ASSESSOR'S MANUAL

VOLUME I RESIDENTIAL

**Published and distributed by authority of Act 223, P.A. 1986
being Section 211.10e of the Michigan Compiled Laws.**

Michigan
State Tax Commission

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855 (Rev. 1-03)

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STATE OF MICHIGAN
DEPARTMENT OF TREASURY
LANSING

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Volume I of the 2014 *Assessor's Manual*

Enclosed is the 2014 edition of Volume I of the *Assessor's Manual*. Many improvements have been added since the 2003 edition based, in large part, upon suggestions and observations received from users of the manual. In addition to updating the cost schedules, the following are some significant changes made to Volume I of the *Assessor's Manual:*

Additional major components added to the Residential Single-Family section include:

1. Expanding the solar room and greenhouse costs.

Additional major components add to the Log Home Section include:

1. Expanding the low-cost recreation cabin costs.

Farm occupancies Dairies and Milking Parlors have been combined into one occupancy Milking Parlors (Dairies).

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MICHIGAN RESIDENTIAL ASSESSOR'S MANUAL

GENERAL INTRODUCTION

The *Michigan Residential Assessor's Manual* is used for estimating reproduction costs for single-family residences. The cost sections in the manual encompass both site-built and manufactured housing, with supplemental land improvement, unit-in-place and farm/agricultural building costs. Other sections of the manual include pricing of log homes, A-frames, townhouses and duplexes.

Depreciation schedules for the various residences, and instructional examples showing the Square Foot Cost Method step by step are also included.

County Multipliers have been provided and will be updated each year. These multipliers will bring the costs current and localize them to a particular county.

This manual offers two complete methods for estimating total reproduction costs: The Square Foot Cost Method, and the Unit-in-Place Method.

THE SQUARE FOOT COST METHOD:

This is a simple cost estimating system. Based on the square feet of ground area of the residence, and with a minimal number of adjustments from a basic residence cost table, an accurate reproduction cost can be estimated. Because this cost estimating system requires few calculations, it can significantly reduce the amount of time spent per report.

THE UNIT-IN-PLACE METHOD:

For details, please refer to the Unit-in-Place section.

THE SQUARE FOOT METHOD:

What the Costs Include:

1) Plans, specifications, survey, and building permits.
2) Cost on interim money during normal period of construction.
3) Cost of materials and labor.
4) Sales taxes on materials.
5) Normal site preparation including trenching, excavating for concrete, backfill and finish grading.
6) Contractors' overhead and profit, including workmen's compensation, fire and liability insurance, unemployment insurance, etc.

What the Costs Do Not Include:

1) Cost of buying or assembling land such as escrow fees, legal fees, property taxes, demolition or rough grading.
2) Land planning or preliminary concept and layout for large developments inclusive of developers' overhead and profit.
3) Discounts or bonuses paid for financing.
4) Marketing costs to create the first occupancy including model and advertising expenses.
5) Contingency reserve where a percentage of the total cost is set aside for future events, such as labor strikes, anticipated labor and material increases, etc.

INTRODUCTION

GENERAL PROCEDURES

Single-family Residences:

For the convenience of the assessor, single-family detached houses have been divided into six major "Classes" that fit the specifications which he or she is most likely to find in the community. The classes range from the lowest quality level, D, through the highest quality level, A. Below is a listing of the six classes and the most common identification names for each.

Usual Class	Usual Identification
A	Architect built
B	Custom built
BC	Standard deluxe
C	**Standard**
CD	Tract type
D	Economy

To aid in the proper selection of the class of construction, use the Guide "How to Determine Class of Construction" (Page 14). Photographs, specifications and cross sectional sketches appear at the beginning of each class. All required cost data, including building costs and adjustments, are provided for each class. Unit-in-Place costs and land improvements for each class are provided beginning on Page 179.

Further refinement of the schedules above, such as D -10% or B +10% are a practical means of adjusting the base schedule rates to fit some of the endless degree of quality standards found in houses. To standardize the most common adjustments for the schedules used by assessors and appraisers, the following guide may be used. Observance of the suggested increments in the guide will eliminate accidental overlapping such as C -10%.

Typical adjustment increments for a 1-story, 1,000-square-foot brick house with a basement are as follows:

Class by Assessor	Percent of "C"	Class by Assessor	Percent of "C"
A +10%	199%	C +10%	110%
A	181%	C +5%	105%
A -10%	163%	C	100%
B +10%	156%	C -5%	95%
B +5%	149%	CD	88%
B	142%	D +5%	83%
B -5%	135%	D	79%
BC	126%	D -10%	71%

The percentage relationships may not hold true for all square foot sizes, story heights or types of exterior finish.

Other Considerations:

Sometimes a garage (usually a detached garage) does not match the quality of the house. In this instance, the appraiser should select the garage costs from that class schedule which gives the best indicator of cost new.

Since there are many possible dimensions for a residence with a given ground area, and because the wall area depends upon the perimeter of the residence, it is important to know how many linear feet of wall for each increment of ground area are considered "typical". The following table shows the linear feet of wall included as typical in base costs for each increment of ground area:

AREA/LINEAR FOOT TABLE

Area	Lin. Ft . of Wall	Area	Lin. Ft. of Wall	Area	Lin. Ft. of Wall
400	82	1900	187	3400	257
450	86	1950	190	3450	259
500	90	2000	191	3500	260
550	94	2050	194	3550	262
600	99	2100	197	3600	263
650	102	2150	201	3650	265
700	107	2200	204	3700	266
750	111	2250	205	3800	269
800	115	2300	208	3900	272
850	118	2350	211	4000	275
900	122	2400	214	4100	278
950	126	2450	217	4200	281
1000	129	2500	218	4300	283
1050	133	2550	221	4400	286
1100	137	2600	224	4500	289
1150	140	2650	227	4600	292
1200	143	2700	229	4700	294
1250	147	2750	230	4800	297
1300	150	2800	233	4900	300
1350	154	2850	236	5000	303
1400	156	2900	239	5100	305
1450	160	2950	241	5200	308
1500	163	3000	244	5300	311
1550	167	3050	246	5400	313
1600	168	3100	248	5500	316
1650	172	3150	249	5600	318
1700	175	3200	251	5700	321
1750	179	3250	252	5800	323
1800	180	3300	254	5900	326
1850	183	3350	256	6000	328

GENERAL PROCEDURES . . . Continued

If your residence has significantly more or less than the typical number of linear feet of wall as shown on the previous page, the Base Square Foot Cost may be adjusted as follows:

Step 1 – From class specifications, list the elements included under "exterior wall" and "windows". These are the elements whose cost is affected by the perimeter of the building.

Step 2 – From the Unit-in-Place costs, determine the cost per linear foot of wall for each of the elements in Step 1. Since elements for exterior wall are per square foot of wall, multiply by the wall height of 8' to attain cost per linear foot of wall.

Step 3 – Add all the costs in Step 2 to obtain the total cost per linear foot of wall.

Step 4 – From the area/linear foot table, determine the difference between the average number of linear feet of wall and the actual number of linear feet.

Step 5 – Multiply the difference in linear feet (Step 4) by the total cost per linear foot of wall (Step 3).

To incorporate the linear foot of wall adjustment with the Square Foot Cost Method steps, do the following:

*** Complete Square Foot Cost Method steps A through G (Page 4).

***Add or deduct the linear foot of wall adjustment (result of Step 5, above) to the Square Foot Cost in G (Page 4).

*** Continue Square Foot Cost Method Steps H through J.

SIZE FOR RATES

The area of the first floor determines the size for selection of Square Foot Costs. A house with 960 square feet on the first floor would be priced from the 950 square foot size cost. The 950 square foot size cost would be multiplied by the actual 960 square foot area. Thus, houses in the size range of 925 to 974 square feet would have a size for rates of 950. Houses in the size range of 975 to 1024 square feet would have a size for rates of 1000. If more precision is required, interpolation can be used.

In the case of mixed story heights, such as part 1-story and part 2-story, the total first floor area determines the size for rates. For example, assume a house with 500 square feet of 2-story and 500 square feet of 1-story. The total size for rates would be 1000 square feet. The rates to be used are both found under the 1000 square foot size as a 1-story house and as a 2-story house.

The area of 2-story is multiplied by the 2-story rate, and the area of 1-story is multiplied by the 1-story rate to determine the undepreciated reproduction cost of the house.

Areas which are priced from a separate schedule are not to be included as first floor area. (Exception: see the procedure for pricing built-in garages.) Thus, porches, breezeways and garages are excluded from the base costs, but may be added in from the Adjustments and Additions pages.

EXPANDING TABLES

To estimate replacement costs for residences greater than 3000 square feet for classes C, BC and B, use the following multipliers and apply to the 3000 square foot cost. For class A, apply to the 3600 square foot cost.

Area (Sq. Ft.)	Class C Multiplier	Class BC Multiplier	Class B Multiplier	Class A Multiplier
3100	.9970	.9969	.9976	
3200	.9940	.9945	.9958	
3300	.9910	.9921	.9939	
3400	.9880	.9898	.9920	
3500	.9850	.9874	.9901	
3600	.9820	.9850	.9883	
3700	.9790	.9826	.9864	.9992
3800	.9760	.9803	.9845	.9973
3900	.9730	.9779	.9826	.9955
4000	.9700	.9755	.9808	.9937
4100	.9670	.9731	.9789	.9918
4200	.9640	.9708	.9770	.9900
4300	.9610	.9684	.9751	.9882
4400	.9580	.9660	.9733	.9863
4500	.9550	.9636	.9714	.9845
4600	.9520	.9613	.9695	.9827
4700	.9490	.9589	.9676	.9808
4800	.9460	.9565	.9658	.9790
4900	.9433	.9538	.9630	.9762
5000	.9409	.9514	.9606	.9738
5100	.9387	.9491	.9583	.9714
5200	.9367	.9471	.9563	.9694
5300	.9348	.9452	.9544	.9674
5400	.9330	.9434	.9526	.9656
5500	.9313	.9416	.9508	.9638
5600	.9295	.9398	.9489	.9619
5700	.9277	.9380	.9471	.9600
5800	.9259	.9361	.9452	.9582
5900	.9243	.9345	.9436	.9565
6000	.9228	.9331	.9421	.9550

OVERHANGS

Overhangs can be priced from the overhang schedules in the "Adjustments and Additions" sections of each class. These overhang prices are based on the typical "size for rates" for the various classes. If more precision is required, the one-story overhang rate can be estimated by deducting the 1 story rate from the 2-story rate at the desired "size for rates". A 3/4- and 1/2-story overhang can be estimated using a similar procedure.

