



TOM GREEN COUNTY APPRAISAL DISTRICT

APPRAISAL MANUAL



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1. Introduction

One of the oldest and most firmly established forms of taxation as well as a principal source of income for the counties, cities and school districts of the State is that of ad valorem or property taxation.

Chapter 6, Subsection 6.01 of the Texas Property Tax Code provides for the establishment of an appraisal district in each county, and further states that the district is responsible for appraising property in the district for ad valorem tax purposes of each taxing unit that imposes ad valorem taxes on property in the district.

Ad valorem taxes are imposed upon specific properties in this State, at a rate of 100% of the market value of the said properties.

Section 1.04 (7) of the Texas Property Tax Code defines "market value" as the price at which a property would transfer for cash or its equivalent under prevailing market conditions if:

- (1) exposed for sale in the open market with a reasonable time for the seller to find a purchaser;
- (2) both the seller and the purchaser know of all the uses and purposes to which the property is adapted and for which it is capable of being used and of the enforceable restrictions on its use; and
- (3) both the seller and purchaser seek to maximize their gains, and neither can take advantage of the exigencies of the other.

Taxable properties are set out by the Texas Property Code, and defined under Section as follows:

- (1) "Property means any matter or thing capable of private ownership.
- (2) "Real property" means:
 - [a] land
 - [b] an improvement
 - [c] a mine or quarry
 - [d] a mineral in place
 - [e] standing timber
 - [f] an estate or interest, other than a mortgage or deed of trust creating a lien on property or an interest securing payment or performance of an obligation, in a property enumerated in Paragraph 2 [a] through 2 [e].
- (3) "Improvement" means:
 - [a] a building, structure, fixture, or fence erected on or affixed to land
 - [b] a transportable structure that is designed to be occupied for residential or business purposes, whether or not it is affixed to land, if the owner of the structure owns the land on which it is located, unless the structure is unoccupied and held for sale or normally located at a particular place only temporarily.
 - [c] for purposes of an entity created under Section 52, Article III, or Section 59, Article XVI, Texas Constitution, the
 - [i] subdivision of land by plat
 - [ii] installation of water, sewer, or drainage lines
 - [iii] paving of undeveloped land
- (4) "Personal property" means property than is not real property

- (5) "Tangible personal property" means personal property that can be seen, weighed, measured, felt, or otherwise perceived by the senses, but does not include a document or other perceptible object that constitutes evidence of a valuable interest, claim, or right and has negligible or no intrinsic value
- (6) "Intangible personal property" means a claim, interest, right, or other thing that has value but cannot be seen, felt, weighed, measured, or otherwise perceived by the senses, although its existence may be evidenced by a document (i.e.: a stock, bond, note or account receivable, franchise, license or permit, demand or time deposit, certificate of deposit, share account, share certificate account, share deposit account, insurance policy, annuity, pension, cause of action, contract, and goodwill).

This Appraisal Manual was developed with data gathered from Tom Green County market research and appraisal publications. The purpose of this manual is to guide and assist Tom Green County Appraisal District staff in appraising more efficiently and with greater overall consistency. It is important to bear in mind, when using this manual, that it is only a guide for reference.

Article VIII, Section 1 of the Texas Constitution requires that all property shall be assessed equally and uniformly. It is the belief of the Tom Green County Appraisal District that this fundamental principal is the cornerstone and foundation upon which all properly administered tax rolls rest. Such mandatory requirements must be met to ensure the safety of the tax rolls of each taxing jurisdiction from lateral attack.

The primary purpose of this manual and its main objective is to provide uniform methods of appraisal to establish equitable market values of various properties throughout the district.

The instructions on the following pages are designed to serve as a guide for measuring property components, obtaining information on each parcel of property, and classifying each property. The information recorded on the field work sheet is extremely important. For this reason, the field appraiser must use extreme care in recording data accurately and completely.

Even though the appraisal employs a mass appraisal approach to value, each property must be approached as an individual parcel.

Conceptual Overview

The system outlined in this manual is based on the following market value equations:

1. Market Value of Residential Property =
 $Replacement\ Cost\ New \times Total\ Percent\ Good + Depreciated\ Additive\ Values + Land\ Value$
 (Adjusted by Market Indicators as determined by Sales Data, as available)
2. Market Value of Commercial Property=
 $Replacement\ Cost\ New \times Total\ Percent\ Good + Depreciated\ Additive\ Values + Land\ Value$
 (Adjusted by Market Indicators as determined by Sales Data, as available)
3. Market Value of Manufactured Housing =
 $Replacement\ Cost\ New \times Total\ Percent\ Good + Depreciated\ Additive\ Values$
4. Market Value of Commercial Personal Property=

Units x (Price/Unit of Inventory) + Units x (Price/Unit of FFE x Percent Good) + Additive Values

(Verified and adjusted by yearly Personal Property Renditions)

5. Market Value of Vacant Lots or Acreage =

Units x Price/Unit

(As determined by Market Transactions)

6. 1-d-1 Special Use Valuation (Ag Value) =

Units x Value per Acre of Agricultural Use

(As determined by Net Income per Acre/State Mandated Cap Rate)

2. General Procedures

Real Property Valuation

In accordance with Sec: 11.01 of the Texas Property Tax Code, the Tom Green County Appraisal District strives to discover, appraise, and assess all taxable property within the jurisdictions served by the Appraisal District.

Each parcel shall be appraised including all determinable improvements, factors, and conditions affecting the value of the property.

Improvements, as defined in Sec. 1.04 (3), includes any structures affixed to the land that is not readily, reasonably, and immediately portable. As such, the structure adds value to the property and would be typically included in any sale of the property. This application includes, but is not limited to:

1. Above ground swimming pools,
2. Patios,
3. and storage buildings or units (including sea containers), regardless of its permanent attachment, or lack thereof, to the land.

Mobile or Manufactured Homes can be either Real Estate or Tangible Personal Property depending on the ownership of the land to which the structure is affixed, and/or the status of the Title or the Statement of Location as determined by the Texas Department of Housing and Community Affairs. In either case, Mobile or Manufactured Homes are taxable under Sec. 11.14 of the Texas Property Tax Code. With proper proof of ownership, Mobile or Manufactured Homes are eligible to apply for Residential Homestead Exemption.

Fences, whether they may be for residential, commercial, or agricultural, are considered appurtenances to the land and are included in the value of the site.

Square foot measurements of each type of building are based on the perimeter measurements of that building. Schedule values are originally based on locally modified construction cost, adjusted over time by market conditions determined by sales. Therefore, a buildings value per square foot applies not to useable area (space) but constructed area.

Using the building code descriptions and schedules, each structure is assigned an undepreciated value per square foot. Depreciation (physical, functional, and economic) factors are applied to each structure as is necessary.

Land values are determined from available information and applied using the appropriate basis (square footage, front footage, acreage, etc.).

Business Personal Property Valuation

Tangible personal property, used in the operation of a commercial business and not exempt by application or statute, is appraised for each tax year. Personal Property Renditions begin the yearly process for existing accounts. Being familiar with the local market and businesses, each rendition is evaluated for accuracy and reasonableness. A rendition that indicates significant variation is further investigated for accuracy. Office discussions, telephone calls and inspections are used to resolve the suspected variances. As the renditions are processed, the declared property is depreciated as necessary, and the information recorded in the appraisal records.

Each year, some personal property accounts fail to be rendered. The same procedure for suspect renditions is followed. Office discussion, to see if someone has any information pertaining to the business, telephone calls and/or inspections are

conducted to determine if the business is closed or to input a proper appraised value with the appropriate penalty.

Agricultural (1-d-1) Valuation

Land qualified for special use valuation (1-d-1) is appraised and two distinct values are recorded: market value, based on the analysis of current market groups, and agricultural value. Each appraisal begins with the 1-d-1 application. The specific agricultural use, and location, indicates the proper agricultural classification. Periodic inspections, through reappraisal, recheck, and diligent notice while on other projects, are used to verify current use or initiate further contact with the landowner as to current use.

If an inspection raises a question about a property's current status as 1-d-1 qualified, the Chief Appraiser may direct the Appraisal District staff to send a new 1-d-1 application to the landowner. This process will weed out many unnecessary Ag denials due to a misinterpretation of inspection details.

Landowners receive an Ag Use Questionnaire periodically. The CAD uses the gathered information in its analysis of Agricultural income and expenses used in the yearly calculation of Ag Values. As directed by the Property Tax Code, typical and reasonable income and expenses are evaluated to arrive at typical operating income for each agricultural classification. The current Capitalization Rate converts the calculated income per acre to a value per acre.

Discovery

Field inspections remain the primary method of discovery and verification of appraisal records. The TGCAD Reappraisal Plan calls for examination of all real property in a 2-year cycle. During each check, all aspects of the property are inspected, and any pertinent changes are noted. These changes may affect value, ownership, or identification and include, but are not limited to measurements, additions, new construction, demolition, renovation, deterioration, rehabilitation, occupation, abandonment, etc. Inspections will also note changes, or perceived changes in ownership or property use, for further investigation by the CAD office. For example, new or different occupation may indicate a sale or a change in homestead status.

For commercial property, real estate inspections provide opportunity for personal property verification and contact with the owner. Business names and preliminary personal property assessments are noted at each commercial property real estate inspection. This information is then compared to the Business Personal Property Renditions. When a new business is identified, extra care is taken to speak with the owner and explain Personal Property taxation and the rendition procedure.

As noted earlier, 1-d-1 status is verified with field inspections in both the reappraisal and rechecks. Properties identified as receiving the special valuation are confirmed and properties that could qualify, but currently do not, and properties exhibiting a "change of use" are noted for further contact by the CAD office.

Whereas field inspections are the primary method of discovery, other indicators are also utilized. Official public records list deeds of trust, mechanic's liens, and changes of ownership. Any of these documents can, and often do, indicate that current value needs to be verified. Building and demolition permits from the municipalities also require reinspection. When available, county septic and/or development permits are used.

Third party information is also useful to indicate changes in value, or the need to verify existing records. Insurance agents, fee appraisers, bank officials, interested neighbors, and "gossip" often provide information, although these sources are often suspect.

Sales tax listings, telephone number listings, and various advertising methods provide additional information for the discovery of business personal property.

Field Protocols for Real Estate Appraisals

The field appraiser is a very important person in the Ad Valorem tax system. Their appearance, attitude, and appraisal skills have a strong influence on the public's perception of the entire Ad Valorem tax system. Since the field appraiser makes contact where the taxpayer lives and works, and is often the only contact the taxpayer has with the tax system, it is important that appraisers and appraisal district staff conduct ourselves at all times in a way that will favorably impress the public. The following suggestions should be reviewed and followed:

1. We should dress sensibly for the type of appraisal we are conducting. Our appearance should be neat, clean, and fitting the circumstances, whether we are working in town or on rural properties.
2. Everyone that we encounter should be treated with dignity and respect. We should always be courteous and friendly.
3. The field appraiser will often be on a taxpayer's property when no one else is present. We must be careful to be perfectly trustworthy, being careful to leave things as they were when we arrived, such as closed gates, etc., and never disturbing the property we are appraising. Our ethical conduct should always be above reproach.
4. It may be desirable to have a sign on your vehicle, plainly identifying it as a CAD vehicle.
5. We should always have identification with us and carry our BTPE registration card when we are appraising.
6. You should always be prepared to present a business card to occupants when they are present or leave a card in an appropriate place when no one else is on the property and you need to make further contact with the occupant or the owner.
7. As you approach the property, note the external features, such as road topography and access, neighborhood, and conformity of improvements to the area. Also note roof type, roofing material, foundation, siding, story height, condition, maintenance level, and other details needed for your appraisal.
8. Go directly to the front door and knock or ring the doorbell. Do not aggravate the occupants by prolonged, excessive ringing or knocking. If a minor individual answers the door, ask to speak to an adult. If no adult is available, leave a business card and leave the premises immediately.
9. Greet the occupant and explain your purpose in a brief and courteous manner. For example, you might say "Good Morning. I am John Doe from the Tom Green County Appraisal District. We are conducting a general reappraisal of the property in the county. I need to verify the measurements of the outside of this house and any outbuildings." Then proceed with questions needed to complete your work.
10. Care should be taken when asking any of the following questions, since the owner or occupant may consider much of the information personal and private. Never push an owner, taxpayer, or occupant to answer questions if the situation becomes uncomfortable. The first question

you always ask is: "To make sure we have everything correct, do you mind if I ask you a few questions about this property?" If the response is favorable, you may proceed.

11. Sample questions you may need to ask the occupant:

- What is the property owner's name?
- What is the property owner's mailing address?
- What is the physical address of this property?
- If this is a recent purchase, do you mind sharing the price with us?
- How old is the house/structure?
- How many baths does the house have?
- Does the house have central heat and air?
- Do you have sewer services or a septic system?
- Do you have public water, community water, or a water well?
- If acreage: How is the land use divided (pasture, cropland, wildlife management, etc.)?
- If acreage: Are there any other structures not located at this site?

12. After you have finished with your questions, thank them for their assistance and tell them, "We will only be here for a few more minutes to check the measurements of your improvements." It is best to avoid unnecessary gossip or discussion of taxes and values. If the owner or occupant enquires about property values or confidential information, the appraiser must firmly, but politely, state that the purpose of the visit is to gather specific information on that property, and that values will be determined at a later date once all specific property information is gathered. However, please take the time to answer simple procedural questions and general taxation inquiries. Establish a good rapport with the taxpayers.

13. Remember to use "please" and "thank you" as often as appropriate, and do not hesitate in your conversation. The owner/occupant needs to be confident in your presentation and capabilities.

14. If the owner/occupant is uncooperative, rude, obnoxious, or asks you to leave, do not argue or lose your temper. Move to a safe distance and estimate the structure size, then draw a sketch on your worksheet/card. Be sure to note that the owner/occupant refused to let you measure and inspect the property. Initial and date the worksheet along with noting all property characteristics apparent. Anytime an appraiser documents a change of any kind on a property card that is based on an estimation, that fact **MUST** be noted on the property record.

15. If you encounter locked gates, bad dogs, or "No Trespassing" signs, follow the same procedure explained above. If no improvements are visible but reasonably suspected from what you see (road traffic, power lines, etc.) leave a business card with a note to contact the appraisal district for access.

16. In addition to the primary task of collecting and verifying data and property characteristics, there will often be secondary projects for which data will need to be collected. These projects are designed to make subsequent appraisals and inspections easier and more efficient for each

following year or appraisal cycle. Updating addresses, specific location notes, and public relations suggestions are continuing secondary field concerns. Field staff are directed to note and inform the CAD office of any concerns relating to CAD administration and resources, such as any corrections or modifications to the existing mapping system, areas of new development, or field perceptions of existing or potential market areas. Further, a major (strategic) goal may be incorporated to each reappraisal cycle and noted in the current Reappraisal Plan. As directed by the Chief Appraiser, this goal, developed with the purpose of increasing accuracy, efficiency, and ease of appraisal operations, is a primary focus of the CAD staff during the current reappraisal cycle. Please consult the Chief Appraiser or Appraisal supervisor for any additional requirements of the reappraisal inspections.

17. Questions to ask yourself before leaving:

- Did I leave a business card?
- Do I have legible sketches, notes, and classifications?
- Did I take a photograph of the improvements?
- Do the dimensions of the improvements close or balance?
- Is all necessary information recorded on the card or worksheet, i.e. Classification, Condition, Effective Year, and any notes on every structure, attachment, and outbuilding?
- Is there anything I need to note and discuss with my supervisor?
- Did I initial and date the worksheet?
- Did I collect secondary or additional information as requested for this reappraisal's goals?

18. Mobile Homes: The same general procedures apply when appraising a mobile home site. All structures need to be measured and classed. However, additional information needs to be gathered to complete the process.

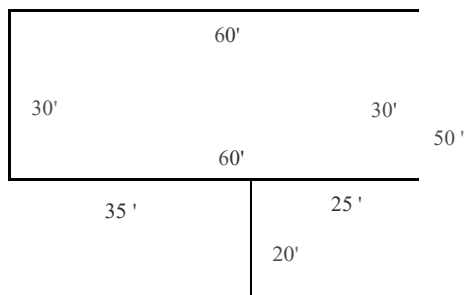
- Note Manufacturer and Model.
- Note color scheme: Main color(s)/Trim color.
- Note HUD Label number. If the HUD number is not available due to repainting or residing or age, be sure to note that fact.
- Try to get ownership info at inspection. Mobile homes often have different ownership than the land on which they are located. Also, the purchaser may not have changed the title, in which case, the possessor may not be the official owner listed in the Department of Housing and Community Affairs records. All these ownerships are important for the appraisal records.

Measuring Procedures for Real Estate Improvements

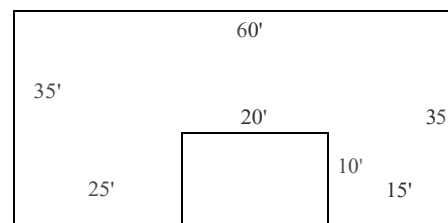
Basic Procedures:

1. Neatly draw the outline of the improvements on the worksheet or property card with the front of the improvement toward you, or as it faces the street.
2. If there are multiple buildings, draw the sketches on the card as you see them on the property, in relation to each other. If there are more buildings than will fit on one page of records, group the drawings with the primary building of the property on the first page and then progress logically so that in subsequent inspections another appraiser can easily identify any changes that may have occurred.
3. Try to draw the improvement in approximate proportions to the size of the structure. If the improvement is 30' wide and 60' long, draw the outline with its length double its width.
4. Measurements should be written horizontally opposite the line representing the measurement. Outside measurements should be written on the outside, and inside measurements on the inside. The placement of measurements on the drawing should clearly indicate the wall measured on the structure. When taking secondary measurements, such as overall length and/or width, that may include more than one class of structure (garages, carports, porches along with living area), these measurements should be distinct from measurements of the individually classed structures.
5. Be sure to draw the second story of a structure separately from the main body.
6. Be sure to note any changes in construction type (frame to brick, etc.).
7. Begin at one corner and measure completely around the building (note: If you are entering data into the computer, some computer systems require that you draw in a specific pattern. Check with your supervisor or CAD staff to see if this applies in your case.) Check the sum of overall measurements along the front of the improvement against the overall measurements of the rear. Then check the measurements along one side with that of the other side. The opposite wall measurements must balance for the drawing to be correct.

Examples:

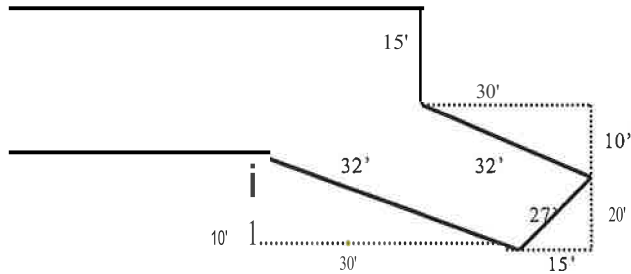


35' & 50' are outside measurements
All others are measurements of those individual parts.

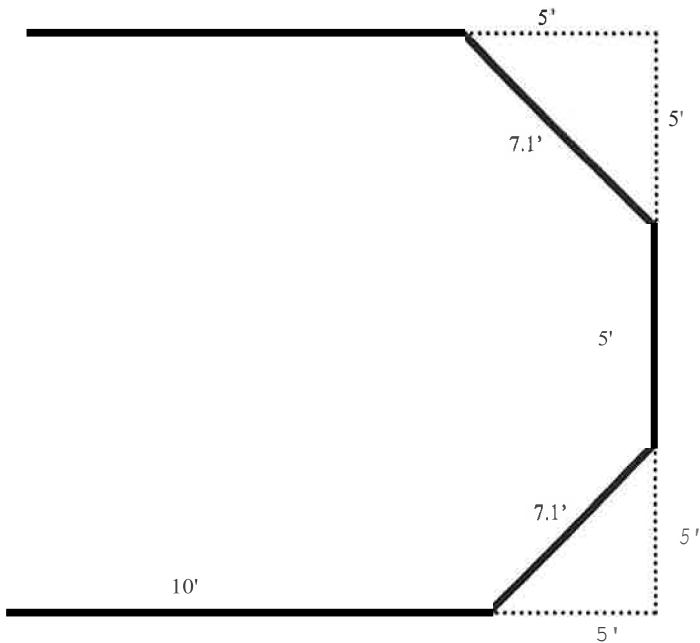


Front= Rear $25+20+15=60$

8. Angled Structures: When measuring angled structures, we need additional measurements to square the angled portions. While some computer drawing programs will draw angles for calculation of square footage, those angles are ultimately based on the "offsets" (up & over) from the base drawing. Measuring the angled wall itself may be helpful, but the other two measurements of the "triangle" are more important. This applies to odd shaped houses as well as bay windows. See the following examples.



In this example, the angled measurements of 32', 27', and 32', while informative, are not as important as the offset measurements indicated by the dotted lines. The offset measurements are the two "missing" measurements of a right triangle.



As in the previous example, the 7.1' measurements are not as important as the 5' "offset" measurements.

