-quality tub and shower enclosures throughout. The finest-quality raised-panel, solid-hardwood or enameled doors with finest-quality hardware. All baseboards, casings and moldings around doors, windows and cabinetry will have tight-mitered corners. Spacious walk-in-closets, his and hers in the master suite, with many built-in features. Large linen storage closets and pantry are fully shelved. Master suite can have sitting room, exercise room, private den, vaulted or cathedral ceilings, etc. More than one master suite can be found in some plans. Other bedrooms can have sitting-room areas, with large baths and walk-in closets. Ceilings are plaster, as well as taped and painted drywall, with custom wallpaper or stenciling, suspended ceiling systems with the finest light panels, decorative hardwood with coffered/vaulted panels with molding, finest embossed metal tiles, mirror-face panels, etc. For multistory homes, main stairways will be of custom hardwood with tile, stone, marble or granite and have the finest hardwood or marble railings. Not included in the base dwelling price, these homes will include numerous built-in appliances, including commercial-quality range tops, double ovens, dishwashers, trash compactors, refrigerators and freezers, custom stainless steel or copper exhaust fans and hoods, intercoms and vacuum-cleaning systems, to name a few.

HEATING/COOLING

A complete heating/cooling system with multiple controls, large capacity and insulated ductwork to all main areas is included in the basic residence cost. The system is based on an extreme climate.

LIGHTING

Numerous well-positioned outlets and the finest-quality fixtures throughout. Large luminous fixtures in kitchen, bath and dressing areas. Cabinetry lighting and undercounter lighting are found thoughout.

PLUMBING

Five finest-quality white or colored plumbing fixtures with one plumbing rough-in are included in the basic residence cost. The fixtures can include any of the following: water heater, laundry tray, tiled shower stall, toilet, bidet, vanities, pedestal-type vanities (all designs), tub, tub with shower over, kitchen sink, wet bar, hydrotherapy tub (Jacuzzi).

ENERGY PACKAGE

The Dwelling Base Prices are for residences that meet current building codes. Base Dwelling Prices include costs of meeting current energy guidelines for extreme climate locations. This can include a weighting of double and triple glazing, 2" x 6" or 2" x 8" studs or comparable construction, with R-19 to R-25 wall insulation and R-33 to R-45 ceiling insulation. Use the negative (-) adjustments listed on Page 3-100 for dwellings that do not meet current standards. See the example on Page 2-17 on the proper use of these adjustments.

Residences of Grade B Quality are individually designed and are characterized by the very best quality of workmanship, finishes and appointments, and considerable attention to detail. Residences at this quality level are inclusive of finest-quality material and workmanship, and each is unique in its design.

FOUNDATION

Poured concrete or concrete block perimeter walls to accommodate the wider-studded exterior walls or wide masonry exterior walls and interior bearing-wall foundation. Concrete footing, drain tiles, full basement.

FRAME

A partial steel frame is included to allow for long spans in great rooms, living rooms, etc.

FLOOR STRUCTURE

Wood or steel joists and subfloor on the first and upper floors. Joists are properly spaced to accommodate the additional interior components of this finest-quality housing. Foamed concrete surfacing throughout is included for leveling of the floors, as well as for sound insulation. Floor covers include the very best quality carpet or hardwoods (parquet or plank), as well as very best custom carpets and custom hardwood floors. The very best quality terrazzo, ceramic or quarry tile and the finest custom imported tiles can also be found. Marble and granite floor tile of the finest quality in entries and/or in master bath, etc. Resilient floor covers of the very finest quality for areas of heavy wear, in laundry room, bonus rooms, etc.

EXTERIOR WALL

Fenestration is of the finest custom designs, and the entry and sash are of the highest quality. The finest custom ornamentation and trim above windows, doors, roofline, etc., are displayed. Wall ornamentation of wood, select brick, cut stone, glass block, local stone, marble, granite, etc., is used throughout the exterior walls. Extra-heavy-framed exterior walls are of 2" x 6" or 2" x 8" or appropriate steel stud construction with some pocket doors. Masonry exterior walls are approximately 12 inches thick.

ROOF

A roof of the finest-quality design with many ridges and valleys. With heavy wood or steel rafters and sheathing. Roof covers are typically concrete or clay tile, copper or terne or formed metal or wood shake or shingle. Additional features include good flashing, ample gutters and downspouts, along with some skylights. Roofline is of a steep slope with a pitch up to 6:12 for one-story homes. Large roof overhangs up to 3 feet can also be found.

INTERIOR FINISH

Interior walls are plaster, as well as taped and painted drywall, with the very best grades of paper or vinyl wall coverings, hardwood paneling or the very best quality custom ceramic, marble, granite and glass tiles. Built-in book shelving and the finest custom cabinets, which may include such specialty cabinetry items as a cooking island, wet bar, built-in desk, walk-in pantry, peninsula (double sided), etc. All kitchen cabinetry will be of the very best quality resins or baked enamel finishes or the very best natural, lacquer-finished woods. Drawer and door hardware will be the very best quality grades. Kitchen counters and sinktops will be of the very best grades of solid plastics (Avonite, Corian, Nevamar, etc.), the very best custom ceramic tiles, the finest marble or granite and woods. Some floor plans may even have two kitchens, one for everyday use, the other for entertaining or special occasions. The very best quality pullmans or vanity cabinets in the bathrooms and dressing areas. Countertops,

splash and walls will be of the very finest quality custom ceramic tile, finest-quality solid plastics and finest-quality marble. The finest-quality tub and shower enclosures throughout. Finest-quality raised-panel, solid-hardwood or enameled doors with finest-quality hardware. All baseboards, casings and moldings around doors, windows and cabinetry will have tight-mitered corners. Spacious walk-in closets, his and hers in the master suite, with many built-in features. Large linen storage closets and pantry are fully shelved. Master suite can have sitting room, exercise room, private den, vaulted or cathedral ceilings, etc. More than one master suite can be found in some plans. Other bedrooms can have sitting-room areas, with large baths and walk-in closets. Ceilings are plaster, as well as taped and painted drywall, with custom wallpaper or stenciling, suspended ceiling systems with the finest light panels, decorative hardwood with coffered/vaulted panels with molding, finest embossed metal tiles, mirror-face panels, etc. For multistory homes, main stairways will be of custom hardwood with tile, stone, marble or granite and have the very best hardwood or marble railings. Not included in the base dwelling price, these homes will include numerous built-in appliances, including commercial-quality range tops, double ovens, dishwashers, trash compactors, refrigerators and freezers, custom stainless steel or copper exhaust fans and hoods, intercoms and vacuum-cleaning systems, to name a few.

HEATING/COOLING

A complete heating/cooling system with multiple controls, large capacity and insulated ductwork to all main areas is included in the basic residence cost. The system is based on an extreme climate.

LIGHTING

Numerous well-positioned outlets and the very best quality fixtures throughout. Large luminous fixtures in kitchen, bath and dressing areas. Cabinetry lighting and undercounter lighting are also included

PLUMBING

Five very best quality whites or colored plumbing fixtures with one plumbing rough-in are included in the basic residence cost. The fixtures can include any of the following: water heater, laundry-tray, tiled shower stall, toilet, bidet, vanities, pedestal-type vanities (all designs), tub, tub with shower over, kitchen sink, wet bar, hydrotherapy tub (Jacuzzi).

ENERGY PACKAGE

The Dwelling Base Prices are for residences that meet current building codes. Base Dwelling Prices include costs of meeting current energy guidelines for extreme climate locations. This can include a weighting of double and triple glazing, 2" x 6" or 2" x 8" studs or comparable construction, with R-19 to R-25 wall insulation and R-33 to R-45 ceiling insulation. Use the negative (-) adjustments listed on Page 3-100 for dwellings that do not meet current standards. See the example on Page 2-17 on the proper use of these adjustments.

Grade C

Grade C

Grade B

Grade B

Residences of Grade C Quality are individually designed and are characterized by the best quality of workmanship, finishes and appointments, and considerable attention to detail.

FOUNDATION

Poured concrete or concrete block perimeter walls to accommodate the wider-studded exterior walls or wide masonry exterior walls and interior bearing-wall foundation. Concrete footing, drain tiles, full basement.

FRAME

A partial steel frame is included to allow for long spans in great rooms, living rooms, etc.

FLOOR STRUCTURE

Wood or steel joists and subfloor on the first and upper floors. Joists are properly spaced to accommodate the additional interior components of this best-quality housing. Foamed concrete surfacing throughout is included for leveling of the floors, as well as for sound insulation. Floor covers include the best-quality carpet or hardwoods (parquet or plank), as well as best custom carpets and custom hardwood floors. Terrazzo, ceramic or quarry tile of the best quality and the best custom imported tiles can also be found. Marble and granite floor tile of best quality in entries and/or in master bath. Resilient floor cover of the finest quality for areas of heavy wears, in laundry room, bonus rooms, etc.

EXTERIOR WALL

Fenestration is of best custom design, and entry and sash are high quality. The best custom ornamentation and trim above windows, doors, roofline, etc., are displayed. Wall ornamentation of wood, select brick, cut stone, glass block, local stone, marble, granite, etc., is used throughout the exterior walls. Extra-heavy-framed exterior walls are of 2" x 6" or 2" x 8" or appropriate steel stud construction with some pocket doors. Masonry exterior walls are approximately 12 inches thick.

ROOF

A roof of the best-quality custom design with many ridges and valleys. With heavy wood or steel rafters and sheathing. Roof covers are typically concrete or clay tile, copper or terne or formed metal or wood shake or shingle. Additional features include good flashing, ample gutters and downspouts, along with some skylights. Roofline is of a steep slope with a pitch up to 6:12 for one-story homes. Large roof overhangs up to 3 feet can also be found.

INTERIOR FINISH

Interior walls are plaster, as well as taped and painted drywall, with best grades of paper or vinyl wall coverings, hardwood paneling, custom ceramic tile or best-quality marble and glass tiles. Built-in book shelving and the best custom cabinets, which may include such specialty cabinetry items as a cooking island, wet bar, built-in desk, walk-in pantry, peninsula (double sided), etc. All kitchen cabinetry will exhibit the best-quality resins or baked enamel finish or the best natural, lacquer-finished woods. Drawer and door hardware will be of the best-quality grades. Kitchen counters and sinktops will be of the best grades of solid plastics (Avonite, Corian, Nevamar, etc.), cultured marble, the best custom ceramic, marble or granite tile and woods. Some floor plans may even have two kitchens, one for everyday use, the other for entertaining or special occasions. The best-quality pullmans or vanity cabinets in the bathrooms and dressing areas. Countertops, splash and walls will be of best-quality custom ceramic tile, finest-quality laminates, cultured marble and best-quality marble

tiles. The best-quality tub and shower enclosures throughout. The best-quality raised-panel solid hardwood or enameled doors with best-quality hardware. All baseboards, casings and moldings around doors, windows and cabinetry will have tight-mitered corners. Spacious walk-in closets, his and hers in the master suite, with many built-in features. Large linen storage closets and pantry are fully shelved. Master suite can have sitting room, exercise room, private den, vaulted or cathedral ceilings, etc. More than one master suite can be found in some plans. Other bedrooms can have sitting-room areas, with large baths and walk-in closets. Ceilings are plaster, as well as taped and painted drywall, with custom wallpaper or stenciling, suspended ceiling systems with best light panels, decorative hardwood with coffered/vaulted panels with molding, best embossed metal tiles, etc. For multistory homes, main stairways will be of custom hardwood with tile, stone, marble or granite and with the best hardwood railings. Not included in the base dwelling price, these homes will include numerous built-in appliances, including commercial-quality range tops, double ovens, dishwashers, trash compactors, refrigerators and freezers, custom stainless steel or copper exhaust fans and hoods, intercoms and vacuum-cleaning systems, to name a few.

HEATING/COOLING

A complete heating/cooling system with multiple controls, large capacity and insulated ductwork to all main areas is included in the basic residence cost. The system is based on an extreme climate.

LIGHTING

Numerous well-positioned outlets and best-quality fixtures throughout. Large luminous fixtures in kitchen, bath and dressing areas, as well as cabinetry lighting and undercounter lighting, will be found.

PLUMBING

Five best-quality white or colored plumbing fixtures with one plumbing rough-in are included in the basic residence cost. The fixtures can include any of the following: water heater, laundry tray, tiled shower stall, toilet, bidet, vanities, pedestal-type vanities, tub, tub with shower over, kitchen sink, wet bar or hydrotherapy tub (Jacuzzi).

ENERGY PACKAGE

The Dwelling Base Prices are for residences that meet current building codes. Base Dwelling Prices include costs of meeting current energy guidelines for extreme climate locations. This can include a weighting of double and triple glazing, 2" x 6" or 2" x 8" studs or comparable construction, with R-19 to R-25 wall insulation and R-33 to R-45 ceiling insulation. Use the negative (-) adjustments listed on Page 3-100 for dwellings that do not meet current standards. See the example on Page 2-17 on the proper use of these adjustments.

Residences of Grade D Quality are generally individually designed and are characterized by the highest quality of workmanship, finishes and appointments, and considerable attention to detail.

FOUNDATION

Poured concrete or concrete block perimeter walls to accommodate the wider-studded exterior walls or wide masonry exterior walls and interior bearing-wall foundation. Concrete footing, drain tiles, full basement.

FRAME

A partial steel frame is included to allow for long spans in great rooms, living rooms, etc.

FLOOR STRUCTURE

Wood or steel joists and subfloor on the first and upper floors. Joists are properly spaced to accommodate the additional interior components of this high-quality housing. Foamed concrete surfacing throughout is included for leveling of the floors, as well as for sound insulation. Floor covers include best-quality carpet or hardwoods (parquet or plank), as well as high-quality custom carpets and hardwood floors. Best-quality terrazzo, ceramic or quarry tile and custom, imported tiles can also be found. Marble and granite floor tile of very good quality in entries and/or in master bath. Resilient floor cover of the very best quality for areas experiencing heavy wears, in laundry room, bonus rooms, etc.

EXTERIOR WALL

Fenestration is of highest-quality design, and entry and sash are high quality. Custom ornamentation and trim above windows, doors, roofline, etc. Wall ornamentation of wood, select brick, cut stone, glass block, local stone, marble, granite, etc., is used throughout the exterior walls. Extra-heavy-framed exterior walls are of 2" x 6" or 2" x 8" or appropriate steel stud construction with some pocket doors. Masonry exterior walls are approximately 12 inches thick.

ROOF

A roof of high-quality custom design with many ridges and valleys. With heavy wood or steel rafters and sheathing. Roof covers are typically concrete or clay tile, copper or terne, or formed metal or wood shake or shingle. Additional features include good flashing, ample gutters and downspouts, along with some skylights. Roofline is of a steep slope with a pitch up to 6:12 for one-story homes. Large roof overhangs up to 3 feet can also be found.

INTERIOR FINISH

Interior walls are plaster, and taped and painted drywall with highest grades of paper or vinyl wall coverings, hardwood paneling, ceramic tile or very good quality marble and glass tiles. Built-in book shelving and custom cabinets, which may include such specialty cabinetry items as a cooking island, wet bar, built-in desk, walk-in pantry, peninsula (double sided), etc. All kitchen cabinetry will exhibit the finest-quality paint or laminates or high-quality, custom, natural, lacquer-finished woods. Drawer and door hardware will be of the highest-quality grades. Kitchen counters and sinktops will be of the highest grades of laminates, solid plastics (Avonite, Corian, Nevamar, etc.), cultured marble, ceramic tile and wood. Highest-quality pullmans or vanity cabinets in the bathrooms and dressing areas. Countertops, splash and walls will be of highest-quality ceramic tile, highest-quality laminates, cultured marble and very good quality marble and custom ceramic tiles. Highest-quality tub and shower enclosures throughout. Highest-quality raised-panel solid-hardwood or enameled doors

with highest-quality hardware. All baseboards, casings and moldings around doors, windows and cabinetry will have tight-mitered corners. Spacious walk-in closets, his and hers in the master suite, with many built-in features. Large linen storage closets and pantry are fully shelved. Master suite can have sitting room, exercise room, private den, vaulted or cathedral ceilings, etc. Ceilings are plaster, as well as taped and painted drywall, suspended ceiling systems with light panels, decorative hardwood with coffered/vaulted panels with molding, metal tiles, etc. For multistory homes, stairways will be of custom hardwood and tile, with hardwood railings. Not included in the base dwelling price, these homes will include numerous built-in appliances, including commercial-quality range tops, double ovens, dishwashers, trash compactors, refrigerators and freezers, custom stainless steel or copper exhaust fans and hoods, intercoms and vacuum-cleaning systems, to name a few.

HEATING/COOLING

A complete heating/cooling system with multiple controls, large capacity and insulated ductwork to all main areas is included in the basic residence cost. The system is based on an extreme climate.

LIGHTING

Numerous well-positioned outlets and high-quality fixtures throughout. Large luminous fixtures in kitchen, bath and dressing areas, and finally, cabinetry lighting and undercounter lighting will be found throughout.

PLUMBING

Five high-quality white or colored plumbing fixtures with one plumbing rough-in are included in the basic residence cost. The fixtures can include any of the following: water heater, laundry tray, tiled shower stall, toilet, bidet, vanities, tub, tub with shower over, kitchen sink, wet bar or hydrotherapy tub (Jacuzzi).

ENERGY PACKAGE

The Dwelling Base Prices are for residences that meet current building codes. Base Dwelling Prices include costs of meeting current energy guidelines for extreme climate locations. This can include a weighting of double and triple glazing, 2" x 6" or 2" x 8" studs or comparable construction, with R-19 to R-25 wall insulation and R-33 to R-45 ceiling insulation. Use the negative (-) adjustments listed on Page 3-100 for dwellings that do not meet current standards. See the example on Page 2-17 on the proper use of these adjustments.

Grade D

Grade E

Grade E

Grade E

Residences of Grade E Quality are generally individually designed and are characterized by the custom quality of workmanship, finishes and appointments, and considerable attention to detail.

FOUNDATION

Poured concrete or concrete block perimeter walls to accommodate the wider-studded exterior walls or wide masonry exterior walls and interior bearing-wall foundation. Concrete footing, drain tiles, full basement.

FRAME

A partial steel frame is included to allow for long spans in great rooms, living rooms, etc.

FLOOR STRUCTURE

Wood or steel joists and subfloor on the first and upper floors. Joists are properly spaced to accommodate the additional interior components of this custom-quality housing. Foamed concrete surfacing throughout is included for leveling of the floors, as well as for sound insulation. High-quality carpet or hardwoods (parquet or plank), as well as custom carpets and hardwood floors are used. Floor covers include high-quality terrazzo, ceramic or quarry tile, and custom, imported tiles can also be found. Marble and granite floor tile of good quality in entries and/or in master bath. Resilient floor covers of the best quality for areas experiencing heavy wear, in laundry room, bonus rooms, etc.

EXTERIOR WALL

Fenestration is of custom design, and entry and sash are custom quality. Some custom ornamentation and trim above windows and doors. Wall ornamentation of wood, select brick, cut stone, glass block, local stone, marble, granite, etc., is used throughout the exterior walls. Extra-heavy-framed exterior walls are of 2" x 6" or 2" x 8" or appropriate steel stud construction with some pocket doors. Masonry exterior walls are approximately 12 inches thick.

ROOF

A roof of custom design with many ridges and valleys. With heavy wood or steel rafters and sheathing. Roof covers are typically concrete or clay tile, copper or terne or formed metal or wood shake or shingle. Additional features include good flashing, ample gutters and downspouts, along with some skylights. Roofline is of a steep slope with a pitch up to 6:12 for one-story homes. Large roof overhangs up to 3 feet can also be found.

INTERIOR FINISH

Interior walls are plaster, as well as taped and painted drywall, with custom grades of paper or vinyl wall coverings, hardwood paneling, ceramic tile or good-quality marble and glass tiles. Built-in book shelving and ample cabinets, which may include such specialty cabinetry items as a cooking island, wet bar, built-in desk, walk-in pantry, peninsula (double sided), etc. All kitchen cabinetry will exhibit best-quality paint or laminates or custom, natural, lacquer-finished woods. Drawer and door hardware will be custom-quality grades. Kitchen counters and sinktops will be custom-grade laminates, solid plastics (Avonite, Corian, Nevamar, etc.), cultured marble, ceramic tile and wood. Custom-quality pullmans or vanity cabinets in the bathrooms and dressing areas. Countertops, splash and walls will be of high-quality ceramic tile, highest-quality laminates, cultured marble and good-quality marble tiles. Custom-quality tub and shower enclosures throughout. Custom-quality, raised-panel, solid hardwood or enameled doors with custom-quality hardware. All baseboards, casings, and mold-

ings around doors, windows, and cabinetry will have tight-mitered corners. Spacious walk-in closets, his and hers in the master suite, with many built-in features. Large linen storage closets and pantry are fully shelved. Master suite can have sitting room, exercise room, private den, vaulted or cathedral ceilings, etc. More than one master suite can be found in some plans. Ceilings are plaster, as well as taped and painted drywall, suspended ceiling systems with light panels, decorative hardwood with coffered/vaulted panels with molding, metal tiles, etc. For multistory homes, stairways will be of custom hardwood, with hardwood railings. Not included in the base dwelling price, these homes will include numerous built-in appliances, including commercial quality range tops, double ovens, dishwashers, trash compactors, refrigerators and freezers, custom stainless steel or copper exhaust fans and hoods, intercoms and vacuum-cleaning systems to name a few.

HEATING/COOLING

A complete heating/cooling system with multiple controls, large capacity and insulated ductwork to all main areas is included in the basic residence cost. The system is based on an extreme climate.

LIGHTING

Numerous well-positioned outlets and custom-quality fixtures throughout. Large luminous fixtures in kitchen, bath and dressing areas. Cabinetry lighting and undercounter lighting.

PLUMBING

Five custom-quality white or colored plumbing fixtures with one plumbing rough-in are included in the basic residence cost. The fixtures can include any of the following: water heater, laundry tray, tiled shower stall, toilet, bidet, vanities, tub, tub with shower over, kitchen sink, wet bar or hydrotherapy tub (Jacuzzi).

ENERGY PACKAGE

The Dwelling Base Prices are for residences that meet current building codes. Base Dwelling Prices include costs of meeting current energy guidelines for extreme climate locations. This can include a weighting of double and triple glazing, 2" x 6" or 2" x 8"studs or comparable construction, with R-19 to R-25 wall insulation and R-33 to R-45 ceiling insulation. Use the negative (-) adjustments listed on Page 3-100 for dwellings that do not meet current standards. See the example on Page 2-17 on the proper use of these adjustments.

EXECUTIVE DWELLING PRICING SCHEDULE

FRAME BASE PRICES			
AREA	1ST STORY & BSMT.	UPPER STORY	HALF STORY
1600	324,380	224,620	99,160
1800	361,650	249,570	110,540
1900	380,170	261,940	116,200
2000	398,610	274,240	121,840
2100	416,980	286,480	127,450
2200	435,280	298,660	133,060
2300	453,520	310,770	138,630
2400	471,700	322,840	144,190
2500	489,820	334,840	149,730
2600	507,880	346,810	155,260
2700	525,890	358,720	160,770
2800	543,850	370,590	166,270
2900	561,770	382,400	171,740
3000	579,630	394,190	177,210
3100	597,450	405,920	182,660
3200	615,230	417,620	188,100
3300	632,960	429,280	193,520
3400	650,650	440,910	198,940
3500	668,300	452,490	204,350
3600	685,910	464,050	209,740
3700	703,490	475,570	215,120
3800	721,030	487,060	220,490
3900	738,530	498,520	225,860
4000	756,000	509,940	231,200
4100	773,440	521,340	236,540
4200	790,840	532,710	241,880
4300	808,220	544,040	247,190
4400	825,560	555,350	252,500
4500	842,870	566,640	257,800
4600	860,150	577,900	263,100
4700	877,400	589,140	268,400
4800	894,630	600,340	273,660

FRAME BASE PRICES			
AREA	1ST STORY & BSMT.	UPPER STORY	HALF STORY
4900	911,820	611,540	278,950
5000	928,990	622,700	284,210
5100	946,140	633,830	289,460
5200	963,260	644,940	294,700
5300	980,350	656,040	299,950
5400	997,420	667,100	305,180
5500	1,014,460	678,160	310,400
5600	1,031,480	689,190	315,620
5700	1,048,480	700,190	320,830
5800	1,065,460	711,180	326,040
5900	1,082,410	722,150	331,240
6000	1,099,340	733,100	336,430
6100	1,116,250	744,030	341,610
6200	1,133,130	754,950	346,800
6300	1,150,000	765,840	351,970
6400	1,166,850	776,710	357,130
6500	1,183,670	787,580	362,310
6600	1,200,480	798,420	367,460
6700	1,217,260	809,240	372,610
6800	1,234,030	820,050	377,750
6900	1,250,780	830,830	382,890
7000	1,267,510	841,610	388,020
7100	1,284,220	852,370	393,160
7200	1,300,920	863,110	398,280
7300	1,317,590	873,840	403,400
7400	1,334,250	884,550	408,510
7500	1,350,890	895,250	413,630
7600	1,367,520	905,930	418,720
7700	1,384,120	916,600	423,830
7800	1,400,710	927,260	428,920
7900	1,417,290	937,890	434,000
8000	1,433,850	948,520	439,090

EXECUTIVE DWELLING PRICING SCHEDULE

MASONRY VENEER BASE PRICES			
AREA	1ST STORY & BSMT.	UPPER STORY	HALF STORY
1600	349,590	246,760	101,730
1800	389,410	274,110	113,300
1900	409,180	287,670	119,050
2000	428,860	301,160	124,780
2100	448,460	314,570	130,480
2200	467,980	327,920	136,160
2300	487,420	341,200	141,830
2400	506,800	354,420	147,460
2500	526,110	367,570	153,070
2600	545,350	380,670	158,670
2700	564,530	393,730	164,260
2800	583,650	406,730	169,820
2900	602,710	419,680	175,370
3000	621,720	432,590	180,910
3100	640,680	445,430	186,420
3200	659,580	458,260	191,930
3300	678,440	471,020	197,410
3400	697,240	483,760	202,890
3500	716,000	496,450	208,350
3600	734,720	509,100	213,800
3700	753,390	521,720	219,240
3800	772,020	534,300	224,670
3900	790,600	546,850	230,090
4000	809,150	559,360	235,490
4100	827,660	571,840	240,880
4200	846,130	584,290	246,270
4300	864,560	596,710	251,640
4400	882,960	609,090	257,000
4500	901,320	621,450	262,360
4600	919,650	633,770	267,700
4700	937,950	646,070	273,030
4800	956,210	658,340	278,350

MASONRY VENEER BASE PRICES			
AREA	1ST STORY & BSMT.	UPPER STORY	HALF STORY
4900	974,440	670,590	283,680
5000	992,640	682,810	288,980
5100	1,010,810	695,000	294,280
5200	1,028,950	707,160	299,560
5300	1,047,050	719,320	304,860
5400	1,065,130	731,430	310,130
5500	1,083,190	743,520	315,390
5600	1,101,210	755,600	320,650
5700	1,119,210	767,650	325,900
5800	1,137,180	779,680	331,150
5900	1,155,120	791,690	336,390
6000	1,173,040	803,670	341,620
6100	1,190,940	815,630	346,830
6200	1,208,810	827,570	352,050
6300	1,226,650	839,500	357,260
6400	1,244,480	851,390	362,460
6500	1,262,270	863,290	367,670
6600	1,280,050	875,150	372,860
6700	1,297,800	887,000	378,040
6800	1,315,530	898,820	383,210
6900	1,333,240	910,630	388,380
7000	1,350,930	922,410	393,540
7100	1,368,590	934,190	398,710
7200	1,386,240	945,950	403,860
7300	1,403,860	957,690	409,020
7400	1,421,470	969,400	414,150
7500	1,439,050	981,120	419,300
7600	1,456,610	992,810	424,430
7700	1,474,160	1,004,470	429,550
7800	1,491,680	1,016,140	434,670
7900	1,509,190	1,027,780	439,790
8000	1,526,680	1,039,400	444,900

EXECUTIVE DWELLING PRICING SCHEDULE

CONCRETE BLOCK BASE PRICES			
AREA	1ST STORY & BSMT.	UPPER STORY	HALF STORY
1600	342,470	237,120	100,250
1800	381,550	263,440	111,730
1900	400,950	276,500	117,440
2000	420,270	289,480	123,120
2100	439,510	302,390	128,780
2200	458,670	315,240	134,420
2300	477,760	328,030	140,040
2400	496,780	340,760	145,650
2500	515,740	353,420	151,220
2600	534,640	366,040	156,780
2700	553,470	378,610	162,340
2800	572,250	391,130	167,860
2900	590,970	403,600	173,390
3000	609,640	416,030	178,890
3100	628,260	428,410	184,370
3200	646,820	440,770	189,870
3300	665,340	453,070	195,320
3400	683,820	465,330	200,770
3500	702,250	477,550	206,210
3600	720,630	489,750	211,640
3700	738,980	501,900	217,050
3800	757,280	514,030	222,460
3900	775,540	526,120	227,860
4000	793,770	538,170	233,230
4100	811,950	550,200	238,610
4200	830,100	562,200	243,980
4300	848,220	574,150	249,330
4400	866,300	586,090	254,670
4500	884,340	598,000	260,010
4600	902,350	609,880	265,340
4700	920,330	621,740	270,660
4800	938,280	633,560	275,970

CONCRETE BLOCK BASE PRICES			
AREA	1ST STORY & BSMT.	UPPER STORY	HALF STORY
4900	956,200	645,370	281,270
5000	974,090	657,140	286,560
5100	991,950	668,900	291,850
5200	1,009,770	680,630	297,130
5300	1,027,580	692,330	302,390
5400	1,045,350	704,010	307,660
5500	1,063,090	715,670	312,920
5600	1,080,810	727,310	318,160
5700	1,098,510	738,920	323,400
5800	1,116,170	750,530	328,640
5900	1,133,820	762,100	333,870
6000	1,151,440	773,650	339,080
6100	1,169,030	785,180	344,300
6200	1,186,600	796,690	349,500
6300	1,204,140	808,200	354,710
6400	1,221,670	819,670	359,900
6500	1,239,170	831,130	365,100
6600	1,256,650	842,570	370,280
6700	1,274,100	854,000	375,470
6800	1,291,540	865,390	380,630
6900	1,308,950	876,780	385,800
7000	1,326,350	888,140	390,950
7100	1,343,720	899,500	396,110
7200	1,361,070	910,840	401,270
7300	1,378,400	922,170	406,420
7400	1,395,720	933,460	411,550
7500	1,413,010	944,760	416,690
7600	1,430,280	956,030	421,820
7700	1,447,540	967,280	426,940
7800	1,464,780	978,520	432,060
7900	1,482,000	989,750	437,170
8000	1,499,200	1,000,970	442,280

EXECUTIVE DWELLING PRICING SCHEDULE

BRICK OR STONE BASE PRICES			
AREA	1ST STORY & BSMT.	UPPER STORY	HALF STORY
1600	360,980	253,060	101,760
1800	401,930	281,150	113,350
1900	422,260	295,060	119,100
2000	442,490	308,910	124,840
2100	462,630	322,690	130,550
2200	482,690	336,390	136,240
2300	502,670	350,030	141,900
2400	522,580	363,600	147,540
2500	542,410	377,110	153,170
2600	562,170	390,570	158,780
2700	581,870	403,970	164,360
2800	601,500	417,330	169,940
2900	621,070	430,630	175,490
3000	640,580	443,890	181,040
3100	660,040	457,090	186,560
3200	679,440	470,260	192,080
3300	698,790	483,370	197,570
3400	718,080	496,460	203,070
3500	737,330	509,490	208,530
3600	756,530	522,490	213,990
3700	775,680	535,460	219,440
3800	794,780	548,400	224,890
3900	813,850	561,280	230,300
4000	832,870	574,130	235,720
4100	851,840	586,960	241,130
4200	870,780	599,760	246,520
4300	889,680	612,510	251,900
4400	908,540	625,230	257,270
4500	927,360	637,930	262,640
4600	946,150	650,600	267,990
4700	964,900	663,240	273,340
4800	983,610	675,860	278,670

BRICK OR STONE BASE PRICES			
AREA	1ST STORY & BSMT.	UPPER STORY	HALF STORY
4900	1,002,290	688,450	284,010
5000	1,020,940	701,000	289,320
5100	1,039,550	713,540	294,640
5200	1,058,140	726,040	299,930
5300	1,076,690	738,520	305,230
5400	1,095,210	750,980	310,510
5500	1,113,700	763,410	315,790
5600	1,132,160	775,820	321,060
5700	1,150,590	788,210	326,330
5800	1,169,000	800,570	331,580
5900	1,187,380	812,920	336,830
6000	1,205,720	825,240	342,080
6100	1,224,050	837,530	347,300
6200	1,242,340	849,810	352,540
6300	1,260,610	862,070	357,760
6400	1,278,860	874,310	362,970
6500	1,297,080	886,530	368,180
6600	1,315,280	898,730	373,390
6700	1,333,450	910,900	378,580
6800	1,351,590	923,070	383,780
6900	1,369,720	935,200	388,950
7000	1,387,820	947,330	394,130
7100	1,405,900	959,430	399,310
7200	1,423,960	971,520	404,470
7300	1,441,990	983,600	409,640
7400	1,460,000	995,650	414,800
7500	1,478,000	1,007,680	419,940
7600	1,495,970	1,019,700	425,090
7700	1,513,920	1,031,700	430,230
7800	1,531,850	1,043,690	435,360
7900	1,549,760	1,055,660	440,490
8000	1,567,650	1,067,620	445,620

EXECUTIVE DWELLING PRICING SCHEDULE – BASE PRICE ADJUSTMENTS

BASEMENTS			
AREA	CRAWL	BSMT.	FIN. BSMT. LIV. AREA
1600	29,390	53,520	63,780
1800	31,740	58,180	71,530
1900	32,890	60,460	75,390
2000	34,010	62,710	79,260
2100	35,110	64,920	83,110
2200	36,200	67,110	86,970
2300	37,260	69,260	90,810
2400	38,320	71,380	94,660
2500	39,350	73,480	98,490
2600	40,370	75,560	102,320
2700	41,390	77,620	106,160
2800	42,390	79,640	109,980
2900	43,370	81,650	113,800
3000	44,340	83,640	117,620
3100	45,310	85,610	121,430
3200	46,250	87,570	125,260
3300	47,200	89,500	129,050
3400	48,130	91,410	132,870
3500	49,050	93,320	136,670
3600	49,960	95,200	140,460
3700	50,870	97,080	144,260
3800	51,760	98,940	148,060
3900	52,650	100,780	151,850
4000	53,530	102,600	155,640
4100	54,410	104,420	159,430
4200	55,270	106,220	163,220
4300	56,130	108,010	167,000
4400	56,980	109,790	170,770
4500	57,830	111,560	174,550
4600	58,660	113,310	178,330
4700	59,490	115,060	182,110
4800	60,320	116,790	185,870
4900	61,140	118,510	189,650
5000	61,950	120,230	193,420
5100	62,760	121,930	197,180
5200	63,560	123,620	200,940
5300	64,360	125,310	204,700
5400	65,150	126,990	208,460
5500	65,940	128,650	212,210
5600	66,730	130,310	215,970
5700	67,500	131,950	219,720
5800	68,270	133,600	223,480
5900	69,040	135,230	227,230
6000	69,800	136,850	230,980
6100	70,570	138,470	234,720
6200	71,320	140,080	238,470
6300	72,070	141,680	242,210
6400	72,820	143,280	245,960
6500	73,560	144,860	249,700
6600	74,300	146,440	253,440
6700	75,040	148,010	257,180
6800	75,770	149,580	260,910
6900	76,490	151,140	264,640
7000	77,220	152,690	268,380
7100	77,940	154,240	272,110
7200	78,660	155,770	275,840
7300	79,370	157,310	279,570
7400	80,080	158,840	283,300
7500	80,780	160,360	287,030
7600	81,490	161,870	290,750
7700	82,190	163,390	294,470
7800	82,890	164,900	298,200
7900	83,580	166,380	301,920
8000	84,270	167,880	305,640

HEATING			
AREA	NO HEATING (–)	HEAT ONLY (–)	AIR COND. SEP. DUCTS (+)
1600	21,960	8,740	6,820
1800	24,310	9,600	7,730
1900	25,460	10,010	8,190
2000	26,620	10,430	8,640
2100	27,750	10,830	9,110
2200	28,900	11,240	9,550
2300	30,020	11,630	10,020
2400	31,140	12,030	10,490
2500	32,250	12,420	10,940
2600	33,360	12,810	11,410
2700	34,460	13,200	11,870
2800	35,560	13,590	12,330
2900	36,650	13,950	12,790
3000	37,730	14,330	13,270
3100	38,820	14,710	13,720
3200	39,890	15,070	14,190
3300	40,960	15,440	14,640
3400	42,030	15,810	15,110
3500	43,080	16,170	15,590
3600	44,150	16,530	16,040
3700	45,200	16,880	16,510
3800	46,250	17,240	16,980
3900	47,300	17,600	17,440
4000	48,340	17,940	17,910
4100	49,370	18,290	18,380
4200	50,410	18,630	18,840
4300	51,440	18,990	19,310
4400	52,470	19,330	19,780
4500	53,500	19,660	20,240
4600	54,520	20,010	20,710
4700	55,540	20,350	21,180
4800	56,550	20,690	21,640
4900	57,560	21,020	22,110
5000	58,570	21,350	22,580
5100	59,580	21,690	23,040
5200	60,580	22,010	23,520
5300	61,580	22,330	23,990
5400	62,580	22,660	24,450
5500	63,580	23,000	24,920
5600	64,570	23,310	25,400
5700	65,570	23,640	25,850
5800	66,560	23,960	26,320
5900	67,540	24,280	26,800
6000	68,530	24,600	27,260
6100	69,500	24,910	27,740
6200	70,490	25,230	28,200
6300	71,470	25,550	28,660
6400	72,440	25,850	29,140
6500	73,420	26,180	29,610
6600	74,380	26,480	30,090
6700	75,360	26,800	30,540
6800	76,330	27,110	31,020
6900	77,290	27,420	31,490
7000	78,250	27,720	31,960
7100	79,220	28,030	32,430
7200	80,170	28,330	32,900
7300	81,130	28,630	33,370
7400	82,080	28,930	33,840
7500	83,040	29,230	34,310
7600	83,990	29,540	34,770
7700	84,940	29,830	35,250
7800	85,890	30,140	35,720
7900	86,840	30,430	36,200
8000	87,780	30,730	36,660

QUALITY GRADE FACTOR

AA	1.65
A	1.40
B	1.25
C	1.00
D	.90
E	.80

PLUMBING

Base Price includes: 5 Fixtures equal to $15,500 w/ no rough-ins
ADD: $3,100 for each additional fixture
DEDUCT: $3,100 for each fixture less than 5
ADD: $450 for each rough-in
ADD: For whirlpool tub $6,100
For hot tub $5,850

ENERGY ADJ. (–)

For older residences that do not meet current energy guidelines: DEDUCT per sq. ft. of living area, based on the type of exterior walls. Frame and mason. ven: $3.25 CB, brick or stone: $2.75

UNFINISHED AREA (–)

Refers to an area within the living area of the dwelling which lacks interior construction and finish such as interior walls and doors, cabinetry, ceiling, wall and floor finishes. Use a prorated amount for areas with some of the interior components listed above.

Deduct per square foot of unfinished area $81.50

As given in this section, are to be used with both methods and may be added to the residence cost to estimate the complete cost of the improvements.

For large installations of fencing or walls, such as subdivision uses or farms, use the following factors: 400 - 1,000 linear feet, .95; 1,000 - 3,000 linear feet, .90; 3,000 - 6,000 linear feet, .85; over 6,000 linear feet, .80.

CHAIN-LINK FENCES

Average cost per linear foot, including complete installation on 2" round or "H" posts set in concrete, 10' on centers. Gates are priced on a per each basis adding 25% for sliding gates.

	HEIGHT				
TYPE	**4'**	**6'**	**8'**	**10'**	**12'**
2" mesh, #9 wire	$7.15	$10.50	$13.80	$17.00	$20.20
#11 wire	6.20	8.95	11.75	14.50	17.20
add for rails	1.45	1.45	1.50	1.50	1.50
add for 3-strand barbed wire	1.75	1.75	2.05	2.05	2.05
add for barbed coils	6.90	6.90	7.35	7.35	7.35
add for privacy slats	4.20	6.40	8.60	10.95	13.20
Gates, 3' wide	$160	$210	$245	-----	-----
5' wide	215	290	365	$435	-----
10' wide	355	435	505	575	$ 650
15' wide	440	570	660	745	825
20' wide	540	685	800	925	1,000
25' wide	-----	-----	850	975	1,075
Aluminum or vinyl covered,					
2" mesh, #9 wire	$7.85	$11.55	$15.20	$18.70	$22.20
#11 wire	6.80	9.85	12.95	15.95	18.90
add for rails	1.60	1.60	1.65	1.65	1.65
Gates, 3' wide	$175	$230	$270	-----	-----
5' wide	235	320	400	$ 480	-----
10' wide	390	480	555	635	$ 715
15' wide	485	625	725	820	910
20' wide	595	755	880	1,020	1,100
25' wide	-----	-----	935	1,075	1,185

WOOD FENCES - Price per linear foot including complete installation.

Solid board, horizontal or vertical		Basketweave	
6'	$16.30	6'	$19.00
5'	14.65	5'	17.80
Solid prefabricated panels, lattice top		Wood picket, 12" – 24"	9.15
6'	12.10	30" – 40"	11.45
4'	14.65	50" – 60"	15.60
		two rails, split, 24" – 36" high	7.80
Split redwood, solid palings		three rails, split, 36" – 48" high	8.65
6'	16.40	four rails, split, 42" – 54" high	10.75
5'	15.05	6' stockade, half pole	11.35
Basketweave		whole	15.20
6'	19.00	Wood gates, per sq. ft.	8.85
5'	17.80		

VINYL FENCES - Price per linear foot including complete installation.

Spaced slat panels			
6'	$14.10	Picket, 36" – 48" high	$12.40
4' – 5'	12.25	Lattice, framed 24" – 50" high	8.15
Basketweave, 5'	19.60	Two rails, 36" – 48" high	8.75
Solid board panels		Three rails, 60" high	10.50
6'	15.35	Four rails, 60" high	11.40
4' – 5'	13.10		

MASONRY WALLS - Priced per linear foot including complete installation including normal footings.

	HEIGHT				
TYPE	**4'**	**6'**	**8'**	**10'**	**12'**
4" block with pilasters, reinforced	$25.00	$ 38.00	$ 50.00	$ 65.00	$ 75.00
6" block, reinforced	29.00	44.00	60.00	75.00	90.00
8" block, reinforced	33.00	49.00	65.00	80.00	100.00
Brick, 8" thick	55.00	85.00	115.00	145.00	170.00
12, thick	75.00	110.00	145.00	185.00	220.00
8" block backup	50.00	75.00	100.00	125.00	150.00
8" precast, retaining	38.00	55.00	75.00	95.00	115.00
post and solid panels	29.00	44.00	60.00	75.00	90.00

METAL FENCES AND GRILLES - Priced per linear foot including installation.

	HEIGHT				
TYPE	**4'**	**6'**	**8'**	**10'**	**12'**
Hand-forged wrought iron or modular, steel	$36.00	$55.00	$72.00	$ 90.00	$105.00
gates, per linear foot	47.00	70.00	94.00	120.00	140.00

PAVING/DECKING

Typical costs per square foot, except as otherwise specified. For paved areas between 500 and 1,000 square feet, use a factor of .90. 1,000 to 3,000 square feet, use a factor of .80. Small separate pours of 100 square feet or less may run 25% higher, hand mixed and spread, up to 75% more.

2" asphalt	1.60	2" concrete, mesh reinforced	$3.35
3" asphalt	1.95	3" concrete, mesh reinforced	3.70
4" asphalt	2.20	4" concrete, mesh reinforced	4.05
2" aggregate base	.60	2" concrete, bar reinforced	3.80
3" aggregate base	.70	3" concrete, bar reinforced	4.15
4" aggregadd per additional	.80	4" concrete, bar reinforced	4.50
2" concrete, unreinforced	2.90	salt finish	0.35
3" concrete, unreinforced	3.25	4" sand base	0.75
4" concrete, unreinforced	3.60	2" gravel base	0.55
		3" gravel base	0.70
		4" gravel base	0.85

Concrete sidewalk	$ 3.95
Asphalt block pavers on concrete base	7.35
Brick on concrete, grouted, flat	9.50
on edge	14.00
Concrete pavers on concrete base	8.25
Flagstone on concrete, grouted	11.50
Tile, quarry on concrete base	9.00
Wood, on grade	
2" x 4" flat	4.95
2" x 4" on edge	7.50
Steps on ground, per. lin. ft. of tread, brick on concrete	44.40
concrete	29.65
Snow melting, including controls, electric	8.80
hydronic, large areas (excluding heat source)	7.70

SURFACE PARKING LOTS

The following are based on a cost per space and average area per space including asphalt paving, striping, some lighting, landscaping and drainage. Older lots, sized for large cars or lots designed for much in and out traffic tend toward the higher area per space, while newer lots sized for smaller cars or lots designed for maximum parking tend toward the lower side of the range.

COST PER SPACE		
Low Cost (285 Sq. Ft./Space)	**Average (315 Sq. Ft./Space)**	**Good (345 Sq. Ft./Space)**
$700	$875	$1,100

LANDSCAPING - Typical cost ranges as specified.

Soil preparation, per sq. ft., fine grading	$ 0.16
mulching	0.29
top dressing or bedding	2.05
Lawns, per sq. ft., seeding	0.28
hydroseeding only	0.11
sodded	0.67
Ground cover, per sq. ft., gravel or wood chips	1.50
spreading plants	0.67
Edging, per lin. ft., masonry	12.00
cast stone	15.05
metal	3.35
redwood	2.20
timber or ties	5.45
Shrubs and hedges, each, small	13.40
medium	33.75
large	100.00
Trees, each, small, 15 gal. – 20" box	125.00
medium, 24' – 36" box	450.00
large, 42" box or larger	1,225.00
Tree grates, including frame, per sq. ft.	21.50
Planter boxes, per sq. ft., concrete, precast	30.40
cast stone, ornate troughs	250.00
fiberglass	55.75
wood	89.25
Planters, each, round, concrete, 24" diameter	220.00
48" diameter	335.00
wood	1,275.00
Bollards, each, wood	78.25
concrete	390.00
add for lighting	180.00

	Low	Average	High Cost
*Complete residential developments	3.25	4.25	5.75

*The prices above are to be applied to the entire landscape area including common areas, and are used when actual unit pricing is not feasible. Costs will vary greatly due to the number of variables involved. The cost ranges include soil preparation and some post-installation maintenance commensurate with the quality, excluding extremes.

LOW COST areas have a minimum number of 1- to 5-gallon shrubs, small trees and ground-cover plants proportioned for a light visual effect, manual irrigation and seeded lawn. AVERAGE COST areas include an average number of 3- to 5-gallon shrubs, small to large trees, closer spacing of small ground-cover plants, automatic irrigation and seeded lawn. HIGH COST areas will have a high visual content of 5- to 15-gallon shrubs, a greater proportion of large trees, closely spaced ground cover with top dressing, automatic irrigation, seeded lawn and sodded turf areas.

LAWN SPRINKLERS

Cost per square foot installed, including trenching and backfill. Intricate shrub-type strip areas may be twice as high as conventional systems. For automatic control., add $120.00 per station.

Conventional, small areas	$0.57
Rain Bird or Rain Jet systems, large areas	0.33

OUTDOOR LIGHTING - Typical cost range per fixture.

Spotlights or luminaires, decorative, each	$ 190.00
underwater lighting	600.00
low voltage	45.00
Post lantern	210.00
Floodlights, per fixture, high-pressure sodium	1,025.00
mercury vapor	850.00
fluorescent or quartz-iodine	700.00
incandescent	365.00
Poles, metal, per lin. ft.	57.50
Poles, metal, per lin. ft. (ornamental)	115.00

An *apartment* is a residential living unit with the same living accommodations normally found in a single-family-type residence. An *apartment house* is a multifamily residence containing two or more residential living units and generally providing them with a number of common facilities and services. Two or more apartment buildings operating as a single unit are generally referred to as an *apartment complex*.

Recent years have seen a tremendous increase in multifamily residential developments, especially in the areas of apartment complexes and high-rise apartment buildings. Each of these offers complete living accommodations with all the modern conveniences. In addition, they generally provide a variety of recreational facilities and personal services for their occupants.

VALUATION

As with other types of property, the starting point for the appraiser is to determine the replacement cost new of the apartment building. An Apartment Pricing Schedule is provided in the *Manual* to assist the appraiser in doing so.

Apartment units found in a given apartment building or complex of buildings vary in size and arrangement. They may be one-room efficiency units consisting of a bedroom and kitchenette; two-room studio units consisting of a bedroom and living room/den and kitchenette combination; or conventional units consisting of a kitchen, dining area, living room and one or more bedrooms. Each apartment has one or more bathrooms, and conventional units often have a separate dining room and a den or family room.

The most significant variable in determining the replacement cost of an apartment building is the size of the individual units. The Pricing Schedule provided in this section is designed to account for this variation.

BASE PRICES

Base square foot prices have been developed for typical C Grade apartment units based on average unit sizes, and at various floor levels, for wood joist, fire resistant, and reinforced concrete construction. Base prices are also given for both brick (or equal) and frame/concrete block exterior walls in the wood joist construction type.

The foundation and roof construction are included in the first-floor prices, making the schedule applicable to both one-story and multistory buildings.

QUALITY FACTOR

The schedule prices are for normal C Grade construction erected with average-quality materials and workmanship throughout. A table of Quality Factors is provided to adjust the C Grade prices to account for variations in construction quality. Reference should be made to the Residential Grade Specifications and the determination and use of Quality Grade and Design Factors detailed in the Residential Section of the *Manual*.

APPLICATION

Application of the schedule involves the selection of the appropriate base price and adjusting the price to account for any variations between the subject building and the model building.

NOTE

The Apartment Pricing Schedule is designed for apartment buildings of two to seven units.

INCOME APPROACH

Apartment buildings, regardless of their type, are built, bought and sold as investment or income-producing property. The appraisal of apartments follows the same procedures discussed in the sections of the *Manual* dealing with the Capitalization or Income Approach to value. The basic procedure is 1) the collection and analysis of income and expense data in order to determine the net return; and 2) the capitalization of the net return into an indication of value, generally by using either the Building or the Land Residual Technique.

DEPRECIATION

Apartment building depreciation factors should be based on personal observation. Consideration should be given to physical wear and tear, deferred maintenance and inherent obsolescence.

APARTMENT LISTING INSTRUCTIONS

TYPE

Space is provided to enter the type of apartment building of two (2) to seven (7) units, being described as:

Enter 1: GARDEN to indicate an apartment building of the garden variety. This type is the most common and normally ranges from one (1) to two (2) stories.

Enter 2: TOWNHOUSE to indicate an apartment building which has its own outside entrance and serves as a completely self-suffcient unit except for the fact that it ordinarily shares a common wall with adjacent units. Townhouses are usually two-story units with the living area on the first floor and bedrooms on the second floor.

Enter 3: OTHER to indicate especially unusual complexes that do not fit into the categories mentioned above.

GRADE

Enter the letter grade (AA, A, B, C, D or E) corresponding to the appropriate quality.

NUMBER OF BEDROOMS

Space is provided to enter the number of bedrooms per apartment unit. Bedrooms should be counted if they were constructed for use as a bedroom even though they may be utilized for another purpose.

BATHS

Space is provided to enter the number of bathrooms per apartment unit.

One bathroom = 1.0

One and one-half bathrooms = 1.5, etc.

NUMBER OF UNITS

Space is provided to enter the total number of individual units contained in the apartment building, each having a specified number of bedrooms and bathrooms for a given type.

RENTAL

Space is provided to enter the gross monthly rental paid for individual units of a given type having a specified number of bedrooms and bathrooms.

INCOME DATA

ACTUAL RENT (Contract Rent)

Space is provided to enter the total amount of potential gross annual rent paid for the use of land and improvements under lease contracts.

VACANCY

Space is provided to enter the amount deducted from potential annual gross income to reflect the effect of probable vacancy and turnover, or nonpayment of rent by tenants, expressed as a percent.

ECONOMIC RENT

Space is provided to enter the total amount of annual gross economic rent for the use of land and improvements. Economic rent may be defined as the rental income that a property should command on the open market.

EXPENSES

Space is provided to enter the total annual amount of expenses necessary to obtain and maintain income. This should include operating expenses, fixed expenses, and reserves for replacements, expressed as a percentage.

The following is an explanation of the procedure to manually calculate apartment building values from the apartment pricing schedule located in this *Manual.*

1. Enter the exterior wall construction in the appropriate column — 1 - Finished Basement, 2 - First Floor, 3 - Upper Floor.
2. Enter the average unit size per level.
3. Enter the appropriate Base Price per square foot from the Apartment Pricing Schedule, based on type of exterior wall construction, floor level and average unit size.
4. Enter the square footage based on exterior measurements for each floor level.
5. Multiply the Base Price by the square footage for each level, and enter the amount in the corresponding subtotal column.
6. Add the amounts located in the subtotal columns, and enter the result in the Adjusted Base Price area.
7. Calculate the unfinished basement cost from the Apartment Pricing Schedule, and enter the amount in the Unfinished Basement area.
8. Add or deduct the amount of value for an excess or lack of plumbing fixtures, based on the plumbing specifications in the Apartment Pricing Schedule, and enter the amount in the plumbing area.

   Note: *Do not* add an unfinished basement cost when utilizing the finished basement column. This entry is for crawl space or unfinished basement *only.*
9. Calculate the cost for central air conditioning based on average unit size and square footage from the Apartment Pricing Schedule, and enter the amount in the air conditioning area.
10. Calculate the cost of any attachments and other features from the appropriate residential listing instructions and pricing schedules, and enter the amount in the attachments area.
11. Total the following:

    a. Adjusted Base

    b. Unfinished Basement

    c. Plumbing

    d. Air Conditioning

    e. Attachments

    and enter the amount in the subtotal portion of the computation ladder.
12. Multiply the appropriate grade factor by the subtotal, and enter the amount in the Base Value area.

