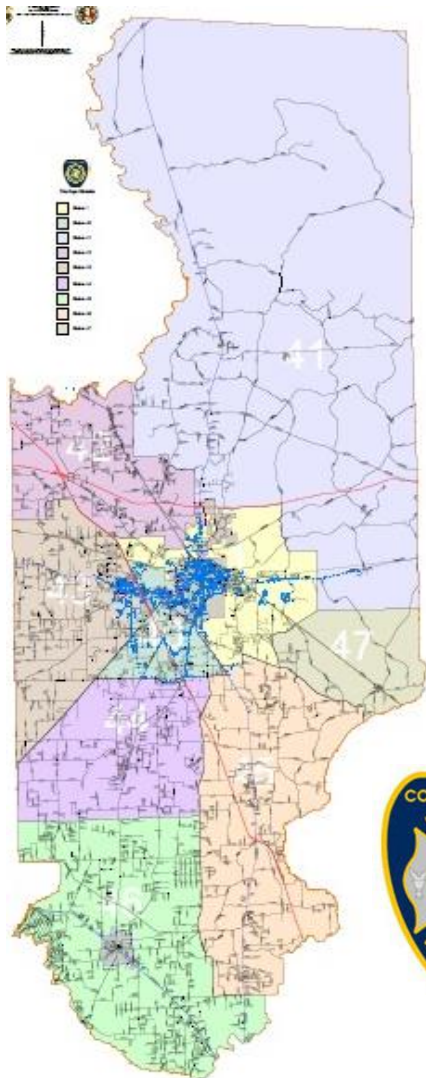




COLUMBIA COUNTY FIRE ASSESSMENT UPDATE

FINAL Report

June 28, 2017



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COLUMBIA COUNTY

FIRE ASSESSMENT UPDATE STUDY

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COLUMBIA COUNTY

FIRE ASSESSMENT UPDATE STUDY

I. Introduction

Fire assessments are used to fund the capital and operating costs associated with providing fire protection services to properties within Florida cities and counties. Columbia County's fire protection assessment program was implemented in 1987 and was last updated in 2013. To reflect the most recent data, the County retained Tindale Oliver to prepare the technical study supporting an update of the County's fire protection special assessment rate schedule. The purpose of this study is to calculate fire protection assessment rates that are based upon the most current available data for providing fire protection services within the county.

II. Service Delivery and Legal Requirements

Fire Department History

The Columbia County Fire Department (CCFD) provides fire rescue services to the unincorporated county and the Town of Fort White from 12 stations with 59 paid staff as well as volunteers. Of these, nine are manned by the County and the other three are staffed by volunteers. In terms of medical calls, the Fire Department functions as a first responder/Basic Life Support (BLS) provider, and does not offer Advanced Life Support (ALS) emergency medical services (EMS). ALS services are provided by a private party within Columbia County.

Historically, Columbia County and the City of Lake City provided combined fire protection services countywide. In 2006, the City/County Fire Department separated, with the City of Lake City Fire Department (LCFD) serving properties within Lake City and CCFD serving the remaining areas of the county. Following separation of the combined City/County Fire Department, LCFD retained the replacement station rebuilt and located within the City limits, while CCFD retained the station located near the municipal boundary of the city. As part of the dissolution of the combined City/County Fire Department, to ensure that both city and county residents continue to receive a high standard of fire protection services under the new departmental structure, CCFD and LCFD entered into an automatic/mutual aid service agreement. Under this agreement:

CCFD provides fire protection services from 12 stations.

- The CCFD will respond anywhere inside of the incorporated City limits with any specific piece of apparatus or number of personnel as requested by a LCFD on-scene commander.
- The LCFD will respond anywhere outside of the incorporated City limits with any specific piece of apparatus or number of personnel as requested by a CCFD on-scene commander anywhere in the CCFD's coverage area.

A review of calls responded by the CCFD within the City and by the LCFD within the unincorporated county suggested that the automatic/mutual aid calls were a small percentage of total number of calls. More specifically, between 2011 and 2016, approximately 1.3 percent of the calls were automatic/mutual aid received from the City and

2.4 percent of the calls represented automatic/mutual aid provided. These calls were excluded from the analysis.