Appraisal Valuation Techniques

In any determination of value, data is sought in the local market on such factors as sales and offerings of similar properties and tracts of vacant land; current costs of reproduction of the improvements; rentals of similarly improved properties; and the current rate of return on investments and comparable properties. From this data, a value can be developed for both the land and the property. For the latter, several methods may be used: the cost approach, the income approach, and the market data approach.

Land Value

Land is valued as if vacant and available for the highest and best use. Similar land recently sold or offered for sale is analyzed and comparisons made for such factors as size, time, location, and physical characteristics.

Cost Approach to Value

In this method of valuation, an estimate is made of current costs of reproduction (or replacement) of the improvements. This amount is adjusted to reflect depreciation resulting from physical deterioration and obsolescence and is then added to the value of the land.

Income Approach to Value

In this method of valuation, estimates are made of the gross income that might be expected from rentals and other sources, and of the expenses that might be incurred in operating the property. Resulting net income is then capitalized into an indication of value.

Market Data Approach to Value

In this method of valuation, similar properties recently sold in the current market are analyzed and compared with the property being appraised. Adjustments are made for differences in such factors as time of sale, location, type, age, and condition of the improvements, and prospective use.

The following value schedules are originally based on the cost to construct the typical building types found in Tom Green County. Over time and as market sales indicate, these values are adjusted to give an undepreciated value per square foot. This value, applied to the square footage calculated for that building type and then appropriately depreciated, gives a value for the structure. Adding all contributory buildings, additives, and land values creates the total value for the subject property.

TGCAD attempts to include pertinent information from all three approaches to value. Each approach has inherent benefits and limitations. And in some cases, one approach will be more indicative of the value of a property than the other approaches.

Cost approach provides the basis for the value schedules that follow. Unique properties, or properties that are not typical to the general market for any reason, are often valued with the cost approach.

Market approach is used to adjust the value schedules yearly. When market transactions indicate a general market change to typical properties, the adjusted mass schedules are used to apply changes to the records.

Income approach is utilized mainly as a verification or second opinion of commercial property, or for certain properties where the income approach is required by statute. Insufficient data is available to develop typical schedules based on income information, except for 1-d-1 values. However, the income approach is often the primary approach on some commercial property where market (sales) information is lacking, and the cost approach cannot completely address the issues affecting the property within the current market conditions, and

the necessary income information is readily available through governmental or industry publications. In cases where the income approach is utilized, accurate and typical income and expense data must be collected and scrutinized by the appraiser to make sure the data accurately reflects the potential of the property.

The income and expenses must be attributable to the ownership and operation of the property, not the business, for it to be considered in the calculation. Once expenses are deducted from income, and a Net Operating Income is determined, the property value is determined by dividing the Net Operating Income by an appropriate Capitalization Rate. Industry, financial, and market publications are researched yearly to determine the appropriate Capitalization Rate for that particular property for that year. The process is the same as that taught in the "Income Approach to Value" course and reference is made here to that course for further instructions and details. Finally, the value derived for the property based on an income approach necessarily includes any personal property associated with the operation of that property. Great care should be taken then to ensure that the included personal property is not double assessed.

As previously stated, this income approach to value is based on the value of anticipated income or profit an owner can derive from the property. Simply put, "What would a prudent investor pay to acquire a given income stream over a set period of time or as of a set date?" The same economic principles, namely supply and demand, substitution, competition, and anticipation, affecting the cost and market approaches, influence the income approach as well. However, since the income approach is based on the value of a cash flow over time, the primary focus of the procedure is the quantification, not just influence, of the principal of anticipation.

The formula for the income approach is expressed as $\text{Value} = \text{Income}/\text{Rate}$. Here value expresses the result, or value of the property. Income is the Net Operating Income or Gross Income less allowed expenses. Rate represents a capitalization rate. Expressed as a decimal, the Cap Rate converts an income to value by incorporating previously mentioned principles of economics, as gleaned from the market, for a typical and prudent investor.

The data collected for use of the income approach must be sufficient, complete, and reliable. The typical investor's intent and goals within the current market must be apparent. Sources used to gather this data include but are not limited to investment surveys, the Texas Comptroller's website, and the annual Texas Hotel/Motel Factbook. In cases where the income approach is utilized, accurate and typical income and expense data must be collected and scrutinized by the appraiser to make sure the data accurately reflects the potential of the property. The income and expenses must be attributable to the ownership and operation of the property, not the business, for it to be considered in the calculation. Once expenses are deducted from income, and a Net Operating Income (NOI) is determined the property value is calculated by dividing the NOI by an appropriate CAP Rate. Industry, financial, and market publications are researched annually to determine appropriate CAP Rates for particular property types in that year. The CAP Rate used in local valuation is derived from this research and adjusted by the Appraisal Supervisor and/or Chief Appraiser for local conditions. The process is the same as that taught in "The Income Approach to Value" course and reference is made here to that course for further instructions and details. Finally, the value derived for the property based on the income approach necessarily includes personal property associated with the operation of that property. Care should be taken to ensure that the personal property is not double assessed.

Data Collection

The three main types of data necessary for use in the income approach are property income, expenses related to the operation of the real estate and economic/market information related to real estate investment in the local market. Interviews with property owners or managers are the primary collection tool. Property owners and managers consider their income and expense information confidential, and oftentimes refuse to provide the information. Further, property owners and managers may not fully comprehend the economic and market forces at work in their own financial decisions.

Therefore, information collected to determine Capitalization Rates may be incomplete or misleading.

Income data - At each interview, record all income sources to the property. This includes both primary sources, the use of the building (rents, leases, etc.) and secondary sources such as parking, vending, and service income. As an adjustment to income, record vacancy and collection loss information.

Expense data - At each interview, record typical, prudent and necessary expenses for the operation of the property. Some owners and managers may not fully understand the difference between allowable and non-allowable expenses. In the appraisal of real estate, only expenses necessary and reasonable for the operation and maintenance of the real estate are allowable. Expenses attributable to the business or ownership are not allowable. Examples of allowable expenses include:

- Maintenance and Repair
- Property Insurance
- Janitorial
- Grounds Maintenance
- Legal Fees
- License Fees
- Salaries and Wages
- Office Expenses
- Supplies
- Utilities/Internet/Telephone
- Management
- Accounting Fees
- Advertising Fees
- Property Taxes
- Reserves or Replacement

Non-Allowable Expenses

- Capital Expenditures
- Income Taxes of the business or owner
- Loan fees
- Mortgage Interest and Debt Service
- Depreciation
- Non-typical expenses (repairs due to accident or calamity)

Market (Capitalization Rate) Data - At each interview, record the owner's expected or anticipated return. Take note of intentions and motivations, as they often will reflect on the financial decision made, and whether the decision was influenced by considerations beyond the scope of market value. These considerations may include historical value, consumptive value, philanthropic motivations, intangible value, or unrealistic expectations.

Industrial or Governmental Data - The secondary, and often more reliable and obtainable, data collection tool is reports from outside sources, including industrial publications and governmental reports. Lacking local cooperation from property owners, these reports are often the only source of the necessary data.

Development of Market Income and Expenses

The collection of sufficient, reliable, and complete income and expense data for typical properties allows the development of market incomes and expenses, in other words "market norms" for the property types. These "market norms" can then be applied to similar properties to calculate a typical value that will be both accurate

and uniform across the market. Equality and uniformity among similar properties and within property classes is assured by using the market derived income and expenses. These market norms should be used, when and if calculated, unless using the actual income and expenses for that property are required by statute. Using each property where data was collected, determine the typical income per unit of measure (i.e. square foot, cubic foot, rental unit, etc.) for that property type. Then, determine the typical vacancy or collection loss adjustment for the property type. Next, calculate the allowable expenses for each property sampled. Market expenses are usually calculated as a percentage of the potential income and expressed as Expense Ratios. Comparing the various expense ratios within the property type allows the determination of the typical market expense.

Variations within both the income and expense data in the sample should be addressed. No two properties are the same. Any differences in amenities, location, or other factors affecting either the income or expenses of a particular property may necessitate the adjustment of the individual income or expenses prior to the determination of the market norm. These adjustments are applied at the discretion of the Chief Appraiser or the Appraisal Supervisor.

Subtracting the typical allowable expense ratio from the typically adjusted income per unit leaves the Net Operating Income (NOI) per unit. Capitalization of the typical NOI produces the typical value per unit for the property type. This typical value per unit can then be applied to similar properties. Adjustments for size, condition, or other economic factors can then be applied on a case by case basis. These adjustments are applied at the discretion of the Chief Appraiser or the Appraisal Supervisor.

In a mass appraisal system, these calculations are extremely important. Individual properties will display variances from typical, but it is essential that the CAD determine what is typical within the local market and use the typical "market norm" to reflect highest and best use of the property. Many of the variances can be explained by poor Management, bad financial decisions, or owner apathy which would have little effect on the market value of the real estate.

Development of a Capitalization Rate

The Capitalization Rate used to convert the typical NOI of a property must also be typical for the market. There are three methods of determining the typical Capitalization Rate for the TGCAD. The preferred method is the first one.

1. Market Determination - Using the sale price of a property and the calculated typical NOI of that property, the $\text{Income} = \text{Value} / \text{Rate}$ formula can be used to determine the Capitalization rate inherent in that transaction. Comparing multiple transactions, a typical Capitalization Rate becomes apparent.
2. Built-up (Summation) Method - Lacking the sales necessary to do the aforementioned calculation, a Capitalization Rate can be developed by determining the local, typical values of each of the four components of a Capitalization Rate, the Safe Rate, the Risk Rate, the Non-Liquidity Rate, and the Management Rate. This method adds up the four components of the overall rate individually. The Safe Rate is the rate that could be gained on a riskless investment in an alternative venture, such as Certificates of Deposits or guaranteed government bonds. The next portion of the overall rate is the Risk Rate. This portion is the additional return one must expect in order to reasonably make the investment. The third part of the calculation is the Non-Liquidity Rate. This rate corresponds to the return one would expect to offset the day-to-day consequence in having a substantial part of one's assets tied up in a long term investment and the costs (both in time and money) associated with liquidating the asset. The last part of the overall rate is the return one would reasonably expect in managing an investment of this size in this location. Each portion of the Capitalization Rate must be determined by in-depth research in the local market. Local financial consultants, bankers, real estate investors provide the most accurate data.

3. Financial and Investment Publications - Many financial and investment organizations publish their own determinations of typical Capitalization Rates.

Different property types will require different Capitalization Rates. Just as the different property types will have unique typical income and expense ratios, the Capitalization Rate for each property type will vary due to investor expectations due to risk, economic outlook, supply and demand, etc. The Capitalization Rate may also be affected within property types. Just as location, age, amenities, and other factors may affect both income and expenses, the same factors can also affect the Capitalization Rate for that particular property. The typical Capitalization Rate may need adjustments based on the particulars of the individual property being appraised. These adjustments are applied at the discretion of the Chief Appraiser or the Appraisal Supervisor.

The collection of data, including income and expenses, establishment of market income and expenses, and the development of property type Capitalization Rates must be done annually.

Discounted Rates

Discounted Cash Flow calculations offer an alternative method of income approach valuation. Rather than taking a "snapshot" of one year's income and expenses for the subject property, this method considers an investor's holding period and the estimated changes in the property's cash flow over that holding period. The DCF approach requires more in-depth research into the local markets. The discount rate, used to convert future income to present value, is primarily based on prevailing interest rates. The determination of the discount rate to be used in a local evaluation is heavily influenced by information provided by local investors and industry publications. The Chief Appraiser or the appraisal supervisor makes the final determination for the discount rate to be used on any DCF valuation.

Property Types

Income, expense, and Capitalization information must be grouped by property type in order to appropriately apply the conclusions in a mass appraisal system. Once grouped, the information provides benchmarks to estimate the market value of specific properties, as well as providing standards for the adjustment of individual property's data during collection. If the market and economy of Loving CAD changes and income property is introduced into the county a listing of the types of income producing properties will be generated at that time.

Income Approach Examples

Scenario 1: Valuation of a strip mall. Market data is insufficient to establish typical incomes, expenses, and there are no sales available to determine a market derived Capitalization Rate.

- o Income determined to be \$0.50 per square foot, per month.
- o Vacancy and Collection Loss reported at 18% annually.
- o Expenses are \$33,000 annually.
- o Local Capitalization Rates for this type of property investment is 10.5%.
- o The strip mall measures 10,000 square feet.
- o Additional parking income of \$5,000 per year.

Gross Potential Rent	10,000 X .50 X 12	60,000
Less Vacancy	18% of\$60,000	-10,800
Plus Effective Gross Rent	Additional Income	<u>5,000</u>
Effective Gross Income		54,200
Less Allowable Expenses		<u>-33,000</u>
<u>Net Operating Income</u>		21,200
Capitalization	21,200 / .105	Value= \$201,905

Scenario 2: Valuation of a Hotel. Average Daily Room Rate, Occupancy Rate, Secondary Income, and Expense Ratio have been established for the property type.

- o Number of Rooms= 150.
- o Average Daily Room Rate= \$120.
- o Occupancy= 65%.
- o Secondary Income= 2% of Gross Potential.
- o Expense Ratio = 68% of Gross Potential
- o Local Capitalization Rates for this type of property investment is 11.5%.

Gross Potential Rent	150 x 120 x 365	6,570,000
Occupancy Adjustment	65% of Potential	4,270,500
Secondary Income	2% of Potential	<u>131,400</u>
Effective Gross Income		4,401,900
Less Allowable Expenses	68% of Occupancy Adjusted	<u>2,903,940</u>
<u>Net Operating Income</u>		1,497,960

Capitalization 1,497,960 / .115 Value= \$13,025,739

Appraisal of Personal Property

The appraisal of income producing personal property is conducted annually. Items not permanently affixed to a building are personal property. Usually, an item is personal property if it can be removed without damage to fixed property or the item.

General Procedures:

1. On or around January 1st, information is gathered by checking prior year's tax roll. Additional information is obtained through newspapers, and radio/tv advertisements. This may discover new businesses as well as expansions. Also, the telephone directory yellow pages are scanned to discover new businesses and expansions, and the County is driven to look for new businesses. A list is maintained throughout the year of new business and businesses that have been closed. As mentioned earlier, inspections of commercial real estate offer a perfect opportunity to re-evaluate and verify business personal property, not to mention contact business operators and/or owners. New businesses are specifically targeted for personal visitation by appraisers, usually during other property rechecks. Time is set aside to compile the necessary information to set up the Personal Property account, to discuss the rendition process, and to make preliminary accounting of the Personal Property involved.
2. Rendition forms are mailed to all businesses by January 15th each year. Also, a list, from the Office of the Comptroller, of active sales tax permit holders is examined and forms mailed to each new business listed.
3. Compare renditions as received to the information obtain during the field inspection

4. As renditions are received the records are coded, and a 10% penalty is assessed to any business that did not render by April 15th unless an extension was received.

Personal Property such as Machinery, Equipment, Vehicles, and Furniture and Fixtures are normally valued using replacement cost less depreciation. Inventories are valued as of January 1st each year at the cost of goods on hand as of January 1st.

TGCAD strives to choose the most appropriate method of appraisal for each property, ever mindful to maintain fairness and equality with in the local general market.

3. Jurisdiction Codes

Jurisdictions are usually political sub-divisions of the State with the power to levy and collect property taxes. Jurisdictions are specifically delineated areas. Each property parcel is coded for each and all Jurisdictions that have authority over that parcel. Jurisdiction codes may also be used to define certain areas that may not levy taxes.

TGCAD uses the following Jurisdiction Codes:

Code	Jurisdiction Name
CH	CHRISTOVAL ISD
CT	CITY OF SAN ANGELO
GC	GRAPE CREEK ISD
IC	IRION COUNTY WATER DIST
LK	LIPAN KICKAPOO WATER DIST
ML	MILES ISD
RC	RED CREEK M.U.D.
SA	SAN ANGELO ISD
SC	STERLING COUNTY WATER DIS
FD	TGC EMERGENCY SERVICES #1
CR	TOM GREEN COUNTY
VB	VERIBEST ISD
WL	WALL ISD
WV	WATER VALLEY ISD

These codes are assigned to each parcel in accordance with its location within the Tom Green County Appraisal District and are found listed on both the parcel records in the computer system and on the property appraisal card. During inspection, the Jurisdiction Codes should be verified for each parcel.

4. Exemption Codes

As authorized by the Texas Property Tax Code, various homestead exemptions can be applied to qualifying properties as determined by the Chief Appraiser. As each property is inspected, note whether an exemption is in place on the property records, and try to verify with the occupancy of the property. Record on the property card and report to the Chief Appraiser any discrepancies in exemption status that may be discovered during a property inspection, including improperly granted homesteads, property that could qualify for homestead, and changes in the homeowner's status that could change the homestead qualified for.

Homestead CAP- As authorized by the Texas Property Tax Code, various homestead exemptions can be applied to qualifying properties as determined by the Chief Appraiser. As each property is inspected, note whether an exemption is in place on the property records, and try to verify with the occupancy of the property. Record on the property card and report to the Chief Appraiser any discrepancies in exemption status that may be discovered during a property inspection, including improperly granted homesteads, property that could qualify for homestead, and changes in the homeowner' s status that could change the homestead qualified for. Article VIII, Sec.I (i) of the Texas constitution allows the legislature to limit the annual percentage increase in the appraised value of a residence homestead to 10% under certain circumstances. This limitation is commonly referred to as the Homestead "Capped Value." The limited increase to value begins in the second year the property owner qualifies for a residential homestead exemption.

The appraised value of a qualified residential homestead will be the lesser of:

- The market value or preceding year's appraised value Plus 10% or
- The market value or the preceding year's appraised value Plus 10% Plus the value of any new improvements that were added.

An improvement made to the property that would otherwise constitute a new improvement is not treated as such if it is a replacement of a structure that became unusable by a casualty such as wind, fire, or water damage.

The limited appraised value must be recomputed annually. The appraised value of the homestead increases annually or until the appraised value is equal to the market value.

For Example: Market Value= \$150,000
Appraised Value = \$90,000

The appraised value will increase by 10% annually until it reaches \$150,000.

If a "capped" property sells, the cap will expire on January 1st of the year following the sale of the property.

TGCAD's appraisal software automatically calculates the homestead cap for qualifying properties. Therefore, great care is taken during data entry. However, assemblage (inclusion in the legal description of land not included in the previous year) must be calculated by hand and the computer updated by staff when a New Homestead Form is processed.

Exemption Code	Description
D	Disabled
DV	Disabled Veteran 100% General
DVD	Disabled Veteran 100% Disabled
DVF	Disabled Veteran 100% Over 55
DVFA	VET 100% OVER 55 KIA
DVH	Disabled Veteran 100% Homestead
DVS	Disabled Veteran 100% Over 65
F	Over 55
FD	Over 55 Disabled
FR	FIRST RESPONDER
H	Homestead
PD	Partial Disabled
PH	Partial Homestead Local Option Apply Pct HS
PS	Partial Over 65
S	Over 65

5. Category Codes

Each property is described with Category Codes (formerly known as TEA Codes). These codes allow the CAD to separate properties individually and in groups for a multitude of purposes, not the least of which is reporting to the State Comptroller's office. All properties will fall within one of the following categories.

