

# Erath County Appraisal District

## 2021 – 2022 Amended Reappraisal Plan

Re-Adopted October 27, 2020

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### INTRODUCTION

#### *Scope of Responsibility*

The Erath County Appraisal District has prepared and published this reappraisal plan and appraisal report to provide our Board of Directors, citizens and taxpayers with a better understanding of the district's responsibilities and activities. This report has several parts: a general introduction and several sections describing the annual reappraisal effort by the appraisal district.

The Erath County Appraisal District (CAD) is a political subdivision of the State of Texas created effective January 1, 1980. The provisions of the Texas Property Tax Code govern the legal, statutory, and administrative requirements of the appraisal district. A member Board of Directors, appointed by the taxing units within the boundaries of Erath County, constitutes the district's governing body. The chief appraiser, appointed by the Board of Directors, is the chief administrator and chief executive officer of the appraisal district.

The appraisal district is responsible for local property tax appraisal and exemption administration for 19 jurisdictions or taxing units in the county. Each taxing unit, such as the county, a city, school district, water district, etc., sets its own tax rate to generate revenue to pay for such things as police and fire protection, public schools, road and street maintenance, courts, water and sewer systems, and other public services. Property appraisals, estimates of value, by the appraisal district allocate the year's tax burden on the basis of each taxable property's market value. We also determine eligibility for various types of property tax exemptions such as those for homeowners, the elderly, disabled veterans, charitable or religious organizations and agricultural productivity valuation.

Except as otherwise provided by the Property Tax Code, all taxable property is appraised at 100% of its "market value" as of January 1<sup>st</sup>. The 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:

- exposed for sale in the open market with a reasonable time for the seller to find a purchaser;

- both the seller and the buyer 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;
- both the seller and buyer seek to maximize their gains and neither is in a position to take advantage of the exigencies of the other.

The Property Tax Code defines special appraisal provisions for the valuation of residential homestead property (Sec. 23.23), productivity (Sec. 23.41), real property inventory (Sec. 23.12), dealer inventory (Sec. 23.121, 23.124, 23.1241 and 23.127), nominal (Sec. 23.18) or restricted use properties (Sec. 23.83) and allocation of interstate property (Sec. 23.03). The owner of real property inventory may elect to have the inventory appraised at its market value as of September 1<sup>st</sup> of the year preceding the tax year to which the appraisal applies by filing an application with the chief appraiser requesting that the inventory be appraised as of September 1<sup>st</sup>.

The Texas Property Tax Code, under Sec. 25.18, requires each appraisal office to implement a plan to update appraised values for real property at least once every three years. The district's current policy is to conduct a general reappraisal of taxable property every year. Appraised values are reviewed annually and are subject to change. Business personal properties, minerals and utility properties are appraised every year.

The appraised value of real estate is calculated using specific information about each property. Using computer-assisted mass appraisal programs, and recognized appraisal methods and techniques, we compare that information with the data for similar properties, and with recent cost, market, and income data where applicable. The district follows the standards of the International Association of Assessing Officers (IAAO) regarding its appraisal practices and procedures, and subscribes to the standards promulgated by the Appraisal Foundation known as the Uniform Standards of Professional Appraisal Practice (USPAP) to the extent they are applicable.

### ***Personnel Resources***

The office consists of 16 employees, the Chief Appraiser/Executive Director, 2 supervisory positions, 5 support positions, 1 cartographer and 6 appraisal staff and 1 part time position. The Chief Appraiser is primarily responsible for overall planning, organizing, staffing, coordinating, and controlling of district operations. The support staff function is to provide business functions, customer service, and appraisal support. The appraisal department is responsible for the valuation of all real and personal property accounts. The property types appraised include commercial, residential, business personal, mineral, utilities, and industrial. The district's appraisers are subject to the provisions of the Property Taxation Professional Certification Act and must be duly registered with the Texas Department of Licensing and Regulation (TDLR). Support functions including records maintenance, information and assistance to property owners. Personnel in support services also coordinate appraisal review board hearings.

### ***Staff Education and Training***

All personnel that are performing appraisal work are registered with the TDLR and are required to take appraisal courses to achieve the status of Registered Professional Appraiser within five years of employment as an appraiser. After they are awarded their license, they must receive additional training of a minimum of 30 hours of continuing education every two years. Of these, the registrant must get 2 hours of professional ethics, a laws and rules course and 7 hours of USPAP. Failure to meet these minimum standards results in the loss of licensing.

Additionally, all appraisal personnel receive hands on training in data gathering and analyses of various types of property to ensure equal and uniform appraisals, within mass appraisal standards. On the job training is provided by supervisors. They meet regularly with staff to introduce new procedures and regularly monitor appraisal activity to ensure that all personnel are following standardized appraisal procedures.

### ***Data***

The district is responsible for establishing and maintaining approximately 53,000 real and personal property parcels covering 1090 square miles within Erath County. The data gathered includes property characteristics, ownership, and exemption information. Property characteristic data is gathered through annual field inspection and Pictometry aerial photography which is now an accepted method of field review that we utilize when we can. Sales are gathered and verified through various sources including the MLS and internal sales enquiry letters. General trends in employment, interest rates, and new construction cost, and market data are reviewed through community resourcing.

The district has a geographic information system (GIS) that maintains cadastral maps and various layers of data and aerial photography. The district's website makes a broad range of information available for public access, including information on property characteristics data and certified values.

### ***Information Systems***

The Systems Administrator and the computer mapping department manage and maintain the district's data processing facility, software applications, Internet website, and geographical information system. The district operates from a server database with 18 connected PC's. The Mainframe hardware/system software is P2600 Dell server with 19 Dell Optiplex GX260 pentium PC's. The user base is networked through the server using Windows 2000 Server. Southwest Data Solutions provides software services for appraisal applications.

## **Independent Performance Test**

According to Chapter 5 of the TPTC and Section 403.302 of the Texas Government Code, the State Comptroller's Property Tax Division (PTD) conducts a semi-annual property value study (PVS) of each Texas school district and each appraisal district. As part of this annual study, the code requires the Comptroller to: use sales and recognized auditing and sampling techniques; test the validity of school district taxable values in each appraisal district and presume the appraisal roll values are correct when values are valid; and, determine the level and uniformity of property tax appraisals in each appraisal district. The methodology used in the property value study includes stratified samples to improve sample representativeness and techniques or procedures of measuring uniformity. This study utilizes statistical analyses of sold properties (sale ratio studies) and appraisals of unsold properties (appraisal ratio studies) as a basis for assessment ratio reporting. For appraisal districts, the reported measures include median level of appraisal, coefficient of dispersion (COD), the percentage of properties within 10% of the median, the percentage of properties within 25% of the median, and price-related differential (PRD) for properties overall and by state category. In the years that there is no PVS, the property tax division conducts the Methods and Assistance Program Review or MAP Review. This review of the appraisal district looks into the methodology, procedures, policies and the practices being utilized to accomplish fair and equal market values.