13. Enter the local modifier factor utilized by the jurisdiction in the local modifier portion of the computation ladder.

	OTHER FEATURES		AMOUNT
551	1 MASONRY ADJ ⊞	1,200 x 6.75	8,100
552	2 REC ROOM	____ x ____	
553	3 WB FP: STACKS __	OPENINGS ____	
554	4 METAL FP: STACKS __		
555	5 GAS FP __		
556	6 BASEMENT GARAGE, NO. CARS __		
557	7 BUILT-IN GARAGE, NO. CARS __	TYPE:	
558	8 DORMERS, TYPE:_____	___ L.F.	
559	9 TOTAL ADDITIONAL OTHER FEATURES AMT.		
		TOTAL OTHER FEATURE AMT.	8,100

	ATTACHMENTS				AMOUNT	ATTACHMENT CODES
	1st	2nd	3rd	AREA		
601	1 21			60	1,500	11 OFP 21 OMP 12 EFP 22 EMP
602	2 35			40	900	13 FR GAR 23 M GAR
603	3 35			40	900	30 CARPORT 31 WOOD DECK
604	4 35			40	900	32 CANOPY
605	5 35			40	900	33 CONC/M PATIO 34 STN/TL PATIO
606	6					35 MS/TERRACE 99 ADD'L ATTACHMENT
	TOTAL ATTACHMENT AMOUNT			$	5,100	

Base price for fire-resistant construction = base price x 1.20

820	APARTMENT DATA				
TYPE	GR	BEDS	BATHS	NO. UNITS	RENTAL
1 1	C	2	1 • 0	6	475
2			•		
3			•		

830	INCOME DATA		
ACTUAL RENT	34,200	ECONOMIC RENT	36,000
VACANCY	5%	EXPENSES	20%

APARTMENT COMPUTATIONS			
	1-FIN BSMT	2-FIRST	3-UPPER
EXTERIOR WALLS	Conc.	Fr.	Fr.
AVERAGE UNIT SIZE	Unfin.	1,067	1,067
BASE PRICE*	5.65	55.38	51.36
SQUARE FEET	3,200	3,200	3,200
SUBTOTAL		177,216	164,352
ADJ BASE 1 + 2 + 3	341,568		
UNFINISHED BSMT	+18,080		
PLUMBING + 2 fixtures	±1,300		
AIR CONDITIONING	+12,992		
ATTACHMENTS	+13,200		
SUBTOTAL	387,140		
X GRADE FACTOR = BASE VALUE	387,140		
X LOCAL MODIFIER	0.933		

APARTMENT TYPE
1. GARDEN
2. TOWNHOUSE
3. OTHER

APARTMENT GRADE FACTOR
AA 1.75
A 1.55
B 1.28
C 1.00
D .85
E .55

14. Multiply the Base Value by the local modifier, and enter the resultant Replacement Cost New in the Gross Building summary section of the property record card, along with any descriptive information desired.

GROSS BUILDING SUMMARY													
ID	USE	CONST	GRADE	AGE EREC	AGE REM	SIZE	RATE	LM	RCN	COND.	% GOOD	OB/MA	MARKET VALUE
	6-unit apt.	FR	C	71		6,400		.933	361,202	G	80		288,962
800	TOTAL OTHER IMPROVEMENTS												

SUMMARY OF VALUES	
TOTAL VALUE LAND	72,000
TOTAL VALUE BUILDING	288,962
TOTAL VALUE LAND & BLDGS	360,962

15. Enter the overall condition of the building. Enter E for excellent, G for good, A for average, F for fair, P for poor, and U for unsound.

16. Enter the percent good of the building being described. Percent good is defined as the resultant estimate of the diminishing value of an improvement after subtracting the amount of estimated depreciation from the replacement cost new.

17. Enter the obsolescence/market adjustment (OB/MA) of the building. This is the resultant value after deduction of functional obsolescence and deduction or addition of a market adjustment factor expressed as a percentage.

    Note: This is not a required entry. If this entry is utilized, it will function as a deduction or addition to the resultant value generated from the percent good entry.

18. Enter the replacement cost new less depreciation (RCNLD). This is the resultant value of the building after deduction of all forms of depreciation and/or the deduction or addition of a market adjustment factor.

19. Complete the gross building summary by adding to the main dwelling any additional minor buildings (improvements). Refer to the residential property record card listing instructions (side 3) for recommended procedure on the use of the gross building summary for listing and valuing additional improvements.

20. Then total the main dwelling and all additional (if any) improvements for a total improvement replacement cost new less depreciation value. This figure is entered in the (800) Total Other Improvements value space along with a brief general description of the item(s) being described in the Gross Building Summary.

PERSONNEL DATA

Space is provided to enter the name or number and the date of the person measuring, listing, calculating, and reviewing the property data.

APARTMENT (4 units) – Grade D

APARTMENT (4 units) – Grade C

APARTMENT (6 units) – Grade C

APARTMENT (6 units) – Grade B

APARTMENT PRICING SCHEDULE

2 OR MORE UNITS

BASE PRICES PER SQUARE FOOT

AVERAGE UNIT SIZE	FRAME OR CONC. BLOCK Finished Bsmt.	First Floor	Upper Floor	AVERAGE UNIT SIZE	BRICK OR STONE Finished Bsmt.	First Floor	Upper Floor	AVERAGE UNIT SIZE	Add for Air Cond. per Floor
300	53.30	60.35	56.40	**300**	58.70	66.70	62.80	**300**	2.90
350	51.70	58.50	54.65	**350**	57.10	64.85	61.00	**350**	2.80
400	50.10	56.65	52.85	**400**	55.45	62.95	59.15	**400**	2.70
450	48.50	54.75	51.05	**450**	53.85	61.10	57.35	**450**	2.60
500	46.90	52.90	49.20	**500**	52.25	59.20	55.50	**500**	2.50
550	46.30	52.20	48.60	**550**	51.45	58.25	54.60	**550**	2.45
600	45.70	51.55	47.95	**600**	50.65	57.30	53.70	**600**	2.40
650	45.10	50.85	47.30	**650**	49.80	56.40	52.80	**650**	2.35
700	44.50	50.15	46.65	**700**	49.00	55.45	51.90	**700**	2.30
750	43.95	49.50	46.00	**750**	48.20	54.50	51.00	**750**	2.25
800	43.40	48.90	45.40	**800**	47.65	53.85	50.35	**800**	2.20
850	42.90	48.30	44.85	**850**	47.05	53.20	49.75	**850**	2.15
900	42.40	47.70	44.30	**900**	46.50	52.55	49.10	**900**	2.15
950	41.90	47.10	43.70	**950**	45.95	51.90	48.50	**950**	2.10
1000	41.35	46.50	43.15	**1000**	45.40	51.20	47.85	**1000**	2.05
1050	41.15	46.25	42.90	**1050**	45.10	50.90	47.55	**1050**	2.05
1100	40.90	45.95	42.60	**1100**	44.85	50.60	47.30	**1100**	2.00
1150	40.65	45.70	42.35	**1150**	44.60	50.30	47.00	**1150**	2.00
1200	40.40	45.40	42.10	**1200**	44.30	50.00	46.70	**1200**	1.95
1250	40.15	45.10	41.85	**1250**	44.05	49.70	46.40	**1250**	1.95
1300	40.00	44.95	41.65	**1300**	43.90	49.50	46.20	**1300**	1.95
1350	39.85	44.75	41.50	**1350**	43.70	49.30	46.05	**1350**	1.90
1400	39.70	44.55	41.35	**1400**	43.50	49.10	45.85	**1400**	1.90
1450	39.50	44.40	41.15	**1450**	43.35	48.90	45.65	**1450**	1.85
1500	39.35	44.20	41.00	**1500**	43.15	48.65	45.45	**1500**	1.85
1550	39.25	44.10	40.90	**1550**	43.05	48.55	45.35	**1550**	1.85
1600	39.15	43.95	40.80	**1600**	42.95	48.40	45.25	**1600**	1.80
1650	39.05	43.85	40.70	**1650**	42.80	48.30	45.10	**1650**	1.80
1700	38.95	43.75	40.55	**1700**	42.70	48.15	45.00	**1700**	1.80
1750	38.85	43.60	40.45	**1750**	42.60	48.00	44.85	**1750**	1.75
1800	38.75	43.50	40.35	**1800**	42.50	47.90	44.75	**1800**	1.75
1850	38.65	43.40	40.25	**1850**	42.40	47.80	44.65	**1850**	1.75
1900	38.55	43.30	40.20	**1900**	42.30	47.65	44.55	**1900**	1.75
1950	38.45	43.20	40.10	**1950**	42.20	47.55	44.45	**1950**	1.70
2000	38.40	43.10	40.00	**2000**	42.10	47.45	44.35	**2000**	1.70
Over	37.80	42.40	39.30	**Over**	41.40	46.65	43.60	**Over**	1.70

Base Prices are for normal (C Grade) walk-up-type Apartment Buildings of wood joist construction.
For fire-resistant construction, add 20%. For reinforced concrete fireproof construction, add 25%.

BASE PRICE ADJUSTMENTS AND ADDITIONAL FEATURES

Base Prices for ground floor slab construction.

Add per square foot of total basement.

UNFINISHED BASEMENT AREA	CRAWL SPACE	BSMT.
1,000	6.40	20.30
1,500	6.15	19.10
2,000	5.95	17.90
3,000	5.70	15.55
4,000	5.55	15.25
5,000	5.40	14.95
6,000	5.30	14.70
7,000	5.20	14.50
8,000	5.15	14.35
9,000	5.10	14.20
10,000	5.00	14.10

PLUMBING . . . . . Base Prices — include street services, five fixtures per unit, hot water system and normal drainage.
Add or Deduct per Fixture $650.00

ATTACHMENTS and OTHER FEATURES . . . . . Price from Residential Pricing schedule.

POOLS . . . . . Price from the appropriate Residential Pricing Schedule.

OTHER BUILDING IMPROVEMENTS . . . . . Price from the appropriate Pricing Schedule.

QUALITY GRADE FACTOR

AA	1.75
A	1.55
B	1.28
C	1.00
D	0.85
E	0.55

DATA TABLES (Continued)

Note: The following items have been omitted in this edition as they are no longer being built or in use:

Prefabricated Steel Buildings

Feed Bunks, Circular Type

Galvanized Steel - Automated Nipple Watering System for Hogs

Prefabricated Steel Silos and Butler LMS Silos

This section deals with the Other Building Improvements (O.B.I.) portion of the Property Record Card (P.R.C.), Agriculture Structure Type & Modification Codes, the Agricultural (Manual) Work Card (A.W.C.) and the various pricing tables applicable to the agricultural industry.

The chapters preceding this section are used in conjunction with the agricultural information supplied herein to properly complete the P.R.C. if listing and valuing agricultural property.

OTHER BUILDING IMPROVEMENTS (O.B.I.)

This section provides guidelines for collecting and recording additional structural characteristics affecting property value. Agricultural properties, i.e., barns, silos and the like may be priced (valued) in this area. However, another tool is available for the assessor in the form of an Agricultural (Manual) Work Card. This card is a combination of the existing Agricultural Work Card and the new headings listed in this section, now referred to as Other Building Improvements. (A further discussion of the Agricultural Work Card will follow and is located at the front of the agricultural cost tables.) This Work Card allows more flexibility than the O.B.&I. section we will now be discussing. Should you choose to utilize the Agricultural Work Card for listing and calculating, you may either bring your total values to the Gross Building Summary section (located below the O.B.I. area) or place your totals and other necessary information in the O.B.I. area in summary fashion. In either case, these summary values are then brought forward to Page 2 and placed in the appropriate area under Dwelling Computations.

STRUCTURE TYPE CODES

This term refers to a category of improvements such as pools or barns. The structure type code, therefore, stands for the overall structure itself and is made up of three parts. The first character stands for the overall property component with which the structure is associated. There are three possible codes for this first character:

R = Residential

A = Agricultural

B = Agricultural

The second character in the structure type code stands for the structural category of the improvement. There are many of these, and several examples are listed below.

G = Grain bin, Garage

S = Shed, Silo

P = Pool, Pole building

The third character is numeric and distinguishes one type of structure from the others within the same category. Several examples are listed below.

Structure Type Code	1st Character Meaning	2nd Character Meaning	3rd Character Meaning
RG1	Residential	Garage	Frame or CB
RG2	Residential	Garage	Brick or Stone
AM1	Agricultural	Milk House	Attached CB
AM2	Agricultural	Milk House	Attached Wood Frame

QUANTITY (QUAN)

This term refers to the number or quantity of like structures being listed.

CONSTRUCTION

This term refers to the general construction of the item being listed. Circle the appropriate construction type.

F = Frame/Concrete block construction

M = Masonry/Brick/Stone construction

P = Pole frame construction

S = Steel frame construction

O = Construction other than frame or masonry, for example: porcelain silo, wire corn cribs, etc.

YEAR

This term refers to the year the item was constructed. Enter all four digits.

SIZE

Enter either the ground floor area in square feet or the dimensions (width and length) of the item.

GRADE (G)

Space is provided to enter one alpha character denoting the quality grade of the item. If a quality grade denotation is not applicable to the item, draw a line through the character position.

Note: Refer to the cost schedule section of this manual for applicable grades.

HEIGHT (HGT.)

Space is provided to enter the actual height or depth of a structure whose type code will necessitate a deviation from the base specification prices.

For example: the base height specification for a Dairy Barn is 16 ft. If the subject Dairy Barn has a height of 16 ft., simply leave the entry blank. If the subject Dairy Barn has a height of 20 ft., it is necessary to enter the 20 in the height entry.

Note: For base height specifications, refer to the cost schedule section of this manual.

RATE

Space is provided to enter the pricing rate utilized from the cost schedules.

MODIFICATION CODES

Modification codes refer to additions or deductions to modify cost components from the base specifications. Modification codes are identified by one numeric character and should only be utilized for the specific structure(s) intended.

SPECIAL MODIFICATION CODES

Special modification codes refer to special modifications made to modify the cost components from the base specifications. Special modifications are identified by three character codes, as are the structure codes. The difference between using special modification codes and using structure type codes is that a special modification code necessitates a separate line entry immediately below the structure type code being modified. Other items necessary to describe the special modification must also be entered to allow for proper processing of the modification to an indication of value.

Note: Special modification codes should only be utilized for the specific structures intended.

LOCAL MODIFIER (LM)

Space is provided to enter the appropriate local modifier.

REPLACEMENT COST NEW (RCN)

Space is provided to enter the calculated replacement cost new of the item(s) after application of the local modifier. Replacement cost new is defined as the current cost of replacing the improvement with a substitute improvement of equal utility.

CONDITION (COND.)

Space is provided to enter one alpha character denoting the overall condition of the item. Enter E for excellent, G for good, A for average, F for fair, P for poor and U for unsound.

PERCENT (%) GOOD

Space is provided to enter the percent good of the improvement being described. Percent good is defined as the resultant estimate of the diminishing value of an improvement after subtracting the amount of estimated depreciation from the replacement cost new. For example: a structure which is estimated to be 45 percent depreciated as of a given time has a percent good of 55. Depreciation and percent good are complements of each other.

Note: For further explanation, refer to the Percent Good Tables in this manual.

OBSOLESCENCE/MARKET ADJUSTMENT (OB/MA)

OB/MA refers to the resultant value after deduction of functional obsolescence and deduction or addition of a market adjustment factor, expressed as a percentage. Allowable percentages range from 000% (0.00) to 200% (2.00).

Note: This is not a required entry. If this entry is utilized, it will function as a deduction or addition to the resultant value generated from the percent good entry.

REPLACEMENT COST NEW LESS DEPRECIATION (RCNLD)

RCNLD refers to the resultant value of the improvement after deduction of all forms of depreciation and/or the deduction or addition of a market adjustment factor.

To further explain the concept of Other Building Improvements, the following examples are provided:

AGRICULTURAL

1. A masonry bank barn, 24' x 60', with a height of 22', a gambrel roof and three water connections
2. A one-story metal poultry house, 24' x 60', without insulation
3. A concrete stave silo with a roof, 14' in diameter x 40' high
4. A concrete stave silo without a roof, 14' in diameter x 50' high

OTHER BUILDING IMPROVEMENTS															
	TYPE CODE	QUAN	CONST	YEAR	SIZE	G	HGT	RATE	MODIFI-CATION	LM	RCN	COND	% GOOD	OB/MA	R C N L D
701	AB1	01	(F) M P S O	1933	1440	C	22	36.87	2	.980	52,031	P	20		10,406
702	FB1	03	F M P S O					.12			518		20		104
703	AH5	01	F M P S (O)	1940	24 x 060			13.73	1	.980	19,376	P	20		3,875
704	AS1	01	F M P S (O)	1961	14 x 040						11,960	G	60		7,180
705	AS2	01	F M P S (O)	1961	14 x 050						14,050	P	40		5,620
706			F M P S O												
707			F M P S O												
708			F M P S O												
709			F M P S O												
710			F M P S O												

Breakdown of AB1:
1440 sq. ft. at $34.14 (interpolation)

Modification:

4% height adjustment (–1.37) = $32.77
+$4.10 per sq. ft. for gambrel roof = 4.10
Total Adj. Rate $36.87

Breakdown of AH5 should be:
1440 sq. ft. at $14.83 (interpolation)
with adjustment for not having insulation

$14.83
Modification Code 1 for insulation –$1.10/sq. ft. = –1.10
Total Adj. Rate = $13.73

Note: For the masonry bank barn, it is necessary to adjust the base rate downward 4% to account for the deviation of 2 feet from the standard 24-foot height. The square foot price for the modification adjustment for a gambrel roof should then be added to reflect the actual base rate of the barn.

Note: For the special modification of three water connections, it is only necessary to enter the type code, quantity, rate, Replacement Cost New after application of the local modifier, percent good (same as the base structure type being described), and Replacement Cost New Less Depreciation.

Note: For the poultry house, it is necessary to adjust the base rate downward to reflect the modification adjustment because there is no insulation.

Note: For the silos, enter the Replacement Cost New after application of the local modifier in lieu of the rate.

AGRICULTURAL STRUCTURE TYPE AND MODIFICATION CODES

GENERAL-PURPOSE BANK BARNS

STRUCTURE TYPE CODES

AB1 –	Masonry	DIM or SF
AB2 –	Wood	DIM or SF
AB3 –	Pole frame	DIM or SF

GENERAL-PURPOSE BANK BARNS

MODIFICATION CODES

1.	Wood loft floor	SF
2.	Gambrel/arch-type roof	SF
3.	Stalls and partitions	SF
4.	Earth floor	SF
5.	No lighting	SF

GENERAL-PURPOSE BANK BARNS

SPECIAL MODIFICATION CODES

FB1 –	Water connection	QTY
FB2 –	Roof ventilators	QTY
FB3 –	Loose stanchion	QTY
FB4 –	Stall only, w/out stanchion	QTY

GENERAL-PURPOSE FLAT BARNS

STRUCTURE TYPE CODES

AB4 –	Masonry	DIM or SF
AB5 –	Wood frame/wood siding	DIM or SF
AB6 –	Pole frame/metal siding	DIM or SF

GENERAL-PURPOSE FLAT BARNS

MODIFICATION CODES

1.	Wood loft floor	SF
2.	Gambrel/arch-type roof	SF
3.	Stalls and partitions	SF
4.	Earth floor	SF
5.	No lighting	SF

GENERAL-PURPOSE FLAT BARNS

SPECIAL MODIFICATION CODES

FB1 –	Water connection	QTY
FB2 –	Roof ventilators	QTY

FREE-STALL DAIRY/BEEF BARNS (Plastic Cloth Curtain Side Walls)

STRUCTURE TYPE CODES

AB7 –	Wood frame/wood siding	DIM or SF
AB8 –	Pole frame/metal siding	DIM or SF
AB9 –	Steel frame/metal siding	DIM or SF
AB10 –	Steel arch-rib frame/wire panels	DIM or SF

FREE-STALL DAIRY/BEEF BARNS (Plastic Cloth Curtain Side Walls)

MODIFICATION CODES

1.	Concrete floor	SF
2.	Insulation, 1½”	SF
3.	Insulation, polystyrene bd., 7/8”	SF
4.	Insulation, 4”	SF
5.	Lighting	SF
6.	36” box stir fan	QTY
7.	48” box stir fan	QTY
8.	3’ high sidewall curtain	LF
9.	5’ high sidewall curtain	LF

FREE-STALL DAIRY/BEEF BARNS (Cont’d.) (Plastic Cloth Curtain Side Walls)

MODIFICATION CODES

10.	8’ high sidewall curtain	LF
11.	10’ high sidewall curtain	LF
12.	Automatic curtain machine	QTY
13.	Curtain drop safety system	QTY
14.	Jan Aire 8’ high side curtain	LF
15.	Jan Aire 10’ high side curtain	LF
16.	Jan Aire 12’ high side curtain	LF

FREE-STALL DAIRY/BEEF BARNS (Plastic Cloth Curtain Side Walls)

SPECIAL MODIFICATION CODES

FB5 –	14’ x 12’ sliding door	QTY
FB6 –	14’ x 10’ sliding door	QTY
FB7 –	14’ x 8’ sliding door	QTY
FB8 –	16’ x 7’ overhead door	QTY
FB9 –	9’ x 7’ overhead door	QTY

FRAME CORN CRIBS

STRUCTURE TYPE CODES

AC1 – Wood board . . . . . DIM or SF
AC2 – Welded wire . . . . . DIM or SF

FRAME CORN CRIBS

MODIFICATION CODES

1. Storage bin over wood board . . . . . SF
2. Storage bin over welded wire . . . . . SF
3. Lighting . . . . . SF
4. Drive-through crib . . . . . SF

WIRE CORN CRIBS

STRUCTURE TYPE CODES

AC3 – #2-gauge wire crib . . . . . DIA x HGT
AC4 – #4-gauge wire crib . . . . . DIA x HGT

WIRE CORN CRIBS

MODIFICATION CODE

1. No concrete slab . . . . . SF

SPECIAL-PURPOSE DAIRY AND HORSE BARNS

STRUCTURE TYPE CODES

AD1 – 2-story masonry . . . . . DIM or SF
AD2 – 2-story wood . . . . . DIM or SF
AD3 – 2-story pole frame . . . . . DIM or SF
AD4 – 1-story masonry . . . . . DIM or SF
AD5 – 1-story wood . . . . . DIM or SF
AD6 – 1-story pole frame . . . . . DIM or SF

SPECIAL-PURPOSE DAIRY AND HORSE BARNS

MODIFICATION CODES

1. Earth floor . . . . . SF
2. No lighting . . . . . SF

SPECIAL-PURPOSE DAIRY AND HORSE BARNS

SPECIAL MODIFICATION CODES

FD1 – Barn cleaner gutter . . . . . LF
FD2 – Concrete feed bunker . . . . . LF
FD3 – Wood feed bunk . . . . . LF
FD4 – Mechanical feeder, automatic . . . . . LF
FD5 – Mechanical feeder, manual . . . . . LF
FD6 – Stable ceiling . . . . . SF

HOPPER SCALES

STRUCTURE TYPE CODE

AE1 – Hopper scales . . . . . QTY

45-DEGREE HOPPER BOTTOM TANKS

STRUCTURE TYPE CODE

AE2 – Hopper bottom tanks . . . . . QTY

45-DEGREE HOPPER BOTTOM TANKS

MODIFICATION CODES

1. 3” concrete slab . . . . . SF
2. 4” concrete slab . . . . . SF
3. 5” concrete slab . . . . . SF
4. 6” concrete slab . . . . . SF

45-DEGREE HOPPER BOTTOM TANKS

MODIFICATION CODES

Piling: Concrete in drilled holes

5. 12” diameter . . . . . LF
6. 16” diameter . . . . . LF
7. 24” diameter . . . . . LF
8. 36” diameter . . . . . LF
9. 48” diameter . . . . . LF

FIBERGLASS BOTTOM BULK STORAGE TANKS

STRUCTURE TYPE CODE

AE3 – Fiberglass bottom bulk storage tanks . . . . . QTY

45-DEGREE HOPPER BOTTOM TANKS

MODIFICATION CODES

1. 3” concrete slab . . . . . SF
2. 4” concrete slab . . . . . SF
3. 5” concrete slab . . . . . SF
4. 6” concrete slab . . . . . SF

FIBERGLASS BOTTOM BULK STORAGE TANKS

MODIFICATION CODES

Piling: Concrete in drilled holes

5. 12” diameter . . . . . LF
6. 16” diameter . . . . . LF
7. 24” diameter . . . . . LF
8. 36” diameter . . . . . LF
9. 48” diameter . . . . . LF

CATTLE FEED BUNKS AND FENCE BUNKS

STRUCTURE TYPE CODES

AF1 –	Concrete feed bunk	LF
AF2 –	Post and plank bunk	LF
AF3 –	Concrete fence bunk	LF
AF4 –	Post and plank fence bunk	LF

CATTLE FEED BUNKS AND FENCE BUNKS

SPECIAL MODIFICATION CODES

FF1 –	Roof, 10' wide	LF
FF2 –	Mechanical feeder, automatic	LF
FF3 –	Mechanical feeder, manual	LF
FF4 –	Concrete apron, 10' wide	LF

CATTLE FEED BUNKS AND FENCE BUNKS

SPECIAL MODIFICATION CODES —

ADD FOR STOCK WATERER

FF5 –	Cattle	QTY
FF6 –	Hog or sheep	QTY
FF7 –	Combination cattle and hog	QTY

STEEL GRAIN BINS

STRUCTURE TYPE CODES

AG1 –	Without drying bins	DIA x HGT
AG2 –	With drying bins	DIA x HGT

STEEL GRAIN BINS

MODIFICATION CODES

1.	Ladder	LF
2.	Safety cage	LF
3.	Grain spreaders	QTY
4.	Stirrators	DIA

STEEL GRAIN BINS

SPECIAL MODIFICATION CODES

FS1 –	15' diameter	QTY
FS2 –	18' diameter	QTY
FS3 –	21' diameter	QTY
FS4 –	24' diameter	QTY
FS5 –	27' diameter	QTY
FS6 –	30' diameter	QTY
FS7 –	36' diameter	QTY
FS8 –	42' diameter	QTY
FS9 –	48' diameter	QTY
FS10 –	60' diameter	QTY
FS11 –	75' diameter	QTY
FS12 –	90' diameter	QTY
FS13 –	105' diameter	QTY

AERATION

MODIFICATION CODE

FG1 –	Aeration system	BU

STEEL TANKS

STRUCTURE TYPE CODE

AG3 –	Steel tanks	BU CAP

POULTRY LAYER HOUSES

STRUCTURE TYPE CODES

AH1 –	1-story concrete block	DIM or SF
AH2 –	2-story concrete block	DIM or SF
AH3 –	1-story pole frame/metal siding	DIM or SF
AH4 –	2-story pole frame/metal siding	DIM or SF
AH5 –	1-story steel frame/steel siding	DIM or SF
AH6 –	2-story steel frame/steel siding	DIM or SF

POULTRY LAYER HOUSES

MODIFICATION CODES

1.	Insulation, first floor	SF
2.	Insulation, second floor	SF
3.	Interior partitions (excl. cages)	SF
4.	Earth floor	SF
5.	Clay floor	SF
6.	Heating	SF
7.	A-frame layer cages with chain feeding system	QTY
8.	Auger feeder bin and fill system	QTY
9.	Nipple watering system	QTY
10.	Egg collection system	QTY
11.	House fan system	QTY
12.	Evaporative cooling pad system	QTY
13.	Sidewall curtain and air inlet system	QTY
14.	Battery layer cages with feeding system	QTY
15.	Auger feeder bin and fill system	QTY
16.	Nipple watering system	QTY
17.	Egg collection system	QTY
18.	Manure removal system	QTY
19.	House fan system	QTY
20.	Evaporative cooling pad system	QTY
21.	Sidewall curtain and air inlet system	QTY

SPECIAL MODIFICATION CODE

FH1 –	Water connection	SF

POULTRY BROILER HOUSES

STRUCTURE TYPE CODES

AH7 –	Concrete block	DIM or SF
AH8 –	Pole frame/metal siding	DIM or SF
AH9 –	Steel frame/steel siding	DIM or SF

POULTRY BROILER HOUSES

MODIFICATION CODES

1.	Clay floor	SF
2.	Pan feeder system	QTY
3.	Auger feeder bin and fill system	QTY
4.	Nipple watering system	QTY
5.	Heating system	QTY
6.	House fan system	QTY
7.	Evaporative cooling pad system	QTY
8.	Sidewall curtain and air inlet system	QTY

TURKEY BARNS

STRUCTURE TYPE CODES

AH10 –	Pole frame/metal siding	DIM or SF
AH11 –	Steel frame/steel siding	DIM or SF

TURKEY BARNS

MODIFICATION CODES

1.	Clay floor	SF
2.	Pan feeder systems with direct drives	QTY
3.	Auger feeder bin and fill system	QTY
4.	Nipple watering system	QTY
5.	Heating system	QTY
6.	House fan system	QTY
7.	Evaporative cooling pad system	QTY
8.	Sidewall curtain and air inlet system	QTY

CATTLE FEED BUNKS AND FENCE BUNKS

STRUCTURE TYPE CODES

AF1 –	Concrete feed bunk	LF
AF2 –	Post and plank bunk	LF
AF3 –	Concrete fence bunk	LF
AF4 –	Post and plank fence bunk	LF

CATTLE FEED BUNKS AND FENCE BUNKS

SPECIAL MODIFICATION CODES

FF1 –	Roof, 10' wide	LF
FF2 –	Mechanical feeder, automatic	LF
FF3 –	Mechanical feeder, manual	LF
FF4 –	Concrete apron, 10' wide	LF

CATTLE FEED BUNKS AND FENCE BUNKS

SPECIAL MODIFICATION CODES —

ADD FOR STOCK WATERER

FF5 –	Cattle	QTY
FF6 –	Hog or sheep	QTY
FF7 –	Combination cattle and hog	QTY

MAN LIFTS

STRUCTURE TYPE CODE

AI1 –	Personnel lifts	QTY

BUNKER SILOS

STRUCTURE TYPE CODES

AK1 –	Concrete panels w/ 3" concrete floor	HGT x LF
AK2 –	Wood plank w/ 3" concrete floor	HGT x LF

LEAN-TO

STRUCTURE TYPE CODE

AL1 –	Wood frame/wood siding	DIM or SF
AL2 –	Pole frame/metal siding	DIM or SF
AL3 –	Steel frame/steel siding	DIM or SF

LEAN-TO

MODIFICATION CODE

1.	Concrete floor	SF
2.	Insulation, 1½"	SF
3.	Insulation, polystyrene bd., 7/8"	SF
4.	Insulation, 4"	SF
5.	Wallboard	SF
6.	No electricity	SF
7.	Heating	SF
8.	Wall partitions	SF

MILK HOUSES

STRUCTURE TYPE CODES

AM1 –	Att., concrete block	DIM or SF
AM2 –	Att., wood frame/wood siding	DIM or SF
AM3 –	Att., pole frame/metal siding	DIM or SF
AM4 –	Det., concrete block	DIM or SF
AM5 –	Det., wood frame/wood siding	DIM or SF
AM6 –	Det., pole frame/metal siding	DIM or SF

MILK HOUSES

MODIFICATION CODES

1.	Metal roof	SF
2.	Wood shingle	SF
3.	Asphalt roof	SF
4.	Heating	SF

MILK HOUSES

SPECIAL MODIFICATION CODE

FM2 –	Roof ventilator	QTY

MILKING PARLORS

STRUCTURE TYPE CODES

AM7 –	Att., concrete block	DIM or SF
AM8 –	Att., wood frame/wood siding	DIM or SF
AM9 –	Att., pole frame/metal siding	DIM or SF
AM10 –	Det., concrete block	DIM or SF
Am11 –	Det., wood frame/wood siding	DIM or SF
AM12 –	Det., pole frame/metal siding	DIM or SF

MILKING PARLORS

MODIFICATION CODES

1.	Metal roof	SF
2.	Wood shingle	SF
3.	Asphalt roof	SF
4.	Heating	SF
5.	Parlor within a barn	SF

MILKING PARLORS

SPECIAL MODIFICATION CODE

FM2 –	Roof ventilator	QTY

COMMERCIAL GREENHOUSES

STRUCTURE TYPE CODES

Straight-Wall Structures

AN1 –	Steel and aluminum frame/glass	DIM or SF
AN2 –	Pipe frame/glass	DIM or SF
AN3 –	Light pipe or wood frame/glass	DIM or SF
AN4 –	Steel frame/plastic	DIM or SF
AN5 –	Light pipe or wood frame/plastic	DIM or SF

COMMERCIAL GREENHOUSES

STRUCTURE TYPE CODES

Hoop Structures

AN6 –	Pipe frame/polycarbonate or acrylic cover	DIM or SF
AN7 –	Light pipe frame/arch frame/ fiberglass panels	DIM or SF
AN8 –	Pipe or light tubular arch/ double polyethylene cover	DIM or SF
AN9 –	Light pipe arch/wide spacing, polyethylene cover	DIM or SF

POTATO STORAGE BUILDINGS

STRUCTURE TYPE CODES

Below Ground

AO1 –	Concrete block	DIM or SF
AO2 –	Wood frame/wood siding	DIM or SF
AO3 –	Pole frame/metal siding	DIM or SF

POTATO STORAGE BUILDINGS

STRUCTURE TYPE CODES

Above Ground

AO4 –	Concrete block/heaped earth	DIM or SF
AO5 –	Wood frame/wood siding	DIM or SF
AO6 –	Pole frame/metal siding	DIM or SF
AO7 –	Steel frame/steel siding	DIM or SF

POTATO STORAGE BUILDINGS

MODIFICATION CODE

1.	No insulation	SF

TOBACCO BARNS

STRUCTURE TYPE CODES

AO8 –	Wood frame/wood siding	DIM or SF
AO9 –	Wood frame/vented walls	DIM or SF
AO10 –	Pole frame/metal siding	DIM or SF
AO11 –	Steel frame/steel siding	DIM or SF

TOBACCO BARNS

MODIFICATION CODES

1.	No lighting	SF
2.	Concrete floor	SF
3.	No water service	SF

TOBACCO BARNS

SPECIAL MODIFICATION CODES

FO1 –	24” ventilating fan	QTY
FO2 –	36” ventilating fan	QTY

POLE FRAME UTILITY BUILDINGS

STRUCTURE TYPE CODES

AP1 –	Four sides, closed, metal	DIM or SF
AP2 –	Four sides, closed, wood	DIM or SF
AP3 –	One side, open, metal	DIM or SF
AP4 –	One side, open, wood	DIM or SF
AP5 –	Four sides, open, metal	DIM or SF
AP6 –	Four sides, open, wood	DIM or SF

POLE FRAME UTILITY BUILDINGS

MODIFICATION CODES

1.	Concrete floor	SF
2.	Insulation, 1½" thick	SF
3.	Insulation, polystyrene bd., 7/8"	SF
4.	Insulation, 4"	SF
5.	Wallboard	SF
6.	No electricity	SF
7.	Heating	SF
8.	Wall partitions	SF

POLE FRAME UTILITY BUILDINGS

SPECIAL MODIFICATION CODES

FP1 –	14' x 12' sliding door	QTY
FP2 –	14' x 10' sliding door	QTY
FP3 –	14' x 8' sliding door	QTY
FP4 –	16' x 7' overhead door	QTY
FP5 –	9' x 7' overhead door	QTY

ARCH-RIB (QUONSET) FARM UTILITY BUILDINGS

STRUCTURE TYPE CODES

	With end walls	
AQ1 –	Wood arch frame/wood siding	DIM or SF
AQ2 –	Pole arch frame/metal siding	DIM or SF
AQ3 –	Steel quonset frame/metal siding	DIM or SF
	With open ends	
AQ4 –	Wood arch frame/wood siding	DIM or SF
AQ5 –	Pole arch frame/metal siding	DIM or SF
AQ6 –	Steel quonset frame/metal siding	DIM or SF

ARCH-RIB (QUONSET) FARM UTILITY BUILDINGS

MODIFICATION CODES

1.	Lighting	SF
2.	Asphalt floor	SF
3.	Concrete floor	SF
4.	No water service	SF
5.	Heating	SF

ARCH-RIB (QUONSET) FARM IMPLEMENT BUILDINGS

STRUCTURE TYPE CODES

	With end walls	
AQ7 –	Wood arch frame/wood siding	DIM or SF
AQ8 –	Pole arch frame/metal siding	DIM or SF
AQ9 –	Steel quonset frame/metal siding	DIM or SF
	With open ends	
AQ10 –	Wood arch frame/wood siding	DIM or SF
AQ11 –	Pole arch frame/metal siding	DIM or SF
AQ12 –	Steel quonset frame/metal siding	DIM or SF

ARCH-RIB (QUONSET) FARM IMPLEMENT BUILDINGS

MODIFICATION CODES

1.	Lighting	SF
2.	Asphalt floor	SF
3.	Concrete floor	SF
4.	No water service	SF
5.	Heating	SF

ARCH-RIB (QUONSET) FARM UTILITY/IMPLEMENT HOOP BUILDINGS

STRUCTURE TYPE CODES

AQ13 –	Hoop utility building	DIM or SF
AQ14 –	Hoop implement building	DIM or SF

ARCH-RIB (QUONSET) FARM UTILITY/IMPLEMENT HOOP BUILDINGS

MODIFICATION CODES

1.	Lighting	SF
2.	Asphalt floor	SF
3.	Concrete floor	SF

GRANARIES

STRUCTURE TYPE CODES

AR1 –	Wood frame/wood siding	DIM or SF
AR2 –	Pole frame/metal siding	DIM or SF
AR3 –	Steel frame/steel siding	DIM or SF

GRANARIES

MODIFICATION CODES

1.	Wood storage bins	SF
2.	Wood ventilating ducts	SF
3.	No lighting	SF
4.	Pier foundation	SF
5.	Second floor	SF

CONCRETE STAVE AND CONCRETE POURED SILOS

STRUCTURE TYPE CODES

AS1 –	Concrete stave w/ roof	DIA x HGT
AS2 –	Concrete stave w/out roof	DIA x HGT
AS5 –	Concrete poured w/ roof	DIA x HGT
AS6 –	Concrete poured w/out roof	DIA x HGT

CONCRETE STAVE AND CONCRETE POURED SILOS

MODIFICATION CODES

Silo unloaders (top)

8.	10’ diameter	QTY
9.	12’ diameter	QTY
10.	14’ diameter	QTY
11.	16’ diameter	QTY
12.	18’ diameter	QTY
13.	20’ diameter	QTY
14.	22’ diameter	QTY
15.	24’ diameter	QTY
16.	30’ diameter	QTY

CONCRETE STAVE AND CONCRETE POURED SILOS

MODIFICATION CODES

Typical silo access piping

17.	30’ high	QTY
18.	40’ high	QTY
19.	50’ high	QTY
20.	60’ high	QTY
21.	70’ high	QTY
22.	80’ high	QTY
23.	90’ high	QTY
24.	100’ high	QTY

Gunite interior finish

25.	16’ diameter	QTY
26.	20’ diameter	QTY
27.	24’ diameter	QTY
28.	30’ diameter	QTY

Epoxy interior finish

29.	16’ diameter	QTY
30.	20’ diameter	QTY
31.	24’ diameter	QTY
32.	30’ diameter	QTY

PORCELAIN SILOS (HARVESTORE™)

STRUCTURE TYPE CODES

AS3 –	Price new	DIA x HGT
AS4 –	Price pre-owned/rebuilt	DIA x HGT

PORCELAIN SILOS (HARVESTORE™)

MODIFICATION CODES

1.	14’ automatic unloader	QTY
2.	17’ automatic unloader	QTY
3.	20’ automatic unloader	QTY
4.	25’ automatic unloader	QTY
5.	30’ automatic unloader	QTY
6.	14’, 17’, 20’ sweep arm auger (used)	QTY
7.	14’, 17’, 20’ sweep arm auger (new tube and screw)	QTY

TRENCH SILOS

STRUCTURE TYPE CODES

AT1 –	Concrete panels w/ 3” concrete floor	DEPTH x LF
AT2 –	Wood plank w/ 3” concrete floor	DEPTH x LF
AT3 –	Dirt, plastic lined, no flooring	DEPTH x LF

HOG NURSERY, FARROWING, BREEDING/GESTATION AND FINISHING BARNS

STRUCTURE TYPE CODES

Nursery

AV1 –	Wood frame/wood siding	DIM or SF
AV2 –	Pole frame/metal siding	DIM or SF
AV3 –	Steel frame/steel siding	DIM or SF

Farrowing

AV4 –	Wood frame/wood siding	DIM or SF
AV5 –	Pole frame/metal siding	DIM or SF
AV6 –	Steel frame/steel siding	DIM or SF

Breeding/Gestation

AV7 –	Wood frame/wood siding	DIM or SF
AV8 –	Pole frame/metal siding	DIM or SF
AV9 –	Steel frame/steel siding	DIM or SF

Finishing

AV10 –	Wood frame/wood siding	DIM or SF
AV11 –	Pole frame/metal siding	DIM or SF
AV12 –	Steel frame/steel siding	DIM or SF

HOG BARNS

MODIFICATION CODES

1.	Flush pit	SF
2.	Shallow pit	SF
3.	Deep pit	SF
	Slotted floors	
4.	Nursery	SF
5.	Farrowing	SF
6.	Finishing	SF
7.	Farrowing crate, finger	QTY
8.	Farrowing crate, riser	QTY
9.	Gestation stall	QTY
	Confinement partitions	
10.	PVC	LF
11.	Solid rod	LF
12.	Galvanized panel	LF

HOG SHEDS

STRUCTURE TYPE CODES

AV13 –	Wood frame/wood siding	DIM or SF
AV14 –	Pole frame/metal siding	DIM or SF
AV15 –	Arch-rib/fabric cover	DIM or SF
AV16 –	Steel frame/steel siding	DIM or SF

HOG SHEDS

MODIFICATION CODES

1.	Flush pit	SF
2.	Shallow pit	SF
3.	Deep pit	SF

AUTOMATED NIPPLE WATERING SYSTEM FOR HOGS

STRUCTURE TYPE CODES

AV17 –	Obsolete – galvanized steel	QTY
AV18 –	Stainless steel	QTY

BUCKET ELEVATORS

STRUCTURE TYPE CODES

AW1 –	3000 to 5000 bu/hr	HGT
AW2 –	6000 to 8000 bu/hr	HGT

BUCKET ELEVATORS

MODIFICATION CODES

1.	Discharge transition to 10” round	QTY
2.	Discharge transition to 12” round	QTY
3.	Discharge transition to 14” round	QTY
4.	Discharge transition to 16” round	QTY

HORIZONTAL DRAG (U-TROUGH) CONVEYORS

STRUCTURE TYPE CODE

AW3 –	Horizontal drag (U-trough) conveyors	DIA x LF

LOADING/UNLOADING SYSTEMS

STRUCTURE TYPE CODES

AX1 –	Auger-type conveyors	LF
AX2 –	Belt-type conveyors	LF

GRAIN ELEVATORS

STRUCTURE TYPE CODES

AY1 –	Wood crib/metal clad	BU CAP
AY2 –	Concrete (slip form construction)	BU CAP

GRAIN ELEVATORS

MODIFICATION CODES

1.	Attached covered elevator driveway	SF
2.	Detached annex silos without tunnel or conveyor gallery	Running Ft.
3.	No intersticing	BU CAP
4.	Concrete jump form construction	BU CAP
5.	Single concrete silos, use annex costs	Percent
6.	Concrete stave silos	Percent
7.	Commercial installations	Percent
8.	Industrial bulk applications	Percent

GRAIN ELEVATORS

SPECIAL MODIFICATION CODES

Machinery and equipment

FY1	Low	BU CAP
FY2	Average	BU CAP
FY3	Good	BU CAP
FY4	Excellent	BU CAP

GRAIN ELEVATORS

MODIFICATION CODES

Machinery and equipment

1.	Steel bin storage over 100,000 bushels	Percent

GRAIN DRYERS

STRUCTURE TYPE CODES

AZ1 –	Batch type	BU CAP
AZ2 –	Continuous flow type	BU CAP

STABLES

STRUCTURE TYPE CODES

BA1 –	Wood frame/wood siding	DIM or SF
BA2 –	Pole frame/metal siding	DIM or SF
BA3 –	Steel frame/steel siding	DIM or SF

STABLES

MODIFICATION CODES

1.	Concrete floor	SF
2.	No lighting	SF
3.	Stable ceiling	SF

STABLES

SPECIAL MODIFICATION CODES

FJ1 –	Stalls	QTY
FJ2 –	Horse walkers	QTY
FJ3 –	Portable pipe corrals	LF
FJ4 –	Portable pipe corral gate	QTY
FJ5 –	Corner-mount stall water	QTY

HIGH-VALUE (ESTATE) STABLES

STRUCTURE TYPE CODES

BA4 –	Concrete block/brick, stone or tile	DIM or SF
BA5 –	Wood frame/brick, stone or tile	DIM or SF

ARENAS

STRUCTURE TYPE CODES

	w/ feed, tack and washrooms	
BC1 –	Pole frame/metal siding	DIM or SF
BC2 –	Steel frame/steel siding	DIM or SF
	Arena only	
BC3 –	Pole frame/metal siding	DIM or SF
BC4 –	Steel frame/steel siding	DIM or SF

ARENAS

MODIFICATION CODES

1.	Concrete floor	SF
2.	No lighting	SF
3.	Stable ceiling	SF

FARM COMMODITY STORAGE SHEDS

STRUCTURE TYPE CODES

BD1 –	Concrete block	DIM or SF
BD2 –	Wood frame/wood siding	DIM or SF
BD3 –	Pole frame/metal siding	DIM or SF
BD4 –	Steel frame/steel siding	DIM or SF

FLATHOUSE STORAGE BUILDINGS

STRUCTURE TYPE CODES

BF1 –	Pole frame/metal siding	DIM or SF
BF2 –	Steel frame/steel siding	DIM or SF
BF3 –	Steel slant-wall frame/ heavy steel siding	DIM or SF

FLATHOUSE STORAGE BUILDINGS

MODIFICATION CODES

Eave height

1.	12 feet (x)	HGT
2.	14 feet (x)	HGT
3.	16 feet (x)	HGT
4.	20 feet (x)	HGT
5.	24 feet (x)	HGT

FEEDER BARNS (CATTLE SHEDS)

STRUCTURE TYPE CODES

BG1 –	Wood frame/wood siding	DIM or SF
BG2 –	Pole frame/metal siding	DIM or SF
BG3 –	Steel frame/steel siding	DIM or SF

FARM IMPLEMENT (EQUIPMENT SHOP) BUILDINGS

STRUCTURE TYPE CODES

BH1 –	Wood frame/wood siding	DIM or SF
BH2 –	Pole frame/metal siding	DIM or SF
BH3 –	Steel frame/steel siding	DIM or SF

FARM IMPLEMENT EQUIPMENT SHEDS

STRUCTURE TYPE CODES

BH4 –	Wood frame/wood siding	DIM or SF
BH5 –	Pole frame/metal siding	DIM or SF
BH6 –	Steel frame/steel siding	DIM or SF

FARM IMPLEMENT (EQUIPMENT SHOP) BUILDINGS AND FARM IMPLEMENT EQUIPMENT SHEDS

MODIFICATION CODES

1.	Concrete floor	SF
2.	Insulation, 1½"	SF
3.	Insulation, polystyrene bd., 7/8"	SF
4.	Insulation, 4"	SF
5.	Wallboard	SF
6.	Heating	SF
7.	Wall partitions	SF

FARM IMPLEMENT (EQUIPMENT SHOP) BUILDINGS AND FARM IMPLEMENT EQUIPMENT SHEDS

SPECIAL MODIFICATION CODES

FP1 –	14' x 12' sliding door	QTY
FP2 –	14' x 10' sliding door	QTY
FP3 –	14' x 8' sliding door	QTY
FP4 –	16' x 7' overhead door	QTY
FP5 –	9" x 7" overhead door	QTY

SLURRY TANKS

STRUCTURE TYPE CODE

BK1 –	Slurry tank	DIA x HGT

SLURRY TANKS

MODIFICATION CODES

1.	Concrete slab, slurry tank	CU FT
2.	Plank cover	SF
3.	No cover	SF
4.	Agitator and pumps	QTY
5.	Lagoon flotation systems	QTY

SLURRY TANKS

SPECIAL MODIFICATION CODES

Liquid manure tank

FK1 –	Concrete rectangular tank	CU FT
FK2 –	Concrete round tank	CU FT
FK3 –	Concrete open pits	CU FT
FK4 –	Large clay lagoon	CU FT

Slotted floors

FK5 –	Shallow pit/scrapper alley	SF
FK6 –	Deep pit/tractor access	SF

TRUCK SCALES

STRUCTURE TYPE CODE

BL1 – Truck scales ..... QTY

FARM LABOR HOUSING – DORMITORIES STRUCTURE TYPE CODES		FARM LABOR HOUSING – DORMITORIES MODIFICATION CODES	
BM1 – Concrete block	DIM or SF	1. Insulation, 1½"	SF
BM2 – Wood frame/wood siding	DIM or SF	2. Insulation, polystyrene bd., 7/8"	SF
BM3 – Steel frame/steel siding	DIM or SF	3. Insulation, 4"	SF
		4. Wallboard	SF
		5. No electricity	SF
		6. Heating	SF
		7. Wall partitions	SF

TRANSIENT LABOR CABINS STRUCTURE TYPE CODES		TRANSIENT LABOR CABINS MODIFICATION CODES	
BM4 – Wood frame/wood siding	DIM or SF	1. Insulation, 1½"	SF
		2. Insulation, polystyrene bd., 7/8"	SF
		3. Insulation, 4"	SF
		4. Wallboard	SF
		5. No electricity	SF
		6. Heating	SF
		7. Wall partitions	SF

This is a data collection card to offer the local official the opportunity to list and summarize information on building values. This information summary is then posted on the manual data collection card. By using the work card, additional notes on the improvements can be added and used to substantiate and develop one's values.

THE LISTING SECTION OF THIS CARD IS SPELLED OUT BELOW.

BUILDING NAME

This field is used to identify the structure: barn, shed, silo, etc.

STRUCTURE TYPE CODES

This term refers to a category of improvements such as barns or sheds. This code is found in the identifying header information of the individual type of farm improvement. It is identified by two letters and a number such as AD1, AB1, etc.

CONSTRUCTION (Const.)

This term refers to the general construction of the item being listed. Circle the appropriate construction type.

F = Frame/Concrete block construction

M = Masonry/Brick/Stone construction

P = Pole frame construction

S = Steel frame construction

O = Construction other than wood frame, masonry, pole frame or steel frame, for example: porcelain silo, wire corn cribs, etc.

YEAR (Yr.)

This term refers to the year the item was constructed. Enter all four digits.

GRADE (Gr.)

Space is provided to enter one alpha character denoting the quality grade of the item. If a quality grade denotation is not applicable to the item, draw a line through the character position. If the number is other than 1.00, this number must be applied by multiplication to the Subtotal Base Cost column. (See that column description for additional instructions.)

SIZE

Enter either the ground floor area in square feet or the dimensions (width and length) of the item.

COST PER SQUARE FOOT

From the appropriate table, determine the proper square foot cost for that unit, and write that figure in the column.

BUILDING HEIGHT (Bldg. Hgt.)

Enter the actual height of building if it is different from the specifications in the manual. As you will note, all buildings listed are of a particular height. For example: The base height specification for a two-story Special-Purpose Dairy Barn is 16'. If the subject Dairy Barn has a height of 16', simply leave the entry blank. If the subject Dairy Barn has a height of 20', it is necessary to enter the 20' in the height space.

Note: For base height specifications, refer to the cost schedule section of this manual.

COST ADJUSTMENT FOR HEIGHT

If the subject building is of a height different from that specified as the standard, the price adjustment per square foot is to be placed here. Example: If a 2-story Dairy Barn with a ground floor area of 3,000 square feet is 18' high, as opposed to 16', which is the standard, a price adjustment must be made.

The table at the right indicates that an AD1 masonry barn with a ground floor area of 3,000 sq. ft. is priced at $44.10. At the bottom of the table a price adjustment of ±2% per foot in height is indicated. An 18' barn would be 2' higher than the standard height of 16', so 2% for each of 2 feet would be 4% of $44.10 or $1.76. This amount, $1.76 per square foot would be the amount entered in the Cost Adjustment for Height column.

SUBTOTAL COST

This column would be the total of the Cost Per Square Foot and the Cost Adj. for Height columns, times the square footage of the building column times the grade factor if this figure is not 1.00.

MODIFICATION CODES

This refers to regular modification and special modification codes as listed in connection with the table best describing the subject building. Place the letter and number codes in this area.

BASE PRICES						
STRUCTURE TYPE	AD1	AD2	AD3	AD4	AD5	AD6
	Masonry	Wood	Pole Frame	Masonry	Wood	Pole Frame
Height	2-story - 16' High			1-story - 10' High		
Area	Price per Square Foot					
1,200	50.20	46.40	41.20	33.30	30.15	25.95
1,400	48.85	45.10	40.05	32.40	29.30	25.25
1,600	47.75	44.10	39.15	31.65	28.65	24.65
1,800	47.05	43.45	38.60	31.20	28.25	24.30
2,000	46.25	42.70	37.90	30.65	27.75	23.85
2,200	45.80	42.30	37.55	30.35	27.50	23.65
2,400	45.30	41.85	37.15	30.05	27.20	23.40
2,600	44.85	41.40	36.80	29.75	26.95	23.15
2,800	44.50	41.10	36.50	29.50	26.70	23.00
3,000	44.10	40.70	36.15	29.25	26.45	22.75
3,200	43.85	40.45	35.95	29.05	26.30	22.65
3,400	43.50	40.20	35.70	28.85	26.15	22.45
3,600	43.30	40.00	35.50	28.70	26.00	22.35
3,800	43.05	39.80	35.35	28.55	25.85	22.25
4,000	42.80	39.55	35.10	28.40	25.70	22.10
4,500	42.45	39.20	34.85	28.15	25.50	21.90
5,000	41.90	38.70	34.40	27.80	25.15	21.65
5,500	41.60	38.40	34.15	27.60	25.00	21.50
6,000	41.35	38.20	33.90	27.40	24.80	21.35
6,500	41.10	37.95	33.75	27.25	24.70	21.25
7,000	40.80	37.70	33.50	27.05	24.50	21.05
7,500	40.65	37.50	33.35	26.95	24.40	21.00
8,000	40.40	37.30	33.15	26.80	24.25	20.85
8,500	40.30	37.20	33.05	26.70	24.20	20.80
9,000	40.05	37.00	32.85	26.55	24.05	20.70
10,000	39.75	36.70	32.60	26.35	23.85	20.50
Over	39.75	36.70	32.60	26.35	23.85	20.50
±2%/Foot in Height						

SQ. FT./L.F./$ (SQUARE FEET/LINEAL FEET/DOLLAR AMOUNT)

This is the column corresponding to modification codes. It indicates the dollar value to be applied to the number of square feet or lineal feet as listed.

