Ector County Appraisal District

2020 Mass Appraisal Report

INTRODUCTION

Scope of Responsibility

The Ector County Appraisal District has prepared and published this report to provide our citizens and taxpayers with a better understanding of the district's responsibilities and activities. This mass appraisal report was written in compliance with Standards Rule 5-7, 6-1, 6-2 and 6-3 of the Uniform Standards of Professional Appraisal Practice (USPAP) as promulgated by the Appraisal Standards Board of The Appraisal Foundation. This report has several parts: a general introduction and then several sections describing information specific to particular appraisal divisions and/or specific property types.

This 2020 mass appraisal was prepared under the provisions of the Texas Property Tax Code. Taxing jurisdictions that participate in the district must use the appraisals as the basis for imposition of property taxes. The State of Texas allocates state funds to school districts based upon the district's appraisals, as tested and modified by the state comptroller of public accounts.

The 2020 mass appraisal results in an estimate of the market value of each taxable property within the district's boundaries. Where required by law, the district also estimates value on several bases other than market value. These are described where applicable later in this report.

General Assumptions and Limiting Conditions

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

The appraisals were prepared exclusively for ad valorem tax purposes.
The property characteristic data upon which the appraisals are based is assumed to be correct. Physical inspections of the property appraised were performed as staff resources and time allowed.

Validation of sales transactions occurred through questionnaires to buyers and sellers, telephone surveys, and field reviews. In the absence of such confirmation, residential sales data obtained from vendors was considered reliable.

- No responsibility is assumed for the legal description or for matters including legal or title considerations. Title to any property is assumed to be good and marketable, unless otherwise stated.
- All property is appraised as if free and clear of any or all liens or encumbrances,

unless otherwise stated. All taxes are assumed to be current.

- All property is appraised as though under responsible, adequately capitalized ownership and competent property management.
- All engineering is assumed to be correct. Any plot plans and/or illustrative material contained with the appraisal records are included only to assist in visualizing the property.
- It is assumed that there is full compliance with all applicable federal, state and local environmental regulations and laws unless noncompliance is stated, defined, and considered in this mass appraisal report.
- It is assumed that all applicable zoning and use regulations and restrictions have been complied with, unless nonconformity has been stated, defined, and considered in this mass appraisal report.
- It is assumed that all required licenses, certificates of occupancy, consents, or other legislative or administrative authority from any local, state, or national government, or private entity or organization have been or can be obtained or renewed for any use on which the value estimate contained in this report is based.
- It is assumed that the utilization of the land and improvements of the properties described are within the boundaries or property lines, and that there are no encroachments or trespasses unless noted on the appraisal record.

Unless otherwise stated in this report, the appraiser is not aware of the existence of hazardous substances or other environmental conditions. The value estimates are predicated on the assumption that there is no such condition on or in the property or in such proximity thereto that it would cause a loss in value. No responsibility is assumed for any such conditions, or for any expertise or engineering knowledge required to discover them.

Effective Date of Appraisal and Date of the Report

With the exception of certain inventories for which the property owner has elected a valuation date of September 1, 2019; all appraisals are as of the statutory date January 1, 2020. The effective date of this report is the end of the appraisal phase in the tax calendar or approximately April 15th for real property and May 1st for personal property. The date of this report is July 25, 2020.

Definition of Value

Except as otherwise provided by the Texas Property Tax Code (hereafter "Tax Code"), all taxable property is appraised at its "market value" as of January 1. Under the tax code, "market value" means 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 Tax Code defines special appraisal provisions for the valuation of several different categories of property. Specially appraised property is taxed on a basis other than market value as defined above. These categories include residential homestead property (Sec. 23.23, Tax Code), agricultural and timber property (Chapter 23, Subchapters C and D, Tax Code), real and personal property inventory (Sec. 23.12, Tax Code), certain types of dealer inventory (Sec. 23.121, 23.124, 23.1241 and 23.127), and nominal (Sec. 23.18) or restricted use properties (Sec. 23.83).

Properties Appraised

This mass appraisal appraised all taxable real and personal property known to the district as of the statutory date of this report, with the exception of certain properties on which valuation was not complete as of the date of this report. These, by law, can be appraised and supplemented to the jurisdictions after equalization. The property rights appraised were fee simple interests, with the exception of leasehold interests in property exempt to the holder of the property's title. The latter are appraised under a statutory formula described in Sec. 25.07, Property Tax Code. The description and identification of each property appraised is included in the appraisal records submitted to the Ector County Appraisal Review Board on June 9, 2020.

Scope of Work Used to Develop the Appraisal

This mass appraisal appraised all taxable real and income producing tangible personal property within the boundaries of the Ector County Appraisal District, which encompasses all of Ector County, Texas, including the parts of 4 surrounding counties. This involves approximately 237,137 accounts. The district distributes the work of the appraisal among several appraisal personnel. The following sections describe, by area of responsibility, the scope of work performed and those items addressed in USPAP Standards Rule 6-2(g) through (n).

The Chief Appraiser, who is the chief executive officer of the appraisal district, manages the district. All district employees report to the chief appraiser through their immediate supervisor. The district is further subdivided into four departments. The four departments are Appraisal Operations, responsible for all appraisal activities, Administration, responsible for property records maintenance, taxpayer assistance and ARB support, Information Technology, which operates the district's computer facilities, and the Collections Department. The district's appraisers are subject to the provisions of Property Tax Professionals Rules and Laws and must be duly registered with The Texas Department of Licensing and Regulation.

The appraisal district staff consists of 34 employees with the following classifications:

1 - Official/Administrator (Executive level administration)
6 - Professional (Supervisory and Management)
12- Technicians (Appraisers, Program Analysts, Network Support)
15- Administrative Support (professional, customer service, clerical and collections)

While the appraisal district staff conducted all of the appraisal activities, the district received assistance from the staffs of those appraisal districts whose boundaries overlap ours. In compliance with the Texas Property Tax Code, the district has established procedures whereby ownership and property data information are routinely exchanged. A coordinator and staff are assigned to oversee the ongoing exchange of data. Analysts and appraisers from adjacent appraisal districts discuss data collection and valuation issues to minimize the possibility of differences in property characteristics, legal descriptions, and other administrative data.

Determination of Highest and Best Use for Real Property

The district's market value appraisals are performed pursuant to Article VIII, Sec. 1., Texas Constitution, which provides that property must be taxed in proportion to its value as determined by law. Sec. 23.01, Tax Code implements this provision as follows:

§ 23.01. Appraisals Generally

(a) Except as otherwise provided by this chapter, all taxable property is appraised at its market value as of January 1.

(b) The market value of property shall be determined by the application of generally accepted appraisal methods and techniques. If the appraisal district determines the appraised value of a property using mass appraisal standards, the mass appraisal standards must comply with the Uniform Standards of Professional Appraisal Practice. The same or similar appraisal methods and techniques shall be used in appraising the same or similar kinds of property. However, each property shall be appraised based upon the individual characteristics that affect the property's market value, and all available evidence that is specific to the value of the property shall be taken into account in determining the property's market value.

(c) Notwithstanding Section 1.04(7)(C), in determining the market value of a residence homestead, the chief appraiser may not exclude from consideration the value of other residential property that is in the same neighborhood as the residence homestead being appraised and would otherwise be considered in appraising the residence homestead because the other residential property

(1) was sold at a foreclosure sale conducted in any of the three years preceding the tax year in which the residence homestead is being appraised and was comparable at the time of sale based on relevant characteristics with other residence homesteads in the same neighborhood, or
(2) has a market value that has declined because of a declining economy.