There are 13 independent school districts in Erath CAD for which appraisal rolls are annually generated. The preliminary results of this study are released January 31 in the year following the year of appraisal. The final results of this study are certified to the Education Commissioner of the Texas Education Agency (TEA) the following July of each year.

## Appraisal Activities

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### INTRODUCTION

#### *Appraisal Responsibilities*

The field appraisal staff is responsible for collecting and maintaining property characteristic data for classification, valuation, and other purposes. Accurate valuation of real and personal property by any method requires a comprehensive physical description of personal property, and land and building characteristics. This appraisal activity is responsible for administering, planning and coordinating all activities involving data collection and maintenance of all commercial, residential and personal property records located within the boundaries of Erath CAD. School district boundary lines comprise all of the property within the county. These school district boundary lines serve as Erath CAD market areas because of their importance in the school property value studies. Thus, the collection of data and analysis of comparable sales will focus in these market areas if possible. The data collection effort involves the field inspection of real and personal property accounts, as well as data entry of all data collected into the information system. The goal is to field inspect residential properties once every three years. Commercial and personal properties in the district are inspected every year. The appraisal opinion of value for all property located in the district is reviewed and evaluated each year. The following is a schedule of map ID's to be field inspected in the respective years covered by this plan.

2020		2021	2022
16-14-1	20-13-3	18-15-1	16-16-1
16-14-2	20-13-4	18-15-2	16-16-2
16-15-1	20-14-1	21-16-3	17-16-1
16-15-2	20-14-2		17-16-2
16-15-3	20-14-3		17-16-3
16-15-4	20-14-4		17-16-4
17-13-1	21-13-3		17-17-1
17-13-2	21-13-4		17-17-2
17-13-4	21-14-3		17-17-3
17-14-1	21-14-4		18-15-2
17-14-2			18-16-1
17-14-3			18-16-2
17-14-4			18-16-3
17-15-1			18-16-4
17-15-2			18-17-1
17-15-3			18-17-2
17-15-4			18-17-3
18-12-2			18-17-4
18-13-1			19-15-1
18-13-2			19-15-2
18-13-3			19-15-3
18-13-4			19-15-4
18-14-1			19-16-1
18-14-2			19-16-2
18-14-3			19-16-3
18-14-4			19-16-4
18-15-3			19-17-1
18-15-4			19-17-3
19-12-4			20-15-1
19-13-1			20-15-2
19-13-2			20-15-3
19-13-3			20-15-4
19-13-4			20-16-1
19-14-1			20-16-2
19-14-2			20-16-3
19-14-3			20-16-4
19-14-4			21-15-3
20-13-1			21-15-4
20-13-2			

**Jan.1** a. Date that taxable values & qualifications for certain exemptions are determined.

b. Date rendition period begins continues through April 1

c. Send notices to newspaper concerning exemptions & renditions

**Jan.10** a. Special Inventory due by 10<sup>th</sup> every month.

**Feb.1** a. Send Reset Letters

b. Notify Over /65 Home Owners of exemption possibilities

c. Last day for motor vehicle, etc. to file dealer's inventory declarations.

d. Date that previous years taxes become delinquent if a bill was mailed on or before Jan. 10<sup>th</sup>

**Apr.1** a. Last day (or as soon as practicable thereafter) for chief appraiser to mail notices of appraised value on residential homesteaded properties.

b. Last day to file renditions unless they request a filing extension in writing.

**April 1** a. Last day of reappraisals

**April 8** a. Data Entry Deadline

**April 15** a. Mail Notices

**Apr.30** a. Last day to file Freeport Exemption Applications.

b. Last day to file Ag Apps without penalty.

c. Last day for Chief Appraiser to certify ISD taxable estimates to schools.

**May 1** a. Mail any additional notices.

b. Begin informal ARB hearings.

**May 1** a. Renditions with written requests for extension due.

**May 1-15** Publish notice concerning protest procedures in newspaper.

**May 3** a. Last day (or as soon as practicable thereafter) for chief appraiser to mail notices of appraised value on Personal Property.

**May 15** a. Last day for property owners to file protests with the ARB (or by 30<sup>th</sup> day after notice of appraised value is delivered, whichever is later).

b. Begin Formal ARB hearings.

**July 1** a. Date that delinquent taxes incur total 12 percent penalty.

**July 20** a. Date ARB must approve roll.

**July 25** a. Last day for Chief Appraiser to certify appraisal roll to entities.

**Aug. 1** a. Last day for property owners to apply for Sept. 1 inventory appraisal.

b. Start reappraisals.

### ***Appraisal Resources***

- **Personnel** - 7 appraisers conduct the appraisal activities.
- **Data** - The data used by field appraisers includes the existing property characteristic information contained in CAMA (Computer Assisted Mass Appraisal System) from the district's computer system. The data is printed on a property appraisal record card. Other data used includes maps, sales data, fire and damage reports, building permits, photos and actual cost and market information. Sources of information are gathered using excellent reciprocal relationships with other participants in the real estate market place. The district cultivates sources and gathers information from both buyers and sellers participating in the real estate market.
- **Pictometry** – A collection of digital data consisting of photographic images, maps and elevation files is used to select, view, manipulate, measure and print data for appraisal purposes.

### ***Appraisal Frequency and Method Summary***

- **Residential Property**- Residential property is physically examined every three years with appraisers walking around each home, noting condition of the improvement and looking for changes that might have occurred to the property since the last on-site check. Exterior pictures are taken of homes as deemed necessary. Every residential classification is statistically analyzed annually to ensure that sales that have occurred in the classification during the past 18 months are within a +/-5% range of appraised value. If the sales do not indicate that range, adjustments are made to the classification using a process outlined in detail in the Residential Appraisal section of this report.
- **Commercial Property**- Commercial and industrial real estate is observed annually to verify class and condition. Pictures are taken of the improvements as deemed necessary. Real estate accounts are analyzed against sales of similar properties in Erath CAD as well as similar communities in surrounding areas that have similar economies. The income approach to value is also utilized to appraise larger valued commercial properties such as shopping centers, apartment complexes, office buildings, restaurants, motels and hotels, and other types of property that typically sell based on net operating income.
- **Business Personal Property**- Business personal property is observed annually with the appraiser actually going into businesses to develop quality and density



observations. A rendition is left for new businesses to complete. Similar businesses to a subject are analyzed annually to determine consistency of appraisal per square foot. Businesses are categorized using SIC codes. Rendition laws provide additional information on which to base values of all BPP accounts.