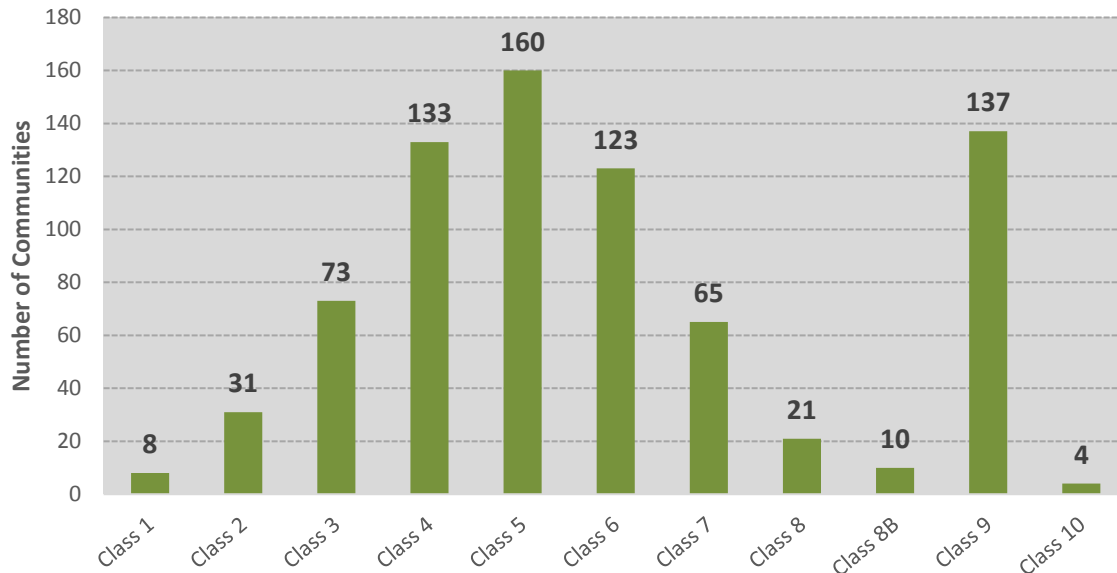
Insurance Services Office (ISO) Rating

Measurement of a community's fire protection services is provided through the Insurance Services Office (ISO), which collects information on municipal fire protection efforts throughout the United States. Ratings by the ISO are accepted by the insurance industry and by fire departments nationwide as the industry standard for measuring a fire department's capacity and ability to suppress fire incidents. For each community, ISO analyzes relevant data using its Fire Suppression Rating Schedule (FSRS). The three primary areas of data analyzed include 1) fire department fire alarm and communications system, 2) fire department staff and equipment, and 3) water supply system available to the fire department. In turn, the FSRS is used to assign a Public Protection Classification (PPC) from 1 to 10 (commonly referred to as a fire department's "ISO Rating"). An ISO Rating of Class 1 represents excellent public protection, while an ISO Rating of Class 10 indicates that the community's fire-suppression program does not meet ISO's minimum criteria. Participation in the ISO program aims primarily to provide a community with an objective and standard rating system used nationwide that assists fire departments in planning and budgeting for facilities, equipment, and training. In addition, ISO ratings are used by many insurance companies to establish appropriate fire insurance premiums for residential and commercial properties within that community, thus providing a financial incentive for communities that choose to improve their fire protection services.

CCFD's current ISO rating is Class 4/4X.

CCFD's current ISO rating is Class 4/4X. **Figure 1** presents the distribution of ISO Ratings for Florida communities.

Figure 1
Distribution of ISO Ratings for Florida Communities



Source: Insurance Services Office; Public Protection Classification

Legal Requirements

There is a substantial body of case law in Florida upholding the authority of local governments to impose special assessments for fire services. See, for example, Fire Dist. No. 1 of Polk County v. Jenkins, 221 So.2d 740 (Fla. 1969); Lake County v. Water Oak Management Corp., 695 So. 2d 667 (Fla. 1997), City of North Lauderdale v. SMM Properties, Inc., 825 So.2d 343 (Fla. 2002), Desiderio Corp. v. City of Boynton Beach, 39 So.3d 487 (4th DCA 2010). The authority of local governments to adopt and impose special assessments for fire services and to develop fair and reasonable assessment apportionment methodologies was recently reaffirmed and unanimously upheld by the Florida Supreme Court in Morris vs. City of Cape Coral, 163 So.3d 1174 (Fla. 2015). This most recent case upheld the City’s fire assessment program that recognized insurance savings, reduction in financial liability, and enhanced property values among the benefits received from the Fire Department’s services.

Under Florida case law, the services or improvements funded by the assessment must provide “special benefit” to property, and the assessment methodology must apportion the costs in a fair and reasonable manner. A local government’s legislative determination of special benefit and fair apportionment should be upheld by a court unless the determination is arbitrary and not supported by competent, substantial evidence. Sarasota County v. Sarasota Church of Christ, Inc., 641 So.2d 900 (Fla. 2d DCA 1994). In City of North Lauderdale v. SMM

Properties, the Florida Supreme Court determined that, although traditional fire protection and first responder services were appropriate services to be funded by a special assessment, emergency medical services did not provide the required special benefit to the assessed property. The North Lauderdale decision limits a fire assessment to that portion of the fire department budget that relates to traditional fire services, including first responder services.

The fire protection assessment methodology contained in this report is consistent with the above Florida Supreme Court ruling, as EMS services beyond first responder/Basic Life Support within Columbia County are provided by a private provider. As such, the analysis contained in this report includes only the budget and incident data associated with traditional fire protection services provided by CCFD.

III. Update of Fire Protection Assessment Program

There are four components in determining the fire protection assessment rate schedule:

- Determination of fire funding requirement
- Distribution of fire incidents and resources by property rate category
- Determination of fire protection assessment allocation
- Distribution of units by land use rate category

These four components are discussed in further detail below, resulting in the calculated fire assessment rate schedule for Columbia County.

1. Fire Assessment Funding Requirement

The first component in determining the County's fire assessment rates is to calculate the total fire rescue funding requirement. To accomplish this, CCFD's proposed budget for FY 2017/18 was reviewed, including personnel, operating, and capital outlay expenditures, as well as the administrative cost allocated to the Department. Of the expenses listed in Table 1, communication cost share refers to the Fire Department's share of the dispatching cost. Administrative cost represents Fire Department's share of overhead costs associated with Board of County Commissioners, County Clerk, accounting/auditing, data processing, legal counsel, etc. It is calculated based on the ratio of the Fire Department's budget to all departmental budgets.

CCFD's total assessable funding requirement for FY 2017/18 is approximately \$6.7 million.

The following adjustments to the budget were considered:

- As mentioned previously, CCFD and LCFD have an automatic/mutual aid agreement. A review of automatic/mutual aid incidents over the past six years suggested that aid received from the City amounted to approximately 1.3 percent of the calls and 2.4 percent of the calls represented automatic/mutual aid provided. Given the insignificant level of automatic/mutual aid, no adjustments were made to the CCFD's budget.
- An analysis of the revenue sources indicated that there are no dedicated revenues (e.g., grants, impact fees, fire inspection fees, etc.) used to offset the Fire

Department's expenditures. As such, no adjustments were made from the revenue side.

- Miscellaneous assessment expenditures, such as the statutory discount, collection costs, and the technical study reimbursement, were added to the assessable costs.

Table 1 presents the Columbia County Fire Department's FY 2017/18 assessable budget. This budget maintains the current number of stations, but re-classifies several stations. Stations 49 and 50 would become volunteer stations and Station 44 would now be manned 24/7. The Department would continue to operate one administrative station and have 59 full-time personnel. This budget suggests an increase of 17 percent compared to the FY 2013/14 budget that was used in the calculations current adopted assessment rates.

Table 1
CCFD Total Assessable Budget (FY 2017/18)

Description	FY 2017/18 Assessable Budget
Expenditures⁽¹⁾	
Personnel Services	\$4,056,387
Operating	\$757,700
Capital Outlay	\$568,500
Interest on Debt Service	\$341,170
Communications Cost Share	\$25,000
Administrative Cost Allocation	<u>\$464,009</u>
Subtotal - Total Expenditures	\$6,212,766
Miscellaneous Assessment Expenditures	
Study Reimbursement ⁽²⁾	\$12,305
Statutory Discount ⁽³⁾	\$311,254
Assessment Collection Costs ⁽⁴⁾	<u>\$124,501</u>
Subtotal - Misc. Assessment Expenditures	\$448,060
Total Assessment Funding Requirements⁽⁵⁾	\$6,660,826
FY 2013-14 Budget⁽⁶⁾	\$5,706,985
Percent Change from FY 2013-14 Budget⁽⁷⁾	17%

1) Source: Columbia County Fire Department

2) Total cost of the fire assessment study (\$26,220) divided by 4, assuming the assessment study would be updated every 4 years, plus annual legal fees of \$5,750

3) Reflects 5% reimbursement, which includes 4% to offset statutory discounts received for early payment pursuant to the Uniform Assessment Collection Act and 1% reserve for delinquencies and under-collection.