(d) The market value of a residence homestead shall be determined solely on the basis of the property's value as a residence homestead, regardless of whether the residential use of the property by the owner is considered to be the highest and best use of the property.

(e) Notwithstanding any provision of this subchapter to the contrary, if the appraised value of property in a tax year is lowered under Subtitle F, the appraised value of the property as finally determined under that subtitle is considered to be the appraised value of the property for that tax year. In the following tax year, the chief appraiser may not increase the appraised value of the property unless the increase by the chief appraiser is reasonably supported by substantial evidence when all of the reliable and probative evidence in the record is considered as a whole. If the appraised value is finally determined in a protest under Section 41.41(a)(2) or an appeal under Section 42.26, the chief appraiser may satisfy the requirement to reasonably support by substantial evidence an increase in the appraised value of the property in the following tax year by presenting evidence showing that the inequality in the appraisal of property has been corrected with regard to the properties that were considered in determining the value of the subject property. The burden of proof is on the chief appraiser to support an increase in the appraised value of the property under the circumstances described by this subsection.

(f) The selection of comparable properties and the application of appropriate adjustments for the determination of an appraised value of property by any person under Section 41.43(b)(3) or 42.26(a)(3) must be based on the application of generally accepted appraisal methods and techniques. Adjustments must be based on recognized methods and techniques that are necessary to produce a credible opinion.

(g) Notwithstanding any other provision of this section, property owners representing themselves are entitled to offer an opinion of and present argument and evidence related to the market and appraised value or the inequality of appraisal of the owner's property.

While there is no specific statute defining highest and best use as it applies in appraisals conducted under the Property Tax Code, Texas courts have acknowledged that highest and best use is a factor that must be considered in determining market value. King v. Real 466 S.W.2d 1 TEX.Civ.App., 1971, Exxon Pipeline Co. v. Zwahr 2002 WL 1027003 Tex., 2002. In an unpublished opinion, the Houston Court of Appeals approved the following definition of highest and best use:

"Highest and best use" is the reasonably probable and legal use of vacant land or an improved property, which is physically possible, appropriately supported, financially feasible, and results in the highest value. The four criteria the highest and best use must meet are legal permissibility,

physical possibility, financial feasibility, and maximum profitability. Clear Creek Drainage Dist. of Galveston County v. Manison Not Reported in S.W.3d Tex.App.-Houston [14 Dist.], 1997.

Appraisal Performance tests and performance measures attained

The Texas Comptroller of Public Accounts conducts a biennial study to determine the degree of uniformity of and the median level of appraisals by the appraisal district within each major category of property, as required by Section 5.10, Property Tax Code. The 2018 Final findings, based on the district's 2018 appraisal roll, were reported to the district on January 31, 2019. The overall median level of appraisal for ECAD was reported at 0.97. 2020 is the next Property Value Study year for the District.

The Comptroller of Public Accounts certifies a school district's local tax roll value to the Commissioner of Education if it is within the calculated statistical error margin. A margin of error of 5% plus or minus is used for each school district.

In 2009, the Texas Legislature enacted a new law that amended Tax Code Section 5.102. It requires the Comptroller of Public Accounts to review appraisal districts every two years. Called the Methods and Assistance Program (MAP), the reviews study the Governance, Taxpayer assistance, Operating procedures, and Appraisal standards, procedures, and methodology of each appraisal district. In 2019, the Property Tax Assistance Division (PTAD) performed the review for approximately one-half of the 253 appraisal districts in Texas.

Ector County Appraisal District was one of those appraisal districts under review for 2019.

The results of the Methods and Assistance Program 2019 Report for Ector County Appraisal District are summarized below:

This review is designed to determine whether appraisal districts are meeting minimum requirements for performing statutory and appraisal duties. This review is conducted in accordance with Tax Code Section 5.102(a), effective Jan. 1, 2010, and related Comptroller rule 9.301. The Comptroller is required by statute to review appraisal districts for governance; taxpayer assistance; operating procedures; and appraisal standards.

Mandatory Requirements	PASS/FAIL
Does the appraisal district have up-to-date appraisal maps?	**PASS**
Is the implementation of the appraisal district's most recent reappraisal plan current?	**PASS**
Are the appraisal district's appraisal records up-to-date and is the appraisal district following established procedures and practices in the valuation of property?	**PASS**
Are values reproducible using the appraisal district's written procedures and appraisal records?	**PASS**

Appraisal District Activities	RATING
Governance	**Meets All**
Taxpayer Assistance	**Meets All**
Operating Procedures	**Meets All**
Appraisal Standards, Procedures and Methodology	**Meets All**

Appraisal District Ratings:

Meets All – The total point score is 100
Meets – The total point score ranges from 90 to less than 100
Needs Some Improvement – The total point score ranges from 85 to less than 90
Needs Significant Improvement – The total point score ranges from 75 to less than 85
Unsatisfactory – The total point score is less than 75

Review Areas	Total Questions in Review Area (excluding N/A Questions)	Total "Yes" Points	Total Score (Total "Yes" Questions/Total Questions) x 100
Governance	15	15	100
Taxpayer Assistance	11	11	100
Operating Procedures	23	23	100
Appraisal Standards, Procedures and Methodology	27	27	100

Certification Statement:

I certify that, to the best of my knowledge and belief:

-the statements of fact contained in this report are true and correct.

- the reported analyses, opinions, and conclusions are limited only by the reported assumptions and limiting conditions, and are my personal, impartial, and unbiased professional analyses, opinions, and conclusions.

- I have no present or prospective interest in the properties that are the subject of this report and no personal interest with respect to the parties involved.

- I have performed no services, as an appraiser or in any other capacity, regarding the properties that are the subject of this report within the three-year period immediately preceding acceptance of this assignment.

- I have no bias with respect to the properties that are the subject of this report or to the parties involved with these assignments.

- my involvement in these assignments was not contingent upon developing or reporting predetermined results.

- my compensation for completing these assignments is not contingent upon the reporting of predetermined values or direction in values that favors the cause of any party, amounts of the value opinions, the attainment of stipulated results, or the occurrence of subsequent events directly related to the intended use of this appraisal.

- my analyses, opinions, and conclusions were developed, and this report has been prepared, in conformity with the Uniform Standards of Professional Appraisal Practice.

- I have not made a personal inspection of the properties that are the subject of this report.

- those providing significant assistance to me in these appraisal assignments are attached.

"I, Anita Campbell, Chief Appraiser for the Ector 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."

Anita Campbell, RPA, RTA, CTA
Chief Appraiser – Executive Director
TDLR No. 66968

MANAGEMENT STAFF
PROVIDING SIGNIFICANT MASS APPRAISAL ASSISTANCE

NAME	TITLE	TDLR NO.	TYPE of ASSISTANCE
Anita Campbell, RPA, RTA, CTA	**Chief Appraiser/ Executive Director**	**66968**	**Overall district oversight and management**
Layne P. Young, RPA	Assistant Chief Appraiser	69928	Oversight of Appraisal, Support Services, Information Systems, and Administration Divisions
William J. Harris, RPA	Director of Appraisal	71531	Directs Appraisal Operation activities Supervises appraisal of mineral & industrial properties
Kimberly Johnson	Assistant Director of Appraisal	75218	Supervises the appraisal of Residential and Commercial real property and Business personal property
Leslie Wright, RPA	Director of Administration	62058	Supervises quality assurance, maintenance support, and administration
Don Tohkubbi	Director of Information Technology	75198	Supervises data entry, information systems and technology support, and quality control
Lory Olivas, RTC	Director of Collections	75008	Directs Collection Efforts
Christina Ruiz, RPA	Assistant Director of Collections	74222	Supervises Collection Efforts

Report by Appraisal Division

As noted above, the district allocated the work of the mass appraisal among several areas within the appraisal department. The Appraisal Operations Department directs the overall operations of the appraisal of all property in the district. Included within this area are individuals that deal with litigation and agricultural valuation. The appraisers assigned to this area conduct all field inspections of property. The Residential, Commercial, and Personal Property appraisers develop, calibrate, and apply the various mass appraisal models for their respective property types. The district staff appraises complex, mineral and industrial properties, some of which are appraised through mass appraisal models, others of which are directly appraised.