Note: THERE MAY BE AS MANY ENTRIES AS NEEDED IN THE MODIFICATION CODE AND SQ. FT./L.F./$ COLUMNS. THESE ENTRIES ARE THEN TOTALED IN THE SAME COLUMN.

TOTAL BASE COST

This is the total of the Subtotal Base Cost column and the Sq. Ft./L.F./$ column.

LOCAL MODIFIER (LM)

Character positions are provided to enter numeric characters denoting the appropriate Local Modifier.

REPLACEMENT COST NEW (RCN)

Space is provided to enter the calculated replacement cost new of the item(s) after application of the local modifier. Replacement cost new is defined as the current cost of replacing the improvement with a substitute improvement of equal utility. (RCN=Total Base Cost Column x Local Modifier.

CONDITION (Cond.)

Space is provided to enter the overall condition of the item. Enter E for excellent, G for good, A for average, F for fair, P for poor, and U for unsound. Then see the CDU tables at the rear of this manual for the percentage to be applied against the RCN.

OB/MA or OBSOLESCENCE/MARKET ADJUSTMENT

This term refers to the resultant value after deduction of functional obsolescence and deduction or addition of a market adjustment factor expressed as a percentage. Allowable percentages range from 000% (0.00) to 20% (2.00).

Note: This is not a required entry. If this entry is utilized, it will function as a deduction or addition to the resultant value generated from the percent good entry.

RCNLD or REPLACEMENT COST NEW LESS DEPRECIATION

This term refers to the resultant value of the improvement after deduction of all forms of depreciation and/or the deduction or addition of a market adjustment factor.

WORK CARD EXAMPLE

List the following buildings on the next page:

A **2-story masonry special-purpose dairy barn** (AD1) 18' high, 30' wide by 100' long. Grade of B with 200 lin. ft. of barn cleaner gutter, 200 lin. ft. of concrete feed bunks, and ceiling in the entire stable area. The barn is 20 years old and in good condition. The local modifier is .929. Calculate the RCNLD.

A **pole frame building** (AP1) has a 46'span with a length of 100'. It was built in 1982 and is average in construction quality. It is 16' high and has a 14 x 12 slide door. It has a -10% Market Adjustment (M.A.) as determined by the local assessor. The local modifier is .952. Calculate the RCNLD.

A **concrete stave silo with roof** (AS1). It is 16' in diameter and 55' in height. It has an unloader and typical access piping. It was built in 1957 and is in average condition. The local modifier for this item is 1.00. Calculate the RCNLD.

A **concrete elevator** (AY1) with a 78,500-bushel capacity. It has a workinghouse with a capacity of 22,000 BU. It was built in 1967 and is in good condition. The local modifier is .980. Calculate the RCNLD.

Building Name	Type Code	Const. F M P S O	Yr.	Gr.	Size	Cost per Sq. Ft.	Bldg. Hgt.	Cost Adj. for Hgt.	Subtotal Base Cost	Mod. Codes	Sq. Ft./L.F./$	Total Base Cost	L.M.	R.C.N.	Cond.	OB/MA	RCNLD
Barn	AD1	M	1963	B	(30' x 100') 3000 S.F.	$58.21 (44.10 x 1.32)	18'	+$2.33	181,620	FD1 FD2 FD6 Total	200 L.F./39.00 ea. 200 L.F./41.00 ea. 3000 S.F./1.55 ea. 20,650	202,270	0.929	187,909	Good 70%	None	131,536
Pole bldg.	AP1	P	1982		(46' x 100') 4600 S.F.	$5.31	16'	+$.64	27,370	FP1	1,185	28,555	0.952	27,184	Avg. 80%	MA 90%	19,573
Concrete stave silo	AS1	M	1957		16' x 55'	$17,050	-----	-----	17,050	10 18/19*	6,940 750 7,690	24,740	1.00	24.740	Avg. 45%	None	11,133
Concrete elevator & working-house	AY1	M M	1967 1967		78,500 BU 22,000 BU	$5.52 $10.17	-----	-----	433,320 223,740 657,060	-----	-----	657,060	0.980	643,919	Good 40%	None	257,568

*Interpolation

Building Name	Type Code	Const. F M P S O	Yr.	Gr.	Size	Cost per Sq. Ft.	Bldg. Hgt.	Cost Adj. for Hgt.	Subtotal Base Cost	Mod. Codes	Sq. Ft./L.F./$	Total Base Cost	L.M.	R.C.N.	Cond.	OB/MA	RCNLD

Information gathered on the agricultural (manual) work card may be summarized on the manual property record card in the gross building summary section. The headings are the same. This area may be totaled, and the total value carried to the gross building summary line of Page 2 of the same form.

Wood Frame/Wood Siding

Wood Frame/Wood Siding

BASE PRICES – 12' HIGH			
STRUCTURE TYPE	BA1	BA2	BA3
	Wood Frame/ Wood Siding	Pole Frame/ Metal Siding	Steel Frame/ Steel Siding
Area	Price Per Square Foot		
1,200	21.30	19.40	21.00
1,400	20.75	18.90	20.40
1,600	20.25	18.45	19.95
1,800	20.00	18.20	19.65
2,000	19.60	17.90	19.30
2,200	19.45	17.70	19.15
2,400	19.20	17.50	18.90
2,600	19.05	17.35	18.75
2,800	18.90	17.20	18.60
3,000	18.70	17.05	18.40
3,200	18.60	16.95	18.30
3,400	18.45	16.85	18.20
3,600	18.35	16.75	18.10
3,800	18.30	16.65	18.00
4,000	18.15	16.55	17.90
4,500	18.00	16.40	17.75
5,000	17.80	16.20	17.50
5,500	17.65	16.10	17.40
6,000	17.55	16.00	17.25
6,500	17.45	15.90	17.20
7,000	17.30	15.80	17.05
7,500	17.25	15.70	17.00
8,000	17.15	15.65	16.90
8,500	17.10	15.60	16.85
9,000	17.00	15.50	16.75
10,000	16.85	15.35	16.60
Over	16.85	15.35	16.60
±2%/Foot in Height			

BASE PRICE ADJUSTMENTS	
CODE	MODIFICATION CODES
1	Concrete floor (–) per Sq. Ft. 2.10
2	No lighting (–), per Sq. Ft. 0.70
3	Stable ceiling (+), per Sq. Ft. 1.55
CODE	SPECIAL MODIFICATION CODES
FJ1	Stalls (+), each box ..... $ 1,100 – $1,900
FJ2	Horse walkers (+), four horses each . $2,150 – $3,375
FJ3	Portable pipe corrals, per Lin. Ft. ..... $5.00 – $6.50
FJ4	Per portable pipe corral gate, (+) ..... $40 – $ 50
FJ5	Corner-mount stall waterer (+), each ..... $80 – $140

QUALITY	GRADE FACTOR
B	1.54
C	1.00
D	0.65

BASE SPECIFICATIONS: B

FOUNDATION – Concrete foundation and footings. WALLS – Best siding or brick veneer; good metal panels on pole frame or steel; finished inside and some trim. FLOOR – Dirt; concrete in tack and feed rooms. ROOF – Double pitch, asphalt shingles, metal on wood rafters and framing, or metal on steel frame. OTHER FEATURES – Some windows and ornamentation, T&G finished stalls, finished tack and feed rooms, good quality throughout, good lighting and water outlets, restrooms.

BASE SPECIFICATIONS: C

FOUNDATION – Concrete foundation and footings. WALLS – Wood, metal on pole frame or steel. FLOOR – Dirt. ROOF – Double pitch, asphalt shingles, metal on wood rafters and framing, or metal on steel frame. OTHER FEATURES – Doors on stalls, wainscot in stalls, concrete floors in tack and feed rooms, adequate lighting and water outlets.

BASE SPECIFICATIONS: D

FOUNDATION – Concrete foundation and footings. WALLS – Wood on post and beam, metal on pole frame or galvanized steel. FLOOR – Dirt. ROOF – Double pitch, asphalt shingles, metal on wood rafters and framing or metal on steel frame. OTHER FEATURES – Rough finished stalls, no lighting or water outlets.

HIGH-VALUE (ESTATE) STABLES

QUALITY	GRADE FACTOR
B	1.42
C	1.00
D	0.72

BASE SPECIFICATIONS: B

FOUNDATION – Concrete foundation and footings. WALLS – Concrete block or wood frame with fine wood siding, face brick, stone trim, slate or tile; custom arches, cupolas and/or dormers. FLOOR – Concrete floors in lounge, office, restroom, tack, feed and horse bath areas. ROOF – Gambrel, hip or double pitch with asphalt shingles, concrete or fiberglass tiles/shingles on wood rafters and framing or wood sheathing on steel frame. OTHER FEATURES – Skylights, custom sash, fully insulated, custom finished stalls; lounge, office, restrooms, shower and dressing rooms; extensive fixtures and custom hardware throughout, high-quality electrical and plumbing services.

BASE SPECIFICATIONS: C

FOUNDATION – Concrete foundation and footings. WALLS – Concrete block or wood frame with fine wood siding, face brick, stone trim, slate or tile. FLOOR – Concrete floors in lounge, office, restroom, tack, feed and horsebath areas. ROOF – Gambrel, hip or double pitch with asphalt shingles, concrete or fiberglass tile/shingle on wood rafters and framing or wood sheathing on steel frame. OTHER FEATURES – Skylights, some custom sash, insulated, good to fine finished stalls; lounge, office and restrooms; quality finishes, shower and dressing room areas, high quality and some special custom fixtures, high-quality electrical and plumbing services.

BASE SPECIFICATIONS: D

FOUNDATION – Concrete foundation and footings. WALLS – Decorative block or wood frame with good wood siding or masonry veneer. FLOOR – Concrete floors in lounge, office, restroom, tack, feed and horsebath areas. ROOF – Hip or double pitch with asphalt shingles, concrete or fiberglass tiles/shingles on wood rafters and framing or wood sheathing on steel frame. OTHER FEATURES – Insulated, finished stalls, lounge, office, restrooms, shower and dressing room areas, good finishes, high-quality electrical and plumbing services.

BASE PRICES – 16' HIGH		
STRUCTURE TYPE	BA4	BA5
	Concrete Block/ Brick, Stone or Tile	Wood Frame/ Brick, Stone or Tile
Area	Price Per Square Foot	
1,200	100.80	97.10
1,400	98.05	94.45
1,600	95.80	92.30
1,800	94.50	91.00
2,000	92.80	89.40
2,200	91.90	88.55
2,400	90.90	87.60
2,600	90.05	86.75
2,800	89.30	86.05
3,000	88.50	85.25
3,200	88.00	84.75
3,400	87.35	84.15
3,600	86.90	83.70
3,800	86.45	83.30
4,000	85.95	82.80
4,500	85.20	82.10
5,000	84.15	81.05
5,500	83.50	80.45
6,000	83.00	79.95
6,500	82.55	79.50
7,000	81.90	78.90
7,500	81.55	78.55
8,000	81.10	78.15
8,500	80.85	77.90
9,000	80.40	77.45
10,000	79.80	76.85
Over	79.80	76.85
±2%/Foot in Height		

BASE SPECIFICATIONS w/ Feed, Tack and Washrooms
FOUNDATION – Concrete foundation and footings. WALLS – Metal on pole frame or steel. FLOOR – Dirt arena floor; concrete in feed, tack and washrooms. ROOF – Double pitch, metal on wood rafters and framing or metal on steel frame. OTHER FEATURES – Some interior finish, adequate lighting and water service.

BASE SPECIFICATIONS Arena Only
FOUNDATION – Concrete foundation and footings. WALLS – Metal on pole frame or steel. FLOOR – Dirt. ROOF – Double pitch, metal on wood rafters and framing or metal on steel frame. OTHER FEATURES – Minimum electrical and water services.

BASE PRICES – 16' HIGH		
STRUCTURE TYPE	BC1 Pole Frame/ Metal Siding	BC2 Steel Frame/ Steel Siding
Area	Price per Square Foot	
1,200	13.20	15.35
1,400	12.85	14.90
1,600	12.55	14.60
1,800	12.35	14.35
2,000	12.15	14.10
2,200	12.05	14.00
2,400	11.90	13.85
2,600	11.80	13.70
2,800	11.70	13.60
3,000	11.60	13.45
3,200	11.50	13.40
3,400	11.45	13.30
3,600	11.40	13.20
3,800	11.30	13.15
4,000	11.25	13.05
4,500	11.15	12.95
5,000	11.00	12.80
5,500	10.95	12.70
6,000	10.85	12.60
6,500	10.80	12.55
7,000	10.70	12.45
7,500	10.70	12.40
8,000	10.60	12.35
8,500	10.60	12.30
9,000	10.55	12.25
10,000	10.45	12.15
Over	10.45	12.15
±2%/Foot in Height		

BASE PRICES – 16' HIGH		
STRUCTURE TYPE	BC3 Pole Frame/ Metal Siding	BC4 Steel Frame/ Steel Siding
Area	Price Per Square Foot	
1,200	7.05	8.05
1,400	6.85	7.85
1,600	6.70	7.65
1,800	6.60	7.55
2,000	6.50	7.40
2,200	6.45	7.35
2,400	6.35	7.25
2,600	6.30	7.20
2,800	6.25	7.15
3,000	6.20	7.05
3,200	6.15	7.00
3,400	6.10	6.95
3,600	6.10	6.95
3,800	6.05	6.90
4,000	6.00	6.85
4,500	5.95	6.80
5,000	5.90	6.70
5,500	5.85	6.65
6,000	5.80	6.65
6,500	5.80	6.60
7,000	5.75	6.55
7,500	5.70	6.50
8,000	5.70	6.50
8,500	5.65	6.45
9,000	5.65	6.40
10,000	5.60	6.35
Over	5.60	6.35
±2%/Foot in Height		

BASE PRICE ADJUSTMENTS	
CODE	MODIFICATION CODES
1	Concrete floor (–), per Sq. Ft. 2.10
2	No lighting (–), per Sq. Ft. 0.70
3	Stable ceiling (+), per Sq. Ft. 1.55

2-Story Masonry

1-Story Masonry and Frame

BASE PRICES						
STRUCTURE TYPE	AD1	AD2	AD3	AD4	AD5	AD6
	Masonry	Wood	Pole Frame	Masonry	Wood	Pole Frame
Height	2-story – 16' High			1-story – 10' High		
Area	Price per Square Foot					
1,200	50.20	46.40	41.20	33.30	30.15	25.95
1,400	48.85	45.10	40.05	32.40	29.30	25.25
1,600	47.75	44.10	39.15	31.65	28.65	24.65
1,800	47.05	43.45	38.60	31.20	28.25	24.30
2,000	46.25	42.70	37.90	30.65	27.75	23.85
2,200	45.80	42.30	37.55	30.35	27.50	23.65
2,400	45.30	41.85	37.15	30.05	27.20	23.40
2,600	44.85	41.40	36.80	29.75	26.95	23.15
2,800	44.50	41.10	36.50	29.50	26.70	23.00
3,000	44.10	40.70	36.15	29.25	26.45	22.75
3,200	43.85	40.45	35.95	29.05	26.30	22.65
3,400	43.50	40.20	35.70	28.85	26.15	22.45
3,600	43.30	40.00	35.50	28.70	26.00	22.35
3,800	43.05	39.80	35.35	28.55	25.85	22.25
4,000	42.80	39.55	35.10	28.40	25.70	22.10
4,500	42.45	39.20	34.85	28.15	25.50	21.90
5,000	41.90	38.70	34.40	27.80	25.15	21.65
5,500	41.60	38.40	34.15	27.60	25.00	21.50
6,000	41.35	38.20	33.90	27.40	24.80	21.35
6,500	41.10	37.95	33.75	27.25	24.70	21.25
7,000	40.80	37.70	33.50	27.05	24.50	21.05
7,500	40.65	37.50	33.35	26.95	24.40	21.00
8,000	40.40	37.30	33.15	26.80	24.25	20.85
8,500	40.30	37.20	33.05	26.70	24.20	20.80
9,000	40.05	37.00	32.85	26.55	24.05	20.70
10,000	39.75	36.70	32.60	26.35	23.85	20.50
Over	39.75	36.70	32.60	26.35	23.85	20.50
±2%/Foot in Height						

BASE PRICE ADJUSTMENTS		
CODE	MODIFICATION CODES	
1	Earth floor (–) per Sq. Ft.	2.30
2	No lighting (–) per Sq. Ft.	0.79
CODE	SPECIAL MODIFICATION CODES	
FD1	Barn cleaner gutter (+), per Lin. Ft.	39.00
FD2	Concrete feed bunk (+), per Lin. Ft.	41.00
FD3	Wood feed bunk (+), per Lin. Ft.	21.50
FD4	Mechanical feeder, automatic (+), per Lin. Ft.	82.50
FD5	Mechanical feeder, manual (+), per Lin. Ft.	60.65
FD6	Stable ceiling (+), per Sq. Ft.	1.55

QUALITY	GRADE FACTOR
B	1.32
C	1.00
D	0.75

Note: For three-wall additions, see Lean-Tos, Page 5-33.

BASE SPECIFICATIONS: B

FOUNDATION – Concrete frost walls and footings. STABLE WALLS – Brick or block masonry, good wood siding on heavy frame, or good metal siding on pole frame. LOFT WALLS – Good wood siding on wood framing or good metal siding on pole frame; wood sash windows. STABLE FLOOR – Concrete. LOFT FLOOR – T&G wood floors on heavy timber. ROOF – Gambrel or arch type, good asphalt shingles on wood decking, rafters and framing. OTHER FEATURES – Good fenestration, painted, wainscot, insulated, good stalls and dairy facilities, partitions, lighting and power wiring, water service and drains.

BASE SPECIFICATIONS: C

FOUNDATION – Concrete frost walls and footings. STABLE WALLS – Brick or block masonry, wood siding on wood framing, or metal siding on pole frame. LOFT WALLS – Good wood siding on wood framing, or metal siding on pole frame; some windows. STABLE FLOOR – Partially concrete and dirt. LOFT FLOOR – Wood plank flooring with adequate support. ROOF – Gambrel or arch type, asphalt shingles on wood decking, rafters and framing. OTHER FEATURES – Few partitions and stalls, feed room, adequate lighting and electrical service, water outlets and floor drains.

BASE SPECIFICATIONS: D

FOUNDATION – Concrete frost walls and footings. STABLE WALLS – Block masonry, wood siding on light wood frame, or metal siding on pole frame. LOFT WALLS – Wood siding on light wood frame, or metal siding on pole frame; some windows. STABLE FLOOR – Dirt. LOFT FLOOR – Light wood flooring with minimum support. ROOF – Gambrel or arch type, asphalt shingles on wood decking, rafters and framing. OTHER FEATURES – Few cheap stalls, no electrical or water service.

2-Story Pole Frame

2-Story Frame

BASE PRICES – 2-STORY – 24' HIGH			
STRUCTURE TYPE	AB1 Masonry	AB2 Wood	AB3 Pole Frame
Area	Price per Square Foot		
800	37.40	32.75	29.00
1,000	35.85	31.45	27.80
1,200	35.25	30.90	27.30
1,400	34.30	30.05	26.55
1,600	33.50	29.35	25.95
1,800	33.05	28.95	25.60
2,000	32.45	28.45	25.15
2,200	32.15	28.15	24.90
2,400	31.80	27.85	24.65
2,600	31.50	27.60	24.40
2,800	31.25	27.35	24.20
3,000	30.95	27.10	24.00
3,400	30.55	26.75	23.65
3,600	30.40	26.65	23.55
4,000	30.05	26.35	23.30
4,400	29.80	26.15	23.10
4,800	29.60	25.90	22.90
5,200	29.35	25.70	22.75
5,600	29.15	25.55	22.60
6,000	29.00	25.45	22.50
7,000	28.65	25.10	22.20
8,000	28.35	24.85	22.00
9,000	28.10	24.65	21.80
10,000	27.90	24.45	21.60
Over	27.90	24.45	21.60
±2%/Foot in Height			

BASE PRICE ADJUSTMENTS		
CODE	MODIFICATION CODES	
1	Wood loft floor (+) per Sq. Ft.	3.60
2	Gambrel/Arch-type roof (+) per Sq. Ft.	4.10
3	Stalls and partitions (+) per Sq. Ft.	1.30
4	Earth floor (–) per Sq. Ft.	2.10
5	No lighting (–) per Sq. Ft.	0.40
CODE	SPECIAL MODIFICATION CODES	
FB1	Water connection (+), per Sq. Ft.	0.12
FB2	Roof ventilators (+), each	350.00
FB3	Loose stanchion (manual, no stall) (+), each	25.00
FB4	Stall only (without stanchion) (+), each	65.00

QUALITY	GRADE FACTOR
B	1.35
C	1.00
D	0.73

Note: For three-wall additions, see Lean-Tos, Page 5-33.

BASE SPECIFICATIONS: B

FOUNDATION – Concrete foundation and footings. WALLS – Brick or block masonry, good wood siding on heavy frame, or good metal siding on pole frame. FLOORS – First, concrete; second, T&G wood floors on heavy timber. ROOF – Gambrel or arch type, good asphalt shingles on wood decking, rafters and framing. OTHER FEATURES – Some wainscot, insulated, adequate electrical and plumbing services.

BASE SPECIFICATIONS: C

FOUNDATION – Concrete foundation and footings. WALLS – Brick or block masonry, wood siding on wood frame, or metal siding on pole frame. FLOORS – First, concrete; second, wood plank flooring with adequate support. ROOF – Double pitched, asphalt shingles on wood decking, rafters and framing. OTHER FEATURES – Minimum electrical and plumbing services.

BASE SPECIFICATIONS: D

FOUNDATION – Concrete foundation and footings. STABLE WALLS – Block masonry, wood siding on light wood frame, or metal siding on pole frame. LOFT WALLS – Wood siding on light wood frame, or metal siding on pole frame; some windows. STABLE FLOOR – Dirt. LOFT FLOOR – Light wood flooring with minimum support. ROOF – Double pitched, asphalt shingles on wood decking, rafters and framing. OTHER FEATURES – Few cheap stalls, no electrical or water service.

1-Story Pole Frame

1-Story Frame with Loft

BASE PRICES – 1-Story – 16' HIGH			
STRUCTURE TYPE	AB4 Masonry	AB5 Wood	AB6 Pole Frame
Area	Price per Square Foot		
800	25.80	21.55	18.15
1,000	24.75	20.65	17.40
1,200	24.30	20.30	17.10
1,400	23.65	19.75	16.60
1,600	23.10	19.30	16.25
1,800	22.75	19.00	16.00
2,000	22.35	18.70	15.75
2,200	22.15	18.50	15.60
2,400	21.90	18.30	15.40
2,600	21.70	18.10	15.25
2,800	21.55	18.00	15.15
3,000	21.35	17.80	15.00
3,400	21.05	17.60	14.80
3,600	20.95	17.50	14.75
4,000	20.70	17.30	14.55
4,400	20.55	17.15	14.45
4,800	20.40	17.05	14.35
5,200	20.20	16.90	14.20
5,600	20.10	16.80	14.15
6,000	20.00	16.70	14.05
7,000	19.75	16.50	13.90
8,000	19.55	16.35	13.75
9,000	19.40	16.20	13.65
10,000	19.25	16.05	13.55
Over	19.25	16.05	13.55
±2%/Foot in Height			

BASE PRICE ADJUSTMENTS		
CODE	MODIFICATION CODES	
1	Wood loft floor (+) per Sq. Ft.	3.60
2	Gambrel/Arch-type roof (+), per Sq. Ft.	4.10
3	Stalls and partitions (+), per Sq. Ft.	0.70
4	Earth floor (–), per Sq. Ft.	2.10
5	No lighting (–) per Sq. Ft.	0.14
CODE	SPECIAL MODIFICATION CODES	
FB1	Water connection (+), per Sq. Ft.	0.12
FB2	Roof ventilators (+), each	350.00

QUALITY	GRADE FACTOR
B	1.35
C	1.00
D	0.74

Note: For three-wall additions, see Lean-Tos, Page 5-33.

BASE SPECIFICATIONS: B

FOUNDATION – Concrete foundation and footings. WALLS – Brick or block masonry, good wood siding on heavy frame, or good metal siding on pole frame. FLOORS – Concrete. ROOF – Double pitched, good asphalt shingles on wood decking, rafters and framing. OTHER FEATURES – Adequate electrical and plumbing services.

BASE SPECIFICATIONS: C

FOUNDATION – Concrete foundation and footings. WALLS – Brick or block masonry, wood siding on wood frame, or metal siding on pole frame. FLOORS – Some concrete. ROOF – Double pitched, asphalt shingles on wood decking, rafters and framing. OTHER FEATURES – Minimum electrical and plumbing services.

BASE SPECIFICATIONS: D

FOUNDATION – Concrete foundation and footings. WALLS – Block masonry, wood siding on light wood frame or metal siding on pole frame. FLOOR – Dirt. ROOF – Double pitched, asphalt shingles on wood decking, rafters and framing. OTHER FEATURES – No electrical or plumbing service.

BASE PRICES			
STRUCTURE TYPE	AL1	AL2	AL3
	Wood Frame/ Wood Siding	Pole Frame/ Metal Siding	Steel Frame/ Steel Siding
Avg. Hgt.	Price per Square Foot		
8	6.45	5.75	6.65
10	6.70	5.95	6.90
12	7.00	6.20	7.15
14	7.25	6.30	7.45
16	7.50	6.65	7.70

Note: To calculate the average height, take the height at the attachment plus the height at the eave and divide by 2.

BASE PRICE ADJUSTMENTS		
CODE	MODIFICATION CODES	
1	Concrete floor (–), per Sq. Ft.	2.10
2	Insulation, 1½" (+), per Sq. Ft. of wall area	0.40
3	Insulation, polystyrene bd., 7/8" (+), per Sq. Ft. of wall area	1.00
4	Insullation, 4" (+), per Sq. Ft. of wall area	0.65
5	Wallboard (+) per Sq. Ft. of wall area	1.15
6	No electricity (–), per Sq. Ft.	0.14
7	Heating (+), per Sq. Ft.	0.65
8	Wall partitions (+), per Sq. Ft.	0.33

QUALITY	GRADE FACTOR
B	1.65
C	1.00
D	0.61

BASE SPECIFICATIONS: B

FOUNDATION – Concrete footings. WALLS – Wood siding on wood frame, metal siding on pole frame or steel siding on steel frame. FLOOR – Some concrete. ROOF – Single pitch, asphalt shingles on wood decking, rafters and framing, metal on wood rafters and framing or steel on steel frame. OTHER FEATURES – Windows and side doors, partition walls, adequate lighting and water service.

BASE SPECIFICATIONS: C

FOUNDATION – Concrete footings. WALLS – Wood siding on wood frame, metal siding on pole frame or steel siding on steel frame. FLOOR – Some concrete. ROOF – Single pitch, asphalt shingles on wood decking, rafters and framing, metal on wood rafters and framing or steel on steel frame. OTHER FEATURES – Some partition walls, minimum lighting and water service.

BASE SPECIFICATIONS: D

FOUNDATION – Concrete footings. WALLS – Wood siding on wood frame, metal siding on pole frame or steel siding on steel frame. FLOOR – Dirt. ROOF – Single pitch, asphalt shingles on wood decking, rafters and framing; metal on wood rafters and framing; or steel on steel frame. OTHER FEATURES – Unfinished interior, no lighting or water service.

FREE-STALL DAIRY/BEEF BARNS
(Plastic Cloth Curtain Side Walls)

1-Story Pole Frame

1-Story Pole Frame

BASE PRICES – 12' HIGH				
	AB7	AB8	AB9	AB10
STRUCTURE TYPE	Wood Frame/ Wood Siding	Pole Frame/ Metal Siding	Steel Frame/ Metal Siding	*Steel Arch-Rib Frame/ Wire Panels
Area	Price per Square Foot			
2,500	13.70	11.95	13.45	8.95
5,000	13.45	11.70	13.20	8.80
7,500	12.40	10.80	12.15	8.10
10,000	12.10	10.55	11.85	7.90
12,500	11.95	10.40	11.70	7.80
15,000	11.85	10.30	11.60	7.70
17,500	11.75	10.20	11.50	7.65
20,000	11.65	10.15	11.40	7.60
25,000	11.55	10.05	11.30	7.55
30,000	11.45	10.00	11.20	7.45
35,000	11.40	9.95	11.15	7.45
40,000	11.40	9.90	11.15	7.40
50,000	11.35	9.85	11.10	7.40
60,000	11.30	9.85	11.05	7.40
70,000	11.30	9.85	11.05	7.35
80,000	11.30	9.80	11.05	7.35
90,000	11.25	9.80	11.00	7.35
100,000	11.25	9.80	11.00	7.35
110,000	11.25	9.80	11.00	7.35
120,000	11.25	9.80	11.00	7.35
130,000	11.25	9.80	11.00	7.35
140,000	11.25	9.80	11.00	7.35
150,000	11.25	9.80	11.00	7.30
± 2%/Foot in Height				

QUALITY	GRADE FACTOR
B	1.36
C	1.00
D	0.74

BASE SPECIFICATIONS: B

FOUNDATION – Concrete foundation and footings. WALLS – Good-quality wood siding on wood frame, good-quality metal on pole frame or steel frame; end walls – fully sheeted, side walls; high-quality plastic cloth curtain. FLOOR – Concrete alleys and curbs. ROOF – Double pitched, good-quality asphalt shingles or good-quality metal roofing on wood rafters and framing, metal roofing on steel framing. OTHER FEATURES – Insulated or sheathed, good stalls, good electrical and plumbing services. **Note:** Barns are naturally ventilated.

BASE SPECIFICATIONS: C

FOUNDATION – Concrete foundation and footings. WALLS – Wood siding on wood frame, metal on pole frame, or steel frame; end walls – fully sheeted, side walls; plastic cloth curtain. FLOOR – Concrete alleys and curbs, dirt. ROOF – Double pitched, asphalt shingles or metal roofing on wood rafters and framing, metal roofing on steel framing. OTHER FEATURES – Good stalls, good electrical and plumbing services. **Note:** Barns are naturally ventilated.

BASE SPECIFICATIONS: D

FOUNDATION – Concrete foundation and footings. WALLS – Wood frame, pole frame or steel frame; end walls and side walls; plastic cloth curtain. FLOOR – Concrete alleys and curbs, dirt. ROOF – Double pitched, asphalt shingles or metal roofing on wood rafters and framing, metal roofing on steel framing. OTHER FEATURES – Average-quality stalls, adequate electrical and plumbing services. **Note:** Barns are naturally ventilated.

***BASE SPECIFICATIONS – 14' HIGH**
Steel Arch-Rib Frame/Wire Panels

FOUNDATION – Concrete foundation and footings. WALLS – Wire panels on greenhouse pipe frame. FLOOR – Dirt, concrete alleys and curbs. ROOF – Fabric. OTHER FEATURES – Wall curtains, metal free stalls, minimum electrical, adequate water service.

Note: For three-wall additions, see Lean-Tos, Page 5-33.

BASE PRICE ADJUSTMENTS

CODE	MODIFICATION CODES			CODE	MODIFICATION CODES
1	Concrete floor (–), per Sq. Ft.		2.10	12	Automatic curtain machine, travel length (+), each
2	Insulation, 1½" (–), per Sq. Ft.		0.40		25.5", $980; 37.5", $1,000; 49.5", $1,050; 73.5", $1,160
3	Insulation, polystyrene bd., 7/8" (–), per Sq. Ft.		1.00	13	Curtain drop safety system (+), each 210.00
4	Insulation, 4" (–), per Sq. Ft.		0.65		Jan Aire side curtains – automatic
5	Lighting (+), per Sq. Ft.		0.35	14	8' high (+), per Lin. Ft. 17.60 + 647.00 for end unit
6	36" box stir fan, post mounted (+), each		375.00	15	10' high (+), per Lin. Ft. 20.10 + 683.00 for end unit
7	48" box stir fan, post mounted (+), each		580.00	16	12' high (+), per Lin. Ft. 24.30 + 940.00 for end unit
	Sidewall Curtains – Cost/Linear Foot			CODE	SPECIAL MODIFICATION CODES
	Height	Curtain	Curtain w/ Suspension	FB5	14 x 12 slide door, each 1,185.00
8	3	4.90	6.38	FB6	14 x 10 slide door, each 1,125.00
9	5	7.40	9.25	FB7	14 x 8 slide door, each 1,050.00
10	8	14.80	16.55	FB8	16 x 7 overhead door, each 975.00
11	10	17.18	19.05	FB9	9 x 7 overhead door, each 665.00

MILK HOUSES

1-Story Concrete Block and Frame Milk House

1-Story Pole Frame Milking Parlor

BASE SPECIFICATIONS
FOUNDATION – Concrete foundation and footings. WALLS – Concrete block, wood siding on wood frame or metal on pole frame. FLOOR – Concrete. ROOF – Double pitch, asphalt shingles or metal on wood decking and framing. OTHER FEATURES – Plaster or finished wainscot, adequate electrical and plumbing services.

BASE PRICES – 8' HIGH						
STRUCTURE TYPE	AM1	AM2	AM3	AM4	AM5	AM6
	Concrete Block	Wood Frame/ Wood Siding	Pole Frame/ Metal Siding	Concrete Block	Wood Frame/ Wood Siding	Pole Frame/ Metal Siding
	Attached			Detached		
Area	Price per Square Foot					
200	32.95	28.90	26.15	47.75	42.05	38.05
400	28.80	25.30	22.90	39.70	34.95	31.60
600	27.40	24.05	21.75	36.95	32.50	29.40
800	26.05	22.90	20.70	34.70	30.55	27.65
1,000	25.40	22.30	20.20	33.30	29.30	26.50
1,200	25.05	21.95	19.90	32.70	28.80	26.05
± 2%/Foot in Height						

MILKING PARLORS

BASE SPECIFICATIONS
FOUNDATION – Concrete foundation and footings. WALLS – Concrete block, wood siding on wood frame or metal on pole frame; windows or shutters. FLOOR – Concrete. ROOF – Double pitch, asphalt shingles or metal on wood decking and framing. OTHER FEATURES – Plaster or gypsum wainscot, cooler and washroom, adequate electrical and plumbing services, pipe stanchions.

BASE PRICES – 8' HIGH						
STRUCTURE TYPE	AM7	AM8	AM9	AM10	AM11	AM12
	Concrete Block	Wood Frame/ Wood Siding	Pole Frame/ Metal Siding	Concrete Block	Wood Frame/ Wood Siding	Pole Frame/ Metal Siding
	Attached			Detached		
Area	Price per Square Foot					
200	35.70	30.45	27.60	44.50	37.95	34.40
400	31.20	26.60	24.15	37.00	31.55	28.60
600	29.70	25.30	22.95	34.45	29.35	26.60
800	28.25	24.10	21.85	32.35	27.60	25.00
1,000	27.50	23.45	21.30	31.05	26.45	24.00
1,200	27.10	23.10	20.95	30.50	26.00	23.55
± 2%/Foot in Height						

BASE PRICE ADJUSTMENTS	
CODE	MODIFICATION CODES
1	Metal roof, per Sq. Ft. 1.40
2	Wood shingle, per Sq. Ft. 2.25
3	Asphalt roof, per Sq. Ft. 1.10
4	Heating, per Sq. Ft. 2.10
5	Parlor within a barn, multiply detached square footage price by 0.46
CODE	SPECIAL MODIFICATION CODES
FM2	Roof ventilators (+), each 250.00

Note: Costs for Specialized Steel Buildings, formerly found on Page 6-27, have been omitted from this edition. This type of building is no longer in use.

MILK HOUSE EQUIPMENT

The following is a breakdown cost list of some of the equipment that is typically found in a milk house.

Milk bulk tanks, per gallon, refrigerated			$5.00
Not refrigerated			$4.00
	Low Range	**Medium Range**	**High Range**
Compressors, each	$3,000 – $4,000	$6,000 – $8,000	$8,000 – $10,000
Plate coolers, floor mounted, each			$6,000 – $ 8,000
Chillers, each			$2,500 – $ 4,000
Water heaters, gas, each			$1,800 – $ 2,000
Automatic wash systems, each			$1,850 – $ 2,400

MILKING PARLOR COSTS

Accurate prices are difficult to obtain and present for a number of reasons: 1) The parlor systems vary greatly in scope and quality; 2) the parlor setups require raised platforms, which are usually concrete with sand fill, but vary as to size, design, complexity of arrangement, etc., so it becomes virtually impossible to price these components in realistic terms; 3) the price indicators below are, as nearly as can be determined, that portion which can reasonably be assumed to be assessable as opposed to exempt milk house equipment; 4) personal judgment and caution must be exercised by the assessor in viewing these costs as a point of beginning only. They are general in nature and offer a point at which to start individual research concerning the parlor components and their attributable value to the parlor as a whole. The assessor must then analyze the result of this effort in relation to the current law (70.111 (14)) to ascertain the true assessability of the various components.

FULLY AUTOMATIC SYSTEMS

The stalls are full sized with automatic feeders, hydraulic crowd gates with electric-eye openers, automatic udder washers, prep stalls, piping, vacuum pump equipment and typical electrical hookups. (Costs do not include bulk tank, wash sinks, compressors, water heater, softeners, etc., which, as typical milk house equipment, would be exempt.) Typical parlors of this type and quality are priced as follows:

Double 6 or double 8, per stall	$4,000 – $ 6,000
Double 10, per stall	$5,500 – $ 8,500
Double 12, per stall	$7,500 – $ 9,500
Double 16 or double 20, per stall	$8,500 – $11,500

MANUAL SYSTEMS

This would apply to all smaller operations and would most typically include four stalls. The feeders would be manual, with no automatic udder washers or hydraulic gates; however, the stall would be of similar design and/or quality. The system would include piping, vacuum pump equipment and typical electrical hookup. The price for the manual system is in the range of $2,500 to $3,500 per stall.

Milking parlor partial cost breakdown list.

Walk-thru stalls, base price per stall	$ 1,000 – $ 1,200
Parallel stalls, base price per stall	$ 1,400 – $ 1,800
Herringbone stalls, base price per stall	$ 1,700 – $ 2,200
Rotary stall system, fully automatic, 40 to 60 cows, complete system	$150,000 – $200,000
Feed systems, each	$ 550 – $ 700
Computerized automation	$ 1,250 – $ 2,500
Power gates	$ 750 – $ 900

FEEDER BARNS (CATTLE SHEDS)

1-Story Pole Frame

1-Story Pole Frame

BASE SPECIFICATIONS Open One Side
FOUNDATION – Concrete foundation and footings. WALLS – Wood on wood frame, metal on pole frame or metal on steel frame. FLOOR – Dirt. ROOF – Double pitched, asphalt shingles or metal on wood rafters and frame or steel frame. OTHER FEATURES – Rub boards, feeders and water troughs.

BASE PRICES – 12' HIGH			
STRUCTURE TYPE	**BG1**	**BG2**	**BG3**
	Wood Frame/ Wood Siding	**Pole Frame/ Metal Siding**	**Steel Frame/ Steel Siding**
Area	**Price per Square Foot**		
200	7.40	6.10	7.80
300	6.85	5.70	7.25
400	6.45	5.35	6.80
500	6.25	5.15	6.60
600	6.15	5.10	6.50
700	6.00	4.95	6.35
800	5.85	4.85	6.15
900	5.80	4.80	6.10
1,000	5.70	4.70	6.00
1,200	5.60	4.65	5.90
1,400	5.50	4.55	5.80
1,600	5.40	4.50	5.70
1,800	5.35	4.45	5.65
2,000	5.30	4.40	5.60
2,200	5.25	4.35	5.55
2,400	5.20	4.30	5.50
2,600	5.20	4.30	5.45
2,800	5.15	4.25	5.45
3,000	5.10	4.25	5.40
3,200	5.10	4.20	5.40
3,400	5.10	4.20	5.35
3,600	5.05	4.20	5.35
3,800	5.05	4.15	5.30
4,000	5.00	4.15	5.30
± 2%/Foot in Height			

CATTLE FEED BUNKS

CATTLE FENCE BUNKS

BASE SPECIFICATIONS
Concrete base with plank sides or post-and-plank construction.

BASE SPECIFICATIONS
Concrete or post-and-plank construction.

BASE PRICES				
STRUCTURE TYPE	AF1	AF2	AF3	AF4
	Concrete Feed Bunk	Post-and-Plank Feed Bunk	Concrete Fence Bunk	Post-and-Plank Fence Bunk
Price per Lin. Ft.	38.90	27.50	29.20	21.75

BASE PRICE ADJUSTMENTS	
CODE	SPECIAL MODIFICATION CODES
FF1	Roof, 10' wide (+), per Lin. Ft. 35.50
FF2	Mechanical feeder, automatic (+), per Lin. Ft.. . . . 82.50
FF3	Mechanical feeder, manual (+), per Lin. Ft. 60.65
FF4	Concrete apron, 10' wide (+), per Lin. Ft. 21.00

BASE PRICE ADJUSTMENTS (Continued)	
CODE	SPECIAL MODIFICATION CODES – ADD FOR STOCK WATERER
FF5	Cattle, (+), each 550.00
FF6	Hog or sheep, (+), each 225.00
FF7	Combination cattle and hog, (+), each 275.00

Note: Costs for Feed Bunks, circular type, formerly found on Page 6-29, have been omitted in this edition, as they are no longer being built.

POULTRY LAYER HOUSES

1-Story Pole Frame

2-Story Pole Frame

BASE SPECIFICATIONS
FOUNDATION – Concrete foundation and footing. WALLS – Metal on pole frame, concrete block or steel on steel. GROUND FLOOR – Concrete. SECOND FLOOR – Wood flooring on wood joists and framing. ROOF – Double pitched, metal or asphalt shingle on wood sheathing and framing. OTHER FEATURES – Good fenestration and ventilation, insulated, some partitions, electrical lighting and water service.

BASE PRICES PER SQUARE FOOT OF GROUND AREA						
STRUCTURE TYPE	**AH1**	**AH2**	**AH3**	**AH4**	**AH5**	**AH6**
	Concrete Block	**Concrete Block**	**Pole Frame/ Metal Siding**	**Pole Frame/ Metal Siding**	**Steel Frame/ Steel Siding**	**Steel Frame/ Steel Siding**
Height	**One-Story**	**Two-story**	**One-Story**	**Two-story**	**One-Story**	**Two-story**
Area	**Price per Square Foot**					
200	27.80	48.60	20.70	36.20	22.35	39.10
400	23.10	40.40	17.20	30.10	18.60	32.50
600	21.50	37.60	16.00	28.00	17.30	30.25
800	20.20	35.35	15.05	26.30	16.25	28.45
1,000	19.35	33.90	14.40	25.25	15.60	27.30
1,200	19.05	33.30	14.15	24.80	15.30	26.80
1,400	18.50	32.40	13.80	24.15	14.90	26.05
1,600	18.10	31.65	13.45	23.60	14.55	25.45
1,800	17.85	31.20	13.30	23.25	14.35	25.10
2,000	17.50	30.65	13.05	22.85	14.10	24.65
2,400	17.15	30.05	12.80	22.35	13.80	24.15
2,800	16.85	29.50	12.55	22.00	13.55	23.75
3,200	16.60	29.05	12.35	21.65	13.35	23.40
3,600	16.40	28.70	12.20	21.40	13.20	23.10
4,000	16.20	28.40	12.10	21.15	13.05	22.85
5,000	15.90	27.80	11.85	20.70	12.80	22.35
6,000	15.65	27.40	11.65	20.40	12.60	22.05
7,000	15.45	27.05	11.50	20.15	12.45	21.80
8,000	15.30	26.80	11.40	19.95	12.30	21.55
9,000	15.20	26.55	11.30	19.80	12.20	21.35
10,000	15.05	26.35	11.20	19.65	12.10	21.20
Over	15.05	26.35	11.20	19.65	12.10	21.20

Note: For Base Price Adjustments, see Page 5-40.

BASE PRICE ADJUSTMENTS		
CODE	**MODIFICATION CODES**	**Per Sq. Ft.**
1	Insulation, first floor (–)	1.10
2	Insulation, second floor (–)	0.55
3	Interior partitions (excluding cages) (–)	1.05
4	Earth floor (–)	2.10
5	Clay floor (–)	1.47
6	Heating (+)	0.65
	POULTRY LAYER A-FRAME EQUIPMENT SYSTEMS Costs Calculated at 0.48 Square Foot per Bird	**COST PER BIRD**
7	A-frame layer cages with chain feeding system	$4.75
8	Auger feeder bin and fill system (bulk feed bin which delivers feed to the feeders through an auger fill system)	0.21
9	Nipple watering system	0.52
10	Egg collection system (transports eggs from layer house to egg packing building.	0.15
11	House fan system (fans, shutters, and other miscellaneous equipment)	0.46
12	Evaporative cooling pad system (does not include framing materials or plumbing equipment from water source to the cooling system)	0.16
13	Sidewall curtain and air inlet system	0.22
	POULTRY LAYER BATTERY CAGE EQUIPMENT SYSTEMS Costs Calculated at 0.48 Square Foot per Bird	**COST PER BIRD**
14	Battery layer cages with feeding system (cages with manure removal belts under every tier and direct-drive chain feeding systems)	$9.27
15	Auger feeder bin and fill system (bulk feed bin which delivers feed to the feeders through an auger fill system)	0.17
16	Nipple watering system	0.38
17	Egg collection system (transports eggs from layer house to egg packing building)	0.08
18	Manure removal system (belt conveyor system located in the rear of the building transports the manure to a secondary conveyor, which transports the manure to the outside of the building)	0.08
19	House fan system (fans, shutters and other miscellaneous equipment)	0.38
20	Evaporative cooling pad system (does not include framing materials or plumbing equipment from water source to the cooling system)	0.14
21	Sidewall curtain and air inlet system	0.17

CODE	SPECIAL MODIFICATION CODE	
FH1	Water connection (–), per Sq. Ft.	0.34

POULTRY BROILER HOUSES

BASE SPECIFICATIONS
FOUNDATION – Concrete foundation and footing. WALLS – Minimum block, metal on pole frame or steel on steel. Top half of sidewalls, mesh screen; bottom half of sidewalls, shutters. FLOOR – Partial concrete. ROOF – Double pitch, metal on wood or steel on wood. OTHER FEATURES – Natural ventilation only, insulated, some partitions, electrical lighting and water service.

BASE PRICES PER SQUARE FOOT OF GROUND AREA			
STRUCTURE TYPE	AH7	AH8	AH9
	Concrete Block	Pole Frame/ Metal Siding	Steel Frame/ Steel Siding
Area	Price per Square Foot		
200	16.95	11.85	13.10
400	14.10	9.85	10.90
600	13.10	9.15	10.15
800	12.35	8.60	9.55
1,000	11.85	8.25	9.15
1,200	11.60	8.10	9.00
1,400	11.30	7.90	8.75
1,600	11.05	7.70	8.55
1,800	10.90	7.60	8.40
2,000	10.70	7.45	8.25
2,400	10.50	7.30	8.10
2,800	10.30	7.20	7.95
3,200	10.15	7.10	7.85
3,600	10.00	7.00	7.75
4,000	9.90	6.90	7.65
5,000	9.70	6.75	7.50
6,000	9.55	6.70	7.40
7,000	9.45	6.60	7.30
8,000	9.35	6.55	7.25
9,000	9.25	6.45	7.15
10,000	9.20	6.40	7.10
Over	9.20	6.40	7.10

BASE PRICE ADJUSTMENTS		
CODE	MODIFICATION CODES	
1	Clay floor (+), per Sq. Ft.	0.65
	POULTRY BROILER EQUIPMENT SYSTEMS Costs Calculated at 0.80 Square Foot per Bird	**COST PER BIRD**
2	Pan feeder system	$0.47
3	Auger feeder bin and fill system (bulk feed bin which delivers feed to the feeders through an auger fill system)	0.21
4	Nipple watering system	0.47
5	Heating system (infrared brooders with wall heaters operating on propane gas)	0.34
6	House fan system (fans, shutters and other miscellaneous equipment)	0.57
7	Evaporative cooling pad system (does not include framing materials or plumbing equipment from water source to the cooling system)	0.35
8	Sidewall curtain and air inlet system	0.49

Pole Frame

Pole Frame

BASE SPECIFICATIONS
FOUNDATION – Concrete foundation and footing. WALLS – Metal on pole frame or steel on steel. SIDEWALLS –Top half of sidewalls mesh screen; bottom half of sidewalls shutters. FLOOR – Partial concrete floor. ROOF – Double pitched, metal on wood or steel framing. OTHER FEATURES – Natural ventilation only, some partitions, electrical lighting and water service.

BASE PRICES – 8' HIGH		
STRUCTURE TYPE	AH10	AH11
	Pole Frame/ Metal Siding	Steel Frame/ Steel Siding
Area	Price per Square Foot	
200	12.65	14.70
400	10.50	12.20
600	9.80	11.35
800	9.20	10.70
1,000	8.80	10.25
1,200	8.65	10.05
1,400	8.40	9.80
1,600	8.25	9.55
1,800	8.10	9.45
2,000	7.95	9.25
2,400	7.80	9.10
±2%/Foot in Height		

BASE PRICES – 8' HIGH		
STRUCTURE TYPE	AH10	AH11
	Pole Frame/ Metal Siding	Steel Frame/ Steel Siding
Area	Price per Square Foot	
2,800	7.65	8.90
3,200	7.55	8.80
3,600	7.45	8.70
4,000	7.40	8.60
5,000	7.25	8.40
6,000	7.15	8.30
7,000	7.05	8.20
8,000	6.95	8.10
9,000	6.90	8.05
10,000	6.85	7.95
Over	6.85	7.95
±2%/Foot in Height		

BASE PRICE ADJUSTMENTS		
CODE	MODIFICATION CODES	
1	Clay floor (+), per Sq. Ft.	0.65
	TURKEY FINISHING BARN EQUIPMENT SYSTEMS Costs Calculated at 3 Square Feet per Bird	**COST PER BIRD**
2	Pan feeder systems with direct drives	$1.33
3	Auger feeder bin and fill system (bulk feed bin which delivers feed to the feeders through an auger fill system	0.74
4	Nipple watering system	1.41
5	Heating system (jet brooders with wall heaters operating on propane gas)	0.84
6	House fan system (fans, shutters and other miscellaneous equipment)	1.89
7	Evaporative cooling pad system (does not include framing materials or plumbing equipment from water source to cooling system)	1.19
8	Sidewall curtain and air inlet system	1.73

HOG NURSERY, FARROWING, BREEDING/GESTATION AND FINISHING BARNS

Pole Frame

Pole Frame

Pole Frame

Steel Frame

BASE SPECIFICATIONS Nursery	BASE SPECIFICATIONS Farrowing	BASE SPECIFICATIONS Breeding/Gestation	BASE SPECIFICATIONS Finishing
FOUNDATION – Concrete foundation and footings. WALLS – Wood, metal on pole frame or steel on steel frame. FLOOR – Concrete. ROOF – Double pitch, asphalt shingles or metal roofing on wood rafters and framing or metal roofing on steel rafters and framing. OTHER FEATURES – Good ventilation and fenestration, fully insulated, interior sheathing, subdivided, office, electric lighting, plumbing and lab.	FOUNDATION – Concrete foundation and footings. WALLS – Wood, metal on pole frame or steel on steel frame. FLOOR – Concrete. ROOF – Double pitch, asphalt shingles or metal roofing on wood rafters and framing or metal roofing on steel rafters and framing. OTHER FEATURES – Good ventilation and fenestration, fully insulated, interior sheathing, subdivided, electric lighting and plumbing.	FOUNDATION – Concrete foundation and footings. WALLS – Wood, metal on pole frame or steel on steel frame. FLOOR – Concrete. ROOF – Double pitch, asphalt shingles or metal roofing on wood rafters and framing or metal roofing on steel rafters and framing. OTHER FEATURES – Insulated, plywood interior, some subdivision, electric lighting and plumbing.	FOUNDATION – Concrete foundation and footings. WALLS – Wood, metal on pole frame or steel on steel frame. FLOOR – Partial concrete. ROOF – Double pitch, asphalt shingles or metal roofing on wood rafters and framing or metal roofing on steel rafters and framing. OTHER FEATURES – Some wainscot, some division of space, electric lighting and plumbing.