When the overhang schedule is used to price living area over a garage, which includes a variation from a gas-fired, forced-air heating system (such as the presence of air conditioning), the variation must be priced as a dollar adjustment from the "Adjustments and Additions" section.

INTRODUCTION

GENERAL PROCEDURES . . . Continued

BAY WINDOWS

A bay window which extends down to the ground level and includes a foundation should be priced as part of living area and included with size for rates.

A bay window which extends down to the floor level but does not include a foundation should be priced as an overhang, and is not included with the size for rates.

A bay window which does not extend down to the floor level should be considered when determining the class and should not be priced separately.

BUILT-IN GARAGES

A built-in garage is a garage which is part of the main structure of a residence, takes up area which one would usually expect to be first floor living area, and has living area above.

A built-in garage should be priced as an attached garage using the normal adjustments for interior finish and common walls. However, the area of the built-in garage should be included as part of the size for rates to avoid overpricing the house. Living area above a garage should be priced from the overhang schedule.

WALL-HEIGHT ADJUSTMENTS (VAULTED CEILINGS)

In the single-family sections, the base interior wall height is 8 feet for each floor. For each foot of variation, add to or deduct from that portion of the residence *base cost only*, 2% for all masonry exterior walls of residences, including brick and stone veneers, and 1.5% for siding exterior walls.

When measuring wall height, include the height of the sidewalls only. Do not include the distance from the second floor ceiling intersect to the peak of the roof. The following example illustrates the procedure for pricing the vaulted ceiling portion of a 2-story house where the vaulted ceiling portion is actually a 1-story area with walls that are 2 stories high (16 feet). If the house is a class C and has 1500 square feet of 2-story area and 500 square feet of vaulted ceiling area, the pricing would be as follows:

CALCULATION:

Size for rates = 2000
Exterior = siding
2-story area = 1500 sq. ft. x 156.64
1-story area = 500 sq. ft. x 102.43 x 1.12
The multiplier of 1.12 for the 1-story area is calculated by multiplying the 8 feet of extra wall height in the vaulted ceiling area by 1.5%.

SQUARE FOOT COST EXAMPLE

The following instructions are for the example on the next page. This example shows the correct procedures for Selecting a Square Foot Cost, making Adjustments and Additions, Applying a County Multiplier, Applying Depreciation, and Economic Factors.

INSTRUCTIONS:

(A) Select proper class of construction. Use Class selection, Pages 14 – 15.
(B) Select proper story height. Use “Story Height” selection, Pages 16 – 17.
(C) Turn to the Square Foot Cost pages for the selected class and story height. Select type of exterior wall construction.
(D) Determine amount of ground area for your residence by referring to “Determining Ground Area”, Pages 20 – 21. Determine the size for rates.
(E) Select the Square Foot Cost amount that corresponds to your choice for exterior wall construction. This figure is your Base Square Foot Rate.

Make the appropriate basement and/or heat adjustments to the base rates and apply the % adjustments if the class is a plus or minus % (e.g. C +5%). % adjustments are not applied to any other adjustments and additions.

(F) Multiply the area from (D) by the rate from (E) to get the base cost.
(G) Make other adjustments and additions as necessary.
(H) Use County Multiplier to localize costs in (G).
(I) Depreciate the adjusted base by using depreciation tables, Page 23.
(J) Multiply the result of (I) by the appropriate Economic Condition Factor.

SQUARE FOOT COST EXAMPLE

Arriving at a Square Foot Cost, making adjustments, additions, applying County Multipliers, applying depreciation and ECF factors.

Instructions for Steps (A) through (J) are located on adjacent page.

Assume we have a Class C, 10-year-old residence located in Alger County, Michigan, with the following characteristics:

1000 square feet of ground area; 1-1/2 stories; crawl space; frame construction with aluminum siding; forced-hot-water heat; a 1-story, 25-square-foot platform porch; standard municipal sewer and plumbing connections.

STEPS

(A) – (C) Locate Class C, 1-1/2-story Square Foot Cost page.

(D) Locate ground area of 1000 square feet under "Frame/ Siding" column.

(E) Appropriate base Square Foot cost is $141.85.

(E) Subtract for crawl space: $141.85 - $13.87 = $127.98

(E) Adjust base of forced air with ducts to forced-hot-water system. Add $4.34 per square foot of ground area: $127.98 + $4.34 = $132.32

(F) & (G) Add for city water and sewer connections $2,225: $132.32 x 1000 sq. ft. ground = $132,320 + $2,225 = $134,545

(G) Add for a 25-square-foot platform porch with a concrete floor: $20.80 x 25 sq. ft. = $520 $134,545 + $520 = $135,065

SQUARE FOOT COSTS
CLASS C, 1-1/2 STORY

Ground Area	FRAME Siding	FRAME Brick Veneer	MASONRY Block Walls	BASEMENT ADJUST. Wood Base.	BASEMENT ADJUST. Crawl Space Only	BASEMENT ADJUST. Slab on Grade Only
900	143.98	150.51	145.28	-1.91	-14.44	-19.21
950	142.88	149.32	144.22	-1.88	-14.14	-18.91
1000	141.85	148.20	143.23	-1.86	-13.87	-18.64
1050	140.87	147.14	142.29	-1.83	-13.62	-18.39
1100	139.94	146.14	141.40	-1.81	-13.38	-18.15

ADJUSTMENTS AND ADDITIONS
CLASS C

HEATING AND COLLING SYSTEM ADJUSTMENS

HEATING SYSTEMS	1-1/4	1-1/2	1-3/4
Forced-warm-air, without return ducts, deduct	-.92	-1.10	-1.29
Forced-hot-water/steam, add	3.63	4.34	5.06
Electric wall heaters, baseboard type, deduct	-.59	-.71	-.82

WATER AND WASTE DISPOSAL

City water and sewer connections	$2,225

Size for Rates	CPP PLATFORM PORCH	CCP COVERED PORCH
25	20.80	37.50
50	17.40	32.05
75	16.00	30.10

SQUARE FOOT COST EXAMPLE
(Continued)

(H) Select appropriate County . Multiplier. The multiplier for frame construction in Alger County is $135,065 x .95 = $128,312

COUNTY MULTIPLIERS FOR 2014 BASE RATES
State of Michigan

	RESIDENTIAL			
		Frame		
County	Masonry	Siding	Brick Veneer	Farm
Alcona	.97	.96	.96	.96
Alger	.95	.95	.95	.93
Allegan	.97	.97	.97	.95
Alpena	.97	.95	.95	.95
Antrim	.97	.96	.96	.95

(I) Use Depreciation table to obtain depreciation %: $128,312 x .90 = $115,481

Age	Remaining Condition	Age	Remaining Condition
8	92%	38	62%
9	91%	39	61%
10	90%	40	60%
11	89%	41	59%

(J) Multiply by the Economic Condition Factor (EGF). Assume an ECF of 1.05 for the example.
$115,481 x 1.05 = $121,255

$121,255	Total

RESIDENTIAL PRICING EXAMPLES

On the following six pages are six pricing examples demonstrating the proper use of the residential pricing schedules. Pictures of the houses are included on this sheet to assist the reader in studying those pricing procedures. These pictures are not intended to be used as guides for determining class.

EXAMPLE 1

EXAMPLE 4

EXAMPLE 2

EXAMPLE 3

EXAMPLE 5

EXAMPLE 6

Located in Ingham County   Assessment Year 2014   1 SPACE = 4' Pricing Example #1

TYPE
- ✓ Single Family
- ✓ Wood Frame
- Year Built: 1923 | Year Remod: 1993
- 2 Number of Rooms
- 3 Basement
- 2 1st floor
- 1 2nd floor
- 2 Baths
- 2 Total Bedrooms

1. EXTERIOR $
- ✓ Wood, Shingle
- Aluminum, Vinyl
- Brick
- Block
- ✓ Insulation 3 1/2"

2. WINDOWS
- ✓ Many | ✓ Large
- Avg | Avg
- Few | Small
- Wood Sash
- Metal Sash
- ✓ Vinyl Sash
- ✓ Double Hung
- Horiz. Sliding
- Casement
- Double Glass
- ✓ Storms & Screens

3. ROOF
- Gable | ✓ Gambrel
- Hip | Mansard
- Flat | Eavetrgh
- ✓ Asphalt Shingles
- ✓ Insulation 6"
- Chimney Type: Brick
- Front overhang: 12"
- Other overhang: 12"

4. INTERIOR
- Drywall | ✓ Plaster
- Paneled

Trim & Decoration: Exc | ✓ Ord | Min
Size and No. of Closets: Lg | Ord | ✓ Small; Many | ✓ Ord | Few
Doors: ✓ Solid | H C

5. FLOORS
- Kitchen Fl: Linoleum
- Other: Pine

6. CEILINGS
- Drywall | ✓ Plaster
- Tile | Suspended

7. EXCAVATION
- Basement: 784 SF
- Crawl: 162 SF
- Slab: SF
- Height to Joists: 6.5 FT

8. BSMT. WALLS & FLOORS
- 8" Conc. Blk | Poured
- Treated Wood
- ✓ Concrete Floor

9. BASEMENT FIN. $ None
- Wall Finish
- Floor Finish
- Ceiling Finish
- Walkout
- Insulation

10. FLOOR SUPPORT
- Joists 2 × 8 · 16" o.c.
- Unsupported Length 12'
- Sill Plate ☐ Yes ☐ No
- Diag. Sub Floor
- Ply. Sub Floor
- Center Support: Wood
- Chord on 4" Block

11. HEATING & AIR COND.
- Gas | Oil | Elc
- Wood | Coal | Steam
- Forced Warm Air
- Forced Warm Water
- Stove or Space Heat

Wall Fur | Flr Fur | No Heat | 1st Fl | 2nd Fl | Central Air Cond Tons

12. ELECTRIC
- 100 Amps Service
- No. & Qual. Elec. Fixtures: Exc | ✓ Ord | Min
- No. Electric Outlets: Many | ✓ Ord | Few

13. PLUMBING $
- 1 No. of Baths
- Extra Stool | Extra Lav
- Ceramic Floor
- Ceramic Wainscot
- Tub Alcove | Fan
- Separate Shower
- Water Softener ☐ Owned ☐ Leased
- Water Heater Gallons 30 ☑ Gas ☐ Elec

14. $13,675 (circled)
- WATER ☐ Public ☑ Well 9,200
- SEWER ☐ Public ☑ Septic 4,475

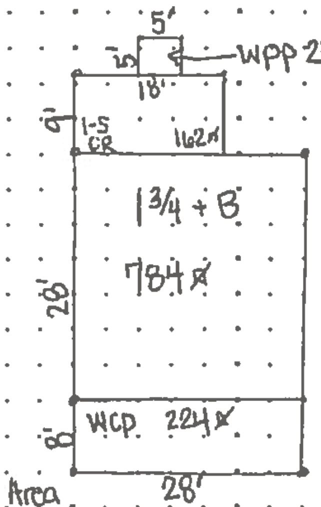
15. BUILT-IN ITEMS $
- Oven | Cooktop
- Drop-in Range | Disposal
- Hood | Microwave
- Dishwasher | Compactor
- Fireplace | Fdn | Pre-Fab
- Free-standing
- Chimney | 1 Sty | 2 Sty | Inside | Outside
- Cupboard Length 16' | Quality Avg.