Field Operations

INTRODUCTION

Scope of Work

The field operations activities involve appraisers responsible for collecting and maintaining property characteristic data for all commercial, residential and personal property types, which are located within the boundaries of Ector County. These activities involve the field inspection of real and personal property accounts, as well as data entry of all data collection into the existing property record system.

This Mass Appraisal Report complies with all applicable requirements in effect at appraisal date under Section 25.18 - Periodic Reappraisals. Ector County Appraisal District is currently on an annual reappraisal cycle for all properties within the District.

Periodic physical review of property is recommended at least every four to six years, according to the International Association of Assessing Officers (IAAO). ECAD is presently on a 1 year cycle for residential and commercial property re-inspection. Personal property is being collected and verified on an annual cycle. Mineral and industrial properties are on an annual cycle.

Procedure for Collecting and Validating Data

Data collection requires organization, planning, and supervision of the field staff. Data collection procedures have been established for residential, commercial, and personal property. The appraisers are assigned throughout Ector County to conduct field inspections. Appraisers conduct field inspections and record information on a property record card (PRD), an inventory, or a personal property data sheet or account or data card.

The quality of the data used is extremely important in establishing accurate values of taxable property. Production standards are established and upheld for the various field activities and

quality of data is emphasized as the goal and responsibility of each appraiser. New appraisers are trained in the specifics of data collection set forth in the Agency Information Manual (A.I.M). Experienced appraisers are routinely re-trained in procedures prior to major field projects such as new construction, sales validation, or data review. A quality assurance process exists to review the work being performed by all the field appraisers. The quality assurance process is used to ensure that appraisers follow listing procedures, identify training issues, and provide uniform training throughout the field appraisal staff.

Data collection of real property involves maintaining data characteristics of the property on CAMA (Computer Assisted Mass Appraisal). The information contained in CAMA includes site characteristics, such as land size and topography, and improvement data, such as square foot of living area, year built and effective age, quality of construction, and condition. Field Appraisers use the data collection manual in A.I.M., which establishes uniform procedures for the correct listing of real property. All property information is coded in the CAMA system according to the manual and the approaches to value are structured and calibrated based on this coding system. The field appraisers use the A.I.M. procedures during their initial training and as a guide in the field inspection of properties.

Data collection for personal property involves maintaining information on the Personal Property System. The type of information contained in the personal property system includes property such as business inventory, furniture and fixtures, machinery and equipment, vehicles, and mobile homes, as well as asset location and acquisition cost. The field appraisers conducting on-site inspections use the Agency Information Manual (A.I.M) appraisal procedures for personal property during their initial training and as a guide to correctly list all personal property that is taxable.

The listing procedures in the Agency Information Manual (A.I.M) that are utilized by the field appraisers are located and maintained in the Agency Information Manual (A.I.M) and available to all Ector County Appraisal District employees. These procedures can also be made available for public inspection. The Agency Information Manual (A.I.M) procedures are reviewed and updated as needed.

Sources of Data

The sources of our data collection and verification are through building permits, data review field efforts, data mailers, hearings, sales validation field effort, commercial sales verification, newspapers and publications, property owner correspondence, and internet research.

Building permit data attained from the City of Odessa triggers field inspections on properties experiencing significant characteristics changes due to new construction or remodeling. Unreported improvements are identified from physical observations, and an annual inspection is conducted to identify the status of new residential subdivisions. Data accuracy is also enhanced by the availability of the district's property records on the Internet. Property owners frequently

contact our web site. Reported data inaccuracies can initiate a field inspection or office correction of property data that is determined to be inaccurate.

Internet access to Texas Department of Housing and Community Affairs has enabled us to download mobile home information from the TDHCA, which is entered into the ECAD CAMA system.

In-depth data reviews of entire neighborhoods are conducted when ratio studies indicate wide dispersions between values and sale prices. Appraisers do a careful drive-by of properties to review the accuracy of our data and identify properties that have been listed. The sales validation effort in real property pertains to the collection of data of properties that have sold. For residential and commercial, sales validation involves on-site inspection by field appraisers to verify the accuracy of our data or to get confirmation of a sale price. Appraisers are responsible for contacting property owners to confirm sales prices and/or to verify pertinent data.

Data Maintenance

The clerical support group, along with appraisal staff, is responsible for coordinating activities involving file building, quality assurance, and data maintenance of the different property types after data collection. The responsibilities for the clerical support group falls into three activities: file build, quality assurance, and data retention. The file build activity is to build and maintain the work plans that are sent with the appraiser to the field. This includes maintaining GIS records, legal description records, situs address records, and other property data. This group is also responsible for warehousing this information. The quality assurance activity is for ensuring correct data as it is received from the field appraiser. This includes verifying proper codes, balancing and vectoring sketches, and ensuring proper data entry. The data entry activity is performed by the appraisal staff and input directly into CAMA. This includes sorting, researching, keying accounts to BPS (Building Permit System), processing new subdivisions and split-outs, and protest hearing maintenance.

OFFICE /FIELD STAFF
PROVIDING SIGNIFICANT MASS APPRAISAL ASSISTANCE

NAME	TITLE	TDLR NO.	TYPE of ASSISTANCE
William J. Harris, RPA	**Director of Appraisal**	**71531**	**Coordinates shared CAD Data collection, Performs Industrial Plant appraisals**
Kimberly Johnson	Assistant Director of Appraisal, Appraiser III	75218	Supervises Valuation Activities of Residential, Commercial, & Business Personal Property
Jeff Ashley	Appraiser III	74868	Residential, Commercial, Business Personal Property & Data collections
Mindy S. Moreno	Appraiser III	75334	Mineral Property Appraiser, VIT appraisal
Cassandra Carbajal	Appraiser II	75883	Residential, Commercial, Business Personal Property, Pipelines, & Data collections
Shelby L. Bryant	Appraiser II	76202	Residential, Commercial, Business Personal Property, Communications, & Data collections
Madison V. Bolton	Appraiser II	76075	Residential, Commercial, Business Personal Property & Data collections
Ashley Mendoza	Appraiser II	76417	Residential, Commercial, Business Personal Property & Data collections
Jarrod W. Lawson	Appraiser I	76500	Residential, Commercial, Business Personal Property, Utilities, & Data collections
Irene V. Hill	Appraiser Tech II	75982	Assists Real Estate & Personal Property Appraisers - Ag Audits, Sales, Permits, Ag appraisal correspondence, ARB assistance
Katarina I. Garcia	Appraiser Tech I	76415	Assists Real Estate & Personal Property Appraisers - Mobile Home Set-Up, Journal Entries, BPP Set-Up, ARB scheduling
Erin Van Evera-Welch	Appraiser II	76411	Mineral Property Appraiser

Residential Valuation

INTRODUCTION

Scope of Work

The Residential Valuation is responsible for developing equal and uniform market values for residential improved and vacant property for ad valorem purposes. There are approximately 48,872 residential improved parcels and 13,068 vacant residential properties in Ector County.