Category Code	Description
A1	SINGLE FAMILY RESIDENCE
A2	SINGLE FAMILY RESIDENCE MOBILE HOME
A3	SINGLE FAMILY RESIDENCE (CONDOMINIUM/VILLA)
A4	SINGLE FAMILY RESIDENCE (TOWNHOUSE/CHALET) 5.000
A5	SINGLE FAMILY RESIDENCE (MISC IMPS SEPTIC/SEWER)
A6	SINGLE FAMILY RESIDENCE UNDER CONSTRUCTION
B1	MULTIFAMILY RESIDENCE (APARTMENT HOUSE)
B2	MULTI-FAMILY RESIDENCE (DUPLEX)
B3	MULTI-FAMILY RESIDENCE (TRIPLEX)
B4	MULTI-FAMILY RESIDENCE (QUADPLEX)
C1	RESIDENTIAL VACANT LOT
C2	COMMERCIAL VACANT LAND 5.000 ACRES OR LESS
C3	RURAL VACANT LOT
D1	QUALIFIED OPEN SPACE LAND
D2	FARM OR RANCH IMPR ON QUALIFIED OPEN-SPACELND
E1	SINGLE FAMILY RESIDENCE (HOUSE) > 5.000 ACRES
E2	SINGLE FAMILY RESIDENCE (MH) > 5.000 ACRES
E3	MISCELLANEOUS IMPROVEMENT > 5.000 ACRES
F1	COMMERCIAL REAL PROPERTY
F2	INDUSTRIAL REAL PROPERTY
G1	REAL, MINERALS, OIL & GAS. PRODUCING
G1C	SALT WATER DISPOSAL WELL
G2	REAL, OTHER MINERAL RESERVES
J1	WATER SYSTEMS
J2	GAS COMPANIES
J3	ELECTRIC COMPANIES
J4	TELEPHONE COMPANY
J5	RAILROAD
J6	PIPELINE COMPANY
J6A	PIPELINES - OTHER PERSONAL
J7	CABLE TELIVISION COMPANY
J8	OTHER TYPE OF UTILITY
L1	COMMERCIAL (BUSINESS) PERSONAL PROPERTY
L1A	AIRCRAFT - BUSINESS USE
L2	INDUSTRIAL PERSONAL PROPERTY
L2P	INDUS - RADIO TOWERS
L2Q	INDUS - RADIO TOWER EQUIPMENT
L5	POLLUTION CONTROL ETHICON
M1	TANGIBLE PERSONAL, MANUFACTURED HOUSING
M2	TANGIBLE PERSONAL, OTHER
M7	PERSONAL USE AIRCRAFT
MP	EXEMPT - PERSONAL
NP	TOTALLY EXEMPT PROPERTY
NT	NOT TAXABLE PP UNDER \$500
O1	RESIDENTIAL INVENTORY VACANT LAND
S1	VIT-HEI
XB	INCOME PRODUCING PP UNDER \$500
XE	COMUNITY HOUSING DEV ORGANIZATIONS
XG	PRIMARILY PERFORMING CHARITABLE FUNCTIONS
XI	YOUTH, SPIRITUAL, MENTAL & PHYSICAL DEVELOPMENT
XJ	PRIVATE SCHOOLS
XN	LEASED PERSONAL USE EXEMPT
XO	PERSONAL USE & PROD OF INCOME
XR	NONPROFIT WATER OR WASTEWATER CORP
XU	MISCELLANEOUS EXEMPTION
XV	PUBLIC-RELIGIOUS-CHARITABLE ORGANIZATIONS

****Improvements (other than residences) associated w/ Category D property should be coded as Category D2. These improvements would include barns, sheds, farm warehouses, or other improvements associated with ranching and/or farming.*

6. Depreciation

Over time, all structures will lose value as compared to newly constructed buildings of comparable use. This loss in value is referred to as depreciation. The three main types of depreciation, physical, functional, and economic, must be considered and estimated (if appropriate) to each property inspected.

Physical depreciation is the loss of value from natural aging and deterioration. Functional depreciation is value lost to a particular property due to market pressures in the form of buyer's tastes and preferences, and how they have changed over time. These effects are normally specific to the market area and include, but are not limited to: unusual floor plans, second floors, basements, and marked, specific deterioration of the structure or its components beyond the scope of overall physical depreciation.

Economic depreciation refers to value lost to a specific property (or group of properties) due to effects outside the property itself. Most often caused by location, a property's value can be affected by where it is or what surrounds it.

- **Physical Depreciation** - Over time, a structure loses value due to the wasting away of materials, and this may be accelerated by deferring necessary maintenance. Expressed as a condition grade and a building age, all properties have their physical depreciation estimated at inspection. The combination of the condition grade and age gives a "percent good" reflecting the remaining value of the structure.
- **Functional Depreciation** - Oftentimes a property will exhibit characteristics that will affect its value, either positively or negatively, when compared to the typical format for that structure. These characteristics need to be addressed when estimating the market value. A few examples will be helpful.
 1. Second floors are less functional and often less desirable to buyers. Therefore, the living area on a second floor has less value per square foot than the corresponding living area on the first floor.
 2. Enclosed garages, porches, or additions often have less utility than the original living area due to the quality or completeness of the renovation.
 3. Room arrangements that are obviously poorly planned creating flow problems and inconveniences will affect the marketability of a property.
 4. Structures that have extra amenities, such as more than typical insulation, superior air conditioning systems, intricate water filtration systems, specialty fixtures, custom cabinetry, etc., can all increase the value of a structure when compared to typical.
- **Economic Depreciation** - If a property's value is affected by conditions or situations outside the property itself, the result is economic depreciation. As with physical depreciation, the result can be either positive or negative. Although logical and often easy to imagine, economic depreciation is the most difficult adjustment to estimate because it is the most difficult to prove within the given market conditions. As such, adjustments for economic depreciation should be approached very carefully and only in situations where the estimated affect is obvious and significant.

- Examples are:
 1. Residential property located in areas that are not primarily residential in nature.
 2. Homes that are significantly larger (or smaller) than the typical home in a given neighborhood.
 3. Commercial property subject to excessive regulation, or to income-limiting contracts.

All forms of depreciation should be considered when inspecting a property. Functional and economic depreciation may not be appropriate for a given structure, but details affecting the decision to apply must be noted and justified during inspection. In that the TGCAD estimates values from a statistical model (mass appraisal), the functional and economic factors discussed above are deviations from the market norm for a particular property. Consequently, both functional and economic adjustments can be either positive or negative depending on the specific attributes of the property inspected.

Physical Depreciation is estimated using the descriptions and table listed below to determine an appropriate Percent Good (value remaining or the inverse of Depreciation). Superior maintenance or appearance (condition) and below-average maintenance or appearance (condition) affect the loss in value over time and must be noted in order to apply depreciation appropriately in comparison to like properties. Either the built year (if known) or an "effective" year must be determined at inspection.

The "effective" year gives the relative age of the structure given its level of maintenance. The useful life of residential and commercial structures is approximately 50 years. Beyond that age, utility and function are limited such that the building is no longer enhancing the value of the property. The structure may have limited value and use but could be feasibly replaced with a new structure. The life of a structure can be extended if maintenance issues are addressed as they arise. A house that has been properly maintained over its life, i.e. roof repairs/replacement, painting, foundation repairs, wiring/plumbing modernization, renovation, etc., can have an effective age of 20 years when its actual age may be in excess of 100 years. In other words, protecting or enhancing the investment in your property extends its life and extends its value over time. Effective age is determined by estimating the remaining life of a structure. For example, a residence could be in excess of 100 years of actual age. However, with timely repair, rehabilitation, or renovation, the structure may be comparable to a residence of only 10-20 years of age. Physical depreciation is based on the effective age, in conjunction with the observed condition of the structure.

CDU Rating Guide NOTE: NEED TGCAD INFO FOR THIS SECTION

Condition, Desirability, and Utility

CDU Rating	Code Used	Definition and Description
Excellent	EXEL	Building is in perfect condition-very attractive and highly desirable
Good	GOOD	Very slight evidence of deterioration-still attractive and quite desirable
Average	AVERAGE	Only normal wear and tear is apparent- average attractiveness and desirability
Fair	FAIR	Marked deterioration-but quite usable, rather unattractive and undesirable
Poor	POOR	Definite deterioration is obvious-definitely undesirable but moderately useful
Very Poor	VPOOR	Condition approaches unsound; extremely undesirable and barely usable

The Residential Depreciation Schedule is as follows:

DEPP - Poor		DEPF - Fair		DEPA - Average		DEPG - Good		DEPE - Excellent		DEPS - Superior	
Age	Percentage	Age	Percentage	Age	Percentage	Age	Percentage	Age	Percentage	Age	Percentage
0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
1	-0.01	1	-0.01	1	-0.01	1	-0.01	1	-0.01	1	0.00
2	-0.03	2	-0.02	2	-0.02	2	-0.01	2	-0.01	2	-0.01
3	-0.04	3	-0.03	3	-0.03	3	-0.02	3	-0.02	3	-0.01
4	-0.05	4	-0.04	4	-0.03	4	-0.03	4	-0.02	4	-0.01
5	-0.07	5	-0.05	5	-0.04	5	-0.03	5	-0.03	5	-0.02
6	-0.08	6	-0.06	6	-0.05	6	-0.04	6	-0.03	6	-0.02
7	-0.09	7	-0.07	7	-0.06	7	-0.05	7	-0.04	7	-0.02
8	-0.10	8	-0.08	8	-0.07	8	-0.05	8	-0.04	8	-0.03
9	-0.12	9	-0.09	9	-0.08	9	-0.06	9	-0.04	9	-0.03
10	-0.13	10	-0.10	10	-0.08	10	-0.06	10	-0.05	10	-0.03
11	-0.14	11	-0.11	11	-0.09	11	-0.07	11	-0.05	11	-0.04
12	-0.16	12	-0.12	12	-0.10	12	-0.08	12	-0.06	12	-0.04
13	-0.17	13	-0.13	13	-0.11	13	-0.08	13	-0.06	13	-0.05
14	-0.18	14	-0.14	14	-0.12	14	-0.09	14	-0.07	14	-0.05
15	-0.20	15	-0.16	15	-0.13	15	-0.10	15	-0.07	15	-0.05
16	-0.21	16	-0.17	16	-0.14	16	-0.10	16	-0.08	16	-0.06
17	-0.22	17	-0.18	17	-0.14	17	-0.11	17	-0.08	17	-0.06
18	-0.23	18	-0.19	18	-0.15	18	-0.12	18	-0.08	18	-0.06
19	-0.25	19	-0.20	19	-0.16	19	-0.12	19	-0.09	19	-0.07
20	-0.26	20	-0.21	20	-0.17	20	-0.13	20	-0.09	20	-0.07
21	-0.27	21	-0.22	21	-0.18	21	-0.14	21	-0.10	21	-0.07
22	-0.29	22	-0.23	22	-0.19	22	-0.14	22	-0.10	22	-0.08
23	-0.30	23	-0.24	23	-0.19	23	-0.15	23	-0.11	23	-0.08
24	-0.31	24	-0.25	24	-0.20	24	-0.16	24	-0.11	24	-0.08
25	-0.33	25	-0.26	25	-0.21	25	-0.16	25	-0.11	25	-0.09
26	-0.34	26	-0.27	26	-0.22	26	-0.17	26	-0.12	26	-0.09
27	-0.35	27	-0.28	27	-0.23	27	-0.17	27	-0.12	27	-0.09
28	-0.36	28	-0.29	28	-0.24	28	-0.18	28	-0.13	28	-0.10
29	-0.38	29	-0.30	29	-0.25	29	-0.19	29	-0.13	29	-0.10
30	-0.39	30	-0.31	30	-0.25	30	-0.19	30	-0.14	30	-0.10
31	-0.40	31	-0.32	31	-0.26	31	-0.20	31	-0.14	31	-0.11
32	-0.42	32	-0.33	32	-0.27	32	-0.21	32	-0.14	32	-0.11
33	-0.43	33	-0.34	33	-0.28	33	-0.21	33	-0.15	33	-0.11
34	-0.44	34	-0.35	34	-0.29	34	-0.22	34	-0.15	34	-0.12
35	-0.46	35	-0.36	35	-0.30	35	-0.23	35	-0.16	35	-0.12
36	-0.47	36	-0.37	36	-0.31	36	-0.23	36	-0.16	36	-0.12
37	-0.48	37	-0.38	37	-0.31	37	-0.24	37	-0.17	37	-0.13
38	-0.49	38	-0.39	38	-0.32	38	-0.25	38	-0.17	38	-0.13
39	-0.51	39	-0.40	39	-0.33	39	-0.25	39	-0.18	39	-0.14
40	-0.52	40	-0.41	40	-0.34	40	-0.26	40	-0.18	40	-0.14
41	-0.53	41	-0.42	41	-0.35	41	-0.27	41	-0.18	41	-0.14
42	-0.55	42	-0.43	42	-0.36	42	-0.27	42	-0.19	42	-0.15
43	-0.56	43	-0.44	43	-0.36	43	-0.28	43	-0.19	43	-0.15
44	-0.57	44	-0.46	44	-0.37	44	-0.29	44	-0.20	44	-0.15
45	-0.59	45	-0.47	45	-0.38	45	-0.29	45	-0.20	45	-0.16
46	-0.60	46	-0.48	46	-0.39	46	-0.30	46	-0.21	46	-0.16
47	-0.61	47	-0.49	47	-0.40	47	-0.30	47	-0.21	47	-0.16
48	-0.62	48	-0.50	48	-0.41	48	-0.31	48	-0.21	48	-0.17
49	-0.64	49	-0.51	49	-0.42	49	-0.32	49	-0.22	49	-0.17
50	-0.65	50	-0.52	50	-0.42	50	-0.32	50	-0.22	50	-0.17
51	-0.66	51	-0.53	51	-0.43	51	-0.33	51	-0.23	51	-0.18
52	-0.68	52	-0.54	52	-0.44	52	-0.34	52	-0.23	52	-0.18
53	-0.69	53	-0.55	53	-0.45	53	-0.34	53	-0.24	53	-0.18
54	-0.70	54	-0.56	54	-0.46	54	-0.35	54	-0.24	54	-0.19
55	-0.72	55	-0.57	55	-0.47	55	-0.36	55	-0.24	55	-0.19
56	-0.73	56	-0.58	56	-0.47	56	-0.36	56	-0.25	56	-0.19
57	-0.74	57	-0.59	57	-0.48	57	-0.37	57	-0.25	57	-0.20
58	-0.75	58	-0.60	58	-0.49	58	-0.38	58	-0.26	58	-0.20
59	-0.77	59	-0.61	59	-0.50	59	-0.38	59	-0.26	59	-0.20
60	-0.78	60	-0.62	60	-0.51	60	-0.39	60	-0.27	60	-0.21
61	-0.79	61	-0.63	61	-0.52	61	-0.40	61	-0.27	61	-0.21
62	-0.81	62	-0.64	62	-0.53	62	-0.40	62	-0.28	62	-0.21
63	-0.82	63	-0.65	63	-0.53	63	-0.41	63	-0.28	63	-0.22
64	-0.83	64	-0.66	64	-0.54	64	-0.41	64	-0.28	64	-0.22
65	-0.85	65	-0.67	65	-0.55	65	-0.42	65	-0.29	65	-0.23
66	-0.86	66	-0.68	66	-0.56	66	-0.43	66	-0.29	66	-0.23
67	-0.87	67	-0.69	67	-0.57	67	-0.43	67	-0.30	67	-0.23
68	-0.89	68	-0.70	68	-0.58	68	-0.44	68	-0.30	68	-0.24
69	-0.90	69	-0.71	69	-0.58	69	-0.45	69	-0.31	69	-0.24
70	-0.90	70	-0.72	70	-0.59	70	-0.45	70	-0.31	70	-0.24
71+	-0.90	71+	-0.72	71+	-0.60	71+	-0.45	71+	-0.31	71+	-0.24

Personal Property Depreciation NOTE: NEED TGCAD INFO FOR THIS SECTION

The following table illustrates the percent good factors applied to discovered and rendered Business Personal Property. Tom Green County Appraisal District lacks sufficient information to develop typical schedules for business types. Owner Renditions and/or appraiser inspections determine Personal Property valuation. Individual assets are depreciated from original cost by the actual or effective age.

**Personal Property Depreciation Guide
Furniture, Fixtures, Machinery, and Equipment**

TOM GREEN COUNTY APPRAISAL DISTRICT
COST INDEXING AND DEPRECIATION SCHEDULES
COMMERCIAL PERSONAL PROPERTY
2022

Effect Age In Years	X	Year	INDEXING		X	TYPICAL LIFE EXPECTANCY									
			Furn & Fixtures	Mach & Equip		2 Yr Life	3 Yr Life	4 Yr Life	5 Yr Life	8 Yr Life	10 Yr Life	12 Yr Life	15 Yr Life	20 Yr Life	
			X	X		X	X	X	X	X	X	X	X	X	
	X				X	PERCENTAGE GOOD									
1	X	2021	X	1.000	1.000	X	40	78	83	85	90	91	93	95	96
2	X	2020	X	1.068	1.083	X	20	56	66	70	80	82	86	90	92
3	X	2019	X	1.080	1.080	X	10	35	49	55	70	73	79	85	88
4	X	2018	X	1.115	1.119	X		13	32	40	60	64	72	80	84
5	X	2017	X	1.147	1.158	X		10	15	25	50	55	65	75	80
6	X	2016	X	1.165	1.183	X			10	10	40	46	58	70	76
7	X	2015	X	1.165	1.167	X					30	37	51	65	72
8	X	2014	X	1.180	1.173	X					20	28	44	60	68
9	X	2013	X	1.194	1.186	X					10	19	37	55	64
10	X	2012	X	1.197	1.186	X						10	30	50	60
11	X	2011	X	1.225	1.222	X							23	45	56
12	X	2010	X	1.256	1.263	X							16	40	52
13	X	2009	X	1.253	1.239	X							10	35	48
14	X	2008	X	1.288	1.286	X								30	44
15	X	2007	X	1.330	1.335	X								25	40
16	X	2006	X	1.385	1.409	X								20	36
17	X	2005	X	1.441	1.471	X								15	32
18	X	2004	X	1.523	1.588	X								10	28
19	X	2003	X	1.582	1.665	X									27
20	X	2002	X	1.588	1.665	X									26
21	X	2001	X	1.602	1.668	X									25
22	X	2000	X	1.628	1.680	X									20
23	X	1999	X	1.631	1.703	X									18
24	X	1998	X	1.644	1.703	X									16
25	X	1997	X	1.663	1.719	X									12
26	X	1996	X	1.690	1.741	X									10
27	X	1995	X	1.739	1.771	X									
28	X	1994	X	1.783	1.840	X									
29	X	1993	X	1.810	1.886	X									
30	X	1992	X	1.826	1.914	X									

3 YR- FURNITURE/ELECTRONIC RENTAL EQUIP
 4 YR- MACHINERY/EQUIP(TIRES) RENTAL EQUIP
 5 YR - GAS PUMPS, ELECTRONIC EQUIP, SECURITY SYSTEM
 5 YR - COPIERS, LANDSCAPE EQUIP
 8 YR - OFFICE EQUIPMENT (telephone, calculator, etc.)
 8 YR - RESTAURANT EQ, MEDICAL EQUIPMENT
 10 YR - FURNITURE, FIXTURES, MACHINERY & EQUIPMENT
 10 YR - ELECTRONIC SIGNS
 12 YR - FORKLIFTS, PALLET TRUCKS, CONST EQUIPMENT
 15 YR - INDUSTRIAL & EXCAVATION EQUIPMENT
 20 YR - TANKS, PIPING, ETC.