- Minerals- Working and royalty interests of producing oil and gas wells are appraised annually. The district contracts with Pritchard and Abbott, Inc. Valuation Consultants to value all oil and gas properties. They use the most recent production data available from the Texas Railroad Commission to estimate economically recoverable reserves. Those reserves are then valued based upon state mandated pricing using the previous year's average of oil or gas values. A discount is applied over the anticipated life of the well in order to consider the value of money over time to recover those reserves. Each producing lease is valued as a unit and then that value is divided according to the various owners of the lease listed in division orders.
- Utilities and Pipelines- Utility companies are appraised annually in house using rendition data and unit value appraisal data from the Comptroller's Property Value Study. We also use data from Pritchard and Abbott, Inc. that they use in determining their own value trends. Pipelines are also contracted out to Pritchard and Abbott, Inc. Pipeline values are determined based upon the media carried by the pipe, the size of the pipe, the age of the pipe, the cost of the pipe, and the through put (the amount of material carried by the pipe) of the pipe.

## **PRELIMINARY ANALYSIS**

### ***Data Collection/Validation***

Data collection of real property involves maintaining data characteristics of the property on the CAMA (Computer Assisted Mass Appraisal) system. The information contained in CAMA system includes site characteristics, such as land size, and improvement data, such as square foot of living area, year built, quality of construction, and condition. Field appraisers are required to use a property classification system that establishes uniform procedures for the correct listing of real property. All properties are coded according to a classification system. The field appraisers use property classification references during their initial training and as a guide in the field inspection of properties.

Data collection for personal property involves maintaining information on software designed to record and appraise business personal property. The type of information contained in the BPP file includes personal property such as business inventory, furniture and fixtures, machinery and equipment, with details such as cost, age and location. The field appraisers conducting on-site inspections use a personal property classification system during their initial training and as a guide to correctly list all personal property that is taxable.

Each appraiser has an appraisal manual that provides general guidelines as to the criteria used to properly code a structure. The ultimate determining factor however is to code the property to achieve market value.

### ***Sources of Data***

The sources of data collection are through property inspection, new construction field effort, pictometry, data review, data mailer questionnaires, hearings, sales validation field effort, commercial sales verification and field effort, newspapers and publications, and property owner correspondence by mail or via the Internet. A principal source of data comes from building permits received from taxing jurisdictions that require property owners to take out a building permit. The Multiple Listing Service of the Stephenville Board of Realtors is a reliable source of data, for both property description and market sales data. Area real estate brokers and managers are also sources of market and property information. Data surveys of property owners requesting market information and property description information is also valuable data. Agricultural surveys of farming and ranching property owners and industry professionals are helpful for productivity value calibration. Improvement cost information is gathered from local building contractors and Marshall and Swift Valuation Service. Surveys with property managers and operators to determine operating income and expenses for investment and income producing real property are preformed.

Data review of entire neighborhoods or areas is generally a good source for data collection. Appraisers walk entire neighborhoods to review the accuracy of our data and identify properties that have to be adjusted. The sales validation effort in real property pertains to the collection of market data for properties that have sold. In residential, the sales validation effort involves on-site inspection by field appraisers to verify the accuracy of the property characteristics and confirmation of the sales price. Commercial sales are gathered from any source that we can find and then verified through the parties to the best of our ability.

Property owners are one of the best sources for identifying incorrect data that generates a field check. Frequently, the property owner provides reliable data to allow correction of records without having to send an appraiser on-site. As the district has increased the amount of information available on the Internet, property owners have the opportunity to review information on their property and contact the district concerning discrepancies. Properties identified in this manner are flagged and inspected at the earliest opportunity.

### ***Data Collection Procedures***

The appraisers work map ID's throughout the district in conducting field inspections. The quality of the data gathered is extremely important in estimating market values of taxable property. While work performance standards such as quantity are important, quality of data is emphasized as the goal and responsibility of each appraiser. New appraisers are trained in the specifics of data collection and the classification system set forth and recognized as "rules" to follow. Experienced appraisers are routinely re-trained in listing procedures prior to major field

projects such as new construction, sales validation or data review. A quality assurance process exists through supervisory and data entry personnel's review of the work being performed by the field appraisers. Supervision is charged with the responsibility of ensuring that appraisers follow listing procedures, identify training issues and provide uniform training throughout the field appraisal staff.

### ***Data Maintenance***

Data gathered in the field is entered into the CAMA system by support staff. This provides a level of quality control since the data entry personnel has knowledge of proper consistency and coding of the information. The support staff also checks for data that does not appear to be correct and check with the appraiser for its accuracy. Audits are conducted constantly to assure consistency of data entry.

## **INDIVIDUAL VALUE REVIEW PROCEDURES**

### ***Field Review***

The date of last inspection and the CAD appraiser responsible are listed on the CAMA record or property card. If a property owner or jurisdiction disputes the district's records concerning this data during a hearing, via a telephone call or other correspondence received, the record may be corrected based on the evidence provided or an on-site inspection may be conducted. Typically, a field inspection is requested to verify this information for the current year's valuation or for the next year's valuation. Every year during the field review of property, the appraisers review property characteristics for accuracy to eliminate errors of previous field reviews.

### ***Office Review***

Office reviews are completed on properties where updated information has been received from the owner of the property and is considered accurate and correct. When the property data is verified in this manner, and considered accurate and correct, field inspections may not be required. The personal property department mails property rendition forms in December of each year to assist in the annual review of the property.

## **PERFORMANCE TEST**

In house ratio studies and comparative analysis are conducted on property classifications located within neighborhoods and throughout the district by appraisal staff. The sale ratio and comparative analysis of sale property to appraised property forms the basis for determining the level of appraisal and market influences and factors for the neighborhood or property category. This information is the basis for updating property valuation for the entire area of property to be evaluated. Field appraisers, in many cases, may conduct field inspections to insure the accuracy of the property descriptions at the time of sale for this study. This inspection is to insure that the ratios produced are accurate for the property sold and that appraised values utilized in the study are based on accurate property data characteristics observed at the time of

sale. Also, property inspections are performed to discover if property characteristics had changed as of the sale date or subsequent to the sale date. Sales ratios should be based on the value of the property as of the date of sale not after a subsequent or substantial change was made to the property after the negotiation and agreement in price was concluded. Properly performed ratio studies are a good reflection of the level of appraisal for the district.

## Residential Valuation Process

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### INTRODUCTION

#### *Scope of Responsibility*

The residential appraisers are responsible for estimating equal and uniform market values for residential improved and vacant property. There are approximately 25,000 residential single and multiple family parcels in Erath County.

#### *Appraisal Resources*

- **Personnel** - The residential appraisal staff consists of 5 appraisers. They are responsible for gathering data and estimating the market value of residential property:
- **Data** - An individualized set of data characteristics for each residential dwelling and multiple family units in the district are collected in the field and data entered to the computer. The property characteristic data drives the application of computer-assisted mass appraisal (CAMA) under the Cost, Market, and Income Approaches to property valuation.
- **Pictometry** – A collection of digital data consisting of photographic images, maps and elevation files used to select, view, manipulate, measure and print data used for appraisal purposes.