16. PORCHES

Type	W×P	WPP
Wide	24	5
Deep	8	5

17. GARAGE/CARPORT 18' Fdn · Year Built Old
- Attached | Cars | Separate
- Wide | Deep | Condition Poor
- Exterior: Wood | Floors: Concrete
- Doors: Hinged | Finish

SIZE FOR RATES 950 SF CLASS B
Typical class of neighboring houses: B
Neighborhood is ☐ Improving ☑ Stable ☐ Declining
Condition for age: Good | Effective Age 21 yrs



* Note Standard S.T.C. Procedure is to draw Plan of house with the front or street side toward the bottom of sheet.

Ground Area
784 + 162 = 946

ITEM	SQ FT / LIN FT	UNIT COSTS	BASE COST	COUNTY MULT	DEPR % GOOD	DEPRECIATED COST
1 3/4 + B	784	234.23	183,636			
1-S Crawl	162	126.01	20,414			
# 14			13,675			
WCP	224	42.20	9,453			
WPP	25	47.05	1,176			
Subtotal			228,354	1.00	.79	180,400
# 17	240	59.20	14,208	1.00	* .35	4,973

1 3/4 + B 227.38
Warm Water Heat 6.85
234.23
1-S + B 150.47
less Crawl -28.35
Water Heat 3.89
126.01

TOTAL BASE	242,562
COUNTY MULTIPLIER	1.00
COST NEW	242,562
Priced	Date

Total Depr. Cost	$ 185,373
E C F	X
True Cash Value	$

* observed condition of garage: 35%

Located in Oakland County Assessment Year 2014

1 SPACE = 5' Pricing Example #2

TYPE
- ✓ Single Family
- ✓ Wood Frame
- Year Built: 1978 | Year Remod:
- 3 Number of Rooms
- 4 Basement
- 1st floor
- 2nd floor
- 2 Baths
- 3 Total Bedrooms

1. EXTERIOR ($1,202)
- Wood, Shingle
- ✓ ~~Aluminum~~, Vinyl
- ✓ Brick 24 LF 4' HT
- Block
- 24 x 50.10 = 1,202
- ✓ Insulation 3 1/2"

2. WINDOWS
- Many ✓ | Large
- Avg | ✓ Avg
- Few | Small
- Wood Sash
- Metal Sash
- ✓ Vinyl Sash
- ✓ Double Hung
- ✓ Horiz. Sliding
- Casement
- Double Glass
- ✓ Storms & Screens

3. ROOF
- ✓ Gable | Gambrel
- Hip | Mansard
- Flat | Eavetrgh
- ✓ Asphalt Shingles
- ✓ Insulation 8"
- Chimney Type
- Front overhang 6"
- Other overhang

4. INTERIOR
- ✓ Drywall | Plaster
- Paneled

Trim & Decoration: Exc | Ord | ✓ Min
- Size and No. of Closets: Lg | ✓ Ord | Small
- Many | ✓ Ord | Few
- Doors | Solid | H C

5. FLOORS
- Kitchen Fl: Vinyl
- Other: Hardwood / Carpet

6. CEILINGS
- ✓ Drywall | Plaster
- Tile | Suspended

7. EXCAVATION
- Basement SF
- Crawl SF
- Slab SF
- Height to Joists FT

8. BSMT. WALLS & FLOORS
- Conc. Blk | Poured
- Treated Wood
- Concrete Floor

9. BASEMENT FIN. ($1,390)
- Wall Finish
- Floor Finish
- Ceiling Finish
- Walkout: Yes + 1,390
- Insulation

10. FLOOR SUPPORT
- Joists 2" x 8" 16" o.c.
- Unsupported Length 12'
- Sill Plate ✓ Yes | No
- Diag. Sub Floor
- Ply. Sub Floor 1/2"
- Center Support: I-Beam

11. HEATING & AIR COND.
- ✓ Gas | Oil | Elc
- Wood | Coal | Steam
- ✓ Forced Warm Air
- Forced Warm Water
- Stove or Space Heat

Wall Fur | Flr Fur | No Heat | 1st Fl | 2nd Fl
- Central Air Cond ✓ Tons
- Combined System

12. ELECTRIC
- 200 Amps Service
- No. & Qual. Elec. Fixtures: Exc | ✓ Ord | Min
- No. Electric Outlets: Many | ✓ Ord | Few

13. PLUMBING ($6,020)
- 2 No. of Baths 3,400
- Extra Stool | Extra Lav
- 2 Ceramic Floor 750 x 2 = 1,500
- Ceramic Wainscot
- 2 Tub Alcove @ 560 = 1,120 | Fan
- Separate Shower
- Water Softener: Owned | Leased
- Water Heater Gallons 40 ✓ Gas | Elec

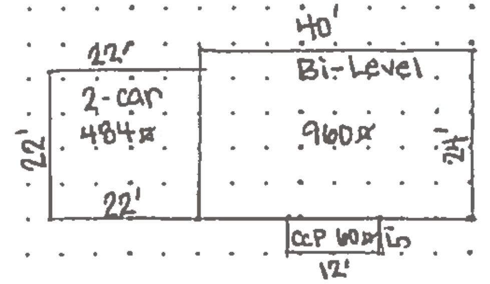
14. ($2,225)
- WATER ✓ Public | Well
- SEWER ✓ Public | Septic

15. BUILT-IN ITEMS ($1,565)
- Oven | Cooktop
- ✓ Drop-in Range 945 | ✓ Disposal 195
- ✓ Hood Vented 425 | Microwave
- Dishwasher | Compactor
- Fireplace | Fan | Pre-Fab
- Free-standing
- Chimney | 1 Sty | 2 Sty | Inside | Outside
- Cupboard Length 10' | Quality Avg.

16. PORCHES
- Type: ccp
- Wide: 12
- Deep: 5

17. GARAGE/CARPORT Year Built
- ✓ Attached | 2 Cars | Separate
- 22 Wide | 22 Deep | Condition Good
- Exterior: Vinyl | Floors: Concrete
- Doors: O.H. | Finish: Drywall

SIZE FOR RATES 950 SF CLASS C-5%
- Typical class of neighboring houses: C
- Neighborhood is: Improving | Stable | Declining
- Condition for age: Avg. | Effective Age 36 yrs



Lower Level is 60% Finished

ITEM	SQ FT / LIN FT	UNIT COSTS	BASE COST	COUNTY MULT	DEPR % GOOD	DEPRECIATED COST
Bi-Level	960	139.00	133,440			
#1,9,13,14,15			12,402			
#16 ccp	60	32.05	1,923			
#17 Gar	484	39.35	19,045			
Common Wall			- 1,930			
		TOTAL BASE	164,880	1.07	.64	112,910
		COUNTY MULTIPLIER	1.07			
		COST NEW	176,422			
		Priced	Date			

Garage Finish: 32.85 + 4.50 = 39.35

Bi-Level 60% fin: 141.48 - 5.93 (A.C.) + 10.56 = 146.21

less 5% x .95 = 139.00

Total Depr. Cost $ 112,910

ECF x

True Cash Value $

Located in Grand Traverse County   Assessment Year 2014   1 SPACE = 5'   Pricing Example #3

TYPE
- ✓ Single Family
- ✓ Wood Frame
- Year Built: 1978 | Year Remod:
- Number of Rooms: 2 Basement; 7 1st floor; 3 2nd floor; 3 1/2 Baths; 4 Total Bedrooms

1. EXTERIOR $
- Wood, Shingle
- ✓ ~~Aluminum~~, Vinyl
- Brick
- Block
- ✓ Insulation 3 1/2"

2. WINDOWS
- Many | Large
- ✓ Avg | ✓ Avg
- Few | Small
- ✓ Wood Sash
- Metal Sash
- Vinyl Sash
- Double Hung
- ✓ Horiz. Sliding
- Casement
- Double Glass
- Storms & Screens

3. ROOF
- ✓ Gable | Gambrel
- Hip | Mansard
- Flat | ✓ Eavetrgh
- ✓ Asphalt Shingles
- ✓ Insulation 1/2"
- Chimney Type
- Front overhang 12
- Other overhang 12

4. INTERIOR
- ✓ Drywall | Plaster
- Paneled

Trim & Decoration
- ✓ Exc | Ord | Min
- Size and No. of Closets: ✓ Lg | Ord | Small; ✓ Many | Ord | Few
- Doors: ✓ Solid | H.C.

5. FLOORS
- Kitchen Fl: Vinyl
- Other: Slate, Carpet, Pegged Hardwood

6. CEILINGS
- ✓ Drywall | Plaster
- Tile | Suspended

7. EXCAVATION
- Basement 720 SF
- Crawl 780 SF
- Slab SF
- Height to Joists 8 FT

8. BSMT. WALLS & FLOORS
- 10' Conc. Blk | Poured
- Treated Wood
- ✓ Concrete Floor

9. BASEMENT FIN. $
- Wall Finish
- Floor Finish
- Ceiling Finish
- Walkout
- Insulation

10. FLOOR SUPPORT
- Joist 2" x 10 | 16" o.c.
- Unsupported Length 14'
- Sill Plate ☐ Yes ☐ No
- Dbl. Sub Floor
- Ply. Sub Floor 5/8"
- Center Support 8" C.B.