COMPUTERS AND COMPUTER RELATED EQUIPMENT - "NOT INDEXED"

Effect Age In Years	X	Year	X	TYPICAL LIFE EXPECTANCY			
				X	X	5 Yr	8 Yr
						Life	Life
	X		X				5 YR - PC COMPUTERS
1	X	2021	X	-	-	X	
2	X	2020	X	-	-	X	
3	X	2019	X	-	-	X	
4	X	2018	X	-	-	X	
5	X	2017	X	-	-	X	
6	X	2016	X	-	-	X	
7	X	2015	X	-	-	X	
8	X	2014	X	-	-	X	
9	X	2013	X	-	-	X	
10	X	2012	X	-	-	X	8 YR - MAINFRAME COMPUTERS

7. Building Codes & Descriptions

Code	Description	Code	Description	Code	Description
#UNITS	QTY. OF UNITS	940	BOAT DOCK	3780	COMN AREA/BLDG
110	MOTEL	970	LIVING QTRS	3790	PAVILION
160	MH STORAGE	1010	GARAGE-METAL	3820	MANUFAC PLANT
170	CABIN	1020	CARPORT-METAL	3830	HORSE ARENA
180	CABANA	1050	GUEST HOUSE	3850	PROCESSING PLT
290	DET GAR & STG	1060	COVERED DOCK	3860	CONTROL TOWER
310	3RD FLOOR/STRY	1070	MH CANOPY	3870	RADIO TOWER
320	PATIO & STG	1080	CABIN BATH ADD	4100	PWR PLNT BLDG
350	COMM RES 1	1090	STORM CELLAR	6990	ARENA
380	ENCLSD/CARPORT	1100	TOTAL IMPRVMT	7050	BUNKHOUSE
390	ATCH GAR & STG	1110	PIER	7150	DAIRIES
400	HOUSE	1130	BOAT RAMP	7350	POULTRY
410	APT ON LOT	1140	SEA WALL	7550	GRAIN BINS
420	MOBILE HOME	1190	POOL ENCLOSURE	7560	FEED TANKS
430	COTTAGE	1300	CONDO	7590	SCALES
440	TOWNHOUSE	1900	A/C HANGER	7600	BOXCAR
450	DUPLEX	1930	CHURCH	7610	SILLO
460	PATIO HOMES	2000	INDUST PLT	7700	WIND GENERATOR
470	RES-UNFINISHED	2130	COMM BLDG	ACVTYCRT	SPORT ACTIVITY CRT
480	TRAVEL TRLR	2780	MH HOOKUPS	APARTMENT5	APARTMENTS POOR/LOW
490	QUADRAPLEX	2800	REC FACIL	APT0L	APT LEASABLE SQFT BEST
500	ATTCH/GAR	2840	DAY CARE CENTR	APT1L	APARTMENT1 LEASABLE SQFT
510	DETHD/GAR	2850	LAUNDRY	APT2L	APARTMENT2 LEASABLE SQFT
520	ENCLSD/GAR	2900	CAR WASH	APT3L	APARTMENT3 LEASABLE SQFT
540	CPT/PATIO	2910	DOG KENNEL	APT4L	APARTMENT4 LEASABLE SQFT
550	CARPORT	3010	SWIM POOL	APTMNT	APARTMENT
560	CPT/OP	3040	ATTCH/GAR	APTMNT1	APARTMENTS 1 GOOD
570	CPTSTG	3050	DETH/GAR	APTMNT2	APARTMENT AVRG
580	BASEMENT	3060	COV/PRKNG	APTMNT3	APARTMENT LOW QUAL
590	BOAT PORT	3100	STG/ATTCH	ASPHLT	ASPHALT
600	O/C PORCH	3110	STG/DETH	ATTGAR1	ATTCH/GAR
620	GLASS PRCH	3120	UPPER STG	ATTGAR3	ATTCH/GAR
630	ENC/PORCH	3150	CLUB HOUSE	ATTGAR4	ATTCH/GAR
640	BREEZEWAY	3180	ENTRY	ATTGAR5	ATTCH/GAR
650	O/C PATIO	3190	PATIO	ATTSTG1	STORAGE
660	ENC/PATIO	3210	SHOWROOM	ATTSTG2	STORAGE
670	DET/PATIO	3290	SPA/GYM	ATTSTG3	STORAGE
680	PATIO/PCH	3330	GOLF CRSE	ATTSTG4	STORAGE
690	DECK	3350	MEZZANINE	ATTSTG5	STORAGE
700	STORAGE	3360	WALKWAYS	AUTODLR1	AUTO DEALER GOOD
710	DET/STG	3390	BLDG ADDN	AUTODLR2	AUTO DEALER AVRGE
720	2ND FLOOR	3400	ELEVATORS	AUTODLR3	AUTO DEALER LOW
730	SUN ROOM	3460	DRVIN WIND	AUTORPR	AUTO REPAIR
750	SWIM POOL	3470	LOAD DOCK	AUTORPR1	AUTO REPAIR GOOD
760	BALCONY	3480	MISC BLDG	AUTORPR2	AUTO REPAIR AVRGE
780	LOFT	3490	STAIRWELL	AUTORPR3	AUTO REPAIR LOW
790	HOT TUB	3500	REF VAULT	AUTORPR4	AUTO REPAIR D-POLE
800	GAZEEBO	3510	MISC	BANK	BANK
820	BATH HOUSE/SPA	3520	INDL FRZR	BANK1	BANK GOOD
830	STUDY/OFC	3530	MILL/GIN	BANK2	BANK AVERAGE
840	GREEN HOUSE	3540	CONCESSION	BANK3	BANK POOR
850	ADDN TO M/H	3620	PORTABLE BLDG	BAR3	BAR/TAVERN/CLUB LOW
860	SERV/QTRS	3630	EQUIP ROOM	BARN-A	BARN-AVERAGE
870	TENNIS CT	3650	GLASS PORCH	BARN-A-	BARN-AVERAGE -
880	RES/ADDN	3660	UPPER FLOORS	BARN-A+	BARN-AVERAGE +
890	UTIL ROOM	3670	BASKETBALL CT	BARN-F	BARN-FAIR

900	REC/GAM RM	3700	PORCH/PATIO	BARN-F-	BARN-FAIR -
910	CANOPY	3740	BUILDING	BARN-F+	BARN-FAIR +
920	COURT YARD	3750	PAINT SHOP	BARN-G	BARN-GOOD
930	BOAT HOUSE	3760	ATM	BARN-G+	BARN GOOD +

Code	Description	Code	Description
BARN-P	BARN-POOR	CVS0	CNVENIENCE STR
BARN-P-	BARN-POOR -	DCS0	DENTAL CLINIC
BARN-P+	BARN-POOR +	DETAPRTMT	DETACHED APARTMENT
BASEFIN	BASEMENT FINISHED	DETGAR1	DETCND/GAR
BASEMNT1	BEST BEASEMENT	DETGAR2	DETCND/GAR
BASEMNT2	BASEMENT AVERAGE	DETGAR3	DETCND/GAR
BBSHOP	BARBER/BEAUTY SHOP	DETGAR4	DETCND/GAR
BEERJT	TAVERN/BAR	DETGAR5	DETCND/GAR
BNKHOUSE	BUNK HOUSES	DETSTG1	DET/STG
BOA3	BOWLING ALLEY	DETSTG2	DET/STG
BONUS	BONUS ROOM RSDNTL	DETSTG3	DET/STG
C2C	COST 2 CURE	DETSTG4	DET/STG
CABIN1	CABIN	DETSTG5	DET/STG
CAFE	CAFE	DNTLOFF	DENTAL OFFICE
CANOPY	CANOPY COVERING	DNTLOFF1	DENTAL OFFICE BEST
CANOPY1	CANOPY GOOD	DNTLOFF2	DENTAL OFFICE GOOD
CANOPY2	CANOPY AVERAGE	DNTLOFF3	DENTAL OFFICE AVERAGE
CANOPY3	CANOPY	DOGKNL	DOG KENNEL
CANOPY4	LOW CANOPY	DRGSTR	DRUG STORE
CARPORT1	CARPORT	DRGSTR2	DRUG STORE AVERAGE
CARPORT2	CARPORT	DSCSTR	DISCOUNT STORE
CARPORT3	CARPORT	DSCSTR2	DISCOUNT STORE AVERAGE
CARPORT4	CARPORT	DW1	LOW DOUBLEWIDE
CARPORT5	CARPORT	DW2	AVE DOUBLEWIDE
CARWASH1	CARWASH BEST	DW3	BEST DOUBLEWIDE
CARWASH2	CARWASH DRIVE THRU AVERAGE	FSTFOOD1	FAST FOOD RESTAURANT GOOD
CARWASH3	CARWASH DRIVE THRU LOW	FSTFOOD2	FAST FOOD RESTAURANT AVERAGE
CINEMA	CINEMA/THEATER	FSTFOOD3	FAST FOOD RESTAURANT LOW
CLBHSE1	CLUBHOUSE GOOD	FUNERL	FUNERAL HOME
CLBHSE2	CLUBHOUSE AVERAGE	GARPRKNG	ONSITE GARAGE PARKING
CLBHSE3	CLUBHOUSE LOW	GYM3	GYM POOR
CLINIC	CLINIC	HLTHCARINC	HEALTHCARE INCOME
CMCLBLDG	GENERAL COMMERCIAL BUILDING	HOOKUPS	MH AND RV
CNVNCSTR1	CONVENIENCE STR GOOD	HOSPTL	HOSPITAL
CNVNCSTR2	CONVENIENCE STR AVERAGE	HOT0	HOTEL
CNVNCSTR3	CONVENIENCE STR LOW	HOTINC	HOTEL INCOME
CNVNCSTR4	CONVENIENCE STR D-POLE	HSLNDRMK	HISTORICAL LANDMARK
COLDSTG	REFRIGERATED STORAGE AREA	IND1	INDUSTRIAL BLD
COMGAR	GARAGE ON COMM PROP	INDHVV2	INDUSTRIAL HEAVY AVERAGE
COMRES1	RESIDENCE IN COMMERCIAL BLDG	INDLHT3	INDUSTRIAL LIGHT POOR
COMRES2	RESIDENCE IN COMMERCIAL BLDG	INDSHL3	INDUSTRIAL SHELL POOR
COMRES3	RESIDENCE IN COMMERCIAL BLDG	INDT2	INDUSTRIAL AVERAGE
CONC	CONCRETE	INDT3	INDUSTRIAL POOR
CONDO	CONDOMINIUM	LCQ0	LITECOM/QUOSET
COVPAT1	O/C PATIO	LDC0	LAUN/DRY CLNRS
COVPAT2	O/C PATIO	LDM0	LAUNDROMAT
COVPAT3	O/C PATIO	LEASEINC	LEASE
COVPAT4	O/C PATIO	LOADDOCK3	LOADING DOCK LOW COST
COVPAT5	O/C PATIO	LODG	LODGE
COVPOR1	O/C PORCH	LUMSHD	LUMBER SHED
COVPOR2	O/C PORCH	MEATPLNT	MEAT PROCESSING PLANT
COVPOR3	O/C PORCH	MEDINC	MEDICAL INCOME
COVPOR4	O/C PORCH	MEDOFF	MEDICAL OFFICE
COVPOR5	O/C PORCH	MEDOFF1	MEDICAL OFFICE BEST

CPA1	CANOPY/ASPHALT	MEDOFF2	MEDICAL OFFICE AVERAGE
CPC1	CANOPY/CONCRET	MEDOFF3	MEDICAL OFFICE LOW
CRANE	CRANE	MH LOT	MOBILE HOME LOT
CRWSHCOIN3	CARWASH COIN OP LOW	MHL	MEETING HALL
CSHBTH	CASH BOOTH	MINIINC	MINI SOTRAGE INCOME
CTAINR	SEA CONTAINER	MINISTG1	MINI SOTRAGE INCOME
Code	Description	Code	Description
MINISTG2	MINI STORAGE	SCH3	SCHOOLS
MINISTG3	MINI STORAGE	SCH4	SCHOOLS
MINLUB	MINI LUBE	SCH5	SCHOOLS
MINSTG	MINI STORAGE/WAREHOUSE	SCH6	SCHOOLS
MORTRY	FURNERAL MORTUARY	SCNDFLR	SECOND FLOOR
MOTEL	MOTEL	SCRND	SCREENED AREA
MOTEL4	MOTEL D CLASS LOW	SCRPCH1	SCRND PRCH
MOTINC	MOTEL INCOME	SCRPCH2	SCRND PRCH
MTLBD3	METAL BUILDING	SCRPCH3	SCRND PRCH
MTLBLG	METAL BUILDING	SCRPCH4	SCRND PRCH
MTLBLG1	METAL BUILDING 1	SCRPCH5	SCRND PRCH
MTLBLG2	METAL BUILDING 2	SHED-A	SHED AVERAGE
MTLBLG3	METAL BUILDING 3	SHED-A+	SHED AVERAGE + (CONCRETE)
NRSING2	NURSING HOME	SHED-F	SHED FAIR
NRSING3	NURSING HOME	SHED-F+	SHED FAIR + (CONCRETE)
NUR0	NURSING HOME	SHED-G	SHED GOOD
OFF INCOME	OFFICE INCOME	SHED-G+	SHED GOOD + (CONCRETE)
OFF1	OFFICES	SHED-P	SHED POOR
OFFICE	OFFICE	SHED-P+	SHED POOR + (CONCRETE)
OFFICE1	BEST OFFICE	SHOPCNT1	SHOPPING CENTER EXCELLENT
OFFICE2	AVERAGE OFFICE	SHOPCNT2	SHOPPING CENTER GOOD
OFFICE3	OFFICE LOW	SHOPCNT3	SHOPPING CENTER AVERAGE
OFFRES2	OFFICE RESIDENCE	SHOPCNT4	SHOPPING CENTER POOR
OFFRES3	OFFICE RESIDENCE	SMLBLD	SMALL BLDG
OFFSML1	SMALL OFFICE 1	SMLNDRY	SMALL ONSITE LAUNDRY
OFFSML2	SMALL OFFICE	SOF1	SMALL OFFICE< 1000'
OFFSML3	SMALL OFFICE < 1000'	SPA-GYM	APRTMNT SPA/GYM
PATIO1	PATIO/PCH	SPRMKT1	SUPERMARKET GOOD
PATIO2	PATIO/PCH	SPRMKT2	SUPERMARKET AVERAGE
PATIO3	PATIO/PCH	SPRMKT3	SUPERMARKET POOR
PATIO4	PATIO/PCH	STD0	DETACHD STRAGE
PATIO5	PATIO/PCH	STORCOM1	COMM STRG BLDG
POOL1	COMMERCIAL POOL BEST	STORCOM2	COMM STG BLDG
POOL2	COMMERCIAL POOL AVERAGE	STORCOM3	COMM STG BLDG
POOL3	COMMERCIAL POOL LOW	STR	AIR B&B
POOLENCLSD	ENCLOSED POOL AREA	SUNPRCH2	SUN PORCH
QUONCET	METAL QUONCET	SVCGAR	SERVICE GARAGE
RENTINC	INCOME PRODUCER	SW1	LOW SINGLEWIDE
RESADDN	RESIDENTIAL ADDITION	SW2	AVE SINGLEWIDE
RETSTR	RETAIL STORE	SW3	BEST SINGLEWIDE
RETWHS	RETAIL WAREHOUSE	TENNIS	TENNIS COURT
ROH0	RESTORED HOUSE	THRDFLR	THIRD FLOOR
RSTRNT	RESTAURANT	TNNSCRT	TENNIS COURT
RSTRNT1	RESTAURANT GOOD	UNFATT	UNFIN ATTIC
RSTRNT2	RESTAURANT AVERAGE	UTL-EQP	UTILITY OR EQUIPMENT ROOM
RSTRNT3	RESTAURANT LOW	VCS0	VETNARY CLINIC
RTS0	RETAIL STORE	VET1	VETERINARY CLINIC GOOD
RTS1	RETAIL STORE	VET2	VETERINARY CLINIC AVERAGE
RTST1	RETAIL STORE GOOD	VET3	VETERINARY CLINIC LOW COST
RTST2	RETAIL STORE AVERAGE	WAREHOUSE2	WAREHOUSE AVERAGE
RTST3	RETAIL STORE LOW	WHDCST2	WAREHOUSE DISCOUNT STORE AVERAGE
RTST4	RETAIL STORE POOR	WHDCST3	WAREHOUSE DISCOUNT STORE POOR

RVSO	REC VEH SP		WHSSTG	WAREHOUSE STORAGE
SALON2	BARBER/BEAUTY SHOP AVERAGE		WHSSTG2	WAREHOUSE STORAGE AVERAGE
SALON3	BARBER/BEAUTY SHOP LOW		WHSSTG3	WAREHOUSE STORAGE POOR
SALVAGE	SALVAGE VALUE		WRKSHOP	WORKSHOP
SBS0	SWITCH BLDGS		WTRTNK	WATER STORAGE
SCH0	SCHOOLS			
SCH1	SCHOOLS			
SCH2	SCHOOLS			

8. Percentage of Completion

As the target date of appraisals is January 1st, and some properties may be under construction use the following table to estimate existing value.

	Phase Level of Completion	Phase%	Aggregat %
1	Lot Grade		
	Rough Plumbing	5%	
	Concrete Slab	8%	13%
2	Wall Framing		
	Roof Framing		
	Decking		
	Sheeting		
	Corners	16%	29%
3	Windows		
	Exterior Doors		
	Roof Shingles	7%	36%
4	Plumbing Top Out		
	HVAC Rough		
	Electrical Rough	8%	44%
5	Insulation		
	Sheet Rock		
	Tape, Bed, and Texture	6%	50%
6	Exterior Veneer	10%	60%
7	Pool Gunite (if applicable)		
	Interior Doors and Trim		
	Cabinets	15%	75%
8	Interior and Exterior Paint		
	Countertops		
	Bath Tile		
	Flat Work	10%	85%
9	Electrical Fixtures		
	Plumbing Fixtures		
	HVAC Final		
	Wallpaper		
	Appliances		
	Pool Deck	6%	91%
10	Sprinkler		
	Landscape		
	Clean Up		
	Carpet	6%	97%
11	Final Completion	3%	100%

9. Residential Valuation

NOTE TO APPRAISERS ON RESIDENTIAL PROPERTY

In applying the following schedules, keep in mind, there are other factors in the market that determine market value.

The Appraiser should be aware of any factors or influences that could affect market value, and using good sound judgement, be able to adjust "percent depreciation" or location modifiers to accurately reflect market value.

The current classification system for residential properties is designed from a purely market driven model. The classes for frame exterior homes are indicated with an "F", and masonry veneer exterior homes are indicated by an "M". The number that follows indicates the quality of construction of the structure.

Quality Residential classes

F1 & M1

Poor quality construction or severely depreciated residential structures, inadequate function limiting serviceability as a habitat

F2 & M2

Fair quality construction or poorly maintained structures having accumulated years of deferred maintenance, inadequate function, but serviceable

F3 & M3

Average quality in construction, appearance and depreciation, both in actual and effective age, average functionality, but may contain obsolescence of room arrangement and bath count

F4 & M4

Good, above average quality of construction good external appearance little or no deferred maintenance, reasonable or normal effective age, normal functionality and little obsolescence

F5 & M5

Excellent quality of construction, contains high end fenestration, exceptional maintenance and no functional obsolescence, very desirable

F6 & M6

Superior quality of all features, aspects and components, demanding the highest value of all competing properties, generally custom built by current owner or recent previous owner

In addition to the "Benchmark" property classification set out above, there are also adjustments to value built into the classification system. For each class listed there is also a plus (+) and a minus (-).

The plus (+) adds 7% to the benchmark value, and the minus (-) removes 5% from the Benchmark value. This scale intentionally leaves a 2% spread between the upper range of one Benchmark when compared to the lower end of the "next" benchmark. This effectively established a 2% spread between classes.

These classes are valued on a per square foot basis, which is extrapolated by the CAMA system to accommodate for different size of structure when compared to the quality class the appraiser may feel best represents the subject.

This classification system lends very efficient and accurate deployment to homogenous property markets, where widespread equal and uniform questions could potentially arise.

Since Property Tax code is interpreted to infer that all similar property should be appraised equally and uniformly, this classification system can be employed to mass appraise entire subdivisions based on the median level of sales, and accuracy can be verified after application of the Benchmark class system by completing a median level of appraisal on all property within that neighborhood or subdivision.

Setting up the standard of the median level of appraisal, where the only variance would be extra amenities like accessory buildings, or extra land or proximity to desirable landscape features.

RESIDENTIAL PROPERTY APPRAISAL

Highest and Best use

Highest and best use of residential property is the highest and best use. Residential property appraisal is at the point where the highest and best maximum has been achieved by current usage and cannot be appraised for “potential”.

The mass appraisal process of residential property starts with the knowledge that the residential valuation and assessment is the largest valuation project in the TGCAD jurisdiction. Residential property has the most impact on taxpayers and staff will have to be extremely accurate, and able to explain the entire process and results with the greatest amount of compassion and patience when compared to all the other appraisal processes.

The mass appraisal approach to residential valuation is market derived information. The appraiser must use local sales of similar properties appropriately adjusted. TGCAD utilizes various sources to gain market value information and once the data is collected, it will be sorted by geographical areas (subdivisions), and once sorted then will be ranked from highest to lowest in sale price achieved in the marketplace during the appropriate time frame. These sold properties should be stratified to better account for impact of high value property versus low value property that may be located within the same geographical area. Then the MEDIAN level of sales will be calculated for that specific area, and the median level of value on a per unit basis will then be applied back to the entire population of similar property within that geographical area.

Once the median has been applied, then the appraiser must compare each property value, when appropriately adjusted for extra or unique amenities, back to the median level of sales, and the median level of appraisals for that specific area.

The appraiser should consider factors such as effective age, year built and actual age, along with market desirability and architecture for all properties within that specific area. The level of depreciation within an area should be adjusted on each unique property, as all properties will not have been maintained in the same manner. This depreciation factor should be the only characteristic that has the greatest variability.

Once these value contributing factors are considered, the appraiser should give thoughtful deliberation to the quality description of population of property. The neighborhood should be homogenous, and if so, all property within that given area should carry the same classification and should have the same unit of value.

The Following Pictures and written generic descriptions may be used as physical examples of the quality class system currently in use by TGCAD:

QUALITY CLASS “F1”



QUALITY CLASS “M1”





Quality 1 Description Guidelines:

Minimum shelter, box type construction, simple design, generally poor workmanship, few electric outlets, one bath, stove or open flame heater, no cool air conditioning one outside door, no covered parking, no off-street parking, low grade sash and trim, no ornamentation, no porches or patios.