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. This is due in part to the fact that residential development, in many areas, through use of deed restrictions and zoning, precludes other land uses. Residential Valuation undertakes reassessment of highest and best use in transition areas and areas of mixed residential and commercial use. In transition areas with ongoing gentrification, the analyst reviews the existing residential property use and makes a determination regarding highest and best use. Once the conclusion is made that the highest and best use remains residential, further highest and best use analysis is done to decide the type of residential use on a neighborhood basis. As an example, it may be determined in a transition area that older, non-remodeled homes are economic under-improvements, and the highest and best use of such property is the construction of new dwellings. In areas of mixed residential and commercial use, the analyst reviews properties in these areas on a periodic basis to determine if changes in the real estate market require reassessment of the highest and best use of a select population of properties.

Exception: Under TPTC 23.01(C)

The market value of a residence homestead shall be determined solely on the basis of the property's value as a residence homestead, regardless of whether the residential use of the property by the owner is considered to be the highest and best use of the property.

Model Specification

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 gleaned from real estate publications and sources such as The Real Estate Center of Texas A&M, Odessa Chamber of Commerce Economic Development Department, and The Perryman Economic Outlook. Continuing education in the form of PTEC classes, real estate seminars offered by the Texas Association of Appraisal Districts and the Texas Association of Assessing Officers, The Appraisal Institute, and others provide the valuation analysts a current economic outlook on Ector County's real estate market. The appraisers are responsible for collecting and electronically recording some of the information described above. This information is recorded as part of the neighborhood analysis that is performed when the analyst delineates newly platted subdivisions into valuation neighborhoods.

Neighborhood and Market Analysis

Neighborhood analysis involves the examination of how physical, economic, governmental, and social forces, and other influences affect property values. The effects of these forces are also used to identify, classify, and stratify comparable properties into smaller, manageable subsets of the universe of properties known as neighborhoods or market areas. Residential valuation and neighborhood analysis is conducted on each of the political entities, collectively known as Independent School Districts (ISD).

The first step in neighborhood analysis is the identification of the group of properties that share certain common traits. A "neighborhood" or "market area" 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 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.

Neighborhood identification and delineation is the cornerstone of the residential valuation system at the district. All the residential analysis work done in association with the residential valuation process is neighborhood specific. There are in excess of 594 residential valuation neighborhoods.

Neighborhoods are field inspected and delineated based on observable aspects of homogeneity. Neighborhood delineation is periodically reviewed to determine if further neighborhood delineation is warranted. Whereas neighborhoods involve similar properties in the same location, a neighborhood group is simply defined as similar neighborhoods in similar locations. Each residential neighborhood is assigned to a neighborhood group based on observable aspects of homogeneity between neighborhoods. Neighborhood grouping is highly beneficial in cost-derived areas of limited or no sales, or use in direct sales comparison analysis. Neighborhood groups, or clustered neighborhoods called "market areas," increase the available market data by linking comparable properties outside a given neighborhood. Sales ratio analysis, discussed below, is performed on a neighborhood basis, and in soft sale areas on a neighborhood group basis.

Model Calibration

Cost Schedules

All residential parcels in the district are valued from cost schedules (models) using the comparative unit method. The district's residential cost schedules, originally adopted from a private mass appraisal firm, have been customized to fit Ector County's local residential building and labor market. The cost schedules are reviewed regularly.

An extensive review and necessary revisions of the residential cost schedule were performed for the 2020 tax year. As part of this process, approximately 1,034 newly constructed sold properties at various levels of quality of construction in Ector County were reviewed. The property data characteristics of these properties were verified. ECAD dwelling costs were compared against Marshall & Swift, a nationally recognized cost estimator. This process included correlation of quality of construction factors from ECAD and from Marshall & Swift. The results of this comparison were analyzed using statistical measures, including stratification by quality and reviewing estimated building costs plus land to sales prices. As a result of this analysis, scheduled values were adjusted and used in the district's cost process. PC spreadsheet applications have been created to address unique appraisal situations, such as different levels of remodeling and atypical housing features not normally accounted for in the mainframe benchmark cost system.

Sales Information

A sales file for the storage of "snapshot" sales data at the time of sale is maintained. Residential vacant land sales, along with commercial improved and vacant land sales are maintained in a separate 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, various sale vendors, builders, realtors, fee appraisers, and other confidential sources. A system of type, source, validity, and verification codes was established to define salient facts related to a property's purchase or transfer. School district or neighborhood sales reports are generated as an analysis tool for the analyst in the development of value estimates.

Land Analysis

Residential land analysis is conducted by each of the appraisers. The appraisers develop a base lot, primary rate, and assign each unique neighborhood to one or more square foot land table values. The square foot land table value is designed to systematically value the primary and residual land based on a specified percentage of the primary rate. A computerized land table file stores the land information required to consistently value individual parcels within neighborhoods. Specific land influences are allowed for, where necessary, to adjust parcels outside the neighborhood norm for such factors as view, shape, size, and topography, among others. The analysts use abstraction and allocation methods to insure that the land values created best reflect the contributory market value of the land to the overall property value.

Statistical Analysis

The appraisal director performs statistical analysis annually to evaluate whether values are equitable and consistent with the market. Ratio studies are conducted on each of the approximately 594 residential valuation neighborhoods in the district to judge the two primary aspects of mass appraisal accuracy: level and uniformity of value. Appraisal statistics of central tendency and dispersion generated from sales ratios are available for each stratified neighborhood within an ISD and summarized by year. These summary statistics including, but not limited to, the weighted mean, median, standard deviation, coefficient of variation, and coefficient of dispersion provide the appraisers a tool by which to determine both the level and uniformity of appraised value on a stratified neighborhood basis. The level of appraised values can be determined by the weighted mean for individual properties within a neighborhood, and a comparison of neighborhood-weighted means can reflect the general level of appraised value between comparable neighborhoods. Review of the standard deviation, coefficient of variation, and coefficient of dispersion can discern appraisal uniformity within and between stratified neighborhoods.

The appraiser, through the sales ratio analysis, process reviews every neighborhood annually. The first phase involves neighborhood ratio studies that compare the recent sales prices of neighborhood 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 updates, makes a preliminary decision as to whether the value level in a neighborhood needs to be updated in an upcoming reappraisal, or whether the level of market value in a neighborhood is at an acceptable level.

Final Models: Market Adjustment and Time Consideration

Neighborhood or market adjustment factors are developed from appraisal statistics provided from ratio studies and are used to ensure that estimated values are consistent with the market. The district's primary approach to the valuation of residential properties uses a hybrid cost-sales comparison approach. This type of approach accounts for neighborhood market influences not specified in the cost model.

The following equation denotes a typical hybrid model that can be used:

$$MV = MA [LV + (RCN – D)]$$

whereas, the market value equals the market adjustment factor times the land value plus the replacement cost new less depreciation. As the cost approach separately estimates both land and building values and uses depreciated replacement costs which reflect only the supply side of the market, it is expected that adjustments to the cost values are needed to bring the level of appraisal to an acceptable standard. Market or location adjustments are applied uniformly within neighborhoods to account for locational variances between market areas or across a jurisdiction.

If a neighborhood is to be updated, the appraiser uses a cost ratio study that compares recent sales prices of properties, appropriately adjusted for the effects of time within a delineated neighborhood, with the properties' actual cost value. The calculated ratio derived from the sum of the sold properties' cost value divided by the sum of the sales prices indicates the neighborhood level of value based on the unadjusted cost value for the sold properties. This cost-to-sale ratio is compared to the appraisal-to-sale ratio to determine the market adjustment factor for each neighborhood. This market adjustment factor is needed to trend the values obtained through the cost approach closer to the actual market evidenced by recent sales prices within a given neighborhood. The sales used to determine the market adjustment factor will reflect the market influences and conditions only for the specified neighborhood, thus producing more representative and supportable values. The market adjustment factor calculated for each update neighborhood is applied uniformly to all properties within a neighborhood. Once the market-trend factors are applied, a second set of ratio studies is generated that compares recent sale prices with the proposed appraised values for these sold properties. From this set of ratio studies, the appraiser judges the appraisal level and uniformity in neighborhoods, and finally, for the school district as a whole.