11. HEATING & AIR COND.
- ✓ Gas | Oil | Elc
- Wood | Coal | Steam
- ✓ Forced Warm Air
- Forced Warm Water
- Stove or Space Heat

- Wall Fur | Flr Fur
- No Heat | 1st Fl | 2nd Fl
- Central Air Cond | Tons
- Combined System

12. ELECTRIC
- 100 Amps Service
- No. & Qual. Elec. Fixtures: ✓ Exc | Ord | Min
- No. Electric Outlets: ✓ Many | Ord | Few

13. PLUMBING $20,815
- 3 1/2 No. of Baths 5,000 + 5,000 + 3,350
- Extra Stool | Extra Lav
- 2 Ceramic Floor 1,060 + 1,060
- 1 Ceramic Wainscot 2,030
- 1 Tub Alcove 675 | 3 Fan 3x 265
- Separate Shower 795
- Water Softener ☑ Owned 1,845 ☐ Leased
- Water Heater Gallons 50 ☑ Gas ☐ Elec

14. $2,850
- WATER ☑ Public ☐ Well
- SEWER ☑ Public ☐ Septic

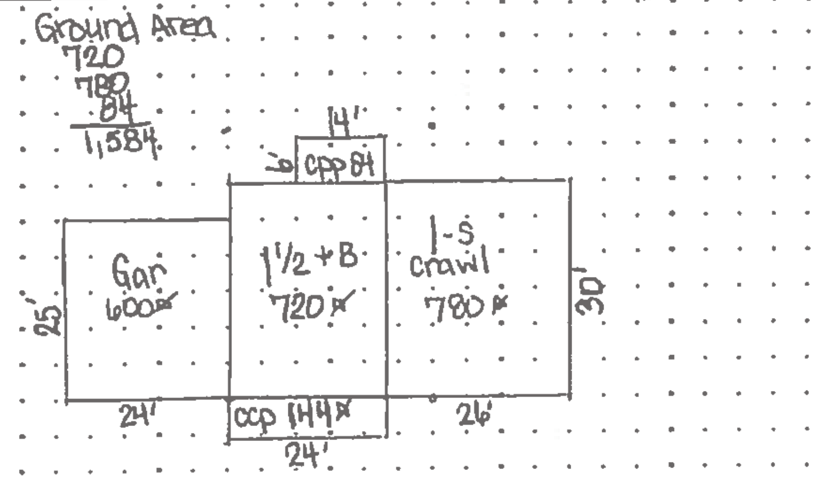
15. BUILT-IN ITEMS $14,765
- ✓ Oven 1,515 | ✓ Cooktop 905
- Drop-in Range | ✓ Disposal 270
- ✓ Hood, Vented 595 | ✓ Microwave 605
- ✓ Dishwasher 875 | Compactor
- Fireplace | Fdn | Pre Fab
- Free-standing
- Chimney | 1 Sty | 2 Sty | Inside | Outside
- Cupboard Length 31' | Quality Excellent

16. PORCHES

Type	ccp	cpp
Wide	24	14
Deep	6	6

17. GARAGE/CARPORT 42" | Year Built 1978
- ✓ Attached | 2 Cars | Separate
- 24 Wide | 25 Deep | Condition
- Exterior Vinyl | Floors Concrete
- Doors Auto Open | Finish Drywall

- SIZE FOR RATES 1,600 SF | CLASS BC
- Typical class of neighboring houses
- Neighborhood is ☐ Improving ☑ Stable ☐ Declining
- Condition for age Avg. | Effective Age 36 YRS



ITEM	SQ FT / LIN FT	UNIT COSTS	BASE COST	COUNTY MULT	DEPR % GOOD	DEPRECIATED COST
1 1/2 + B	720	170.76	122,947			
1-S crawl	780	117.49	91,642			
# 13,14,15			28,430			
# 16 ccp	144	34.85	5,018			
# 16 cpp	84	18.30	1,537			
# 17 Gar	600	46.83	28,098			
garage opener	1	500.00	500			
common wall			-2,240			
		TOTAL BASE	275,932	.96	.64	169,533
		COUNTY MULTIPLIER	.96			
		COST NEW	264,895	Total Depr. Cost $		169,533
		Priced	Date	E C F	X	
				True Cash Value	$	

1 1/2 + B + AC: 161.36 + 9.40 = 170.76

1-Scr - Crawl + AC: 130.30 − 19.08 + 6.27 = 117.49

Garage: 39.58 + 7.25 = 46.83

Located in Kent County

Assessment Year 2014

1 SPACE - 4'

Pricing Example #4

TYPE: ✓ Single Family; ✓ Wood Frame

Year Built: 1920 | Year Remod: 1980

Number of Rooms: Basement 1; 1st floor 4; 2nd floor 4; Baths 1½; Total Bedrooms 4

1. EXTERIOR $ — ✓ Wood; Aluminum Vinyl; Brick; Block; ✓ Insulation

2. WINDOWS — ✓ Many / Large; Avg / ✓ Avg; Few / Small; ✓ Wood Sash; Metal Sash; Vinyl Sash; ✓ Double Hung; Horiz. Sliding; Casement; Double Glass; ✓ Storms & Screens

3. ROOF — Gable / Gambrel; ✓ Hip / Mansard; Flat / Saltbox; Asphalt Shingles; ✓ Insulation

Chimney Type: Brick

Front overhang: 24"

Other overhang: 24"

4. INTERIOR — Drywall / ✓ Plaster; Paneled

Trim & Decoration: Ex / ✓ Ord / Min

Size and No. of Closets: Lg / ✓ Ord / Small; Many / ✓ Ord / Few

Doors: ✓ Solid / H.C.

5. FLOORS — Kitchen: Linoleum; Other: Hardwood, Carpet

6. CEILINGS — Drywall / ✓ Plaster; Tile / Suspended

7. EXCAVATION — Basement 914 SF; Crawl SF; Slab SF; Height to Joists 7 FT

8. BSMT. WALLS & FLOORS — ✓ Conc. Blk / Poured; Treated Wood; ✓ Concrete Floor

9. BASEMENT FIN. $ — Wall Finish; Floor Finish; Ceiling Finish; Walkout; Insulation

10. FLOOR SUPPORT — Joists 2 x 10, 16" o.c.; Unsupported Length; Sill Plate ✓ Yes / No; Diag. Sub Floor 1" x 8"; Ply. Sub Floor; Center Support: Laminated 2" x 10"S

11. HEATING & AIR COND. — ✓ Gas / Oil / Elec; Wood / Coal / Steam; ✓ Forced Warm Air; Forced Warm Water; Stove or Space Heat

Wall Fur; Flr. Fur; No Heat; 1st Fl; 2nd Fl; Central Air Cond; Tons

12. ELECTRIC — 200 Amps Service; No. & Qual. Elec. Fixtures: Exc / ✓ Ord / Min; No. Electric Outlets: Many / ✓ Ord / Few — $3,350

13. PLUMBING — 1½ No. of Baths 3,350; Extra Stool; Extra Lav.; Ceramic Floor; Ceramic Wainscot; Tub Alcove; Fan; Separate Shower

Water Softener: Owned / Leased

Water Heater Gallons 40 ✓ Gas / Elec — $2,850

14. WATER ✓ Public / Well; SEWER ✓ Public / Septic

15. BUILT-IN ITEMS — $6,325 — Oven; Cooktop; Drop in Range; Disposal; Hood; Microwave; Dishwasher; Compactor; 1 Fireplace ✓ Fin 6,325 / Pre Fab; Free-standing; Chimney 1 Sty / ✓ 2 Sty / ✓ Inside / Outside; Cupboard Length Avg.; Quality Avg.

16. PORCHES

Type	WGEP	WCP
Width	10	20
Deep	6	6

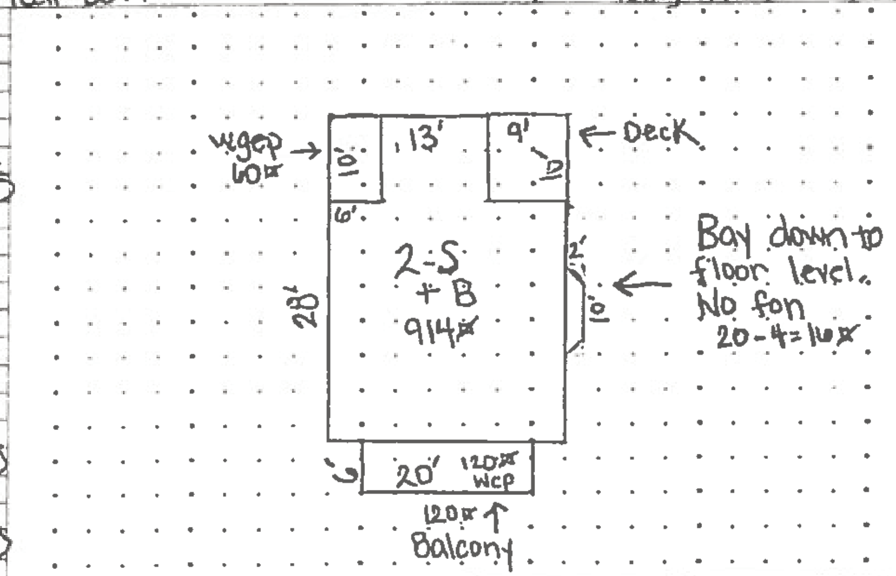
17. GARAGE/CARPORT — Year Built; Attached; Cars; Separate; Wide; Deep; Condition; Exterior; Floors; Doors; Finish

SIZE FOR RATES 900 SF — CLASS BC

Typical class of neighboring houses

Neighborhood is: Improving / ✓ Stable / Declining

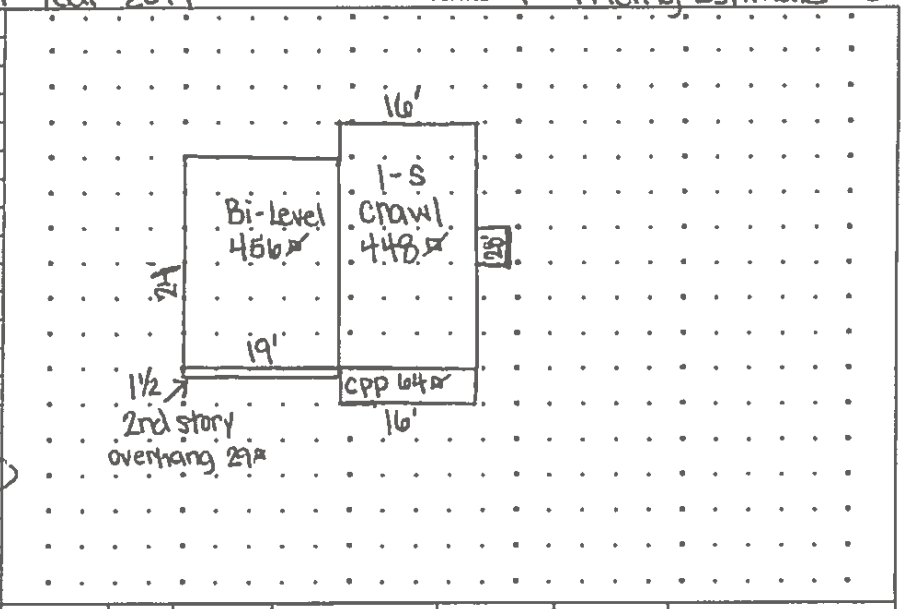
Condition for age: Avg. — Effective Age 34 yrs.