Foundations vary: pier and beam, blocks, wood post, none

Exterior Walls: low grade masonite, lightweight wood, inexpensive siding or hand-crafted stucco

Roof: lightweight lumber rafters, inexpensive plywood decking, roll roofing or lightweight shingle, barn tin, open eaves, low pitch, no gutters

Floor Structure: low grade plywood or softwood, 2x6 floor joists

Floor Covering: none, vinyl, stick down tile, low grade carpet

Interior Finish: low grade drywall, poor finish, few interior dividing walls, none or poor trim, inexpensive lighting, door hardware, plumbing fixtures

Bath: generally one bath, minimal fixtures

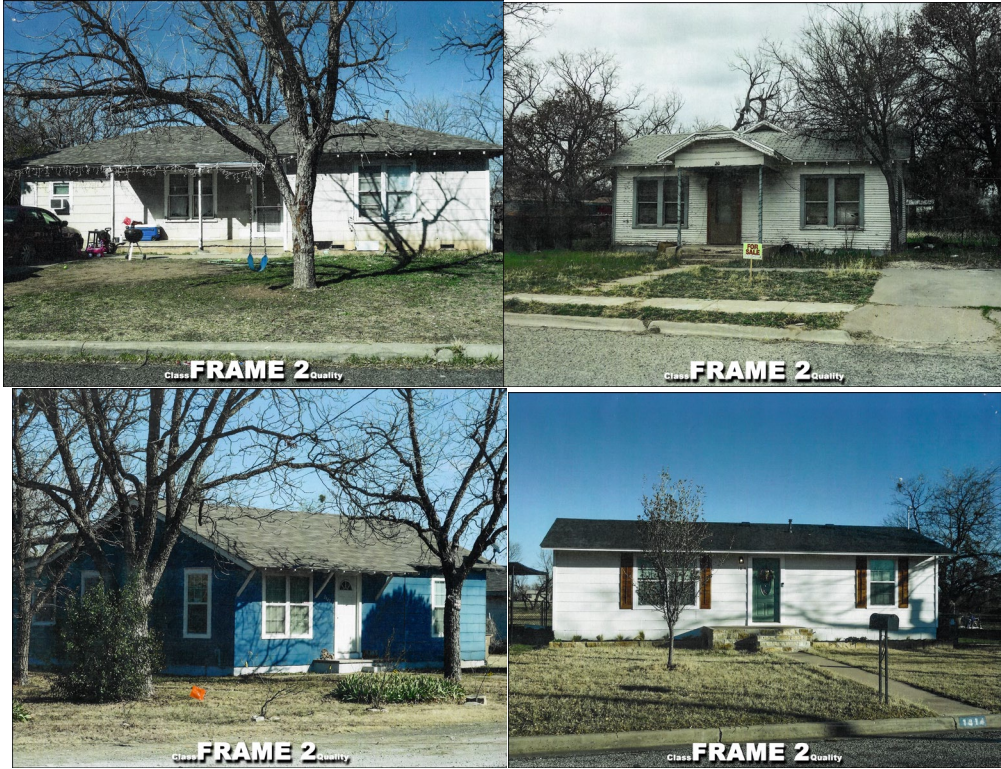
Electrical; minimal

Air conditioning; none or window units, only open flame heat

Summary: Usually no attached garage, 1 Roof Line, Functional but not pretty

Square Footage: Usually somewhere from 0-800

QUALITY CLASS “F2”



QUALITY CLASS “M2”



Quality 2 Description:

Minimum shelter, box type construction, simple design, generally poor workmanship, few electric outlets, one bath, stove or open flame heater, no cool air conditioning one outside door, no covered parking, no off street parking, low grade sash and trim, no ornamentation, no porches or patios.

Foundations vary: pier and beam, blocks, wood post, none

Exterior Walls: low grade masonite, lightweight wood, inexpensive siding or hand-crafted stucco

Roof: lightweight lumber rafters, inexpensive plywood decking, roll roofing or lightweight shingle, barn tin, open eaves, low pitch, no gutters

Floor Structure: low grade plywood or softwood, 2x6 floor joists

Floor Covering: none, vinyl, stick down tile, low grade carpet

Interior Finish: low grade drywall, poor finish, few interior dividing walls, none or poor trim, inexpensive lighting, door hardware, plumbing fixtures

May have 2 baths, may have central heat

Summary: Attached or Detached 1 Car Carport/Garage, 1+ Roof Line, Functional buy Not Pretty

Square Footage: Usually somewhere from 801-1200

QUALITY CLASS "F3"



QUALITY CLASS "M3"





Adequate structure, more than meets living requirements for small families, young couples or retired elderly, average design with little functional obsolescence, two or maybe two and half baths, generally three bedrooms, porches and patios of simple structure, small attached storage space, one, maybe two car garage

Foundation: pier and beam, concrete slab

Exterior Walls: low cost tract or spec house brick, stucco or siding, minimal insulation

Interior Finish: textured and painted drywall, some may have paneling,

Roof: low to moderate pitch, mostly gabled, may be some hip roof structures, lightweight to medium weight shingles or R-panel replacement type roof material

Floor structure: slab or softwood, covering by vinyl or glue down tile, carpet and, some may have small areas of ceramic floor tile

Plumbing: adequate and to Code

Electrical: adequate and to Code

Air Conditioning: small refrigerated central heat and air conditioning

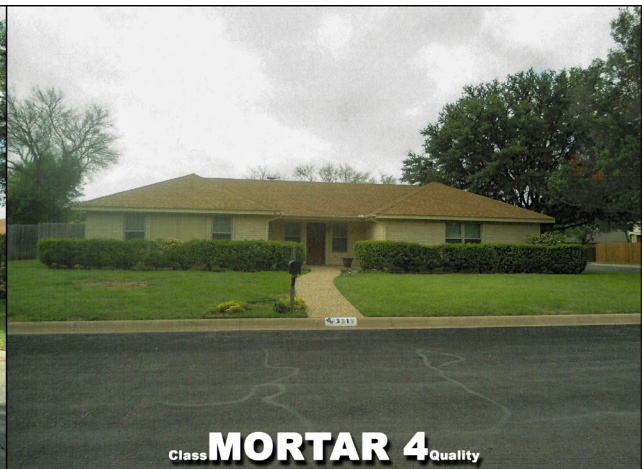
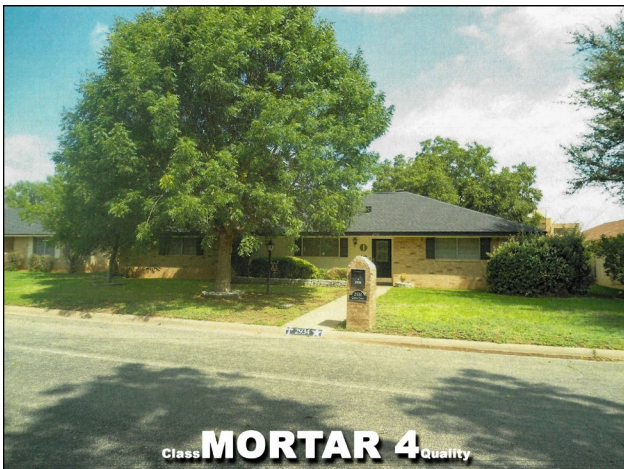
Summary: 1-2 Car Garage/Carport (Attached or Detached), 2+ Roof Lines, Builder Grade materials not custom, 2+ corner variations

Square Footage: Usually somewhere from 1201-1500

QUALITY CLASS "F4"



QUALITY CLASS "M4"





More than adequate structure, substantially meets living requirements for large or extended families, modern design with no functional obsolescence, two or maybe three baths, generally three and four bedrooms, large enjoyable porches and patios ample storage space, two car garage

Foundation: for older structures that have been extensively remodeled most likely pier and beam, modern post 1980 construction would be concrete slab

Exterior Walls: brick, rock, or stucco adequate insulation

Interior Finish: textured and painted drywall

Roof: moderate pitch, mostly gabled, may be some hip roof structures, medium weight shingles or R-panel replacement type roof material

Floor structure: slab or hardwood, covering by carpet and ceramic floor tile

Plumbing: more than adequate and to Code

Electrical: adequate and to Code

Air Conditioning: large, efficient refrigerated central heat and air conditioning

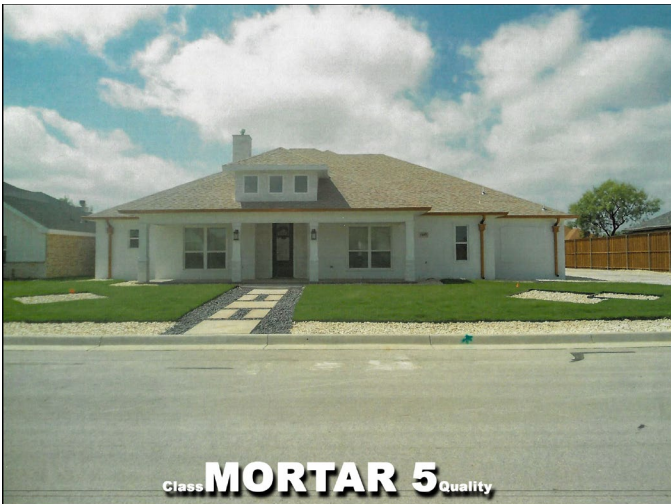
Summary: 2 Car Attached Garage, 2+ Roof Lines, Possible Builder Grade with some custom options, 2+ corner variations

Square Footage: Usually somewhere from 1501-2600

QUALITY CLASS "F5"



QUALITY CLASS "M5"



Large single family dwellings, typically custom built, maybe speculation builds in certain areas where property of similar type is in high demand, extensive modern design and function, provides for very comfortable living, interior and exterior may have refined or exquisite features, finishes or fixtures, custom built cabinetry

Foundation: slab or high-grade wood joist or manufactured laminate beams

Exterior Wall: substantial insulation, expensive brick or stone

Interior Finish: high quality textured drywall, expensive wallpaper, crown molding and expensive wood trim, ornate cabinets and countertops, built-in appliances

Roof: substantial pitch, many gables angels and/or hips and valleys, heavy grade shingles, metal or expensive “permanent” roof covering

Floors: expensive wood, ceramic and carpet

Main systems: more than adequate electrical and plumbing fixtures, water treatment, multiple water heaters

Air Conditioning: multiple air conditioning units and or zones, can be gas or electric

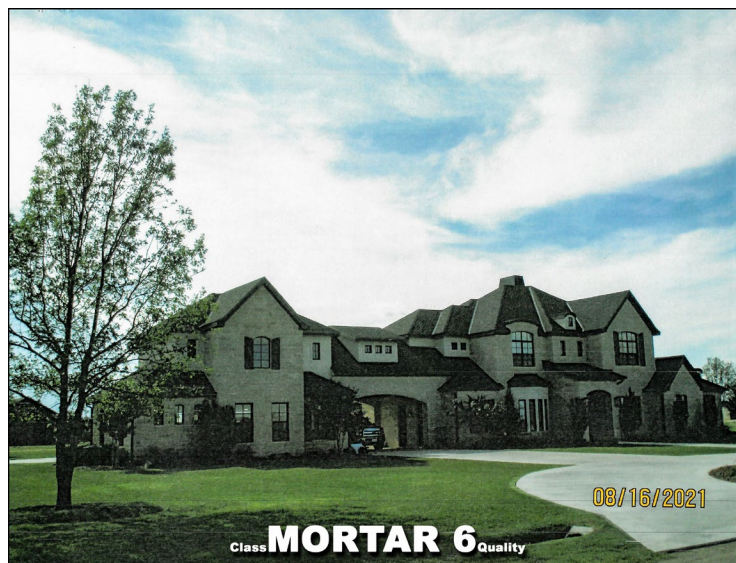
Summary: 2+ Attached Garage, or Detached with Breezeway, 3+ Roof Lines, Unique Design, Custom Design and Layout, 3+ corner variations

Square Footage: Usually somewhere from 2601-3200

QUALITY CLASS “F6”



QUALITY CLASS “M6”





Very large, expansive homes with abundance of built-in amenities, mostly custom built to a very high degree of quality, multiple car garages, multiple entertainment areas, luxury features in kitchen and baths with high end features and fixtures, considerable attention given to floor plan, finish, and appearance.

Foundation: concrete slab, some may have thermal heating embedded

Exterior walls: super insulation with mixed finish materials of brick, stone and stucco, high end insulated, multiple hung, energy efficient triple pane type,

Interior Finish: very high-end drywall with exquisite finish and detail, abundance of expensive wood trim and fenestration

Roof: high pitch, multiple gables, hips and valleys, heavy grad, expensive shingles, shakes and metal

Floor: very high end, expensive floor coverings of all types

Main systems: over-adequate plumbing, electrical and air conditioning

Summary: 2+ Attached/ Detached Garage (or with Breezeway), 3+ roof lines (Unique Designs), Highly Custom Designed and layout, high ornamentation, numerous corner variations

Square Footage: Usually somewhere from 3201- UP

9a. Residential (Affordable Housing)

There are programs in Tom Green County that assist aspiring homeowners who would have difficulty obtaining a conventional home loan. Galilee Homes, Habitat for Humanity, and NOAH (City of San Angelo) are typically the administrators of these programs. Administrators inform TGCAD of the loan amount to be paid back, with the balance being made up by the Administrator's program.

TGCAD uses this loan amount as the value for the improvements, and this value will remain on the account until the loan is paid in full. This allows the participant to have an affordable property tax amount while they are paying off the loan. After the loan is paid in full, the value will be taken to full market value.

Section 23.21 of the Texas Property Tax Code states the rules on how to appraise this type of property. However, it is critical that the affordable housing programs provide TGCAD with the properties included in the program and the particulars of each loan.

Improvement Class Square per-Square-Foot Schedules

QRP - Poor		
Tax Year	SF Limit	Valuation
2020	0	\$28.00
2020	100	\$28.00
2020	800	\$28.00
2020	1,000	\$33.00
2020	1,200	\$35.00
2020	1,400	\$38.00
2020	1,600	\$40.00
2020	1,800	\$42.00
2020	999,999,999	\$42.00

QRF - Fair		
Tax Year	SF Limit	Valuation
2020	0	\$48.00
2020	100	\$48.00
2020	900	\$48.00
2020	1,200	\$51.00
2020	1,500	\$52.00
2020	1,800	\$54.00
2020	2,000	\$55.00
2020	2,200	\$56.00
2020	2,400	\$58.00
2020	2,600	\$60.00
2020	2,800	\$63.00
2020	3,000	\$65.00
2020	999,999,999	\$65.00

QRA - Average		
Tax Year	SF Limit	Valuation
2020	0	\$58.88
2020	400	\$58.88
2020	1,000	\$58.00
2020	1,200	\$65.00
2020	1,400	\$69.00
2020	1,550	\$75.00
2020	1,700	\$78.00
2020	2,000	\$78.00
2020	2,500	\$77.00
2020	3,000	\$76.00
2020	999,999,999	\$76.00

QRG - Good		
Tax Year	SF Limit	Valuation
2020	0	\$83.00
2020	200	\$83.00
2020	500	\$83.00
2020	700	\$88.00
2020	1,000	\$90.00
2020	1,300	\$93.00
2020	1,600	\$95.00
2020	1,900	\$96.00
2020	2,200	\$97.00
2020	2,500	\$98.00
2020	2,800	\$99.00
2020	3,100	\$102.00
2020	3,300	\$104.00
2020	3,600	\$106.00
2020	3,900	\$108.00
2020	4,000	\$110.00
2020	999,999,999	\$110.00

QRE - Excellent		
Tax Year	SF Limit	Valuation
2020	0	\$107.00
2020	900	\$107.00
2020	2,500	\$108.00
2020	2,800	\$110.00
2020	3,200	\$114.00
2020	3,400	\$117.00
2020	3,800	\$120.00
2020	4,000	\$125.00
2020	4,500	\$135.00
2020	999,999,999	\$135.00

QRS - Superior		
Tax Year	SF Limit	Valuation
2020	0	\$110.00
2020	100	\$110.00
2020	1,500	\$112.00
2020	1,700	\$115.00
2020	2,000	\$117.00
2020	2,200	\$119.00
2020	2,400	\$121.00
2020	2,600	\$124.00
2020	2,900	\$128.00
2020	3,400	\$130.00
2020	3,800	\$133.00
2020	4,100	\$136.00
2020	4,500	\$140.00
2020	4,700	\$155.00
2020	5,000	\$175.00
2020	5,500	\$180.00
2020	999,999,999	\$180.00

10. Commercial Valuation

This mass appraisal assignment includes all commercially classed real property assigned to the commercial valuation appraisers and located within the jurisdiction of Tom Green County and overlapping appraisal districts. Commercial appraisers appraise the fee simple interest of properties according to statute. However, the effect of easements, restrictions, encumbrances, leases, contracts or special assessments are considered on an individual basis, as is the appraisal of any nonexempt taxable fractional interests in real property (i.e. certain multi-family housing projects). Fractional interests or partial holdings of real property are appraised in fee simple for the whole property and divided programmatically based on their prorata interests.

The data used by the commercial appraisers includes verified sales of vacant land and improved properties and the pertinent data obtained from each (conditions of sale, financing, sales price levels, vacancy, capitalization rates, income multipliers, equity dividend rates, marketing period, etc.). Other data used by these appraisers includes actual income and expense data, actual contract rental data, leasing information (commissions, tenant finish, length of terms, etc.), actual construction cost data, and in-house surveys. In addition to the actual data obtained from specific properties, market data publications are also reviewed to provide additional support for market trends. These include fee appraiser rental property surveys, many web sites from real estate organizations, professionals and individual property owners. Publications such as Texas A & M Research Center, Source Strategies, Inc-Hotel Performance Fact book, the Korpacz Survey and Appraisal Institute's economic indicators are used for income and expense data, capitalization rates, typical holding periods for real estate investments, interest rates and other pertinent real estate criteria are analyzed.

In terms of commercial sales data, TGCAD receives a copy of the deeds recorded in Tom Green County that convey commercially classed properties. The deeds involving a change in commercial ownership are entered into the sales information database and researched to obtain the pertinent sale information.

For those properties involved in a transfer of commercial ownership, a sale file is produced which begins the research and verification process. The initial step in sales verification involves a computer-generated questionnaire that is mailed to the transaction grantee. If a questionnaire is answered and returned, the documented responses are recorded into the computerized sales database system. If no information is provided, verification is then attempted via phone calls to both parties. If the sales information is still not obtained, other sources are contacted such as the brokers involved in the sale, property managers or commercial vendors. In other instances, sales verification is obtained from local appraisers or others that may have the desired information. Also, closing statements are often provided during the appraisal process. The actual closing statement is the most reliable and preferred method of sales verification. After the sales data has been keyed into the database, the data is reviewed to maintain quality control.

Annually, prior to the hearing season and after sales have been researched, verified, keyed into the database, and quality control has been completed, the sales data are summarized and produced into book form. The confirmed sales in the vacant land sale and commercial improved sale books are categorized by property and use type and are sorted by location and chronological order. These books are available to the public for use during hearings and are also used by the TGCAD appraisers during the hearings process.

The highest and best use is the most reasonable and probable use that generates the highest present value of the real estate as of the date of valuation. The highest and best use of any given property must be physically possible, legally permissible, financially feasible, and maximally productive. For improved properties, highest

and best use is evaluated as improved and as if the site were still vacant. This assists in determining if the existing improvements have a transitional use, interim use, nonconforming use, multiple uses, speculative use, excess land, or a different optimum use if the site were vacant. For vacant tracts of land within this jurisdiction, the highest and best use is considered speculative based on the surrounding land uses. Improved properties reflect a wide variety of highest and best uses which include, but are not limited to office, retail, apartment, warehouse, light industrial, special purpose, or interim uses. In many instances, the property's current use is the same as its highest and best use. This analysis ensures that an accurate estimate of market value (sometimes referred to as value in exchange) is derived.

On the other hand, value in use represents the value of a property to a specific user for a specific purpose. This may be significantly different than market value, which approximates market price under the following assumptions: (1) no coercion of undue influence over the buyer or seller in an attempt to force the purchase or sale, (2) well informed buyers and sellers acting in their own best interests, (3) a reasonable time for the transaction to take place, and (4) payment in cash or its equivalent.

Model Specification

The commercial valuation function is divided into five improved property valuation groups and a vacant commercial land group. The improved real property appraisal responsibilities are categorized according to major property types of apartment, office, retail, warehouse and special use (i.e. hotels, hospitals and, nursing homes).

When applicable, the cost approach to value is applied to all real property. This methodology involves the utilization of national cost data reporting services as well as actual cost information on comparable properties whenever possible. Cost models are typically developed based on the Marshall Swift Valuation Service. This approach also employs the sales comparison approach and or other acceptable methods in the valuation of the underlying land value.

When applicable, the income approach to value was applied to the real property that is typically viewed by market participants as "income producing" and for which the income methodology is considered a leading value indicator.

When applicable, the sales comparison (market) approach was utilized not only for estimating land value but also in comparing sales of similarly improved properties to each parcel on the appraisal roll.

The final estimate of value is reconciled depending on the quality and quantity of the data from the three approaches.

Area Analysis

Data on regional economic forces such as demographic patterns, regional locational factors, employment and income patterns, general trends in real property prices and rents, interest rate trends, availability of vacant land, and construction trends and costs are collected from private vendors and public sources. Information is obtained from real estate publications and sources such as local surveys, regional newspaper real estate articles, and the Real Estate Center at Texas A & M University. Continuing education in the form of IAAO, Texas Association of Assessing Officers (TAAO), Texas Association of Appraisal Districts (TAAD) and Board of Tax Professional Examiners (BTPE) courses and real estate seminars provide appraisers a current economic outlook on the local real estate market. Strict adherence to these procedures ensures that appraisers consider pertinent factors and trends about the forces within the governmental bodies and within the geographic boundaries of TGCAD. In addition, once a year our staff attends a data exchange seminar with other commercial appraisers in the West Texas area to exchange data on regional commercial properties. Many large commercial properties

have a regional market and not confined to city boundaries.

Neighborhood Analysis

The neighborhood is comprised of the land area and commercially classed properties located within the boundaries of this taxing jurisdiction. This area consists of a wide variety of property types including residential, commercial and industrial, and vacant acreage. Neighborhood analysis involves the examination of how physical, economic, governmental and social forces and other influences affect property values. The effect of these forces is also used to identify, classify, and organize comparable properties into smaller, manageable subsets of the universe of properties known as neighborhoods. In the mass appraisal of commercial properties these subsets of a universe of properties are generally referred to as market areas or economic areas.