Monthly time adjustments were developed using the sales ratio trend analysis method. For each school district, appraisal-to-sales (A/S) ratios based on unadjusted cost values were stratified on a quarterly basis. Statistics produced from the quarterly market data include measures of central tendency (mean and median) that represent the level of appraised values, and measures of uniformity (coefficient of dispersion and coefficient of variation) that represent the consistency of appraised values within and between strata. The resulting quarterly medians were examined and analyzed. A quarterly time adjustment for each market area sample was produced. Analysis was then performed on the school district sample to determine the appropriate quarterly time

adjustment to be employed, or if a time adjustment was warranted. Once the market areas total annual time adjustments were determined, a monthly time adjustment was calculated.

How Estimates are reviewed

Field Review

The appraiser identifies individual properties in critical need of field review through sales ratio analysis. Sold properties with a high variance in sales ratios are field reviewed on an ongoing basis to check for accuracy of data characteristics. If data inaccuracies are found in a large percentage of the sold properties, the entire neighborhood is flagged for field review by the appraisal staff in their annual work plan.

As the district's parcel count has increased through new home construction, and the homes constructed in the boom years of the late 70's and early 80's experience remodeling, the appraisers are required to perform the field activity associated with transitioning in high demand neighborhoods. The increased sales activity in the area has also resulted in a more substantial field effort on the part of the appraisers to review and resolve sales outliers. Additionally, the appraiser frequently field reviews subjective data items such as quality of construction, condition, and physical, functional, and economic obsolescence, factors contributing significantly to the market value of the property. After preliminary estimates of value have been determined in targeted areas, the appraiser takes valuation documents to the field to test the computer-assisted values against his own appraisal judgment. During this review, the appraiser is able to physically inspect both sold properties and unsold properties for comparability and consistency of values.

Office Review

Given the time required to conduct a routine field review of all properties, homogeneous properties consisting of tract housing with a low variance in sales ratios and other properties having a recent field inspection date are value reviewed in the office. Valuation reports comparing previous values against proposed and final values are generated for all residential improved and vacant properties. The dollar amount and 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. A three-year sales history of the subject is listed & reviewed (USPAP property history requirement under Standard Rule 1).

Once the appraiser is satisfied with the level and uniformity of value for each neighborhood within his area of responsibility, the estimates of value go through a shift process from CAMA to an ad valorem administrative file for noticing. A critical element of the shift process is value edits, or low and high value limits set for each neighborhood by the appraiser. Each parcel is subject to the value parameters appropriate for its neighborhood. If one of the parcel’s component values, land and improvement, or total value fails the value edits, the parcel is placed on a problem tracking report to be resolved by the appraiser. Although the value estimates are

determined in a computerized mass appraisal environment, value edits afford the appraiser an individual look at value anomalies before the value is released for noticing.

Once the proposed value estimates are finalized, the appraiser reviews the sales ratios by neighborhood and presents pertinent valuation data, such as history of hearing protest, sale-to-parcel ratio, and level of appraisal to the Chief Appraiser for final review and approval. The primary objective of this review is to ensure that the proposed values have met preset appraisal standards.

Appraisal Performance Tests Used and Performance Measures Attained

The primary analytical tool used by the appraisers to measure and improve performance is the ratio study. This ensures that the appraised values that are produced meet the standards of accuracy in several ways. Overall sales ratios are generated periodically to allow the appraiser to review general market trends within their area of responsibility, and provide an indication of market appreciation over a specified period of time. Several sets of neighborhood sales ratios on each of the delineated residential neighborhoods are produced prior to the setting of preliminary values and after finalization of appraised values. The neighborhood descriptive statistics, along with frequency distributions and scatter diagrams are reviewed for each neighborhood being updated for the current tax year.

The purpose of the district's ISD ratio study is to evaluate the relationship between appraisals and sale prices as of the January 1 appraisal date. The district's ratio studies were designed and prepared, to the maximum extent possible, under the guidelines set forth in the International Association of Assessing Officers (IAAO) *Standard on Ratio Studies*.

A ratio study was produced for each school district (1) using the preferred study period from January 1, 2019 – December 31, 2019, if it provided an adequate sample size. If the preferred study period did not result in an adequate sample, the sample was supplemented with additional months of available sales data. The variation of the study period did not create inconsistency in school district results, however, because all sales prices can be adjusted for time. The sample data is assumed to be normally distributed and to represent the population of sold and unsold homes within the school district.

Sales were screened to ensure that they reflect, to the extent possible, the conditions contained in the definition of market value. Sales that were identified as invalid transactions due to atypical financing, sales between relatives or corporate affiliates, forced sales, or sales of convenience were excluded from the study. Also excluded from the study were partially incomplete new residential construction in our building permit file and accounts in the problem resolution process.

RESIDENTIAL STAFF
PROVIDING SIGNIFICANT MASS APPRAISAL ASSISTANCE

NAME	TITLE	TDLR NO.	TYPE of ASSISTANCE
William J. Harris, RPA	**Director of Appraisal**	**71531**	**Plans and directs Valuation Activities, Methods, Models, and Calibration of Models**
Kimberly Johnson	Assistant Director of Appraisal, Appraiser III	75218	Supervises Valuation Activities of Residential, Commercial, & Business Personal Property
Jeff Ashley	Appraiser III	74868	Field Appraiser
Cassandra Carbajal	Appraiser II	75883	Field Appraiser
Shelby L. Bryant	Appraiser II	76202	Field Appraiser
Madison V. Bolton	Appraiser II	76075	Field Appraiser
Ashley Mendoza	Appraiser II	76417	Field Appraiser
Jarrod W. Lawson	Appraiser I	76500	Field Appraiser
Irene V. Hill	Appraiser Tech II	75982	Assists Real Estate & Personal Property Appraisers, Assists Appraisal Review Board
Katarina I. Garcia	Appraiser Tech I	76415	Assists Real Estate & Personal Property Appraisers, Assists Appraisal Review Board, Maintains Residential Sales Records

Commercial Valuation

INTRODUCTION

Scope of Work

This mass appraisal assignment includes all commercially classed real property assigned to the commercial valuation appraisers and located within the jurisdiction of Ector 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 appraisement of any non-exempt taxable fractional interests in real property. 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.

Procedure for Collecting and Validating 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 these 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, such as The Korpacz Real Estate Survey for market data on apartments, for retail or warehouse, and for offices, State Comptroller Hotel /Motel Report, etc. Other publications such as Valuations Insights & Perspectives published by The Appraisal Institute are used for capitalization rates, typical holding valuation insights & perspectives from the appraisal institute periods for real estate investments, interest rates and other pertinent real estate criteria. Commercial property sales and rental rates are obtained by subscription to CoStar group and Trepp.

In terms of commercial sales data, ECAD has access to the deeds recorded in Ector 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 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 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. Finally, closing statements are often provided during the hearings 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 ECAD appraisers during the hearings process.

Highest and Best Use Analysis

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 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 is 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 seven geographic areas. The improved real property appraisal responsibilities are categorized according to major property types of multi-family or apartment, office, retail, warehouse, and special use (i.e. hotels, hospitals and, nursing homes).

