Rural Valuation Topic #RVT 26: Rural Residential with Equivalency Ratio Procedure

Rural Residential Estate is defined as, "a relatively small residential improved property, often a subdivision of a larger farm or ranch, owned by a non-farmer seeking the amenities of rural life"[1].

Subdivision is defined as, "a tract of land that has been divided into lots or blocks with streets, roadway, open areas, and other facilities appropriate to its development as residential, commercial, or industrial sites"[2].

Neither definition speaks to rural trends in low population areas. Rural buyers frequently purchase "residential sites" up to several thousand acres for second or third homesites, for quiet enjoyment, investments, etc. History suggests this category may have been referred to as "ranchettes", but, that term also implies something closer to a "rural lot" rather than these larger tracts that have transitioned away from traditional agricultural use even though the "interim" use shows livestock on-site. The physical character, coupled with buyer motivations, departs from traditional definitions of "a relatively small residential improved property, often a subdivision. . . " to sizeable farms or ranches with the primary purpose having been to acquire a homesite. These properties are often large enough to include privacy, fishing, hunting, scenic appeal, or proximity to other destination areas (ski resorts, National Forests, Wilderness Areas, etc.). The only amenity associated with these contemporary rural tracts may be legal access, i.e., lacks the "lots or blocks with streets, roadway, open areas ….." where the implied end-use reflects a sufficient density to be zoned residential, commercial, or industrial for tax purposes. Simply, there are larger "spot-uses" uses within farms and ranches that have long-since departed from agricultural values based on economic productive. In fact, the term "rural residential" suggests single-family use because multi-family residential is counter to the major element of privacy and quiet enjoyment. Presently, the "rural residential" classification occurs in both directions or from splitting a large ownership to small parcels --- and conversely assembling several smaller tracts for a larger parcel to gain separation and privacy.

The rural ownership experience varies from experienced to "non-farmer". Property complexity accelerates from a relatively simple "sites" for a home, to a "homesite" with extra amenities like a "babbling-brook", mountain views, and recreation. Buyers cite proximity to work yet they desire as much privacy and seclusion as possible or the alternative motivation of moving to states with no income tax (declaring the acquisition as their legal address). "Non-farmer" management of larger "rural homesites" may be employee-based, or the property may be leased year-to-year to neighbors on favorable terms to offset holding costs (real estate taxes). There may be limited, if any, income because they are seeking a way of life.

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[1] Appraisal Institute, *The Dictionary of Real Estate Appraisal*, 6th Ed., (Chicago: AI 2015, p. 383)
[2] Ibid, p. 222)

The rural valuation procedures begin with identifying the land component from unimproved sales (vacant land), leaving the building residual. These "residuals" may be comprised of:

1. multiple buildings (residence and several support buildings [individual cabins, guest houses, labor housing, equipment storage, etc.])

   > NOTE: from an urban perspective this may be viewed is a commercial business; however, the minor income levels are not based on productivity. The primary reason for acquisition is privacy and locational amenities as related to the property's use as a homesite.

2. an older set of agricultural buildings that contribute to the operation and/or management of the whole while the buyer may intend on constructing an executive home and/or compound. This executive home or compound may be designed for entertainment which is often centered on the recreational or locational features of the property.

Rural sales rarely possess the same quantity, utility or degree of appeal; thus, sales reflect a wide range of non-ag demand with limited, if any, correlation to income. Hence, this category is referred to as rural residential because of the intended use(s). There may be recreational or interim ag uses, but the motivation is not agricultural. Another way to view these mixed types is merely "transitional" with no defined terminal use. Transitional encompasses "ag-rec", "rec-ag", "rec residential", res/rec, etc., with the distinction accenting the primary influence. New construction may include one or more buildings with mixed construction types (frame, log, metal-span, wood/brick or natural stone harvested on-site, etc.). Thus, "rural residential" becomes very complex.

ASFMRA Recommendation: Considering the limited sales volume typically available, extended verification is a necessity. Some properties in this category are held for generations and include a mix of historic improvements and new improvements (ranging from new or old homes/lodges to old/new cabins and support buildings) within the same property. For example, one set of buildings may be an "alpine" setting (with mostly summer access and use) and another historic set of improvements with year-round access and support structures for employees and ranch operations with several miles between.