BASE PRICES – PER SQUARE FOOT – 8' HIGH

	Nursery			Farrowing			Breeding/Gestation			Finishing		
	AV1	AV2	AV3	AV4	AV5	AV6	AV7	AV8	AV9	AV10	AV11	AV12
STRUCTURE TYPE	Wood Frame/ Wood Siding	Pole Frame/ Metal Siding	Steel Frame/ Steel Siding	Wood Frame/ Wood Siding	Pole Frame/ Metal Siding	Steel Frame/ Steel Siding	Wood Frame/ Wood Siding	Pole Frame/ Metal Siding	Steel Frame/ Steel Siding	Wood Frame/ Wood Siding	Pole Frame/ Metal Siding	Steel Frame/ Steel Siding
Area	Price per Square Foot											
200	42.80	39.05	42.20	33.25	30.75	32.90	28.15	26.20	27.95	21.35	20.10	21.25
300	38.40	35.00	37.85	29.80	27.55	29.50	25.25	23.50	25.05	19.10	18.00	19.05
400	35.60	32.45	35.05	27.65	25.55	27.35	23.40	21.80	23.20	17.70	16.70	17.65
500	34.00	31.00	33.50	26.40	24.40	26.10	22.35	20.80	22.20	16.95	15.95	16.85
700	32.05	29.20	31.55	24.85	23.00	24.60	21.05	19.60	20.90	15.95	15.05	15.90
1,000	29.85	27.25	29.40	23.20	21.45	22.90	19.65	18.30	19.50	14.85	14.00	14.80
2,000	27.00	24.65	26.60	20.95	19.40	20.75	17.75	16.55	17.60	13.45	12.65	13.40
3,000	25.75	23.50	25.40	20.00	18.50	19.80	16.95	15.75	16.80	12.85	12.10	12.80
4,000	25.00	22.80	24.65	19.40	17.95	19.20	16.45	15.30	16.30	12.45	11.75	12.40
5,000	24.50	22.35	24.15	19.00	17.55	18.80	16.10	15.00	15.95	12.20	11.50	12.15
6,000	24.15	22.05	23.80	18.75	17.35	18.55	15.90	14.80	15.75	12.05	11.35	12.00
7,000	23.85	21.75	23.50	18.50	17.10	18.30	15.70	14.60	15.55	11.85	11.20	11.80
8,000	23.60	21.55	23.25	18.30	16.95	18.10	15.50	14.45	15.40	11.75	11.05	11.70
9,000	23.40	21.35	23.05	18.15	16.80	17.95	15.40	14.35	15.25	11.65	11.00	11.60
10,000	23.20	21.20	22.90	18.00	16.65	17.85	15.25	14.20	15.15	11.55	10.90	11.50
over	23.20	21.20	22.90	18.00	16.65	17.85	15.25	14.20	15.15	11.55	10.90	11.50
±2%/Foot in Height												

Note: For Hog Barn Base Price Adjustments, see Page 5-44.

BASE SPECIFICATIONS Wood, Pole Frame and Steel
FOUNDATION – Concrete foundation and footings. WALLS – Open front, wood, metal on pole frame or steel on steel frame. FLOOR – Concrete. ROOF – Double pitch, asphalt shingles or metal roofing on wood rafters and framing or metal roofing on steel rafters and framing. OTHER FEATURES – Some wainscot, back vents, some subdivision of space, water service.

*BASE SPECIFICATIONS Arch-Rib
FOUNDATION – Concrete foundation and footings. WALLS – Wood pole, knee wall, pipe hoop frame, end gates. FLOOR – Partial concrete. ROOF – Fabric cover. OTHER FEATURES – Some wainscot, some division of space, minimum water service.

BASE PRICES – PER SQUARE FOOT – 8' HIGH				
	AV13	AV14	AV15	AV16
STRUCTURE	Wood Frame/ Wood Siding	Pole Frame/ Metal Siding	*Arch-Rib/ Fabric Cover	Steel Frame/ Steel Siding
Area	Price per Square Foot			
200	13.25	12.00	7.50	13.05
300	12.30	11.15	6.95	12.15
400	11.60	10.50	6.55	11.45
500	11.20	10.15	6.35	11.05
700	10.75	9.75	6.10	10.60
1,000	10.20	9.25	5.80	10.10
2,000	9.50	8.60	5.35	9.40
3,000	9.15	8.30	5.20	9.05
4,000	9.00	8.15	5.10	8.85
5,000	8.85	8.05	5.00	8.75
6,000	8.75	7.95	4.95	8.65
7,000	8.70	7.90	4.90	8.60
8,000	8.60	7.80	4.90	8.50
9,000	8.60	7.80	4.85	8.50
10,000	8.55	7.75	4.85	8.45
over	8.55	7.75	4.85	8.45
±2%/Foot in Height				

HOG SHEDS

CODE	MODIFICATION CODES	
1	Flush pit (+)	6.00 – 10.30
2	Shallow pit (+), per Sq. Ft. of area	8.00 – 13.75
3	Deep pit (+)	13.15 – 18.90

AUTOMATED NIPPLE WATERING SYSTEM FOR HOGS

BASE SPECIFICATIONS
Heated nipple drinker, constructed of 1/4-inch-thick PVC outer casing and stainless steel cap. Stainless steel nipples, fully insulated, heating element, all plumbing and electrical equipment.

BASE PRICES		
	AV17	AV18
STRUCTURE TYPE	Galvanized Steel	Stainless Steel
Description	Obsolete: See Stainless Steel Watering Systems	Price
2-nipple system		240.00
4-nipple system		310.00
8-nipple system		340.00

HOG BARN ADJUSTMENTS

BASE PRICE ADJUSTMENTS		
CODE	MODIFICATION CODES	
1	Flush pit (+)	6.00 – 10.30
2	Shallow pit (+), per Sq. Ft. of area	8.00 – 13.75
3	Deep pit (+)	13.15 – 18.90
	Slotted floors	
4	Nursery (+), per Sq. Ft.	3.06
5	Farrowing (+), per Sq. Ft.	3.87
6	Finishing (+), per Sq. Ft.	4.07
7	Farrowing crate, finger (+), each	250.00
8	Farrowing crate, riser (+), each	170.00
9	Gestation stall (+), each	75.00
	Confinement partitions (+), per linear foot	
10	PVC: 20" high, $3.85; 30" high, $5.40' 38" high, $8.00	
11	Solid rod: 27" high, $5.00; 32" high, $7.00; 42" high, $9.00	
12	Galvanized panel: 35" high, $1.60; 42" high, $1.87	

SLURRY TANKS

BASE SPECIFICATIONS
Glass-lined slurry storage tanks with ladder, erected on buyer's slab.

BASE PRICES		
BK1		
Diameter	**Height**	**Price**
25'	**14'**	25,700
25'	**23'**	28,800
42'	**14'**	35,200
42'	**23'**	47,500
62'	**14'**	52,250
62'	**23'**	77,150
81'	**14'**	79,900
81'	**19'**	97,250
81'	**23'**	118,200
101'	**14'**	100,300
101'	**19'**	126,050
101'	**23'**	157,050

BASE PRICE ADJUSTMENTS	
CODE	**MODIFICATION CODES**
1	Concrete slab, slurry tanks, (+), per Cu. Ft. of concrete . . . . . 4.65 – 5.50
2	Plank cover, (–), per Sq. Ft. of Top 3.20
3	No cover, (–), per Sq. Ft. of Top 6.60
4	Agitator and pumps, (+), Each . . . . . 7,450 – 14,600
5	Lagoon flotation systems, (+), Each 5,325
CODE	**SPECIAL MODIFICATION CODES**
	LIQUID MANURE TANKS
FK1	Concrete rectangular tank (+), per Cu. Ft. 2.20 – 3.30
FK2	Concrete round tank (+), per Cu. Ft. . . . 1.85 – 2.75
FK3	Concrete open pits (+), per Cu. Ft. . . . . 1.20 – 1.60
FK4	Large clay lagoons (+), per Cu. Ft. . . . . 0.14 – 0.27
	SLOTTED FLOORS
FK5	Shallow pit/scraper alley (+), per Sq. Ft. of pit area . . . . . 4.60 – 9.45
FK6	Deep pit/tractor access (+), per Sq. Ft. of pit area . . . . . 11.15 – 16.00

TRENCH SILOS

Bunker Silo – Precast Wall Panels

BASE SPECIFICATIONS
Concrete base with plank sides or post-and-plank construction.

BASE PRICES			
STRUCTURE TYPE	AT1	AT2	AT3
	Concrete Panels w/ 3" Concrete Floor	Wood Plank w/ 3" Concrete Floor	Dirt, Plastic Lined No Flooring
Trench Depth, Ft.	Price per Lin. Ft. – 30' Wide		
8'	175.00	165.00	50.00
10'	257.00	197.00	60.00
12'	285.00	229.00	70.00
16'	329.00	293.00	90.00
20'	463.00	357.00	109.00
25'	566.00	437.00	133.00
30'	670.00	517.00	158.00

BUNKER SILOS

Bunker Silo, Concrete Walls

BASE SPECIFICATIONS
Concrete panels or treated plank sidewalls with open ends. Usually above ground with a concrete floor on grade.

BASE PRICES		
STRUCTURE TYPE	AK1	AK2
	*Concrete Panels w/ 3" Concrete Floor	Wood Plank w/ 3" Concrete Floor
Wall Height, Ft.	Price per Lin. Ft. – 30' Wide	
8'	191.00	132.00
10'	269.00	158.00
12'	293.00	183.00
16'	415.00	234.00
20'	-----	286.00
25'	-----	350.00
*Free-standing panels; no support.		

BASE PRICE UNIT COSTS			
3" concrete floor, per Square Foot	2.10	8.5 ft. high end panel, per Lineal Foot	56.00
4" concrete floor, per Square Foot	2.55	10 ft. high end panel, per Lineal Foot	97.00
5" concrete floor, per Square Foot	3.11	12 ft. high end panel, per Lineal Foot	111.00
6" concrete floor, per Square Foot	3.79	16 ft. high end panel, per Lineal Foot	132.00
3" asphalt floor, per Square Foot	1.25	8.5 ft. high divider panel, per Lineal Foot	64.00
4" asphalt floor, per Square Foot	1.59	12 ft. high divider panel, per Lineal Foot	115.00
5" asphalt floor, per Square Foot	2.02	16 ft. high divider panel, per Lineal Foot	176.00
6" asphalt floor, per Square Foot	2.56	**Note:** Divider panels are free standing.	

BASE PRICE UNIT COST EXAMPLES

Trench Refinements

Specifications: Concrete panels w/ 5" concrete floor, 16' deep

$3.11 (5" floor) – $2.10 (3" floor, base)	=	$ 1.01/Sq. Ft. (addition)
30' (width) x $1.01	=	$ 30.30/Lin. Ft.
$329 (base) + $30.30	=	$359.30/Lin. Ft.

Specifications: Concrete panels w/ 3" asphalt floor, 16' deep

$1.25 (3" floor) – $2.10 (3" floor, base)	=	$ –0.85/Sq. Ft. (deduction)
30' (width) x $0.85	=	$ 25.50/Lin. Ft.
$329 (base) – $25.50	=	$303.50/Lin. Ft.

Bunker Build-up Cost

Specifications: Concrete panels w/ 3" concrete floor, 12' high

$115 (divider panel) x 2	=	$ 230.00/Lin. Ft.
30' (width) x $2.10 (3" conc. floor, base)	=	$ 63.00/Lin. Ft.
$230 + $63	=	$293.00/Lin. Ft.

FARM COMMODITY STORAGE SHEDS

1-Story Pole Frame

1-Story Pole Frame

BASE SPECIFICATIONS Open One Side
FOUNDATION – Concrete foundation and footings. WALLS – Concrete block with masonry bay separation walls; plywood, siding or metal on pole frame or metal on steel frame; concrete and upper frame bay walls. FLOOR – Concrete. ROOF – Single pitch, rolled asphalt composition or metal on wood rafters and frame or steel frame.

BASE PRICES – 16' HIGH				
STRUCTURE TYPE	BD1	BD2	BD3	BD4
	Concrete Block	Wood Frame/ Wood Siding	Pole Frame/ Metal Siding	Steel Frame/ Steel Siding
Area	Price per Square Foot			
800	13.60	9.55	8.60	9.75
1,000	13.25	9.30	8.35	9.50
1,200	13.05	9.15	8.25	9.40
1,400	12.80	9.00	8.10	9.20
1,600	12.60	8.85	7.95	9.05
1,800	12.50	8.75	7.90	8.95
2,000	12.35	8.65	7.80	8.85
2,200	12.25	8.60	7.75	8.80
2,400	12.15	8.50	7.65	8.70
2,600	12.05	8.45	7.60	8.65
2,800	12.00	8.40	7.55	8.60
3,000	11.90	8.35	7.50	8.55
3,200	11.85	8.30	7.50	8.50
3,400	11.80	8.30	7.45	8.50
3,600	11.75	8.25	7.40	8.45
3,800	11.70	8.20	7.40	8.40
4,000	11.65	8.20	7.35	8.40
±2%/Foot in Height				

BASE PRICES					
STRUCTURE TYPE		AS1	AS2	AS5	AS6
		Concrete Stave		Concrete Poured	
		w/ Roof	w/out Roof	w/ Roof	w/out Roof
Dia.	Height	Price			
10’	30’	7,350	6,910	-----	-----
	40’	9,800	9,210	-----	-----
	50’	12,250	11,520	-----	-----
12’	30’	7,800	7,330	11,190	10,520
	40’	10,400	9,775	14,920	14,020
	50’	13,000	12,220	18,650	17,530
	60’	15,600	14,660	22,380	21,040
14’	30’	8,970	8,430	12,870	12,100
	40’	11,960	11,240	17,160	16,130
	50’	14,950	14,050	21,450	20,160
	60’	17,940	16,860	25,740	24,200
	70’	20,930	19,670	30,030	28,230
16’	30’	9,300	8,740	13,350	12,550
	40’	12,400	11,660	17,800	16,730
	50’	15,500	14,570	22,250	20,920
	60’	18,600	17,480	26,700	25,100
	70’	21,700	20,400	31,150	29,280
	80’	24,800	23,310	35,600	33,460
18’	30’	10,050	9,450	14,430	13,560
	40’	13,400	12,600	19,240	18,090
	50’	16,750	15,750	24,050	22,610
	60’	20,100	18,890	28,860	27,130
	70’	23,450	22,040	33,670	31,650
	80’	26,800	25,190	38,480	36,170
	90’	30,150	28,340	43,290	40,690
20’	30’	11,250	10,580	16,170	15,200
	40’	15,000	14,100	21,650	20,350
	50’	18,750	17,630	26,950	25,330
	60’	22,500	21,150	32,340	30,400
	70’	26,250	24,680	37,730	35,470
	80’	30,000	28,200	43,120	40,530
	90’	33,750	31,730	48,510	45,600
22’	30’	13,050	12,270	18,750	17,630
	40’	17,400	16,360	25,000	23,500
	50’	21,750	20,450	31,250	29,380
	60’	26,100	24,530	37,750	35,250
	70’	30,450	28,620	43,750	41,130
	80’	34,800	32,710	50,000	47,000
	90’	39,150	36,800	56,250	52,880
24’	50’	25,000	23,500	36,000	33,840
	60’	30,000	28,200	43,200	40,610
	70’	35,000	32,900	50,400	47,380
	80’	40,000	37,600	57,600	54,140
	90’	45,000	42,300	64,800	60,910
30’	60’	40,800	38,350	52,500	49,350
	70’	47,600	44,740	61,250	57,580
	80’	54,400	51,140	70,000	65.800
	90’	61,200	57,530	78,750	74,030
	100’	68,000	63,920	87,500	82,250
	110’	-----	-----	96,250	90,480
	120’	-----	-----	105,000	98,700
	130’	-----	-----	113,750	106,930
Price includes foundation and erection on site					

Concrete Stave

Concrete Poured

BASE PRICE ADJUSTMENTS	
CODE	MODIFICATION CODES
	Silo Unloaders (Top)
8	10’ diameter (+) 5,865
9	12’ diameter (+) 6,240
10	14’ diameter (+) 6,500
11	16’ diameter (+) 6,940
12	18’ diameter (+) 7,320
13	20’ diameter (+) 7,850
14	22’ diameter (+) 8,070
15	24’ diameter (+) 8,520
16	30’ diameter (+) 9,060
	Costs include motor, auger and tripod, but exclude any electrical work such as hookup.
	Typical Silo Access Piping
17	30’ high silo (+) 430
18	40’ high silo (+) 570
19	50’ high silo (+) 690
20	60’ high silo (+) 810
21	70’ high silo (+) 940
22	80’ high silo (+) 1,050
23	90’ high silo (+) 1,160
24	100’ high silo (+) 1,290
	Gunite interior finish
25	16’ diameter, per vertical foot (+) ..... $ 80 – $ 90
26	20’ diameter, per vertical foot (+) ..... $ 90 – $100
27	24’ diameter, per vertical foot (+) ..... $110 – $115
28	30’ diameter, per vertical foot (+) ..... $130 – $140
	Epoxy interior finish
29	16’ diameter, per vertical foot (+) ..... $ 84
30	20’ diameter, per vertical foot (+) ..... $ 98
31	24’ diameter, per vertical foot (+) $112
32	30’ diameter, per vertical foot (+) $136

Note: The International Silo Association recommends that the maximum height for a silo not be more than 3.5 to 4 times its diameter.



Harvestore ™ Silos

BASE PRICES				
STRUCTURE TYPE			AS3	AS4
Model	Dia.	Height	Price New	Price Pre-owned/ Rebuilt
34B	14'	23'	24,000	15,000 – 17,000
	14'	32'	26,800	17,000 – 19,000
	14'	41'	31,600	21,000 – 23,000
11B	17'	31'	34,000	22,000 – 24,000
	17'	40'	38,000	23,000 – 27,000
	17'	49'	51,000	31,000 – 36,000
12B, 13B, 14B, 40B INCLUSIVE	20'	28'	37,000	20,000 – 24,000
	20'	32'	40,000	21,000 – 25,000
	20'	33'	41,000	22,000 – 27,000
	20'	38'	43,000	24,000 – 28,000
	20'	41'	45,000	26,000 – 30,000
	20'	43'	46,000	26,000 – 31,000
	20'	50'	50,000	27,000 – 32,000
	20'	59'	56,000	29,000 – 35,000
Price includes foundation and erection				

BASE PRICES				
STRUCTURE TYPE			AS3	AS4
Model	Dia.	Height	Price New	Price Pre-owned/ Rebuilt
12B, 13B, 14B, 40B INCLUSIVE	20'	68'	64,000	31,000 – 37,000
	20'	77'	71,000	33,000 – 38,000
	20'	87'	79,000	35,000 – 39,000
16B, 17B, 18B, 42B INCLUSIVE	25'	34'	70,000	31,000 – 38,000
	25'	42'	73,000	33,000 – 40,000
	25'	43'	77,000	35,000 – 42,000
	25'	51'	86,000	38,000 – 43,000
	25'	60'	88,000	39,000 – 45,000
	25'	69'	97,000	44,000 – 50,000
	25'	79'	108,000	48,000 – 54,000
	25'	88'	118,000	51,000 – 57,000
20B	31'	70'	138,000	72,000 – 80,000
	31'	80'	151,000	75,000 – 85,000
	31'	89'	167,000	80,000 – 89,000
Price includes foundation and erection				

BASE PRICE ADJUSTMENTS		
CODE	MODIFICATION CODES	
1	14' automatic unloader (+)	22,000 – 27,000
2	17' automatic unloader (+)	23,000 – 28,000
3	20' automatic unloader (+)	25,000 – 30,000
4	25' automatic unloader (+).	28,000 – 33,000
5	31' automatic unloader (+).	30,000 – 35,000
6	14', 17', 20' sweep-arm auger (used) (+)	2,500
7	14', 17', 20' sweep-arm auger (new tube and screw) (+)	3,300

Note: Costs for Prefabricated Steel Silos and Butler LMS Silos, formerly found on the next page, have been omitted in this edition, as they are no longer being built.

BASE SPECIFICATIONS
Tank and installation only.

BASE PRICES				
STRUCTURE TYPE			AG1	AG2
Diam.	Height	Bushel Capacity	Without Drying Bin	With Drying Bin
15’	7’-4”	1,257	3,157	4,594
	11’-0”	1,792	4,163	6,058
	14’-8”	2,329	4,971	7,233
	18’-4”	2,864	5,577	8,114
18’	11’-0”	2,647	4,599	6,691
	14’-8”	3,422	5,716	8,317
	18’-4”	4,198	6,183	8,996
	22’-0”	4,973	7,652	-----
	25’-8”	5,748	9,226	-----
	33’-0”	7,299	10,566	-----
	40’-4”	8,849	12,589	-----
	47’-8”	10,400	14,541	-----
21’	11’-0”	3,693	4,693	6,829
	14’-8”	4,753	6,078	8,843
	18’-4”	5,813	7,561	11,001
	22’-0”	6,874	9,162	-----
	25’-8”	7,934	10,822	-----
	33’-0”	10,055	12,857	-----
	40’-4”	12,175	14,533	-----
	47’-8”	14,296	15,954	-----
24’	11’-0”	4,949	5,024	7,309
	14’-8”	6,344	6,637	9,657
	18’-4”	7,739	8,463	12,314
	22’-0”	9,134	10,405	-----
	25’-8”	10,528	12,552	-----
	33’-0”	13,318	14,790	-----
	40’-4”	16,107	16,577	-----
	47’-8”	18,897	17,926	-----
27’	11’-0”	6,409	6,059	8,816
	14’-8”	8,182	8,077	11,752
	18’-4”	9,955	10,295	14,979
	22’-0”	11,728	12,726	-----
	25’-8”	13,500	15,348	-----
	33’-0”	17,046	17,597	-----
	40’-4”	20,591	19,098	-----
	47’-8”	24,137	20,390	-----
30’	14’-8”	10,278	9,016	13,119
	18’-4”	12,473	11,518	16,759
	22’-0”	14,668	14,324	-----
	25’-8”	16,863	17,703	-----
	33’-0”	21,252	20,094	-----
	40’-4”	25,624	22,089	-----
	47’-8”	30,031	23,740	-----
36’	14’-8”	15,297	12,803	18,628
	18’-4”	18,473	16,072	23,385
	22’-0”	21,648	19,663	-----
	25’-8”	24,823	23,479	-----
	33’-0”	31,174	26,093	-----
	40’-4”	37,524	28,932	-----
	47’-8”	43,875	32,982	-----
	58’-8”	53,400	39,316	-----
42’	14’-8”	21,416	18,755	27,289
	18’-4”	25,738	23,312	33,919
	22’-0”	30,060	26,324	-----
	25’-8”	34,382	28,456	-----

Steel Grain Storage Bin

BASE PRICES				
STRUCTURE TYPE			AG1 (Cont’d.)	AG2 (Cont’d.)
Diam.	Height	Bushel Capacity	Without Drying Bin	With Drying Bin
42’ (Cont’d.)	33’-0”	43,026	32,521	-----
	40’-4”	51,670	39,644	-----
	47’-8”	60,314	47,210	-----
	58’-8”	73,279	54,376	-----
48’	14’-8”	28,749	21,612	31,445
	18’-4”	34,394	27,633	40,207
	22’-0”	40,039	33,823	-----
	25’-8”	45,684	41,140	-----
	33’-0”	56,974	48,892	-----
	40’-4”	68,264	55,006	-----
	47’-8”	79,554	61,654	-----
	58’-8”	96,488	77,819	-----
60’	18’-4”	56,170	41,531	-----
	25’-8”	73,810	55,487	-----
	40’-4”	109,092	83,627	-----
	47’-8”	126,732	98,020	-----
	58’-8”	152,870	118,947	-----
	64’-0”	165,536	129,509	-----
75’	32’-0”	147,000	110,507	-----
	40’-0”	176,000	134,490	-----
	48’-0”	206,000	161,247	-----
	58’-8”	246,000	198,186	-----
	64’-0”	266,000	218,519	-----
90’	32’-0”	221,000	166,137	-----
	40’-0”	263,000	195,571	-----
	48’-0”	305,000	236,375	-----
	58’-8”	358,223	289,887	-----
105’	32’-0”	306,180	230,170	-----
	40’-0”	363,558	289,638	-----
	48’-0”	420,936	345,473	-----
	58’-8”	500,000	422,285	-----

NOTE: Drying bins should never have eave heights greater than 18’ 4” or diameters greater than 48’.

BASE PRICE ADJUSTMENTS						
CODE	**MODIFICATION CODES**					
1	Ladder, (+), ... $46.00 + $6.50 per Lin. Ft.					
2	Safety cage, (+), per Lin. Ft. ..... $12.50 – $15.75					
3	Grain spreaders, (+), each ..... $475 – $700					
4	Stirrators, (+), per foot of diameter ..... $125 – $190					
CODE	**SPECIAL MODIFICATION CODES**					
	Costs includes 5" slab	**Base Cost**	**4" Slab, (–)**	**6" Slab, (+)**	**8" Slab, (+)**	**10" Slab, (+)**
FS1	15' diameter, (+)	438	40	40	119	199
FS2	18' diameter, (+)	585	57	57	172	287
FS3	21' diameter, (+)	805	78	78	234	390
FS4	24' diameter, (+)	1,020	102	102	306	510
FS5	27' diameter, (+)	1,315	129	129	387	645
FS6	30' diameter, (+)	1,530	159	159	478	796
FS7	36' diameter, (+)	2,260	229	229	688	1,147
FS8	42' diameter, (+)	3,140	312	312	936	1,561
FS9	48' diameter, (+)	4,090	408	408	1,223	2,039
FS10	60' diameter, (+)	6,350	637	637	1,911	3,185
FS11	75' diameter, (+)	9,930	995	995	2,986	4,977
FS12	90' diameter, (+)	14,310	1,433	1,433	4,300	7,167
FS13	105' diameter, (+)	19,490	1,951	1,951	5,853	9,755

GRAIN DRYERS			
AZ1		**AZ2**	
Batch Type		**Continuous-flow Type**	
Dry/Cool, 25% to 15%			
Capacity	**Price**	**Capacity**	**Price**
150	26,200	**250**	35,000
200	30,500	**375**	55,000
270	36,500	**500**	68,700
390	46,800	**625**	81,400
		750	93,450
		1,000	116,800
		1,250	138,600
		1,500	159,100
		1,875	188,600
		2,000	198,600
		2,500	235,550
		3,000	270,600
		3,125	279,250
		3,750	320,800
		4,000	335,000
Price based on rated capacity in bushels per hour.			

Stacked Dryer Units

LOADING – UNLOADING SYSTEMS			
AX1		**AX2**	
Auger-type Conveyors		**Belt-type Conveyors**	
Diam.	**Price/ Lin. Ft.**	**Width**	**Price/ Lin. Ft.**
6"	46.00	**12"**	80.50
8"	62.50	**18"**	122.00
10"	84.00	**24"**	143.00
12"	109.00	**30"**	163.50
14"	130.00	**36"**	175.50
16"	162.00	**48"**	225.50

Dryer Tower

AERATION	
FG1	
Aeration systems, (+), per bushel	0.06 – 0.12

STEEL GRAIN BINS (Continued)

MAN LIFTS	
AI1	
Uncoded, electrically operated personnel lifts. .	11,125 – 13,000
Per stop over two, (+)	2,975

TRUCK SCALES	
BL1	
Capacity	**Price**
20-ton	22,250
30-ton	25,750
40-ton	29,750
50-ton	34.250
60-ton	39,500
70-ton	45,500
100-ton	52,000

HOPPER SCALES	
AE1	
Capacity	**Price**
25-ton	19,950
36-ton	25,250
75-ton	43,750
100-ton	47,500

STEEL TANKS	
AG3	
BUSHEL CAPACITY	**PRICE PER BUSHEL**
500,000	0.80
600,000	0.79
700,000	0.85
800,000	0.87
900,000	0.90
1,000,000	0.93
Prices do not include loading system or other features.	

CONVERSION SYSTEMS
1 cubic foot = .8036 bushels
1 bushel = 1.24446 cubic foot
1 gallon = 0.1337 cubic foot = 0.1074 bushel

HORIZONTAL DRAG (U-TROUGH) CONVEYORS

BASE PRICES					
STANDARD BOTTOM DISCHARGE					
AW3					
Type	**Drive and Tail Section**		**U-Trough Complete w/ Chain and Paddles**	**Bypass Inlet**	
Diameter	**Length**	**Price**	**Price per Linear Foot**	**Length**	**Price**
6”	**28”**	2,200.00	160.00	**13”**	525.00
9”	**32”**	2,575.00	180.00	**18”**	575.00
12”	**40”**	3,775.00	230.00	**21”**	850.00
14”	**46”**	3,950.00	255.00	**24”**	925.00
16”	**52”**	5,800.00	365.00	**27”**	1,500.00
18”	**58”**	6,800.00	435.00	**30”**	1,650.00
20”	**64”**	7,750.00	475.00	**-----**	-----
24”	**75”**	9,200.00	545.00	**37”**	2,175.00

Price Explanation

When calculating the cost of a drag conveyor, first determine the overall length. Then take the overall length minus head and tail length (of the selected drag) and bypass inlet if needed. This number represents the length of the trough needed. Next multiply that number by the price per foot for the trough. (Prices do not include the drive.)

Price Example

Specifications: 9” conveyor, 60’ overall w/ bypass inlet, 3000 bu., 5-HP drive w/ guard, less motor.
60’ (720”) – 32” (head and tail section) – 18” (bypass inlet) = 670” = 55’ 10”

Head and tail section	$ 2,575.00
Bypass inlet	$ 575.00
U-trough (55.75 x $180)	$10,035.00
Total Cost	$13,185.00

FLATHOUSE STORAGE BUILDINGS

Steel Frame

Steel Frame

BASE SPECIFICATIONS
FOUNDATION – Concrete foundation and footings. WALLS – Metal on pole frame, heavy steel panels on steel frame. FLOOR – Concrete. ROOF – Metal on wood truss framing or steel truss framing. OTHER FEATURES – Bulkheads, adequate electrical service.

BASE PRICES – 10' HIGH			
STRUCTURE TYPE	**BF1**	**BF2**	**BF3**
	Pole Frame/ Metal Siding	**Steel Frame/ Steel Siding**	**Steel Slant-Wall Frame/ Heavy Steel Siding**
Area	**Price per Square Foot**		
2,500	14.85	16.00	15.05
5,000	14.55	15.70	14.75
7,500	13.40	14.45	13.60
10,000	13.10	14.15	13.30
12,500	12.95	13.95	13.10
15,000	12.80	13.80	12.95
17,500	12.70	13.70	12.85
20,000	12.60	13.60	12.80
25,000	12.50	13.45	12.65
30,000	12.40	13.35	12.55
Prices do not include loading systems and/or other features.			

BASE PRICE MULTIPLIERS	
CODE	**MODIFICATION CODES**
	Eave Height
1	12 feet (x) 1.038
2	14 feet (x) 1.077
3	16 feet (x) 1.115
4	20 feet (x) 1.192
5	24 feet (x) 1.269

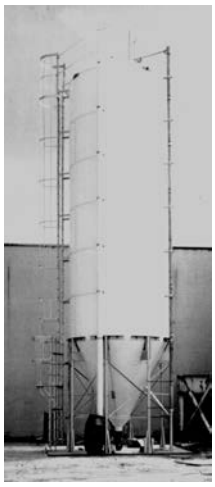
45-DEGREE HOPPER BOTTOM TANKS

BASE SPECIFICATIONS
Tank and installation only.

AE2				
Base Diameter	**Eave Height**	**Bushel Capacity**	**Tonnage Capacity**	**Price**
7’	**10’ 9”**	**157**	**4.71**	1,610
	13’ 5”	**239**	**7.17**	1,750
	16’ 1”	**321**	**9.63**	1,880
	18’ 9”	**403**	**12.09**	2,020
9’	**17’ 0”**	**458**	**13.74**	2,885
	19’ 8”	**594**	**17.82**	3,140
	22’ 4”	**730**	**21.90**	3,385
	24’ 11”	**866**	**25.98**	3,645
12’	**20’ 0”**	**870**	**26.10**	5,430
	25’ 0”	**1,345**	**40.35**	6,170
	31’ 0”	**1,825**	**54.75**	7,040
15’	**32’ 7”**	**4,030**	**120.90**	10,755
	40’ 7”	**5,220**	**156.60**	12,675
	48’ 7”	**6,400**	**192.00**	14,790
	56’ 7’	**7,580**	**227.40**	16,625
18’	**33’ 10”**	**5,980**	**179.40**	15,235
	41’ 10”	**7,810**	**234.30**	18,490
	49’ 10”	**9,530**	**285.90**	20,840
	57’ 10”	**11,250**	**337.50**	24,315
	63’ 2”	**12,396**	**371.88**	26,505
21’	**35’ 1”**	**8,340**	**250.20**	19,905
	43’ 1”	**10,640**	**319.20**	24,805
	51’ 1”	**12,950**	**388.50**	29,470
	59’ 1”	**15,260**	**457.80**	33,260
	64’ 5”	**16,800**	**504.00**	35,010
24’	**36’ 4”**	**11,170**	**335.10**	24,570
	44’ 4”	**14,170**	**425.10**	32,135
	52’ 4”	**17,170**	**515.10**	40,115
	60’ 4”	**20,170**	**605.10**	44,705
	65’ 9”	**22,170**	**665.10**	46,475
30’	**39’ 1”**	**18,347**	**550.41**	45,805
	47’ 1”	**23,048**	**691.44**	53,785
	55’ 1”	**27,749**	**832.47**	60,215
	63’ 1”	**32,450**	**973.50**	67,770
	68’ 5”	**35,584**	**1,067.52**	71,425

BASE PRICE ADJUSTMENTS	
CODE	**MODIFICATION CODES**
1	3” concrete slab, (+) per Sq. Ft. 2.10
2	4” concrete slab, (+) per Sq. Ft. 2.55
3	5” concrete slab, (+) per Sq. Ft. 3.11
4	6” concrete slab, (+) per Sq. Ft. 3.79
	Piling: Concrete in drilled holes
5	12” diameter, (+), per Lin. Ft. 22.25
6	16” diameter, (+), per Lin. Ft. 26.65
7	24” diameter, (+), per Lin. Ft. 39.85
8	36” diameter, (+), per Lin. Ft. 71.50
9	48” diameter, (+), per Lin. Ft. 128.90

FIBERGLASS BOTTOM BULK STORAGE TANKS



BASE SPECIFICATIONS	
Tank, tank assembly, ladder and cage.	*Tank, tank assembly, ladder.

AE3					
DIAMETER	**OVERALL HEIGHT**	**CAPACITY, CU. FT.**	**CAPACITY, BUSHELS**	**CAPACITY, TONS**	**PRICE**
6	10’ 6”	130	104	3.12	*1,900
7	12’ 6”	228	183	5.49	*2,475
8	15’ 6”	400	321	9.63	*3,200
8	20’ 6”	525	422	12.66	*4,150
10	19’	550	442	13.26	7,775
10	21’	700	563	16.89	8,750
10	23’	850	683	20.49	9,725
10	25’	1,000	804	24.12	10,750
10	27’	1,150	924	27.72	11,750
10	29’	1,300	1,045	31.35	12,700
10	31’	1,450	1,165	34.95	14,300
10	33’	1,600	1,286	38.58	15,900
10	35’	1,750	1,406	42.18	17,500
10	37’	1,900	1,527	45.81	19,100
10	39’	2,050	1,647	49.41	20,700

BASE PRICE ADJUSTMENTS			
CODE	**MODIFICATION CODES**	**CODE**	**MODIFICATION CODES**
			Piling, concrete, in drilled holes
1	3’ concrete slab (+), per Sq. Ft. 2.10	**5**	12” diameter (+), per Lin. Ft. 22.25
2	4’ concrete slab (+), per Sq. Ft. 2.55	**6**	16” diameter (+), per Lin. Ft. 26.65
3	5’ concrete slab (+), per Sq. Ft. 3.11	**7**	24” diameter (+), per Lin. Ft. 39.85
4	6’ concrete slab (+), per Sq. Ft. 3.79	**8**	36” diameter (+), per Lin. Ft. 71.50
		9	48” diameter (+), per Lin. Ft. 128.90

Grain elevators are built for the processing and storage of grain. There are three principal types of construction: poured concrete, laminated wood and fabricated steel. Structural requirements will vary, not only due to size, but also due to the type of grain handled. Grain elevator facilities are divided into several categories consisting of storage tanks built in groups, usually of concrete or steel, in large elevators, and wood in smaller units, a headhouse for handling and cleaning the grain, and conveyors for transporting the grain. The replacement cost tables provided in this section are based upon the specifications of size, design and type of construction and are to be used as a guide for estimating the replacement cost of grain elevators and their auxiliary buildings.

Most facilities may consist of a combination of structures as listed below or in other categories in this section. Any separate offices, warehouses or other nonfarm structures should be priced separately.

Costs are based on total licensed bushel capacity of the elevator and/or annex facility except for steel tanks and bins, which are priced on a cost-per-tank basis. Special foundation work such as pilings or extremely large concrete pads are not included and must be added separately.

Elevator costs will include the complete headhouse (working house), tunnel, conveyor gallery and storage tanks or bins commensurate with the type and size of facilities listed.

Annex costs are for vertical storage facilities. They are to be used for elevators when there is an exposed leg system and no headhouse or for additional detached storage which utilizes the headhouse of the original elevator as well as its basic machinery. If the annex has a headhouse, it should be priced from the elevator cost tables, using the total capacity of both the elevator and the annex.

BASE SPECIFICATIONS

STORAGE TANKS:	Structures used to store grain.
Concrete -	Reinforced concrete, slip-form construction. Tanks vary from 40 to 130 feet in height and 20 to 40 feet in diameter. Wall thickness varies from 4 to 10 inches depending upon design. The circular bins rest directly on a concrete slab, which, in turn, is carried by exterior walls and interior columns resting on a thick concrete mat.
Wood -	Wood cribbing usually 2” x 6” lumber on outer walls and 2” x 4” lumber on partitions, all set in heavy concrete foundations. The outside walls may be covered with sheet metal, asbestos or wood sheathing. Small capacity, usually under 200,000 bushels.
Steel -	Bolted welded steel construction with a concrete floor and a heavy concrete foundation. Small capacity, usually under 200,000 bushels.

BASE SPECIFICATIONS (Continued)

HEADHOUSES: Structures containing the machinery necessary for cleaning, weighing, and separating the grain; may contain some additional small-capacity storage tanks.

Concrete - Reinforced concrete structural frame with concrete curtain walls and steel sash lights.

Wood - Wood frame with corrugated iron, asbestos, or wood sheathed siding resting on a concrete foundation; steel sash lights.

Steel - Structural steel with corrugated steel or asbestos siding and steel sash lights.

DEPRECIATION

Grain elevators are subject to the same depreciating forces as any other type of structure. Physical deterioration, as well as functional and economic obsolescence, apply the greatest depreciating factors. Obsolescence, both functional and economic, can be caused by changes in the local grain industry, availability of transportation and the overall economy of the area. It is advisable to base the economic and functional depreciation upon the previous year's annual usage, and the physical depreciation upon the actual condition of the structure.

BASE PRICES

STRUCTURE TYPE	AY1 Wood Crib/Metal Clad		AY2 Concrete (Slip Form Construction)	
	Elevator	Annex	Elevator	Annex
Total Bushel Capacity	**Price per Bushel**			
8,000	12.91	-----	-----	-----
10,000	11.79	-----	-----	8.24
15,000	10.02	-----	-----	7.58
20,000	8.92	5.52	10.35	7.14
30,000	7.56	4.60	9.44	6.59
40,000	6.73	4.05	9.00	6.24
50,000	6.15	3.67	8.64	5.98
75,000	5.22	3.08	8.02	5.55
100,000	4.64	2.70	7.61	5.27
200,000	3.50	1.45	6.74	5.18
500,000	2.43	1.33	5.30	4.02
750,000	-----	-----	4.49	2.91
1,000,000	-----	-----	3.79	2.68
2,000,000	-----	-----	3.35	2.22
OVER 2,000,000	-----	-----	3.23	2.07

BASE PRICE ADJUSTMENTS

CODE	MODIFICATION CODES
1	Attached covered elevator driveway (+), per Sq. Ft. ..... 26.90 – 59.80
2	Detached annex silos without tunnel or conveyor gallery (–), per running foot of silo 320.00
3	No intersticing (–), per bushel ..... 0.36 – 0.45
4	Concrete jump form construction (–), per bushel ..... 0.30 – 0.41
5	Single concrete silos, use annex costs (+), percent 25%
6	Concrete stave silos (–), percent 25%
7	Commercial installations (+), percent ..... 10% – 20%
8	Industrial bulk applications (+), percent ..... 5% – 10%

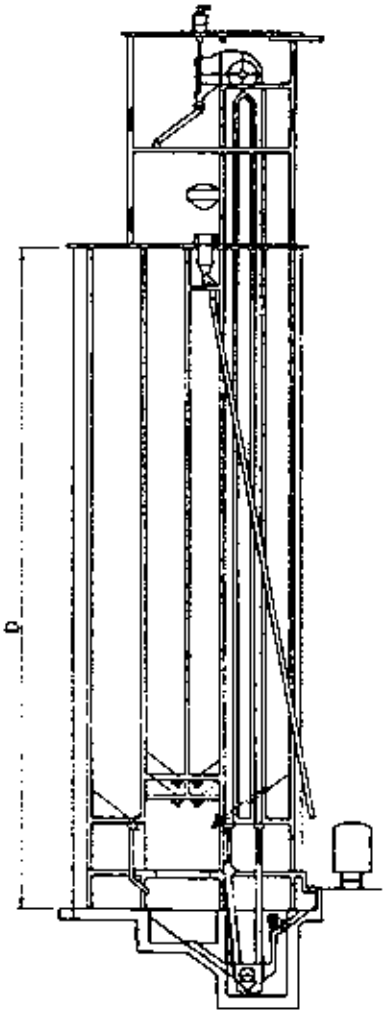
Machinery and equipment costs are very variable, depending on the exact job the elevator performs. The lower end of the range represents storage only, and the higher end of the range includes processing equipment. Costs of the various types of equipment overlap to some degree.

When pricing new equipment having greater flow capacity, a higher cost rank should be used than when pricing older elevators utilizing original equipment. The higher rank costs include newer, computerized terminal facilities.

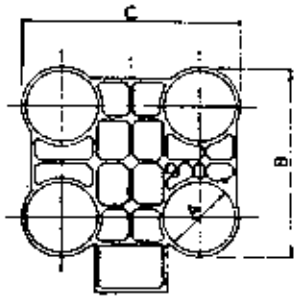
All costs should be applied to total licensed capacity of both the elevator and the annexes it serves.

SPECIAL MODIFICATION CODES				
CODE	FY1	FY2	FY3	FY4
	Low	Average	Good	Excellent
Total Bushel Capacity	Price per Bushel			
8,000	1.57	1.90	2.29	2.78
10,000	1.51	1.82	2.20	2.68
15,000	1.39	1.70	2.07	2.50
20,000	1.33	1.61	1.95	2.39
30,000	1.23	1.51	1.82	2.23
40,000	1.17	1.43	1.74	2.12
50,000	1.12	1.37	1.66	2.05
75,000	1.04	1.27	1.56	1.91
100,000	0.99	1.21	1.48	1.82
200,000	0.87	1.06	1.31	1.62
500,000	0.73	0.91	1.13	1.39
750,000	0.68	0.85	1.05	1.30
1,000,000	0.65	0.81	1.00	1.24
2,000,000	0.57	0.70	0.89	1.11
OVER 2,000,000	0.55	0.68	0.86	1.06

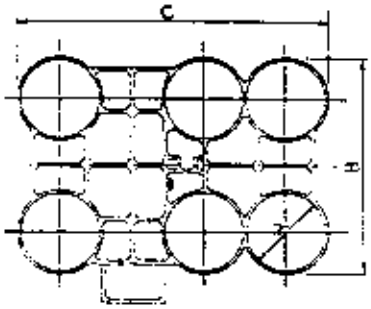
BASE PRICE ADJUSTMENTS	
CODE	MODIFICATION CODES
1	For steel bin storage over 100,000 bushels, deduct 20% from the low-cost range for each additional 100,000 bushels.



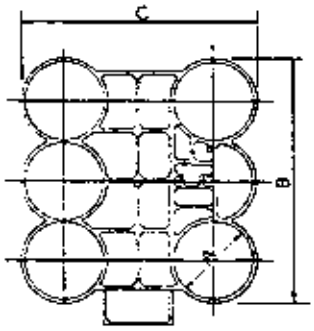
SPECIFICATIONS OF "TYPICAL" COUNTRY ELEVATORS DESIGNED BY BORTON, INCORPORATED



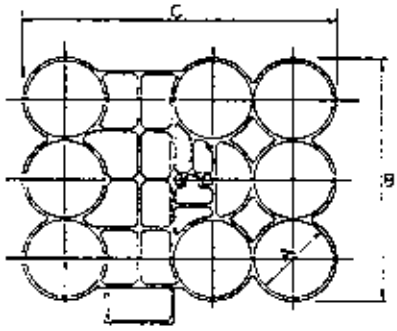
4 TANK



6 TANK

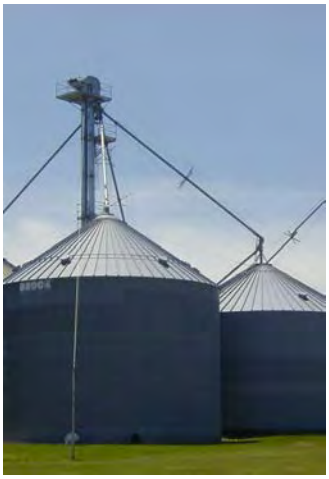


5½ TANK



8½ TANK

SPECIFICATIONS	TYPE									
	4 TANK	5½ TANK			6 TANK			8½ TANK		
BUSHEL CAPACITY	100,000	150,000	200,000	250,000	150,000	200,000	250,000	200,000	250,000	300,000
Dimension A	15'0"	16'0"	18'0"	20'0"	15'0"	18'0"	20'0"	16'0"	18'0"	20'0"
Dimension B	39'0"	50'0"	56'0"	62'0"	39'0"	45'0"	49'0"	50'0"	56'0"	62'2"
Dimension C	45'0"	47'0"	51'0"	55'0"	60'5"	69'6"	75'6"	63'6"	69'6"	76'9"
Dimension D	107'0"	128'0"	129'0"	129'0"	113'0"	111'0"	117'0"	114'0"	112'0"	110'0"
Leg capacity (bu./hr.)	5,000	5,000	6,500	7,500	5,500	6,500	7,500	6,500	7,000	7,500
Hopper scale capacity (tons)	10	15	15	25	15	15	25	15	25	25
Bushels/foot	1,100	1,400	1,730	2,200	1,480	1,975	2,350	1,960	2,425	2,930



BASE SPECIFICATIONS
Painted construction. Alloyed head shaft; double drum head and boot pully; Holz lagging; 3-ply 330 rubber belt; head explosion vents; jack bolts under the head bearings; SCM/SC series bearings; throat wiper; access doors at the head, boot, inspections section and lagging access.

STRUCTURE TYPE	AW1				AW2		
Discharge Height	Price for 3,000 Bu/Hr	Price for 3,500 Bu/Hr	Price for 4,000 Bu/Hr	Price for 5,000 Bu/Hr	Price for 6,000 Bu/Hr	Price for 7,000 Bu/Hr	Price for 8,000 Bu/Hr
20'	18,200	18,360	18,690	18,920	19,610	20,310	21,000
25'	19,190	19,370	19,710	19,960	20,640	21,310	21,990
30'	20,190	20,370	20,740	20,990	21,660	22,320	22,990
35'	21,180	21,370	21,760	22,030	22,680	23,330	23,980
40'	22,170	22,380	22,780	23,060	23,700	24,340	24,970
45'	23,170	23,380	23,800	24,100	24,720	25,340	25,970
50'	24,160	24,380	24,820	25,130	26,200	27,260	28,330
55'	25,160	25,380	25,840	26,170	27,250	28,330	29,410
60'	26,150	26,390	26,870	27,200	28,300	29,400	30,500
65'	27,140	27,390	27,890	28,240	29,350	30,470	31,580
70'	28,140	28,390	28,910	29,270	30,400	31,530	32,670
75'	29,130	29,400	29,930	30,300	31,450	32,600	33,750
80'	30,130	30,400	30,950	31,340	32,500	33,670	34,840
85'	31,120	31,400	31,970	32,370	33,560	34,740	35,920
90'	32,110	32,410	33,000	33,410	34,610	35,810	37,010
95'	33,110	33,410	34,020	34,440	35,660	36,880	38,090
100'	34,100	34,410	35,040	35,480	36,710	37,940	39,180
105'	35,100	35,420	36,060	36,510	37,760	39,010	40,260
110'	36,050	36,390	37,070	37,550	38,810	40,080	41,350
115'	37,080	37,420	38,100	38,580	39,860	41,150	42,430
120'	38,080	38,430	39,130	39,620	40,920	42,220	43,520
125'	39,490	39,850	40,570	41,070	42,390	43,710	45,020
130'	40,490	40,850	41,590	42,110	43,440	44,770	46,110
135'	41,480	41,860	42,610	43,140	44,490	45,840	47,190
140'	42,840	43,240	44,030	44,580	45,810	47,050	48,280
145'	43,830	44,240	45,050	45,610	46,860	48,110	49,360
150'	44,820	45,240	46,060	46,640	47,910	49,180	50,450

BASE PRICE ADJUSTMENTS	
CODE	**MODIFICATION CODES**
1	Discharge transition to 10" round, (+) 310
2	Discharge transition to 12" round, (+) 340
3	Discharge transition to 14" round, (+) 370
4	Discharge transition to 16" round, (+) 400

POLE-FRAME UTILITY BUILDINGS

1-Story Pole Frame

One Side Open, Pole Frame

1-Story Pole Frame

Four Sides Open, Metal on Pole Frame

BASE SPECIFICATIONS
FOUNDATION – Concrete footings. WALLS – Wood or metal on pole frame. FLOOR – Dirt. ROOF – Double pitch, asphalt shingles or metal roofing on wood rafters and framing. OTHER FEATURES – Minimum electrical service.

BASE PRICES FOR TRUSS ROOF – 12' STANDARD HEIGHT						
STRUCTURE TYPE	AP1	AP2	AP3	AP4	AP5	AP6
	Four Sides, Closed, Metal	Four Sides, Closed, Wood	One Side, Open, Metal	One Side, Open, Wood	Four Sides, Open, Metal	Four Sides, Open, Wood
Area	Price per Square Foot					
600	7.15	7.35	5.55	5.75	4.10	4.25
1,000	6.45	6.60	5.15	5.35	4.00	4.15
1,400	6.15	6.30	5.00	5.15	3.90	4.10
2,000	5.80	5.95	4.80	4.95	3.85	4.00
3,000	5.55	5.70	4.65	4.80	3.75	3.90
4,000	5.40	5.55	4.55	4.70	3.65	3.80
5,000	5.25	5.40	4.50	4.60	3.60	3.75
6,000	5.20	5.35	4.45	4.55	3.50	3.65
7,000	5.15	5.25	4.40	4.55	3.40	3.55
8,000	5.10	5.20	4.35	4.50	3.30	3.45
9,000	5.05	5.20	4.35	4.50	3.25	3.40
10,000	5.00	5.15	4.30	4.45	3.15	3.30
	± 3%/Ft. in Height		± 2%/Ft. in Height		± 2%/Ft. in Height	

BASE PRICE ADJUSTMENTS	
CODE	MODIFICATION CODES
1	Concrete floor (+), per Sq. Ft. 2.10
2	Insulation, 1½" (+), per Sq. Ft. of wall area 0.40
3	Insulation, polystyrene bd., 7/8" (+), per Sq. Ft. of wall area 1.00
4	Insulation, 4" (+) per Sq. Ft. of wall area 0.65
5	Wallboard (+), per Sq. Ft. of wall area 1.15
6	No electricity, (–), per Sq. Ft. 0.14
7	Heating, (+), per Sq. Ft. 0.65
8	Wall partitions, (+), per Sq. Ft. 0.33

BASE PRICE ADJUSTMENTS	
CODE	SPECIAL MODIFICATION CODES
FP1	14 x 12 slide door, each 1,185.00
FP2	14 x 10 slide door, each 1,125.00
FP3	14 x 8 slide door, each 1,050.00
FP4	16 x 7 overhead door, each 975.00
FP5	9 x 7 overhead door, each 665.00

FARM IMPLEMENT (EQUIPMENT SHOP) BUILDINGS

1-Story Pole Frame Building

BASE SPECIFICATIONS
FOUNDATION – Concrete footings. WALLS – Wood, metal on pole frame or metal on steel frame. FLOOR – Concrete. ROOF – Double pitch, asphalt shingles or metal roofing on wood rafters and framing. OTHER FEATURES – Windows, cabinets, electric lighting and water service.

BASE PRICES – 12' HIGH			
STRUCTURE TYPE	BH1	BH2	BH3
	Wood Frame/ Wood Siding	Pole Frame/ Metal Siding	Steel Frame/ Steel Siding
Area	Price per Square Foot		
600	14.25	12.25	13.95
1,000	12.85	11.05	12.55
1,400	12.30	10.55	12.00
2,000	11.65	10.00	11.35
3,000	11.10	9.50	10.85
4,000	10.75	9.25	10.50
5,000	10.55	9.05	10.30
6,000	10.40	8.90	10.15
7,000	10.25	8.80	10.00
8,000	10.15	8.70	9.95
9,000	10.10	8.65	9.85
10,000	10.00	8.60	9.75
±2%/Foot in Height			

FARM IMPLEMENT EQUIPMENT SHEDS

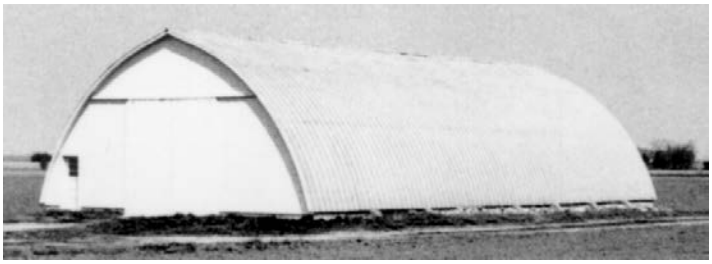
1-Story Pole Frame Shed

BASE SPECIFICATIONS
FOUNDATION – Concrete footings. WALLS – Open one side, wood, metal on pole frame or metal on steel frame. FLOOR – Concrete. ROOF – Double pitch, asphalt shingles or metal roofing on wood rafters and framing. OTHER FEATURES – Some end-wall windows, some cabinets, electric lighting and water service.