4) Reflects estimated collection costs related to the fire assessment based on 2% collection fee applied to net expenditures and assessment study amount.

5) Sum of total expenditures and subtotaled miscellaneous assessment expenditures.

6) Source: Columbia County Fire Assessment Update Study, July 24, 2013

7) Change from FY 13/14 Budget (Item 6) to Total Assessment Funding Requirements (Item 5)

2. Fire Rescue Incident Data by Land Use Categories and Benefit Measures

The second component in determining the fire assessment rates is to calculate the demand for services by land use category. Case law requires that assessment rates should reflect the benefit to the property. This is typically determined based on the use of the Fire Department's services, which can be measured through the historical demand for fire protection services by land use categories.

To determine the historical demand for fire protection services by each type of land use, a review was completed to quantify the number of incidents and effort/resources related to each incident by land use. To complete this analysis, the data on all incidents for the past six years (2011 through 2016), obtained from the National Fire Incident Reporting System (NFIRS) for CCFD, were analyzed.

Because distributing the cost based only on the number of incidents does not reflect the full level of resources used by each land use, total effort that takes into consideration incident duration, vehicle and staff time in addition to the frequency is used in the calculations. This information is presented in **Table 2**, along with a comparison of the distribution used in the previous study. As shown in Table 2, the distribution of effort shifted away from industrial/warehouse uses, and toward the residential, commercial, and vacant/agricultural land uses. These shifts are more significant in the case of non-residential land uses due to the small starting base.

Table 2
Incident and Total Resource Distribution by Land Use (2011-2016)

Land Use	2011-2016 Avg. Annual Resource Distribution ⁽¹⁾	2013 Resource Distribution ⁽²⁾	Avg. Annual Incident Frequency Distribution ⁽³⁾	2013 Frequency Distribution ⁽²⁾
Residential	74.0%	71.6%	82.2%	79.6%
Commercial	4.8%	4.5%	6.5%	6.4%
Industrial/Warehouse	3.8%	7.7%	0.6%	0.9%
Institutional	3.2%	3.2%	3.7%	5.0%
Vacant/Agricultural Land	14.2%	13.0%	7.0%	8.1%
Total	100.0%	100.0%	100.0%	100.0%

1) Source: Appendix A, Table A-4

2) Source: Columbia County Fire Assessment Update, July 24, 2013

3) Source: Appendix A, Table A-1

3. Fire Assessment Cost Allocation

The third component in determining the fire protection assessment rates is to allocate the assessed costs to each property rate category based on the total fire assessment funding requirement and distribution of fire incidents. **Table 3** presents the Fire Rescue Assessed Cost allocation by land use/rate category.

Table 3
Fire Protection and First Response/BLS
Assessed Cost Allocation

Description/Property Rate Category	Resource Distribution (2011-2016) ⁽²⁾	FY 2017/18 Assessable Budget ⁽³⁾
Funding Requirement⁽¹⁾	-	\$6,660,826
Residential	74.0%	\$4,929,012
Commercial	4.8%	\$319,720
Industrial/Warehouse	3.8%	\$253,111
Institutional	3.2%	\$213,146
Vacant/Agricultural Land	14.2%	\$945,837
Total	100.0%	\$6,660,826

1) Source: Table 1

2) Source: Table 2

3) Fire assessment funding requirement (Item 1) distributed among land uses based on distribution of effort (Item 2)

4. Land Use Data and Calculated Rates

The fourth component in determining the fire assessment rates is to calculate the distribution of assessed costs to property units (e.g., dwelling units, square footage, or parcels) within each land use category. To accomplish this, the property data obtained from the Columbia County Tax Collector were used. Dwelling units for residential property, number of parcels and acreage for land, and square footages for each of the non-residential property use categories were determined based on the most recent Fire Assessment Roll data available. The database includes both exempt and non-exempt properties and for the purposes of assessment calculations all units were used. In the case of institutional properties, the square footage information obtained from the Columbia County Property Appraiser was used to supplement the Tax Collector's database. Because many of the institutional properties are exempt from paying taxes and assessment, their square footages were not always included in the Tax Collector's database.

Table 4 presents a summary of the unit counts for each land use compared to the previous 2013 update study. As presented, the unit counts remained relatively stable, with industrial/warehouse and institutional land uses indicating the largest increase. The vacant land count includes parcels any non-vacant parcels larger than six acres in size since only the first six acres are included in the rate for the structure.

Table 4
Unit Count Summary

Land Use	Unit	Total Number of Units	
		2017 Study ⁽¹⁾	2013 Study ⁽²⁾
Residential	dwelling unit	22,666	22,290
Commercial	square feet	4,063,281	3,882,180
Industrial/Warehouse	square feet	3,765,780	3,498,815
Institutional	square feet	2,738,976	2,608,452
Vacant/Agricultural Land	parcel	14,005	13,805

1) Source: Columbia County Tax Collector Database and Columbia County Property Appraiser Database

2) Source: Columbia County Fire Assessment Update, July 24, 2013

Once the number of units was determined, allocated cost for each land use category was divided by the associated units to determine the cost per unit.

In addition, an adjustment was made to recognize the lesser benefit received by multi-family homes due to their smaller size. More specifically, the following steps were completed in the calculation of rates for each residential category:

- First, the average actual building area of all single family and mobile home properties in the fire rescue service area was calculated by summing the actual building area and then dividing this sum by the total number of single family/mobile home dwelling units. The result is the equivalent dwelling units or “EDU” value and all single family and mobile home properties were assigned one EDU per dwelling unit.
- Next, the average actual building area of all multi-family dwelling units in the service area was calculated by summing the actual building area and then dividing this sum by the total number of multi-family dwelling units. This result was then divided by the average square footage of one EDU (as previously calculated) to determine the number of EDUs to assign to each dwelling unit in multi-family properties.
- Next, the EDUs for single family/mobile home and multi-family properties in the service area were added together, resulting in the total residential EDUs.