ITEM	SQ FT / CU FT	UNIT COSTS	BASE COST	COUNTY MULT	DEPR % GOOD	DEPRECIATED COST
2-S+B	914	225.69	206,281			
#13,14,15			12,625			
#16 WGEP	60	74.10	4,446			
#16 WCP	120	42.10	5,052			
Bay	16	75.05	1,201			
Balcony	120	27.40	3,288			
Deck	90	19.50	1,755			
		TOTAL BASE	234,548	.96	.66	148,610
		COUNTY MULTIPLIER	.96			
		COST NEW	225,166	Total Depr. Cost $		148,610
		Priced	Date	E.C.F.	x	
				True Cash Value $		

Located in Kalamazoo County Assessment Year 2014 — 1 SPACE = 4' Pricing Estimate # 5

TYPE	Trim & Decoration			12. ELECTRIC	
✓ Single Family	Exc. Ord. ✓ Min		Wall Fur Flr Fur	100 Amps Service	
✓ Tri-Level	Size and No. of Closets		No Heat 1st Fl 2nd Fl	No. & Qual. Elec. Fixtures	
Year Built 1977 / Year Remod	Lg. Ord. ✓ Small			Exc. Ord. ✓ Min	
	Many ✓ Ord. Few		Central Air Cond. Tons	No. Electric Outlets	
Number of Rooms	Doors Solid ✓ H.C.			Many ✓ Ord. Few	
1 Basement	5. FLOORS Linoleum		13. PLUMBING	$	
1 1st floor	Kitchen Fl Oak Shorts		1 No. of Baths		
2nd floor	Other Carpet		Extra Stool	Extra Lav	
1 Baths			Ceramic Floor		
3 Total Bedrooms	6. CEILINGS		Ceramic Wainscot		
1. EXTERIOR $	✓ Drywall Plaster		*1 Tub Alcove Plastic	Fan	
Wood, Shingle	Tile Suspended		Separate Shower		
✓ Aluminum/Vinyl*					
Brick	7. EXCAVATION		Water Softener ☐ Owned ☐ Leased		
Block	Basement S F		Water Heater Gallons 30 ☑ Gas ☐ Elec		
	Crawl 448 S F		14. 7,725 + 3,330	$11,055	
✓ Insulation 3 1/2"	Slab S F		WATER ☐ Public ☑ Well		
2. WINDOWS	Height to Joists 7 FT		SEWER ☐ Public 1,000 gpd ☑ Septic		
Many Large	8. BSMT. WALLS & FLOORS		15. BUILT-IN ITEMS	$160	
✓ Avg. ✓ Avg.	8" Conc. Blk Poured		Oven	Cooktop	
Few Small	Treated Wood		Drop-in Range	✓ Disposal 160	
Wood Sash	✓ Concrete Floor		Hood	Microwave	
✓ Metal Sash	9. BASEMENT FIN. $		Dishwasher	Compactor	
Vinyl Sash	Wall Finish				
Double Hung	Floor Finish		Fireplace Fan	Pre-Fab	
✓ Horiz. Sliding	Ceiling Finish		Free-standing		
Casement			Chimney 1 Sty 2 Sty Inside Outside		
Double Glass	Walkout				
✓ Storms & Screens	Insulation		Cupboard Length Avg.	Quality Avg.	
	10. FLOOR SUPPORT		16. PORCHES		
3. ROOF	Joists 2" x 12" x 16" o.c.		Type CPP		
✓ Gable Gambrel	Unsupported Length 17'		Wide 16		
Hip Mansard	Sill Plate ☐ Yes ☑ No		Deep 4		
Flat Eave/rgh	Dag. Sub Floor		17. GARAGE/CARPORT Year Built		
✓ Asphalt Shingles	Ply Sub Floor 1/2"		Attached Cars Separate		
	Center Suppon Laminated		Wide Deep Condition		
✓ Insulation	Wood Beam		Exterior Floors		
Chimney Type	11. HEATING & AIR COND.		Doors Finish		
Front overhang 12"	✓ Gas Oil Elc.				
Other overhang 12"	Wood Coal Steam		SIZE FOR RATES 900 S F CLASS CD		
4. INTERIOR	✓ Forced Warm Air		Typical class of neighboring houses CD		
✓ Drywall Plaster	Forced Warm Water		Neighborhood is ☐ Improving ☑ Stable ☐ Declining		
Paneled	Stove or Space Heat		Condition for age Avg.	Effective Age 37 yrs	



ITEM	SQ FT / LIN FT	UNIT COSTS	BASE COST	COUNTY MULT	DEPR % GOOD	DEPRECIATED COST
Tri-level	904	118.39	107,025			
*14,15			11,215			
#16 CPP	64	14.60	934			
overhang	29	46.15	1,338			
Tri-Level 131.06		TOTAL BASE	120,512	1.00	.63	76,923
crawl -12.67		COUNTY MULTIPLIER	1.00			
118.39		COST NEW	120,512	Total Depr Cost $		75,923
		Priced	Date	ECF	X	
				True Cash Value $		

* No charge for plastic tile above

Located in Chippewa County   Assessment Year 2014   1 SPACE - 4'   Pricing Example #6

TYPE
- ✓ Single Family
- ✓ Wood Frame
- Year Built: 1927 — Year Remod: 1960
- Number of Rooms: Basement 1; 1st floor 4; 2nd floor 1; Baths 2
- Total Bedrooms

1. EXTERIOR $
- Wood, Shingle
- ✓ Aluminum, Vinyl
- Brick
- Block
- Insulation

2. WINDOWS
- ✓ Many / Avg / Few — Large / ✓ Avg / Small
- ✓ Wood Sash
- Metal Sash
- Vinyl Sash
- ✓ Double Hung
- Horiz. Sliding
- Casement
- Double Glass
- ✓ Storms & Screens

3. ROOF
- ✓ Gable / Gambrel / Hip / Mansard / Flat / Eavelgh
- ✓ Asphalt Shingles
- ✓ Insulation 4"
- Chimney Type: Brick
- Front overhang: 12"
- Other overhang: 12"

4. INTERIOR
- Drywall / ✓ Plaster
- Paneled

Trim & Decorating: Exc / ✓ Ord / Min

Size and No. of Closets: Lg / Ord / ✓ Small; Many / ✓ Ord / Few

Doors: ✓ Solid / H C

5. FLOORS
- Kitchen Fl: Asphalt Tile
- Other: Pine

6. CEILINGS
- ✓ Drywall / ✓ Plaster
- Tile / Suspended

7. EXCAVATION
- Basement: 704 S F
- Crawl: S F
- Slab: S F
- Height to Joists: 7 FT

8. BSMT. WALLS & FLOORS
- 8" Conc. Blk / Poured
- Treated Wood
- ✓ Concrete Floor

9. BASEMENT FIN. $
- Wall Finish
- Floor Finish
- Ceiling Finish
- Walkout
- Insulation

10. FLOOR SUPPORT
- Joists: 2" x 8" 16" o.c.
- Unsupported Length: 11'
- Sill Plate: ☑ Yes ☐ No
- Diag. Sub Floor: 1" x 8"
- Ply. Sub Floor
- Center Support: Lam 2" x 8"

11. HEATING & AIR COND.
- ✓ Gas / Oil / Elc
- Wood / Coal / Steam
- ✓ Forced Warm Air
- Forced Warm Water
- Stove or Space Heat

Wall Fur / Flr Fur; No Heat / 1st Fl / 2nd Fl; Central Air Cond — Tons

12. ELECTRIC
- 100 Amps Service
- No. & Qual. Elec. Fixtures: Exc / Ord / ✓ Min
- No. Electric Outlets: Many / Ord / Few

13. PLUMBING $
- 1 No. of Baths
- Extra Stool / Extra Lav
- Ceramic Floor
- 1 ~~Ceramic Wainscot~~ Plastic, No Charge
- Tub Alcove / Fan
- Separate Shower

Water Softener: ☐ Owned ☐ Leased

Water Heater: Gallons ☐ Gas ☑ Elec

14. $1,750

WATER: ☑ Public ☐ Well

SEWER: ☑ Public ☐ Septic

15. BUILT-IN ITEMS $135
- Oven / Cooktop
- Drop-in Range / 1 Disposal 135
- Hood / Microwave
- Dishwasher / Compactor
- Fireplace / Fan / Pre-Fab
- Free-standing
- Chimney: 1 Sty / 2 Sty / Inside / Outside
- Cupboard Length: 15' — Quality: Inexpensive

16. PORCHES
- Type: WCP
- Wide: 22
- Deep: 7

17. GARAGE/CARPORT 18" — Year Built: Old
- Attached / 1 Cars / ✓ Separate
- 12 Wide / 20 Deep / Condition 50%
- Exterior: Wood Siding — Floors: Concrete
- Doors: Hinged — Finish

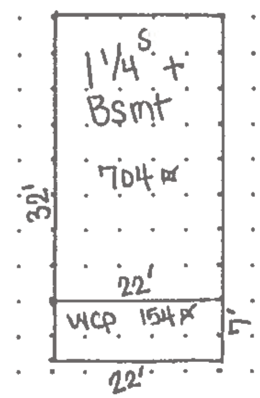
SIZE FOR RATES: 850 S F — CLASS: D+5%

Typical class of neighboring houses

Neighborhood is: ☐ Improving ☑ Stable ☐ Declining

Condition for age: Good — Effective Age: 54 yrs

observed condition: 50%



ITEM	SQ FT / LIN FT	UNIT COSTS	BASE COST	COUNTY MULT	DEPR % GOOD	DEPRECIATED COST
1 1/4 S + B	704	113.62	79,988		observed 50	
# 14, 15			1,885			
# 16	154	26.65	4,104			
# 17 Gar	240	29.20	7,008			
1 1/4 + B 108.21 + 1.05 = 113.62		TOTAL BASE	92,985	.92	.50	42,773
		COUNTY MULTIPLIER	.92			
		COST NEW	85,546	Total Depr Cost $	42,502	
		Priced	Date	E C F	x	
				True Cash Value	$	