BASE PRICES – 12' HIGH			
STRUCTURE TYPE	BH4	BH5	BH6
	Wood Frame/ Wood Siding	Pole Frame/ Metal Siding	Steel Frame/ Steel Siding
Area	Price per Square Foot		
600	10.60	8.80	10.35
1,000	9.80	8.20	9.60
1,400	9.50	7.90	9.30
2,000	9.15	7.60	8.95
3,000	8.80	7.35	8.60
4,000	8.65	7.20	8.45
5,000	8.50	7.10	8.35
6,000	8.45	7.00	8.25
7,000	8.35	6.95	8.20
8,000	8.30	6.90	8.10
9,000	8.25	6.90	8.10
10,000	8.20	6.85	8.05
±2%/Foot in Height			

BASE PRICE ADJUSTMENTS		
CODE	MODIFICATION CODES	
1	Concrete floor (–) per Sq. Ft.	2.10
2	Insulation, 1½" (+), per Sq. Ft. of wall area	0.40
3	Insulation, polystyrene board, 7/8" (+), per Sq. Ft. of wall area	1.00
4	Insulation, 4" (+), per Sq. Ft. of wall area	0.65
5	Wallboard (+), per Sq. Ft. of wall area	1.15
6	Heating (+), per Sq. Ft.	0.65
7	Wall partitions (+), per Sq. Ft.	0.33
CODE	SPECIAL MODIFICATION CODES	
FP1	14 x 12 sliding door, each	1,185.00
FP2	14 x 10 sliding door, each	1,125.00
FP3	14 x 8 sliding door, each	1,050.00
FP4	16 x 7 overhead door, each	975.00
FP5	9 x 7 overhead door, each	665.00

ARCH-RIB (QUONSET) FARM UTILITY BUILDINGS



Farm Utility Building
(Data Below)

Farm Implement Building
(Data on Next Page)

BASE SPECIFICATIONS w/ End Walls
FOUNDATION – Concrete foundation and footings. WALLS – Shingles and wood siding on arched frame or metal on pre-engineered arched frame or metal on pre-engineered quonset frame; end wall with sliding door entry. FLOOR – Concrete. OTHER FEATURES – Adequate lighting, outlets and water service.

BASE SPECIFICATIONS w/ Open Ends
FOUNDATION – Concrete foundation and footings. WALLS – Shingles and wood siding on arched frame or metal on light arch-rib frame or metal on light steel quonset frame; open end walls. FLOOR – Dirt. OTHER FEATURES – Minimum electric service.

BASE PRICES							
16' HIGH ARCH FRAMES W/ END WALLS				16' HIGH ARCH FRAMES W/ OPEN ENDS			
STRUCTURE TYPE	AQ1 Wood Arch Frame/Wood Siding	AQ2 Pole Arch Frame/ Metal Siding	AQ3 Steel Quonset Frame/Metal Siding	STRUCTURE TYPE	AQ4 Wood Arch Frame/Wood Siding	AQ5 Pole Arch Frame/ Metal Siding	AQ6 Steel Quonset Frame/Metal Siding
Area	Price per Square Foot			Area	Price per Square Foot		
200	18.45	16.85	16.85	**200**	10.85	9.80	9.90
300	16.55	15.10	15.10	**300**	9.75	8.80	8.85
400	15.35	14.00	14.00	**400**	9.05	8.15	8.25
500	14.65	13.40	13.35	**500**	8.65	7.80	7.85
700	13.80	12.60	12.60	**700**	8.15	7.35	7.40
1,000	12.85	11.75	11.75	**1,000**	7.60	6.85	6.90
2,000	11.65	10.65	10.60	**2,000**	6.85	6.20	6.25
3,000	11.10	10.15	10.10	**3,000**	6.55	5.90	5.95
4,000	10.80	9.85	9.85	**4,000**	6.35	5.70	5.80
5,000	10.55	9.65	9.60	**5,000**	6.20	5.60	5.65
6,000	10.40	9.50	9.50	**6,000**	6.15	5.55	5.60
7,000	10.30	9.40	9.35	**7,000**	6.05	5.45	5.50
8,000	10.20	9.30	9.30	**8,000**	6.00	5.40	5.45
9,000	10.10	9.20	9.20	**9,000**	5.95	5.35	5.40
10,000	10.00	9.15	9.10	**10,000**	5.90	5.30	5.35
Over	10.00	9.15	9.10	**Over**	5.90	5.30	5.35

BASE PRICE ADJUSTMENTS		BASE PRICE ADJUSTMENTS	
CODE	MODIFICATION CODES	CODE	MODIFICATION CODES
1	Lighting (–), per Sq. Ft. 0.22	**1**	Lighting (–), per Sq. Ft. 0.12
2	Asphalt floor (–), per Sq. Ft. 0.85	**2**	Asphalt floor (+), per Sq. Ft. 1.25
3	Concrete floor (–), per Sq. Ft. 2.10	**3**	Concrete floor (+), per Sq. Ft. 1.85
4	No water service (–), per Sq. Ft. 0.12		
5	Heating (+), per Sq. Ft. 0.65		

Note: Costs for Panel Buildings, formerly found on Page 6-28, have been incorporated into the different occupancies. Please see the appropriate use.

ARCH-RIB (QUONSET) FARM IMPLEMENT BUILDINGS

BASE SPECIFICATIONS
Pre-engineered Frame

FOUNDATION – Concrete foundation and footings. WALLS – Shingles and wood siding on arched frame or metal on pre-engineered arched frame or metal on pre-engineered quonset frame; end walls; windows, overhead door. FLOOR – Concrete. OTHER FEATURES – Some cabinets, adequate lighting, outlets and water service.

BASE SPECIFICATIONS
Arch-Rib Frame

FOUNDATION – Concrete foundation and footings. WALLS – Shingles and wood siding on arch-rib frame or metal on light steel quonset frame; end walls; sliding door entry. FLOOR – Light concrete. OTHER FEATURES – Few extras; minimum electric service.

BASE PRICES

16' HIGH ARCH FRAMES W/ END WALLS				16' HIGH ARCH FRAMES W/ OPEN ENDS			
STRUCTURE TYPE	AQ7 Wood Arch Frame/Wood Siding	AQ8 Pole Arch Frame/ Metal Siding	AQ9 Steel Quonset Frame/Metal Siding	STRUCTURE TYPE	AQ10 Wood Arch Frame/Wood Siding	AQ11 Pole Arch Frame/ Metal Siding	AQ12 Steel Quonset Frame/Metal Siding
Area	Price per Square Foot			Area	Price per Square Foot		
200	24.95	22.95	23.35	200	15.35	13.95	14.35
300	22.40	20.55	20.95	300	13.75	12.50	12.90
400	20.75	19.05	19.40	400	12.75	11.60	11.95
500	19.85	18.20	18.55	500	12.20	11.05	11.40
700	18.70	17.15	17.45	700	11.50	10.45	10.75
1,000	17.40	16.00	16.30	1,000	10.70	9.70	10.00
2,000	15.75	14.45	14.75	2,000	9.70	8.80	9.05
3,000	15.00	13.80	14.05	3,000	9.25	8.40	8.65
4,000	14.60	13.40	13.65	4,000	8.95	8.15	8.40
5,000	14.30	13.10	13.35	5,000	8.80	7.95	8.20
6,000	14.10	12.95	13.15	6,000	8.65	7.85	8.10
7,000	13.90	12.75	13.00	7,000	8.55	7.75	8.00
8,000	13.75	12.65	12.90	8,000	8.45	7.70	7.90
9,000	13.65	12.55	12.75	9,000	8.40	7.60	7.85
10,000	13.55	12.45	12.65	10,000	8.30	7.55	7.80
over	13.55	12.45	12.65	over	8.30	7.55	7.80

BASE PRICE ADJUSTMENTS

CODE	MODIFICATION CODES	
1	Lighting (–), per Sq. Ft.	0.41
2	Asphalt floor (–), per Sq. Ft.	0.85
3	Concrete floor (–), per Sq. Ft.	2.10
4	No water service (–), per Sq. Ft.	0.12
5	Heating (+), per Sq. Ft.	0.65

BASE PRICE ADJUSTMENTS

CODE	MODIFICATION CODES	
1	Lighting (–), per Sq. Ft.	0.15
2	Asphalt floor (–), per Sq. Ft.	0.60
3	Concrete floor (–), per Sq. Ft.	1.85

ARCH-RIB (QUONSET) FARM UTILITY/IMPLEMENT HOOP BUILDINGS

BASE SPECIFICATIONS
Pre-engineered Frame

FOUNDATION – Concrete foundation and footings. WALLS – Wood pole, knee wall, pipe hoop frame, fabric cover. FLOOR – Dirt. OTHER FEATURES – Minimum electric service.

BASE PRICE ADJUSTMENTS

CODE	MODIFICATION CODES	
1	Lighting (–), per Sq. Ft.	0.12
2	Asphalt floor (+), per Sq. Ft.	0.60
3	Concrete floor (+), per Sq. Ft.	1.85

BASE PRICES – 16' HIGH ARCH

STRUCTURE TYPE	AQ13 Hoop Utility Building	AQ14 Hoop Implement Building*	STRUCTURE TYPE	AQ13 (Cont'd.) Hoop Utility Building	AQ14 (Cont'd.) Hoop Implement Building*
Area	Price per Square Foot		Area	Price per Square Foot	
200	12.30	15.55	4,000	7.20	9.10
300	11.05	13.95	5,000	7.05	8.90
400	10.25	12.90	6,000	6.95	8.75
500	9.75	12.35	7,000	6.85	8.65
700	9.20	11.65	8,000	6.80	8.55
1,000	8.60	10.85	9,000	6.70	8.50
2,000	7.75	9.80	10,000	6.65	8.45
3,000	7.40	9.35	over	6.65	8.45

***Note:** FLOOR – Light concrete floor. OTHER FEATURES – Few extras.

FRAME CORN CRIBS

BASE SPECIFICATIONS
FRAME – Wood skeleton frame; spaced boards or wire mesh. FLOOR – Concrete slab or wood plank. INTERIOR CONSTRUCTION – No lighting, plumbing or heat. ROOF – Double pitch, asphalt shingles on wood decking and wood rafters. OTHER FEATURES – Wood slat partitions.

BASE PRICES PER SQUARE FOOT – 10' HIGH		
	AC1	AC2
STRUCTURE TYPE	Wood Board	Welded Wire
Area	Price per Square Foot	
200	18.80	17.15
300	16.85	15.40
400	15.60	14.25
500	14.90	13.65
600	14.55	13.25
700	14.05	12.85
800	13.65	12.45
900	13.40	12.25
1,000	13.10	11.95
1,200	12.85	11.75
±7%/Ft. in Height		

BASE PRICE ADJUSTMENTS	
CODE	MODIFICATION CODES
1	Storage bin over (wood board) (+), per Sq. Ft. 3.85
2	Storage bin over (welded wire) (+), per Sq. Ft. . . . 2.55
3	Lighting (+) per Sq. Ft. 0.25
4	Drive-through cribs (+), per Sq. Ft. 0.55

GRANARIES

BASE SPECIFICATIONS – 10' HIGH
FOUNDATION – Concrete walls and footings. WALLS – Drop siding on wood framing; interior wall, 1" x 4" wood crib siding. FLOOR – Concrete. ROOF – Double-pitch, asphalt shingles or wood decking, timber rafters and framing. OTHER FEATURES – Electric lighting.

BASE PRICES			
STRUCTURE TYPE	AR1	AR2	AR3
	Wood Frame/ Wood Siding	Pole Frame/ Metal Siding	Steel Frame/ Steel Siding
Area	Price per Square Foot		
800	17.00	14.80	16.45
900	16.70	14.55	16.15
1,000	16.30	14.20	15.75
1,100	16.20	14.10	15.70
1,200	16.00	13.95	15.50
1,400	15.60	13.60	15.05
±5%/Foot in Height			

BASE PRICE ADJUSTMENTS	
CODE	MODIFICATION CODES
1	Wood storage bins (+), per Sq. Ft. 3.85
2	Wood ventilating ducts (+), per Sq. Ft. 0.80
3	No lighting (–), per Sq. Ft. 0.25
4	Pier foundation (–), per Sq. Ft. 1.25
5	Second floor (+), per Sq. Ft. 3.60

WIRE CORN CRIBS

BASE SPECIFICATIONS
Concrete foundation and floor, wire mesh walls on steel frame, metal roof, central air duct.

BASE PRICES			
STRUCTURE TYPE			AC3
Diameter	Height	Bushel Capacity	#2-Gauge Wire
12' 8"	16'	611	1,605
	21'	865	2,270
16' 6"	18'	1,085	2,850
	23'	1,515	3,980
	28'	1,940	5,095

BASE PRICES			
STRUCTURE TYPE			AC4
Diameter	Height	Bushel Capacity	#4-Gauge Wire
12' 8"	16'	611	990
	21'	865	1,400
16' 6"	18'	1,085	1,760
	23'	1,515	2,455

BASE PRICE ADJUSTMENTS	
CODE	MODIFICATION CODES
1	No concrete slab (–), per Sq. Ft. 2.10

POTATO STORAGE BUILDINGS

Steel Frame

BASE SPECIFICATIONS – BELOW GROUND

STRUCTURE – No foundation, dirt floor and side walls. END WALLS ONLY – Concrete block, wood or metal on pole frame. ROOF – Double-pitched roof with roll asphalt on wood rafters and decking covered with straw and dirt; INTERIOR CONSTRUCTION – Electric lighting.

BASE PRICES – 10' HIGH

STRUCTURE TYPE Below Ground	AO1	AO2	AO3
	Concrete Block	Wood Frame/ Wood Siding	Pole Frame Metal Panels
Area	Price per Square Foot		
1,000	10.35	8.15	7.20
2,000	9.35	7.40	6.50
3,000	8.95	7.05	6.20
4,000	8.65	6.85	6.00
6,000	8.75	6.90	6.10
8,000	8.20	6.45	5.70
10,000	8.05	6.35	5.60
15,000	7.85	6.20	5.45

BASE SPECIFICATIONS – ABOVE GROUND

FOUNDATION – Concrete foundation and footing. WALLS – Block/heaped earth, wood, metal on pole frame or steel. CEILING – Insulated ceiling. FLOOR – Concrete floor. ROOF – Double-pitched roof with asphalt shingles on wood rafters and decking or steel sheeting. INTERIOR CONSTRUCTION – Electric lighting.

BASE PRICES – 16' HIGH

STRUCTURE TYPE Above Ground	AO4	AO5	AO6	AO7
	Concrete Block/ Heaped Earth	Wood Frame Wood Siding	Pole Frame Metal Siding	Steel Frame/ Steel Siding
Area	Price per Square Foot			
1,000	31.80	28.35	25.40	27.50
2,000	28.75	25.60	23.00	25.45
3,000	27.40	24.45	21.95	24.30
4,000	26.60	23.70	21.30	23.60
6,000	26.90	24.00	21.55	23.85
8,000	25.10	22.40	20.10	22.25
10,000	24.70	22.05	19.75	21.90
15,000	24.15	21.50	19.30	21.40
±2%/Foot in Height				

BASE PRICE ADJUSTMENTS

CODE	MODIFICATION CODE	
1	No insulation (–), per Sq. Ft.	0.62

TOBACCO BARNS

Wood Frame

BASE SPECIFICATIONS

STRUCTURE – Concrete foundation and footing. WALLS – Wood, pole frame or steel. FLOOR – Concrete floor. ROOF – Asphalt shingles on decking with wood framing or steel. INTERIOR CONSTRUCTION – Partially finished interior; flue-curing; racks; electric lighting; water service.

BASE PRICES – 10' HIGH

STRUCTURE TYPE	AO8	AO9	AO10	AO11
	Wood Frame/ Wood Siding	*Wood Frame/ Vented Walls	Pole Frame/ Metal Siding	Steel Frame/ Steel Siding
Area	Price per Square Foot			
500	23.95	22.65	21.05	23.05
1,000	21.05	19.90	18.50	20.20
2,000	19.05	18.00	16.75	18.30
3,000	18.15	17.15	15.95	17.45
4,000	17.65	16.65	15.50	16.95
6,000	17.85	16.85	15.65	17.15
8,000	16.65	15.70	14.60	16.00
10,000	16.35	15.45	14.40	15.75

***Note:** Wood frame with vented wood walls. Concrete pier foundation; dirt floor; asphalt shingles on decking with wood framing. Unfinished interior; rack; air curing.

BASE PRICE ADJUSTMENTS

CODE	MODIFICATION CODES	
1	No lighting (–), per Sq. Ft.	0.25
2	Concrete floor (–), per Sq. Ft.	2.10
3	No water service (–), per Sq. Ft.	0.12
CODE	**SPECIAL MODIFICATION CODES**	
FO1	24", ventilating fan, add each	450.00
FO2	36", ventilating fan, add each	700.00

Light Pipe Arch, Wide Spacing, Polyethylene Cover

Steel Frame, Glass

STRAIGHT-WALL STRUCTURES – 12' HIGH (Heating systems and benches are not included.)					
STRUCTURE TYPE	**AN1**	**AN2**	**AN3**	**AN4**	**AN5**
	Steel and Aluminium Frame/Glass	**Pipe Frame/Glass**	**Light Pipe or Wood Frame/Glass**	**Steel Frame/Plastic**	**Light Pipe or Wood Frame/Plastic**
Area	**Price per Square Foot**				
500	24.75	20.10	18.15	11.55	7.85
1,000	24.15	19.65	17.70	11.30	7.70
3,000	19.20	15.60	14.05	8.95	6.10
6,000	16.00	13.00	11.75	7.45	5.10
10,000	14.05	11.40	10.30	6.55	4.45
20,000 & over	12.10	9.85	8.85	5.65	3.85

BASE SPECIFICATIONS FOR:
AN1, AN2 – Tempered glass, polycarbonate/acrylic, vents, concrete walks, electrical and water service.
AN3, AN4 – Glass or fiberglass covering, some vents, gravel, some concrete, electrical and hose bibs.
AN5 – Double polyethylene arch roof, fiberglass walls, gravel floor. Minimum electrical, lighting and water.

HOOP STRUCTURES – 12' High (Heating systems and benches are not included.)				
STRUCTURE TYPE	**AN6**	**AN7**	**AN8**	**AN9**
	Pipe Frame/ Polycarbonate or Acrylic Cover	**Light Pipe Frame/ Arch Frame/ Fiberglass Panels**	**Pipe or Light Tubular Arch/Double Polyethylene Cover**	**Light Pipe Arch/Wide Spacing Polyethylene Cover**
Area	**Price per Square Foot**			
500	17.35	8.20	5.60	3.45
1,000	16.95	8.00	5.50	3.40
3,000	13.45	6.35	4.35	2.70
6,000	11.20	5.30	3.65	2.25
10,000	9.85	4.65	3.20	1.95
20,000 & over	8.50	4.00	2.75	1.70

BASE SPECIFICATIONS FOR:
AN6 – Roof and wall vents, concrete walks, electrical and water service.
AN7 – Some vents, gravel, some concrete, electrical and hose bibs.
AN8 – Double polyethylene cover, fiberglass ends and knee walls, gravel floor, minimum electrical, lighting and hose bibs.
AN9 – Polyethylene cover, dirt floor, no electrical, hose bib only.

NORMAL DEPRECIATION TABLE FOR GREENHOUSES		
AGE IN YEARS — DEPRECIATION	**AGE IN YEARS — DEPRECIATION**	**AGE IN YEARS — DEPRECIATION**
0 – 1 ..... 10%	**6 – 7 ..... 35%**	**16 – 17 ..... 60%**
2 ..... 15%	**8 – 9 ..... 40%**	**18 – 19 ..... 65%**
3 ..... 20%	**10 – 11 ..... 45%**	**20 – 21 ..... 70%**
4 ..... 25%	**12 – 13 ..... 50%**	**Over 75%**
5 ..... 30%	**14 – 15 ..... 55%**	

FARM LABOR HOUSING – DORMITORIES

Farm Labor Housing – Dormitory

QUALITY	GRADE FACTOR
B	1.32
C	1.00
D	0.76

BASE PRICES – 8' HIGH			
	BM1	BM2	BM3
STRUCTURE TYPE	Concrete Block	Wood Frame/ Wood Siding	Steel Frame/ Steel Siding
Area	Price per Square Foot		
800	30.25	26.60	26.90
1,000	29.00	25.50	25.80
1,200	28.50	25.05	25.35
1,400	27.70	24.35	24.65
1,600	27.10	23.80	24.10
1,800	26.70	23.50	23.75
2,000	26.20	23.05	23.35
2,200	25.95	22.85	23.10
2,400	25.70	22.60	22.85
2,600	25.45	22.35	22.65
2,800	25.25	22.20	22.45
3,000	25.00	22.00	22.25
± 2%/Foot in Height			

BASE PRICE ADJUSTMENTS		
CODE	MODIFICATION CODES	
1	Insulation, 1½" (+), per Sq. Ft. of wall area	0.40
2	Insulation, polystyrene bd., 7/8" (+), per Sq. Ft. of wall area	1.00
3	Insulation, 4" (+), per Sq. Ft. of wall area	0.65
4	Wallboard (+), per Sq. Ft. of wall area	1.15
5	No electricity (–), per Sq. Ft.	0.75
6	Heating (+), per Sq. Ft.	0.80
7	Wall partitions (+), per Sq. Ft.	0.55

BASE SPECIFICATIONS: B

FOUNDATION – Concrete footings. WALLS – Low-cost brick or block masonry, wood siding on wood frame or steel siding on steel frame. FLOOR – Concrete. ROOF – Double pitched, asphalt shingle on wood decking, rafters and framing or steel on steel frame. OTHER FEATURES – Good fenestration, insulation, gypsum or plywood partitions, individual rooms, lighting and outlets in each room, common shower room.

BASE SPECIFICATIONS: C

FOUNDATION – Concrete footings. WALLS – Block masonry, wood siding on wood box frame or wide-spaced studs, or steel panels on steel frame. FLOOR – Concrete. ROOF – Double pitched, asphalt shingle on wood decking, rafters and framing or steel on steel frame. OTHER FEATURES – Adequate fenestration, common rooms, adequate lighting, plumbing and common restroom.

BASE SPECIFICATIONS: D

FOUNDATION – Concrete footings. WALLS – Low-cost block masonry, wood siding with battens on wood box frame or low-cost steel panels on steel frame. FLOOR – Concrete. ROOF – Double pitched, asphalt shingles on wood decking, rafters and framing or steel on steel frame. OTHER FEATURES – Unfinished interior, no partitions, minimum lighting and water service.

TRANSIENT LABOR CABINS

BASE PRICES – 8' HIGH	
	BM4
STRUCTURE TYPE	Wood Frame/Wood Siding
Area	Price per Square Foot
800	24.80
1,000	23.80
1,200	23.40
1,400	22.75
1,600	22.25
1,800	21.90
2,000	21.50
2,200	21.30
2,400	21.10
2,600	20.90
2,800	20.70
3,000	20.55
± 2%/Foot in Height	

BASE SPECIFICATIONS

FOUNDATION – concrete. WALLS – Wood box frame with plywood, board and battens or metal siding. FLOOR – Concrete or boards on wood joists. ROOF – Double pitched, asphalt shingle on wood decking, rafters and framing. OTHER FEATURES – No partitions, minimum cabinetry, one or two lights and outlets, sink with cold water.

BASE PRICE ADJUSTMENTS		
CODE	MODIFICATION CODES	
1	Insulation, 1½" (+), per Sq. Ft. of wall area	0.40
2	Insulation, polystyrene bd., 7/8" (+), per Sq. Ft. of wall area	1.00
3	Insulation, 4" (+), per Sq. Ft. of wall area	0.65
4	Wall board (+), per Sq. Ft. of wall area	1.15
5	No electricity (–), per Sq. Ft.	0.75
6	Heating (+), per Sq. Ft.	0.80
7	Wall partitions (+), per Sq. Ft.	0.55

Auxiliary power generators	**KW Rating**	**Engine HP**	**Price Range**
Specifications:			
Recoil start with decompressor – main breaker	4.5	8.0	$1,500 – $1,700
Low oil and hot temperature auto shutdown	6.0	11.0	2,000 – 2,350
Commercial brushless alternator with copper windings	7.0	13.5	2,400 – 2,600
120-volt receptacle, 15 amp – full power outlet 120/240	12.0	22.0	5,650 – 5,900
Steel frame – full suspension	*5.5	10.0	3,700 – 4,000
*Diesel motor			

Bale loaders	**Capacity, lb.**	**Price Range**
Specifications:		
Front loader attachment – bale spear	1,500 – 3,000	$175 – $425
Rear 3–point attachment – bale spear	1,500 – 2,800	160 – 600

Barn elevators Specifications:	**0-deg to 15-deg Pitch Adjustment Price Range**	**16-deg to 30-deg Pitch Adjustment Price Range**
14” x 50’ reversible belt conveyor	$2,600 – $3,025	$3,000 – $3,300
16” x 50’ reversible belt conveyor	2,800 – 3,225	3,200 – 3,500
18” x 50’ reversible belt conveyor	3,050 – 3,475	3,400 – 3,750

Conveyors	**Price Range**
Specifications:	
14” x 50’ reversible belt conveyor	$2,500 – $2,700
16” x 50’ reversible belt conveyor	2,700 – 2,950
18” x 50’ reversible belt conveyor	2,850 – 3,200

Feed elevators and augers
Loading/unloading systems – see Page 5–51

Grain dryers
See Page 5–51

Horizontal drag (U-trough) conveyors
See Page 5–52

Manure storage tanks and lagoons
See Page 5–45

Milk house equipment
See Page 5–36

Milking parlor equipment
See Page 5–36

Powered feeders Specifications:	**Feeder Price Range**	**Feeder w/ Wind Boards Price Range**
16 gauge, weather resistant galvanized steel		
14” x 105’	$6,500 – $7,500	$ 8,500 – $ 9,500
18” x 105’	8,800 – 9,800	11,100 – 12,250
Each control		$100

Silo unloaders
See Pages 5–48, 5–49

CDU RATING SYSTEM

As houses grow older, they wear out; they become less desirable, less useful. This universal decline in value is called depreciation, and appraisers are required to determine the degree of this loss in each property they examine.

If all houses deteriorated at the same rate, this decline in value would be a simple function of the age of the structure—a certain percentage per year. However, houses depreciate at varying rates depending on a score or so of variables.

Every building is acted upon by two depreciating forces. One tends to shorten its physical life. The other shortens its economic life. Both depreciating forces act concurrently. They overlap and affect each other.

A new house, or any type of structure for that matter, has its greatest value at the moment of completion. Its expectancy of life—both physical and economic—is longest the day the key is handed over by the builder. The building is most desirable. It is most useful. The future benefits the occupant may expect to enjoy are at the maximum. From that day forward, however, decay and wear and tear act to lessen the value of the structure by curtailing its remaining capacity for use.

At the same time the house is wearing out, it is also going out of style. It is becoming less desirable. It is progressively becoming less useful both from the effect of forces within the property (obsolescence), and from those outside of it as well (encroachment of undesirable influences).

Neither physical decline nor functional loss is constant in its action. Deterioration is a relatively steady process offset periodically by maintenance. Wornout elements of the building are repaired or replaced at intervals depending upon the policy of the owner. Cheaper houses generally deteriorate faster than better ones. Obsolescence and encroachment may come slowly or may happen almost overnight.

The forces which cause both deterioration and functional/economic depreciation may, and often do, act simultaneously, but they are not necessarily related. A house may decline in physical condition and yet throughout its entire life remain relatively functional.

Obviously enough, the age of a house remains an important factor in estimating accrued depreciation. A certain number of houses will receive “normal” maintenance and will experience “average” economic loss due to obsolescence and functional depreciation. These buildings will depreciate at an “average” rate as they grow older.

Other houses will lose value (depreciate) at lesser or more rapid rates. CDU Ratings provide a logical reasoning process by means of which normal age depreciation may be modified according to the appraiser’s best determination of the relative loss of value in a structure as compared with the average loss that might be expected.

Thus the age of a dwelling is an unreliable indicator of the degree of depreciation from its cost new. For houses depreciate not merely because they grow older, but because they wear out and become less desirable and less useful from a variety of causes.

To assist the appraiser in establishing the CDU Ratings of buildings, eight simple classifications have been established. These classifications or ratings are entirely natural

and will fit the normal impressions of the appraiser examining a building. The table below is a tabulation of CDU Ratings, with their accompanying definitions of the observed physical condition of the building, and the building's degree of desirability and usefulness, for its AGE and for its TYPE.

CDU RATING GUIDE

CDU RATING OF DWELLING	DEFINITION
Excellent	Building is in perfect condition; very attractive and highly desirable.
Very good	Slight evidence of deterioration; still attractive and quite desirable.
Good	Minor deterioration visible; slightly less attractive and desirable, but useful.
Average	Normal wear and tear is apparent; average attractiveness and desirability.
Fair	Marked deterioration—but quite usable; rather unattractive and undesirable.
Poor	Definite deterioration is obvious; definitely undesirable, and barely usable.
Very poor	Condition approaches unsoundness; extremely undesirable and barely usable.
Unsound	Building is definitely unsound and practically unfit for use.

AGE is reflected as an index of the normal deterioration and obsolescence in a structure which may be expected over the years. *CONDITION* represents a variable measure of the effects of maintenance and remodeling on a building. *DESIRABILITY* is a measure of the degree of appeal a particular building may have to prospective purchasers. *USEFULNESS* is a measure of the utility value of the structure for the purpose for which it may be used.

Once the CDU Rating of a building has been established through a consideration of its condition, desirability and usefulness, for its age and its type, reference to the Basic Depreciation Table will indicate the appropriate depreciation allowance for a structure possessing these qualities, in the degree observed and noted by the appraiser.

The term *Basic Depreciation* is appropriate to define the allowance for depreciation established by the method suggested here, for it is truly basic depreciation which has been sought and found. It represents a determination of a single depreciation allowance which reflects the total combined effect upon value of all of the depreciating forces, both physical and functional in nature.

The degree of deterioration and obsolescence, or loss of value from all causes, both within and outside the property, are automatically taken into account. This is accomplished by means of a simple rating of the capabilities and qualities of the structure, in precisely the same terms as would a prospective purchaser. And sound valuation theory presupposes the existence of a prospective buyer with intelligence enough to compare the advantages and disadvantages of competing properties and then rate the property he is examining according to its relative degree of desirability and usefulness.

Percent good is defined as the resultant estimate of the diminishing value of an improvement after subtracting the amount of estimated depreciation from the Replacement Cost New. For example, a structure which is estimated to be 45 percent depreciated as of a given time has a percent good of 55. Therefore, depreciation and percent good are complements of each other.

APPLYING THE CDU SYSTEM

To apply the CDU System, the appraiser rates each house according to his or her composite impression of its relative condition, desirability and usefulness—for its age and

type. The following four actual cases illustrate this convenient and practical method of determining percent good in houses.

CASE ONE: A fifteen-year-old single-family residence situated in an attractive residential suburb of a typical American community. Grade B, with two baths. Minor deterioration is visible; slightly less attractive and desirable than new, but useful. A qualified observer would rate this house above average on the CDU Rating System. Accordingly, our appraiser has assigned it a CDU Rating of Good. Referring to the table, we find 85% Good would be appropriate.

CASE TWO: A one-story frame house, seven years old. Grade C or average-quality construction; three bedrooms, one and one-half baths. Structure shows normal wear and tear and has average attractiveness and desirability. The appraiser's impression is that, "For a seven-year-old Grade C house, this would be rated as Average." From the table, we find 88% Good to be indicated.

CASE THREE: This century-old Colonial-style frame house is located in a New England seaport community; erected 1858. Grade B or good-quality construction. Building has been extremely well maintained and completely modernized with central heating, electric lighting and modern plumbing added. The structure is in good physical condition in spite of its age. Building is architecturally attractive and quite desirable. The appraiser's impression is that, "For a very old house of Grade B quality, this is an Excellent one." From the table, 65% Good is indicated.

CASE FOUR: A twenty-four-year-old single-family residence of Grade C quality; one story and basement, frame construction; three bedrooms with bath. Structure has had normal maintenance and is in average physical condition. Within the past two years an elevated six-lane expressway has been erected passing over the adjoining lot. This encroachment has seriously detracted from the attractiveness and desirability of the property. Accordingly, the appraiser has assigned a CDU Rating of Very Poor. From the table, 54% Good is indicated.

DWELLING DEPRECIATION

1. Rate the dwelling in terms of its overall condition, desirability and usefulness.

2. Select the proper percent good relative to its actual age.

BASIC PERCENT GOOD TABLE	
RATING GUIDE	
Excellent	Building is in perfect condition; very attractive and highly desirable.
Very good	Slight evidence of deterioration; still attractive and quite desirable.
Good	Minor deterioration visible; slightly less attractive and desirable, but useful.
Average	Normal wear and tear is apparent; average attractiveness and desirability.
Fair	Marked deterioration—but quite usable; rather unattractive and undesirable.
Poor	Definite deterioration is obvious; definitely undesirable, and barely usable.
Very poor	Condition approaches unsoundness; extremely undesirable and barely usable.
Unsound	Building is definitely unsound and practically unfit for use.

Actual Age	CDU RATING OF DWELLING							
	Excel.	V. Good	Good	Average	Fair	Poor	V. Poor	Unsound
1	100	99	97	94	89	84	79	-----
2	100	99	97	94	89	83	77	-----
3	100	98	96	92	87	82	77	-----
4	100	98	96	92	87	81	76	-----
5	100	97	95	90	85	80	75	-----
6	99	97	94	89	84	79	74	-----
7	99	96	93	88	83	78	73	-----
8	98	96	92	87	82	77	72	-----
9	98	95	91	86	81	76	71	-----
10	97	95	90	85	80	75	70	-----
11	97	94	89	84	79	74	69	45
12	96	93	88	83	78	73	68	44
13	96	92	87	82	77	72	67	44
14	95	91	86	81	76	71	66	43
15	95	90	85	80	75	70	65	43
16	94	89	84	79	74	69	64	42
17	93	88	83	78	73	68	63	42
18	92	87	82	77	72	67	62	41
19	91	86	81	76	71	66	61	40
20	90	85	80	75	70	65	60	40
21	90	85	80	75	70	65	58	38
22	89	84	79	74	69	64	57	37
23	88	83	78	73	68	63	56	36
24	87	82	77	72	67	62	54	34
25	86	81	76	71	66	61	52	32
26 - 30	85	80	75	70	65	60	50	30
31 - 40	80	75	70	65	60	55	40	20
41 - 50	75	70	65	60	55	45	30	10
51 - 60	70	65	60	55	50	35	20	5
61 - 70	70	65	60	55	45	30	15	5
71 - 80	65	60	55	50	40	25	15	5
81 & over	65	60	55	45	35	20	10	5

Note: This dwelling CDU table is based on a weighted average of parcel samples taken throughout the state, and consequently is meant to be used as a guide only. It may or may not be an accurate measure for each municipality.

The appraisal of other building improvements for both residential and agricultural properties is a difficult task. Other building improvements are rarely purchased or sold separately from the balance of the property. The cost of construction of a swimming pool, which is built for the convenience and comfort of a property owner, will rarely add an equivalent amount to the market value of the property. The cost of construction of a farm outbuilding that can be justified by its contribution to the farming operation, will again, seldom add an equivalent amount to the market value of the property.

In effect, other building improvements have value in direct proportion to their degree of utility or usefulness. This is an extension of the principle of contribution, which affirms that the value of any factor in production is dependent upon the amount to which it contributes to the overall net return irrespective of the cost of its construction. Any effective approach to the valuation of other building improvements must reflect the action of investors. Informed farm owners and operators would not invest in buildings which could not pay for themselves by either maintaining or adding to the required level of productivity. Homeowners would not invest in swimming pools, detached garages, etc., which would not supply the degree of comfort and/or convenience they desire.

The physical condition of an other building improvement bears a direct relationship to the desirability and usefulness of that improvement. It is, therefore, possible to apply the CDU system previously explained to generate a percent good estimate for different types of improvements of varying ages based on condition, desirability and usefulness.

The CDU Rating system has been modified to assist the appraiser in developing applicable depreciation guidelines based upon the condition, desirability and usefulness of various out-building improvements.

For the appraisal of other building improvements, the term CDU Rating is modified to become *Condition Rating.* The term *Condition Rating* will still give the same consideration to all the factors which influence the overall condition, desirability and degree of usefulness of each structure. The eight CDU Ratings have been modified to become six Condition Ratings. These ratings are again intended to fit the normal impressions of an appraiser as he or she examines an improvement. Condition Ratings, with their accompanying definitions, are as follows:

COND. RATING OF IMPROVEMENT	DEFINITION
Excellent	Improvement is in “like new” condition; very useful and highly desirable.
Good	Minor deterioration visible; slightly less desirable, but useful.
Average	Normal wear and tear is apparent; average usefulness and desirability.
Fair	Marked deterioration—but quite usable; rather undesirable.
Poor	Definite deterioration is obvious; definitely undesirable, and barely usable.
Unsound	Building is definitely unsound and practically unfit for use.

Six individual Percent Good Tables have been developed to assist the appraiser in valuing the various other building improvements that are normally encountered. The

following is a list of these six tables, the type of applicable improvements and their respective structure type codes.

1. Select the proper table based on the type of structure.

2. Rate the structure in terms of its overall condition, desirability and usefulness.

3. Select the proper percent good relative to actual age.

TABLE 1

1. RG1 – detached frame or concrete block garage
2. RG2 – detached masonry or log garage
3. RG3 – pole-frame garage
4. AB1 – general-purpose bank barns - masonry
5. AB2 – general-purpose bank barns – wood frame
6. AB3 – general-purpose bank barns - pole frame
7. AD1 – special-purpose dairy and horse barns – 2-story masonry
8. AD2 – special-purpose dairy and horse barns – 2-story wood
9. AD3 – special-purpose dairy and horse barns – 2-story pole frame
10. AD4 – special-purpose dairy and horse barns – 1-story masonry
11. AD5 – special-purpose dairy and horse barns – 1-story wood
12. AD6 – special-purpose dairy and horse barns – 1-story pole frame
13. BM1 – farm labor housing - dormitories – concrete block
14. BM2 – farm labor housing - dormitories – wood frame/wood siding
15. BM3 – farm labor housing - dormitories – steel frame/steel siding
16. BM4 – transient labor cabins – wood frame/wood siding

PERCENT GOOD TABLE 1						
STRUCTURE TYPE CODES: RG1, RG2, RG3, AB1, AB2, AB3, AD1, AD2, AD3, AD4, AD5, AD6, BM1, BM2, BM3, BM4						
Actual Age	CONDITION RATING					
	Excel.	Good	Average	Fair	Poor	Unsound
0 - 5	90	90	90	90	85	
6 - 10	85	85	80	80	75	50
11 - 15	80	75	75	70	65	35
16 - 20	75	70	65	60	55	25
21 - 25	70	65	60	55	45	15
26 - 30	65	60	50	50	35	10
31 - 35	60	55	45	40	30	10
36 - 40	60	50	45	40	25	10
41 - 45	55	50	40	35	25	5
46 - 50 & over	55	45	40	30	20	5

TABLE 2

1. AB4 – general-purpose flat barns – masonry
2. AB5 – general-purpose flat barns – wood frame
3. AB6 - general-purpose flat barns – pole frame
4. AM1 – milk houses – attached concrete block
5. AM2 – milk houses – attached wood frame
6. AM3 – milk houses – attached pole frame
7. AM4 – milk houses – detached concrete block
8. AM5 – milk houses – detached wood frame
9. AM6 – milk houses – detached pole frame
10. AM7 – milking parlors – attached concrete block
11. AM8 – milking parlors – attached wood frame
12. AM9 – milking parlors – attached pole frame
13. AM10 – milking parlors – detached concrete block
14. AM11 – milking parlors – detached wood frame
15. AM12 – milking parlors – detached pole frame
16. AS1 – concrete stave silo – with roof
17. AS2 – concrete stave silo – without roof
18. AS5 – concrete poured silo – with roof
19. AS6 – concrete poured silo – without roof

PERCENT GOOD TABLE 2						
STRUCTURE TYPE CODES: AB4, AB5, AB6, AM1, AM2, AM3, AM4, AM5, AM6, AM7, AM8, AM9, AM10, AM11, AM12, AS1, AS2, AS5, AS6						
Actual Age	CONDITION RATING					
	Excel.	Good	Average	Fair	Poor	Unsound
0 - 5	90	90	90	90	85	80
6 - 10	85	80	80	80	70	50
11 - 15	75	75	70	65	60	35
16 - 20	70	65	60	55	45	25
21 - 25	65	60	55	45	40	15
26 - 30	60	50	45	35	30	10
31 - 35	55	45	40	30	25	10
36 - 40	50	45	40	25	20	10
41 - 45	50	40	35	25	20	5
46 - 50 & over	45	35	30	20	15	5

TABLE 3

1. AC1 – frame corn cribs – wood board
2. AC2 – frame corn cribs – welded wire
3. AE2 – 45-degree hopper bottom tanks
4. AE3 - Fiberglass bottom bulk storage tanks
5. AH1 – poultry layer houses – 1-story pole frame/metal siding
6. AH2 – poultry layer houses – 2-story pole frame/metal siding
7. AH3 – poultry layer houses – 1-story concrete block
8. AH4 – poultry layer houses – 2-story concrete block
9. AH5 – poultry layer houses – 1-story steel frame/steel siding
10. AH6 – poultry layer houses – 2-story steel frame/steel siding
11. AH7 – poultry broiler houses – concrete block
12. AH8 – poultry broiler houses - pole frame/metal siding
13. AH9 – poultry broiler houses - steel frame/steel siding
14. AH10 – turkey barns - pole frame/metal siding
15. AH11 – turkey barns - steel frame/steel siding
16. AO1 – potato storage buildings – concrete block
17. AO2 – potato storage buildings – wood frame/wood siding
18. AO3 – potato storage buildings – pole frame/metal siding
19. AO4 – potato storage buildings –concrete block/heaped earth
20. AO5 – potato storage buildings – wood frame/wood siding
21. AO6 – potato storage buildings – pole frame/metal siding
22. AO7 – potato storage buildings – steel frame/steel siding
23. AO8 – tobacco barns – wood frame/wood siding
24. AO9 – tobacco barns – wood frame/vented walls
25. AO10 – tobacco barns – pole frame/metal siding
26. AO11 – tobacco barns – steel frame/steel siding
27. AR1 – granaries – wood frame/wood siding
28. AR2 - granaries – pole frame/metal siding
29. AR3 – granaries – steel frame/steel siding
30. AS3 – porcelain silos (Harvestore™) – price new
31. AS4 - porcelain silos (Harvestore™) – price preowned/rebuilt
32. AV1 – hog nursery barns - wood frame/wood siding
33. AV2 – hog nursery barns - pole frame/metal siding
34. AV3 – hog nursery barns - steel frame/steel siding
35. AV4 – hog farrowing barns - wood frame/wood siding
36. AV5 – hog farrowing barns - pole frame/metal siding
37. AV6 – hog farrowing barns - steel frame/steel siding
38. AV17 – automated nipple watering system for hogs – galvanized steel, obsolete
39. AV18 – automated nipple watering system for hogs – stainless steel
40. AX1 – loading/unloading system – auger-type conveyors
41. AX2 - loading/unloading system – belt-type conveyors

PERCENT GOOD TABLE 3						
STRUCTURE TYPE CODES: AC1, AC2, AE2, AE3, AH1, AH2, AH3, AH4, AH5, AH6, AH7, AH8, AH9, AH10, AH11, AO1, AO2, AO3, AO4, AO5, AO6, AO7, AO8, AO9, AO10, AO11, AR1, AR2, AR3, AS3, AS4, AVA1, AV2, AV3, AV4, AV5, AV6, AV17, AV18, AX1, AX2						
Actual Age	CONDITION RATING					
	Excel.	Good	Average	Fair	Poor	Unsound
0 - 5	90	90	90	90	85	80
6 - 10	80	80	80	75	70	50
11 - 15	75	70	70	65	60	35
16 - 20	70	60	60	55	50	25
21 - 25	60	55	50	45	40	15
26 - 30	55	50	45	35	30	10
31 - 35	50	45	35	30	25	10
36 - 40	45	40	30	25	20	10
41 - 45	45	35	30	25	20	5
46 - 50 & over	40	30	25	20	15	5

TABLE 4

1. RC1 – carport
2. RC2 – canopy
3. RS1 – frame utility shed
4. RS2 – metal utility shed
5. AB7 – free-stall dairy/beef barns - wood frame/wood siding
6. AB8 – free-stall dairy/beef barns - pole frame/metal siding
7. AB9 – free-stall dairy/beef barns - steel frame/steel siding
8. AB10 - free-stall dairy/beef barns – steel arch-rib frame/wire panels
9. AE1 – hopper scales
10. AF1 – concrete feed bunk
11. AF2 – post-and-plank feed bunk
12. AF3 – concrete fence bunk
13. AF4 – post-and-plank fence bunk
14. AI1 – personal manlift
15. AL1 – lean-to - wood frame/wood siding
16. AL2 – lean-to - pole frame/metal siding
17. AL3 - lean-to - steel frame/steel siding
18. AP1 – pole-frame utility buildings – four sides, closed metal
19. AP2 – pole-frame utility buildings – four sides, closed wood
20. AP3 – pole-frame utility buildings – one side, open metal
21. AP4 – pole-frame utility buildings – one side, open wood
22. AP5 – pole-frame utility buildings – four sides, open metal
23. AP6 – pole-frame utility buildings – four sides, open wood
24. AQ1 – arch-rib (quonset) farm utility buildings – wood arch frame/wood siding, with end walls
25. AQ2 – arch-rib (quonset) farm utility buildings – pole arch frame/metal siding, with end walls
26. AQ3 – arch-rib (quonset) farm utility buildings – steel quonset frame/metal siding, with end walls
27. AQ4 – arch-rib (quonset) farm utility buildings - wood arch frame/wood siding, with open ends
28. AQ5 – arch-rib (quonset) farm utility buildings - pole arch frame/metal siding, with open ends
29. AQ6 – arch-rib (quonset) farm utility buildings - steel quonset frame/metal siding, with open ends
30. AQ7 – arch-rib (quonset) farm implement buildings - wood arch frame/wood siding, with end walls
31. AQ8 – arch-rib (quonset) farm implement buildings - pole arch frame/metal siding, with end walls
32. AQ9 – arch-rib (quonset) farm implement buildings - steel quonset frame/metal siding, with end walls
33. AQ10 – arch-rib (quonset) farm implement buildings - wood arch frame/wood siding, with open ends
34. AQ11 – arch-rib (quonset) farm implement buildings - pole arch frame/metal siding, with open ends

35. AQ12 – arch-rib (quonset) farm implement buildings - steel quonset frame/metal siding, with open ends
36. AQ13 – arch-rib (quonset) farm utility hoop buildings
37. AQ14 – arch-rib (quonset) farm implement hoop buildings
38. AV7 – hog breeding/gestation barns - wood frame/wood siding
39. AV8 – hog breeding/gestation barns - pole frame/metal siding
40. AV9 – hog breeding/gestation barns - steel frame/steel siding
41. AV10 – hog finishing barns - wood frame/wood siding
42. AV11 – hog finishing barns - pole frame/metal siding
43. AV12 – hog finishing barns - steel frame/steel siding
44. AV13 – hog sheds - wood frame/wood siding
45. AV14 – hog sheds - pole frame/metal siding
46. AV15 – hog sheds – arch-rib/fabric cover
47. AV16 – hog sheds - steel frame/steel siding
48. AY1 – grain elevators – wood crib/metal clad
49. AY2 – grain elevators – concrete (slip form construction)
50. BA1 – stables – wood frame/wood siding
51. BA2 – stables – pole frame/metal siding
52. BA3 – stables – steel frame/steel siding
53. BA4 – high value (estate) stables – concrete block/brick, stone or tile
54. BA5 – high value (estate) stables – wood frame/brick, stone or tile
55. BC1 – arenas – w/feed, tack and washrooms - pole frame/metal siding
56. BC2 – arenas – w/feed, tack and washrooms - steel frame/steel siding
57. BC3 – arenas – arena only - pole frame/metal siding
58. BC4 – arenas – arena only - steel frame/steel siding
59. BD1 – farm commodity storage buildings – concrete block
60. BD2 – farm commodity storage buildings – wood frame/wood siding
61. BD3 – farm commodity storage buildings – pole frame/metal siding
62. BD4 – farm commodity storage buildings – steel frame/steel siding
63. BG1 – feeder barns (cattle sheds) - wood frame/wood siding
64. BG2 – feeder barns (cattle sheds) - pole frame/metal siding
65. BG3 – feeder barns (cattle sheds) - steel frame/steel siding
66. BH1 – farm implement (equipment shop) buildings - wood frame/wood siding
67. BH2 – farm implement (equipment shop) buildings - pole frame/metal siding
68. BH3 – farm implement (equipment shop) buildings - steel frame/steel siding
69. BH4 – farm implement equipment sheds - wood frame/wood siding
70. BH5 – farm implement equipment sheds - pole frame/metal siding
71. BH6 – farm implement equipment sheds - steel frame/steel siding
72. BL1 – truck scales

PERCENT GOOD TABLE 4						
STRUCTURE TYPE CODES: RC1, RC2, RS1, RS2, AB7, AB8, AB9, AB10, AE1, AF1, AF2, AF3, AF4, AI1, AL1, AL2, AL3, AP1, AP2, AP3, AP4, AP5, AP6, AQ1, AQ2, AQ3, AQ4, AQ5, AQ6, AQ7, AQ8, AQ9, AQ10, AQ11, AQ12, AQ13, AQ14, AV7, AV8, AV9, AV10, AV11, AV12, AV13, AV14, AV15, AV16, AY1, AY2, BA1, BA2, BA3, BA4, BA5, BC1, BC2, BC3, BC4, BD1, BD2, BD3, BD4, BG1, BG2, BG3, BH1, BH2, BH3, BH4, BH5, BH6, BL1						
Actual Age	CONDITION RATING					
	Excel.	Good	Average	Fair	Poor	Unsound
0 - 5	85	80	80	75	70	60
6 - 10	70	65	60	55	45	30
11 - 15	55	50	45	40	30	15
16 - 20	45	40	35	30	20	10
21 - 25	35	30	25	20	15	5
26 - 30 & over	30	25	20	15	10	5

TABLE 5

1. RN1 – greenhouses (conventional)
2. RN2 – greenhouses (solar)
3. AC3 – wire corn cribs - #2 gauge wire
4. AC4 – wire corn cribs - #4 gauge wire
5. AG1 – steel grain bins – without drying bins
6. AG2 – steel grain bins – with drying bins
7. AG3 – steel tanks
8. AK1 – bunker silos – concrete panels w/ 3" concrete floor
9. AK2 – bunker silos – wood plank w/ 3" concrete floor
10. AN1 – commercial greenhouses – straight wall structures – steel and aluminum frame/glass
11. AN2 – commercial greenhouses – straight wall structures – pipe frame/glass
12. AN3 – commercial greenhouses – straight wall structures –light pipe or wood frame/glass
13. AN4 – commercial greenhouses – straight wall structures –steel frame/plastic
14. AN5 – commercial greenhouses – straight wall structures – light pipe or wood frame/plastic
15. AN6 – commercial greenhouses – hoop structures – pipe frame/polycarbonate or acrylic cover
16. AN7 – commercial greenhouses – hoop structures – light pipe frame/arch frame/fiberglass panels
17. AN8 – commercial greenhouses – hoop structures – pipe or light tubular arch/double polyethylene cover
18. AN9 – commercial greenhouses – hoop structures – light pipe arch/wide spacing polyethylene cover
19. AT1 – trench silos – concrete panels w/ 3" concrete floor
20. AT2 – trench silos – wood plank w/ 3" concrete floor
21. AT3 – trench silos – dirt, plastic lined, no flooring
22. AW1 – bucket elevators – 3,000 to 5,000 bu/hr
23. AW2 – bucket elevators – 6,000 to 8,000 bu/hr
24. AW3 – horizontal drag (u-trough) conveyors
25. AZ1 – grain dryers – batch type
26. AZ2 – grain dryers – continuous-flow type
27. BF1 – flathouse storage buildings – pole frame/metal siding
28. BF2 – flathouse storage buildings – steel frame/steel siding
29. BF3 – flathouse storage buildings – steel slant-wall frame/ steel siding
30. BK1 – slurry tanks

PERCENT GOOD TABLE 5						
STRUCTURE TYPE CODES: RN1, RN2, AC3, AC4, AG1, AG2, AG3, AK1, AK2, AN1, AN2, AN3, AN4, AN5, AN6, AN7, AN8, AN9, AT1, AT2, AT3, AW1, AW2, AW3, AZ1, AZ2, BF1, BF2, BF3, BK1						
Actual Age	CONDITION RATING					
	Excel.	Good	Average	Fair	Poor	Unsound
0 - 5	80	80	75	70	65	50
6 - 10	60	60	55	45	35	25
11 - 15	50	45	35	30	20	15
16 - 20	40	30	25	20	15	10
21 - 25 & over	30	25	20	15	10	5

TABLE 6

1. RP1 - plastic lined pool
2. RP2 - prefabricated vinyl pool
3. RP3 - reinforced concrete pool
4. RP4 - fiberglass pool
5. RP5 - gunite pool

PERCENT GOOD TABLE 6						
STRUCTURE TYPE CODES: RP1, RP2, RP3, RP4, RP5						
Actual Age	CONDITION RATING					
	Excel.	Good	Average	Fair	Poor	Unsound
0 - 5	70	65	60	55	45	30
6 - 10	45	40	35	25	20	10
11 - 15 & over	30	25	20	15	10	5

TABLE 7

1. RM1 - mobile home

PERCENT GOOD TABLE 7								
STRUCTURE TYPE CODES: RM1								
Actual Age	CONDITION RATING							
	Excel.	V. Good	Good	Average	Fair	Poor	V. Poor	Unsound
1	100	97	94	92	87	82	77	-----
2	98	96	93	91	86	81	76	-----
3	97	95	92	90	85	80	75	-----
4	96	94	90	88	84	79	74	-----
5	95	92	88	86	83	78	73	-----
6	94	92	86	84	81	76	70	-----
7	93	90	84	82	79	74	67	-----
8	91	88	82	80	77	72	64	-----
9	90	86	80	78	76	70	61	-----
10	89	84	79	77	75	68	59	30
11	88	83	77	75	73	65	56	29
12	87	82	75	73	71	62	53	28
13	86	81	73	71	69	59	50	27
14	85	79	72	69	67	57	47	26
15	83	77	71	68	64	54	45	25
16	81	75	69	66	62	52	42	24
17	79	73	67	64	60	49	39	23
18	77	71	65	62	57	46	36	22
19	76	70	64	61	54	43	33	21
20	75	69	63	59	52	40	30	20
21 – 25	70	60	55	50	45	35	25	15
26 – 30	60	55	50	45	40	30	20	10
31 – 35	55	50	45	40	35	25	20	10
36 – 40	45	40	35	30	30	20	15	5
Over 40	40	35	35	30	25	15	15	5

The tables mentioned above are supplied as **guidelines to the appraiser** and are **not intended to replace sound appraisal judgment.**

SKETCH

1s FR — One-story frame

1s Br — One-story brick

1s STN — One-story stone

1s CB — One-story concrete block

1s Stucco — One-story stucco

$\frac{\frac{1}{2}^{S}\ FR}{\frac{1^{S}\ FR}{B}}$ — One-and-one-half-story frame and basement

$\frac{1^{S}\ BR}{1^{S}\ BR}$ — Two-story brick

$\frac{\frac{1}{2}^{S}\ BR}{\frac{1^{S}\ BR}{1^{S}\ BR}}$ — Two-and-one-half-story brick

OFP — Open frame porch

OMP — Open masonry porch

EFP — Enclosed frame porch

EMP — Enclosed masonry porch

F GAR — Frame garage

M GAR — Masonry garage

CPT — Carport

WD DK — Wood deck

CNPY — Canopy

MP — Masonry (concrete) patio

FSP — Flagstone patio

MS — Masonry stoop

MT — Masonry terrace

LAND AND LEGAL DESCRIPTIONS

Ac — Acre

Acg — Acreage

Act Frt — Actual frontage

175' — 175-foot average

Bk — Book

CI — Corner influence

Calc Acg — Calculated acreage

Dist — District

Eff Frt — Effective frontage

Eff D — Effective depth

EMF — Economical misimprovement factor

Esmt — Easement

F 33' — Figured frontage of 33 feet

FR 56' — Figured rear frontage of 56 feet

Frt — Frontage

HS — Homesite

IF — Influence factor

Imp — Improvement

Irr — Irregular

LI — Land improvement

L & B — Land and buildings

Mp — Map

Par — Parcel

Pg — Page

Prop — Property

R 75' — Rear frontage of 75 feet

Rd — Road

R. O. W. — Right-of-way

Rtg No — Routing number

St — Street

Swr — Sewer

Till — Tillable

Topo — Topography

Twn — Town

Twp — Township

UD — Undeveloped

UI — Unimproved

Utl — Utility

Vill — Village

Wd Lnd — Woodland

Wtr — Water

XF — Excessive frontage

XD — Excessive Depth

Zng — Zoning

MEASUREMENTS AND SYMBOLS

Ac — Acre

Acg — Acreage

Bd Ft — Board feet

BPD — Barrels per day

Brl — Barrel

BTU — British thermal unit

Bu — Bushel

Cap — Capacity

C/F or Cu/Ft — Cubic feet

Dbl — Double

Dia — Diameter

Ea — Each

Ft — Foot, feet

Ga — Gauge

Gal — Gallon

GPD — Gallons per day

Ht — Height

Lb — Pound

L/F or Lin Ft — Lineal feet

No — Number

o.c. — On center

S/F or Sq Ft — Square feet

31^6 — 31 feet, 6 inches

Yd — Yard

▯ — Square feet

▯ — Cubic feet

S — Story

 # (xx) — Number

(xx) # — Pounds

° — Degrees

’ — Feet (or minutes)

” — Inches (or seconds)

+ — Plus

– — Minus

± — Plus or minus

x — Times or by

= — Equals

> — Is greater than

< — Is less than

π — Pi (3.1416)

∞ — Infinity

@ — At, e.g., 10 lb. @ $1.00/lb

|| — Parallel

▯ — Angle

▯ — Angles

▯ — Channel

▯S — Channels

/ — Per, e.g., price/lb.