### VALUATION APPROACH

#### *Land Analysis*

Residential land valuation analysis is conducted prior to sales analysis. The value of the land component to the property is estimated based on available market sales for comparable and competing land under similar usage. A comparison and analysis of comparable land sales is conducted based on a comparison of land characteristics found to influence the market price of land located in the neighborhood or area. A computerized land table file stores the land

information required to consistently value individual parcels within neighborhoods and areas given known land characteristics. Specific land influences are considered, where necessary, and depending on neighborhood and individual lot or tract characteristics, to adjust parcels outside the neighborhood norm for such factors as access, view, shape, size, and topography.

### ***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 and provide the field appraiser a current economic outlook on the real estate market. Information is gleaned from real estate publications and sources such as continuing education in the form of IAAO, TAAD and TAAO classes.

### ***Neighborhood and Market Analysis***

Neighborhood or area analysis involves the examination of how physical, economic, governmental and social forces and other influences affect property value. Residential valuation and neighborhood analysis is conducted on various market areas within each of the political entities known as Independent School Districts (ISD). As stated earlier, these school districts are defined as the overall market areas for residential analysis in Erath CAD. Analysis of comparable market sales forms the basis of estimating market activity and the level of supply and demand affecting market prices for any given market area, neighborhood or district. Market sales indicate the effects of these market forces and are interpreted by the appraiser into an indication of market price ranges and indications of property component change considering a given time period relative to the date of appraisal. Cost and Market Approaches to estimate value are the basic techniques utilized to interpret these sales. For multiple family properties the Income Approach to value is also utilized to estimate an opinion of value for investment level residential property.

The first step in neighborhood analysis is the identification of a group of properties that share certain common traits. A "neighborhood" for analysis purposes is defined as the largest geographic grouping of properties where the property's physical, economic, governmental and social forces are generally similar and uniform. Geographic stratification accommodates the local supply and demand factors that vary across a jurisdiction. Once a neighborhood with similar characteristics has been identified, the next step is to define its boundaries. This process is known as "delineation". Some factors used in neighborhood delineation include location, sales price range, lot size, age of dwelling, quality of construction and condition of dwellings, square footage of living area, and story height. Delineation can involve the physical drawing of neighborhood boundary lines on a map, but it can also involve statistical separation or stratification based on attribute analysis. Part of neighborhood analysis is the consideration of discernible patterns of growth that influence a neighborhood's individual market. Few neighborhoods are fixed in character. Each neighborhood may be characterized as being in a stage of growth, stability or decline. The growth period is a time of development and

construction. As new neighborhoods in a community are developed, they compete with existing neighborhoods. An added supply of new homes tends to induce population shift from older homes to newer homes. In the period of stability, or equilibrium, the forces of supply and demand are about equal. Generally, in the stage of equilibrium, older neighborhoods can be more desirable due to their stability of residential character and proximity to the workplace and other community facilities. The period of decline reflects diminishing demand or desirability. During decline, general property use may change from residential to a mix of residential and commercial uses. Declining neighborhoods may also experience renewal, reorganization, rebuilding, or restoration, which promotes increased demand and economic desirability.

### ***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 residential property is normally its current use. In areas of mixed residential and commercial use, residential homestead properties will be valued as residential. Thus not considering the commercial highest and best use value.

## **VALUATION AND STATISTICAL ANALYSIS (Model Calibration)**

### ***Cost Schedules***

All residential parcels in the district are valued with a replacement cost estimated from identical cost schedules that have been modified using comparative sales data. The district's residential cost schedules were estimated from Marshall and Swift, a nationally recognized cost estimator service. The modified or hybrid schedules are reviewed regularly as a result of recent state legislation requiring that the appraisal district schedules be within a range of plus or minus 10% from nationally recognized cost schedules.

A review of the residential schedule is performed annually. As part of this review and evaluation process of the estimated replacement cost, newly constructed sold properties representing various levels of quality of construction in district are considered. The property data characteristics of these properties are verified and photographs are taken of the samples. CAD replacement costs are compared against Marshall & Swift, and the indicated replacement cost abstracted from these market sales of comparably improved structures.

### ***Sales Information***

A sales file for the storage of "snapshot" sales data at the time of sale is maintained for real property. Residential vacant land sales, along with commercial improved and vacant land sales are maintained in a sales information system. Residential improved and vacant sales are collected from a variety of sources, including: district questionnaires sent to buyer and seller, field discovery, protest hearings, Board of Realtor's MLS, various sale vendors, builders, and realtors. Abstraction and allocation of property components based on sales of similar property is

an important analysis tool to interpret market sales under the cost and market approaches to value. These analysis tools help determine and estimate the effects of change, with regard to price, as indicated by sale prices for similar property within the current market.

### ***Statistical Analysis***

Statistical analysis is performed annually to evaluate whether estimated values are equitable and consistent with the market. Ratio studies are conducted on each of the residential valuation neighborhoods and classifications in the district to judge the two primary aspects of mass appraisal accuracy--level and uniformity of value. The level of appraised values is determined by the weighted mean ratio for sales of individual properties within a neighborhood or classification, and a comparison of weighted means reflect the general level of appraised value between comparable neighborhoods or classifications.

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

### ***Market and Cost Reconciliation and Valuation***

Neighborhood or classification analysis of market sales to achieve an acceptable sale ratio or level of appraisal is also the reconciliation of the market and cost approaches to valuation. Market factors are developed from appraisal statistics provided from market analyses and ratio studies and are used to ensure that estimated values are consistent with the market and to reconcile cost indicators. The district's primary approach to the valuation of residential properties uses a hybrid cost-sales comparison approach. This type of approach accounts for market influences not particularly specified in a purely cost model.

The following equation denotes the hybrid model used:

$$MV = LV + (RCN - AD)$$

Whereas, in accordance with the cost approach, the estimated market value (MV) of the property equals the land value (LV) plus the replacement cost new of property improvements (RCN) less accrued depreciation (AD). As the cost approach separately estimates both land and building contributory values and uses depreciated replacement costs, which reflect only the supply side of the market, it is expected that adjustments to the cost values may be needed to bring the level of appraisal to an acceptable standard as indicated by market sales. Thus, demand side economic factors and influences may be observed and considered. These market, or location adjustments, may be abstracted and applied uniformly within neighborhoods

to account for locational variances between market areas or across a jurisdiction. Whereas, in accordance with the Market Approach, the estimated market value (MV) of the property equals the basic unit of property, under comparison, times the market price range per unit for sales of comparable property. For residential property, the unit of comparison is typically the price per square foot of living area or the price indicated for the improvement contribution. This analysis for the hybrid model is based on both the cost and market approaches as a correlation of indications of property valuation. A significant unknown for these two indications of value is determined to be the rate of change for the improvement contribution to total property value. The measure of change for this property component can best be reflected and based in the annualized accrued depreciation rate. This cost related factor is most appropriately measured by sales of similar property. The market approach, when improvements are abstracted from the sale price, indicates the depreciated value of the improvement component, in effect, measuring changes in accrued depreciation, a cost factor. The level of improvement contribution to the property is measured by abstraction of comparable market sales, which is the property sale price less land value. The primary unknown for the cost approach is to accurately measure accrued depreciation affecting the amount of loss attributed to the improvements as age increases and condition changes. This evaluation of cost results in the depreciated value of the improvement component based on age and condition. The evaluation of this market and cost information is the basis of reconciliation and indication of property valuation under this hybrid model.