Economic areas are defined by each of the improved property use types (apartment, office, retail, warehouse and special use) based upon an analysis of similar economic or market forces. These include but are not limited to similarities of rental rates, classification of projects (known as building class by area commercial market experts), date of construction, overall market activity or other pertinent influences. Property use type is the primary selection delineation criteria utilized by the commercial valuation system. All income model valuation (income approach to value estimates) is use specific. Economic areas are periodically reviewed to determine if re-delineation is required. The geographic boundaries as well as, income, occupancy and expense levels and capitalization rates by age within each economic area for all commercial use types are analyzed.

Market Analysis

A market analysis relates directly to market forces affecting supply and demand. This study involves the relationships between social, economic, environmental, governmental and site conditions. Current market activity including sales of commercial properties, new construction, new leases, lease rates, absorption rates, vacancies, allowable expenses (inclusive of replacement reserves), expense ratio trends, and capitalization rate studies are analyzed. Local consultations with area real estate professionals are utilized to lend support to the various assumptions utilized in the valuation of real estate.

Model Calibration

Model calibration involves the process of periodically adjusting the mass appraisal formulas, tables and schedules to reflect current local market conditions. Once the models have undergone the specification process, adjustments can be made to reflect new construction procedures, materials and/or costs, which can vary from year to year.

The basic structure of a mass appraisal model can be valid over an extended period, with trending factors utilized for updating the data to the current market conditions. However, at some point, if the adjustment process becomes too involved, the model calibration technique can mandate new model specifications or a revised model structure.

Cost Schedules

When applicable, the cost approach to value is applied to all improved real property utilizing the comparative unit method. This methodology involves the utilization of national cost data reporting services as well as actual cost information on comparable properties whenever possible. Cost models are typically developed based on the Marshall Swift Valuation Service. Cost models include the derivation of replacement cost new (RCN) of all improvements. These include comparative base rates, per unit adjustments and lump sum adjustments. This approach also employs the sales comparison approach and other accepted methods in the valuation of the

underlying land value. Time and location modifiers are necessary to adjust cost data to reflect conditions in a specific market and changes in costs over a period. Because a national cost service is used as a basis for the cost models, locational modifiers are necessary to adjust these base costs specifically for Tom Green County. The national cost service provides these modifiers.

Depreciation schedules are developed based on what is typical for each property type at that specific age. Depreciation schedules have been implemented for what is typical of each major class of commercial property by economic life categories. These are in the Marshall Swift Manual. These schedules are then tested to ensure they are reflective of current market conditions. The actual and effective ages of improvements are noted.

Effective age estimates are based on the utility of the improvements relative to where the improvement lies on the scale of its total economic life and its competitive position in the marketplace. Effective age estimates are based on personal inspection and analysis by staff commercial appraisers.

Market adjustment factors such as external and/or functional obsolescence can be applied if warranted. A depreciation calculation override can be used if the condition or effective age of a property varies from the norm by appropriately noting the physical condition and functional utility ratings on the property data characteristics. These adjustments are typically applied to a specific property type or location and can be developed via ratio studies or other market analyses. Accuracy in the development of the cost schedules, condition ratings and depreciation schedules will usually minimize the necessity of this type of an adjustment factor.

Income Models

When applicable, the income approach to value was applied to those real properties which are typically viewed by market participants as "income producing", and for which the income methodology is considered a leading value indicator. The first step in the income approach pertains to the estimation of market rent on a per unit basis. This is derived primarily from actual rent data furnished by property owners and from local market study publications. This per unit rental rate multiplied by the number of units results in the estimate of potential gross rent.

The projected vacancy and collection loss allowance is established from actual data furnished by property owners and district market surveys. This allowance accounts for periodic fluctuations in occupancy, both above and below an estimated stabilized level. The market derived stabilized vacancy and collection loss allowance is subtracted from the potential gross rent estimate to yield an effective gross rent.

A secondary income or service income is calculated as a percentage of stabilized effective gross rent and or actual data supplied by property owners and agents. Secondary income represents parking income, escalations, reimbursements, and other miscellaneous income generated by the operations of real property. The secondary income estimate is derived from actual data collected and available market information and is added to the effective gross rent to arrive at an effective gross income.

Allowable expenses and expense ratio estimates are based on a study of the local market, with the assumption of *prudent management*. An allowance for non-recoverable expenses such as leasing costs and tenant improvements are included in the expenses. A non-recoverable expense represents costs that the owner pays to lease rental space. Different expense ratios are developed for different types of commercial property based on use. Actual expense data for the subject property is used when available for analysis and confirmation of model estimates.

For instance, retail properties are most frequently leased on a triple-net basis, whereby the tenant is responsible for his pro-rata share of taxes, insurance and common area maintenance. In comparison, a general office building is most often leased on a base year expense stop. This lease type stipulates that the owner is

responsible for all expenses incurred during the first year of the lease. However, any amount in excess of the total per unit expenditure in the first year is the responsibility of the tenant. Expense ratios are implemented based on the type of commercial property. Another form of allowable expense is the replacement of short-lived items (such as roof or floor coverings, air conditioning or major mechanical equipment or appliances) requiring expenditures of large lump sums. When these capital expenditures are analyzed for consistency and adjusted, they may be applied on an annualized basis as stabilized expenses.

When performed according to local market practices by commercial property type, these expenses when annualized are known as replacement reserves. Subtracting the allowable expenses (inclusive of non-recoverable expenses and replacement reserves) from the effective gross income yields an estimate of net operating income.

Rates and multipliers are used to convert income into an estimate of market value. These include income multipliers, overall capitalization rates, and discount rates. Each of these is used in specific applications. Rates and multipliers also vary between property types, as well as by location, quality, condition, design, age, and other factors. Therefore, application of the various rates and multipliers must be based on a thorough analysis of the market.

Capitalization Analysis and Techniques

Capitalization analysis is used in the income approach models. This methodology involves the capitalization of net operating income as an indication of market value for a specific property. Capitalization rates, both overall (going-in) cap rates for the direct capitalization method and terminal cap rates for discounted cash flow analyses, can be derived from the market. Sales of improved properties from which actual income and expense data are obtained provide a very good indication of what a specific market participant is requiring from an investment at a specific point in time. In addition, overall capitalization rates can be derived from the built-up method (band-of-investment).

This method relates to satisfying the market return requirements of both the debt and equity positions of a real estate investment. This information is obtained from real estate and financial publications. The primary yield capitalization method used for the valuation of commercial property by the district is Discount Cash Flow analysis. Discounted Cash Flow analysis is defined as "a set of procedures in which an appraiser specifies the quantity, variability, timing, and duration of periodic income, as well as the quantity and timing of reversions and discounts each to its present value at a specified yield rate." This technique takes the future benefits or "incomes" and converts these benefits into an indication of present value by discounting each future benefit at an appropriate yield rate.

A second method of yield valuation used by the commercial real department is that of Rent Loss Direct Capitalization. This technique is applied to specific properties with vacancy problems that are considered short term in nature and is used when the appraiser concludes the discounted cash flow analysis is not needed.

The rent loss is calculated by multiplying the rental rate by the percent difference of the property's stabilized occupancy and its actual occupancy. Build out allowances (for first generation space or retrofit/second generation space as appropriate) and leasing expenses are added to the rent loss estimate. The total adjusted loss from these real property operations is discounted using an acceptable risk rate. The discounted value (inclusive of rent loss due to extraordinary vacancy, build out allowances and leasing commissions) becomes the rent loss concession and is deducted from the value indication of the property at stabilized occupancy

Care is taken by the commercial department's management and appraisal staff to choose the appropriate income value technique for the type of property being appraised and in applying these methods in a uniform and equal way within the particular class and subclasses of commercial property being evaluated on a mass

basis.

Sales Comparison (Market) Approach

Although all three of the approaches to value are based on market data, the Sales Comparison Approach is most frequently referred to as the Market Approach. This approach is utilized not only for estimating land value but also in comparing sales of similarly improved properties to each parcel on the appraisal roll. Pertinent data from actual sales of properties, both vacant and improved, is pursued throughout the year in order to obtain relevant information that can be used in all aspects of valuation. Sales of similarly improved properties can provide a basis for the depreciation schedules in the Cost Approach, rates and multipliers used in the Income Approach, and as a direct comparison in the Sales Comparison Approach. Improved sales are also used in ratio studies that afford the analyst an excellent means of judging the present level and uniformity of the appraised values.

Based on the market data analysis and review discussed previously in the cost, income and sales approaches, the cost and income models are calibrated and finalized. The calibration results are keyed to the schedules and models on Excel spreadsheets and applied to relevant commercial properties.

How Estimates are Reviewed

Field Review

Commercial appraisers field review, to the extent possible, properties or economic areas experiencing remodeling, renovations, or retrofits, changes in occupancy levels or rental rates, new leasing activity, new construction, or wide variations in sale prices. Additionally, the analyst frequently field review subjective data items such as building class, quality of construction (known as cost modifiers), condition, and physical, functional and economic obsolescence factors contributing significantly to the market value of the property. In some cases, field reviews are warranted when sharp changes in occupancy or rental rate levels occur between building classes or between economic areas. With preliminary estimates of value in these targeted areas, the analyst test computer assisted values against their own appraisal judgment. While in the field, the appraiser physically inspects sold and unsold properties for comparability and consistency of values.

Office Review

Office reviews are completed on properties not subject to field inspections and are performed in compliance with procedures and guidelines contained in Tom Green Central Appraisal District's Appraisal Manual. The district's Appraisal Manual outlines the application of the three approaches to value.

Office review consists of analyzing the pertinent data for each property, as well as comparing the previous values to the proposed value conclusions of the various approaches to value. The appraiser may review methodology for appropriateness to ascertain that it was completed in accordance with USPAP or more stringent statutory and district policies. Previous values resulting from protest hearings are individually reviewed to determine if the value remains appropriate for the current year based on market conditions.

Once the appraiser is satisfied with the level and uniformity of value for the commercial property being reviewed, the estimates of value go through a process from CAMA to an ad valorem administrative review. Although the value estimates are processed in a computerized mass appraisal environment, value edits enable an individual parcel review of value anomalies before the estimate of value is released for noticing.

Appraisal Performance tests used, and performance measures attained

Statistical and Capitalization Analysis

Statistical analysis of final values is an essential component of quality control. This methodology represents a comparison of the final value against the standard and provides a concise measurement of the appraisal performance. Statistical comparisons of many different standards are used including sales of similar properties, the previous year's appraised value, audit trails, value change analysis and sales ratio analysis.

Appraisal statistics of central tendency and dispersion generated from sales ratios are available for each property type. These summary statistics including, but not limited to, the weighted mean, standard deviation and coefficient of variation, provide the analysts an analytical tool by which to determine both the level and uniformity of appraised value of a particular property type. The level of appraised values can be determined by the weighted mean for individual properties within a specific type, and a comparison of weighted means can reflect the general level of appraised value. Review of the standard deviation and the coefficient of variation can discern appraisal uniformity within a specific property type.

The appraiser reviews every commercial property type annually through sales ratio analysis. The first phase involves ratio studies that compare the recent sales prices of properties to the appraised values of the sold properties. This set of ratio studies affords the analyst an excellent means of judging the present level of appraised value and uniformity of the appraised values. The appraiser, based on the sales ratio statistics and designated parameters for valuation update, makes a preliminary decision as to whether the value level of a particular property type needs to be updated in an upcoming reappraisal, or whether the level of market value is at an acceptable level.

Potential gross rent estimates, occupancy levels, secondary income, allowable expenses (inclusive of non-recoverables and replacement reserves), net operating income and capitalization rate and multipliers are continuously reviewed utilizing frequency distribution methods or other statistical procedures or measures. Income model conclusions are compared to actual information obtained on individual commercial properties during the hearings process as well as information from published sources and area vendors.

Sales Ratio Studies

Overall sales ratios are generated by property use type from the sales database and CAMA. The appraisers utilize desktop applications such as MS ACCESS and EXCEL programs to evaluate subsets of data by property category type or a specific and unique data item. On the desktop, this may be customized and performed by building class and age basis. In many cases, field checks may be conducted to ensure the ratios produced are accurate and the appraised values utilized are based on accurate property data characteristics. These ratio studies aid the appraiser by providing an indication of market activity by economic area or changing market conditions (appreciation or depreciation).

Comparative Appraisal Analysis

Commercial appraisers perform an average unit value comparison in addition to a traditional ratio study. These studies are performed on commercially classed properties by property use type (such as apartment, office, retail and warehouse usage or special use). The objective to this evaluation is to determine appraisal performance of sold and unsold properties. Commercial appraisers examine average unit prices of sales and average unit appraised values of the same parcels and the comparison of average value changes of sold and unsold properties. These studies are conducted on substrata such as building class and on properties located within various economic areas.

Commercial Value Schedule: Please consult the Marshall & Swift Valuation Manual for complete cost information. TGCAD uses the schedules provided therein.

11. Manufactured Home Valuation

MANUFACTURED (HUD CODE) SINGLE-FAMILY HOUSING (149)

CLASS	TYPE	EXTERIOR	INTERIOR FINISH	LIGHTING AND PLUMBING	HEAT	Sq. M.	COST Cu. Ft.	Sq. Ft.
D	Excellent	High-quality sidings, trim, full eaves, good insulation, low-E, heavy shingles, tile	Good drywall, paneling and detail, good grade carpet, hardwood, tile, etc.	Some special fixtures, deluxe fans, good electrical, plumbing and baths	Heat pump system	941.84	10.94	87.50
	Very good	Quality sheathed sidings, low-E windows, good shingles, conc. tile, 5 to 7-12 pitch	Good drywall and detail, good quality carpet, hardwood, vinyl sheet	Good quality cabinets, fixtures, electrical and plumbing	Package A.C.	881.11	10.00	80.00
	Good	Good standard sidings, no sheathing, vinyl windows, 4-12 pitch, good shingles	Standard drywall, some cathedral ceiling, parquet, std. carpet and vinyl	Good standard lighting and outlets, master, one bath per two bedrooms	Package A.C.	791.15	9.19	73.50
	Average	Standard sidings, some trim, double pane windows, standard shingles and roof pitch	Taped drywall, vinyl wet rooms, standard carpet and vinyl composition	Adequate standard lighting and plumbing, some fiberglass	Forced air	645.83	7.50	60.00
	Fair	Economy sidings, no sheathing, light shingles, minimum 3-12 pitch and eaves	Seamed drywall or vinyl, economy cabinets, carpet and vinyl composition	Adequate economy lighting and plumbing fixtures	Forced air	592.01	6.88	55.00
	Low-cost	Low-cost sidings and asphalt shingles, single pane metal windows, small eaves	Vinyl seamed hardboard or drywall, low-grade carpet, vinyl composition	Minimum economy lighting and plumbing, low-cost fixtures	Forced air	548.96	6.38	51.00

EXPLANATION

The cost per square foot of manufactured (HUD Code) housing will vary primarily because of the ratios of floor area to wall section area and of floor area to plumbing cost. The Floor Area/Shape Multipliers given in the table will adjust the base costs for these factors, as well as some lesser cost influences. In adjusting for shape, disregard small jogs, bays and entrances which add very little perimeter wall, and figure first-story shape only, disregarding attached garages.





The base costs are adjusted to the cost of a one-story dwelling on a permanent foundation. If a one-and-one-half-story or two-story residence is being appraised, enter the table with the total floor area of the entire residence and the shape of the first floor. Use this factor to adjust the cost to apply to the first floor. For a full-height second floor of the same quality and finish as the first, use 116% of the square foot cost of the first.

If the second floor has clipped ceilings which reduce the wall height, or if it is of lesser quality than the first floor, the appraiser must apply his judgment to adjust the second-story cost. A rule of thumb for a second floor with clipped ceilings is to deduct an additional 1% for each foot of wall height below the 8-foot standard height.

EXAMPLE: Good Two-story, Manufactured HUD Code home, Shape 2

Base Factor	= 66.05	1st Floor Cost Factor	= .922	x	66.05	=	60.90
1st Floor Area	= 1,200 sq. ft.	2nd Floor Cost Factor	= 1.16	x	60.89	=	70.64
2nd Floor Area	= 1,200 sq. ft.	Total Residence Cost	= 1,200	x	60.89	=	73,068
Total Floor Area	= 2,400 sq. ft.		1,200	x	70.63	=	84,756
							157,956

MANUFACTURED HOUSING FLOOR AREA/SHAPE MULTIPLIERS

SHAPES	Approximately Square	Rectangular or Slightly Irregular	Long Rectangle or Irregular	Very Irregular or narrow (one section)
	1 	2 	3 	4 
TOTAL AREA	CLASS D	CLASS D	CLASS D	CLASS D
Sq. M. Sq. Ft.				
74 800	1.089	1.149	1.217	1.277
93 1,000	1.039	1.099	1.165	1.223
111 1,200	1.000	1.059	1.125	1.180
130 1,400	.968	1.027	1.092	1.145
149 1,600	.941	1.000	1.064	1.115
167 1,800	.918	.976	1.039	1.090
186 2,000	.897	.956	1.018	1.068
223 2,400	.864	.922	.983	1.030
260 2,800	.836	.894	.954	1.000
297 3,200	.813	.870	.929	.974
334 3,600	.793	.850	.908	.952
372 4,000	.775	.832	.890	.933
409 4,400	.760	.816	.874	.915
446 4,800	.746	.802	.859	.900

Fireplaces, balconies, porches and built-in appliances are not included, see Pages 38-41. For average wall heights over 8 feet (2.44 meters), excluding gables, add 3% for each foot (.305 meter). See Page 35 for garage cost table. For small residential elevators and fire sprinkler systems, see notes on Pages 38-39. For basements, see Page 26. For basement garage Lump-sum addition, see Page 32.

12. Industrial Valuation

Appraisal Responsibility

The industrial contract appraisers of the Tom Green County Appraisal District are responsible for developing fair, uniform market values for improved industrial properties and industrial vacant land. The industrial appraiser is also responsible for the valuation of all tangible general industrial personal property in Tom Green County. There are approximately 236 parcels of industrial real property in Tom Green County (9/8/2020).

Resources – Personnel

The industrial section consists of an appraiser and an assistant. In addition, TGCAD contracts with the Thomas Y. Pickett appraisal firm to value properties for which the district does not have the available personnel or resources.

Resources – Data

The industrial appraisers and contract appraisal staff inspect their assigned properties to obtain information about buildings, site improvements, process and shop equipment, and various items of personal property. In addition, appraisal personnel use information provided by property owners concerning the cost to purchase, install, and construct items of real and personal property. The individual characteristics of the property being appraised are the primary factors that drive the appraised value.

VALUATION APPROACH (MODEL SPECIFICATION)

Area Analysis

The scope of market forces affecting industrial products and the capital goods used in the production process tends to extend beyond regional considerations. The effects of information and transportation technology are such that most industrial market forces are measured globally. One exception to this general concept is the market for industrial land. The pricing of land tends to be closely tied to possible alternative uses in the area. For this reason, appraisers assigned to land valuation analyze market forces for specific areas and adjust land value schedules appropriately.

Neighborhood Analysis

Neighborhood analysis of the type of properties valued by the industrial appraiser is not meaningful. Industrial properties do not have the type of generic "sameness" that is appropriate for neighborhood models.

Highest and Best Use Analysis

The highest and best use of real or personal property is the most reasonable and probable use of the property on the date of appraisal that is physically and financially feasible, legal, and that derives maximum production from the property. Usually, the current use of the property is the highest and best use of that property. Industrial facilities are mostly located in areas that support industrial use. In areas where mixed use does occur, the highest and best use of the property is examined by the appraiser to estimate the effect of this factor.

Market Analysis

Market analysis is the basis for finalizing value estimates on properties for which the industrial appraiser has responsibility. Even though many industrial properties are unique in nature, the market for this type property is analyzed to see how the values of similar or similar as possible properties are affected by market forces. Industrial properties, such as machine shops, have many similar facilities that can be compared to the subject property in terms of type and size of equipment, type of property fabricated or serviced at the subject facility, and other factors. Those similarities help the appraiser estimate the value of the subject property. However, some facilities, such as specialty oil field related plants, are so unique in nature that the appraiser must use the closest available plant in terms of output quantity, type of product manufactured, and other factors to estimate the value of the subject property. Many industrial properties use the same type of building and, depending on the type of business, may use the same type of manufacturing or service equipment. However, the way the entire business operation is put together makes that facility unique. The district uses information from similar businesses to examine the real and personal property values at a business, but the individual characteristics of the business being reviewed determine the value estimation.

Many of the buildings encountered at industrial facilities are generic in construction, such as pre-engineered metal buildings. The cost per square foot to construct these type structures can be used to estimate values at facilities that have similarly constructed buildings. However, the building as constructed will have differences that must be considered when estimating the final value of the property being reviewed.

