

**SECTION 4.0**

**LAND USE  
ANALYSIS**

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## SECTION 4. LAND USE ANALYSIS

### 4.1 INTRODUCTION

Land use planning and control is a dynamic, rather than a “static” process. The specific characteristics of land use determinants will always reflect, to some degree, the changing conditions of the economic, social, and physical environment of a community, as well as changing public concern. The planning process accommodates this fluidity in which decisions are normally not based on boundary lines, but rather on more generalized area designations.

Computer technology enables Dyess Air Force Base (AFB) to more precisely display its flight tracks and noise zones for land use planning purposes. This same technology allows the installation a means to communicate the extent to which Dyess AFB’s region of impact extends to the Texas counties of Taylor, Callahan, and Jones. The area most immediately impacted includes the following:

- Taylor County:
  - City of Abilene
  - City of Tye

For the purpose of this Air Installation Compatible Use Zone (AICUZ) Study, existing and future land uses and zoning in the figures in this section are generalized into one of the following six categories:

- Residential: All types of residential activity, such as single- and multi-family residences and mobile homes, at a density greater than one dwelling unit per acre.
- Commercial: Offices, retail, restaurants, businesses, and other types of commercial activity.
- Industrial: Areas and the facilities they contain that are owned or used for manufacturing, warehousing, and other similar uses.
- Public/Quasi-Public: Publicly owned lands or lands to which the public has access, such as public buildings or institutional facilities.
- Recreational: Land areas designated for recreational activity, including local parks; wilderness areas and reservations; conservation areas; and areas designated for trails, hikes, camping, and other similar uses.

- Open Space/Low-Density: Undeveloped land areas, forested land, agricultural land, grazing areas, water or wetland areas, and areas with residential activity at densities less than or equal to one dwelling per acre.

### 4.2 EXISTING LAND USE

As previously described, Dyess AFB is located in north-central Texas, west of the city of Abilene. The city of Tye, which is directly north of Runway 16/34, is a small community; the heaviest development surrounding Dyess AFB is to the east of the installation.

The 2013 noise zones and Accident Potential Zones (APZs) from aircraft operations at Dyess AFB are depicted on a land use map (Figure 4–1). The land use illustrated on this map consists of 2013 data provided by Taylor County, 2004 data provided by the city of Tye, and 2001 National Land Use Cover Dataset (NLCD). The NLCD was utilized for the areas of Taylor County where no land use data existed in the Taylor County or city of Tye data.

Table 4–1 reveals the acreage by generalized land use category of the areas within the 65 decibel day–night average sound level (dB-DNL) noise contours for Dyess AFB. Table 4–2 reflects the land use within the Clear Zones (CZs) and APZs for Dyess AFB.

**Table 4–1 Generalized Existing Land Use Within ≥ 65 dB-DNL Noise Exposure Area for Dyess AFB (off-base outside CZs and APZs)**

Category	Acreage Within Noise Zones Not Included in CZs and APZs				
	65–69	70–74	75–79	80+	Total
Residential	78	34	0	0	112
Commercial	26	24	0	0	50
Industrial	83	55	16	0	154
Public/Quasi-Public	2	13	8	0	23
Open Space/Low-Density	5,405	2,484	750	31	8,670
Recreational	0	0	0	0	0
<b>Total</b>	<b>5,594</b>	<b>2,610</b>	<b>774</b>	<b>31</b>	<b>9,009</b>

**Table 4–2 Generalized Existing Land Use Within the Dyess AFB Clear Zones and Accident Potential Zones (off-base)**

Category	Acreage Within CZs and APZs			Total
	Clear Zone	APZ I	APZ II	
Residential	0	24	29	53
Commercial	0	7	7	14
Industrial	0	68	73	141
Public/ Quasi-Public	5	3	3	11
Open Space/ Low-Density	107	553	809	1,469
Recreational	0	0	0	0
<b>Total</b>	<b>112</b>	<b>655</b>	<b>921</b>	<b>1,688</b>

#### 4.2.1 Taylor County Land Use

Taylor County does not have land use regulations. As shown in Figure 4–1, all of the land encompassed by the 2013 noise zones is in Taylor County. Land use to the north and west of the installation consists primarily of open space/low-density, with the exception of the city of Tye, which is directly north of Runway 16/34. Land northeast of the installation, outside the city limits of Tye and Abilene, consists primarily of open space/low-density use with a few residential parcels.

The community of Caps is approximately 1.5 miles south of the installation boundary at the intersection of U.S. Highway 277 and Farm to Market (FM) 707. U.S. Highway 277 has attracted a small amount of development along its route through the 2013 noise zones and APZ II. Land use in the Caps community consists primarily of open space/low-density, but there are small amounts of residential land around the intersection and industrial land north and south of U.S. Highway 277.