ARCHITECTURAL

Apt — Apartment

Art — Artificial

Asb — Asbestos

Att — Attached

Bldg — Building

Bsmt — Basement

BT Pav — Black top paving

CB — Concrete block

Clg — Ceiling

Cmt — Cement

Col — Column

Com — Common

Comp — Composition

Conc — Concrete

Const — Construction

Dbl — Double

DH — Double hung

Dk — Deck

Dkg — Decking

Drs — Doors

DP — Double pitch

D&M — Dressed and matched

Dwg — Dwelling

Elec — Electric

Elev — Elevators

Equip — Equipment

Excav — Excavation

Excl — Excluding

Ext — Exterior

Fibr Gls — Fiberglass

Fin — Finish
Fixt — Fixtures
Flr — Floor
Flrg — Flooring
Ftg — Footing
Fdtn — Foundation
Fr — Frame
Frt — Freight
Galv — Galvanized
GI — Galvanized iron
Gar — Garage
Gls — Glass
H Col — H column
Hd Wd — Hardwood
Htr — Heater
Htg — Heating
HT — Hollow tile
Horiz — Horizontal
HP — Horsepower
Hse — House
I Bm — I beam
Incl — Including
I.D. — Inside diameter or identification
Int — Interior
Int Fin — Interior finish
I-Com — Intercom system
Jst — Joist
K & T — Knob and tube
Lam — Laminated
Ldg — Landing
L & P — Lath and plaster
Lav — Lavatory
L & O — Lead and oil
Lt — Light
Ltg — Lighting
Lts — Lights
Linol — Linoleum
Mach — Machine
Mas — Masonry
Mech — Mechanical
MF — Mechanical features
Met — Metal
Mezz — Mezzanine
Misc — Miscellaneous
Mono — Monolithic
Obsol — Obsolete, obsolescence
Ofc — Office
o.c. — On center
1 E — One end
1 S — One side
OF — Other features
OD — Outside diameter
OH — Overhead or overhang
Pnt — Paint
Par — Parapet
Pt — Part
Ptn — Partition
PW — Party wall
Pass — Passenger
Pav — Paving
Pil — Pilaster
Plk — Plank
Plstr — Plaster
Plstrd — Plastered
Plbg — Plumbing
Pch — Porch
Purl — Purlin
Rec Room — Recreation room
Rftr — Rafter
RR — Railroad
Refrig — Refrigerated
Rein — Reinforced
Rein Conc — Reinforced concrete
Ret Wl — Retaining wall
Rf — Roof
Rfg — Roofing
Rm — Room
Shtg — Sheathing
Sdg — Siding
SP — Single pitch
SS — Slop sinks
Sprink — Sprinkler

Sq — Square
Strs — Stairs
Std — Standard
Stdg — Standing
Stm — Steam
Stl — Steel
Stl Pl — Steel plate
Stge — Storage
Sup — Supports
Sys — System
T & G — Tar and gravel or tongue and groove
Terr — Terrace
Tbr — Timber
Toil — Toilet
TR — Toilet room
Unfin — Unfinished
Urin — Urinal
Ven — Veneer
Vent — Ventilator
Vit — Vitrified
VT — Vitrified tile
Wsct — Wainscot
Whse — Warehouse
w c — Water closet
WP — White pine
WF — Wide flange
Wind — Window
Wir — Wiring
Wd — Wood
Wb Fp — Wood-burning fireplace
Yd — Yard
YP — Yellow pine

GENERAL

Agr — Agriculture
Assmt — Assessment
Av — Average
CDU — Condition, desirability, usefulness
C & D — Cost and design
Comm — Commercial
Depr — Depreciation
EDP — Electronic data processing
Est — Estimate(d)
Ex — Exempt
Excl — Excluding
Gr — Grade
I & E — Income and expense
Incl — Including
Ind — Industrial
LDS — Live data system
N/A — Not applicable
N/C — New construction
NF — Nothing furnished
NV — No value
Obsol — Obsolete or obsolescence
PIF — Priced in field
PRC — Property record card
PU — Public utility
RC — Replacement cost
RCLD — Replacement cost less depreciation
Res — Residential
RV — Replacement value
Sched — Sched
SV — Sound value
T or Tot — Total
UF — Utilities furnished
Utl Val — Utility value
Val — Value

Apartment hotel, a building designed for nontransient residential use, divided into dwelling units similar to an apartment house, but having such hotel accommodations as room furnishings, lounges, public dining room, maid service, etc.

Apartment house, a multifamily residence containing three or more nontransient residential living units and generally providing them with a number of common facilities and services. Compare *Tenement, Flat, Terrace.*

Attic, an unfinished or semifinished portion of a building lying between the highest finished story and the roof and wholly within the roof framing.

Basement, a building story which is wholly or partly below the grade level.

Bay, (1) a horizontal area division of a building, usually defined as the space between columns or division walls; (2) an internal recess formed by causing a wall to project beyond its general line.

Bay window, a window or group of continuous windows projecting from the main wall of a building.

Beam, a long structural load-bearing member which is placed horizontally or nearly so and which is supported at both ends or, infrequently, at intervals along its length.

Beam, spandrel, a wall beam supporting the wall above, as well as the floor.

Building, any structure partially or wholly above ground which is designed to afford shelter to persons, animals or goods.

Building, fireproof, a building in which all parts carrying loads or resisting stresses and all exterior and interior walls, floors and staircases are made of incombustible materials and in which all metallic structural members are encased in materials which remain rigid at the highest probable temperature in case its contents are burned or which provide ample insulation from such a temperature.

Building, loft, a building having three or more stories, with few or no interior bearing walls and designed for storage, wholesaling or light industrial purposes. See also *Loft.*

Building, single-purpose, a building designed for a specific purpose and which cannot be used for another purpose without substantial alterations, e.g., a theater or church.

Bungalow, a one-story dwelling unit which is somewhat more pretentious than a cottage.

Column, a structurally isolated vertical member which is at least 8 to 10 times as long as its least lateral dimension and which is designed to carry loads. Compare *Pier.*

Conduit, a tube, pipe or small artificial tunnel used to enclose wires or pipes or to convey water or other fluids.

Construction, brick, a type of construction in which the exterior walls are bearing walls (q.v.) made of solid brick and tile masonry.

Construction, brick veneer, a type of construction in which the exterior walls are one-layer brick curtain walls backed by a wood frame.

Construction, fireproof, see *Building, fireproof.*

Construction, mill, a type of construction in which the exterior walls are substantial masonry bearing walls, in which the structural members are of heavy timber, and which is further characterized by an open design and by other safeguards against fire hazards. Sometimes called *Slow Burning Construction.*

Construction, reinforced concrete, a type of construction in which the principal structural members, such as the floors, columns, etc., are made of concrete poured around isolated steel bars or steel meshwork in such a manner that the two materials act together in resisting forces.

Construction, steel frame, a type of construction in which a framework of steel structural members supports all loads and resists all stresses.

Construction, wood frame, a type of construction in which a framework of wooden structural members supports all loads and resists all stresses. Loosely called *Frame Construction.*

Coping, a special capping at the top of a wall, serving principally as a watershed.

Cornice, a projecting element at the top of a wall, serving principally as a decoration or as part of the coping.

Cottage, a one-story to two-story dwelling unit of small size and humble character.

Course, a uniform horizontal layer of brick, stone, terra cotta, shingles, or some other structural material, extending continuously around a building or along a wall.

Court, an open space bordered on two or more sides by the walls of a single building, or of two or more buildings, and by a lot line or a yard on any side not so bordered.

Dormer, (1) a relatively small structure projecting from a sloping roof; (2) a window set upright in the face of such a structure.

Dwelling, any building or portion thereof designed or occupied in whole or in part as a place of residence.

Dwelling, attached, a multifamily dwelling in which the dwelling units are separated vertically by means of common or party walls. See also *Terrace.*

Dwelling, double, a two-family dwelling in which the dwelling units are separated vertically by means of a common or party wall. Synonymous with *Semidetached dwelling.*

Dwelling, duplex, a two-family dwelling in which the two dwelling units are separated horizontally, with a private street entrance for each; i.e., a two-family flat.

Dwelling, multi-family, a building designed as a place of residence for more than two families or households; e.g., an apartment house or tenement.

Dwelling, row, any one of a series of similar single-family, two-family or multi-family dwellings having one or more contiguous, common, or party walls. Compare *Terrace; Dwelling, double.*

Dwelling unit, any room or group of rooms designed as the living quarters of one family or household, equipped with cooking and toilet facilities, and having an independent entrance from a public hall or from the outside.

Eaves, the portion of a sloping roof which projects beyond the outside walls of a building.

Elevation, a drawing representing a projection of any one of the vertical sides or vertical cross-sections of a building or of any other object. Compare *Plan.*

Façade, the face of a building.

Firewall, a wall of fire-resisting material erected between two parts of a building to prevent the spread of fire from one part to the other.

Flashing, small metal strips used to keep roofs from leaking around chimneys, dormers, hips and valleys.

Flat, (1) any one floor of a building two or more stories high, each floor of which constitutes a single dwelling unit and has a private street entrance; (2) the building containing two or more such floors. Compare *Apartment house, Tenement, Terrace.*

Footing, a spreading base to a wall, column or other supporting member, which serves to widen the ground area to which structural loads are transmitted.

Foundation, the structural members below grade level, or below the first tier of beams above grade level, which transmit the load of a superstructure to the ground.

Gable, (1) the triangular portion of a wall between the slopes of a double-sloping (i.e., gable) roof; (2) the whole of the wall containing such a triangular portion; (3) a portion of a building extending from the remainder of the building and covered with a gable roof.

Girder, a large or principal beam (q.v.) used to support concentrated loads at isolated points along its length. Girders usually support the beams and structure above. Compare *Truss.*

Header, (1) a structural member which is laid perpendicularly to a parallel series of similar members and against which the latter members abut; (2) a brick or other piece of masonry which is laid in a wall in such a manner that its longest dimension extends along the thickness of the wall. Contrast *Stretcher.*

Hip, (1) a sloping line along which two roof surfaces meet to form an external angle of more than 180 degrees; (2) a hip rafter (q.v.). Compare *Ridge; Valley.*

Hotel, a building designed for transient or semi-transient residential use, divided into furnished single rooms and suites and having such accommodations as lounges, public dining rooms and maid service, etc.

Hotel, apartment, see *Apartment hotel.*

Joist, one of a series of small parallel beams laid on edge and used to support floor and ceiling loads, and usually supported in turn by larger beams and girders.

Lintel, a beam over a wall opening, such as a door or window, designed to carry the load of the wall over such an opening.

Loft, an unpartitioned or relatively unpartitioned upper story of a building, designed for storage, wholesaling or light manufacturing. See also *Building, loft .*

Louver (or louvre), a ventilator containing slats which are placed lengthwise across the ventilator opening, each slat being slanted in such a manner as to overlap the next lower slat and to permit ventilation but exclude rain.

Marquise, a flat roof-like structure which shelters a doorway; it has no floor beneath it and is usually supported wholly from the walls or the building.

Mezzanine, low story formed by placing a floor between what would ordinarily be the floor and ceiling of a high story. Note: the mezzanine floor frequently has a smaller area than other floors and, if present at all, is usually between the first and second stories.

Millwork, all of the wooden portions of a building, whether frame construction or otherwise, which are customarily purchased in finished form from a planing mill, such as doors, windows, trim, balusters, etc.

Overhang, a finished portion of a building, having full story height and extending beyond the foundation wall line if part of the ground story, or beyond the exterior walls of the ground story if part of any higher story.

Overhead structure, similar to *overhang* above a ground story, as O.H. bridge or passage, O.H. walk, O.H. addition.

Partition, see *Wall, partition.*

Pier, (1) a thick, solid mass of masonry which is fully or partially isolated from a structural standpoint and which is designed to transmit vertical loads to the earth; (2) a structure projecting from land into water for use in loading and unloading vessels. Compare *Column.*

Pilaster, a flat-faced pillar projecting somewhat from, but engaged in, the wall of a building and used for decorative purposes or to help support truss and girder loads or both.

Pile, a heavy timber, metallic or masonry pillar forced into the earth to form a foundation member.

Pitch, the slope of any structural member, such as a roof or rafter, usually expressed as a simple fraction representing the rise per lateral foot.

Plan, a drawing representing a projection of any one of the floors or horizontal cross-sections of a building or of the horizontal plane of any other object or area. Compare *Elevation.*

Purlin, a beam running along the underside of a sloping roof surface and at right angles to the rafters, used to support the common rafters, and usually supported in turn by larger structural members, such as trusses or girders (usually runs along length of building). See also *Rafter.*

Rafter, a structural member placed, as a rule, in a sloping position and used as the supporting element for the structural material forming the plane of the roof. See also *Purlin.*

Rafter, hip, a rafter placed in an inclined position to support the edges of two sloping roof surfaces which meet to form an external angle of less than 180 degrees.

Rafter, valley, a rafter placed in an inclined position to support the edges of two sloping roof surfaces which meet to form an external angle of less than 180 degrees.

Ramp, an inclined plane connecting two different floor levels and used in lieu of steps.

Residence, see *Dwelling.*

Ridge, a horizontal line along which the upper edges of two roof surfaces meet to form an external angle of more than 180 degrees. Compare *Hip; Valley.*

Rise, (1) in general, any vertical distance; (2) specifically, the rise of a roof, being the distance between the top of an exterior wall and the peak of the roof; the rise of a stair, being the distance from tread to tread.

Roof, curb (or curbed), a roof in which the pitch of the upper part of a sloping side is less than the pitch of the lower part.

Roof, flat, a roof which is flat or sloped only enough to provide proper drainage.

Roof, gable, a double-sloped roof having a cross section similar to the shape of the inverted letter *V.*

Roof, gambrel, a curbed gable roof.

Roof, hip (or hipped), (1) in general, any roof having one or more hips; (2) usually, a roof with four sloping sides meeting along four hips or along four hips and a ridge. Compare *Roof, pyramid.*

Roof, lean-to, (1) a roof having a single sloping side which is supported at the upper edge by the wall of an attached building or of a larger and higher portion of the same building; (2) any roof with a single slope.

Roof, mansard, a special type of curb roof in which the pitch of the upper part of each of the four equally sloping sides is small or negligible and that of the lower part very great, and from the lower part of which a series of dormers project.

Roof, monitor, a type of gable roof, commonly found on industrial buildings, having a small raised portion along the ridge with openings for the admission of light and air.

Roof, pyramid, a hip roof having four sloping triangular sides, usually of equal pitch, meeting together at the peak. Compare *Roof, hip.*

Roof, ridges, a roof having one or more ridges (q.v.).

Roof, saw tooth, a roof with a series of parallel sloping surfaces interspersed between a series of vertical surfaces which rise from the lower edges of such sloping surfaces and which contain windows for the admission of light and air.

Roof, single pitch, any roof (other than a lean-to roof) with a single slope.

Sash, the wooden or metal framework in which the glass of a door or window is set.

Sheathing, the covering, usually of rough lumber, placed immediately over studding or rafters.

Sill, (1) the lower horizontal part of a door-case (the threshold) or of a window; (2) the lowest horizontal structural member of a frame building, upon which the superstructure is supported.

Sleeper, a structural member laid horizontally on the ground or upon a masonry base as a support to a floor or other superstructures.

Specifications, detailed descriptions of the dimensions, materials, quantities, structural procedures, etc., applicable to projected or completed pieces of construction.

Story, that portion of a building enclosed by a floor, a ceiling and the exterior walls.

Story, ground, the first story lying wholly above the ground level. Synonymous with *First Story.*

Story, half (or one-half), (1) for buildings with a mansard or gambrel roof, a finished portion of a building which lies above the wall plate or cornice and which has a usable floor area substantially less than that of the next lower story; (2) for all other buildings, a finished portion of a building which is above one or more full stories and which is wholly or partly within the roof frame and which has one or more exterior walls substantially lower than the full height of the story.

Story, one, a building having no finished story above the ground story.

Stretcher, a brick or other piece of masonry which is laid lengthwise in a wall. Contrast *Header.*

Strut, any structural member which holds apart two or more other members by counteracting a pressure tending to bring them together. Contrast *Tie*.

Stud, one of a series of small slender structural members placed vertically and used as the supporting element of exterior or interior walls.

Subfloor, the flooring laid directly on top of the floor joists but beneath the finish floor.

Tenement, a building, usually of obsolete nature, designed primarily for nontransient residential use and divided into three or more dwelling units having common stairs, halls and street entrances, and sometimes common bath and toilet rooms. Compare *Apartment House; Flat; Terrace.*

Terrace, (1) an unroofed level area covered with grass or masonry or both, raised above the surrounding ground level, and having a vertical or sloping front; (2) a multifamily dwelling in which the dwelling units are separated vertically by means of common or party walls. Compare *Dwelling, row; Dwelling, double; Apartment house; Flat; Tenement.*

Terra cotta, a hard-baked pottery molded into decorative tiles, bricks, etc., and used particularly for facing and trim on buildings.

Tie, any structural member which binds together two or more members by counteracting a stress which tends to draw them apart. Contrast *Strut.*

Trim, (1) the wooden portions of a plastered room, such as the doors, windows, wainscoting and molding, or the corresponding portions of a room finished with a material other than plaster; (2) the contrasting elements on the exterior of a building which serve no structural purpose but are intended to enhance its appearance; e.g., the cornice; (3) occasionally, the hardware of a house, such as locks, hinges, doorknobs, etc.

Truss, a combination of structural pieces fastened together into a rigid open member which is supported at both ends and upon which loads are superimposed. Compare *Girder.*

Valley, a sloping line along which two roof surfaces meet to form an external angle of less than 180 degrees. Compare *Hip, Ridge.*

Veneer, a thin ornamental or protective facing which does not add appreciably to the strength of the body to which it is attached.

Wainscot (or wainscoting), (1) a wooden facing on the lower portion of a contrasting interior wall; (2) by extension, a facing of marble tile, or the like, on the lower portion of interior walls.

Wall, bearing, a wall designed primarily to withstand vertical pressure in addition to its own weight.

Wall, common, a wall owned by one party but jointly used by two parties, one or both of whom is entitled to such use under the provisions of a lease.

Wall, curtain, a nonbearing wall which is supported by columns, beams or other structural members, and whose primary function is to enclose space.

Wall fire, see *Firewall.*

Wall, partition, an interior bearing or nonbearing wall which separates portions of a story. Synonymous with *Partition.*

Wall, party, a wall jointly used by two parties under easement agreement and erected at or upon a line separating two parcels of land held under different ownership.

Wall, retaining, a wall designed primarily to withstand lateral pressures of earth or other filling or backing deposited behind it after construction.

Window, bay, see *Bay Window.*

Window, dormer, see *Dormer.*

Wing, a subordinate part of a building extending from the main part, or any one of two or more substantially coordinate parts of a building which extend out from one or more common junctions.

Abstract, a computer-printed report of appraised and/or assessed values for each parcel of real property in a given taxing district; generally sequenced geographically.

Accrued depreciation, see *Depreciation*.

Actual age, the number of years elapsed since the original construction, as of the effective valuation date. Compare *Effective age.*

***Ad valorem* tax,** in reference to property, a tax based upon the value of the property.

Aesthetic value, a value, intangible in nature, which is attributable to the pleasing appearance of a property.

Agricultural property, land and improvements devoted to or best adaptable for the production of crops, fruits and timber and the raising of livestock.

Air rights, the right to the use of a certain specified space within the boundaries of a parcel of land and above a specified elevation.

Alley influence, the enhancement to the value of a property rising out of the presence of an abutting alley; generally applicable to commercial properties.

Amenities, in reference to property, the intangible benefits arising out of ownership; *amenity value* refers to the enhancement of value attributable to such amenities.

Appraisal, an estimate, usually in written form, of the value of a specifically described property as of a specified date; may be used synonymously with valuation or appraised value.

Appraisal schedules, any standardized schedules and tables used in conjunction with a revaluation program such as replacement cost pricing schedules, depreciation tables, land depth tables, etc.

Appraised value, see *Appraisal.*

Appraiser, one who estimates value. More specifically, one who possesses the expertise to execute or direct the execution of an appraisal.

Assessed value, see *Assessment.*

Assessing, the act of valuing a property for the purpose of establishing a tax base.

Assessment, the value of taxable property to which the tax rate is to be applied in order to compute the amount of taxes; may be used synonymously with assessed value, taxable value and tax base.

Assessment district, an assessor's jurisdiction; it may or may not be an entire tax district.

Assessment period, the period of time during which the assessment of all properties within a given assessment district must be completed; the period between tax lien dates.

Assessment ratio, the ratio of assessed value to a particular standard of value, generally the appraised value. A percentage to be applied to the appraised value in order to derive the assessed value.

Assessment roll, the official listing of all properties within a given taxing jurisdiction by ownership, description and location, showing the corresponding assessed values for each; also referred to as *tax list, tax book, tax duplicate* and *tax roll.*

Assessor, the administrator charged with the assessment of property for *ad valorem* taxes; his precise duties differ from state to state depending upon state statutes.

Average deviation, in a distribution of values, the average amount of deviation of all the values from the mean value, equal to the total amount of deviation from the mean divided by the number of deviations. As applied to an assessment-to-sale ratio distribution, the average amount which all the ratios within the distribution deviate from the mean ratio.

Base price, a value or unit rate established for a certain specified model, and subject to adjustments to account for variations between that particular model and the subject property under appraisement.

Blighted area, a declining area characterized by marked structural deterioration and/or environmental deficiencies.

Board of Equalization, a nonjurisdictional board charged with the responsibility of reviewing assessments across properties and taxing districts to ensure that said properties and districts are assessed at a uniform level, either raising or lowering assessments accordingly; also referred to as the *Board of Appeals* and *Board of Review*.

Building residual technique, a building valuation technique which requires the value of the land to be a known factor; the value of the buildings can then be indicated by capitalizing the residual net income remaining after deducting the portion attributable to the land.

Capitalization, a mathematical procedure for converting the net income which a property is capable of producing into an indication of its current value. See also *Income approach*.

CDU rating, a composite rating of the overall condition, desirability and usefulness of a structure as developed by the Cole-Layer-Trumble Company and used nationally as a simple, direct and uniform method of estimating accrued depreciation.

Central business district, the center of the city in which the primary commercial, governmental and recreational activities are concentrated.

Certified assessment evaluator, a professional designation (CAE) conferred by the International Association of Assessing Officers (IAAO) upon qualifying assessors.

Certified property tax, an *ad valorem* property tax under which the assessment ratio varies for different property classes.

Component part-in-place method, the application of the unit-in-place method to unit groupings or construction components. See also *Unit-in-place method*.

Corner influence, the enhancement of the value of a property, rising out of its corner location; most generally applicable to commercial properties.

Cost approach, one of the three traditional approaches to value, under which an indication of the value of a property is arrived at by estimating the value of the land, the replacement or reproduction cost new of the improvements and the amount of accrued depreciation to the improvements; the estimated land value is then added to the estimated depreciated value of the improvements to arrive at the estimated property value. Also referred to as the *cost-to-market approach* to indicate that the value estimates are derived from market data abstraction and analysis.

Cost factor, a factor or multiplier applied to replacement or reproduction costs to account for variations in location and time, as well as for other elements of construction costs not otherwise considered.

Cubic content, the cubic volume of a building within the outer surface of the exterior walls and roof and the upper surface of the lowest floor.

Deed, a written instrument which conveys an interest in real property. A **quit claim** deed conveys the interest described therein without warranty of title. A **trust deed** conveys interest described therein to a trustee. A **warranty deed** conveys the interest described therein with the provisions that the freehold is guaranteed by the grantor, his heirs or successors.

Depreciation, loss in value from all causes; may be further classified as **physical,** referring to the loss of value caused by physical deterioration; **functional,** referring to the loss of value caused by obsolescence inherent in the property itself; and **economic,** referring to the loss of value caused by factors extraneous to the property.

Accrued depreciation refers to actual depreciation in a particular property as of a specified date.

Normal depreciation refers to that amount of accrued depreciation one would normally expect to find in buildings of certain construction, design, quality and age.

Depreciation allowance, loss of value expressed in terms of a percentage of replacement or reproduction cost new.

Depth factor, a factor or multiplier applied to a unit of land value to adjust that value to account for variations from an adopted standard depth.

Depth table, a table of depth factors.

Design factor, a factor or multiplier applied to a computed replacement cost as an adjustment to account for cost variations attributable to the particular design of the subject property which were not accounted for in the particular pricing schedule used.

Deterioration, impairment of structural condition evidenced by the wear and tear caused by physical use and the action of the elements; also referred to as *physical depreciation.*

Economic depreciation, see *Depreciation.*

Economic life, the life expectancy of a property, during which it can be expected to be profitably utilized.

Economic obsolescence, obsolescence caused by factors extraneous to the property. Also referred to as *economic depreciation.*

Economic rent, the rent which a property can be expected to bring in the open market, as opposed to contract rent or the rent the property is actually realizing at a given time.

Effective age, an age assigned to a structure based upon its condition as of the effective valuation date; it may be greater or less than the structure's actual age. Compare *Actual age.*

Effective depth, in reference to property valuation, that depth, expressed in feet, upon which the selection of the depth factor is based.

Effective frontage, in reference to property valuation, the total frontage, expressed in lineal feet, to which the unit land value is applied; it may or may not be the same as the actual frontage.

Effective gross income, the estimated gross income of a property, less an appropriate allowance for vacancies and credit losses.

Effective valuation date, in reference to a revaluation program, the date as of which the value estimate is applicable.

Encroachment, the displacement of an existing use by another use.

Environmental deficiency, a neighborhood condition such as adverse land uses, congestion, poorly designed streets, etc., operating to cause economical obsolescence and, when coupled with excessive structural deterioration, blight.

Equalization program, a mass appraisal (or reappraisal) of all property within a given taxing jurisdiction with the goal of equalizing values in order to ensure that each taxpayer is bearing only his fair share of the tax load; may be used synonymously with a *revaluation program*.

Equity, in reference to property taxes, a condition in which the tax load is distributed fairly or equitably; opposite of inequity, which refers to a condition characterized by an unfair or inequitable distribution of the tax burden. **Inequity** is a natural product of changing economic conditions which can only be effectively cured by periodical equalization programs.

In reference to value, it is that value of the property remaining after all liens and charges against it are deducted.

Excessive frontage, frontage which, because of the particular utility of the lot, does not serve to add value to the lot.

Exempt property, see *Tax exemption.*

Fee appraisal, see *Mass appraisal.*

Field crew, the total professional staff assigned to a specific appraisal project, including data collectors, reviewers, staff appraisers and clerical and administrative supporting personnel.

Functional depreciation, see *Depreciation.*

Functional obsolescence, obsolescence caused by factors inherent in the property itself. Also referred to as *functional depreciation*.

Functional utility, the composite effect of a property's usefulness and desirability upon its marketability.

Grade, the classification of an improvement based upon certain construction specifications and quality of materials and workmanship.

Grade factor, a factor or multiplier applied to a base grade level for the purpose of interpolating between grades or establishing an intermediate grade.

Grantee, a person to whom property is transferred and property rights are granted by deed, trust instrument or other similar documents. Compare with *Grantor.*

Grantor, a person who transfers property or grants property rights by deed, trust instrument or other similar documents. Compare with *Grantee.*

Gross area, the total floor area of a building, measured from the exterior of the walls.

Gross income, the scheduled annual income produced by the operation of a business or by the property itself.

Gross income multiplier, a multiplier representing the relationship between the gross income of a property and its estimated value.

Gross sales, the total amount of invoiced sales before making any deductions for returns, allowances, etc.

Ground lease, a document entitling the lessee to certain specified rights relating to the use of the land.

Ground rent, net rent from a ground lease; that portion of the total rent which is attributable to the land only.

Improved land, land developed for use by the erection of buildings and other improvements.

Income approach, one of the three traditional approaches to value, which measures the present worth of the future benefits of a property by the capitalization of its net income stream over its remaining economic life. The approach involves making an estimate of the potential net income the property may be expected to yield, and capitalizing that income into an indication of value. See also *Capitalization.*

Income property, a property primarily used to produce monetary income.

Industrial park, a subdivision designed and developed to accommodate specific types of industry.

Industrial property, land and improvements, and/or machinery used or adaptable for use in the production of goods either for materials, or by changing other materials and products . . . i.e., assembling, processing and manufacturing . . . as well as the supporting auxiliary facilities thereof.

Inequity, see *equity.*

Influence factor, a factor serving to either devalue or enhance the value of a particular parcel of land, or portions thereof, relative to the norm for which the base unit values were established; generally expressed in terms of a percentage adjustment.

Institutional property, land and improvements used in conjunction with providing public services and generally owned and operated by the government or nonprofit organizations—hospitals, schools, prisons, etc. Such property is generally held exempt from paying property taxes.

Interest rate, the rate of return from an investment.

Land classification, the classification of land based upon its capabilities for use and/or production.

Land contract, a purchase contract wherein the grantee takes possession of the property with the grantor retaining the deed to the property until the terms of the contract are met as specified.

Land residual technique, land valuation technique which requires the value of the building(s) to be known; the value of the land can then be indicated by capitalizing the residual net income remaining after deducting the portion attributable to the building(s).

Landscaping, natural features such as lawns, shrubs and trees added to a plot of ground or modified in such a way as to make it more attractive.

Land use restrictions, legal restrictions regulating the use to which land may be put.

Land value maps, a map used in conjunction with mass appraising, generally drawn to small scale and showing comparative unit land values, on a block to block basis.

Lease, lessee, lessor, a written contract by which one party (lessor) gives to another party (lessee) the possession and use of a specified property, for a specified time, and under specified terms and conditions.

Leasehold, a property held under the terms of a lease.

Leasehold improvements, additions, renovation and similar improvements made to a leased property by the lessee.

Leasehold value, the value of a leasehold; the difference between the contractual rent and the currently established economic or market rent.

Legal description, a description of a parcel of land, which serves to identify the parcel in a manner sanctioned by law.

Lister, a field inspector whose principal duty is to collect and record property data (not an appraiser). Also referred to as a *data collector.*

Market data approach, one of the three traditional approaches to value, by which an indication of the value of a property is arrived at by compiling data on recently sold properties which are comparable to the subject property and adjusting their selling prices to account for variations in time, location and property characteristics between the comparables and the subject property.

Market value, the price an informed and intelligent buyer, fully aware of the existence of competing properties and not compelled to act would be justified in paying for a particular property.

Mass appraisal, appraisal of property on a wholesale scale, such as an entire community, generally for *ad valorem* tax purposes, using standardized appraisal techniques and procedures to effect uniform equitable valuations within a minimum of detail and within a limited time period and at a limited cost . . . as opposed to a **fee appraisal,** which is generally used to refer to a rather extensive detailed appraisal of a single property or singularly used properties for a specified purpose.

Member, Appraisal Institute, a professional designation (M.A.I.) conferred by the American Institute of Real Estate Appraisers upon qualifying real estate appraisers.

Mineral rights, the right to extract subterranean deposits such as oil, gas, coal and minerals as specified in the grant.

Minimum rental, that portion of the rent in a percentage lease which is fixed.

Model method, a method of computing the replacement or the reproduction cost of an improvement by applying the cost of a specified model and adjusting the cost to account for specified variations between the subject improvement and the model.

Modernization, the corrective action taken to update a property so that it will conform to current standards.

Mortgage, mortgagee, mortgagor, a legal document by which the owner of a property (mortgagor) pledges the property to a creditor (mortgagee) as security for the payment of a debt.

Neighborhood, a geographical area exhibiting a high degree of homogeneity in residential amenities, land use, economic and social trends and housing characteristics.

Neighborhood trend, three stages in the life cycle of a neighborhood . . .the *improving stage,* characterized by development and growth; the *static stage,* characterized by a leveling off of values; and the *declining stage,* characterized by infiltration and decay.

Net income, the income remaining from the effective gross income after deducting all operating expenses related to the cost of ownership.

Net lease, a lease wherein the lessee assumes all applicable operating expenses related to the cost of ownership; also referred to as *net net,* or *net net net lease.*

Net sales, gross sales less returns and allowances.

Net sales area, the actual floor area used for merchandising, excluding storage rooms, utility and equipment rooms, etc.

Non-conforming use, a use which, because of modified or new zoning ordinances, no longer conforms to current use regulations, but which is nevertheless upheld to be legal so long as certain conditions are adhered to.

Observed depreciation, that loss in value which is discernable through physical observation by comparing the subject property with a comparable property either new or capable of rendering maximum utility.

Obsolescence, a diminishing of a property's desirability and usefulness brought about by either functional inadequacies and overadequacies inherent in the property itself, or by adverse economic factors external to the property. Refer to *Functional depreciation* and *Economic depreciation.*

Operating expenses, the fixed expenses, operating costs and reserves for replacements which are required to produce net income before depreciation, and which are to be deducted from effective gross income in order to arrive at net income.

Overage income, rental received in addition to the minimum contract rental based upon a specified percentage of a tenant's business receipts.

Overall rate, a capitalization rate representing the relationship of the net income (before recapture) of a property to its value as a single rate; it necessarily contains, in their proper proportions, the elements of both the land and building capitalization rates.

Overassessed, a condition wherein a property is assessed proportionately higher than comparable properties.

Parcel, piece of land held in one ownership.

Percentage lease, a type of lease in which the rental is stipulated to be a percentage of the tenant's gross or net sales, whichever specified.

Permanent parcel number, an identification number, which is assigned to a parcel of land to uniquely distinguish that parcel from any other parcel within a given taxing jurisdiction.

Personal property, property which is not permanently affixed to and a part of the real estate, as specified by state statutes.

Physical depreciation, see *Depreciation.*

Preferential assessment, an assessing system which provides preferential treatment in the form of reduced rates to a particular class of property, such as a system providing for farm properties to be assessed in accordance with their value in use as opposed to their value in the open market.

Property class, a division of like properties generally defined by statutes and generally based upon their present use. The basis for establishing assessment ratios in a classified property assessment system. See *Classified property tax.*

Property inspection, a physical inspection of a property for the purpose of collecting and/or reviewing property data.

Property record card, a document specially designated to record and process specified property data; may serve as a source document, a processing form and/or a permanent property record.

Public utility property, property devoted to the production of commodities or services for public consumption under the control of governmental agencies such as the Public Utility Commission.

Quantity survey method, a method of computing the replacement or the reproduction cost of an improvement by applying unit costs to the actual or estimated material and labor quantities and adding an allowance for overhead, profit and all other indirect construction costs.

Real estate, the physical land and appurtenances affixed thereto; often used synonymously with *real property.*

Real property, all the interests, benefits and rights enjoyed by the ownership of the real estate.

Reassessment, the revaluation of all properties within a given jurisdiction for the purpose of establishing a new tax base.

Rent, the amount paid for the use of a capital good. See *Economic rent.*

Replacement cost, the current cost of reproducing an improvement of utility equal to the subject property; it may or may not be the cost of reproducing a replica property. Compare with *Reproduction cost.*

Reproduction cost, the current cost of reproducing a replica property. Compare with *Replacement cost.*

Reserve for replacements, a reserve established to cover renewal and replacements of fixed assets.

Residential property, vacant or improved land devoted to or available for use primarily as a place to live.

Revaluation program, see *Equalization program.*

Sales ratio study, a statistical analysis of the distribution of assessment or appraisal-to-sale ratios of a sample of recent sales made for the purpose of drawing inferences regarding the entire population of parcels from which the sample was abstracted.

Salvage value, the price one would be justified in paying for an item of property to be removed from the premises and used elsewhere.

Site development costs, all costs incurred in the preparation of a site for use.

Soil productivity, the capacity of a soil to produce crops.

Sound value, the depreciated value of an improvement.

Sound value estimate, an estimate of the depreciated value of an improvement made directly by comparing condition, desirability and usefulness without first estimating its replacement cost new.

Standard depth, that lot depth selected as the norm against which other lots are to be compared; generally the most typical depth.

Sublease, see *Lease,* the lessee in a prior lease simply becomes a lessor in a sublease.

Tax bill, an itemized statement showing the amount of taxes owed for a certain property described therein and forwardable to the party(s) legally liable for payment thereof.

Tax book, see *Assessment roll.*

Tax district, a political subdivision over which a governmental unit has authority to levy a tax.

Tax duplicate, see *Assessment roll.*

Tax exemption, either total or partial freedom from the obligation to pay tax; **total exemption** is that granted to governmental, education, charitable, religious and similar nonprofit organizations, and **partial exemption** is that granted on homesteads, etc.

Tax levy, in reference to property taxes, the total revenue which is to be realized by the tax.

Tax list, see *Assessment roll.*

Tax mapping, the creation of accurate representations of property boundary lines at appropriate scales to provide a graphic inventory of parcels for use in accounting, appraising and assessing; such maps show dimensions and the relative size and location of each tract with respect to other tracts.

Tax notice, a written notification to a property owner of the assessed value of certain properties described therein; often a law requires that a tax notice be given to each property owner following a revaluation of his property.

Tax rate, the rate, generally expressed in dollars per hundred or dollars per thousand (mills), which is to be applied against the tax base (assessed value) to compute the amount of tax to be paid. The tax rate is derived by dividing the total amount of the tax levy by the total assessed value of the taxing district.

Tax roll, see *Assessment roll.*

Tillable land, land suitable for growing annual crops.

Underassessed, a condition wherein a property is assessed proportionately lower than comparable properties.

Uniformity, as applied to assessing, a condition wherein all properties are assessed at the same ratio to market value, or other standard of value depending upon the particular assessing practices followed.

Unimproved land, vacant land; a parcel for which there is no improvement value.

Unit cost or price, the price or cost of one item of a quantity of similar items.

Unit-in-place method, a method of computing the replacement or reproduction cost of an improvement by applying established unit-in-place rates, developed to include the cost of materials, equipment, labor, overhead and profit, to the various construction units. See also *Component part-in-place method.*

Use density, the number of buildings in a particular use per unit of area, such as a density of so many apartment units per acre.

Use value, the actual value of a commodity to a specific owner, as opposed to its value in exchange or market value.

Vacancy, an unrented unit of rental property.

Vacant land, unimproved land; a parcel for which there is no improvement.

Valuation, see *Appraisal.*

View, the prospect as viewed from a property.

Waterfrontage, land abutting a body of water.

Woodland, land which is fairly densely covered with trees.

Zoning regulations, governmental restrictions relating to the use of land.

Aggregate ratio, as applied to real estate, the ratio of the total assessed value to the total selling price.

Average deviation, in a distribution of values, the average amount of deviation of all the values from the mean value, equal to the total amount of deviation from the mean divided by the number of deviations.

Cells, the basic units making up a stratified sample; each sale representing a distinct group within the total universe.

Coefficient, a value prefixed as a multiplier to a variable or an unknown quantity.

Coefficient of dispersion, as applied to an assessment-to-sale ratio distribution, a measure of dispersion in a given distribution equal to the average deviation of the ratios from the mean ratio divided by the mean ratio.

Frequency distribution, a display of the frequency with which each value in a given distribution occurs; or in a *grouped frequency distribution,* a display of the frequency with which the values within various intervals, or value groupings, occur.

Mean, a measure of central tendency equal to the sum of the values divided by the number. Also referred to as *arithmetic average* or *arithmetic mean*.

Median, a measure of central tendency equal to that point in a distribution above which 50% of the values fall and below which 50% of the values fall. The 50th percentile. The 2nd quartile.

Mode, a measure of central tendency equal to that value occurring most frequently in a given distribution. In a grouped-frequency distribution, the mode is equal to the midpoint of the interval with the greatest frequency.

Normal distribution, a distribution in which all the values are distributed symmetrically about the mean value, with 68.26% of the values falling between ± 1 standard deviation, 95.44% between ± 2 standard deviations, and 99.74% between ± 3 standard deviations.

Percentile rank, the relative position of a value in a distribution of values expressed in percentage terms; for instance, as applied to an assessment-to-sale ratio distribution, a ratio with a percentile rank of 83 would indicate that 83% of the ratios were lower and 17% of the ratios were higher than that particular ratio.

Precision, as applied to real estate, refers to the closeness of estimated value to actual selling price on an aggregate basis.

Price-related differential, as applied to real estate, an analytical measure of the vertical uniformity of values in a given distribution calculated by dividing the mean ratio by the aggregate ratio; a ratio of more than 1 being generally indicative of the relative undervaluation of high-priced properties as compared to the less valuable properties, whereas a ratio of less than 1 would indicate the converse relationship.

Quartile, positions in a distribution at 20 percentile intervals; the first quartile being equal to the 25th percentile, the second quartile being equal to the 50th percentile or the median, and the third quartile being equal to the 75th percentile.

Regression analysis, a statistical technique for making statements as to the degree of linear association between a criterion (dependent) variable and one or more predicator (independent) variables; a **simple linear regression** has one independent variable, and **multiple linear regression** has more than one independent variable.

Range, the difference between the highest and the lowest value in a distribution.

Ratio, a fixed relationship between two similar things expressed in terms of the number of times the first contains the second; the quotient of one quantity divided by another quantity of the same type, generally expressed as a fraction.

Sample, as applied to real estate, a set of parcels taken from a given universe, which is used to make inferences about values for that universe.

A **probability sample** is a sample in which each parcel in the universe is given equal chance of being included. Also referred to as *random sample.*

A **nonprobability sample** is a sample in which each parcel in the universe being chosen by other criteria is not given an equal chance of being included. Essentially all assessment-to-sale ratio studies are nonprobability samples.

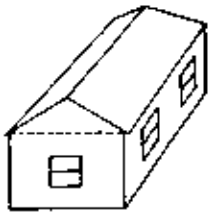
Sample size, as applied to real estate, the number of parcels needed from a universe to achieve a desired level of precision, given the total number of parcels in the universe and the standard deviation thereof.

Standard deviation, a measure of dispersion, variability or scatter of values in a given distribution equal to the square root of the arithmetic mean of the squares of deviations from the mean.

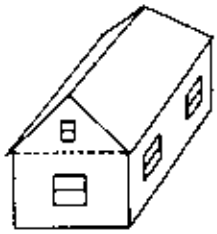
Standard error of the mean, a measure of the statistical variability of the mean equal to the standard deviation of the distribution divided by the square root of the sample size.

Stratified sampling, the selection of sample parcels from distinct groups within the total universe, based upon the known sizes and characteristics of these distinct groups.

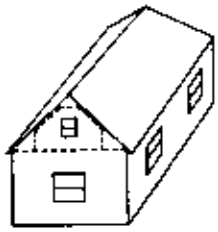
Universe, as applied to real estate, all the parcels of a given type in the group under study, i.e., all the parcels of a given neighborhood, district, etc. Also referred to as *population.*



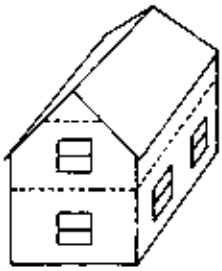
(A) 1 Story. All rooms are on one floor and are below the square of house at the eave line. This type usually has a low pitch roof with a slope of about ⅙.



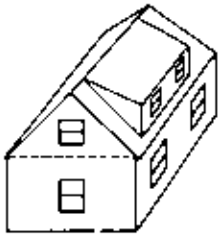
(B) 1 Story and Attic. Same basic design as *1 story* except the pitch of the roof is usually greater with a slope of about ¼ or ⅓. This type design has a permanent stairway to a usable floored attic area. There are usually windows at each end of the attic.



(C) 1 Story and Finished Attic. Same basic design as *1 story and attic* except the attic interior is finished and is usually divided into rooms. The attic floor is approximately 50% of the first floor area.

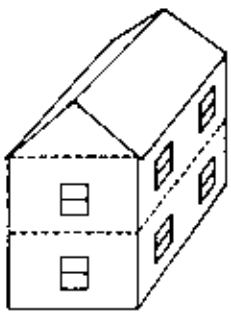


(D) 1½ Story. The second floor area of this type is equal to the area of the first floor, however, the wall height of the second floor is approximately ½ that of the first floor with the balance of wall height as sloping ceiling.

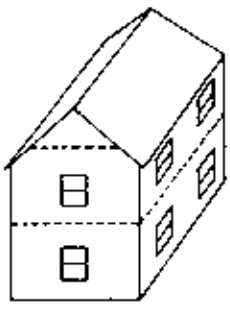


(E) 1½ Story. This type is similar to the *1 story and finished attic* design except the roof pitch is greater with a slope of about ⅓ or ½ and there is a large dormer on one side of the roof and possibly one or 2 small dormers on the opposite side of the roof. Area of the finished second floor is approximately 75% of the first floor area.

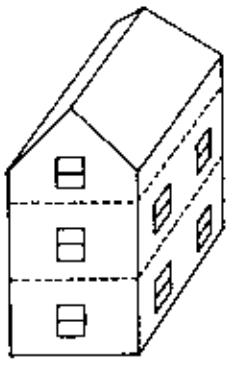
(F) 1½ Story. This type has a high pitch roof with a slope of about ⅝ or ¾ with small dormers on one or both sides of the roof. The area of the finished second floor is approximately 75% of the first floor area.



(G) 2 Story. This is a typical *2 story* dwelling with the second floor area equal to the first floor area.

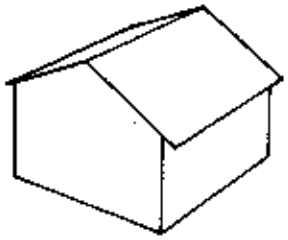


(H) 2 Story. Similar to the *2 Story* in example (G) except the second floor side walls are less than full height. Consequently part of the second floor ceiling follows the slope of the roof.

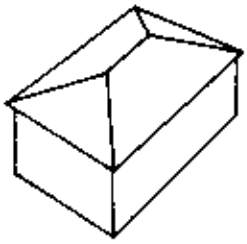


(I) 2½ Story. This type has two full stories and a ½ story similar to example (D). A 2½ *story* dwelling may also be similar in design to examples (E) or (F).