A similar analysis is used for personal property. Many items of personal property, such as furniture and fixtures, computers, and even machinery and equipment are generic in construction, but individual characteristics that affect value, such as usage, environment where used, and level of care will have an effect on the final value estimation. When cost data for this type property is available and considered reliable, it is used for value estimation purposes at other plant facilities. However, on-site inspection and information provided by the property owner will affect the final value.

DATA COLLECTION/VALIDATION

Data Collection

An extended range of variations may exist within the same class of industrial property, and there are a multitude of property types within the industrial category. For this reason, effective data collection procedures would be very difficult to organize in a single comprehensive manual.

Industrial personal property also consists of many different classes of assets with a wide range of variation within each class. The district has adopted the convention of listing assets and estimating effective age of assets in the field. The field listing is then compared with information furnished by property owners during the final valuation review.

Sources of Data

The original real and personal property data used by TGCAD was supplied by the City of San Angelo and the Tom Green County tax office. Since that time, the district and contract appraisal personnel have updated that information based on field review. As new facilities are built, the appraisal personnel collect all the real and personal property data necessary to value the property initially and thereafter update the information when the property is again visited. The district receives building permit information from the city and from the county when a facility is being built outside the city. Other sources of data include publications such as the Texas Register regarding waste control permits, TNRRC, and the City/County Health Department.

Data Collection Procedures

The district and contract appraisal personnel annually or periodically visit assigned plants. The frequency of the visit is determined by the nature of the business conducted at each facility. For example, refineries and chemical plants are continually changing or adding to processes to extract greater efficiencies or make new products, but machine shops may not add or remove equipment over a period two or more years.

The appraisers take with them the historical data on the buildings and site improvements and the previous listing of personal property at the facility being visited. Changes to the existing structures and personal property are noted and that information is used for value estimation purposes. If cost information for the real or personal property is supplied later, the field data can be compared to that information to judge the accuracy of the information.

The district and contract firm appraisal staff members are not assigned any one geographical area of the county. The nature of the business and whether the district has the staff resources available determines which properties are valued by contract firms and which properties are valued by the district's appraisal staff. New district appraisers are trained by accompanying appraisers who have performed field visit and appraisal functions for several years. Each district appraiser is responsible for the completeness and correctness of their valuation work, but a new appraiser is encouraged to seek the advice of and review by experienced appraisal staff if that person is not sure of their value estimation results.

VALUATION ANALYSIS (MODEL CALIBRATION)

Final Valuation Schedules

The schedules used by the contract appraisal firm are from commercial building valuation systems for real property improvements. The real property valuation schedules are updated periodically. The valuation schedule incorporated into the district's contract appraiser's records are updated annually using a calculated index factor.

TGCAD develops schedules based on indexed Marshall & Swift depreciation factors for use in the valuation of all business and industrial personal property. These schedules are updated annually by TGCAD appraisal staff. The contract appraisal firms use similar schedules and methodology based on their experience in valuing real and personal property.

INDIVIDUAL VALUE REVIEW PROCEDURES

Field Review

The district's personnel periodically review their assigned real and personal property accounts where there is evidence of change at a facility and when there is not, these accounts are revisited on a two to three-year cycle. Certain properties are reviewed annually because experience shows that changes are occurring continually in the real or personal property at that facility. Properties assigned to contract appraisal firms are reviewed annually because changes also occur regularly at these facilities.

The results of prior year hearings and indication of building permits being issued are another source of required field visits. Many times, during hearings, issues are presented that cause a value adjustment. Those issues must be field checked to see if these influences will be on going and warrant permanent value adjustment or are transitory and permanent adjustment is not warranted. This information needs to be recorded so the appraiser will be better able to estimate the property value. Building permits must be field checked to see what affect these have on existing structures. Any new construction is noted and the

information necessary to value the structure is recorded. Additionally, any structure demolition is noted so the improvement value can be adjusted accordingly.

Part of the field review includes noting any land characteristics that would affect the land value. The contract appraisal firms must advise the district of any characteristics that would affect the value of the land associated with that assigned facility.

Office Review

All properties not subjected to field review are reviewed in the office by the district appraiser assigned to real or personal properties. The office review relies on historical information in the real or personal property file as the basis for deciding on the estimated value to be placed on the property for the current tax year.

When valuing real property, the characteristics of the property being reviewed are the driving force in value estimation. Experience in valuing other real property, such as a similar building elsewhere, helps the appraiser decide the estimated value to be placed on the subject improvements.

When valuing personal property, the type of furniture, equipment, computers, etc., will be used along with any cost data provided by the property owner to estimate the value. Experience in valuing similar property at other facilities will help the appraiser estimate the value of the subject facility. Individual characteristics of the property, such as usage and maintenance will have a bearing on the value calculated by use of District schedules.

PERFORMANCE TESTS

Sales Ratio Studies

Ratio studies are an important tool to examine how close appraised values are to market values. The ratio study may use available sales data or may use independent, expert appraisals. Typically, there are not enough sales of industrial properties to show representativeness of that class of property in a ratio study. Ratio studies of industrial properties usually must rely on independent appraisals as an indicator of market values.

Comparative Appraisal Analysis

This type of analysis is usually not done on industrial properties due to the unique nature of the property and because of time and budget constraints regarding available appraisal staff. Only in an instance where a jurisdiction would file a jurisdiction challenge with the Appraisal Review Board would the district perform such an analysis.

If a jurisdiction challenge is received by TGCAD on an industrial category of properties, the appraisers assigned to those accounts will research the appraisal roll to see what other similar properties exist. The real property values can be compared on an average value per square foot of structure basis, but the differences from one facility to another must be carefully compared because it is unlikely that two different facilities are going to build like improvements and use them in similar ways. In like manner, the personal property values can be compared per category, such as furniture and fixtures, machinery and equipment, etc., but the same comparison of the type of and use of the property must be examined to ensure property comparison.

13. Business Personal Property Valuation

Appraisal Responsibility

There are four different personal property types appraised by the district's personal property section:

- Business Personal Property accounts
- Leased Assets
- Vehicles
- Multi-Location Assets.

There are approximately 5,556 business personal property accounts in Tom Green County (9/4/2020).

Resources – Personnel

The personal property staff consists of a senior appraiser and two staff appraisers.

Resources - Data

A common set of data characteristics for each personal property account in Tom Green County is collected in the field and data entered to the district's computer. The property characteristic data drives the computer-assisted personal property appraisal (CAPPA) system. The field data is collected by the personal property appraisers.

VALUATION APPROACH (Model Specification)

SIC Code Analysis

Four-digit numeric codes, called Standard Industrial Classification (SIC) codes that were developed by the federal government. These classifications were used by TGCAD to develop the locally specific codes which are used to classify personal property by business type. TGCAD has further stratified these codes by adding alpha codes in order to group business types that have similar personal property characteristics.

All the personal property analysis work done in association with the personal property valuation process is code specific. There are in excess of 231 TGCAD personal property codes. Local codes are delineated based on observable aspects of homogeneity. This code delineation is periodically reviewed to determine if further code delineation is warranted.

Highest and Best Use Analysis

The highest and best use of property is the reasonable and probable use that supports the highest present value as of the date of the appraisal. The highest and best use must be physically possible, legal, financially feasible, and productive to its maximum. The highest and best use of personal property is normally its current use.

DATA COLLECTION AND VALIDATION

Data Collection Procedures

Personal property data collection procedures are published and distributed to all appraisers involved in the appraisal and valuation of personal property. The appraisal procedures are reviewed and revised to meet the changing requirements of field data collection. The most recent revision of the personal property data collection procedures was in 2005.

Sources of Data

Business Personal Property

The district's property characteristic data was originally received from the Tom Green County Tax Assessor/ Collector's records, and various school district records in 1981, and where absent, collected through a massive field data collection effort coordinated by the district over a period of time. When revaluation activities permit, district appraisers collect new data via an annual field drive-out. This project results in the discovery of new businesses not revealed through other sources. Discovery methods also include onsite inspections using location address listings from the current appraisal roll, information obtained from the Tom Green County's Clerk's office of assumed name registrations, Sales Tax Permit information from the State Comptroller's office, telephone directory information, and radio and television advertising. Tax assessors, city and local newspapers, and the public often provide the district information regarding new personal property and other useful facts related to property valuation.

Vehicles

An outside vendor provides TGCAD with a listing of vehicles within Tom Green County. The vendor develops this listing from the Texas Department of Transportation (DOT) Title and Registration Division records. Other sources of data include property owner renditions and field inspections.

Leased and Multi-Location Assets

The primary source of leased and multi-location assets is property owner renditions of property. Other sources of data include field inspections.

VALUATION AND STATISTICAL ANALYSIS (model calibration)

Cost Schedules

Cost schedules are developed by SIC code and locally specific code by district personal property appraisers. The cost schedules are developed by analyzing cost data from property owner renditions, hearings, state schedules, and published cost guides. The cost schedules are reviewed as necessary to conform to changing market conditions. The schedules are typically in a price per square foot format, but some exception SIC's are in an alternate price per unit format, such as per room for hotels.

Statistical Analysis

Summary statistics including, but not limited to, the median, weighted mean, and standard deviation provide the appraisers a analytical tool by which to determine both the level and uniformity of appraised value by SIC code. Review of the standard deviation can discern appraisal uniformity within SIC codes.

Depreciation Schedule and Trending Factors:

Business Personal Property

TGCAD's primary approach to the valuation of business personal property is the cost approach. The replacement cost new (RCN) is either developed from property owner reported historical cost or from TGCAD developed valuation models. The trending factors used by TGCAD to develop RCN are based on published valuation guides. The percent good depreciation factors used by TGCAD are also based on published valuation guides. The index factors and percent good depreciation factors are used to develop present value factors (PVF), by year of acquisition.

Computer Assisted Personal Property Appraisal (CAPP)

The CAPP valuation process has two main objectives: 1) Analyze and adjust existing SIC models. 2) Develop new models for business classifications not previously integrated into CAPP. The delineated sample is reviewed for accuracy of SIC code, square footage, field data, and original cost information. Models are created and refined using actual original cost data to derive a typical replacement cost new (RCN) per square foot for a specific category of assets. The RCN per square foot is depreciated by the estimated age using the depreciation table adopted for the tax year.

The data sampling process is conducted in the following order: 1) Prioritizing locally specific codes and SIC codes for model analysis. 2) Compiling the data and developing the reports. 3) Field checking the selected samples. The models are built and adjusted using internally developed software. The models are then tested against the previous year's data. The typical RCN per square foot (or applicable unit) is determined by a statistical analysis of the available data.

CAPP model values are used in the general business personal property valuation program to estimate the value of new accounts for which no property owner's rendition is filed. Model values are also used to establish tolerance parameters for testing the valuation of property for which prior data years' data exist or for which current year rendered information is available. The calculated current year value or the prior year's value is compared to the indicated model value by the valuation program. If the value being tested is within an established acceptable percentage tolerance range of the model value, the account passes that range check and moves to the next valuation step. If the account fails the tolerance range check, it is flagged for individual review. Allowable tolerance ranges may be adjusted from year to year depending on the analysis of the results of the prior year.

Vehicles

Value estimates for vehicles are provided by an outside vendor and are based on NADA published book values. Vehicles that are not valued by the vendor are valued by an appraiser using PVF schedules or published guides.

Leased and Multi-Location Assets

Leased and multi-location assets are valued using the PVF schedules mentioned above. If the asset to be valued in this category is a vehicle, then NADA published book values are used. Assets that are not valued by the vendor are valued by an appraiser using PVF schedules or published guides.

INDIVIDUAL VALUE REVIEW PROCEDURES

Office Review

Business Personal Property

A district valuation computer program exists in a mainframe environment that identifies accounts in need of review based on a variety of conditions. Property owner renditions, accounts with field or other data changes, accounts with prior hearings, new accounts, and SIC cost table changes are all considered. The accounts are processed by the valuation program and pass or fail preset tolerance parameters by comparing appraised values to prior year and model values. Accounts that fail the tolerance parameters are reviewed by the appraisers.

Vehicles

A vehicle master file is received from an outside vendor and vehicles in the district's system from the prior year are programmatically matched to current DOT records. The vehicles remaining after the matching process are sorted by owner name and the owners are then prioritized by the number of vehicles owned. These vehicles are then matched to existing accounts and new accounts are created as needed. Vehicles that are not valued by the vendor are valued by an appraiser using PVF schedules or published guides.

Leased and Multi-Location Assets

Leasing and multi-location accounts that have a high volume of vehicles or other assets are loaded programmatically if reported by the property owner electronically. Electronic renditions, usually on diskette, often require reformatting before they can be loaded to the account. Accounts that render by hard copy are either data entered by CAD or sent to an outside data entry vendor.

After matching and data entry, reports are generated and reviewed by an appraiser. Once proofed, the report is then mailed to the property owner for review. Corrections are made and the account is noticed after supervisor approval.

PERFORMANCE TESTS

Ratio Studies

Each year the Property Tax Division of the state comptroller's office conducts a property value study (PVS). The PVS is a ratio study used to gauge appraisal district performance. Results from the PVS play a part in school funding. Rather than a sales ratio study, the personal property PVS is a ratio study using state cost and depreciation schedules to develop comparative personal property values. These values are then compared to TGCAD's personal property values and ratios are formed.

Internal Testing

TGCAD can test new or revised cost and depreciation schedules by running the valuation program in a test mode prior to the valuation cycle. This can give appraisers a chance to make additional refinements to the schedules if necessary.

14. Agricultural Valuation & Guidelines

Range Land Values

Rangeland is classed according to soil type and its capacity to produce forage. Soil types and their capacities are determined by the U.S. Department of Agriculture and published in the Tom Green County Soil Survey. The stocking rate of each soil type provides information, along with income and expense information provided by the Tom Green County Appraisal District Agricultural Advisory Board, to determine the Agricultural Values of each soil class.

Schedule of per Acre Values for Ag Land (Cap Rate is 10.00%)

RANGELAND	2021 Value per Acre	2022 Value per Acre
Class RG-1	\$67.71	\$58.03
Class RG-2	\$61.56	\$52.76
Class RG-3	\$55.40	\$47.48

DRYLAND CROP	2021 Value per Acre	2022 Value per Acre
Class TD-1	\$284.90	\$283.50
Class TD-2	\$276.60	\$275.24
Class TD-3	\$262.77	\$261.48

IRRIGATED	2021 Value per Acre	2022 Value per Acre
Class TI-1	\$542.57	\$540.33
Class TI-2	\$526.77	\$524.59
Class TI-3	\$500.43	\$498.36

RANGELAND AG USE CALCULATION FOR 2022						
ITEM	2016	2017	2018	2019	2020	
CASH LEASE:						
Grazing	\$ 4.00	\$ 4.00	\$ 4.00	\$ 4.00	\$ 4.00	
Hunting	\$ 5.00	\$ 5.00	\$ 5.00	\$ 5.00	\$ 5.00	
Total Cash Lease	\$ 9.00	\$ 9.00	\$ 9.00	\$ 9.00	\$ 9.00	
EXPENSES:						
Tax	\$ 1.09	\$ 1.13	\$ 1.13	\$ 1.14	\$ 1.10	10%
Fence Depreciation	\$ 0.58	\$ 0.58	\$ 0.58	\$ 0.58	\$ 3.03	25%
Well Depreciation	\$ 0.18	\$ 0.18	\$ 0.18	\$ 0.18	\$ 1.17	13%
Management Expense @7%	\$ 0.63	\$ 0.60	\$ 0.60	\$ 0.63	\$ 0.63	0.07%
Brush Control	\$ 0.38	\$ 0.38	\$ 0.38	\$ 0.38	\$ 1.17	13%
Total Expenses	\$ 2.86	\$ 2.87	\$ 2.87	\$ 2.91	\$ 7.10	
NET RETURN TO LAND	\$ 6.14	\$ 6.13	\$ 6.13	\$ 6.09	\$ 1.90	
AVERAGE NET RETURN					\$ 5.28	
CAPPED AT 10%					\$ 52.76	
TAX CALCULATIONS:						
	2016	2017	2018	2019	2020	
Ag Value per TGCAD	\$ 59.20	\$ 60.35	\$ 61.56	\$ 63.01	\$ 62.16	
Average Total Tax Rate	0.018465	0.018759	0.018425	0.0181134	0.0176971	
Tax Amount Per Acre	\$ 1.09	\$ 1.13	\$ 1.13	\$ 1.14	\$ 1.10	
				2020	2021	
				VALUE	VALUE	
				PER	PER	
RANGE CLASSIFICATION:				ACRE	ACRE	
RG-1 (10%> than typical)				\$ 68.38	\$ 58.03	
RG-2 (typical)				\$ 62.16	\$ 52.76	
RG-3 (10%< than typical)				\$ 55.94	\$ 47.48	
MEMO:						
Percent greater or less determined from predicted yields of soil/slope as provided by Soil Conservation Survey (FSA) maps.						

TOM GREEN COUNTY APPRAISAL DISTRICT
DRYLAND CROP AG USE CALCULATION FOR 2022

ITEM	2016	2017	2018	2019	2020
CASH LEASE:					
Lease Income	\$ 35.50	\$ 35.00	\$ 35.00	\$ 35.00	\$ 35.00
EXPENSES:					
Less Taxes	\$ 5.14	\$ 5.24	\$ 5.17	\$ 5.10	\$ 4.94
Less Management @7%	\$ 2.49	\$ 2.45	\$ 2.45	\$ 2.45	\$ 2.45
Total Expenses	\$ 7.62	\$ 7.69	\$ 7.62	\$ 7.55	\$ 7.39
NET RETURN TO LAND	\$ 27.88	\$ 27.31	\$ 27.38	\$ 27.45	\$ 27.61
				\$ 110.01	\$ 137.62
AVERAGE NET RETURN					\$ 27.52
CAPPED AT 10%					\$ 275.24
TAX CALCULATIONS:					
Ag Value per TGCAD	\$ 278.33	\$279.43	\$280.66	\$ 281.63	\$ 279.16
Average Total Tax Rate	0.018465	0.0187588	0.018425	0.018113	0.0176971
Tax Amount Per Acre	\$ 5.14	\$ 5.24	\$ 5.17	\$ 5.10	\$ 4.94
LAST YEAR					
GROSS					
DRYLAND CLASSIFICATION:			2021		2022
T-D-1 (3%> than Typical)			\$ 284.90		\$283.50
T-D-2 (Typical)			\$ 276.60		\$ 275.24
T-D-3 (5%< than typical)			\$262.77		\$261.48
MEMO:					
Percent greater or less determined from predicted yields of soil/slope as provided by Soil Conservation Survey (FSA) maps.					

TOM GREEN COUNTY APPRAISAL DISTRICT						
IRRIGATED CROP AG USE CALCULATION FOR 2022						
ITEM	2016	2017	2018	2019	2020	
CASH LEASE:						
Lease Income	\$ 65.00	\$66.00	\$ 68.00	\$ 69.00	\$ 70.00	
EXPENSES:						
Less Taxes	\$ 9.12	\$ 9.83	\$ 9.57	\$ 9.40	\$ 9.23	
Less Management @7%	\$ 4.55	\$ 4.62	\$ 4.76	\$ 4.83	\$ 4.90	
Well Depreciation					\$4.90	
Total Expenses	\$ 13.67	\$ 14.45	\$ 14.33	\$ 14.23	\$ 19.03	
NET RETURN TO LAND	\$ 51.33	\$ 51.55	\$ 53.67	\$ 54.77	\$ 50.97	
AVERAGE NET RETURN					\$ 52.46	
CAPPED AT 10%					\$524.59	
TAX CALCULATIONS:						
	2016	2017	2018	2019	2020	
Ag Value per TGCAD	\$ 494.02	\$523.76	\$519.58	\$ 518.78	\$ 521.54	
Average Total Tax Rate	0.018465	0.018759	0.018425	0.018113	0.017692	
Tax Amount Per Acre	\$ 9.12	\$ 9.83	\$ 9.57	\$ 9.40	\$ 9.23	
		2021		2022		
IRRIGATED CROP CLASSIFICATION:						
		GROSS		GROSS		
T-i-1 (3%> than typical)		\$ 542.57		\$ 540.33		
T-i-2 (typical)		\$ 526.77		\$ 524.59		
T-i-3 (5%< than typical)		\$ 500.43		\$ 498.36		
MEMO:						
Percent greater or less determined from predicted yields of soil/slope as provided by Soil Conservation Survey (FSA) maps.						