The cost approach to value is applied to all commercial improved 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 in the valuation of the underlying land value.

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 meaningful and reliable value indicator.

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. All three approaches to value may be considered in estimating market value for each property, the most applicable of which is given primary emphasis.

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 the Odessa Chamber of Commerce Economic Development Department, The Perryman Economic Outlook, 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), Property Tax Education Coalition (PTEC) courses, and real estate seminars provide district employees a current economic outlook on Ector County's real estate market. Strict adherence to these procedures ensures that appraisers consider pertinent factors and trends about the forces within the governmental bodies and cities in Ector County and within the geographic boundaries of ECAD.

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, 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. Apartments, offices, retail, and warehouses may have delineated

economic (market) areas respectively. Economic area identification and delineation by each major property use type is the benchmark of the commercial valuation system. All income model valuation (income approach to value estimates) is economic area specific. Economic areas are periodically reviewed. The geographic boundaries as well as income, occupancy, expense levels, and capitalization rates by age within each economic area for all commercial use types and its corresponding income model may be found in the Commercial Income Valuation section of the Appraisal Operations Manual.

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 publications are also reviewed to lend detailed 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 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 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 Marshall & Swift Valuation Service cost tables. 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 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 of time. 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 Ector County, Texas. 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. Schedules have been developed for improvements with 15, 20, 30, 40, 50 and 60 year expected life. These schedules are then 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 based on observed or known levels of renovation.

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

Ector County Appraisal District develops both a Market Rent Valuation and a Contract Rent Valuation Appraisal on typical income-producing commercial real properties. With sufficient data, office buildings, retail stores, strip centers, big-box retail properties, shops and warehouses, self- storage (mini-storage units) facilities, multi-family apartments, and hotels are valued under the Income Approach to Value by the District using actual contract rent as well as a separate valuation using typical market rents. In estimating potential gross income, the District appraisal staff distinguishes between ‘market rent’ (economic rent) and ‘contract rent’ (actual rent). Market rent is the rate prevailing in the market for comparable properties and is used in calculating market value by the income approach. Contract rent is the actual amount agreed to by the landlord and the tenant.

The District appraiser analyzes contract rents to determine if the lease amount is typical for the property type and if the lease agreement provides for any consideration other than the lease of the subject property. Contract rents are compared with market rents for comparable properties. Market rents represent what a given property should be renting for, based on analysis of contract rents for comparable property type space. Market rent should be the amount that would result from a lease negotiated on the open market between a willing lessor and a willing lessee, both being knowledgeable and free of influence from outside sources.

The District appraisal staff determines both gross and net leasable areas for properties. Rental income and expenses are expressed on an annual basis. Vacancy and collection losses are determined. Miscellaneous income related to a property operation is determined. Typical (normal) operating expenses by prudent management is determined and allowed for. Replacement reserves are allowed for as a percentage additive to annual operating expense for certain items and by property type.

Because Net Operating Income (NOI) is estimated by subtracting operating expenses and the replacement reserve from effective gross income, it must be accurately determined. NOI is most

useful for comparing one property to another and provides an excellent point from which to estimate property value.

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 local market publications. 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. 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. 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. Under this scenario, if the total operating expense in year one (1) equates to $8.00 per square foot, any increase in expense over $8.00 per square foot throughout the remainder of the lease term would be the responsibility of the tenant. As a result, 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. These procedures are documented for Income Properties in the Agency Information Manual (A.I.M). This manual is reviewed and updated as needed.

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.

Rent loss concessions are made on 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 that for every year that the property's actual occupancy is less than stabilized occupancy; a rent loss deduction may be estimated.

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 in the CAMA system and applied to all commercial properties. The schedules and models are summarized in the Commercial Improvement Classification Guide in the Agency Information Manual (A.I.M). This manual is located and maintained in the Agency Information Manual (A.I.M) and available to appraisers and all Ector County Appraisal District employees.

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 appraiser frequently field reviews 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 appraiser tests 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 and are performed in compliance with the guidelines contained in the Agency Information Manual (A.I.M). The Commercial Appraisal Manual outlines the application of the three approaches to value (including Discounted Cash Flow - DCF). The manual details derivation of final value estimates by property use type. This manual is maintained and updated frequently. This manual is reviewed and updated as needed.

Office review consists of analyzing the pertinent data for each property, as well as comparing the previous values (two year value history) to the proposed value conclusions of the various approaches to value. Value reports show proposed percentage value changes, income model attributes or overrides, economic factor (cost overrides), and special factors affecting the property valuation such as remodeling, prior year litigation, and a three-year sales history (USPAP property history requirement). 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 or geographic area.

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 through a shift process from CAMA to an ad valorem administrative file for noticing. A critical element of the shift process is value edits, or low and high value limits set for each use type by division management. Each parcel is subjected to the value parameters appropriate for its use type. If one of the parcel's component values exceeds the permissible change in value range it "*fails the value edits*". If an account fails one or more value edits, the parcel is placed on a problem tracking system. A report is produced by use type that details the failure to shift status allowing the analyst to review and resolve the value. 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 commercial property types annually through sales ratio analysis. The first phase involves ratio studies, which 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 acceptable.

Potential gross rent estimates, occupancy levels, secondary income, allowable expenses (inclusive of non-recoverables and replacement reserves), net operating income, 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 land use type from the sales database and CAMA semi-annually (or more often in specific areas) to allow the appraiser to review general market trends in their area of responsibility. In many cases, field checks may be conducted to insure 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. In this way, overall appraisal performance is evaluated geographically, by specific land use 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 horizontal equity studies are performed prior to annual noticing.

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Kimberly Johnson	Assistant Director of Appraisal, Appraiser III	75218	Supervises Valuation Activities of Residential, Commercial, & Business Personal Property
Jeff Ashley	Appraiser III	74868	Field Appraiser
Mindy S. Moreno	Appraiser III	75334	Mineral Property Appraiser
Cassandra Carbajal	Appraiser II	75883	Field Appraiser
Shelby L. Bryant	Appraiser II	76202	Field Appraiser
Madison V. Bolton	Appraiser II	76075	Field Appraiser
Ashley Mendoza	Appraiser II	76417	Field Appraiser
Jarrod W. Lawson	Appraiser I	76500	Field Appraiser
Irene V. Hill	Appraiser Tech II	75982	Assists Real Estate & Personal Property Appraisers, Assists Appraisal Review Board
Katarina I. Garcia	Appraiser Tech I	76415	Assists Real Estate & Personal Property Appraisers, Assists Appraisal Review Board, Maintains Commercial Sales Records
Erin Van Evera-Welch	Appraiser II	76411	Mineral Property Appraiser

The above staff members are involved with valuation of apartments, hotel/motel properties, office buildings retail & commercial/industrial properties.

Industrial Valuation

INTRODUCTION

Scope of Work

The Appraisal Director is responsible for developing fair, uniform market values for improved industrial properties and industrial vacant land. The district appraisers are also responsible for the valuation of all tangible general industrial personal property in Ector County. There are approximately 29 parcels of industrial real property in Ector County. The district appraisers appraise approximately 52 parcels of tangible personal property.

Procedure for Collecting and Validating Data

The district appraisal staff inspects their assigned properties to obtain information about buildings, site improvements, process and shop equipment, and various items of personal property. In addition, district 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.

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. The district has adopted the guide for Marshall & Swift Commercial Building System and the companion data acquisition forms to standardize data collection for buildings assigned to district appraisal staff. The data generated by these forms enables the appraiser to use the software to value industrial buildings.

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.