When the appraiser reviews a neighborhood, the appraiser reviews and evaluates a ratio study that compares recent sales prices of properties, appropriately adjusted for the effects of time, within a delineated neighborhood, with the value of the properties' based on the estimated depreciated replacement cost of improvements plus land value. The calculated ratio derived from the sum of the sold properties' estimated value divided by the sum of adjusted sales prices indicates the neighborhood level of appraisal based on sold properties. This ratio is compared to the acceptable appraisal ratio, 95% to 105%, to determine the level of appraisal for each neighborhood. If the level of appraisal for the neighborhood is outside the acceptable range of ratios, adjustments to the neighborhood are made.

If reappraisal of the neighborhood or classification is indicated, the appraiser analyzes available market sales, appropriately adjusted, by market abstraction of property components. This abstraction of property components allows the appraiser to focus on the rate of change for the improvement contribution to the property by providing a basis for calculating accrued depreciation attributed to the improvement component. Comparing this indicated price or value allocation for the improvement with the estimated replacement cost new of the improvement indicates any loss in value due to accrued forms of physical, functional, or economic obsolescence. This is a market driven measure of accrued depreciation, particularly when based on multiple sales that indicate the trending of this rate of change over certain classes of improvements. Based on this market analysis, the appraiser estimates the annual rate of depreciation for given improvement descriptions considering age and observed condition. Once estimated, the appraiser recalculates the improvement value of all property within the sale



sample to consider and review the effects on the classification sale ratio. After an acceptable level of appraisal is achieved within the sale sample, the entire classification of property is recalculated utilizing the indicated depreciation rates taken from market sales. The estimated property values calculated for each updated classification are based on market indicated factors applied uniformly to all properties within the classification. Finally, with all the market-trend factors applied, a final ratio study is generated that compares recent sale prices with the proposed appraised values for these sold properties in each school district as a whole.

### ***Treatment of Residence Homesteads***

Beginning in 1998, the State of Texas implemented a constitutional classification scheme concerning the appraisal of residential property that receives a residence homestead exemption. Under that law, beginning in the second year a property receives a homestead exemption, increases in the assessed value of that property are "capped." The value for tax purposes (assessed value) of a qualified residence homestead will be the LESSER of:

- The market value; or
- The preceding year's appraised value;  
PLUS 10 percent for each year since the property was re-appraised;  
PLUS the value of any improvements added since the last re-appraisal.

Assessed values of capped properties must be recomputed annually. If a capped property sells, the cap automatically expires as of January 1<sup>st</sup> of the year following sale of the property and the property is appraised at its market value. An analogous provision applies to new homes. While a developer owns them, unoccupied residences may be partially complete and appraised as part of an inventory. This valuation is estimated using the district's land value and the percentage of completion for the improvement contribution that usually is similar to the developer's construction costs as a basis of completion on the valuation date. However, in the year following changes in completion, occupancy, or sale, they are appraised at market value.

## **INDIVIDUAL VALUE REVIEW PROCEDURES**

### ***Field Review***

The appraiser identifies individual properties in critical need of field review through sales ratio analysis. Sold properties are field reviewed on a periodic basis to check for accuracy of data characteristics. During this review, the appraiser is able to physically inspect both sold properties and unsold properties for comparability and consistency of values.

### ***Office Review***

Once field review is completed, the appraiser conducts a routine valuation review of all properties as outlined in the discussion of ratio studies and market analysis. Valuation reports comparing previous values against proposed and final values are generated for all residential improved and vacant properties. The percentage of value difference are noted for each property within a delineated neighborhood allowing the appraiser to identify, research and resolve value anomalies before final appraised values are released. Previous values resulting from a hearing protest are individually reviewed to determine if the value remains appropriate for the current year.

Once the appraiser is satisfied with the level and uniformity of value for each neighborhood, the estimates of value go to noticing.

### **PERFORMANCE TESTS**

#### ***Sales Ratio Studies***

The primary analytical tool used by the appraisers to measure and improve performance is the ratio study. The district ensures that the appraised values that it produces meet the standards of accuracy in several ways. Overall sales ratios are generated for each classification to allow the appraiser to review general market trends. The ratio studies are designed to emulate the findings of the state comptroller's semi-annual property value study for category A property.

#### ***Management Review Process***

This analysis process is usually performed by the Chief Appraiser with the help of other staff members. The review of final statistical data and final values are the decision of the Chief appraiser.

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## Commercial And Industrial Property Valuation Process

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### INTRODUCTION

#### *Appraisal Responsibility*

This mass appraisal assignment includes all of the commercially described real property which falls within the responsibility of the commercial valuation appraiser of the Erath County Appraisal District. Commercial appraisers appraise the fee simple interest of properties according to statute and court decisions. However, the affect of easements, restrictions, encumbrances, leases, contracts or special assessments are considered on an individual basis, as is the appraisal of any non exempt 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 prorated interests.

#### *Appraisal Resources*

- **Personnel** – There is one commercial property appraiser responsible for all commercial and industrial type property
- **Data** - The data used by the commercial appraisers includes verified sales of vacant land and improved properties and the pertinent data obtained from each (sales price levels, capitalization rates, income multipliers, equity dividend rates, marketing period, etc.). Other data used by the appraisers includes actual income and expense data (typically obtained through the hearings process), actual contract rental data, leasing information (commissions, tenant finish, length of terms, etc.), and actual construction cost data. In addition to the actual data obtained from specific properties, market data publications are also reviewed to provide additional support for market trends.
- **Pictometry** – A collection of digital data consisting of photographic images, maps and elevation files used to select, view, manipulate, measure and print data used for appraisal purposes.

### PRELIMINARY ANALYSIS

#### *Market Study*

Market studies are utilized to test new or existing procedures or valuation modifications in a limited sample of properties located in the district, within the market area school district lines if possible, and are also considered and become the basis of updating whenever substantial changes in valuation are made. These studies target certain types of improved property to

evaluate current market prices for rents and for sales of commercial and industrial real property. These comparable sale studies and ratio studies reveal whether the valuation system is producing accurate and reliable value estimates or whether procedural and economic modifications are required. The appraiser implements this methodology when developing cost approach, market approach, and income approach models.

The district continually communicates with other appraisers and appraisal districts about trends that are realized in other areas with similar circumstances as ours.

## **VALUATION APPROACH**

### ***Land Value***

Commercial land is analyzed annually to compare appraised values with recent sales of land in the market area. If appraised values differ from sales prices being paid, adjustments are made to all land in that region. Generally, commercial property is appraised on a price per square foot basis. Factors are placed on individual properties based on corner influence, depth of site, shape of site, easements across site, and other factors that may influence value. The land is valued as though vacant at the highest and best use.