Historical Tax Rates for Ag Use Calculations

<u>JURISDICTION</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>
Christoval	1.21100	1.21744	1.21744	1.21575	1.05470
Grape Creek	1.35945	1.37602	1.37600	1.27435	1.23080
Irion WCD					
Miles	1.50678	1.52000	1.49330	1.38902	1.34640
Red Creek M.U.D.					
SAISD	1.22000	1.21000	1.21000	1.13000	1.20380
Sterling WCD					
Tom Green Cnty Emerg.					
Veribest	1.29000	1.29000	1.29000	1.18840	1.17470
Wall	1.31800	1.33992	1.32800	1.23570	1.22900
Water Valley	1.36000	1.36000	1.32000	1.32000	1.30000
Combined School Rates	9.26523	9.31338	9.23474	8.75322	8.53940
No. of Schools	7	7	7	7	7
Average School Tax Rate	1.323604	1.330483	1.319249	1.25046	1.21991
Lipan-Kickapoo	0.0104	0.01040	0.01000	0.00971	0.00951
Tom Green County	0.5125	0.53500	0.52500	0.55117	0.54980
Average Total Tax Rate	1.84650	1.87588	1.85425	1.81134	1.76971

AGRICULTURAL PRODUCTIVITY VALUATION AND GUIDES

Introduction

A publication manual by the State Comptroller's Office entitled *Guidelines for the Valuation of Open-Space Land* gives suggested guidelines pursuant to the Texas Constitution, Article VIII, Section 1-d and 1-d-1.

This manual is an official administrative rule that has the force of law, and has been adopted by the State Comptroller's office and approved by a committee composed of the Governor, the Comptroller, the Attorney General, the Agricultural Commissioner, and the General Land Office Commissioner.

Suggestions from this publication set the basic procedural guidelines for determination of agricultural use values set forth in this report.

Purpose

The purpose of this section of the appraisal manual is to explain the agricultural productive valuation of land in the Tom Green County Appraisal District.

Assumptions and Limiting Conditions

Appraisals for ad valorem tax purposes require assumptions and generalizations on land categories. The inherent nature of ad valorem tax appraisals prohibits each parcel of land from being individually and extensively analyzed.

This appraisal is conducted for the purpose as stated and should not be used for any other purpose.

Land Categorization System

In mass appraisal for ad valorem tax purposes, the derivation of value on an individual basis is not practical or advisable. For this reason, a system of land categorization is utilized that enables homogeneous land types to fall into a land category or classification.

The development of a workable and comprehensive land categorization system is an important phase in an agricultural use evaluation. The land categorization system must adjust for physical, legal, and economic factors relative to agricultural use. The land categorizations system must also be harmonious with the market value categorization system to allow for the rollback provisions of the Texas Constitution. This co-ordination of agricultural categories and market categories facilitate the efficient use of personnel in the tax equalization process and in tax administration.

Land Productivity Valuation

Two amendments to the Texas Constitution permit agricultural and open-space land to be taxed generally on its agricultural-use or productivity value. This means that taxes would be assessed against the productive value of the land instead of the selling price of the land in the open market. This permits the land to be taxed in proportion to its ability to produce agricultural products and not based on the land's value to society in general.

The legal basis for special land appraisal is found in the Texas Constitution in Article VIII, Sections 1-d and 1-d-1. The two types of land valuation are commonly called "ag- use" or "1-d" and "open-space" or "1-d-1". The corresponding provisions of the Texas Property Tax Code are Sections 23.41 through 23.46, Agriculture Land and Sections 23.51 through 23.57, Open-space Land.

The purpose of the provisions is similar. Under both provisions, the land must be in agricultural use and is valued in the same manner. However, there are differences in the qualifications that must be met in order to receive the productivity valuation.

1. Ag-use or 1-d qualifications:

- a. The land must be owned by a natural person (partnerships, corporations, or organizations may not qualify.)
- b. The land must have been in agricultural use for three (3) years prior to claiming this valuation. The owner must apply for the designation each year and file a sworn statement about the use of the land.
- c. The agricultural business must be the landowner's primary occupation and source of income.

2. **Open-space or 1-d-1 qualifications:**

- a. The land may be owned by an individual, corporation, or partnership.
- b. The land must be currently devoted principally to agricultural use to the degree of intensity that is common for the area.
- c. The land must have been devoted to a qualifying agricultural use for at least five (5) of the past even (7) years.
- d. Agricultural business need not be the principle business of the owner.
- e. Once an application for 1-d-1 is filed and approved, a landowner is not required to file again if the land qualifies unless ownership changes or the chief appraiser requests another application to confirm current qualification.

The possibility for a "rollback tax" exists under either form of special-use land appraisal. This liability for additional tax is created under 1-d valuation by either sale of the land or a change in use of the land. It extends back to the three years prior to the year in which the sale or change occurs.

Under 1-d-1, a rollback is triggered by a change in use to a non-agricultural purpose that would not qualify for productivity valuation. Taxes are rolled back or recaptured for the five years preceding the year of the change.

The additional tax is measured by the difference between taxes paid under productivity valuation provisions and the taxes that would have been paid if the land had been put on the tax roll at market value.

These provisions are effective only if applications are filed with the appraisal district office in a timely manner. Applications should be filed between January 1 and May 1. Applications received and May 1 and until the appraisal records are approved by the ARB are subject to a penalty for late filing. Applications may not be filed after the records are approved for that tax year by the ARB.

The manual for the Appraisal of Agricultural Land defines "change of use" as a physical change in the use of the land to a non-ag use. Non-use, leaving the land idle beyond a typical period, or letting the land revert to its natural state without ag use or participation in a government program requiring non-use, is considered a change of use and will trigger rollback procedures. Changes of use, verified through inspection, can be determined at any time during the tax year. Typically, TGCAD will try to contact the owner by mail informing them that a recent inspection has raised questions about the qualification as 1-d-1 land. The owner is requested to reapply and contact the appraisal district with any questions or concerns.

Once the change of use is verified, the owner is notified that his/her property no longer qualifies for ag appraisal. The notice will include rollback value information for the preceding three (3) years. The denial of Agricultural Appraisal can be protested before the ARB. The appraisal roll for that year is changed and the taxable values are sent to the appropriate tax offices for assessment and collection.

Property can also be denied agricultural appraisal for the current tax year if the degree of intensity of use does not meet local standards. Under-utilization causes the ag appraisal to be denied, but it does not initiate roll back procedures since the use did not change, only the intensity. Prudent management often will necessitate changes in intensity. Rotational grazing, crop rotation, natural disaster, climactic variations are examples that may justify intensity variances. Before any ag denials are issued these will be investigated.

Classifications

It is the opinion of the Tom Green County Appraisal District that the attached land descriptions and classification guidelines are valid for mass appraisal purposes and can be applied uniformly throughout the

appraisal district.

It should be noted that these guidelines are to be used as general guide for qualifying agricultural land. Exceptions to the general rule will be handled on a case by case basis.

PASTURE AND RANGELANDS

RG-Pasture and Rangeland:

Pasture and Rangeland are composed of relatively level to gently or moderately sloping to rolling pastures, having both native and introduced grasses along with occasional scattered brush. These lands have characteristics that warrant their continued use as grasslands.

Pasture classifications potentially have 3 classes which are determined by soil type and productivity of the soil.

Agricultural Land Qualification Policy Statement

The general policy of the Tom Green County Appraisal District is in accordance with the State Property Tax Code's qualification guidelines for agricultural use. The district's policy is that for ag-use valuation to be applied, the land must:

1. Be utilized to the "degree of intensity" generally accepted in Tom Green County.
2. Be managed in a "typically prudent manner".
3. Be a substantial tract of land.

In accordance with the State Property Tax Code guidelines, the net-to-land is based on a five-year average of the years preceding the year of the appraisal. This five-year average tends to remove fluctuations in value because of varying prices, yields, weather conditions, and costs. Only the factors associated with the land's capacity to produce marketable agricultural and recreational (hunting) products are considered in estimating the productivity values.

Only typical cash leases are used for this estimation of productivity values.

Definitions of Key Words and Phrases

Prudent: Capable of making important management decisions, shrewd in the management of practical affairs. Specifically, the law states that the land must be utilized as would an ordinary and prudent manager in the area of the taxing unit. Normally, prudent farm or ranch managers are ordinary farmers in terms of acres farmed as well as management ability. Given that all other factors remain constant, the number of acres farmed determines the farmer's capital structure. It is assumed that prudent farm or ranch managers in a given area are assumed to have similar equipment of similar value and utility.

Substantial: Ample to satisfy; considerable in quantity. Specifically, the law states that the agricultural land must be an identifiable and substantial tract of land. This means that the tract must be of adequate size to be economically feasible to farm or ranch.

Typically: exhibiting the essential characteristics of a group. Specifically, the law states that ag land will be utilized as would a typical or ordinary prudent manager. Statistically, a typically prudent manager is the median farmer or rancher.

Agricultural use to the degree of intensity generally accepted in the area: farming or ranching to the extent that the typically prudent manager in the area of the taxing unit would farm or ranch on an identifiable and substantial tract of land when the tract is devoted principally to agricultural use. The farming and ranching practices (cropping patterns, planting rates, fertilization methods, harvesting and marketing techniques, etc.) are those of a typically prudent farm or ranch manager.

Area: that land that is located inside the jurisdictional boundaries of the Tom Green County Appraisal District.

Principally: the more important use in comparison with other uses to which the land is put.

Market and Productivity Schedules

Qualified agricultural land is taxed on its productivity value. To determine that value, the CAD first must calculate the typical property owner's income that is generated by the land after certain expenses have been paid -commonly known as net- to land. The Property Tax Code then requires the CAD to divide the average net-to-land for a five- year period by the annual cap rate to arrive at the land's productivity value.

15. Procedures for Developing a Mass Appraisal

What is Mass Appraisal?

Mass appraisal is the process of valuing a universe (a large number) of properties as of a given date, using standardized procedures, in a manner that allows for statistical testing.

As of a Given Date:

The Texas Constitution and the Texas Property Tax Code require that taxable property be appraised at its market value on January 1 of a given tax year, even though the physical examination of the property may be done on an earlier or later date.

Using Standardized Procedures:

The law requires the appraiser to use recognized appraisal techniques, and to use the same or similar techniques in appraising the same or similar properties.

Allows for Statistical Testing:

Statistical testing techniques are widely used in mass appraisal. They help produce better and more consistent value estimates. They allow the appraisal district and the taxpayer to evaluate the results of the mass appraisal.

Summary:

To summarize, in a mass appraisal system the appraisal district first collects detailed descriptions of each taxable property in the district. It then classifies properties according to a variety of factors, such as size, use and construction types. Using data from recent property sales and construction costs to replace the improvements at the same level of utility. With the help of modifiers that compensate for minor differences between individual properties, such as differences in age or location, the appraisal uses typical properties as benchmarks, or reference points, to appraise all the properties in each classification. Lastly, the computer is used in mass appraisal to make the process more efficient and the results more uniform.

Overview & Sales Data Collection

In order to evaluate the accuracy of the schedule values, property sales information is collected throughout the year. Each property buyer receives a sales letter along with any other necessary forms as soon as the CAD office updates the ownership in the appraisal records. When the sales letter is returned, the sale amount and any other pertinent information are recorded within that parcel's sales records. Information is gathered also from real estate offices, other appraisers, other appraisal districts, and state reviewers.

All credible information is included in the sales records and confirmation is attempted through additional sales letters (to buyers and sellers as necessary) or other personal contact. Given that the State of Texas is a non-disclosure state, and that the information needed by the Appraisal District is often confidential in nature, the market analysis performed is limited by the availability of pertinent and complete data, including sales prices, sales conditions and circumstances, income and expense data, etc.

Each sale is analyzed to determine the conditions of the sale. All sales included in the study must be a "market value" transaction, as defined in the Texas Property Tax Code, Section 1.04(7), and quoted earlier in

this manual. Any sale determined to not be an "arm's length" transaction is then omitted from the final study. Several criteria are also considered when determining if each sales price needs any adjustment including, but not limited to: date of sale (in comparison to date of appraisal), special or unusual financing terms, inclusion of personal property, inclusion of intangible value, and significant variances between the market value and the sale price due to physical changes to the property that cannot be accounted for due to the January 1 target date. If adjustments can be made to the sales price to show a current, "arm's length" value (including time and financing adjustments), the adjusted value is used in the ratio study. Any adjustments to reported sales prices must be discussed, debated, and approved by the appraisal supervisor and the Chief Appraiser.

Sales used to determine real estate value should not include value that can be attributed to personal property or intangible value. For example, if a home sells, and the transaction included personal property (vehicles, boats, furniture, free-standing appliances, tools, etc.), the value associated with that personal property should be deducted from the reported sales price. The resulting, adjusted sales price is then used in the ratio study. Likewise, commercial property transactions often include both personal property and intangible value. For example, if a motel sells and the buyer purchased the motel franchise along with the real estate, the value of the franchise (being intangible) should be deducted from the sales price before being used in any market study. Determining the value of any intangibles in any transactions can be problematic and will require research into the industry and the local and similar markets. Although suspected by the appraisal staff, and often reported by buyers, adjustment for intangibles requires confirmation from outside sources and the seller.

Financing adjustments occur rarely. Typically, prudent buyers will strive to acquire the most reasonable financing available, and then purchase the property of their choice using that same financing. Atypical financial arrangements usually accompany transactions that would not be considered "arm's length" and would therefore be omitted from the ratio study.

Time adjustments are adjustments to the reported sales price of the property that are made when and if it can be proven that the general market trend in an area is changing over a given time period. While relatively simple to calculate in the abstract, time adjustments are extremely difficult to quantify without substantial data, especially in small, rural markets. If a typical property transfers more than one time in a given time period (ideally no more than 1 year), each time being an arms-length transaction, with typical financing, and without physical changes to the property, the difference in the sales prices can be attributed to the general market. This difference, expressed as a positive or negative percentage per month, can then be applied to other property's sales prices to adjust the price to a standard date, usually January 1st of the appraisal year. For example, a residence may sell for \$50,000 on June 1st and then sell again October 1st (5 months later) for \$55,000. The difference of \$5,000 (or 10% of the original sales price) is allocated as a market increase of 2% per month. A market Decrease is calculated in the same way. If this was an arms-length transaction of a typical property, that same percentage of increase or decrease can be used on other sales to adjust their sales prices to the January 1 target date.

A statistical analysis of each class of property is conducted using the available, credible, and adjusted sales information. Within each class of property, the appraisal district looks for not only an acceptable median value, but also a reasonable COD. Each of these values is considered when determining whether to adjust a class schedule, and by how much. The sample size of each class analysis is also a major consideration. Classes that exhibit little or slow activity are allowed a larger variance since minimal data sets (small samples) may tend to give incomplete analysis or biased results for an entire statistical population.

Once a median value indicates that a particular property type or class needs adjustment, and the COD value reflects a consistent result, schedule values are recalculated to produce a revised analysis. The resulting

median ratio should indicate that the adjusted appraised values of property more closely matches the current market value, as tested by the sales used in the analysis. The appraised values of all properties sold and unsold, within that type or class are then recalculated, using the increase or decrease indicated by the ratio study, and submitted for notification.

A similar process is used to determine whether any neighborhood factors are needed by analyzing sales within a specific area (market segments) in comparison to the overall general market. These areas could be neighborhoods, cities, school districts or any other definable area within the appraisal district that displays market trends or values differing from the trends or values derived from the market. Any significant and quantifiable differences then need to be addressed with economic adjustments to the properties within the pertinent area.

Ratio Study Procedures

I. Collect and Post Sales Data

- A. Solicit sales information from all new property owners through sales letters and/or personal contact
- B. Collect sales information from outside appraisers and from fee appraisals presented
- C. Utilize sales information from Comptroller's office.
- D. Post sales information to the sales database
 - 1. Record actual sale price
 - 2. Note unusual financing
 - 3. Note non-arm length participants
 - 4. Adjust sales price for inclusion of personal property or intangible value
 - 5. Initiate frozen characteristics/partial sale codes if necessary
 - a) Imminent construction/renovation can bias any later analysis by including values not part of the original transaction
 - b) Sale including only a portion of the property described can also produce skewed results

II. Preliminary Analysis

- A. Run sales analysis (by type, group, or class) which includes all sales collected to date
- B. Note median result and COD
- C. Examine each sale included
 - 1. Compare sale ratio to median result
 - 2. Ratios substantially higher or lower than the median result (outliers) are singled out for further, in-depth analysis
 - a) Note seller-financial institutions, known real estate opportunists, probates, known persons who finance their own transactions
 - b) Note buyer-financial institutions, known real estate opportunists, and re-location companies
 - c) Examine deed records to confirm "arm's length" violations not evident from examination of buyer and seller
 - i) contract for deed
 - ii) assumption of previous note
 - iii) atypical financing
 - d) Reinspect properties to rule out any physical differences from the current property records
 - e) Outlier sales that cannot be excluded or adjusted due to the reasons given above are nonetheless included in the subsequent analysis

- D. Adjust original data set
 1. Omit sales that are not arm's length
 2. Adjust sales values for time or financing if necessary and possible
 3. Adjust appraisal values for physical differences if applicable

III. Secondary Analysis

A. Run sales analysis (by type, group, or class) utilizing information from preliminary analysis

B. Note median result and COD

1. Median value may or may not change significantly
2. COD value should improve

C. Note sample size

1. Compare number of sales within the class to the perceived number of total properties within the class
2. From experience and discussion among the appraisal staff, determine whether any median result different from 1.00 is significant

D. Attempt to increase sample size-if necessary

1. Utilize time adjustments if determinable
2. Keep in mind marketing time for local market and any trends
3. Be careful to not include more sales just for sales sake
4. Changing markets and trends cannot be reflected in sales that are too old without accurate time adjustments.

E. Apply results of analysis to current records

1. Any class whose median value is **NOT SIGNIFICANTLY** different from 1.00 does not require adjustment.
2. Any class whose median value indicates that an adjustment is necessary should be analyzed
 - a) Look at typical depreciation (age/condition) for that class as reflected in the sales analysis
 - b) Calculate increase necessary to raise the individual ratios to produce a median result of 1.00 (keeping in mind that because of depreciation, the percentage increase required is going to be necessarily larger than the difference in percentage points needed to reach a 1.00 result)
 - c) Apply the calculated increase to the database
3. Repeat procedure for all classes determined to need adjustment

F. Run analysis again to test results

IV. Examine results to identify neighborhoods that need adjustment

A. As individual sales are examined, note any areas/neighborhoods/sub-divisions that consistently show ratios significantly different from the median result

B. Run analysis excluding the area in question

C. Run analysis including only the neighborhood in question

D. Check for significant variance between the two results

E. Apply neighborhood factor to correct variance

16. Value Defense

Evidence to be used by the appraisal district to meet its burden of proof for market value and equity in both informal and formal appraisal review board hearings is contained within the Mass Appraisal Report for the current appraisal year. Specifically, appraisal cards, sales ratio studies and results, and individual sales records make up the foundation of any value defense. Other information, such as maps, photographs, and specific property comparisons can be produced depending on the specific concerns of the taxpayer. Taxpayers have the option to present their concerns and evidence informally to the chief appraiser, or by appointment with the Pritchard & Abbott staff. Should an understanding not be reached informally, the taxpayer may present their arguments to the Appraisal Review board as a formal appeal. The appraisal staff provided by Pritchard & Abbott Inc. defends the position of the chief appraiser before the ARB. The Appraisal District has the burden of proof for the value as notified. Evidence for further consideration by the CAD or the ARB should be presented by the taxpayer.

Informal Meetings: Any informal meeting with a taxpayer should be utilized as an opportunity for civil discussion and education for both the taxpayer and the CAD staff. After careful consideration of the taxpayer's concerns, the appraiser must explain the methods, procedures, and information used to arrive at the taxable value of the property in question. An outline follows.

1. The taxpayer presents their questions, concerns, or disagreements with the action of the CAD.
2. The appraiser responds with an explanation of the property card, market analysis, and/or situation that produced the taxable value.
3. The appraiser fully considers any additional evidence presented by the taxpayer that may have a bearing on the taxable value. If testimony is given of pertinent details, not accounted for in the current value, an inspection of the property is suggested to verify and quantify the suggested problem.
4. After careful and complete consideration of the evidence presented and verified testimony, a revised taxable value may be suggested to the taxpayer. As a rule, the appraisal supervisor or Chief Appraiser must approve any suggested changes that result from the following.
 - a. A change in Building Class of more than one grade
 - b. A change in Effective Year of more than 10 years.
 - c. A change in Condition Rating of more than one grade.
 - d. Any Functional Depreciation adjustment of more than 5%.
 - e. Any inclusion of Economic Obsolescence.
 - f. Any change in Exemption or Special Valuation Status.
5. Once an adjusted value is agreed upon, the appraiser or CAD staff must retain any evidence supporting the change and/or note the results of any inspection in the appraisal records.

Formal ARB Hearings: Formal ARB hearings are scheduled and held when no informal meeting is requested, or after no informal agreement can be reached. Following the posted ARB Procedures, the Chief Appraiser (or their designee) presents the justification of the current taxable value. An outline follows.

1. The taxpayer presents their questions, concerns, or disagreements with the action of the CAD to the ARB.
2. Addressing the specific concerns protested by the taxpayer and noted on the protest form, the Chief Appraiser (or their designee) responds with an explanation of the property card, market analysis, and/or situation that produced the taxable value.
3. An in-depth analysis of the market and how the subject property fits into the market analysis is prepared and presented to the ARB.
4. Once the ARB rules, any changes in value are recorded in the appraisal records and noted as an ARB decision.