HOW TO DETERMINE CLASS OF CONSTRUCTION

	Class D Economy	Class CD Tract Type	Class C Standard
	Constructed with cost as the primary determining factor. Materials and workmanship may or may not meet Federal or local building codes. Basement, if present, of minimum head room.	Constructed with materials and workmanship meeting minimum Federal and local building codes. Mass produced from standard plans, or prefabricated. The primary determining characteristic is that the residence is usually found among others of same design or with minor exterior modifications.	Construction with average-quality materials and workmanship from stock-type plans with little or no architectural change. Some interior and exterior aesthetic features available as stock items. Built-ins few and of average quality. Interior surfaces drywall.
Exterior Walls			
Height	8 feet	8 feet	8 feet
Sheathing	1/2" insulation board	1/2" insulation board	1/2" insulation board
Insulation	3-1/2” batt	3-1/2" batt	3-1/2" batt
Interior	3/8" drywall	3/8" drywall	1/2" drywall
Roof	210# asphalt shingles	235# asphalt shingles	235# asphalt shingles
	1/2” oriented strand board	1/2” oriented strand board	1/2" plywood
	2" x 4" truss, 24" o.c.	2" x 4" truss, 24" o.c.	2" x 6" rafters, 16" o.c.
Interior Partitions			
Partition height	8 feet	8 feet	8 feet
Partition surface	3/8" drywall	3/8" drywall	3/8" drywall
Trim	Softwood	Softwood	Softwood
Floor finish	Softwood and linoleum or carpet and pad and linoleum	Softwood and vinyl, carpet and pad and vinyl sheets	Carpet and pad with underlayment and vinyl sheet
Basement walls	10 course, 8" concrete block	10 course, 8" concrete block	11 course, 8" concrete block
Basement floors			
Concrete	3" floor	3-1/2" floor	4" floor
Base	3" gravel base	4" gravel base	4" gravel base
Floor construction			
Subfloor	1/2" plywood	1/2" plywood	3/4" plywood
Joists	2" x 8", 16" o.c.	2" x 8", 16" o.c.	2" x 10", 16" o.c.

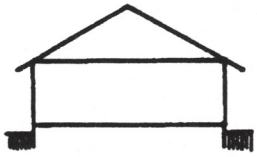
HOW TO DETERMINE CLASS OF CONSTRUCTION

Class BC Standard Deluxe	Class B Custom	Class A Class	
Constructed with average-quality materials and workmanship using modified stock-type plans. Built-ins of average to better than average quality. Some distinguishing interior and exterior qualities for individuality. Interior surfaces plaster.	Constructed with good-quality materials and workmanship from custom-made plans and specifications. Some built-ins and special interior and exterior features. Interior surfaces plaster. Roof with asphalt shingles.	Constructed with excellent-quality materials and workmanship. Includes many built-ins and special interior and exterior features. Interior wall surfaces are plaster. Roof with better than average shingles.	
			Exterior Walls
8 feet	8 feet	8 feet	Height
25/32" insulation board	5/32" insulation board	25/32" insulation board	Sheathing
3-1/2" batt	3-1/2" batt	6" batt	Insulation
Plaster on 1/2" drywall	Plaster on 5/8" drywall	Plaster on 5/8” drywall	Interior
290# asphalt shingles	290# asphalt shingles	290# asphalt shingles	**Roof**
5/8" oriented strand board	5/8" plywood	5/8" plywood	
2" x 6" rafters, 16" o.c.	2" x 8" rafters, 16" o.c.	2" x 8" rafters, 16" o.c.	
			Interior Partitions
8 feet	8 feet	8 feet	Partition height
Plaster on 1/2" drywall	Plaster on 5/8" drywall	Plaster on 5/8” drywall	Partition surface
Hardwood	Hardwood	Hardwood	Trim
Carpet and pad, hardwood, vinyl tile, ceramic tile	Carpet and pad, hardwood vinyl tile, ceramic tile	Carpet and pad, hardwood vinyl tile, ceramic tile, slate	**Floor finish**
11 course 12" reinforced concrete block	12" reinforced concrete block	12" reinforced concrete block	**Basement walls**
			Basement floors
4" floor	4" floor	4" floor	Concrete
4" gravel base	4" gravel base	4" gravel base	Base
			Floor construction
3/4" plywood	3/4" plywood	3/4" plywood	Subfloor
2" x 10", 16" o.c.	2" x 12", 16" o.c.	2" x 12", 16" o.c.	Joists

GUIDE TO SELECTING STORY HEIGHT

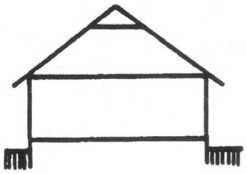
1-Story

A 1-story residence has no attic and one floor of living area at or near grade level.



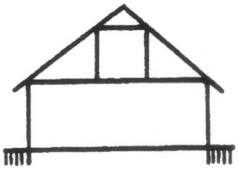
1+ -Story

A 1-story residence with an unfinished attic (having a ceiling height of at least 7 feet) with a floor and an area approximating 25% of that of the first floor.



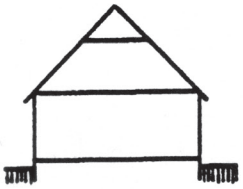
1-1/4-Story

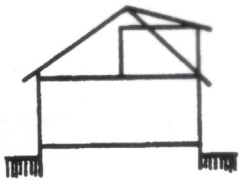
A 1-story residence with a finished attic and an attic area (where the ceiling height is at least 7 feet) approximately 25% of that of the first floor.



1-1/2-Story

A 1-story residence with a finished attic and an attic area (where the ceiling height is at least 7 feet) approximating 50% of that of the first floor. If the attic is unfinished, use 1-1/4-Story.





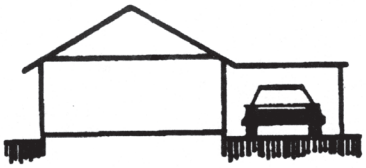
GARAGE TYPES

Attached Garage

Attached garage, a structure for automobiles, has one or two walls in common with the residence.

Detached Garage

Detached garage is free-standing, separate from the residence.

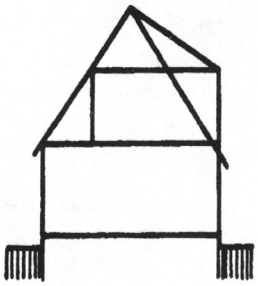


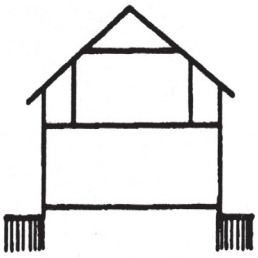
Carport

A roofed cover for automobiles, usually attached to residence and either open or enclosed by one or two walls.

1-3/4-Story

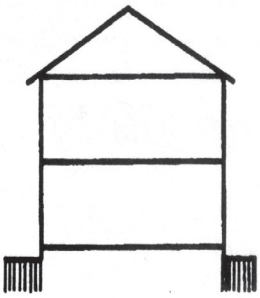
A 1-story residence with a finished area (where the ceiling height is at least 7 feet) approximating 75% of that of the first floor. If the attic is unfinished, use 1-1/4-story.





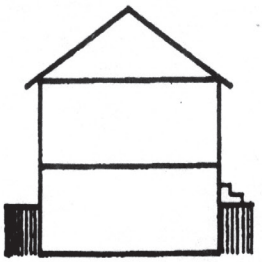
2-Story

A 2-story residence has two floors of living area, one at grade and one above grade, both with full ceiling heights.



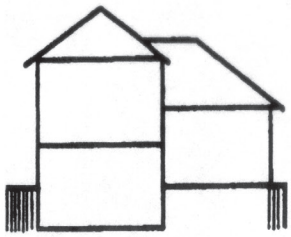
Bi-Level

A bi-level residence typically has a lower or ground level 4 feet below grade and an upper level 4 to 5 feet above grade, both with full ceiling heights. Entry is at grade level. Full-size windows in the lower level make the area suitable for a family room or a bedroom. Typically the lower level is 80% finished, allowing an unfinished area for utility and mechanical needs. Bi-levels are often located on a sloping lot so the lower level is partially exposed. Bi-levels have no basements.



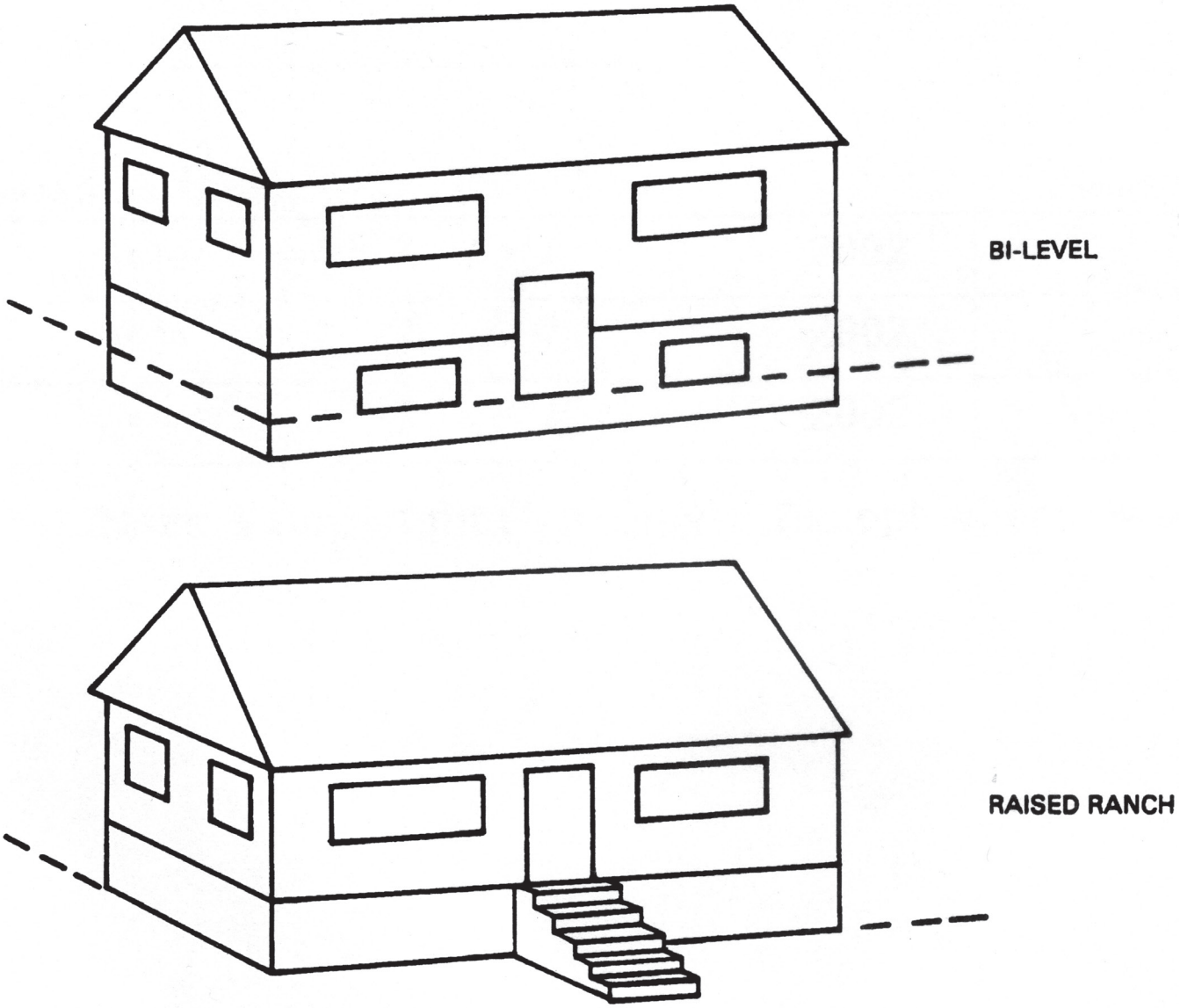
Tri-Level

A tri-level residence has three levels of living area; one 4 feet below grade, one at grade, and one 4 feet above grade, all with full ceiling heights. The pricing schedules include a basement in the base rates for the level at grade.