- The budget portion for residential property (as shown in Table 3) was then divided by the total EDUs, resulting in a fee rate per EDU. The rate per EDU was then multiplied by the appropriate EDU size ratio to determine the assessment rates per dwelling unit for multi-family residential category.

Vacant/Agricultural Land Calculation

In the case of vacant/agricultural land, the County currently has a tiered system, where parcels with up to 160 acres are charged a flat rate. For parcels with more than 160 acres, there is an additional, per-acre charge for the differential acreage, up to 640 acres.

The calculation for vacant land per parcel and the additional “per acre” charge for parcels over 160 acres is presented in **Table 5**. This calculation recognizes that each parcel benefits a certain amount from the services of the CCFD and that certain parcels, due to size, require additional resources. More specifically, 90 percent of the allocated budget for vacant/agricultural land was distributed equally among all of these parcels. This amount reflects the availability of CCFD for all vacant property within the county. The remaining 10 percent, which measures the additional resources needed, is distributed on a per-acre basis among the acreage of parcels with more than 160 acres.

The estimation of 90-percent availability vs. 10-percent resource utilization is based on the following. Industry standards suggest that if a fire station and its personnel are active more than 30 percent of the time, the quality of service starts to decline in terms of the Department’s ability to handle multiple calls, personnel fatigue, time available for training, etc. As such, in the case of properties with structures, 70 percent of the benefit is estimated to be due to the availability of fire rescue services while 30 percent due to resource utilization. The ratio of benefit received due to availability versus resource utilization is clearly different for properties that have structures to be protected and residents who would receive first response/basic life support compared to vacant lands without structures and residents. To ensure the benefit tests is administered correctly, this study recognizes that in the case of vacant/agricultural properties a larger portion of the benefit is due to availability of the Fire Department, which is estimated at 90 percent. In other words, the benefit received by vacant/agricultural property is reflected primarily in terms of insurance savings and value of the property, which is due primarily to the availability of the Fire Department rather than resource utilization.

Per requirements of a recent legislation, the County will not charge agricultural land. More specifically, Section 125.01 (1) (r) provides that a County may not levy a special assessment

for fire protection services on lands classified as agricultural lands under FS 193.461 unless those lands contain a residential dwelling unit or a qualified non-residential building.

Table 5
Vacant/Agricultural Land Rate Calculation
Parcel and Acreage Adjustment

Description	Figure	Budget	Assessment Rate ⁽⁶⁾
Vacant/Agricultural Land Budget ⁽¹⁾		\$945,837	
- Availability Based ⁽²⁾	90%	\$851,253	
- Resource Based ⁽³⁾	10%	\$94,584	
Number of Parcels ⁽⁴⁾	14,005		\$60.78
Number of Acres (over 160) ⁽⁵⁾	163,942.77		\$0.5769

1) Source: Table 3

2) Estimated at 90 percent

3) Estimated at 10 percent

4) Source: Columbia County Tax Collector Database

5) Source: Columbia County Tax Collector Database. Only includes acreage above 160 acres

6) Availability-based budget divided by the number of parcels (Item 4) and the resource-based budget divided by the number of acres (Item 5)

Table 6 provides a comparison of calculated assessment rates and current adopted rates. As mentioned previously, proposed budget is 17 percent higher than the FY 2013/14 budget used in the calculations of adopted assessment rates. Any variations from these increases are due to changes in resource allocation. As presented, calculated rates for Industrial/Warehouse land use is lower than the adopted rates due to the decrease in resource allocation and increase in property units, whereas the rates for other land uses are higher due to an increase in both the resource allocation and funding needs.

Table 6
Comparison of Calculated FY 2017/18 Assessment Rates to
Adopted Assessment Rates

Land Use	Unit	Adopted Rate ⁽¹⁾	Calculated Rate ⁽²⁾
Single Family/Mobile Home	dwelling unit	\$183.32	\$219.98
Multi-Family	dwelling unit	\$82.49	\$123.19
Commercial	square feet	\$0.0662	\$0.0787
Industrial/Warehouse	square feet	\$0.1256	\$0.0672
Institutional	square feet	\$0.0700	\$0.0778
Vacant/Agricultural Land	parcel	\$53.74	\$60.78
Additional Acreage	acre	\$0.2711	\$0.5769

1) Source: Columbia County Fire Assessment Update, July 24, 2013

2) Assessable budget (Table 3) divided by total number of units (Item 4). Includes adjustments for multi-family and vacant land.

In addition to the charge for an existing structure (for residential and non-residential uses), any non-vacant parcel larger than six acres in size is also subject to the calculated rate for vacant land. These parcels would also be charged the per acre vacant land rate if the size exceeds 160 acres.

Mini-warehouses and Recreational Vehicle (RV) Parks are included as part of the Commercial land use. In the case of RV Parks, the assessment rate is calculated as RV spaces at 1,200 square feet multiplied by the commercial rate per square foot. The square footage of 1,200 per RV space is based on definition included in the Florida Administrative Code, Section 64E-15.002 (3) (a). If a given RV Park is experiencing vacancy, the County makes an adjustment to lower the assessment accordingly.

Appendix A
Columbia County Fire Department
Incident Data

Appendix A

This appendix documents the incident data analysis conducted as part of the technical study. Incidents over the past six years were analyzed in terms of demand from different land uses. In addition, both the frequency and total resources used to accommodate demand from each land use are shown. The use of multiple years helps moderate fluctuations in the demand component from one year to another. **Table A-1** presents this analysis and provides an overall average for the six-year period.