### ***Area Analysis***

Area 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.

### ***Neighborhood Analysis***

The neighborhood and market areas are comprised of the land area and commercially classed properties located within the boundaries of this appraisal jurisdiction. Again, these market areas for Erath CAD commercial property have been defined as the school district lines. These areas consist of a wide variety of property types including multiple-family residential, commercial and industrial. Neighborhood and area analysis involves the examination of how physical, economic, governmental and social forces and other influences may affect property values within subgroups of property locations. The effects of these forces are also used to identify, classify, and organize comparable properties into smaller, manageable subsets. In the mass appraisal of commercial and industrial properties these subsets of properties are generally referred to as market areas, neighborhoods, or economic areas.

### ***Highest and Best Use Analysis***

The highest and best use is the most reasonable and probable use that generates the highest net to land and 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 perspective assists in determining if the existing improvements have a transitional use, interim use, nonconforming use, multiple uses, speculative use, is 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 insures 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 perspective for value may be significantly different than market value, which approximates market price under the following assumptions: (i) no coercion of undue influence over the buyer or seller in an attempt to force the purchase or sale, (ii) well-informed buyers and sellers acting in their own best interests, (iii) a reasonable time for the transaction to take place, and (iv) payment in cash or its equivalent.

### ***Market Analysis***

A market analysis relates directly to examining 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, capitalization rate studies are analyzed to determine market ranges in price, operating costs and investment return expectations.

## **DATA COLLECTION / VALIDATION**

### ***Data Collection Manuals***

Data collection and documentation for Commercial/Industrial property is continually updated, providing a uniform system of itemizing the multitude of components comprising improved properties. All properties located in Erath CAD's inventory are coded according to a specific classification system and the approaches to value are structured and calibrated based on this coding system.

Annually, after the sales of property have been researched, verified, keyed into the database, and quality control has been completed, the sales data is summarized and produced into list form. The confirmed sales reports, known as the Commercial Improved and Vacant Land sales listings categorize the sales by property and use type, and sort the data by location and chronological order.

### ***Sources of Data***

In terms of commercial sales data, Erath CAD receives a copy of the deeds recorded in Erath County that convey commercially classed properties. These deeds involving a change in commercial ownership are entered into the sales information system and researched in an attempt to obtain the pertinent sale information. Other sources of sale data include the protest hearings process and local, regional and national real estate and financial publications.

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, which is mailed to both parties in the transaction (Grantor and 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 of many transactions is then attempted via phone calls to parties thought to be knowledgeable of the specifics of the sale. Other sources contacted are 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. Finally, closing statements are often provided during the hearings process. The actual closing statement is the most reliable and preferred method of sales verification.

### **VALUATION ANALYSIS**

Model calibration involves the process of periodically adjusting the mass appraisal formulae, 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 of time, 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***

The cost approach to value is applied to 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 local comparable properties whenever possible. Cost models are typically developed based on the Marshall Valuation Service which indicate estimated hard or direct costs of various improvement types. Cost models include the derivation of replacement cost new (RCN) of all improvements represented within the district. These include comparative base rates, per unit adjustments and lump sum adjustments for variations in property description, design, and types of improvement construction. This approach and analysis also employs the sales comparison approach in the evaluation of soft or indirect costs

of construction. Evaluating market sales of newly developed improved property is an important part of understanding total replacement cost of improvements. What total costs may be involved in the development of the property, as well as any portion of cost attributed to entrepreneurial profit can only be revealed by market analysis of pricing acceptance levels. In addition, market related land valuation for the underlying land value is important in understanding and analyzing improved sales for all development costs and for the abstraction of improvement costs for construction and development. Time and location modifiers are necessary to adjust cost data to reflect conditions in a specific market and changes in costs over a period of time. Because a national cost service is used as a basis for the cost models, locational modifiers and estimates of soft cost factors are necessary to adjust these base costs specifically for various types of improvements located in Erath County.

Accrued depreciation is the sum of all forms of loss affecting the contributory value of the improvements. It is the measured loss against replacement cost new taken from all forms of physical deterioration, functional and economic obsolescence. Accrued depreciation is estimated and developed based on losses typical for each property type at that specific age. Depreciation estimates have been implemented for what is typical of each major class of commercial property by economic life categories. Estimates of accrued depreciation have been calculated for improvements with a range of variable years expected life based on observed condition considering actual age. These estimates are continually tested to ensure they are reflective of current market conditions. The actual and effective ages of improvements are noted in CAMA. 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 considered and reflected based on five levels or rankings of observed condition, given actual age.

Additional forms of depreciation such as external and/or functional obsolescence can be applied if observed. 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 condition adequacy or deficiency, property type or location and can be developed via ratio studies or other market analyses.

The result of estimating accrued depreciation and deducting that from the estimated replacement cost new of improvements indicates the estimated contributory value of the improvements. Adding the estimated land value, as if vacant, to the contributory value of the improvements indicates a property value by the cost approach. Given relevant cost estimates and market related measures of accrued depreciation, the indicated value of the property by the cost approach becomes a very reliable valuation technique.

### ***Income Models***

The income approach to value is 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 surveys conducted by the district and by information from area rent study reviews. This per unit rental rate multiplied by the number of units results in the estimate of potential gross rent.

A vacancy and collection loss allowance is the next item to consider in the income approach. The projected vacancy and collection loss allowance is established from actual data furnished by property owners and local market survey trends. This allowance accounts for periodic fluctuations in occupancy, both above and below an estimated stabilized level. This feature may also provide for a reasonable lease-up period for multi-tenant properties, where applicable. The market derived stabilized vacancy and collection loss allowance is subtracted from the potential gross rent estimate to yield an indication of estimated annual effective gross rent to the property.

Next, a secondary income or service income is considered and, if applicable, calculated as a percentage of stabilized effective gross rent. 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. The secondary income estimate is then added to effective gross rent to arrive at an effective gross income, when applicable.

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 may be included in the expenses. A non-recoverable expense represents costs that the owner pays to lease rental space. Relevant expense ratios are developed for different types of commercial property based on use and market experience. For instance, retail properties are most frequently leased on a triple-net basis, whereby the tenant is responsible for all operating expenses, such as ad valorem taxes, insurance, and common area and property 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. As a result, expense ratios are implemented and estimated based on observed market experience in operating various types 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 lump sum costs. 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. For some types of property, typical management does not reflect expensing reserves and is dependent on local and industry practices.



Subtracting the allowable expenses (inclusive of non-recoverable expenses and replacement reserves when applicable) from the annual effective gross income yields an estimate of annual net operating income to the property.

Return rates and income multipliers are used to convert operating income expectations into an estimate of market value for the property under the income approach. These include income multipliers, overall capitalization rates, and discount rates. Each of these multipliers or return rates are considered and used in specific applications. Rates and multipliers may 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 for individual income property types and uses. These procedures are supported and documented based on analysis of market sales for these property types.