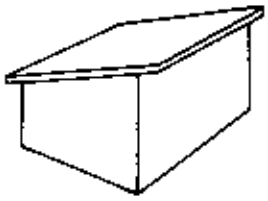
GABLE



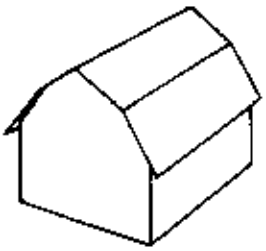
HIP



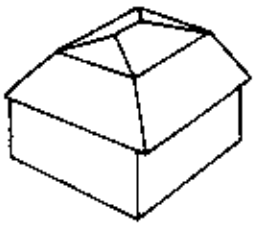
SHED



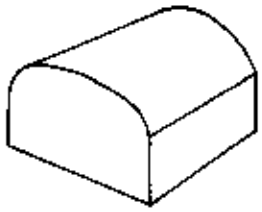
GAMBREL



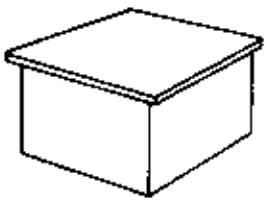
MANSARD



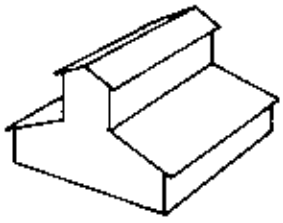
ARCHED



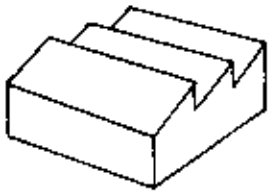
FLAT



MONITOR



SAWTOOTH



100 FEET

Depth	Factor	Depth	Factor	Depth	Factor	Depth	Factor
		50	73	**100**	100	**150**	114
1	3	**51**	74	**101**	100	**151**	114
2	5	**52**	74	**102**	101	**152**	115
3	8	**53**	75	**103**	101	**153**	115
4	10	**54**	76	**104**	101	**154**	115
5	13	**55**	77	**105**	102	**155**	115
6	15	**56**	77	**106**	102	**156**	115
7	17	**57**	78	**107**	102	**157**	115
8	20	**58**	79	**108**	102	**158**	116
9	22	**59**	79	**109**	103	**159**	116
10	24	**60**	80	**110**	103	**160**	116
11	26	**61**	81	**111**	103	**161**	116
12	28	**62**	81	**112**	104	**162**	116
13	30	**63**	82	**113**	104	**163**	117
14	32	**64**	82	**114**	104	**164**	117
15	34	**65**	83	**115**	105	**165**	117
16	36	**66**	84	**116**	105	**166**	117
17	38	**67**	84	**117**	105	**167**	117
18	40	**68**	85	**118**	105	**168**	117
19	41	**69**	85	**119**	106	**169**	117
20	43	**70**	86	**120**	106	**170**	118
21	44	**71**	86	**121**	106	**175**	118
22	46	**72**	87	**122**	107	**180**	119
23	47	**73**	87	**123**	107	**185**	120
24	48	**74**	88	**124**	107	**190**	120
25	49	**75**	88	**125**	108	**195**	121
26	50	**76**	89	**126**	108	**200**	121
27	51	**77**	89	**127**	108	**205**	121
28	53	**78**	90	**128**	109	**210**	122
29	54	**79**	90	**129**	109	**215**	122
30	55	**80**	91	**130**	109	**220**	122
31	56	**81**	92	**131**	110	**225**	122
32	57	**82**	92	**132**	110	**230**	123
33	58	**83**	93	**133**	110	**235**	123
34	59	**84**	93	**134**	110	**240**	123
35	60	**85**	94	**135**	111	**250**	124
36	61	**86**	94	**136**	111	**260**	124
37	62	**87**	94	**137**	111	**270**	125
38	63	**88**	95	**138**	111	**280**	125
39	64	**89**	95	**139**	112	**290**	126
40	65	**90**	96	**140**	112	**300**	126
41	66	**91**	96	**141**	112	**310**	127
42	67	**92**	97	**142**	112	**320**	127
43	68	**93**	97	**143**	113	**330**	128
44	68	**94**	98	**144**	113	**340**	128
45	69	**95**	98	**145**	113	**350**	129
46	70	**96**	98	**146**	113	**360**	129
47	71	**97**	99	**147**	114	**370**	130
48	71	**98**	99	**148**	114	**380**	130
49	72	**99**	100	**149**	114	**390**	131

120 FEET

Depth	Factor	Depth	Factor	Depth	Factor	Depth	Factor
		50	64	**100**	91	**150**	111
1	3	**51**	65	**101**	91	**151**	112
2	5	**52**	65	**102**	92	**152**	112
3	8	**53**	66	**103**	92	**153**	112
4	10	**54**	66	**104**	93	**154**	112
5	13	**55**	67	**105**	93	**155**	113
6	15	**56**	68	**106**	94	**156**	113
7	17	**57**	68	**107**	94	**157**	113
8	19	**58**	69	**108**	95	**158**	113
9	21	**59**	69	**109**	95	**159**	114
10	24	**60**	70	**110**	96	**160**	114
11	26	**61**	71	**111**	96	**161**	114
12	27	**62**	71	**112**	97	**162**	114
13	29	**63**	72	**113**	97	**163**	115
14	31	**64**	73	**114**	97	**164**	115
15	33	**65**	73	**115**	98	**165**	115
16	35	**66**	74	**116**	98	**166**	115
17	36	**67**	75	**117**	99	**167**	115
18	38	**68**	75	**118**	99	**168**	116
19	40	**69**	76	**119**	100	**169**	116
20	41	**70**	76	**120**	100	**170**	116
21	42	**71**	77	**121**	100	**175**	117
22	43	**72**	78	**122**	101	**180**	118
23	44	**73**	78	**123**	101	**185**	119
24	45	**74**	79	**124**	102	**190**	120
25	46	**75**	79	**125**	102	**195**	121
26	47	**76**	80	**126**	103	**200**	122
27	48	**77**	80	**127**	103	**205**	122
28	48	**78**	81	**128**	103	**210**	123
29	49	**79**	81	**129**	104	**215**	123
30	50	**80**	82	**130**	104	**220**	123
31	51	**81**	82	**131**	105	**225**	123
32	52	**82**	83	**132**	105	**230**	124
33	53	**83**	83	**133**	105	**235**	124
34	53	**84**	84	**134**	106	**240**	124
35	54	**85**	84	**135**	106	**250**	125
36	55	**86**	85	**136**	107	**260**	125
37	56	**87**	85	**137**	107	**270**	125
38	57	**88**	86	**138**	107	**280**	125
39	57	**89**	86	**139**	108	**290**	126
40	58	**90**	87	**140**	108	**300**	126
41	59	**91**	87	**141**	108	**310**	126
42	59	**92**	87	**142**	109	**320**	126
43	60	**93**	88	**143**	109	**330**	127
44	60	**94**	88	**144**	109	**340**	127
45	61	**95**	89	**145**	110	**350**	127
46	62	**96**	89	**146**	110	**360**	127
47	62	**97**	90	**147**	110	**370**	128
48	63	**98**	90	**148**	111	**380**	128
49	63	**99**	91	**149**	111	**390**	128

132 FEET

Depth	Factor	Depth	Factor	Depth	Factor	Depth	Factor
		50	62	**100**	89	**150**	106
1	2	**51**	63	**101**	89	**151**	107
2	4	**52**	63	**102**	90	**152**	107
3	6	**53**	64	**103**	90	**153**	107
4	8	**54**	64	**104**	90	**154**	107
5	9	**55**	65	**105**	91	**155**	108
6	11	**56**	66	**106**	91	**156**	108
7	13	**57**	67	**107**	91	**157**	108
8	15	**58**	68	**108**	92	**158**	108
9	16	**59**	68	**109**	92	**159**	109
10	18	**60**	69	**110**	93	**160**	109
11	20	**61**	70	**111**	93	**161**	109
12	21	**62**	70	**112**	93	**162**	109
13	23	**63**	71	**113**	94	**163**	110
14	24	**64**	71	**114**	94	**164**	110
15	26	**65**	72	**115**	94	**165**	110
16	27	**66**	73	**116**	95	**166**	110
17	29	**67**	73	**117**	95	**167**	111
18	30	**68**	74	**118**	95	**168**	111
19	32	**69**	74	**119**	96	**169**	111
20	33	**70**	75	**120**	96	**170**	111
21	34	**71**	75	**121**	96	**175**	112
22	35	**72**	76	**122**	97	**180**	113
23	37	**73**	76	**123**	97	**185**	114
24	38	**74**	77	**124**	97	**190**	114
25	39	**75**	77	**125**	98	**195**	115
26	40	**76**	78	**126**	98	**200**	115
27	41	**77**	78	**127**	99	**205**	115
28	42	**78**	79	**128**	99	**210**	116
29	43	**79**	79	**129**	99	**215**	116
30	44	**80**	80	**130**	100	**220**	116
31	45	**81**	80	**131**	100	**225**	116
32	46	**82**	81	**132**	100	**230**	117
33	47	**83**	81	**133**	101	**235**	117
34	48	**84**	82	**134**	101	**240**	117
35	49	**85**	82	**135**	101	**250**	118
36	50	**86**	83	**136**	102	**260**	118
37	51	**87**	83	**137**	102	**270**	119
38	52	**88**	84	**138**	102	**280**	119
39	53	**89**	84	**139**	103	**290**	120
40	54	**90**	85	**140**	103	**300**	120
41	55	**91**	85	**141**	103	**310**	121
42	56	**92**	86	**142**	104	**320**	121
43	57	**93**	86	**143**	104	**330**	122
44	57	**94**	87	**144**	104	**340**	122
45	58	**95**	87	**145**	105	**350**	123
46	59	**96**	87	**146**	105	**360**	123
47	60	**97**	88	**147**	105	**370**	124
48	60	**98**	88	**148**	106	**380**	124
49	61	**99**	89	**149**	106	**390**	125

150 FEET

Depth	Factor	Depth	Factor	Depth	Factor	Depth	Factor
		50	56	**100**	82	**150**	100
1	2	**51**	56	**101**	82	**151**	100
2	3	**52**	57	**102**	83	**152**	101
3	5	**53**	58	**103**	83	**153**	101
4	6	**54**	58	**104**	84	**154**	101
5	8	**55**	59	**105**	84	**155**	102
6	9	**56**	60	**106**	85	**156**	102
7	11	**57**	60	**107**	85	**157**	102
8	12	**58**	61	**108**	85	**158**	102
9	14	**59**	61	**109**	86	**159**	103
10	15	**60**	62	**110**	86	**160**	103
11	16	**61**	63	**111**	87	**161**	103
12	18	**62**	63	**112**	87	**162**	104
13	19	**63**	64	**113**	87	**163**	104
14	20	**64**	64	**114**	88	**164**	104
15	22	**65**	65	**115**	88	**165**	104
16	23	**66**	65	**116**	88	**166**	105
17	24	**67**	66	**117**	89	**167**	105
18	26	**68**	66	**118**	89	**168**	105
19	27	**69**	67	**119**	90	**169**	105
20	28	**70**	67	**120**	90	**170**	106
21	29	**71**	68	**121**	90	**175**	107
22	30	**72**	68	**122**	91	**180**	108
23	31	**73**	69	**123**	91	**185**	109
24	32	**74**	69	**124**	91	**190**	110
25	34	**75**	70	**125**	92	**195**	110
26	35	**76**	70	**126**	92	**200**	111
27	36	**77**	71	**127**	93	**205**	111
28	37	**78**	71	**128**	93	**210**	112
29	38	**79**	72	**129**	93	**215**	112
30	39	**80**	72	**130**	94	**220**	112
31	40	**81**	73	**131**	94	**225**	112
32	41	**82**	73	**132**	94	**230**	113
33	42	**83**	74	**133**	95	**235**	113
34	43	**84**	74	**134**	95	**240**	113
35	44	**85**	75	**135**	95	**250**	114
36	44	**86**	75	**136**	96	**260**	114
37	45	**87**	76	**137**	96	**270**	115
38	46	**88**	76	**138**	96	**280**	115
39	47	**89**	77	**139**	97	**290**	116
40	48	**90**	77	**140**	97	**300**	116
41	49	**91**	78	**141**	97	**310**	117
42	50	**92**	78	**142**	98	**320**	117
43	50	**93**	79	**143**	98	**330**	118
44	51	**94**	79	**144**	98	**340**	118
45	52	**95**	80	**145**	99	**350**	119
46	53	**96**	80	**146**	99	**360**	119
47	53	**97**	81	**147**	99	**370**	120
48	54	**98**	81	**148**	100	**380**	120
49	55	**99**	82	**149**	100	**390**	121

200 FEET

Depth	Factor	Depth	Factor	Depth	Factor	Depth	Factor
		50	46	**100**	70	**150**	89
1	2	**51**	46	**101**	71	**151**	89
2	3	**52**	46	**102**	71	**152**	90
3	5	**53**	47	**103**	71	**153**	90
4	6	**54**	47	**104**	72	**154**	91
5	8	**55**	48	**105**	72	**155**	91
6	9	**56**	48	**106**	73	**156**	92
7	11	**57**	49	**107**	73	**157**	92
8	12	**58**	49	**108**	73	**158**	92
9	14	**59**	50	**109**	74	**159**	93
10	15	**60**	50	**110**	74	**160**	93
11	16	**61**	51	**111**	74	**161**	94
12	18	**62**	51	**112**	75	**162**	94
13	19	**63**	52	**113**	75	**163**	95
14	20	**64**	52	**114**	75	**164**	95
15	22	**65**	53	**115**	76	**165**	95
16	23	**66**	53	**116**	76	**166**	96
17	24	**67**	54	**117**	76	**167**	96
18	26	**68**	54	**118**	77	**168**	97
19	27	**69**	55	**119**	77	**169**	97
20	28	**70**	55	**120**	77	**170**	97
21	29	**71**	56	**121**	78	**175**	98
22	30	**72**	56	**122**	78	**180**	98
23	31	**73**	57	**123**	78	**185**	99
24	32	**74**	57	**124**	79	**190**	99
25	34	**75**	58	**125**	79	**195**	100
26	35	**76**	58	**126**	79	**200**	100
27	35	**77**	59	**127**	80	**205**	100
28	36	**78**	59	**128**	80	**210**	100
29	36	**79**	60	**129**	80	**215**	101
30	37	**80**	60	**130**	81	**220**	101
31	37	**81**	61	**131**	81	**225**	101
32	37	**82**	61	**132**	82	**230**	101
33	38	**83**	62	**133**	82	**235**	102
34	38	**84**	62	**134**	82	**240**	102
35	39	**85**	63	**135**	83	**250**	102
36	39	**86**	63	**136**	83	**260**	102
37	40	**87**	64	**137**	84	**270**	102
38	40	**88**	64	**138**	84	**280**	103
39	40	**89**	65	**139**	84	**290**	103
40	41	**90**	65	**140**	85	**300**	103
41	41	**91**	66	**141**	85	**310**	103
42	42	**92**	66	**142**	86	**320**	104
43	42	**93**	67	**143**	86	**330**	104
44	43	**94**	67	**144**	87	**340**	104
45	43	**95**	68	**145**	87	**350**	104
46	44	**96**	68	**146**	87	**360**	104
47	44	**97**	69	**147**	88	**370**	105
48	45	**98**	69	**148**	88	**380**	105
49	45	**99**	70	**149**	89	**390**	105

January 1, 2001

The following Location Modifiers reflect local cost conditions for each of the localities listed. They are based on surveys of weighted labor and material costs with District II AREA A as the base. These modifiers will be updated annually.

WISCONSIN RESIDENTIAL PROPERTY ASSESSMENT MANUAL, VOLUME II

Location	Residential		Agricultural Buildings
	Frame, Masonry Veneer or Log	Brick, Stone or Concrete Block	
DISTRICT I			
AREA A - Jefferson	.947	.946	.945
AREA B - Columbia, Dane, Dodge, Green, Iowa, Lafayette, Rock, Sauk	.973	.981	.980
AREA C - Grant, Richland	.941	.935	.939
DISTRICT II			
AREA A - Milwaukee, Ozaukee, Washington, Waukesha	1.000	1.000	1.000
AREA B - Kenosha, Racine	1.006	1.013	1.007
AREA C - Walworth	.954	.954	.955
DISTRICT III			
Calumet, Fond du Lac, Green Lake, Marquette, Outagamie, Waupaca, Waushara, Winnebago	.931	.931	.929
DISTRICT IV			
AREA A - Brown, Door, Kewaunee, Manitowoc	.961	.956	.952
AREA B - Marinette, Menominee, Oconto, Shawanto	.926	.924	.922
AREA C - Sheboygan	.971	.971	.969

Location	Residential		Agricultural Buildings
	Frame, Masonry Veneer or Log	Brick, Stone or Concrete Block	
DISTRICT V			
Buffalo, Crawford, Jackson, La Crosse, Monroe, Trempealeau, Vernon	.960	.961	.959
DISTRICT VI			
Barron, Chippewa, Clark, Dunn, Eau Claire, Pepin, Pierce, Polk, St. Croix	.985	.978	.980
DISTRICT VII			
AREA A - Florence, Forest, Langlade, Lincoln, Oneida, Vilas	.924	.923	.922
AREA B - Adams, Juneau, Marathon, Portage, Wood	.954	.953	.942
DISTRICT VIII			
AREA A - Bayfield, Burnett, Douglas, Washburn	.955	.967	.961
AREA B - Ashland, Iron, Price, Rusk, Sawyer, Taylor	.931	.927	.923

For Mobile Homes, use 1.00 for the entire state.

A Standard System of Identifying and Coding
Local Assessment Classification – Three-Digit Level

Category	Code
Residential Sites	160
Residential River Frontage Value	181
Residential Lake Frontage Value	182
Residential Road Frontage Value	183
Residential Unmeandered Land	184
Total Residential Frontage Value	180
Residential Parcel Size Adjustment	190
Total Residential Lands	100
Commercial Sites	260
Commercial River Frontage Value	281
Commercial Lake Frontage Value	282
Commercial Road Frontage Value	283
Commercial Unmeandered Land	284
Total Commercial Frontage Value	280
Commercial Parcel Size Adjustment	290
Total Commercial Lands	200
Manufacturing Sites	360
Manufacturing River Frontage Value	381
Manufacturing Lake Frontage Value	382
Manufacturing Road Frontage Value	383
Manufacturing Unmeandered Land	384
Total Manufacturing Frontage Value	380
Manufacturing Parcel Size Adjustment	390
Total Manufacturing Lands	300
1st Grade Tillable Land	411
2nd Grade Tillable Land	412
3rd Grade Tillable Land	413
Irrigated Land	414
Total Tillable Land	410
Orchards	420
Prime Pasture	441
Secondary Pasture	442
Residual Pasture	443
Total Pasture	440
Cranberry Bogs	451
Tobacco	452
Ginseng	453
Muck	454
Ponds	455
All Other Agricultural Land Not Coded Elsewhere	456
Total Specialty Lands	450

Category	Code
Agricultural River Frontage Value	481
Agricultural Lake Frontage Value	482
Agricultural Road Frontage Value	483
Agricultural Unmeandered Land	484
Total Agricultural Frontage Value	480
Agricultural Parcel Size Adjustment	490
Total Agricultural Lands	400
Fallow 1st Grade Tillable Land	501
Fallow 2nd Grade Tillable Land	502
Fallow 3rd Grade Tillable Land	503
Fallow Pasture Land	504
Total Fallow Lands	505
Swamp	511
Waste	512
Conservation Easements	513
Total Swamp and Waste	510
Quarries, Pits and Mines	531
Privately Owned Dumps, Sanitary Land Fills, etc.	532
Total Quarries, Pits, Mines & Privately Owned Sanitary Land Fills, Dumps, etc.	530
Unmeandered Waters (Privately Owned Non-navigable)	540
Residual River Frontage Value	581
Residual Lake Frontage Value	582
Residual Road Frontage Value	583
Residual Unmeandered Land	584
Total Residual Frontage Value	580
Residual Parcel Size Adjustment	590
Total Residual Lands	500
Primary Forest	611
Secondary Forest	612
Residual Forest	613
Cutover	614
Total Forest and Cutover	610
Seedlings	651
Pine Plantation	652
Christmas Tree Plantation	653
Total Seedling Pine and Christmas Tree Plantations	650
Forest River Frontage Value	681
Forest Lake Frontage Value	682
Forest Road Frontage Value	683
Forest Unmeandered Land	684
Total Forest Frontage Value	680
Forest Parcel Size Adjustment	690
Total Forest Lands	600
Other Homesites	700

Category	Code
Regular Forest Crop, Special Forest Crop, Managed Forest Land and Woodland Tax	811
Utilities	812
Total Specially Taxed Lands	810
County Forest Crop	820
Federally Owned	830
State Owned Meandered Waters	841
State Owned Navigable Waters (not on government survey)	842
All Other State Owned	843

Category	Code
Total State Owned	840
County Owned	850
School Owned	860
Municipal Owned	870
Other Exempt	881
Exempt Unmeandered Land	884
Total Other Exempt and Exempt Unmeandered Land	880
Total Other Lands	800
Total Parcel	900

A Standard System of Identifying and Coding
Local Assessment Classification – Three-Digit Level

160 Residential Sites include all of the land under the buildings and area immediately surrounding them; land that is used for wells, septic systems, etc.

181 Residential River Frontage Value.

182 Residential Lake Frontage Value.

183 Residential Road Frontage Value.

184 Residential Unmeandered Land is land which, because of a change in the course of a river or a drop in the water level, now is “high and dry.” This land may be residential.

180 Total Residential Frontage Value.

190 Residential Parcel Size Adjustment.

100 Total Residential Lands are the total of all the residential land within a specified area.

260 Commercial Sites include all of the land under buildings, parking lots, etc., and area immediately surrounding them. Also includes the land used for wells, septic systems, etc.

281 Commercial River Frontage Value.

282 Commercial Lake Frontage Value.

283 Commercial Road Frontage Value.

284 Commercial Unmeandered Land is land which, because of a change in the course of a river or a drop in the water level, now is “high and dry.” This land may be commercial.

280 Total Commercial Frontage Value.

290 Commercial Parcel Size Adjustment.

200 Total Commercial Lands is a total of all the commercial land within a specified area.

360 Manufacturing Sites include the acreages of manufacturing sites taken directly from the SAM rolls.

381 Manufacturing River Frontage Value.

382 Manufacturing Lake Frontage Value.

383 Manufacturing Road Frontage Value.

384 Manufacturing Unmeandered Land is land which, because of a change in the course of a river or a drop in the water level, now is “high and dry.” This land may be used for manufacturing.

380 Total Manufacturing Frontage Value.

390 Manufacturing Parcel Size Adjustment.

300 Total Manufacturing Lands is a total of all the manufacturing land.

411 1st Grade Tillable Land is land being used for farm purposes and made up of all those soil series and types shown on the County or Regional Soil Survey as possessing the best production capabilities, with suitable slope and erosion ratings.

412 2nd Grade Tillable Land is land being used for farm purposes and which is plowed or capable of being plowed and made up of all those soil series and types shown on the County Soil Survey as having a lesser production capability than 1st grade soils, though of good slope and erosion ratings. It also includes lands comprising those soil types with the best production capability but whose poorer slopes and erosion ratings exclude them from being classed as 1st grade.

413 3rd Grade Tillable Land is land being used for farm purposes and which is plowed or capable of being plowed and made up of all those soil series and types shown on the Soil Survey with the poorest productivity rating or those soils of higher productivity with the poorest slope and erosion ratings, which prevent them from being classed in a higher grade. Sometimes the poorest lands in this grade have been cultivated for a period of years, and then cultivation has been abandoned. Such land is not included in this grade, but in pasture.

414 Irrigated Land is tillable land that is being irrigated.

410 Total Tillable Land is the total of all tillable land which constitutes the 1st grade, 2nd grade, 3rd grade and irrigated subclasses.

420 Orchards are plots of an acre or more of land with any type of orchard planted on them, i.e., apples, cherries, etc.

441 Prime Pasture is pasture adjacent to a road, with water, well drained, near buildings, having good forage grasses, and relatively open.

442 Secondary Pasture is pasture lacking three or more of the elements of prime pasture.

443 Residual Pasture is transitional land; it is not E or F, but has marginal usefulness among tillable acreage, e.g., drainage ditches, rocky knobs, frost pockets, sinkholes or waterswamp.

440 Total Pasture is all pasture land.

451 Cranberry Bogs include producing bogs and any surrounding land used directly in production such as ditches, dams, dykes, etc. It does not include, however, the reservoirs; they should be classed as swamp. NOTE: Producing bogs are limited by the Federal Market Order, and all producers are members of the Wisconsin Cranberry Growers Association. A list of growers can be obtained from the association. Nonproducing bogs should, of course, be classed as swamp.

452 Tobacco is land used to produce tobacco.

453 Ginseng is land used to produce ginseng.

454 Muck is land composed of very poorly drained organic soils. Typically, muck is black or dark gray in color. Some of this land is cleared of natural vegetation, drained and used for producing mint, horseradish and potatoes. Some of the land has remained in natural vegetation.

455 Pond is a small body of water *not* surrounded by swampland.

456 All Other Agricultural Land Not Elsewhere Coded is any other specialty agricultural land that is not included in any other category in the 450 series.

450 Total Specialty Lands is the total of specialty lands and other agricultural land not coded elsewhere in the 450 series of codes.

481 Agricultural River Frontage Value.

482 Agricultural Lake Frontage Value.

483 Agricultural Road Frontage Value.

484 Agricultural Unmeandered Land is land which, because of a change in the course of a river or a drop in the water level, now is “high and dry.” This land may be agricultural.

480 Total Agricultural Frontage Value.

490 Agricultural Parcel Size Adjustment.

400 Total Agricultural Lands is a total of all tillable land plus total pasture and transitional land, orchards, cranberry bogs and agricultural homesites. The total for this code represents all land used for agricultural purposes.

501 Fallow 1st Grade Tillable Land represents Code 411 lands left fallow.

502 Fallow 2nd Grade Tillable Land represents Code 412 lands left fallow.

503 Fallow 3rd Grade Tillable Land represents Code 413 lands left fallow.

504 Fallow Pasture Land is pasture land left fallow.

505 Total Fallow Lands is all fallow land.

511 Swamp is, as the name implies, water saturated land. The land is always low and usually displays small bodies or winding channels of open water. Organic soil texture and very high water tables are also characteristic of swamp.

512 Waste can refer to many land features such as bedrock outcrops, extremely steep slopes (over 30%), slag piles and other nonproductive land.

513 Conservation Easements are normally lands in which a permanent easement either restricting farm use or supporting hunting or fishing rights is held by either the DNR or the Federal Fish and Wildlife Service. These lands would normally be classified as pasture or swamp and waste.

510 Total Swamp and Waste is the total of 511, 512 and 513.

531 Quarries, Pits and Mines are quarries, pits and mines not listed on the SAM roll. If they are producing, they may be listed on the SAM roll and carried as manufacturing. If they are not, they are classed as 531, whether they are nonproducing or abandoned.

532 Privately Owned Sanitary Land Fills, Dumps, etc.

530 Total Quarries, Pits and Mines and Privately Owned Sanitary Land Fills, Dumps, etc., is the total of 531 and 532.

540 Unmeandered Waters (Privately Owned Non-navigable) are waters whose bounds have not been established on the government survey. An example would be a non-navigable stream that has changed its course. The government survey would indicate land where the water now flows. This section would be unmeandered privately owned water. By the same token, the former river bed would be classed as unmeandered land.

581 Residual River Frontage Value.

582 Residual Lake Frontage Value.

583 Residual Road Frontage Value.

584 Residual Unmeandered Land is land which, because of a change in the course of a river or a drop in the water level, now is “high and dry.” This land may be residual.

580 Total Residual Frontage Value.

590 Residual Parcel Size Adjustment.

500 Total Residual Lands is the total of all residual land.

611 Primary Forest is land covered with productive timber; it has excellent access and utilities available and is “high and dry.”

612 Secondary Forest has small wooded pockets interspersed among tillable land; it has poor access and is marginal in production.

613 Residual Forest is low and wet and nearly inaccessible.

614 Cutover is land in a transitional stage between forest and its next use; trees have been removed by logging.

610 Total Forest and Cutover is the total of forest lands coded in the 610 series.

651 Seedlings represents land planted in pines 0 to 3 feet tall, where it cannot be determined whether the ultimate use is logging or cutting Christmas trees.

652 Pine Plantation is land planted with unsheared pines for the purpose of logging.

653 Christmas Tree Plantation is land planted with sheared pines to be cut for Christmas trees. Shearing usually begins when trees are approximately 4 feet tall. Cutting usually occurs at 8 to 10 years in maturity.

650 Total Seedling, Pine and Christmas Tree Plantations represents the total amount of land planted in seedlings, pine or Christmas trees.

681 Forest River Frontage Value.

682 Forest Lake Frontage Value.

683 Forest Road Frontage Value.

684 Forest Unmeandered Land is land which, because of a change in the course of a river or a drop in the water level, now is “high and dry.” This land may be forest land.

680 Total Forest Frontage Value.

690 Forest Parcel Size Adjustment.

600 Total Forest Lands is the total of all forest lands.

700 Other Homesites represents all of the land under the buildings and the area immediately surrounding them; this includes land used for wells, septic systems, etc.

811 Regular Forest Crop, Special Forest Crop, Managed Forest Land and Woodland Tax.

812 Utilities includes all utilities such as electric companies, gas companies, railroads, etc., subject to taxation under Chapter 76.

810 Total Specially Taxed Lands is what the category title implies.

820 County Forest Crop includes forest lands which have been entered by action of county boards under Section 28.10 into the forest crop program under Section 77. This land is listed in the assessment roll under County Forest Crop Acres.

830 Federally Owned includes all federally owned lands. Federally owned property may be exempt from assessments. Examples are U.S. highways, federally owned forests, etc.

841 State Owned Meandered Waters include all navigable bodies of water, which are property of the state. Their bounds have been established on the government survey.

842 State Owned Navigable Waters. Again, all navigable waters are property of the state. State-owned navigable waters are those whose bounds have not been established on the government surveys. For example, new river channels or elevated lake levels may have developed since the original government survey.

843 All Other State Owned is what the category title implies. Examples are state highways, state-owned forests, conservation lands, etc.

840 Total State Owned is the total of the 840 series.

850 County Owned includes all county owned lands.

860 School Owned is all school owned lands.

870 Municipal Owned includes such things as dumps and sanitary land fills if not privately owned. All municipality-owned lands fall into this category.

881 Other Exempt includes lands used for Lions foundations, Boy and Girl Scouts, Bible camps, etc. (Sec. 70.11).

884 Exempt Unmeandered Land is land which, because of a change in the course of a river or a drop in the water level, now is “high and dry.” This land may be exempt property belonging to a unit of government or may be part of a parcel qualifying for an exemption under Sec. 70.11.

880 Total Other Exempt and Exempt Unmeandered Land is the total of 881 and 884.

800 Total, Other Lands is the total of all exempt lands.

900 Total Parcel is the total acreage summation. For example, the 100, 200, 300, 400, 500, 600, 700 and 800 categories, when added together, will equal the total parcel.

Appraisers use a wide variety of mathematical techniques ranging from simple arithmetic and algebraic formulas to the statistical techniques of multiple regression analysis. Addition, subtraction, multiplication and division can be done manually or with a simple calculator, but more sophisticated calculators may be needed to solve algebraic formulas and to perform linear regression analyses. Computers are required for nearly all stepwise multiple regression analyses.

With the general availability of calculators and computers, the use of sophisticated techniques is increasing in appraisal practice. This section provides a review of the mathematical procedures and terminology used by appraisers. Familiar processes are illustrated, and the rules that apply to each process are discussed.

Basic Arithmetic for Data Processing

Data collected in the market are analyzed in the valuation process to derive an estimate of value. These data may include building dimensions, population figures, reproduction and replacement costs, rents, and sale prices. Processing these data ultimately leads to conclusions and final value estimates, which are expressed numerically. The mathematical relationships represented by rates and factors are usually stated as decimals rather than fractions.

Rates

Rates are percentages expressed in terms of a specific time period. For example,

$8 interest per year on $100 principal = 8% interest per year

$0.50 interest per month on $100 = 0.005 or 0.5% interest per month

A rate reflects the relationship between one quantity and another. In the first example, the 8% rate relates the $8 of interest returned to the $100 of principal invested. In appraising, an unknown capital amount can be determined when only the rate and the amount of annual return are known.

Reciprocals

The reciprocal of a number is 1 divided by that number. For example, the reciprocal of 4 is ¼, which may be expressed as 0.25. When two numbers have a reciprocal relationship, 1 divided by either number equals the other number. Reciprocal relationships exist between some financial factors. For example, the present value of $1 per period factor and the partial payment factor are reciprocals. These annual factors in the 10% tables for 10 periods are 6.144567 and 0.162745, respectively. Because they are reciprocals,

$$\frac{1}{6.144567} = 0.162745$$

and

$$\frac{1}{0.162745} = 6.144567$$

When a reciprocal relationship exists, multiplication by one of the numbers is equivalent to division by the other.

Factors

Factors are the reciprocals of rates and may be used to express relationships between income and capital value. Using *I, R* and *V* to represent income, rate and value, and *F* to represent a factor, the relationships may be expressed as

$$I = V \times R \qquad I = \frac{V}{F}$$

$$R = \frac{I}{V} \qquad F = \frac{V}{I}$$

$$V = \frac{I}{R} \qquad V = I \times F$$

These relationships, which are commonly referred to as IRV and VIF, may be shown as follows.

$$\frac{I}{R|V} \text{ and } \frac{V}{I|F}$$

The formula for any single component is represented by the horizontal or vertical relationship of the remaining two components as one multiplied by, or divided by, the other.

Basic Statistics

Statistics can be applied to interpret available data and to support a value conclusion. In the language of statistics, a *population* is defined as all the items in a specific category. If, for example, the category is houses in Chicago, the population consists of all the houses in Chicago. However, data pertaining to an entire population are rarely available and conclusions often must be developed from incomplete data.

Using statistical concepts, conclusions about a population can be derived and evaluated from sample data. A *sample* is part of a population; the quality of conclusions based on a sample will vary with the quality and extent of the sample.

One item in a population is called a *variate*. In appraising, statistics can be used to identify the attributes of the typical variate in a population. When observations about a population can be measured, the analysis may be quantitative; when these observations cannot be measured, the analysis is qualitative—i.e., it reflects the attributes of the population.

A variate is *discrete* when it can assume a limited number of values on a measuring scale and *continuous* when it can assume an infinite number of values. A typical population of attributes for house types might include one-story, two-story, and split-level houses. It is usually impractical to display or identify a population of variates because there are many.

One common problem in statistics is how to describe a population in universally understandable terms. For example, how does one describe all the houses in a community that have sold in the past year without describing each sale individually? One possible solution is to use a single number called a *parameter* to describe the whole population. When one parameter is used to describe a population, it is called an *aggregate*, which is the sum of all the variates. For example, all the house sales in a commu-

nity in a given year can be described by the total dollar amount of all the sales. In statistical language this is written as

Σ = sigma or sum of

X = variate

ΣX = aggregate (summation of the variates)

Measures of Central Tendency

Three common statistical measures are the mean, the median, and the mode. All three measure central tendency and are used to identify the typical variate in a population or sample. Measures that refer to a population are called *parameters,* while similar measures in a sample are called *statistics.*

The *mean*, which is commonly called the *average*, is by far the most commonly used parameter. It is obtained by dividing the sum of all the variates in a population by the number of variates. In real estate appraising, the mean may represent an average sale price, an average number of days on the market, an average apartment rent, or an average cost per square foot.

When the mean is used to describe a population, it can be distorted by extreme variates. Consider the following list of 36 house sales in a neighborhood. From these figures, the mean of the population can be calculated. (The list indicates the median and the mode of the population, which are discussed next.)

$72,000	
74,600	
76,000	
77,200	
78,000	
79,000	
79,800	
79,800	
82,000	
82,000	
84,000	
85,600	
85,800	
86,000	
87,000	
87,200	
87,400	
87,800	
87,800	◄ median (Md.) = $87,800
87,800	
88,000	
89,800	
90,000	} mode (Mo.) = $90,000
90,000	
90,000	
90,000	

	90,600
	91,000
	91,000
	93,800
	93,800
	96,600
	97,000
	97,200
	97,200
	98,800
	$3,131,600

$$\text{Mean} = \overline{X} = \frac{\Sigma X}{N} = \frac{\$3,131,600}{36} = \$86,989$$

where ΣX = sum of the variates and N = number of variates.

The same procedure can be performed with grouped data. To group the data, the frequency (f) with which a given sale price occurs must be identified and its contribution must be effectively weighted. Given the same data, identical results are produced.

X	f	fX
$72,000	1	$72,000
74,600	1	74,600
76,000	1	76,000
77,200	1	77,200
78,000	1	78,000
79,000	1	79,000
79,800	2	159,600
82,000	2	164,000
84,000	1	84,000
85,600	1	85,600
85,800	1	85,800
86,000	1	86,000
87,000	1	87,000
87,200	1	87,200
87,400	1	87,400
87,800	3	263,400
88,000	1	88,000
89,800	1	89,800
90,000	4	360,000
90,600	1	90,600
91,000	2	182,000
93,800	2	187,600
96,600	1	96,600
97,000	1	97,000
97,200	2	194,400
98,800	1	98,800
	$N = 36$	$\Sigma fX = \$3,131,600$

$$\text{Mean} = \overline{X} = \frac{\Sigma fX}{N} = \frac{\$3,131,600}{36} = \$86,989$$

The average, or mean, price in this example might not accurately represent the population of houses that have been sold at prices outside the indicated range.

The *median* is another measure used to describe a population, a sample, or an average variate. The median divides the variates of a population or sample into equal halves. To find the median, the variates are arranged in numerical order like the list of sale prices in the example. If the total number of variates is odd, the median is the middle variate. If the total number of variates is even, as in the example, the median is the arithmetic mean of the two middle variates.

In the list of 36 house sales, the middle two variates are $87,800 and $87,800.The mean of these two variates is $87,800, which is the median of the 36 sales. The same number of sales occurs above the median as below it.

Like the median and the mean, the *mode* is a parameter used to describe the typical variate of a population. The mode is the variate or attribute that appears most frequently in a population. Of the 36 house sales, four were sold at $90,000. No other sale price occurs with this frequency, so the mode in this sample is $90,000. If two variates occur with equal frequency, both are modes and the sample is bimodal.

To illustrate, consider the following population of the types of condominium apartments available in a nine-unit complex.

efficiency
efficiency
efficiency
town house
town house
town house
town house
town house
multibedroom

} mode (the most frequent attribute)

One of the problems in using statistics is selecting the appropriate measure of central tendency to describe a population. The following numbers could be used to describe the 36 variates in the group of house sales.

$\overline{X}$ = $86,989 (the mean of all the sales)
Md. = $87,800 (the median of the sales)
Mo. = $90,000 (the mode of the sales)

The mean is often used to describe a sample or population because this measure is widely understood and amenable to further statistical analysis.

Measures of Variation

The parameters of mean, median, and mode are used to describe the central tendencies of a population. Other sets of parameters can provide more information about the population being described. *Measures of variation*, or *measures of dispersion,* describe the disparity among the values of the variates that make up the population. They indicate the degree of uniformity among the variates and reflect the quality of the data as a basis for a conclusion.

Range

One way to measure the disparity between the variates is with a *range (R)*. The range is the difference between the highest and the lowest variates.

R = maximum variate minus minimum variate

The range for the 36 house sales is calculated as

$$R = \$98{,}800 - \$72{,}000 = \$26{,}800$$

As a measure of variation, the range has limited usefulness because it considers only the variation between the highest and lowest values, not the variation in the remaining values. Furthermore, a range does not lend itself to further statistical analysis.

Average Deviation

Another parameter used to measure the variation in a population is the average deviation, which is also known as the *average absolute deviation* because positive and negative signs are ignored. The average deviation is a measure of how much the actual values of a population or sample deviate from the mean. It is the mean of the sum of the absolute differences of each of the variates from the mean of the variates.

The average deviation of the 36 sales can be calculated from ungrouped or grouped data.

Ungrouped Data

X Sale Price		$\lvert X - \overline{X} \rvert$ Absolute Deviation Between Each Variate and the Mean Sale Price of $86,989	
$ 72,000		$ 14,989	
74,600		12,389	
76,000		10,989	
77,200		9,789	
78,000		8,989	
79,000		7,989	
79,800		7,189	
79,800		7,189	
82,000		4,989	
82,000		4,989	
84,000		2,989	
85,600		1,389	
85,800		1,189	
86,000		989	
87,000		11	
87,200		211	
87,400		411	
87,800		811	
87,800		811	
87,800		811	
88,000		1,011	
89,800		2,811	
90,000		3,011	
90,000		3,011	
90,000		3,011	
90,000		3,011	
90,600		3,611	
91,000		4,011	
91,000		4,011	
93,800		6,811	
93,800		6,811	
96,600		9,611	
97,000		10,011	
97,200		10,211	
97,200		10,211	
98,800		11,811	
$3,131,600	Total of sale prices	$192,088	Total deviation from mean $\Sigma \lvert X - \overline{X} \rvert$

Grouped Data

x	$\lvert x - \bar{x} \rvert$	f	$f\lvert x - \bar{x} \rvert$
$72,000	$14,989	1	$ 14,989
74,600	12,389	1	12,389
76,000	10,989	1	10,989
77,200	9,789	1	9,789
78,000	8,989	1	8,989
79,000	7,989	1	7,989
79,800	7,189	2	14,378
82,000	4,989	2	9,978
84,000	2,989	1	2,989
85,600	1,389	1	1,389
85,800	1,189	1	1,189
86,000	989	1	989
87,000	11	1	11
87,200	211	1	211
87,400	411	1	411
87,800	811	3	2,423
88,000	1,011	1	1,011
89,800	2,811	1	2,811
90,000	3,011	4	12,044
90.600	3,611	1	3,611
91,000	4,011	2	8,022
93,800	6,811	2	13,622
96,600	9,611	1	9,611
97,000	10,011	1	10,011
97,200	10,211	2	20,422
98,800	11,811	1	11,811
		36	$192,088 Total deviation from mean $\Sigma f\lvert x - \bar{x} \rvert$

A.D. (ungrouped data) $= \frac{\Sigma\lvert X - \bar{X} \rvert}{n} = \frac{\$192,088}{36} = \$5,336$

A.D. (grouped data) $= \frac{\Sigma f\lvert X - \bar{X} \rvert}{n} = \frac{\$192,088}{36} = \$5,336$

A.D. = average deviation
Σ = sum of
f = frequency
X = observed value
$\lvert\ \rvert$ = absolute value (ignore whether the difference is positive or negative)
n = number of observations in sample
$\bar{X}$ = mean of sample

These calculations indicate that the average deviation of the individual values in the population from the mean is $5,336, or about 6%. This relatively small variation suggests that the mean is an acceptable representation of the population.

Like the range, the average deviation does not lend itself to further statistical calculations.

Standard Deviation

The standard deviation is a way to describe a sample or a population that lends itself to further mathematical treatment. When this measure is used, the rules of probability can be applied to draw inferences from samples concerning the attributes of the population. The square of the difference between each observation and the mean of the observations is used in lieu of the absolute deviation. In this way the effects of extreme variance from the mean are magnified.

In the example the mean house sale price is $86,989; for an $82,000 sale, the standard deviation is $4,989 squared, or $24,890,121.

When the standard deviation of an entire population is being calculated, it is symbolized by the lowercase sigma (σ). The formula may be expressed verbally as follows: *The standard deviation of a population is the square root of the sum of the squared differences between each observation and the mean of all the observations in the population, divided by the number of observations in the population.*

When the standard deviation of a sample of a population is being calculated, it is symbolized by the lowercase letter *s*. Expressed verbally, the formula is: *The standard deviation of a sample is the square root of the sum of the squared differences between each observation and the mean of all the observations in the sample, divided by the number of observations in the sample minus one*.

One is subtracted from the number of observations in a sample to adjust for the one degree of freedom that is lost when the mean is calculated. (See the discussion of simple linear regression analysis that is presented later in this appendix.) A set of data starts with as many degrees of freedom as there are observations; each time a statistic is calculated directly from the data, one degree of freedom is lost.

Formulas for calculating the standard deviations follow.

For a population:

Ungrouped

$$\sigma = \sqrt{\frac{\Sigma(X - \overline{X})^2}{N}}$$

Grouped

$$\sigma = \sqrt{\frac{\Sigma f(X - \overline{X})^2}{N}}$$

For a sample:

Ungrouped

$$s = \sqrt{\frac{\Sigma(X - \overline{X})^2}{n - 1}}$$

Grouped

$$s = \sqrt{\frac{\Sigma f(X - \overline{X})^2}{n - 1}}$$

Samples are typically used in real estate appraising, so the second formula is usually applicable. The standard deviation for the 36 house sales as grouped data is calculated in Table B.1.

The standard deviation is a useful way to describe the dispersion of a population or sample. It indicates how well the mean represents the whole sample or population by describing a standard measure of variation. The standard deviation is used and understood in many disciplines and it can be calculated easily with an electronic calculator. It will undoubtedly be more widely used by appraisers in the future.

The standard deviation can also indicate what percentage of the sample of a population may be expected to fall within selected ranges of *confidence intervals.* (Confidence levels are discussed later in this appendix.) Approximately 68.26% of the sample or population will generally fall within plus or minus one standard deviation from the mean, provided the data meet the tests of normal distribution, which are explained later. Many types of real estate data conform to the pattern of a normal distribution when they are developed with appropriate sampling techniques.

TABLE B.1
Standard Deviation for 36 House Sales

x	f	$(x - \bar{x})$	$(x - \bar{x})^2$	$f(x - \bar{x})^2$
$72,000	1	$14,989	$224,670,000	$224,670,000
74,600	1	12,389	153,487,000	153,487,000
76,000	1	10,989	120,758,000	120,758,000
77,200	1	9,789	95,824,500	95,824,500
78,000	1	8,989	80,802,100	80,802,100
79,000	1	7,989	63,824,100	63,824,100
79,800	2	7,189	51,681,700	103,363,000
82,000	2	4,989	24,890,100	49,780,200
84,000	1	2,989	8,934,120	8,934,120
85,600	1	1,389	1,929,320	1,929,320
85,800	1	1,189	1,413,720	1,413,720
86,000	1	989	978,121	978,121
87,000	1	11	121	121
87,200	1	211	44,521	44,521
87,400	1	411	168,921	168,921
87,800	3	811	657,721	1,973,160
88,000	1	1,011	1,022,120	1,022,120
89,800	1	2,811	7,901,720	7,901,720
90,000	4	3,011	9,066,120	36,264,500
90.600	1	3,611	13,039,300	13,039,300
91,000	2	4,011	16,088,100	32,176,200
93,800	2	6,811	46,389,700	92,779,400
96,600	1	9,611	92,371,300	92,371,300
97,000	1	10,011	100,220,000	100,220,000
97,200	2	10,211	104,265,000	208,530,000
98,800	1	11,811	139,500,000	139,500,000
				$1,631,755,444
				Rounded $1,631,760,000

Assuming this is a normal distribution, 68.26% of the house sales in the population will fall between $80,161 ($86,989 - $6,828) and $93,817 ($86,989 + $6,828). Approximately 95.44% of the sales should fall within two standard deviations from the mean and approximately 99.74% should fall within three standard deviations from the mean.

Because the standard deviation lends itself to further mathematical calculations, it can be used for analytical purposes as well as to describe a population.

$$s = \sqrt{\frac{\Sigma f(X - \bar{X})^2}{n - 1}}$$

Mean: $86,989

$$s = \sqrt{\frac{\$1,631,760,000}{36 - 1}}$$

$$s = \sqrt{\$46,621,714}$$

$$s = \$6,828$$

Statistical Inference

Statistical inference is based on the assumption that past market actions provide a valid basis for forecasting present or future market actions. In the example, past sale prices are used to estimate current sale prices. The same technique can be used to forecast rents, costs, depreciation, and other amounts using the rules of probability.

A normal curve is produced when a normal distribution is plotted on a graph to illustrate a distribution of data. Although the original data may not be normally distributed,

the results of repeated random samples may approximate a normal distribution. Sales are often treated as though they were normally distributed in competitive, open-market situations.

A normal curve often takes the form of a bell curve. One major characteristic of a bell curve is its symmetry. Both halves of the curve have the same shape and contain the same number of observations. The mean, median, and mode are the same value and fall at the midpoint, or apex, of the curve.

Figure B.l is a bell curve that illustrates the 36 house sales. It shows that 68.26% of the observations will fall within the range of the mean, plus or minus one standard deviation; 95.44% will fall within plus or minus two standard deviations; and 99.74% will fall within plus or minus three standard deviations. The figure depicts an analysis of the probable population distribution for the 36 sales, assuming a normal distribution.

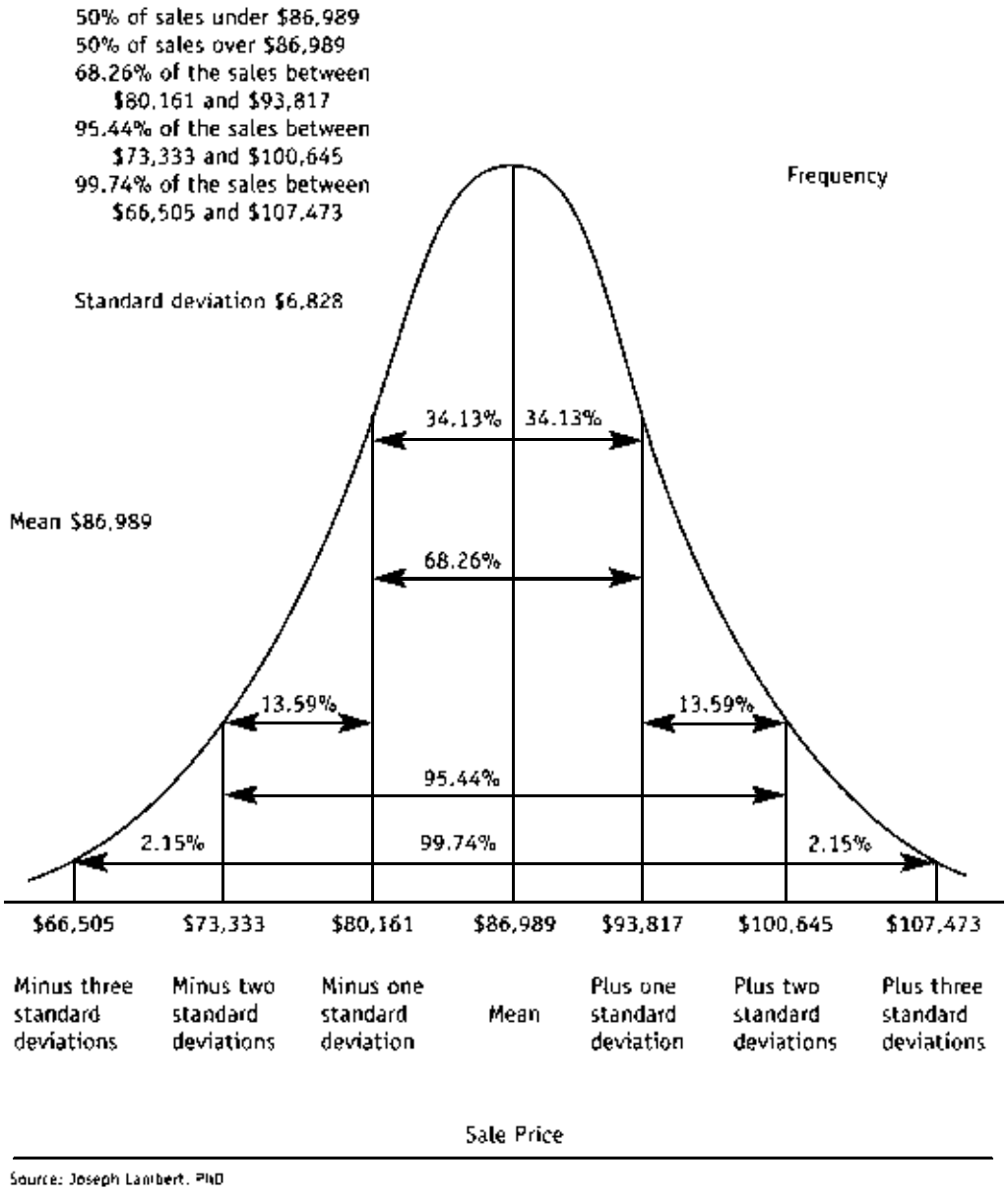


Figure B.1 **Area Under the Normal Curve for 36 House Sales**

Under the bell curve, the ranges for one, two, and three standard deviations are shown. The percentage of the population that will fall within a given distance from the mean or within any specified range can be calculated. For example, the percentage of sales included within a range of $91,989 to $81,989 (i.e., the mean of $86,989 plus or minus $5,000) may be estimated by calculating the *Z* value for this range with the formula presented below and then consulting a table of areas under the normal curve for the calculated value of *Z*.

Z = the deviation of *X* from the mean measured in standard deviations

$$Z = \frac{\text{X} - \text{mean}}{\text{standard deviation}}$$

$$Z = \frac{\$91,989 - \$86,989}{\$6,828} = 0.73$$

This formula shows that $91,989 and $81,989 each deviate from the mean of $86,989 by 0.73 standard deviations.

The percentage of sales within this *Z* range of plus or minus 0.73 standard deviations can be found by locating 0.7 in the *Z* column of Table B.2 and then looking across the top of the table for the next digit—i.e., 0.03. The table indicates that 26.73% of the sales fall between $86,989 and $91,989 or between $86,989 and $81,989; therefore, 53.46% of the sales will fall between $91,989 and $81,989.

The probability of a randomly selected sale falling within a given range can also be determined with the *Z* value. Using the sample of 36 house sales, which has a mean of $86,989 and a standard deviation of $6,828, the probability of a randomly selected sale falling between $86,989 and $88,989 is calculated as follows:

$$Z = \frac{\text{X} - \text{mean}}{\text{standard deviation}} = \frac{\$88,989 - \$86,989}{\$6,828} = 0.29$$

The table of areas under the normal curve, Table B.2, shows that a Z value of 0.29 corresponds to 0.1141. This indicates that there is an 11.41% chance that the sale will fall within $2,000 above the mean. Because the curve of a normal distribution is symmetrical, there is the same probability that a sale will fall within $2,000 below the mean.

Probability a sale will fall between $88,989 and $86,989	11.41%
Probability a sale will fall between $84,989 and $86,989	11.41%
Probability a sale will fall between $84,989 and $88,989	22.82%

If the range in this example is expanded to $4,000 plus or minus the mean of $86,989—i.e., between $82,989 and $90,989—the probability of a randomly selected sale falling within this range is increased.

$$Z = \frac{\text{X} - \text{mean}}{\text{standard deviation}} = \frac{\$90,989 - \$86,989}{\$6,828} = 0.59$$

TABLE B.2
Areas Under the Normal Curve

Z	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
0.0	0.0000	0.0040	0.0080	0.0120	0.0160	0.0199	0.0239	0.0279	0.0319	0.0359
0.1	0.0398	0.0438	0.0478	0.0517	0.0557	0.0596	0.0636	0.0675	0.0714	0.0753
0.2	0.0793	0.0832	0.0871	0.0910	0.0948	0.0987	0.1026	0.1064	0.1103	0.1141
0.3	0.1179	0.1217	0.1255	0.1293	0.1331	0.1368	0.1406	0.1443	0.1480	0.1517
0.4	0.1554	0.1591	0.1628	0.1664	0.1700	0.1736	0.1772	0.1808	0.1844	0.1879
0.5	0.1915	0.1950	0.1985	0.2019	0.2054	0.2088	0.2123	0.2157	0.2190	0.2224
0.6	0.2257	0.2291	0.2324	0.2357	0.2389	0.2422	0.2454	0.2486	0.2517	0.2549
0.7	0.2580	0.2611	0.2642	0.2673	0.2704	0.2734	0.2764	0.2794	0.2823	0.2852
0.8	0.2881	0.2910	0.2939	0.2967	0.2995	0.3023	0.3051	0.3078	0.3106	0.3133
0.9	0.3159	0.3186	0.3212	0.3238	0.3264	0.3289	0.3315	0.3340	0.3365	0.3389
1.0	0.3413	0.3438	0.3461	0.3485	0.3508	0.3531	0.3554	0.3577	0.3599	0.3621
1.1	0.3643	0.3665	0.3686	0.3708	0.3729	0.3749	0.3770	0.3790	0.3810	0.3830
1.2	0.3849	0.3869	0.3888	0.3907	0.3925	0.3944	0.3962	0.3980	0.3997	0.4015
1.3	0.4032	0.4049	0.4066	0.4082	0.4099	0.4115	0.4131	0.4147	0.4162	0.4177
1.4	0.4192	0.4207	0.4222	0.4236	0.4251	0.4265	0.4279	0.4292	0.4306	0.4319
1.5	0.4332	0.4345	0.4357	0.4370	0.4382	0.4394	0.4406	0.4418	0.4429	0.4441
1.6	0.4452	0.4463	0.4474	0.4484	0.4495	0.4505	0.4515	0.4525	0.4535	0.4545
1.7	0.4554	0.4564	0.4573	0.4582	0.4591	0.4599	0.4608	0.4616	0.4625	0.4633
1.8	0.4641	0.4649	0.4656	0.4664	0.4671	0.4678	0.4686	0.4693	0.4699	0.4706
1.9	0.4713	0.4719	0.4726	0.4732	0.4738	0.4744	0.4750	0.4756	0.4761	0.4767
2.0	0.4772	0.4778	0.4783	0.4788	0.4793	0.4798	0.4803	0.4808	0.4812	0.4817
2.1	0.4821	0.4826	0.4830	0.4834	0.4838	0.4842	0.4846	0.4850	0.4854	0.4857
2.2	0.4861	0.4864	0.4868	0.4871	0.4875	0.4878	0.4881	0.4884	0.4887	0.4890
2.3	0.4893	0.4896	0.4898	0.4901	0.4904	0.4906	0.4909	0.4911	0.4913	0.4916
2.4	0.4918	0.4920	0.4922	0.4925	0.4927	0.4929	0.4931	0.4932	0.4934	0.4936
2.5	0.4938	0.4940	0.4941	0.4943	0.4945	0.4946	0.4948	0.4949	0.4951	0.4952
2.6	0.4953	0.4955	0.4956	0.4957	0.4959	0.4960	0.4961	0.4962	0.4963	0.4964
2.7	0.4965	0.4966	0.4967	0.4968	0.4969	0.4970	0.4971	0.4972	0.4973	0.4974
2.8	0.4974	0.4975	0.4976	0.4977	0.4977	0.4978	0.4979	0.4979	0.4980	0.4981
2.9	0.4981	0.4982	0.4982	0.4983	0.4984	0.4984	0.4985	0.4985	0.4986	0.4986
3.0	0.4987	0.4987	0.4987	0.4988	0.4988	0.4989	0.4989	0.4989	0.4990	0.4990

According to Table B.2, a Z value of 0.59 corresponds to 0.2224.