For valuation, the geographical "area" may have to be expanded (possibly to other states) to identify sufficient sales for analysis. Thus, the ability to "standardize" the data to a single "_common denominator_" to measure what is possible from the information is essential. The ER/EF rural valuation procedures described in earlier Rural Valuation Advisories may provide understanding and a process to address multiple buildings with varying degrees of similarity within the same property.

- If the property is land intensive: the land-mix or ER procedures may have to be employed to account for multiple land components, i.e., mountain rec., meadow, low elevation pasture, etc.) --- all within the unitary whole.
- If the property is building intensive and contains multiple buildings, the same ER procedure can be used to allocate and compare the improvements by employing a building-mix calculation.

For rural residential, the complexity centers around multiple buildings on small to large tracts of land. The first step is approximating the land portion of value leaving the cumulative building residual. Sale R, shown below, has slightly over 50% of its value in land, or $1.6 million leaving $1.5 million to the structures.

Sale R		Actual Units	$/Site or $/Acre	Total
Total Sale Price	=			$ 3,100,000
Land Type 1	-	320.00	$ 5,000	$ 1,600,000
Land Type 2	-	-		
Land Type 3	-	-		
Building Contribution	=			$ 1,500,000

The next step allocates the $1.5 million building residual to individual structures. There are several options for the 100% base for the ER computation. In this example, a "frame house" was _selected_ as the standard. The process then converts log houses, cabins, equipment storage, horse barn and corrals to that 100% base (frame-house). The question is how many square feet of horse barn at $15/sf equates to the same value as 1 sf of frame house at 100%? The mathematical relationship is ~8-to-1, or 12% ($15/sf barn ÷ $125 /sf house = 12% as shown in Line #6 in the example below). Stated differently, 8 square feet of horse barn equals the same as one (1) square foot of house.

a) Entire Data Set Building Inventory	b) $/Unit Sale Contrib.	Ratio %	c) $/Unit RCN	Ratio %	d) $/Unit Rent	Ratio %	e) Reconcile Ratios
1. House (frame)	$ 125.00	100%	$ 135.00	100%	N/A		100%
2. House (log)	$ 250.00	200%	$ 275.00	204%	N/A		200%
3. Cabins (frame)	$ 75.00	60%	$ 90.00	67%	N/A		60%
4. Cabins (log)	$ 125.00	100%	$ 140.00	104%	N/A		100%
5. Equip. Stor. (Metal-Span)	$ 30.00	24%	$ 35.00	26%	N/A		25%
6. Horse Barn (pole)	$ 15.00	12%	$ 20.00	15%	N/A		15%
7. Storage Buildings	$ 10.00	8%	$ 15.00	11%	N/A		10%

NOTE: Building ratios, or relationships, are used to allocated building portion of rural-res sales.
Essentially, the process coverts all buildings to a 100% equivalency (ER); or where the ER square-footage
at 100% is the dollar equivalent of the "gross square-footage" at the sales proportionality (mixture).

Three (3) market _relationships_ were examined (b, c, and d above) for each structure from sales, replacement costs, and rental rates. Individual buildings seldom rent in rural areas as a part of multi-building property; thus, the "rent" relationships (d) could not be applied.

Sale R (below) was allocated to the "frame-house" standard or "base" shown at 100% (yellow) from the ratios reconciled in "e" above and identified with arrows below. The total set of buildings contribute $1.5 million or $109.37/sf (red arrow below). But this is a _"blended" $/sf consisting of several structures_   some above the $125/sf frame-house "base" and some below. All buildings are converted or standardized through the allocation ratios to the 100% square-foot equivalent (orange).

Data Bldg. Inventory	Ratios	Gross Sq. Ft.	Building Allocation		Building sf Eq. @100%
House (frame)	100%		$ 125.00		-
House (log)	200%	4,400	$ 250.00	$ 1,100,000	8,800
Cabins (frame)	60%		$ 75.00		-
Cabins (log)	100%	1,536	$ 125.00	$ 192,000	1,536
Equip. Stor. *(Metal-Span)*	25%	6,000	$ 30.00	$ 180,000	1,500
Horse Barn *(pole)*	15%	840	$ 20.00	$ 16,800	126
Storage Buildings	10%	940	$ 12.00	$ 11,280	94
Bldg. Total; *as Allocated* =		13,716	$ 109.37	$ 1,500,080	12,056
Gross Sq. Ft. =			*Converted to 100% Equivalents* =		$ 124.43
			$/Equiv. SF =		
Bldg. ER *(Equivalency Rating = 12,056 ÷ 13,716)* =					87.90%

Sale R's building equivalency rating is 87.9% (yellow at the lower right). This means, in this proportionality (mix of buildings), the total structural contribution is 87.9% of a possible 100%. The "inferior" buildings contribute at a rate less than 100% and "superior" buildings contribute more (e.g., the log house at 200%) --- shown as 4,400 sf actual but contributing at 200% = 8,800 sf (orange) "equivalency" sf.