BI-LEVEL VS RAISED RANCH

The bi-level residence is a two-level structure typically having its lower level 4 feet below grade and its upper level 4 to 5 feet above grade. Two characteristics of the bi-level residence are the split-foyer entry and the fact that the lower level includes required elements of living area, those usually being the living/dining area or bedrooms. The bi-level should be distinguished from the raised ranch, which is merely a 1-story plus basement with basement walls partially exposed. The raised ranch typically has its entrance at the upper level, and the upper level contains all the required elements of the living area, those being living room, kitchen, dining area, bathroom and bedrooms. The raised ranch should be priced as a 1-story plus basement with additions for walk-out basement, basement garage and basement finish as needed.

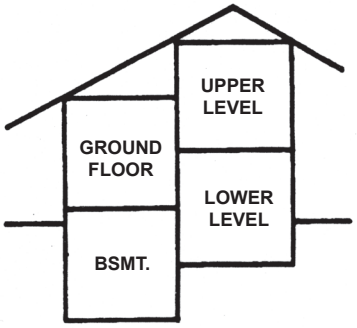


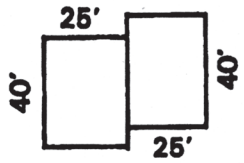
The bi-level schedules assume that the lower level is 80% finished. If the lower level is completely unfinished, price as a 1-story with basement. If the lower level is completely finished, price as a 2-story on a slab. For finished levels of 20%, 40% and 60%, adjust the base rate by the amount listed under “Lower Level Finish” located on the Square Foot cost page.

TRI-LEVEL

The tri-level is a house which has living area on three different levels. The tri-level can be thought of as a combination of a bi-level and a 1-story structure.

The tri-level schedule assumes that the ground area of the bi-level and the 1-story sections of the house are equal in size as depicted in the sketch below.





Ground Area:

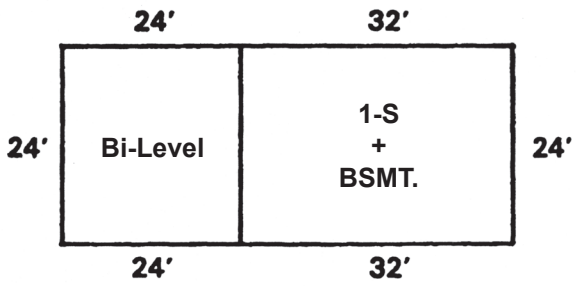
1-S + BSMT
40' x 25' = 1,000 sq. ft.

Bi-level
40' x 25' = 1,000 sq. ft.

Total Ground Area = 2,000 sq. ft.

The square foot rates are applied to the total ground area, which in the case of the example above is 2,000 sq. ft. The basement adjustment for the 1-story section must be applied to the total ground area, as the rates have already been adjusted for the fact that only 1/2 of the house would need a basement adjustment. A tri-level with an equal split between the 1-story and bi-level sections has been included as one of the pricing examples in this chapter.

If the ground area of the tri-level is not approximately equally split between the 1-story and bi-level sections, the tri-level pricing schedule cannot be used. In this situation, the bi-level section should be priced separately from the bi-level schedule, and the 1-story section should be priced separately as a 1-story plus basement, crawl space or slab as the facts dictate. The size for rates is determined from the combined ground area of the 1-story and bi-level sections. The resulting answer must then be increased by 8% to reflect the extra cost built into a tri-level house. Below is an example of this pricing procedure.



Ground Area:

1-S + BSMT
24' x 32' = 768 sq. ft.

Bi-level
24' x 24' = 576 sq. ft.

Total Ground Area = 1,344 sq. ft.
Size for Rates = 1,350 sq. ft.

As an example, the Class C rates for the example above follow:

1-S + BSMT	768' x $108.67 =	$83,459
Bi-level	576' x $136.39 =	$78,561
	Total	$162,020
	Add 8%	x 1.08
		$174,982

GUIDE TO THE CALCULATION OF GROUND AREA LIVING AREA AND WALL AREA

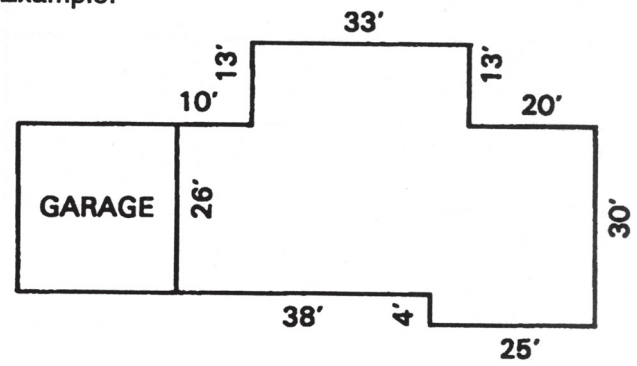
Calculation of Ground Area

Ground area is defined as the area computed from the exterior dimensions of the ground floor.

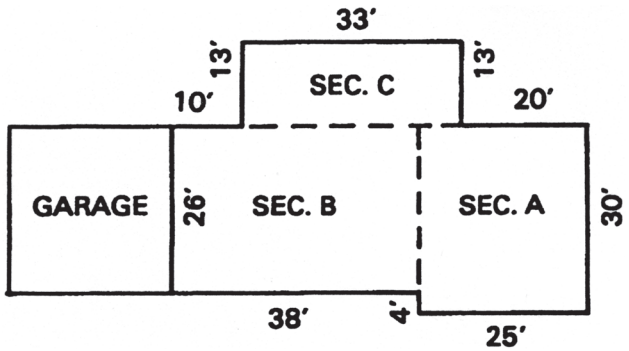
Step 1 – To calculate ground area, measure all exterior dimensions of the ground floor only, excluding garage, and construct a diagram showing these measurements.

***Note:** Measurements should be made at a place on the exterior wall where there is exterior finish, NOT at the ground level where there is no exterior finish on the wall. Do not add to the size of a house where owner has installed new siding over old siding.

Example:



Step 2 – Divide the diagram of the ground floor into sections approximating squares or rectangles.



Step 3 – Calculate the area of each square and/or rectangle.

Section A: 30' x 25' = 750 sq.ft.

Section B: 38' x 26' = 988 sq. ft.

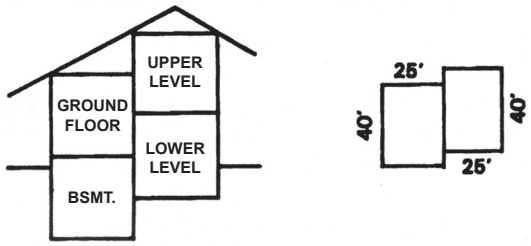
Section C: 33' x 13' = 429 sq. ft.

Ground Area = 2,167 sq. ft.

Size for Rates = 2,150 sq.ft.

A tri-level home has its ground floor split into two levels. To compute ground area, add the area of the lower level in the bi-level section and the area of the ground floor in the 1-story section.

Example:



Ground Floor:

40’ x 25’ = 1,000 sq. ft.

Lower Level:

40’ x 25’ = 1,000 sq. ft.

Ground Area = 2,000 sq. ft.

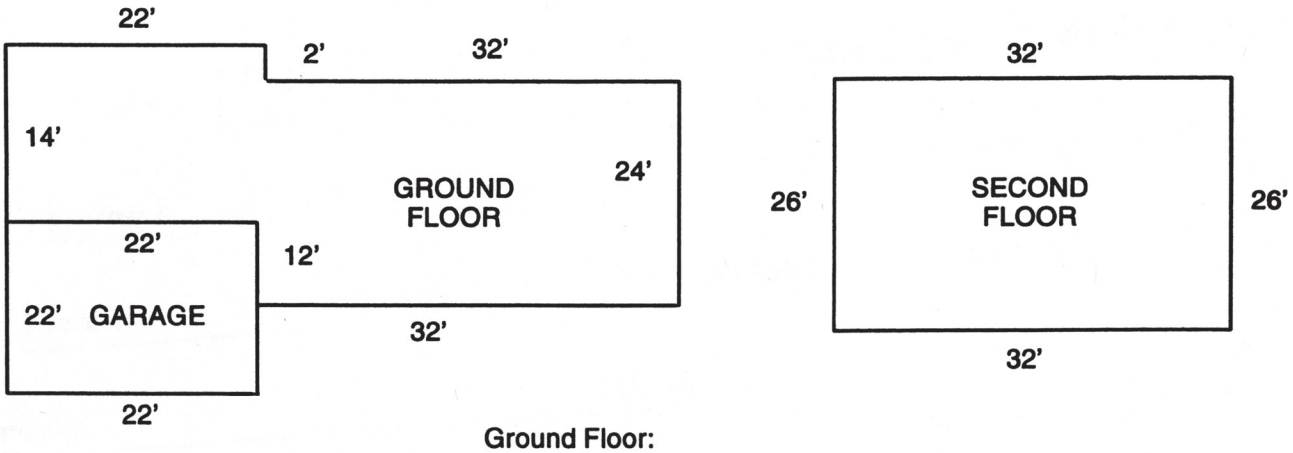
Size for Rates = 2,000 sq. ft.

Calculation of Living Area

Living area is defined as the area computed using the exterior dimensions of the entire living area of the residence. Minimum ceiling height of living area is 7 feet.

In a 1-story house, living area and ground area are equal, and calculations are the same as those for ground area. To compute living area in a residence other than 1-story, add the area of the upper floors to the total ground area.