Table A-1
Distribution of Incidents by Land Use

Incident Type	2011		2012		2013		2014		2015		2016		Average % Distribution (2011-2016)
	Number of Incidents	Percent Distribution	Number of Incidents	Percent Distribution	Number of Incidents	Percent Distribution	Number of Incidents	Percent Distribution	Number of Incidents	Percent Distribution	Number of Incidents	Percent Distribution	
Residential	1,580	90.3%	1,456	78.3%	1,730	80.1%	1,243	82.3%	2,129	82.5%	2,576	80.7%	82.2%
Commercial	67	3.8%	142	7.6%	147	6.8%	113	7.5%	185	7.2%	195	6.1%	6.5%
Industrial/Warehouse	13	0.7%	14	0.8%	14	0.6%	9	0.6%	14	0.5%	18	0.6%	0.6%
Institutional	54	3.1%	79	4.2%	79	3.7%	45	3.0%	98	3.8%	134	4.2%	3.7%
Vacant/Agricultural	35	2.0%	168	9.0%	190	8.8%	101	6.7%	154	6.0%	268	8.4%	7.0%
Total	1,749	100.0%	1,859	100.0%	2,160	100.0%	1,511	100.0%	2,580	100.0%	3,191	100.0%	100.0%
Total NFIRS Incidents:⁽¹⁾	2,967		2,612		2,884		2,045		3,433		4,275		3,036
% w/Land Use Tag⁽²⁾	58.9%		71.2%		74.9%		73.9%		75.2%		74.6%		71.6%

Source: NFIRS Database, 2011-2016

1) Count of total incidents reported in NFIRS for Columbia County, not just those associated with the five major land use categories

2) Total incidents by land use divided by the total NFIRS incidents (Item 1), represents the portion of all incidents that included a land use designation

Table A-2
Distribution of Staff Time by Land Use

Incident Type	2011		2012		2013		2014		2015		2016		Average % Distribution (2011-2016)
	Staff Time	Percent Distribution	Staff Time	Percent Distribution	Staff Time	Percent Distribution	Staff Time	Percent Distribution	Staff Time	Percent Distribution	Staff Time	Percent Distribution	
Residential	2,146	84.5%	1,627	72.9%	2,093	77.0%	1,537	76.2%	2,335	77.8%	2,660	68.1%	75.5%
Commercial	74	2.9%	107	4.8%	135	5.0%	118	5.8%	184	6.1%	184	4.7%	4.9%
Industrial/Warehouse	201	7.9%	106	4.7%	92	3.4%	36	1.8%	55	1.8%	97	2.5%	3.6%
Institutional	57	2.2%	75	3.4%	74	2.7%	61	3.0%	113	3.8%	157	4.0%	3.3%
Vacant/Agricultural	63	2.5%	318	14.2%	325	12.0%	266	13.2%	315	10.5%	809	20.7%	12.8%
Total	2,541	100.0%	2,233	100.0%	2,719	100.0%	2,018	100.0%	3,002	100.0%	3,907	100.0%	100.0%

Source: NFIRS Database, 2011-2016

Note: Staff time by land use is calculated by multiplying the average duration of incidents by land use by the average number of staff at each incident.

Table A-3
Distribution of Vehicle Time by Land Use

Incident Type	2011		2012		2013		2014		2015		2016		Average % Distribution (2011-2016)
	Vehicle Time	Percent Distribution	Vehicle Time	Percent Distribution	Vehicle Time	Percent Distribution	Vehicle Time	Percent Distribution	Vehicle Time	Percent Distribution	Vehicle Time	Percent Distribution	
Residential	1,024	82.2%	837	69.1%	1,111	73.8%	832	72.0%	1,240	75.1%	1,410	62.0%	71.4%
Commercial	35	2.8%	52	4.3%	70	4.7%	67	5.8%	99	6.0%	98	4.3%	4.7%
Industrial/Warehouse	119	9.6%	68	5.6%	64	4.3%	25	2.2%	34	2.1%	65	2.9%	4.1%
Institutional	25	2.0%	39	3.2%	39	2.6%	33	2.9%	60	3.6%	81	3.6%	3.1%
Vacant/Agricultural	42	3.4%	215	17.8%	221	14.7%	198	17.1%	219	13.3%	622	27.3%	16.8%
Total	1,245	100.0%	1,211	100.0%	1,505	100.0%	1,155	100.0%	1,652	100.0%	2,276	100.0%	100.0%

Source: NFIRS Database, 2011-2016

Note: Vehicle time by land use is calculated by multiplying the average duration of incidents by land use by the average number of vehicles at each incident.

Table A-4
Distribution of Total Resources by Land Use

Incident Type	2011		2012		2013		2014		2015		2016		Average % Distribution (2011-2016)
	Total Resources	Percent Distribution	Total Resources	Percent Distribution	Total Resources	Percent Distribution	Total Resources	Percent Distribution	Total Resources	Percent Distribution	Total Resources	Percent Distribution	
Residential	3,170	83.7%	2,464	71.5%	3,204	75.9%	2,369	74.7%	3,575	76.8%	4,070	65.8%	74.0%
Commercial	109	2.9%	159	4.6%	205	4.9%	185	5.8%	283	6.1%	282	4.6%	4.8%
Industrial/Warehouse	320	8.5%	174	5.1%	156	3.7%	61	1.9%	89	1.9%	162	2.6%	3.8%
Institutional	82	2.2%	114	3.3%	113	2.7%	94	3.0%	173	3.7%	238	3.8%	3.2%
Vacant/Agricultural	105	2.8%	533	15.5%	546	12.9%	464	14.6%	534	11.5%	1,431	23.1%	14.2%
Total	3,786	100.0%	3,444	100.0%	4,224	100.0%	3,173	100.0%	4,654	100.0%	6,183	100.0%	100.0%

Source: NFIRS Database, 2011-2016

Note: Total resources by land use are calculated by adding the staff time and vehicle time for each land use.

Table A-5
Incident Detail by Land Use

Incident Type	2011	2012	2013	2014	2015	2016	Total
Number of Incidents	3,231	3,180	3,295	3,307	3,531	4,336	20,880
Incidents Excluded*	264	568	411	1,262	98	61	2,664
Remaining Incidents	2,967	2,612	2,884	2,045	3,433	4,275	18,216
<i>Incident Duration</i>							
Residential	0.49	0.44	0.46	0.48	0.45	0.43	0.45
Commercial	0.39	0.30	0.34	0.37	0.37	0.38	0.36
Industrial/Warehouse	1.99	1.36	1.21	0.77	0.84	1.03	1.21
Institutional	0.37	0.38	0.33	0.46	0.39	0.44	0.40
Vacant/Agricultural	0.52	0.61	0.55	0.72	0.61	0.79	0.66
<i>Average # Staff on Scene</i>							
Residential	2.79	2.55	2.66	2.59	2.46	2.39	2.55
Commercial	2.79	2.47	2.73	2.83	2.72	2.49	2.65
Industrial/Warehouse	7.77	5.57	5.43	5.22	4.64	5.22	5.62
Institutional	2.89	2.51	2.85	2.96	2.93	2.67	2.78
Vacant/Agricultural	3.46	3.12	3.12	3.66	3.34	3.80	3.43
<i>Average # Vehicles on Scene</i>							
Residential	1.33	1.31	1.41	1.40	1.31	1.27	1.33
Commercial	1.33	1.20	1.40	1.62	1.46	1.32	1.39
Industrial/Warehouse	4.62	3.57	3.79	3.67	2.86	3.50	3.65
Institutional	1.24	1.29	1.52	1.60	1.54	1.37	1.42
Vacant/Agricultural	2.29	2.11	2.12	2.73	2.32	2.93	2.46