Capitalization analysis is used in the income approach models to form an indication of value. This methodology involves the direct capitalization of net operating income as an indication of market value for a specific property. Capitalization rates applicable for direct capitalization method and yield rates for estimating terminal cap rates for discounted cash flow analysis are derived from the market. Sales of improved properties from which actual income and expense data are obtained provide a very good indication of property return expectations a specific market participant is requiring from an investment at a specific point in time. In addition, overall capitalization rates can be derived and estimated from the built-up method (band-of-investment). This method relates to satisfying estimated market return requirements of both the debt and equity positions in a real estate investment. This information is obtained from available sales of property, local lending sources, and from real estate and financial publications.

Rent loss concessions are estimated for specific properties with vacancy problems. A rent loss concession accounts for the impact of lost rental income while the building is moving toward stabilized occupancy. 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. A variation of this technique allows a rent loss deduction to be estimated for every year that the property's actual occupancy is less than stabilized occupancy.

### ***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 parcels on the appraisal roll. As previously discussed in the Data Collection / Validation section

of this report, pertinent data from actual sales of properties, both vacant and improved, is pursued throughout the year in order to obtain relevant information which 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, which afford the appraiser an excellent means of judging the present level and uniformity of the appraised values.

### ***Final Valuation Schedules***

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 in the CAMA system for utilization on all commercial properties in the district. Market factors reflected within the cost and income approaches are evaluated and confirmed based on market sales of commercial and industrial properties. The appraisers review the cost, income, and sales comparison approaches to value for each of the types of properties with available sales information. The final valuation of a property is estimated based on reconciling these indications of value considering the weight of the market information available for evaluation and analysis in these approaches to value.

### ***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 calculated for each property type with available sales data. These summary statistics including, but not limited to, the weighted mean, provide the appraisers 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.

The appraiser reviews every commercial property type annually through the sales ratio analysis process. 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 appraiser 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. Income model estimates and conclusions are compared to actual information obtained on individual commercial and industrial income properties during the protest hearings process, as well as with information from published sources and area property managers and owners.

## **INDIVIDUAL VALUE REVIEW PROCEDURES**

### ***Field Review***

The date of last inspection, extent of that inspection, and the Erath CAD appraiser are listed in the CAMA system. If a property owner disputes the District's records concerning this data in a protest hearing, CAMA may be altered based on the credibility of the evidence provided. Normally, a new field check is then requested to verify this information for the current year's valuation or for the next year's valuation. In addition, if a building permit is filed for a particular property indicating a change in characteristics, that property is added to a work file for review. The commercial appraiser tries to get around to every property annually to make a physical inspection of the property.

### ***Office Review***

Office reviews are completed on properties subject to field inspections and are performed in compliance with the guidelines required by the existing classification system. Office reviews are typically limited by the available market data presented for final value analysis. These reviews summarize the pertinent data of each property as well as comparing the previous value to the proposed value conclusions of the various approaches to value. These evaluations and reviews show proposed value changes, income model attributes or overrides, economic factor (cost overrides) and special factors affecting the property valuation such as new construction status, and a three years sales history (USPAP property history requirement for non residential property). The appraiser may review methodology for appropriateness to ascertain that it was completed in accordance with USPAP or more stringent statutory and district policies. This review is performed after preliminary ratio statistics have been applied. If the ratio statistics are generally acceptable overall the review process is focused primarily on locating skewed results on an individual basis. Previous values resulting from protest hearings are individually reviewed to determine if the value remains appropriate for the current year based on market conditions. Each appraiser's review is limited to properties in their area of responsibility by property type (improved) or geographic area (commercial vacant land).

Once the appraiser is satisfied with the level and uniformity of value for each commercial property within their area of responsibility, the estimates of value go to noticing. Each parcel is subjected to the value parameters appropriate for its use type.

## **PERFORMANCE TESTS**

The primary tool used to measure mass appraisal performance is the ratio study. A ratio study compares appraised values to market prices. In a ratio study, market values (value in exchange) are typically represented with the range of sale prices, i.e. a sales ratio study. Independent, expert appraisals may also be used to represent market values in a ratio study, i.e. an appraisal ratio study. If there are not enough examples of market price to provide necessary representativeness, independent appraisals can be used as indicators for market value. This can be particularly useful for commercial or industrial real property for which sales are limited. In addition, appraisal ratio studies can be used for properties statutorily not appraised at market value, but reflect the use-value requirement. An example of this are multi-family housing projects subject to subsidized rent provisions or other governmental guarantees as provided by legislative statutes (affordable housing) or agricultural lands to be appraised on the basis of productivity or use value.

### ***Sales Ratio Studies***

Sales ratio studies are an integral part of estimating equitable and accurate market values, and ultimately property assessments for these taxing jurisdictions. The primary uses of sale ratio studies include the determination of a need for general reappraisal; prioritizing selected groups of property types for reappraisal; identification of potential problems with appraisal procedures; assist in market analyses; and, to calibrate models used to estimate appraised values during valuation or reappraisal cycles. However, these studies cannot be used to judge the accuracy of an individual property appraised value. The Erath County Appraisal Review Board may make individual value adjustments based on unequal appraisal (ratio) protest evidence submitted on a case-by-case basis during the hearing process.

### ***Comparative Appraisal Analysis***

The commercial appraiser performs 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. Appraisers 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. In this way, overall appraisal performance is evaluated geographically, by specific property type to discern whether sold parcels have been selectively appraised. When sold parcels and unsold parcels are appraised equally, the average unit values are similar. These sales and equity studies are performed prior to final appraisal and to annual noticing.

## **Business Personal Property Valuation Process**

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### **INTRODUCTION**

#### ***Appraisal Responsibility***

There are four different personal property types appraised by the district's personal property section: Business Personal Property accounts; leased assets; vehicles and aircraft; and multi-location assets.

- **Personnel** - The personal property staff consists of 1 appraiser.
- **Data** - A common set of data characteristics for each personal property account in Erath CAD is collected in the field and data entered into the districts CAMA system. The personal property appraisers collect the field data and maintain electronic property files making updates and changes gathered from field inspections, newspapers, property renditions, sales tax permit listing and interviews with property owners.

### **VALUATION APPROACH**

#### ***SIC Code Analysis***

Business personal property is classified and utilizes a four digit numeric codes, called Standard Industrial Classification (SIC) codes that were developed by the federal government to describe property. These classifications are used by Erath CAD to classify personal property by business type.

SIC code identification and delineation is the cornerstone of the personal property valuation system at the district. All of the personal property analysis work done in association with the personal property valuation process is SIC code specific. SIC codes are delineated based on observable aspects of homogeneity and business use.

#### ***Highest and Best Use Analysis***

The highest and best use of property is the reasonable and probable use that supports the greatest income and 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/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.