#### 4.2.2 City of Abilene Land Use

The city of Abilene’s land use policies are discussed in its Comprehensive Plan, published in 2004 (City of Abilene 2004). The purpose of the Comprehensive Plan is to establish a coordinated set of policies to guide Abilene’s physical development over the next 10 to 15 years. The city of Abilene recognizes Dyess AFB as a significant asset to the local economy and is committed to promoting policies that will enable Dyess AFB to meet current and future mission

requirements. Abilene considers an open line of communication with Dyess AFB a priority at all times (City of Abilene 2004).

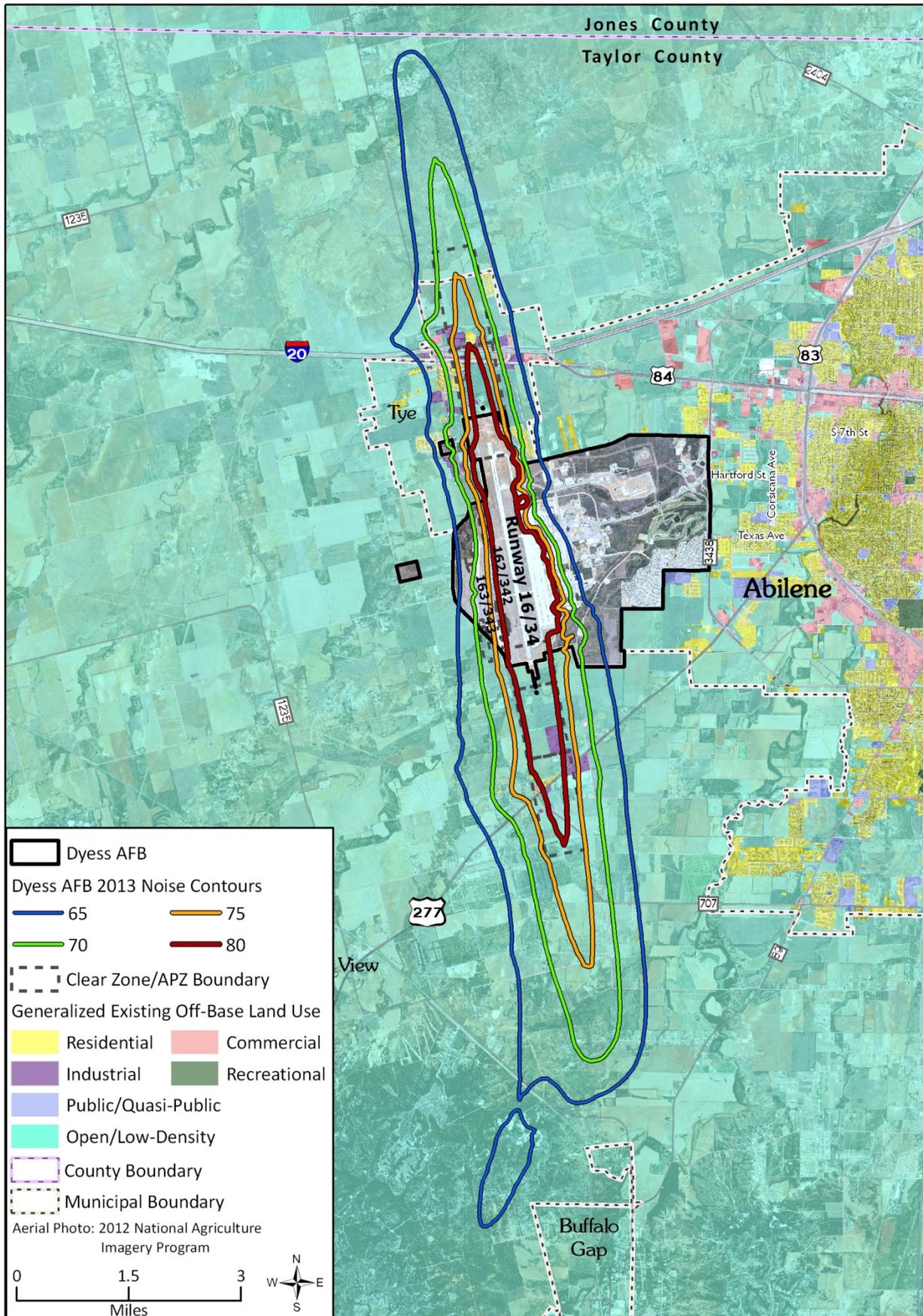
The city of Abilene established an extra-territorial jurisdiction in 1988 that extends outside the existing Abilene city limits. According to the city’s subdivision ordinance, the city of Abilene’s current extra-territorial jurisdiction (approved in 2001) is defined as that contiguous unincorporated area not part of any other city within 5 miles of the corporate limits of the city of Abilene. Exceptions to the city of Abilene’s extra-territorial jurisdiction exist on the west and south sides of the city of Abilene, where the cities of Tye and Buffalo Gap and their respective extra-territorial jurisdictions are located within 5 miles of the city of Abilene.