Source: NFIRS Database, 2011-2016

*Includes incidents without duration, staffing, or vehicle data. Also includes mutual/auto/other aid incidents

Appendix B
Rate Category Classification Tables

Appendix B

This appendix documents the grouping of NFIRS land uses into five categories that are on the County's assessment schedule, as shown in Table B-1. In addition, Table B-2 presents the Department of Revenue (DOR) codes for each land use category. For land uses other than institutional, the unit data were obtained from the Tax Collector Database, based on the current classification of the properties in the fire assessment roll. In the case of institutional land use, because many of the properties are tax exempt, the square footage associated with these properties was not included in the Tax Collector database. As such, information from the Property Appraiser Database was used instead.

Table B-1
Rate Category Classification for Fire Incident Property Codes

NFIRS	Main Category	Description	Subgrouping
000	Property Use Other	Other	n/a
00	Other	Other	n/a
0	Vacant	Other	Vacant/Agricultural Land
100	Assembly	Assembly, other	Commercial
110	Assembly	Fixed-use recreation places, other	Commercial
111	Assembly	Bowling establishment	Commercial
112	Assembly	Billiard center, pool hall	Commercial
113	Assembly	Electronic amusement center	Commercial
114	Assembly	Ice rink: indoor, outdoor	Commercial
115	Assembly	Roller rink: indoor or outdoor	Commercial
116	Assembly	Swimming facility	Commercial
120	Assembly	Variable-use amusement, recreation places, other	Commercial
121	Assembly	Ballroom, gymnasium	Commercial
122	Assembly	Convention center, exhibition hall	Commercial
123	Assembly	Stadium, arena	Commercial
124	Assembly	Playground	Institutional
129	Assembly	Amusement center, indoor/outdoor	Commercial
130	Assembly	Places of worship, funeral parlors, other	Institutional
131	Assembly	Church, mosque, synagogue, temple, chapel	Institutional
134	Assembly	Funeral parlor	Commercial
140	Assembly	Clubs, other	Commercial
141	Assembly	Athletic/health club	Commercial
142	Assembly	Clubhouse	Commercial
143	Assembly	Yacht club	Commercial
144	Assembly	Casino, gambling clubs	Commercial
150	Assembly	Public or government, other	Institutional
151	Assembly	Library	Institutional
152	Assembly	Museum	Institutional
154	Assembly	Memorial structure, including monuments and statues	n/a
155	Assembly	Courthouse	Institutional
160	Assembly	Eating, drinking places, other	Commercial
161	Assembly	Restaurant or cafeteria	Commercial
162	Assembly	Bar or nightclub	Commercial
171	Assembly	Airport passenger terminal	Institutional
173	Assembly	Bus station	Commercial
174	Assembly	Rapid Transit	Commercial
180	Assembly	Studio/theater, other	Commercial
181	Assembly	Live performance theater	Commercial
182	Assembly	Auditorium, concert hall	Commercial
183	Assembly	Movie theater	Commercial
185	Assembly	Radio TV Studio	Commercial
186	Assembly	Film/movie production studio	Commercial
200	Educational	Educational, other	Institutional
210	Educational	Schools, non-adult, other	Institutional
211	Educational	Preschool	Institutional
213	Educational	Elementary school, including kindergarten	Institutional
215	Educational	High school/junior high school/middle school	Institutional
240	Educational	None	n/a
241	Educational	Adult education center, college classroom	Institutional
250	Educational	Day care, other (conversion only)	Commercial
254	Educational	Day care, in commercial property	Commercial
255	Educational	Day care, in residence, licensed	Residential
256	Educational	Day care, in residence, unlicensed	Residential
300	Health Care, Detention & Correction	Health care, detention, & correction, other	Institutional
311	Health Care, Detention & Correction	24-hour care nursing homes, 4 or more persons	Institutional
321	Health Care, Detention & Correction	Mental retardation/development disability facility	Institutional
322	Health Care, Detention & Correction	Alcohol or substance abuse recovery center	Institutional
323	Health Care, Detention & Correction	Asylum, mental institution	Institutional
331	Health Care, Detention & Correction	Hospital - medical or psychiatric	Institutional
332	Health Care, Detention & Correction	Hospices	Institutional
340	Health Care, Detention & Correction	Clinics, doctors offices, hemodialysis ctr, other	Commercial
341	Health Care, Detention & Correction	Clinic, clinic-type infirmary	Commercial

Table B-1 (continued)
Rate Category Classification for Fire Incident Property Codes