The easiest way to understand ER%/EF%: Divide the building contribution by the "top" or 100% building allocation, or:

Total Bldg. Contribution: $1,500,080 ÷ $125/sf = 12,001 equivalent square feet at 100%
÷ 13,716 Gross (actual) square footage
= 87.90% ER (equivalency rating)

(NOTE: the last column (orange) shows 12,056 due to Excel rounding in the computations)

Initial data standardization may take some time. Once completed, the quantification (paired sales analysis) of any element is visual and easy to understand. The allocated 100% $/sf standard is shown in green. Two sales (in gray) have inferior conditions; thus, a $5/sf adjustment was visually shown (see discussion below chart).

	Subject	Sale R Current	Sale S Current	Sale T Current	Sale U Current	Sale V Current	Sale W Current
Date	Subject	Current	Current	Current	Current	Current	Current
Equivalent Sq. Footages	12,788	13,716	9,880	15,620	10,800	8,260	14,200
Bldg. ER *(Equiv. Rating)*	81.35%	87.90%					
100% $/sf *(ER or Net 100%)*		$ 125	*$ 120*	$ 123	$ 127	*$ 118*	$ 124

Difference between Sales S & V are due to inferior condition; paired to the
other sales (Sales R, T, U, and W) shows ~$5/sf difference

		Sale R	Sale S	Sale T	Sale U	Sale V	Sale W
Pairing for Condition *(Adjustment)*		$ -	*$ 5*	$ -	$ -	*$ 5*	$ -
Condition Adjust'd Equiv. 100% Price		$ 125	$ 125	$ 123	$ 127	$ 123	$ 124

Subject's Bldg. *(Eqiv. Sq. Ft.)*	12,788	x	$ 125
Bldg. ER *(Equiv. Rating)*		x	81.35% = $ 1,300,357

(NOTE: Subject's Bldgs can be allocated using Bldg Ratios & inserted individually: example below)

Subject's Land Contribution *(from sales used in allocation)*	$ 1,700,000
Total Value Opinion $	3,000,357
Rounded; *to $5,000* $	3,000,000

After the pairing results are applied, the subject valuation can be completed swiftly. $125/sf was multiplied by the subject's ER of 81.35% (equates to $101.69/sf) for the 100% portion. Likewise, $125/sf x 81.35% x the subject's 12,788 sf effective size shows the building result at $1,300,357. The land value at $1.7 million is then added to arrive at the Total Value Opinion ($3,000,357) or ~$3 million.

Note: this does NOT violate the "summation" rule within USPAP or UASFLA because the appraiser is working from sale allocation and "contribution". The subject's allocated price is shown as:

Land Contribution			*$1,700,000*
Building Contribution			*$1.300,357*
Frame House (2,200 sf)	*@ $101.69 =*	*$223,709*	
Log Home (4,000 sf)	*@ $203.37 =*	*813,486*	
Frame Cabins (1,200 sf)	*@ $ 61.01 =*	*73,214*	
Equipment Storage (6,600 sf)	*@ $ 25.42 =*	*167,781*	
Horse Barn (920 sf)	*@ $ 15.52 =*	*14,033*	
Storage Bldgs. (800/lf)	*@ $ 10.17 =*	*8,135*	
Bldg. Contribution		*~$1,300,348*	

The price differences due to land and building proportionality account for most of the variation between the sales and the subject. CONSISTENT ALLOCATION is the key. Straying away from the ratio allocation process distorts the final results significantly and diminishes most pairing results.

In retrospect, why use ratios? The answer is whatever factor(s) are present within each sale, e.g., condition, location, etc.) is reflected "proportionately" within each allocated building category. Therefore, pairing for condition from the 100% line defines what the "condition adjustment" represents. Multiplying the 100% line by the Subject's ER converts the adjustment for proportionality to the Subject's building mixture.