Probability a sale will fall between $90,989 and $86,989	22.24%
Probability a sale will fall between $82,989 and $86,989	22.24%
Probability a sale will fall between $82,989 and $90,989	44.48%

In these examples the range being tested has been equally distributed above and below the mean sale price. However, the probability of a randomly selected sale falling within any selected range in the population can also be tested. For example, the probability of a sale falling between $80,000 and $100,000 can be calculated as follows:

$$Z\ \text{area}_1 = \frac{X_1 - \text{mean}}{\text{standard deviation}} = \frac{\$80,000 - \$86,989}{\$6,828} = 1.02$$

$$Z\ \text{area}_2 = \frac{X_2 - \text{mean}}{\text{standard deviation}} = \frac{\$100,000 - \$86,989}{\$6,828} = 1.91$$

A Z value of 1.02 in Table B.2 indicates a probability of	0.3461
A Z value of 1.91 in Table B.2 indicates a probability of	0.4719
Probability	0.8180

There is an 81.8% chance that a randomly selected sale in this sample will fall between $80,000 and $100,000.

Confidence Level

Using statistical inference and the laws of probability for a normal distribution, the previous examples have shown how confidence intervals can be constructed for a sample when normally distributed data have been assumed or approximated. These calculations may be valuable in loan administration, housing development, appraising, and other decision-making situations involving real estate.

The examples have illustrated that, with 36 sales as a sample, an appraiser can state with a 95% degree of confidence that any sale randomly selected from the population will fall between $73,333 and $100,645. Similarly, there is a 68% level of confidence that a given sale will fall between $80,161 and $93,817.

These measures may be meaningful when used in conjunction with other statistical conclusions. However, they depend on how accurately the estimated mean represents the true population mean, so some confidence in the reliability of the mean must be established. Regardless of the size of the population, there is a specific sample size that will permit a certain level of confidence in the estimated mean.

For the 36 house sales, the standard deviation for price has been calculated as $6,828. The arithmetic mean is $86,989, or approximately $87,000. If an appraiser wants to be 95% certain that the true mean is within $1,000 of the estimated mean of $86,989—i.e., between $86,000 and $88,000—the necessary sample size can be calculated with the following formula:

$$n = \frac{z^2 s^2}{e^2}$$

$$n = \frac{(1.96)^2(\$6,828)^2}{(\$1,000)^2} = 179 \text{ sales}$$

where n = sample size required

z = Z statistic at 95% confidence level

s = standard deviation of the sample

e = required maximum difference in the mean

Thus, with a sample of 179 sales, the required level of confidence could be met. Similarly, for a confidence interval of not more than $1,500, the calculations would be

$$n = \frac{(1.96)^2(\$6,828)^2}{(\$1,500)^2} = 80 \text{ sales}$$

Using the original sample of 36 sales, an appraiser may want to know the limits within which the true population mean may fall at a 95% confidence level. By substitution

$$e^2 = \frac{z^2 s^2}{n^2}$$

and

$$e^2 = \frac{(1.96)^2(\$6,828)^2}{36} = \$4,975,041$$

$$e = \sqrt{\$4,975,041} = \$2,230$$

Thus, the appraiser can be 95% certain that the true population mean falls between $84,759 and $89,219.

Although calculations such as these may not seem to be directly related to day-to-day appraising, professional appraisers have a continuing interest in obtaining adequate data and understanding the markets in which they appraise. Statistical calculations can be useful in quantifying change and performing the neighborhood analyses that are essential to value estimation. Many appraisers routinely analyze the inferences that can be drawn from measures such as the standard deviations of raw and adjusted sale or rental data. These calculations are also applied in appraisal review, loan underwriting, and other analyses.

Regression Analysis

Regression analysis is another technique used by appraisers to analyze market data. It can be applied to estimate value and to isolate and test the significance of specific value determinants.

Simple Linear Regression Analysis

To estimate a probable sale price in the market, it is seldom sufficient to develop a sample of sales, calculate the standard deviation, and base an estimate on this evidence. In most cases the range of values at the confidence level required is too broad to be useful. However, the accuracy of an estimate can be substantially increased by considering one or more characteristics of the sale properties in addition to their sale prices.

In simple linear regression analysis, one independent variable, or property characteristic, is used to reflect a relationship that changes on a straight-line basis. In other words, a change in the independent variable is reflected in the same proportion in the dependent variable, which is unknown. The basic regression equation is

$$Yc = a + bX$$

where Yc is the predicted value of the dependent variable; a is the constant; b is the coefficient, or multiplier, for the independent variable; and X is the value of the variable. If, for example, the independent variable is the square foot area of a building and the dependent variable is its sale price, the simple linear regression equation $Yc = 10{,}000 + 45X$ means that the sale price of the building is predicted to be $10,000 plus $45 times its square foot area.

To find the constant, a, the data for this regression must be graphed. Increasing square foot areas are indicated along the horizontal axis of the graph and increasing sale prices are indicated along the vertical axis. Then a number of sales are plotted on the graph and a line that evenly divides these points is drawn. This is the regression line, and its slope is the b coefficient. The point on the vertical axis of the graph at which the regression begins is the intercept, or the constant symbolized as a. In other words, this is a base value that represents all positive and negative factors that are not explained by the equation and to which the coefficients, or adjustment factors, are added.

Another important statistic that results from a simple linear regression is the coefficient of determination, r^2. This statistic represents the approximate percentage of variation in the dependent variable, which is explained by the equation and is one

measure of the efficacy of the regression. When a regression is performed on an electronic, handheld calculator, the coefficient of determination given is unadjusted for degrees of freedom (i.e., the number of observations minus the number of variables). This adjustment should be applied to the resulting coefficient of determination:

$$r^2_{adj} = 1 - (1 - r^2)\ (n - 1/n - 2)$$

The standard error of the estimate is another measure of how well the regression fits. It is expressed as S_{yx} and represents the remaining dispersion in the data after the regression equation is applied. The equation for arriving at the standard error of the estimate is:

$$S_{yx} = S_y\sqrt{1 - r^2}$$

The *b* coefficient also has a *t* value. The *t* value is the coefficient expressed as a ratio to its standard deviation; it is a measure of the significance of the coefficient. The precise degree of significance represented by a particular *t* value depends on several factors and must be calculated. As a general rule, however, coefficients with *t* values greater than 2 are usually significant at a reasonably high confidence level.

Simple regression analysis is particularly useful when one element is overwhelmingly important in determining a property's sale price. Furthermore, this technique allows appraisers to analyze the relationships between real estate values and the significance of their various components.

Example of Simple Linear Regression

Using the 36 house sales analyzed earlier, simple linear regression can be used to demonstrate the apparent relationship between the sale price of a property and its living area in square feet. The gross living area (*GLA*) of each of the 36 houses is shown in Table B.3. Most appraisers would only analyze properties with the same approximate square foot area as the subject property and disregard the other sales.

The appraiser is valuing a 1,375-sq.-ft. dwelling, so Sales 1, 2, and 3 are most similar in terms of size. Their prices are reported as $57.53, $64.14, and $55.95 per square foot, respectively. The other sales may provide a clue to the "right answer," but they do little to resolve the discrepancy between these figures. Adjustments could be made for other differences in the properties, but complications would develop if multiple adjustments produced overlapping effects.

Sales 1, 2, and 3 indicate a price range of $55.95 to $64.14 per square foot; when these figures are applied to the 1,375-sq.-ft. area of the subject property, a value range of $76,931 to $88,192 is indicated. (These figures would be rounded in the appraiser's report.) The remaining market information cannot be used effectively in traditional appraisal analysis except perhaps to reinforce the appraiser's judgment.

With simple linear regression, however, more of the market data can be analyzed. To apply the formula $Y_c = a + bX$, the 36 sales were analyzed with a calculator and produced the following figures.

a = $49,261

b = $22.59

r = 0.6599 (simple correlation coefficient)

r^2 = 0.4354

r^2_{adj} = $1 - (1 - 0.4354)\ (36 - 1/36 - 2)$

= 0.4188 (adjusted coefficient of determination)

TABLE B.3
Comparable Sales Data Set for Simple Regression Analysis

Sale	*GLA* in Square Feet	Sale Price	Price per Square Foot *GLA*
1	1,321	$76,000	$57.53
2	1,372	88,000	64.14
3	1,394	78,000	55.95
4	1,403	74,600	53.17
5	1,457	85,800	58.89
6	1,472	87,400	59.38
7	1,475	84,000	56.95
8	1,479	85,600	57.88
9	1,503	72,000	47.90
10	1,512	77,200	51.06
11	1,515	82,000	54.13
12	1,535	79,000	51.47
13	1,535	87,800	57.20
14	1,577	91,000	57.70
15	1,613	90,000	55.80
16	1,640	79,800	48.66
17	1,666	91,000	54.62
18	1,681	79,800	47.47
19	1,697	87,200	51.38
20	1,703	87,000	51.09
21	1,706	89,800	52.64
22	1,709	90,600	53.01
23	1,709	93,800	54.89
24	1,720	93,800	54.53
25	1,732	82,000	47.34
26	1,749	97,200	55.57
27	1,771	97,200	54.88
28	1,777	86,000	48.40
29	1,939	87,800	45.28
30	1,939	90,000	46.42
31	1,939	90,000	46.42
32	1,939	90,000	46.42
33	1,939	96,600	49.82
34	1,940	87,800	45.26
35	2,014	98,800	49.06
36	2,065	97,000	46.97

Thus, for the 1,375-sq.-ft. property being appraised,

$$Y_C = \$49{,}261 + \$22.59 \times 1{,}375$$
$$= \$80{,}322, \text{ or } \$58.42 \text{ per square foot}$$

The 36 sales are plotted on the graph shown in Figure B.2, and the calculated regression line is indicated. The graph also shows the standard error of the estimate, which allows the appraiser to construct confidence intervals around the regression line. The calculations in this example produce a standard error estimate of $5,205. When this figure is applied to the property being appraised, the appraiser can state that 36 sales in the market support an estimate of $80,300 for the appraised property, based only on a comparison of their square foot area. Moreover, at a 68% confidence level, the market price should fall between $80,300 + $5,205—i.e., from $75,095 to $85,505. At a 95% confidence level, the price should fall between $80,300 $\pm$ 2 x $5,205, or from $69,890 to $90,710.

Although other statistical measures such as the standard error of the forecast (S*f*) may be used, most appraisers would consider this analysis to be sufficient and reasonably representative of most single-family market situations. Although a more refined analysis of these data could be performed, this example illustrates a simple application

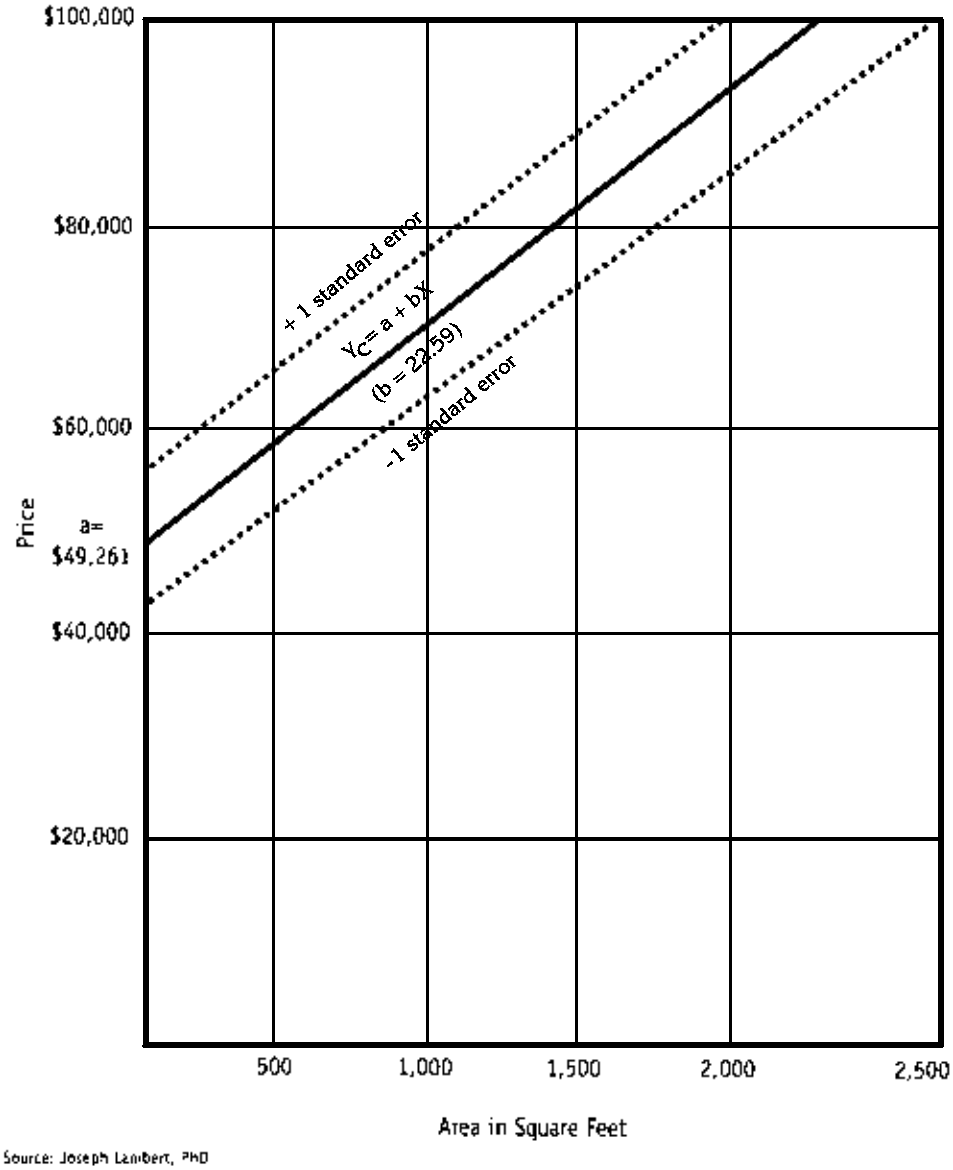


Figure B.2 **Plot of Sales, Regression Line, and Standard Error for 36 Sales**

of a regression technique. The standard error of the forecast for the appraised property could be calculated as follows:

$$Sf = S_{yx} \sqrt{1 + \frac{1}{n} + \frac{(X_K - \overline{X})^2}{(X - \overline{X})^2}}$$

$$Sf = 5{,}205 \sqrt{1 + \frac{1}{36} + \frac{(1{,}720 - 1{,}670)^2}{1{,}469{,}045}}$$

$$Sf = 5{,}281$$

Applying this adjustment to the standard error makes only a small change because the measure of value (i.e., square footage) of the subject property is quite close to the mean square footage of the sample data. The greater the difference between the appraised property and the mean of the sample in regard to any property attribute, the

more this distortion affects the standard error as a measure of variation in the regression prediction.

Multiple Regression Analysis

Multiple regression analysis is performed with the same basic methods as simple linear regression, but the analysis is expanded to include more than one independent variable. Some handheld calculators are preprogrammed or can be programmed to perform regressions using two or three independent variables, but multiple regressions are generally performed on a computer. Stepwise regression is an improvement on the standard regression procedure because variables can be added or removed from the regression equation depending on their degree of explanatory power. This type of regression produces an optimum combination of variables by retaining only the most significant.

Curvilinear Regression Analysis

Most appraisal data do not reflect straight-line relationships, but appraisers often deal with short segments of a curve so tools such as linear regression and correlation can be used. However, inferences can be distorted when linearity is assumed for data that are clearly curvilinear. Fortunately, many sets of curvilinear data may also be transformed rather easily and processed as if they were linear.

Decimal and Fractional Equivalents of a Foot (in./ft. Equivalents)

Inch	Decimal	Fraction	Inch	Decimal	Fraction	Inch	Decimal	Fraction
1”	.08	1/12	5”	.42	5/12	9”	.75	3/4
2”	.17	1/6	6”	.50	1/2	10”	.83	5/6
3”	.25	1/4	7”	.58	7/12	11”	.92	11/12
4”	.33	1/3	8”	.67	2/3	12”	1.00	1

Weights

1 ounce	16 drams (dr.)	4 quarters	one-hundred weight (cwt.)
1 pound	16 ounces (oz.)	1 short ton (s.t.)	2,000 pounds
1 quarter	25 pounds (lb.)	1 long ton (l.t.)	2,240 pounds

Measures

LINEAR MEASURES

1 inch:	.0833 ft.	1 chain:	66 ft.	1 acre:	208.71033 ft. sq.
1 link:	7.92 in.		4 rods		132 ft. x 330 ft.
1 foot:	12 in.		100 links		110 ft. x 396 ft.
1 yard:	3 ft.	1 mile:	5,280 ft.		145.2 ft. x 300 ft.
1 rod:	16.5 ft.		1,760 yd.		198 ft. x 220 ft.
	25 links		320 rods		or any rectangular tract with an
			80 chains		area of 43,560 sq. ft.

SQUARE MEASURES

				CUBIC MEASURES	
1 sq. ft.:	144 sq. in.	1 acre:	43,560 sq. ft.	1 board ft.:	144 cu. in.
1 sq. yd.:	9 sq. ft.		4,840 sq. yd.	1 cu. ft.:	1,728 cu. in.
1 sq. rod:	272.25 sq. ft.		160 sq. rods	1 cu. yd.:	27 cu. ft.
	30.25 sq. yd.		10 sq. chains	1 cu. ft.:	7.481 gal.
1 sq. chain:	4,356 sq. ft.	1 sq. mile:	640 acres		
	16 sq. rods	1 full section:	1 sq. mile		
		1 township:	36 sections		

Metric Conversion Table

LINEAR MEASURES				SQUARE MEASURES				CUBIC MEASURES			
inches	x	2.54	= centimeters	sq. in.	x	6.452	= sq. cm.	cu. in.	x	16.387	= cu. cm.
feet	x	.305	= meter	sq. ft.	x	.093	= sq. m.	cu. ft.	x	.283	= cu. m.
yards	x	.914	= meter	sq. yd.	x	.836	= sq. m.	cu. yd.	x	.7645	= cu. m.

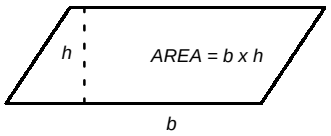
NOTES:

1. Cost per linear foot x 3.281 = cost per meter
2. Cost per square foot x 10.764 = cost per square meter
3. Cost per cubic foot x 35.315 = cost per cubic meter
4. Cost per cubic yard x 1.308 = cost per cubic meter

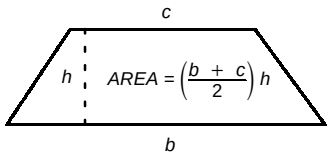
IRREGULAR AREAS

Computing Irregular Areas

PARALLELOGRAM .... A quadrilateral having its opposite sides parallel.

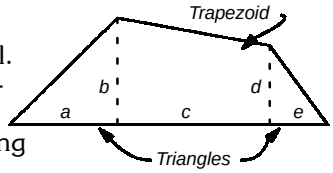


TRAPEZOID .... A quadrilateral having two and only two sides parallel.



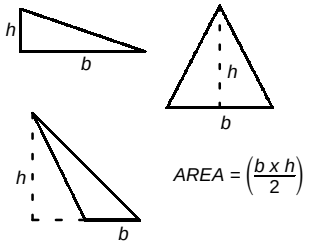
The altitude (h) of a parallelogram or trapezoid is the perpendicular distance between the parallel sides.

TRAPEZIUM .... A quadrilateral having no two sides parallel. The area of a trapezium can only be determined by dividing the figure into triangles, parallelograms and/or trapezoids and totaling the individual areas.



$$AREA = \left(\frac{a \times b}{2}\right) + \left(\frac{b + d}{2}\right) c + \left(\frac{e \times d}{2}\right)$$

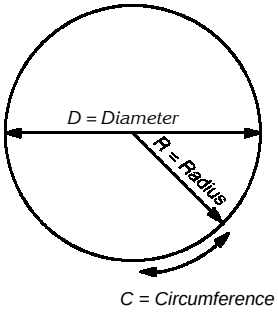
TRIANGLE ..... A three-sided polygon. The altitude (h) of a triangle is the perpendicular from any vertex to the opposite side (extended if necessary).



$$AREA = \left(\frac{b \times h}{2}\right)$$

PROPERTIES OF A CIRCLE

Area	$= D^2 \times .7854$	Circumference	$= D \times 3.1416$
	$= R^2 \times 3.1416$		$= R \times 6.283185$
	$= C^2 \times .07958$		
Diameter	$= R \times 2$	Radius	$= D \div 2$
	$= C \times .3183$		$= C \times .159155$



FORMULAS

Areas and Volumes

Area of a rectangle:	length x width = area
Perimeter of a rectangle:	2 x length + 2 x width = perimeter
Area of a square:	side x side = area
Perimeter of a square:	4 x side = perimeter
Area of a parallelogram:	base x height = area
Area of a triangle:	½ (base x height) = area
Area of a circle:	πr^2 = area
Circumference of a circle:	πd = circumference
Volume:	length x width x height = volume
Cost to build a home:	length x width x cost per square foot = cost to build house

Ratios

Assessment Ratio	$\frac{\textit{Assessor's estimate of value}}{\textit{Selling price of property}}$
Perimeter Ratio	$\frac{\textit{Square feet of ground area}}{\textit{Linear feet of building perimeter}}$

Basic Math Functions and Order of Operations

Find s in each of the equations

(s + 25) ÷ 2 -100 x 10 = 5	Answer (s = 1985)
(s x 4) + [300 ÷ (10 - 20)] = 14	Answer (s = 11)

WORD PROBLEMS

Example: If two masons can lay 120 bricks per day, how many bricks can be laid by three masons in five days?

Answer = 3 x 60 x 5 = 900 bricks

Example 1: How much does it cost to cover the floor of a recreation room 20 feet by 35 feet if the linoleum is $2.65 a square yard?

Example 2: How many acres are in a rectangular field with a frontage of 565 yards and a depth of 420 yards? (43,560 square feet = 1 acre)

Example 3: The base length of a truss is 45 feet and its height is 8 feet. What is the the area enclosed by the truss?

Example 4: A legal description, when drawn out, is a parallelogram. The road frontage of the property is 100 linear feet, and the distance from the road to the back line of the property is 245 feet. What is the area of the legal description?

Example 5: Farmer A constructs a 70-foot-high Harvestore silo. The radius of the concrete footing for the silo is 15 feet. Farmer B constructs a 90-foot-high Rochester concrete stave silo. The diameter of this silo is 35 feet. Farmer C constructs a 65-foot-high stave silo. Its concrete footing has a circumference of 70 feet. What ground area does each of these silos cover?

Example 6: Mr. Smith owns a grocery store. In order to handle all of his new business, he has to build an addition onto his current store. The addition measures 40 feet wide by 30 feet long. The height of the addition is 12 feet. How many cubic feet of volume are in the addition?

Example 7: A contractor orders the following for framing a garage:

40 studs, 2" x 4" x 8'
6 sills, 2" x 4" x 20'
6 plates, 2" x 4" x 20'
26 rafters, 2" x 4" x 14'
65 pieces, 1" x 6" x 22' for sheathing

With a per-board-foot cost of $2.50, what is the total cost of this order?

Example 8: Mr. Jones is the assessor for the town of XYZ. He wanted to find out what his level of assessment was, so he decided to analyze the sales that had occurred in his district. These are the sales:

Sale	Sale Amount	Assessment
A	145,000	101,500
B	86,000	43,000
C	235,000	70,650
D	179,400	152,490
E	364,900	164,205

Based on the information above, what are the mean, median and aggregate assessment ratios for Town XYZ?

Example 9: As an assessor, you obtain the following cost information from a local contractor:

Item	Cost
Drywall	$ .40 per sq. ft.
Insulation	.38 per sq. ft.
Plywood	.42 per sq. ft.
Carpet padding	.25 per sq. yd.
Carpet	10.99 per sq. yd.
Linoleum	8.99 per sq. yd.
Paneling	1.50 per sq. ft.
Paint	10.00 per gallon
Nails	.59 per lb.

Mr. Brown plans to finish off his basement, and he finds that he needs the following:

595 sq. ft. of drywall, 595 sq. ft. of insulation, 300 sq. ft. of paneling, 2 gallons of paint, 10½ lb. of nails, 4 sq. yd. of plywood, 810 sq. ft. of carpet and padding and 10 sq. yd. of linoleum. What is the total cost of the required materials?

Example 10: How many sheets of metal, each 1/32" thick, are there in a pile 12 7/8" high?

Example 11: How many flooring boards, each 3 1/5" wide are there in the width of a corridor 5'5" wide?

ANSWERS TO MATH PROBLEMS

(1) $206.11
(2) 49.03 acres
(3) 180 sq. ft.
(4) 24,500 sq. ft.
(5) A. 706.86 sq. ft.
B. 962.11 sq. ft.
C. 389.93 sq. ft.
(6) 14,400 cu. ft.
(7) $3,327.50
(8) mean = 56%
median = 50%
aggregate ratio = 53%
(9) $2,056.92
(10) 412
(11) 20 5/16 or 20.3125

500 **V** VACANT **D** DWELLING **O** OTHER

STORY HEIGHT

1.0 1.5 2.0 2.5 3.0

505

STYLE				USE	
01	RANCH	06	CONTEMPORARY	11	DUPLEX
02	BI-LEVEL	07	TOWN HOUSE	12	CONDOMINIUM
03	SPLIT LEVEL	08	RESIDENCE O/S	13	OTHER
04	CAPE COD	09	EXEC./MANSION	14	MOBILE
05	COLONIAL	10	COTTAGE		

505

EXTERIOR WALL CONSTRUCTION

1	WOOD	7	BRICK	13	MASONRY VEN.
2	BLOCK	8	STONE	14	SIP
3	STUCCO	9	MASONRY/FRAME	15	LOG
4	ALUM/VINYL	10	HRDBRD/PLYWD	16	HAND-HEWN LG.
5	CEM. FIBER	11	SHINGLE/SHAKE	17	OVERSIZED LOG
6	METAL	12	EIFS	18	OTHER

510 **AGE**

ERECTED _ _ _ _ REMODELED _ _ _ _

515 **BASEMENT**

1 NONE 2 CRAWL 3 FULL

HEATING

1 NONE 2 BASIC 3 AIR CON 4 AIR CON (SEP DUCTS)

520 **FUEL TYPE**

1 GAS 2 ELECT 3 OIL 4 WOOD/COAL

SYSTEM TYPE

1 WARM AIR 2 ELECT 3 HOT WATER 4 STEAM

LIVING ACCOMMODATIONS

525

TOTAL ROOMS _ _ BED ROOMS _ _ FAMILY ROOM _ _

FULL BATHS _ HALF BATHS _ ADDN'L FIXTURES _ TOTAL FIXTURES _ _

ROUGH-INS _ WHIRLPOOL _ HOT TUB _

530

KITCHEN RATING	BATHROOM RATING
1 VG 2 G 3 AV 4 P	1 VG 2 G 3 AV 4 P

540 **INTERIOR CONDITION RELATIVE TO EXTERIOR**

1 BETTER 2 SAME 3 POORER

550 **PHYSICAL CONDITION**

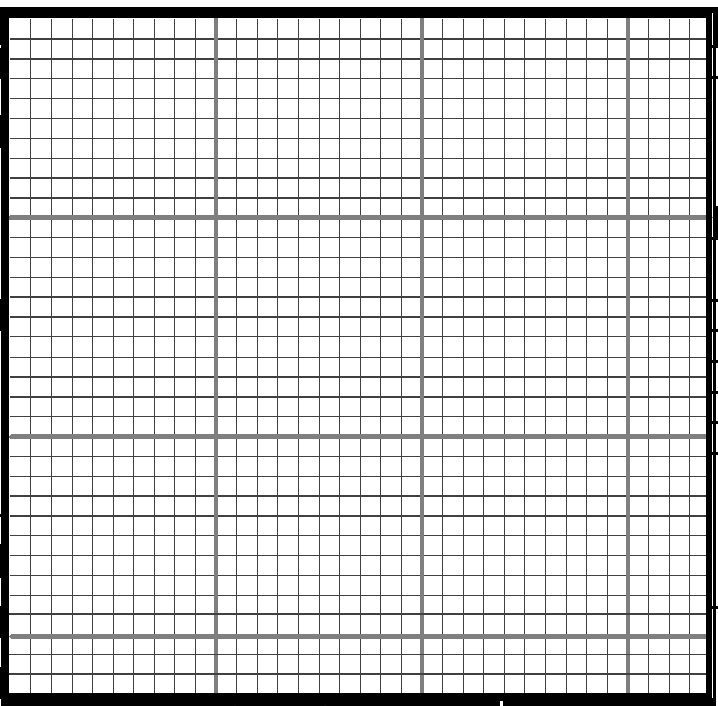
1 GD 2 AV 3 PR 4 UN

	OTHER FEATURES	AMOUNT
551	1 MASONRY ADJ [ ] _ x _	
552	2 REC ROOM _ x _	
553	3 WB FP: STACKS _ OPENINGS _	
554	4 METAL FP: STACKS _	
555	5 GAS FP _	
556	6 BASEMENT GARAGE, NO. CARS _	
557	7 BUILT-IN GARAGE, NO. CARS _ TYPE:	
558	8 DORMERS, TYPE:_ _ L.F.	
559	9 TOTAL ADDITIONAL OTHER FEATURES AMT.	

TOTAL OTHER FEATURES AMT._

560

GRADE FACTOR	AA	A	B	C	D	E	[ ]	
COST & DESIGN FACTOR							[ ]	_ _
CDU	EX	VG	GD	AV	FR	PR	VP	UN



ATTACHMENTS

	1st	2nd	3rd	AREA	AMOUNT
601	1 _ _	_ _	_ _	_ _ _ _	
602	2 _ _	_ _	_ _	_ _ _ _	
603	3 _ _	_ _	_ _	_ _ _ _	
604	4 _ _	_ _	_ _	_ _ _ _	
605	5 _ _	_ _	_ _	_ _ _ _	
606	6 _ _	_ _	_ _	_ _ _ _	

TOTAL ATTACHMENT AMOUNT $_

ATTACHMENT CODES

11 OFP	21 OMP
12 EFP	22 EMP
13 FR GAR	**23 M GAR**
30 CARPORT	
31 WOOD DECK	
32 CANOPY	
33 CONC/M PATIO	
34 STN/TL PATIO	
35 MS/TERRACE	
99 ADD'L ATTACHMENT	

CON/DES/USFL	NO.	EX	VG	G	AV	FR	PR	VP	UN	UNF
EXTERIOR WALLS										
ROOF & COVER										
WINDOWS & DOORS										
HEATING										
ELECTRICAL										
PLUMBING										
B REC ROOM										
B OTHER										
1st KITCHEN										
1st DINING RM										
1st LIVING RM										
1st BATHROOM										
1st POWDER RM										
1st BEDROOM										
1st FAMILY RM										
1st OTHER										
2nd OR ATT KITCHEN										
2nd OR ATT DINING RM										
2nd OR ATT LIVING RM										
2nd OR ATT BATHROOM										
2nd OR ATT BEDROOM										
2nd OR ATT OTHER										
3rd LIVING AREA										

LOCATION ❑ IMPROVING ❑ STABLE ❑ DECLINING

LIVING AREAS

570		575		580	
BSMT	_ _ _ _	ADD'L FLOOR	_ _ _ _	ATTIC UNFIN	_ _ _ _
FIN BSMT LIV	_ _ _ _	ATTIC FIN	_ _ _ _	½ STORY UNFIN	_ _ _ _
FIRST FLOOR	_ _ _ _	½ STORY FIN	_ _ _ _	UNFIN ROOM	_ _ _ _
SECOND FLOOR	_ _ _ _				

DWELLING COMPUTATIONS

	EXT WALL CONST	AREA	VALUE
FIRST FLOOR			
SECOND FLOOR			
ADD'L STORY			
½ STORY			
ATTIC			

BASE PRICE

UNFINISHED	AREA	FACTOR	ADJ AREA
UNFINISHED ROOM	_	X 1 • 0 0 =	_
½ STORY UNFINISHED	_	X 0 • 7 5 =	_
ATTIC UNFINISHED	_	X 0 • 5 0 =	_
PRICE PER SQ FT	_	X TOTAL AREA	_

BASEMENT ADJUSTMENT COST

BASEMENT AREA _ = + _

CRAWL AREA _ = + _

1ST FLOOR AREA _ = - _

NET BASEMENT ADJUSTMENT = _ ±

FIN BSMT LIV AREA SFLA _ +

HEATING/AC SFLA _ ±

PLUMBING 5 FIXTURES IN BASE

TOTAL FIXTURES _ - 5 = _ X _/FX ±

ROUGH-INS WHIRLPOOL HOT TUB

TOTAL ROUGH-INS_ x _ + _ x _ + _ x _ +

TOTAL OTHER FEATURE AMOUNT = +

TOTAL ATTACHMENT AMOUNT = +

ADJUSTED BASE PRICE =

X GRADE FACTOR _ =

X COST & DESIGN FACTOR _ =

X LOCAL MODIFIER _ R C N =

X PERCENT GOOD _ R C N L D =

+ OTHER BUILDING IMPROVEMENTS

+ GROSS BUILDING SUMMARY

TOTAL IMPROVEMENT VALUE

ADDITIONAL OTHER FEATURES	AMOUNT
1	
2	
3	
4	
5	
6	
7	
8	
TOTAL ADD'L. OTH. FEATURES CARRY TOTAL TO 559	

ADDITIONAL ATTACHMENTS	AMOUNT
1	
2	
3	
4	
5	
6	
7	
TOTAL 99 ADDITIONAL ATTACHMENTS CARRY TOTAL TO 606	

OTHER BUILDING IMPROVEMENTS

	TYPE CODE	QUAN	CONST	YEAR	SIZE	G	HGT	RATE	MODIFICATION	LM	RCN	COND	% GOOD	OB/MA	R C N L D
701	_ _ _	_ _	F M P S O	_ _ _ _	_ _ I _ _ I _ _ _	_	_ _	_ _ • _ _	_ _ _ _ _ _	_ • _ _ _		_	_ _	_ _ _	
702	_ _ _	_ _	F M P S O	_ _ _ _	_ _ I _ _ I _ _ _	_	_ _	_ _ • _ _	_ _ _ _ _ _	_ • _ _ _		_	_ _	_ _ _	
703	_ _ _	_ _	F M P S O	_ _ _ _	_ _ I _ _ I _ _ _	_	_ _	_ _ • _ _	_ _ _ _ _ _	_ • _ _ _		_	_ _	_ _ _	
704	_ _ _	_ _	F M P S O	_ _ _ _	_ _ I _ _ I _ _ _	_	_ _	_ _ • _ _	_ _ _ _ _ _	_ • _ _ _		_	_ _	_ _ _	
705	_ _ _	_ _	F M P S O	_ _ _ _	_ _ I _ _ I _ _ _	_	_ _	_ _ • _ _	_ _ _ _ _ _	_ • _ _ _		_	_ _	_ _ _	
706	_ _ _	_ _	F M P S O	_ _ _ _	_ _ I _ _ I _ _ _	_	_ _	_ _ • _ _	_ _ _ _ _ _	_ • _ _ _		_	_ _	_ _ _	
707	_ _ _	_ _	F M P S O	_ _ _ _	_ _ I _ _ I _ _ _	_	_ _	_ _ • _ _	_ _ _ _ _ _	_ • _ _ _		_	_ _	_ _ _	
708	_ _ _	_ _	F M P S O	_ _ _ _	_ _ I _ _ I _ _ _	_	_ _	_ _ • _ _	_ _ _ _ _ _	_ • _ _ _		_	_ _	_ _ _	
709	_ _ _	_ _	F M P S O	_ _ _ _	_ _ I _ _ I _ _ _	_	_ _	_ _ • _ _	_ _ _ _ _ _	_ • _ _ _		_	_ _	_ _ _	
710	_ _ _	_ _	F M P S O	_ _ _ _	_ _ I _ _ I _ _ _	_	_ _	_ _ • _ _	_ _ _ _ _ _	_ • _ _ _		_	_ _	_ _ _	

820 **APARTMENT DATA**

TYPE	GR	BEDS	BATHS	NO. UNITS	RENTAL
1 _	_	_	_ • _	_ _ _	_ _ _
2 _	_	_	_ • _	_ _ _	_ _ _
3 _	_	_	_ • _	_ _ _	_ _ _

830 **INCOME DATA**

ACTUAL		ECONOMIC	
RENT	_ _/_ _ _/_ _ _	RENT	_ _/_ _ _/_ _ _
VACANCY	_ _	EXPENSES	_ _/_ _ _/_ _ _

APARTMENT COMPUTATIONS

	1-FIN BSMT	2-FIRST	3-UPPER
EXTERIOR WALLS			
AVERAGE UNIT SIZE			
BASE PRICE			
SQUARE FEET			
SUBTOTAL			
ADJ BASE 1 + 2 + 3			
UNFINISHED BSMT	+		
PLUMBING	±		
AIR CONDITIONING	+		
ATTACHMENTS	+		
SUBTOTAL			
X GRADE FACTOR = BASE VALUE			
X LOCAL MODIFIER			

APARTMENT TYPE
1. GARDEN
2. TOWNHOUSE
3. OTHER

APARTMENT GRADE FACTOR

AA	1.75
A	1.55
B	1.28
C	1.00
D	0.85
E	0.55

GROSS BUILDING SUMMARY

ID	USE	CONST	GRADE	AGE EREC	AGE REM	SIZE	RATE	LM	RCN	COND.	% GOOD	OB/MA	MARKET VALUE

800 TOTAL OTHER IMPROVEMENTS

MEASURED BY _ DATE _ | LISTED BY _ DATE _ | CALCULATED BY _ DATE _ | REVIEWED BY _ DATE _

KEY NO. ADDRESS BOOK NO. PLAT NO. KEY NO.

500 **V** VACANT **D** DWELLING **O** OTHER

STORY HEIGHT

1.0 1.5 2.0 2.5 3.0

505

STYLE				USE	
01	RANCH	06	CONTEMPORARY	11	DUPLEX
02	BI-LEVEL	07	TOWN HOUSE	12	CONDOMINIUM
03	SPLIT LEVEL	08	RESIDENCE O/S	13	OTHER
04	CAPE COD	09	EXEC./MANSION	14	MOBILE
05	COLONIAL	10	COTTAGE	15	APARTMENT

505

EXTERIOR WALL CONSTRUCTION

1	WOOD	7	BRICK	13	MASONRY VEN.
2	BLOCK	8	STONE	14	SIP
3	STUCCO	9	MASONRY/FRAME	15	LOG
4	ALUM/VINYL	10	HRDBRD/PLYWD	16	HAND-HEWN LG.
5	CEM. FIBER	11	SHINGLE/SHAKE	17	OVERSIZED LOG
6	METAL	12	EIFS	18	OTHER

510 **AGE**

ERECTED _ _ _ _ REMODELED _ _ _ _

515 **BASEMENT**

1 NONE 2 CRAWL 3 FULL

HEATING

1 NONE 2 BASIC 3 AIR CON 4 AIR CON (SEP DUCTS)

520 **FUEL TYPE**

1 GAS 2 ELECT 3 OIL 4 WOOD/COAL

SYSTEM TYPE

1 WARM AIR 2 ELECT 3 HOT WATER 4 STEAM

LIVING ACCOMMODATIONS

525

TOTAL ROOMS ___ ___ **BED** ROOMS ___ ___ **FAMILY** ROOM ___ ___

FULL BATHS ___ **HALF** BATHS ___ **ADDN'L** FIXTURES ___ **TOTAL** FIXTURES ___ ___

ROUGH-INS ____ WHIRLPOOL ___ HOT TUB ___

530 **KITCHEN RATING** | **BATHROOM RATING**

1 VG 2 G 3 AV 4 P | 1 VG 2 G 3 AV 4 P

540 **INTERIOR CONDITION RELATIVE TO EXTERIOR**

1 BETTER 2 SAME 3 POORER

550 **PHYSICAL CONDITION**

1 GD 2 AV 3 PR 4 UN

OTHER FEATURES		AMOUNT
551	1 MASONRY ADJ [ ] _____ x _____	
552	2 REC ROOM _____ x _____	
553	3 WB FP: STACKS ___ OPENINGS _____	
554	4 METAL FP: STACKS ___ OPENINGS _____	
555	5 GAS FP ___	
556	6 BASEMENT GARAGE, NO. CARS ___	
557	7 BUILT-IN GARAGE, NO. CARS ___ TYPE:_____	
558	8 DORMERS, TYPE:_____ _____ L.F.	
559	9 TOTAL ADDITIONAL OTHER FEATURES AMT.	

TOTAL OTHER FEATURES AMT._____

GRADE FACTOR AA A B C D E [ ]

560 COST & DESIGN FACTOR [ ] __ __

CDU EX VG GD AV FR PR VP UN

ATTACHMENTS

	1st	2nd	3rd	AREA	AMOUNT
601	1 __ __	__ __	__ __	__ __ __ __	
602	2 __ __	__ __	__ __	__ __ __ __	
603	3 __ __	__ __	__ __	__ __ __ __	
604	4 __ __	__ __	__ __	__ __ __ __	
605	5 __ __	__ __	__ __	__ __ __ __	
606	6 __ __	__ __	__ __	__ __ __ __	

TOTAL ATTACHMENT AMOUNT $_____

ATTACHMENT CODES

11 OFP	21 OMP
12 EFP	22 EMP
13 FR GAR	23 M GAR
30 CARPORT	
31 WOOD DECK	
32 CANOPY	
33 CONC/M PATIO	
34 STN/TL PATIO	
35 MS/TERRACE	
99 ADD'L ATTACHMENT	

CON/DES/USFL	NO.	EX	VG	G	AV	FR	PR	VP	UN	UNF
EXTERIOR WALLS										
ROOF & COVER										
WINDOWS & DOORS										
HEATING										
ELECTRICAL										
PLUMBING										
B	REC ROOM									
	OTHER									
1st	KITCHEN									
	DINING RM									
	LIVING RM									
	BATHROOM									
	POWDER RM									
	BEDROOM									
	FAMILY RM									
	OTHER									
2nd OR ATT	KITCHEN									
	DINING RM									
	LIVING RM									
	BATHROOM									
	BEDROOM									
	OTHER									
3rd	LIVING AREA									

LOCATION ❑ IMPROVING ❑ STABLE ❑ DECLINING

LIVING AREAS

570		575		580	
BSMT	_ _ _ _	ADD'L FLOOR	_ _ _ _	ATTIC UNFIN	_ _ _ _
FIN BSMT LIV	_ _ _ _	ATTIC FIN	_ _ _ _	½ STORY UNFIN	_ _ _ _
FIRST FLOOR	_ _ _ _	½ STORY FIN	_ _ _ _	UNFIN ROOM	_ _ _ _
SECOND FLOOR	_ _ _ _				

DWELLING COMPUTATIONS

	EXT WALL CONST	AREA	VALUE
FIRST FLOOR			
SECOND FLOOR			
ADD'L STORY			
½ STORY			
ATTIC			

BASE PRICE

UNFINISHED	AREA	FACTOR	ADJ AREA
UNFINISHED ROOM	_____	X 1 • 0 0	= _____
½ STORY UNFINISHED	_____	X 0 • 7 5	= _____
ATTIC UNFINISHED	_____	X 0 • 5 0	= _____
PRICE PER SQ FT	_____	X TOTAL AREA	_____

BASEMENT ADJUSTMENT COST

BASEMENT AREA _____ = + _____

CRAWL AREA _____ = + _____

1ST FLOOR AREA _____ = – _____

NET BASEMENT ADJUSTMENT = _____ ±

FIN BSMT LIV AREA SFLA _____ +

HEATING/AC SFLA _____ ±

PLUMBING 5 FIXTURES IN BASE

TOTAL FIXTURES _____ – 5 = _____ X _____/FX ±

ROUGH-INS WHIRLPOOL HOT TUB

TOTAL ROUGH-INS____ x _____ + _____ x _____ + _____ x _____ +

TOTAL OTHER FEATURE AMOUNT = +

TOTAL ATTACHMENT AMOUNT = +

ADJUSTED BASE PRICE =

X GRADE FACTOR _____ =

X COST & DESIGN FACTOR _____ =

X LOCAL MODIFIER _____ R C N =

X PERCENT GOOD _____ R C N L D =

+ OTHER BUILDING IMPROVEMENTS

+ GROSS BUILDING SUMMARY

TOTAL IMPROVEMENT VALUE

ADDITIONAL OTHER FEATURES	AMOUNT
1	
2	
3	
4	
5	
6	
7	
8	
TOTAL ADD'L. OTH. FEATURES CARRY TOTAL TO 559	

ADDITIONAL ATTACHMENTS	AMOUNT
1	
2	
3	
4	
5	
6	
7	
TOTAL 99 ADDITIONAL ATTACHMENTS CARRY TOTAL TO 606	

OTHER BUILDING IMPROVEMENTS

	TYPE CODE	QUAN	CONST	YEAR	SIZE	G	HGT	RATE	MODIFICATION	LM	RCN	COND	% GOOD	OB/MA	R C N L D
701			F M P S O												
702			F M P S O												
703			F M P S O												
704			F M P S O												
705			F M P S O												
706			F M P S O												
707			F M P S O												
708			F M P S O												
709			F M P S O												
710			F M P S O												

820 **APARTMENT DATA**

TYPE	GR	BEDS	BATHS	NO. UNITS	RENTAL
1 ___	___	___	___ • __	__ __ __	__ __ __
2 ___	___	___	___ • __	__ __ __	__ __ __
3 ___	___	___	___ • __	__ __ __	__ __ __

830 **INCOME DATA**

ACTUAL RENT _ _/_ _ _/_ _ _ VACANCY ___ __

ECONOMIC RENT _ _/_ _ _/_ _ _ EXPENSES _ _/_ _ _/_ _ _

APARTMENT COMPUTATIONS

	1-FIN BSMT	2-FIRST	3-UPPER
EXTERIOR WALLS			
AVERAGE UNIT SIZE			
BASE PRICE			
SQUARE FEET			
SUBTOTAL			
ADJ BASE 1 + 2 + 3			
UNFINISHED BSMT	+		
PLUMBING	±		
AIR CONDITIONING	+		
ATTACHMENTS	+		
SUBTOTAL			
X GRADE FACTOR = BASE VALUE			
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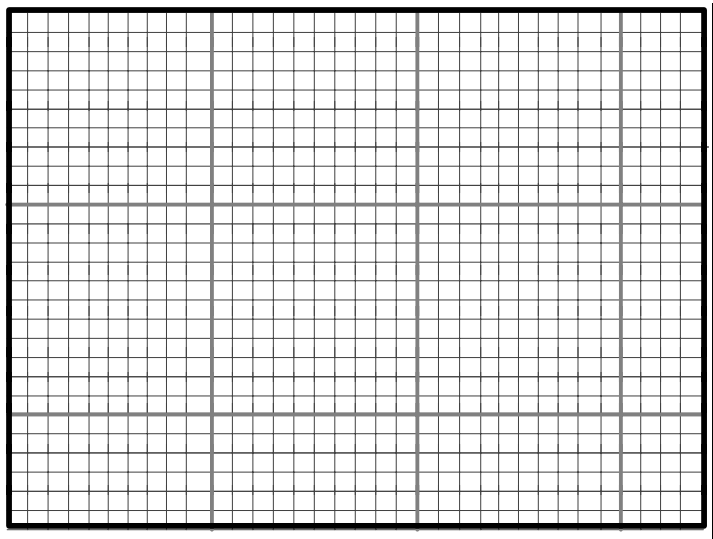
MEASURED BY _____ DATE _____ | LISTED BY _____ DATE _____ | CALCULATED BY _____ DATE _____ | REVIEWED BY _____ DATE _____

KEY NO. ADDRESS BOOK NO. PLAT NO. KEY NO.



BUILDING PERMIT RECORD

DATE	NUMBER	AMOUNT	PURPOSE

TRANSFER OF OWNERSHIP

GRANTEE	CONV	VOL	PG	MO	YR	UNIQUE SALES NUMBER	TYPE	SALES PRICE	SOURCE	VALID	D

CARD OF CARDS

MAP NUMBER

ROUTING NUMBER

X _____ Y _____

101 NEIGHBORHOOD | 102 LAND USE | 103 LIV UNITS | 104 ZONING

105 NUMBER STREET NAME

LAND DATA & COMPUTATIONS

			ACTUAL FRONTAGE	EFFECTIVE FRONTAGE	EFFECTIVE DEPTH	ACTUAL UNIT PRICE	DEPTH FACTOR	INFLUENCE FACTOR	LAND USE CODE	LAND VALUE
	300	N								
LOTS	301	L								
1 Regular lot	302	L								
2 Rear lot	303	L								
3 Apartment site	304	L								
4 Waterfront										
SQUARE FEET	311	S	SQ FT				Influence Factors			
1 Primary site	312	S	SQ FT				1 Unimp			
2 Secondary site	313	S	SQ FT				2 Exc Fr			
3 Residual							3 Topo			
4 Waterfront							4 Shape or Size			
ACREAGE	321	A	ACRES		PROD RTG		5 Econ Misimp			
1 Homesite	322	A	ACRES				6 Restric Noncon			
2 Tillable	323	A	ACRES				7 Land Locked			
3 Pasture	324	A	ACRES				8 Corner Alley (+)			
4 Woodland	325	A	ACRES				9 View (+)			
5 Wasteland	326	A	ACRES							
6 Primary site										
7 Secondary site										
8 Residual										
9 Waterfront										
0 Other										
GROSS	330	G								
1 Irregular lot										
2 Site value										
3 Residual										
4 Waterfront										
0 Minus R.O.W.										

SUMMARY OF VALUES

TOTAL VALUE LAND	
TOTAL VALUE BUILDING	
TOTAL VALUE LAND & BLDGS	

TYPE CODES

1 LAND
2 LAND & BUILDING

SOURCE CODES

1 BUYER
2 SELLER
3 FEE
4 AGENT

VALIDITY CODES

1 VALID SALE
2 Sale involves additional parcels
3 Not open market; not reasonable marketing time
4 Parties under compulsion to act
5 Property changed after sale
6 Related individuals or corporations
7 Liquidation/Foreclosure
8 Financing/Land contracts
9 Included excessive personal property or other (see memo)

402 ___ ENTRANCE CODES

0 Entrance gained
1 Not applicable – Unimproved parcel
2 Entrance and information refused
3 Entrance refused; info at door
4 Currently unoccupied
5 Est. for misc. reasons (see memo)
6 Occupant not at home

INSPECTION WITNESSED BY

MEMORANDUM

ASSESSOR'S FINAL REPORT

	EFF DATE	REASON	L or I	+ –	AMOUNT
901					
902					
903					
904					

910 **DEACTIVATE** ___ ___ ___ ___

REASON CODES

01 Gains due to annexation
02 Higher land use, N/C, new plats
03 New machinery
04 Formerly exempt, now assessed
05 Reval increase
06 Shift in class
07 Losses by annexation
08 Machinery removed
09 Formerly assessed, now exempt
10 Reval decrease

400 PROPERTY FACTORS

TOPOGRAPHY			UTILITIES			STREET OR ROAD			DWELLING SETBACK			FRONTING TRAFFIC		
LEVEL	1		ALL PUBLIC	1		PAVED	1		MORE THAN NEIGHBORHOOD AVG.	1		LIGHT	1	
ABOVE STREET	2		PUBLIC WATER	2		SEMI-IMPROVED	2					MEDIUM	2	
BELOW STREET	3		PUBLIC SEWER	3		UNPAVED	3		LESS THAN NEIGHBORHOOD AVG.	2		HEAVY	3	
ROLLING	4		GAS	4		PROPOSED	4					NONE	4	
STEEP	5		WELL	5		LANDLOCKED	5		SAME AS NEIGOBORHOOD AVG.	3		CUL-DE-SAC	5	
LOW	6		SEPTIC	6										
SWAMPY	7													
						SIDEWALK	6							

401 OWNERSHIP

PRIVATE	1	
CITY	2	
COUNTY	3	
STATE	4	
FEDERAL	5	
RELIGIOUS	6	
FRATERNAL	7	
UTILITY	8	
PUBLIC SERVICE	9	

PA-500 (R. 01-01) Wisconsin Department of Revenue

CLASS		YEAR NO AC	YEAR PER AC	YEAR LAND	YEAR IMPTS	YEAR TOTAL	YEAR NO AC	YEAR PER AC	YEAR LAND	YEAR IMPTS	YEAR TOTAL
	TOTAL TAXABLE	XX					XX				
1	RESIDENTIAL	XX					XX				
2	COMMERCIAL	XX					XX				
4	AGRICULTURAL	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX
	1ST GR TILLABLE	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX
	2ND GR TILLABLE	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX
	3RD GR TILLABLE	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX
	PASTURE	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX
	SPECIALTY LAND	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX
	TOTAL 4	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX
5	SWAMP & WASTE	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX
	SWAMP	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX
	WASTE	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX
	FALLOW TILLABLE	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX
	FALLOW PASTURE	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX
	RIGHT OF WAY	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX
	TOTAL 5	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX
6	PRODUCTIVE FOREST	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX
7	OTHER										
	FCL (PRIOR TO 1-1-72)	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX
	FCL (AFTER 12-31-71)	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX
	FCL SPEC	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX
	CO FC	XX	XXXX	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX	XXXX
	WTL (PRIOR TO 1-1-77)	XX	XXXX	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX	XXXX
	WTL (AFTER 12-31-76)	XX	XXXX	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX	XXXX
	MFL OPEN		XXXX	XXXX	XXXX	XXXX		XXXX	XXXX	XXXX	XXXX
	MFL CLOSED		XXXX	XXXX	XXXX	XXXX		XXXX	XXXX	XXXX	XXXX
	FEDERAL	XX	XXXX	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX	XXXX
	STATE	XX	XXXX	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX	XXXX
	COUNTY	XX	XXXX	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX	XXXX
	OTHER EXEMPT	XX	XXXX	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX	XXXX
	TOTAL TAXABLE	XX					XX				