The original real and personal property data used by ECAD was supplied by the ISD Tax Offices and the Ector County Tax Office. Since that time, the district appraisal personnel have updated that information based on field review. As new facilities are built, the district 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. Building permit information is received from the City of Odessa when a facility is being built inside the incorporated city. Other sources of data include publications such as the Texas Register

regarding waste control permits, various refining and chemical industry magazines, and Texas Industrial Expansion articles on new construction.

District 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 of two or more years.

The district 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.

Highest and Best Use Analysis

The current use of the property is generally the highest and best use of that property. Industrial facilities are most commonly located in areas that support industrial use. In areas where mixed use does occur, the district appraiser estimates the effect of this factor on highest and best use.

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 is not performed due to the non-homogeneous nature of the property type. Industrial properties do not have the type of generic “sameness” that is appropriate for neighborhood models.

Market Analysis

Market analysis is the basis for finalizing value estimates on industrial properties. Even though many industrial properties are unique in nature, the market for this type property is analyzed to

see how the value of similar 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 chemical 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 manner in which the entire business operation is put together makes that particular facility unique. Information from similar businesses are used to evaluate the real and personal property values at a particular 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 taken into account when estimating the final value of the property being reviewed.

A similar analysis is used for personal property. Many personal property items, such as furniture and fixtures, computers, and even machinery and equipment are generic in construction, but individual characteristics that affect value, such as useage, 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.

Model Calibration

The schedules used are an integration of the Marshall & Swift Commercial Building Valuation System for real property improvements. The real property valuation schedules are updated periodically through data supplied by Marshall & Swift. The valuation schedule incorporated into the industrial plant database is updated perodically.

ECAD 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 anually by the Director of Appraisal.

How Estimates are Reviewed

Field Review

The district appraisal staff periodically review their assigned real and personal property accounts and where there is evidence of change, these accounts are revisited on a yearly cycle. Properties are reviewed annually because past experience shows that changes are occurring continually in the real or personal property at plant 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 effect 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 district appraisal staff values all land for the properties over which it has responsibility.

Office Review

Some properties are reviewed in the office by district appraisers assigned to particular 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, and computers 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 schedules.

Appraisal Performance Tests Used and Performance Measures Attained

Sales Ratio Studies

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 have to 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 also, because of time and budget constraints regarding available appraisal staff. A jurisdiction challenge filed with the Appraisal Review Board is generally the only reason for an analysis of this nature. If a jurisdiction challenge is received on a category of property, 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. Similarly, the personal property values can be compared per category, such as furniture and fixtures, machinery and equipment, but the same comparison of the type of and use of the property must be examined to ensure property comparability.

DISTRICT STAFF PROVIDING SIGNIFICANT MASS APPRAISAL ASSISTANCE FOR INDUSTRIAL VALUATIONS

NAME	TITLE	TDLR NO.	TYPE of ASSISTANCE
Layne P. Young, RPA	**Assistant Chief Appraiser**	**69928**	**Oversight of Industrial Plant Appraisals**
William J. Harris, RPA	Director of Appraisal	71531	Appraises Industrial Plants

Business Personal Property Valuation

INTRODUCTION

Scope of Work

The personal property appraisers are responsible for developing fair and uniform market values for business personal property located within the district. There are four different personal property types appraised by the personal property appraisers: Business Personal Property accounts; Leased Assets; Special Inventory; and Multi-Location Assets (allocated). There are approximately 4,901 business personal property accounts located in Ector County. The district reappraises all income producing business personal property annually.

Procedure for Collecting and Validating Data

A common set of data characteristics for each personal property account in Ector County is collected in the field and data entered to the appraisal system. The property characteristics data drives the computer-assisted personal property appraisal (CAPPA) system. There are 7 appraisers and 2 appraiser technicians assigned to the discovery and collection of business personal property data.

Personal property data collection procedures are located and maintained in the Agency Information Manual (A.I.M.) and available 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

In addition to data collected and verified by the field appraisers, various discovery publications such as the Court Reporter and state sales tax listings are also used to discover personal property. Tax assessors, city and local newspapers, and the public often provide the district information regarding new personal property and other relevant facts related to property valuation.

Vehicles and Leased and Multi-Location Assets

Info Nation, Inc. Commercial Vehicle Registration Guide provides ECAD with a listing of vehicles within Ector County. The vendor develops this listing from the Texas Department of Transportation (TXDOT) Title and Registration Division records. ECAD also uses national and

regional publications to research vehicle value benchmarks. Other sources of data include property owner renditions and field inspections.

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

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.

Model Specification

SIC Code Analysis

Four digit numeric codes, called Standard Industrial Classification (SIC) codes, were developed by the federal government to identify business entities having common attributes. These classifications are used by ECAD as a way to delineate personal property by business type. ECAD has further stratified these codes by adding alpha suffixes to SIC codes in order to group business types that have similar personal property characteristics.

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. There are approximately 170 personal property SIC codes. SIC codes are delineated based on observable aspects of homogeneity and are periodically reviewed to determine if further stratification is warranted.

Model Calibration

Cost Schedules

The district staff builds cost schedules based on SIC codes. Cost data from property owner renditions, hearings, Comptroller of Public Accounts state schedules, and published cost guides such as Marshall & Swift are utilized to develop 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 SIC codes are in a price per unit format.

Statistical Analysis

Summary statistics including, but not limited to, the median, weighted mean, and standard deviation provide the analysts an 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.

Final Models: Depreciation Schedule and Trending Factors

Business Personal Property

The 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 developed valuation models. The trending factors used to develop RCN are based on published valuation guides. The percent good depreciation factors 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, as follows:

PVF = INDEX FACTOR x PERCENT GOOD FACTOR

The PVF is used as an "express" calculation in the cost approach. The PVF is applied to reported historical cost as follows:

MARKET VALUE ESTIMATE = PVF x HISTORICAL COST

This mass appraisal PVF schedule is used to ensure that estimated values are uniform and consistent within the market.

Computer Assisted Personal Property Appraisal (CAPPA)

The CAPPA valuation process has two main objectives: 1) Analyze and adjust existing SIC models; 2) Develop new models for business classifications not previously integrated into CAPPA. 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 Standard Industrial Classification (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.

CAPPA model values are used in the general business personal property valuation program to estimate the value of new accounts. Model values are also used to establish tolerance parameters for testing the valuation of property for which prior 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 and Leased and Multi-Location Assets

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 are valued using the PVF schedules mentioned above. If the asset to be valued in this category is a vehicle, then published book values or similar values provided by a vehicle data vendor are adjusted according to current economic criteria. Assets that are not valued by the vendor are valued by an appraiser using PVF schedules or published guides.

How Estimates are Reviewed

Business Personal Property

A valuation computer program exists in an 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. Appraisers individually review accounts that fail the tolerance parameters.

Vehicles and Leased and Multi-Location Assets

A vehicle master file, sorted by owner name, is received from an outside vendor. These vehicles are then matched to existing accounts and new accounts are created as needed. Vehicles are either valued by the vendor or valued by an appraiser using PVF schedules or published guides.

Appraisal Performance Tests Used and Performance Measures Attained

The Comptroller’s annual Property Value Study for personal property uses state cost and depreciation schedules to develop comparative value estimates. These value estimates are compared to ECAD’s personal property values and ratios are calculated, along with descriptive statistics that report appraisal performance.

New or revised cost and depreciation schedules are tested by running the valuation program in a test mode prior to the actual valuation cycle. This gives the appraisers a chance to make additional refinements to the schedules if necessary.