NFIRS	Main Category	Description	Subgrouping
342	Health Care, Detention & Correction	Doctor, dentist or oral surgeon office	Commercial
343	Health Care, Detention & Correction	Hemodialysis unit	Commercial
361	Health Care, Detention & Correction	Jail, prison (not juvenile)	Institutional
363	Health Care, Detention & Correction	Reformatory, juvenile detention center	Institutional
365	Health Care, Detention & Correction	Police station	Institutional
400	Residential	Residential, other	Residential
419	Residential	1 or 2 family dwelling	Residential
429	Residential	Multifamily dwelling	Residential
439	Residential	Boarding/rooming house, residential hotels	Residential
449	Residential	Hotel/motel, commercial	Commercial
459	Residential	Residential board and care	Residential
460	Residential	Dormitory-type residence, other	Institutional
462	Residential	Sorority & Fraternity House	Institutional
464	Residential	Barracks, dormitory	Institutional
500	Mercantile, Business	Mercantile, business, other	Commercial
509	Mercantile, Business	None	Commercial
511	Mercantile, Business	Convenience store	Commercial
519	Mercantile, Business	Food and beverage sales, grocery store	Commercial
529	Mercantile, Business	Textile, wearing apparel sales	Commercial
539	Mercantile, Business	Household goods, sales, repairs	Commercial
549	Mercantile, Business	Special shop	Commercial
557	Mercantile, Business	Personal service, including barber and beauty shops	Commercial
559	Mercantile, Business	Recreational, hobby, home repair sales, pet store	Commercial
564	Mercantile, Business	Laundry, dry cleaning	Commercial
569	Mercantile, Business	Professional supplies, services	Commercial
571	Mercantile, Business	Service station, gas station	Commercial
579	Mercantile, Business	Motor vehicle or boat sales, services, repair	Commercial
580	Mercantile, Business	General retail, other	Commercial
581	Mercantile, Business	Department or discount store	Commercial
592	Mercantile, Business	Bank	Commercial
593	Mercantile, Business	Office: veterinary or research	Commercial
596	Mercantile, Business	Post office or mailing firms	Commercial
599	Mercantile, Business	Business office	Commercial
600	Industrial, Utility, Defense, Ag, Mining	Ind., utility, defence, agriculture, mining, other	Industrial/Warehouse
610	Industrial, Utility, Defense, Ag, Mining	Energy production plant, other	Industrial/Warehouse
614	Industrial, Utility, Defense, Ag, Mining	Steam or heat-generating plant	Industrial/Warehouse
615	Industrial, Utility, Defense, Ag, Mining	Electric-generating plant	Industrial/Warehouse
629	Industrial, Utility, Defense, Ag, Mining	Laboratory or science laboratory	Commercial
631	Industrial, Utility, Defense, Ag, Mining	Defense, military installation	Institutional
632	Industrial, Utility, Defense, Ag, Mining	None	Industrial/Warehouse
635	Industrial, Utility, Defense, Ag, Mining	Computer center	Commercial
639	Industrial, Utility, Defense, Ag, Mining	Communications center	Commercial
640	Industrial, Utility, Defense, Ag, Mining	Utility or distribution system, other	Industrial/Warehouse
642	Industrial, Utility, Defense, Ag, Mining	Electrical distribution	Industrial/Warehouse
644	Industrial, Utility, Defense, Ag, Mining	Gas distribution, gas pipeline	Industrial/Warehouse
645	Industrial, Utility, Defense, Ag, Mining	Flammable liquid distribution, F.L. Pipeline	Industrial/Warehouse
647	Industrial, Utility, Defense, Ag, Mining	Water utility	Industrial/Warehouse
648	Industrial, Utility, Defense, Ag, Mining	Sanitation utility	Industrial/Warehouse
655	Industrial, Utility, Defense, Ag, Mining	Crops or orchard	Vacant/Agricultural Land
659	Industrial, Utility, Defense, Ag, Mining	Livestock production	Vacant/Agricultural Land
669	Industrial, Utility, Defense, Ag, Mining	Forest, timberland, woodland	Vacant/Agricultural Land
679	Industrial, Utility, Defense, Ag, Mining	Mine, quarry	Industrial/Warehouse
700	Manufacturing, Processing	Manufacturing, processing	Industrial/Warehouse
800	Storage	Storage, other	Industrial/Warehouse
807	Storage	Outside material storage area	Industrial/Warehouse
808	Storage	Outbuilding or shed	Industrial/Warehouse
816	Storage	Grain elevator, silo	Industrial/Warehouse
819	Storage	Livestock, poultry storage	Industrial/Warehouse
839	Storage	Refrigerated storage	Industrial/Warehouse
849	Storage	Outside storage tank	Industrial/Warehouse
880	Storage	Vehicle storage, other	Industrial/Warehouse
881	Storage	Parking garage (Detached residential garage)	Industrial/Warehouse

Table B-1 (continued)
Rate Category Classification for Fire Incident Property Codes

NFIRS	Main Category	Description	Subgrouping
882	Storage	Parking garage, general vehicle	Industrial/Warehouse
888	Storage	Fire station	Institutional
891	Storage	Warehouse	Industrial/Warehouse
898	Storage	Dock, marina, pier, wharf	Industrial/Warehouse
899	Storage	Residential or self-storage units	Industrial/Warehouse
900	Outside or Special Property	Outside or special property, other	Vacant/Agricultural Land
919	Outside or Special Property	Dump, sanitary landfill	Industrial/Warehouse
921	Outside or Special Property	Bridge, trestle	n/a
922	Outside or Special Property	Tunnel	n/a
926	Outside or Special Property	Outbuilding, protective shelter	n/a
931	Outside or Special Property	Open land or field	Vacant/Agricultural Land
935	Outside or Special Property	Campsite with utilities	Commercial
936	Outside or Special Property	Vacant lot	Vacant/Agricultural Land
937	Outside or Special Property	Beach	n/a
938	Outside or Special Property	Graded and cared-for plots of land	Vacant/Agricultural Land
940	Outside or Special Property	Water area, other	n/a
941	Outside or Special Property	Open ocean, sea or tidal waters	n/a
946	Outside or Special Property	Lake, river, stream	n/a
951	Outside or Special Property	Railroad right-of-way	n/a
952	Outside or Special Property	Railroad yard	n/a
960	Outside or Special Property	Street, other	n/a
961	Outside or Special Property	Highway or divided highway	n/a
962	Outside or Special Property	Residential street, road or residential driveway	n/a
963	Outside or Special Property	Street or road in commercial area	n/a
965	Outside or Special Property	Vehicle parking area	n/a
972	Outside or Special Property	Aircraft runway	n/a
973	Outside or Special Property	Aircraft taxiway	n/a
974	Outside or Special Property	Aircraft loading area	n/a
981	Outside or Special Property	Construction site	n/a
982	Outside or Special Property	Oil or gas field	n/a
983	Outside or Special Property	Pipeline, power line or other utility right-of-way	n/a
984	Outside or Special Property	Industrial plant yard - area	Vacant/Agricultural Land
1500	Assembly	Public or Government, other	Institutional
1501	Assembly	Public or Government, other	Institutional
3230	Health Care, Detention & Correction	Asylum, mental institution	Institutional
3231	Health Care, Detention & Correction	Asylum, mental institution	Institutional
9600	Outside or Special Property	Street, other	n/a
9601	Outside or Special Property	Street, other	n/a
400M	Residential	Residential, other	Residential
400R	Residential	Residential, other	Residential
400V	Residential	Residential, other	Residential
419M	Residential	1 or 2 family dwelling	Residential
NNN	Outside or Special Property	None	n/a
UUU	Outside or Special Property	Undetermined	n/a