Example:
(**Note:** drawing not to scale)



Ground Floor:

24' x 32' = 768 sq. ft.
14' x 22' = 308 sq. ft.
Total = 1,076 sq. ft.

Second Floor:

26' x 32' = 832 sq. ft.

Total Living Area: 1,908 sq. ft.

CALCULATION OF EXTERIOR WALL AREA

Measure the number of linear feet and the height of all exterior walls, including walls separating attached garage from living area and excluding basement walls and foundation walls.

Multiply wall length by wall height to compute wall area.

Example: Calculate wall area of the 2-story residence described above.

Ground floor: 32' + 24' + 32' + 2' + 22' + 14' + 22' + 12' = 160 L.F. x 8' high = 1,280 sq. ft. of wall area

Second floor: 32' + 26' + 32' + 26' = 116 L.F. x 8' high = 928 sq. ft. of wall area

TOTAL: 1,280 + 928 = 2,208 sq. ft. wall area

DEPRECIATION

In the cost approach for most structures, the appraiser must deduct depreciation from the estimate of cost new, because an old or used property is usually less valuable than a similar new one. Appraisal depreciation is defined as a loss in value resulting from physical deterioration, functional obsolescence and economic obsolescence. These three categories of depreciation are defined in the appraisal theory section of Volume III of the manual. However, there are many times when the appraiser will estimate total depreciation directly, instead of, or as a check against, the results found by estimating each category separately.

An estimate of total normal depreciation, expressed as a percent of the cost of reproduction or replacement new, can be made if the appraiser:

- rates the physical condition of the building and its degree of desirability and usefulness, using the system described below as a guide.

- uses this rating as a check on the remaining condition for the building's age indicated by the depreciation table on the following page.

Rating can be done during inspection using these definitions and the corresponding percent conditions.

These are the same terms prospective buyers would use when inspecting a home. Sound valuation theory presupposes the existence of prospective buyers with intelligence enough to compare the advantages and disadvantages of competing properties, then rate each one according to its physical condition and degree of desirability and usefulness.

Rating	Description	Corresponding Percent Condition	Mid Point
Excellent	Building is in perfect condition, very attractive and highly desirable.	95 – 100%	98%
Very good	Slight evidence of deterioration, still attractive and quite desirable.	85 – 94%	90%
Good	Minor deterioration visible, slightly less attractive and desirable, but useful.	75 – 84%	80%
Average	Normal wear and tear is apparent, average attractiveness and desirability.	60 – 74%	67%
Fair	Marked deterioration, rather unattractive and undesirable but still quite useful.	45 – 59%	52%
Poor	Definite deterioration is obvious, definitely undesirable and barely usable.	30 – 44%	37%
Very poor	Condition approaches unsoundness, extremely undesirable and barely usable.	20 – 29%	25%
Unsound	Building is definitely unsound and practically unfit for use.	0 – 19%	10%

DEPRECIATION TABLE FOR RESIDENCES
(All Classes)

Age	Remaining Condition	Age	Remaining Condition
1	99%	31	69%
2	98%	32	68%
3	97%	33	67%
4	96%	34	66%
5	95%	35	65%
6	94%	36	64%
7	93%	37	63%
8	92%	38	62%
9	91%	39	61%
10	90%	40	60%
11	89%	41	59%
12	88%	42	58%
13	87%	43	57%
14	86%	44	56%
15	85%	45	55%
16	84%	46	54%
17	83%	47	53%
18	82%	48	52%
19	81%	49	51%
20	80%	50	50%
21	79%	51	49%
22	78%	52	48%
23	77%	53	47%
24	76%	54	46%
25	75%	55	45%
26	74%	Older	45%
27	73%		
28	72%		
29	71%		
30	70%		

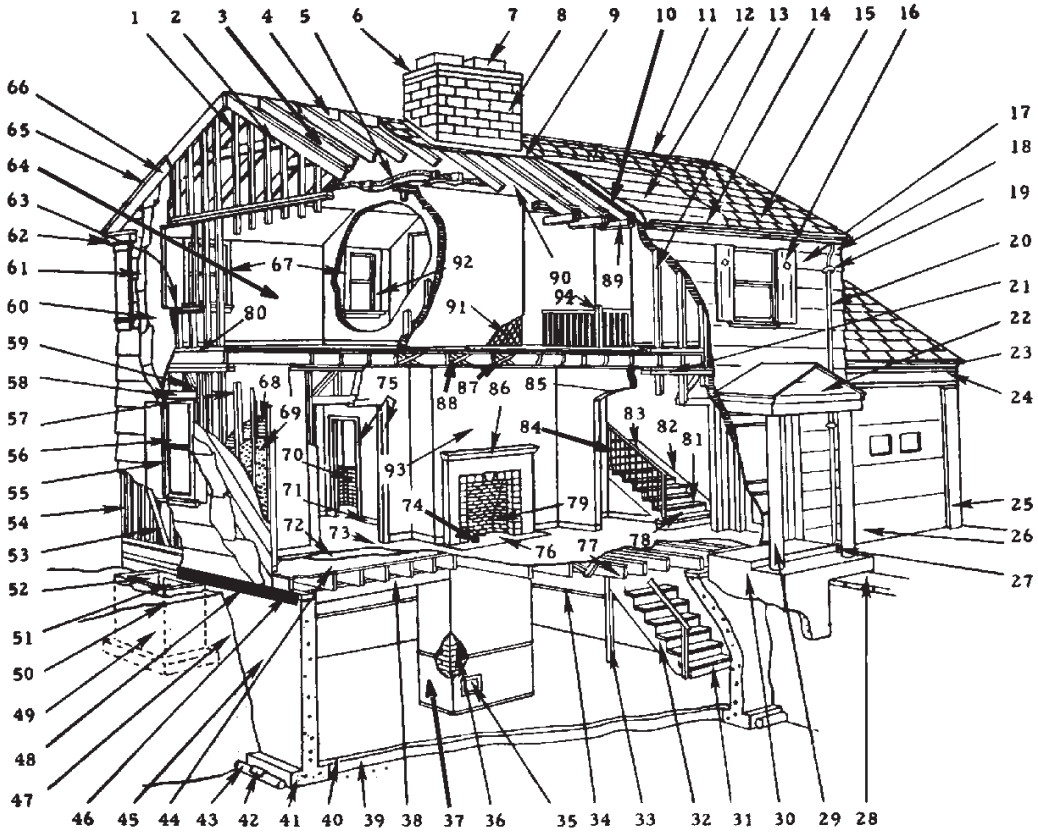
The depreciated condition will be held at 45% as long as the residence is habitable.

Age = Tax Year - date of construction

Example: A 2014 assessment is being figured for a building constructed in 1994. The age is 20 years.

The appraiser is to recognize exceptional maintenance, remodeling, replacements and additions in adjusting the % condition from that listed in this table to the actual observed condition. Exceptionally poor maintenance is also to be recognized.

VIEW OF RESIDENTIAL CONSTRUCTION



1. Gable stud
2. Collar beam
3. Ceiling joist
4. Ridgeboard
5. Cap/plate
6. Chimney wash
7. Chimney pot
8. Chimney
9. Chimney flashing
10. Insulation
11. Ridge
12. Roof sheathing
13. Stud
14. Eave trough or gutter
15. Roofing
16. Shutter
17. Horizontal board siding
18. Downspout or leader gooseneck
19. Downspout or leader strap
20. Downspout leader or conductor
21. Double plate
22. Entrance canopy
23. Garage cornice
24. Frieze
25. Doorjamb
26. Garage door
27. Entrance step
28. Sidewalk
29. Entrance post platform
30. Entrance platform
31. Basement stair riser
32. Stair stringer
33. Girder post
34. Chair rail
35. Cleanout door
36. Masonry chimney
37. Plaster over masonry
38. Furring strips
39. Cinder or gravel fill
40. Concrete basement floor
41. Footing for foundation wall
42. Filter mat
43. Foundation drain tile
44. Subflooring
45. Foundation wall
46. Mudsill
47. Backfill
48. Termite shield
49. Areaway wall
50. Grade line
51. Basement sash
52. Areaway
53. Corner brace
54. Corner studs
55. Window frame
56. Window light
57. Wall stud
58. Window header
59. Window cripple
60. Wall sheathing
61. Building paper
62. Frieze or barge board
63. Rough opening
64. Wall finish
65. Cornice molding
66. Fascia board
67. Window casing
68. Lath
69. Insulation
70. Wainscoting
71. Baseboard
72. Building paper
73. Finish floor
74. Ash dump
75. Door trim
76. Fireplace hearth
77. Floor joists
78. Stair riser
79. Fire brick
80. Sole plate
81. Stair tread
82. Finish stringer
83. Stair rail
84. Balusters
85. Plaster arch
86. Mantel
87. Floor joist
88. Bridging
89. Lookout/soffit framing
90. Attic space
91. Metal lath
92. Window sash
93. Chimney breast
94. Newel post

PERCENTAGE BREAKDOWN OF BASE COSTS

The following percentages indicate the approximate portion of the total cost of average-quality wood frame houses attributable to each component listed, as derived from an analysis of several groups of residences. Costs of plans and other components are based on several developments containing between five and fifty houses each.

AVERAGE-QUALITY HOUSE

Plans	.6%
Plan check and permit	2.1%
Survey	.4%
Water meter and temporary facilities	.6%
Excavation, forms, concrete and backfill	5.7%
Lumber, rough	8.0%
Carpenter labor, rough	9.6%
Roofing	4.0%
Insulation and weatherstrip	1.3%
Exterior finish: siding, stucco, masonry veneer	5.5%
Interior finish: plaster and drywall	6.3%
Sash, doors and shutters	4.1%
Lumber, finish	2.4%
Carpenter labor, finish	3.0%
Hardware, rough	.4%
Hardware, finish	.5%
Cabinets	4.0%
Countertops/tile	2.2%
Floor covering: hardwood or carpeting	2.8%
resilient	1.0%
Plumbing	6.4%
Shower doors/mirrors/tub enclosure	.5%
Electrical	4.8%
Light fixtures	1.2%
Built-in appliances	1.9%
Heating	3.9%
Sheet metal	.4%
Ornamental iron	.4%
Painting	2.6%
Sewer connection	.6%
Miscellaneous	.9%
Cleanup	.8%
General contractors' overhead and profit	11.1%
TOTAL	100.0%

The 11.1% listed for general contractors' overhead and profit is the percentage of the total cost. This is the equivalent of 14.8% of the labor, material and subcontract cost, excluding costs of plans, survey, plan check and permit, with a range from 10.2% to 20.8%.