STAFF
PROVIDING SIGNIFICANT BUSINESS PERSONAL PROPERTY
MASS APPRAISAL ASSISTANCE

NAME	TITLE	TDLR NO.	TYPE of ASSISTANCE
William J. Harris, RPA	**Director of Appraisal**	**71531**	**Directs BPP Model Development and Calibration**
Kimberly Johnson	Assistant Director of Appraisal, Appraiser III	75218	Supervises Personal Property Valuations
Jeff Ashley	Appraiser III	74868	Performs Personal Property Model Valuation, Multi-location Valuation, & Commercial Valuation
Cassandra Carbajal	Appraiser II	75883	Performs Personal Property Model Valuation, Multi-location Valuation, & Commercial Valuation
Shelby L. Bryant	Appraiser II	76202	Performs Personal Property Model Valuation, Multi-location Valuation, & Commercial Valuation
Madison V. Bolton	Appraiser II	76075	Performs Personal Property Model Valuation, Multi-location Valuation, & Commercial Valuation
Ashley Mendoza	Appraiser II	76417	Performs Personal Property Model Valuation, Multi-location Valuation, & Commercial Valuation
Jarrod W. Lawson	Appraiser I	76500	Performs Personal Property Model Valuation, Multi-location Valuation, & Commercial Valuation
Mindy S. Moreno	Appraiser III	75334	Appraises Special Inventory Accounts

Minerals (Oil and Gas Reserves) Valuation

INTRODUCTION

Scope of Work

The Ector County Appraisal District is responsible for developing market value estimates for all producing oil and gas mineral reserves in place within the district. County split properties are prorated to the shared county on an allocated basis (generally acreage contribution to the leasehold estate). There are approximately 147,828 parcels (owner items) of mineral property in Ector County. The mineral appraiser maintains lease records of approximately 1,762 oil & gas leaseholds comprised of approximately 10,703 mineral property owners.

Appraisal Responsibility

Minerals-in-place (oil and gas reserves) are real property. Appraisal of mineral 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 interest from the land surface property rights. Minerals to be 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 in barrels of oil or cubic feet of natural gas. The market approach is established 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 these properties 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 Ector County Appraisal District to identify every producing mineral property interest within the district and estimate the market value of each property interest listed on the roll.

Appraisal Resources

Personnel – The mineral property staff consists of 2 Appraisers.

Data – A common set of data characteristics for each mineral property account in Ector County Appraisal District is collected from the Texas Railroad Commission records and data entered to

the district's database. The property characteristic data drives the computer-assisted mineral property appraisal system. Railroad Commission records are searched to discover new leases as of January 1 of the year and legal descriptions are gathered to determine the location of the lease within Ector County Appraisal District CAD jurisdictional boundaries. Records are also reviewed for changes in production for existing wells and for abandoned wells with salvage value for equipment, tanks, and tubular goods. Production history for each mineral lease is gathered from "drilling info.com" production records and from the Texas Railroad Commission. Division Orders on each lease are requested annually from lease operators and checked against the appraisal roll for accuracy of owner name, address, and ownership percentage interest. To assist with operating information, a Confidential Lease Operating Expense Survey is periodically mailed to the operator of active leases requesting lease-specific operating information on oil and gas pricing, operating expenses, and possible market sales of leases.

To assist with the economic parameters influencing these properties, general economic data is gathered for the valuation process. The method of appraisal for minerals-in-place is the discounted cash flow method, which looks at the net present value of operating the lease. Current interest rates, market rates of return, and levels of discounting the investment are factors to consider when evaluating the returns necessary to attract investment capital for this type property. Capitalization rates are based on a contracted weighted average cost of capital study. West Texas Intermediate Crude product prices are tracked on a daily basis from Plains Marketing, a regional product gathering and marketing company and a major buyer for oil produced in the area. Other capital market information and return rates for investors participating in the oil and gas market is taken from the Oil and Gas Journal, Ibbotson's SBBI Valuation Edition, Wall Street Journal, Mergent Bond Record, Moody's Corporate Bond Yield Averages, and Value Line Investment Survey "Ratings and Reports".

Valuation and Statistical Analysis (model calibration)

Pricing, Operating Expenses and Reserve Analysis

Crude oil and natural gas prices are important information in the valuation of mineral property because these prices help determine income to the lease and are a significant factor in determining the economic life of the production from the lease. Price analysis and estimates for crude oil and natural gas produced is based on the price structure as per Texas Property Tax Code (Sec. 23.175). The price paid for production for each lease is analyzed and averaged per Sec. 23.175.

Actual prior year crude oil and natural gas prices for Ector County Oil and Gas Properties are taken from actual severance tax filings with the Texas State Comptroller.

Lease operating expenses are estimated based on rendered information and actual operating cost and expense from surveys of lease operators in Ector County Appraisal District. Decline curve analysis estimates the rate of production decline and is formulated using past production operating expenses and recent operating parameters such as water production, lease repairs, and

secondary recovery efforts. Current operating income and expenses for the lease are considered and estimated in a discounted cash flow model to allow the appraiser to evaluate and estimate the net present value of producing oil and gas from the lease. Capitalization rates and discounting return rates are estimated for each lease based upon the particular risks inherent with production of oil and gas from that property. These risks may vary considerably from one lease to another depending on several factors influencing the production from that particular lease. The discounted cash flow model method will allow the appraiser to evaluate a current market value of the lease based on the estimated recoverable reserves. This methodology is approved and recommended by the Property Tax Assistance Division of the Comptroller's Office and is a recognized method of appraisal by industry standards. ECAD has utilized the discounted cash flow model to estimate the market value of each lease located in Ector County Appraisal District.

Value Review Procedures

The method of value review for this type of property is based on the review of the factors estimated within the discounted cash flow analysis methodology such as the discount rate, product prices, and operating expenses. Evaluation and verification of these economic factors as to their validity within current economic times and based on current capital requirements for investment in this type property is re-confirmed and reviewed for reasonableness. Sales of mineral properties are considered, but adequate sale data is usually not available due to difficulty in confirming sales. The market for this type of property is neither an active nor an efficient market, there are very few participants, and pricing information is mostly confidential. There is no central source for tracking these transactions and property owners are reluctant to reveal market information concerning prices paid or terms of the transaction. Because of a lack of market sales on mineral property, appraised values are regularly compared to similar properties within the same production field, field of exploration, strata of formation, or production history and expense level.

Ratio studies are a source of comparison to evaluation level and uniformity of appraisal. When market sales are available, the ratio study is based on a comparison of the appraised value to the sale price. For mineral property, which lacks available market sales, a ratio study is a comparison of another appraisal opinion with the opinion of the district to determine level and uniformity of appraisal. The Property Tax Assistance Division of the Comptroller's Office conducts an annual mineral value study of selected mineral properties to gauge the district's appraisal performance. The PTAD utilizes the same valuation methodology to appraise individual mineral properties. This opinion of value is then utilized as market evidence with the same significance as if the property sold for that value. The estimated value of the property by Ector County Appraisal District is compared to the appraisal by the PTAD to calculate the ratio and the indicated level of appraisal. This study indicates the median and mean levels of appraisal for mineral property and is considered reliable as a review and evaluation tool.

DISTRICT STAFF PROVIDING SIGNIFICANT MASS APPRAISAL ASSISTANCE FOR MINERAL VALUATIONS

NAME	TITLE	TDLR NO.	TYPE of ASSISTANCE
Anita Campbell, RPA, RTA, CTA	**Chief Appraiser/ Executive Director**	**66968**	**Plans and Directs Mineral Valuation Activities**
Layne P. Young, RPA	Assistant Chief Appraiser	69928	Oversees Mineral Valuation Activities
Mindy S. Moreno	Appraiser III	75334	Performs Mineral Property Appraisals
Erin Van Evera-Welch	Appraiser II	76411	Performs Mineral Property Appraisals