Table B-2
Rate Category Classification for Department of Revenue Codes

DOR Code	Description	Fire Assessment Rate Category
0	Vacant	Vacant/Agricultural Land
100	Single Family Residential	Single Family
101	Single Family Res/SFR	Single Family
102	Single Family Res/MH	Single Family
107	Single Family Res/ACLF	Single Family/Commercial
108	Single Family Res/Rent	Single Family
110	Single Family Res/Comm	Single Family
111	Single Family Res/Store	Single Family
117	Single Family Res/Office	Single Family/Commercial
121	Single Family Res/Rest	Single Family
128	Single Family Residential/MH	Single Family
148	Single Family Res/Warehouse	Single Family
172	Single Family Res/Day Care	Single Family/Institutional
200	Mobile Home	Single Family
201	Modular Home	Single Family
202	Mobile Home/MH	Single Family
217	Mobile Home/Office	Single Family/Commercial
226	Mobile Home/Shop	Single Family
300	Multi-Family (10+ units)	Single Family
400	Townhouse/Condo	Multi-Family
700	Other Residential	Single Family
800	Multi-Family (1-10 units)	Multi-Family
801	Multi-Family	Multi-Family
802	Multi-Family/MH	Multi-Family
900	Res Comm	n/a
1000	Vacant Commercial	Vacant/Agricultural Land
1001	Other Commercial	Commercial
1100	Stores, 1	Commercial
1101	Stores/SFR	Commercial
1102	Stores/MH	Commercial
1010	Multi-Use	Commercial
1111	Stores/Flea Market	Commercial
1117	Stores/Office	Commercial
1126	Convenience Store	Commercial
1200	Stores/Office	Commercial
1600	Community Store	Commercial
1700	Office Building	Commercial
1900	Profession	Commercial
2010	Airport	Industrial/Warehouse

Table B-2 (continued)
Rate Category Classification for Department of Revenue Codes

DOR Code	Description	Fire Assessment Rate Category
2100	Restaurant	Commercial
2300	Financial	Commercial
2400	Insurance	Commercial
2500	Repair Service	Commercial
2501	Repair Service/SFR	Commercial
2502	Repair Service/MH	Commercial
2503	Boat Repair	Commercial
2525	Beauty Parlor	Commercial
2600	Service Station	Commercial
2601	Fuel Island	Commercial
2664	Car Wash	Commercial
2700	Vehicle Sales/Repair	Commercial
2702	Vehicle Sales/Repair & MH	Commercial
2728	Vehicle Sales/Repair & MH Park	Commercial
2800	Parking Lot	Vacant/Agricultural Land
2801	Mobile Home Park	Commercial
2802	Mobile Home Park	Commercial
2828	Mobile Home Sales	Commercial
2900	Wholesale	Commercial
3000	Florist	Commercial
3300	Nightclub	Commercial
3500	Tourist Attraction	Commercial
3600	RV Park	Commercial
3601	RV Park	Commercial
3611	Campground	Commercial
3700	Race Track	Commercial
3800	Golf Course	Commercial
3900	Hotels/Motel	Commercial
3901	Hotel/Motel/SFR	Commercial
4000	Vacant Industrial	Vacant/Agricultural Land
4100	Light Manufacturing	Industrial/Warehouse
4200	Heavy Manufacturing	Industrial/Warehouse
4300	Lumber Yard	Industrial/Warehouse
4400	Packing Plant	Industrial/Warehouse
4600	Other Food	Industrial/Warehouse
4700	Mineral Processing	Industrial/Warehouse
4800	Warehouse/Storage	Industrial/Warehouse
4801	Warehouse/Storage	Industrial/Warehouse
4810	Mini-Storage	Commercial

Table B-2 (continued)
Rate Category Classification for Department of Revenue Codes

DOR Code	Description	Fire Assessment Rate Category
4817	Storage	Industrial/Warehouse
4845	Warehouse/Recycle	Industrial/Warehouse
4849	Barn	Industrial/Warehouse
4900	Open Storage	Industrial/Warehouse
5000	Improved Agr	Vacant/Agricultural Land
5010	Improved Agr/Commercial	Vacant/Agricultural Land
5011	Improved Agr/Store	Vacant/Agricultural Land
5017	Improved Agr/Office	Vacant/Agricultural Land
5020	Improved Agr/Barn	Vacant/Agricultural Land
5028	Improved Agr/MH/Parking	Vacant/Agricultural Land
5048	Improved Agr/Warehouse	Vacant/Agricultural Land
5068	Improved Agr/Dairy	Vacant/Agricultural Land
5200	Cropland	Vacant/Agricultural Land
5400	Timberland (90+)	Vacant/Agricultural Land
5500	Timberland (80-89)	Vacant/Agricultural Land
5600	Timberland (70-79)	Vacant/Agricultural Land
5610	Timberland/Commercial	Vacant/Agricultural Land
5700	Timberland (60-69)	Vacant/Agricultural Land
5800	Timberland (50-69)	Vacant/Agricultural Land
5900	Timberland (unclassified)	Vacant/Agricultural Land
6000	Pastureland 1	Vacant/Agricultural Land
6100	Pastureland 2	Vacant/Agricultural Land
6200	Pastureland 3	Vacant/Agricultural Land
6600	Groves	Vacant/Agricultural Land
6900	Ornamentals, Miscellaneous	Vacant/Agricultural Land
7000	Vacant Institutional	Vacant/Agricultural Land
7100	Churches	Institutional
7101	None	Institutional
7200	Private School/Daycare	Institutional
7400	Homes for the Aged	Institutional
7500	Non-Profit	Institutional
7600	Mortuary/Cemetery	Institutional
7700	Clubs/Lodges	Institutional
7900	Cultutal Gathering	Institutional
8200	Forest	n/a
8300	Public School	Institutional
8400	Colleges	Institutional
8500	Hospitals	Institutional
8600	County	Institutional

Table B-2 (continued)
Rate Category Classification for Department of Revenue Codes

DOR Code	Description	Fire Assessment Rate Category
8700	State	Institutional
8787	State/Prison	Institutional
8800	Federal	Institutional
8900	Municipal	Institutional
9100	Utilities	Industrial/Warehouse
9300	Sub-Surface	n/a
9400	Rights-of-Way	n/a
9401	Hanger/Single Family Res	Single Family
9410	Airstrip/Runway	n/a
9420	ROW (DOT)	n/a
9500	Rivers	n/a
9600	Wasteland/Dumps	n/a
9601	Retention Area	n/a
9602	Common Area	n/a
9700	Recreation & Park Land	n/a
9900	No Agriculture Acreage	n/a
9901	AC/XFOB	n/a