## ***Sources of Data***

### **Business Personal Property**

The district's property characteristic data was collected through a massive field data collection effort coordinated by the district over the recent past and from property owner renditions. From year to year, reevaluation activities permit district appraisers to collect new data via an annual field inspection. This project results in the discovery of new businesses, changes in ownership, relocation of businesses, and closures of businesses not revealed through other sources. 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 Erath CAD with a listing of vehicles within the jurisdiction. The vendor develops this listing from the Texas Department of Transportation (TxDOT) 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 based on the SIC code by the Property Tax Division of the Comptroller's Office and by district personal property valuation appraisers. Analyzing cost data from property owner renditions, hearings, state schedules, and published cost guides develops the cost schedules. 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**

Erath CAD's primary approach to the valuation of business personal property is the cost approach. The cost new is either developed from property owner reported historical cost or from CAD developed valuation models. The percent good depreciation factors used by Erath CAD are also based on published valuation guides.

#### **Vehicles**

Value estimates for vehicles are provided by an outside vendor and are based on Blue Book published book values, and there are also considerations available for high mileage. Vehicles that are not valued by the vendor are valued by the appraiser using Blue Book estimates.

## **INDIVIDUAL VALUE REVIEW PROCEDURES**

### ***Office Review***

#### **Business Personal Property**

All business personal property accounts are reviewed every year. This process consists of physical inspection and working of the asset listings.

## **PERFORMANCE TESTS**

### ***Ratio Studies***

Every other 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 Erath CAD's personal property values and ratios are indicated.

## **Minerals (Oil and Gas Reserves) Valuation Process**

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### **INTRODUCTION**

#### **Appraisal Responsibility**

Minerals-in-place (oil and gas reserves) are real property. Appraisal of minerals, oil and gas reserves, is based on estimating the present value of the economically recoverable reserves of oil and gas. Mineral rights are property rights and may be separable property interests from the land surface property rights. Minerals being produced are a tangible asset and are appraised for ad valorem taxation. The valuation of minerals-in-place is based on estimating the discounted net present value of the oil and gas production over the economic life of the well(s). Basically, this method of valuation is an income approach using discounted cash flow analysis methodology. Oil and Gas Properties are also marketed based on proven reserves and the unit of comparison in this market is considered in barrels of oil or in cubic feet of natural gas. The market approach is based on sales of property based on barrels of proven reserves.

Mineral interests are commonly divided into property interests known as working interests and royalty interests. The valuation of this property begins with the valuation of the mineral lease and is divided into the property interests according to division orders for each lease. It is the goal and purpose of the CAD to identify every producing mineral property interest within the district and estimate the market value of each property interest listed on the roll.

The Erath CAD contracts with the firm of Pritchard & Abbott, Inc. to provide the valuation of all oil & gas reserves, oil & gas field equipment, and pipelines.

## **Utility Property Valuation Process**

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### **INTRODUCTION**

#### **Appraisal Responsibility**

Utility properties are the tangible assets of various businesses including electric production, transmission, and distribution companies, railroads, petroleum product gathering and delivery pipelines, telephone and communication providers and others. The valuation of these properties is considered to be complex due to the involvement of both tangible and intangible property elements that comprise these businesses and due to the size of some of the utilities that are regional and national companies. The appraisal of these companies becomes complex when considering the valuation of the property as a unit in place, evaluating the property by the approaches to value at the company level. Once the estimated value of the unit is estimated, the estimated market value is allocated based on the tangible property assets that are located within Erath CAD.



**Data** - A common set of data characteristics for each utility property account in Erath CAD is collected from the various government regulatory agency records, field inspections, and property owner renditions. Property owner renditions are requested to document and list property owned and located in our particular jurisdictions (ie: track mileage, number of meters, pipeline size and mileage, substation and transmission capacity, etc.). The property characteristic data drives the computer-assisted appraisal of the property.

The appraisal of utility property utilizes three-approach analysis to form an opinion of value for the property. Financial and capital market information is pertinent to understanding factors affecting valuation of complex property. Gathering financial data to attempt to understand investor and corporate attitudes for capital return expectations giving considering return components such as current interest rates, capital debt structure, bond market rates, and capital supply and demand trends. These financial factors result in overall return rates and capital structure for these companies and affects capitalization rates. The weighted average cost of capital is the most commonly used method of estimating capitalization rates for utility properties. Capitalization rates are estimated using capital return expectations from various publications: Ibbotson's SBBI Valuation Edition, Wall Street Journal, Mergent Bond Record, Moody's Corporate Bond Yield Averages, Value Line Investment Survey "Ratings and Reports". Industry specific information is also gathered from web sites, publications, periodicals, and reference manuals. Erath CAD utilizes the data gathered and works in conjunction with the property owner to arrive at a fair market value.

Valuation of tangible assets for utility companies relies primarily on indications of value based on the cost and income approaches to value under the unit value approach. This methodology involves developing and estimating market value considering the entirety of the company's tangible assets and resolving an allocated value for that portion of specific tangible assets located in particular tax jurisdictions. The valuation opinion is based on three approach analysis utilized for the indicated unit appraisal of all company tangible assets, then an estimated allocation of unit value for only assets located in the district and particular jurisdictions. This methodology is approved and recommended by the Property Tax Division of the Comptroller's Office and is an accepted standard within the industry and appraisal community.

### ***Value Review Procedures***

Ratio studies are also a method of review for relevance of appraisal valuation to market value. Again, in the absence of full disclosure of prices paid and without the abstraction of prices paid for the tangible asset components from recent utility property acquisitions or sales, market based analysis and review is not possible. Ratio studies for utility property must rely on a comparison of one appraisal opinion as the basis for the reasonable property valuation with the district's appraised value to determine the ratio for level and uniformity of appraisal. The PTD conducts the semi-annual ratio study of selected utility properties

to gauge the appraisal district's performance. The PTD utilizes the same valuation methodology to estimate appraisal valuations of utility properties and the results, when compared to the appraisal valuation estimated by Erath CAD for these properties yield ratios. This ratio study of certain utility properties indicates the level and uniformity of appraisal for this category of property.

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***LIMITING CONDITIONS***

The appraised value estimates provided by the district are subject to the following conditions:

1. The appraisals were prepared exclusively for ad valorem tax purposes.
2. The property characteristic data upon which the appraisals are based is assumed to be correct. Exterior inspections of the property appraised were performed as staff resources and time allowed. Some interior inspections of property appraised were performed at the request of the property owner and required by the district for clarification purposes and to correct property descriptions.
3. Validation of sales transactions was attempted through questionnaires to buyer and seller, telephone survey and field review. In the absence of such confirmation, residential sales data obtained from vendors was considered reliable.
4. Erath CAD staff has provided significant mass appraisal assistance to the person signing this certification.

***Certification Statement:***

"I, Jerry Lee, Chief Appraiser for the Erath County Appraisal District, solemnly swear that I have made or caused to be made a diligent inquiry to ascertain all property in the district subject to appraisal by me, and that I have included in the records all property that I am aware of at an appraised value which, to the best of my knowledge and belief, was determined as required by law."