The extra-territorial jurisdiction gives the city of Abilene limited authority to plan for future growth in areas outside of the current city limits. For the purposes of land use, within this extra territory the city of Abilene is given jurisdiction regarding platting, subdividing, and annexation of land. In addition, the design of infrastructure associated with the act of subdividing must comply with standards approved for the city of Abilene.

One of the strategies in the city of Abilene Comprehensive Plan states that the city of Abilene should pursue intergovernmental agreements related to the city’s extra-territorial jurisdiction with Taylor, Callahan, Jones, and Shackelford counties in order to (City of Abilene 2004):

- Direct the development of urban-intense uses within the city where a full range of existing services are available.
- Revise infrastructure requirements for development within the extra-territorial jurisdiction that are consistent with city standards.

In addition to the city of Abilene’s extra-territorial jurisdiction, the city is in the process of approving the annexation of land to the south and east of Abilene Regional Airport as a means of controlling incompatible encroachment (City of Abilene 2004). The future annexation of land to the south and west of Dyess AFB is also provided in the city’s 2004 Comprehensive Plan. However, due to the recently modified airport zoning ordinance that provides control measures to limit incompatible encroachment around Dyess AFB, the city is not pursuing annexing these areas at this time.



**Figure 4-1 Dyess AFB Generalized Existing Off-Base Land Use**

The city of Abilene currently uses the 2003 International Building Code, which does not include noise-level reduction (NLR) measures.

A Gateway/Business-Industrial area was established northeast of the installation; potential developers should adhere to the regulations in the city of Abilene Land Development Code titled “Airport Zoning” (Chapter 2, Division 2, Section 2.3.5.1) regarding proposed structures in this area.

### 4.2.3 City of Tye Land Use

The city of Tye’s land use policies are discussed in its General Plan Report, published in 2004 (City of Tye 2004). The planning districts apply to the Tye city limits and the Tye extra-territorial jurisdiction. The city of Tye extra-territorial jurisdiction encompasses land 1/2 mile outside of the city limits. The Tye extra-territorial jurisdiction and Abilene extra-territorial jurisdiction are in close proximity to each another, as is the Dyess AFB installation boundary. Jurisdictional control in some areas of the Tye extra-territorial jurisdiction overlaps with the Abilene extra-territorial jurisdiction; therefore, a shared oversight to development between the city of Tye and the city of Abilene is necessary for these areas. The city of Tye contains eight planning districts within 3,070 acres and the extra-territorial jurisdiction has two additional districts, for a grand total of 6,044 acres.

The city of Tye is north of Runway 16/34 (as shown in Figure 4–2) and the majority (77 percent) of the land within the city limits consists of open space/low-density use. Land use patterns that have developed over time have been diffused, and located generally along major transportation routes.

The center of the city of Tye has a street system that is a modified grid pattern and is interspersed with residential, recreational, and public/quasi-public land uses. Interstate Highway 20, running east-west, divides the community, with 28 percent of the city’s area located north of the interstate and the remaining 72 percent to the south. Significant commercial and industrial land use is adjacent to the interstate and is a center of trucking activities. Other major east-west arterials are North Street and Air Base Road, while FM 707 is the only north-south arterial. Commercial and public/quasi-public land uses are found along all three arterial roads.

The housing in the city of Tye consists of single-family houses (39 percent) and mobile homes (61 percent) located in four major residential areas – along the northern city limits bordered by Spinks and Farris roads, west of FM 707, east of Air Base Road on the eastern city limits, and city center. A recreational vehicle park that is considered a residential land use is directly north of Interstate 20. Rister Park, a recreational land use, is located between FM 707 and the northern CZ of Runway 16/34. The City of Tye does not currently have an established building code or residential standards (Shipp 2008).

### 4.3 CURRENT ZONING

The 2013 noise zones and APZs from aircraft operations at Dyess AFB are illustrated on a zoning map (see Figure 4–3) applicable to the area surrounding the installation. This map was created utilizing 2013 data from Taylor County (which includes the city of Abilene) and 2004 data from the city of Tye. For the purposes of this AICUZ Study, the city of Abilene agricultural zoning classification and the city of Tye agricultural/open space zoning classification are shown as agricultural.

Proper zoning can facilitate compatible future land use development. Zoning can ensure that the land uses of a community are properly situated in relation to each other, and zoning is the most commonly used legal device for implementing land use plans. Zoning changes can support airport compatibility by directing new growth into compatible areas and thus can prevent the future development of noise-sensitive land uses in AICUZ environs. Areas within the AICUZ environs that currently contain incompatible uses could be re-zoned to more compatible categories, such as commercial or industrial.

Because of the relative impermanence of zoning regulations, continuous monitoring is necessary to preclude the encroachment of incompatible development into undeveloped areas within the AICUZ environs. Zoning that achieves compatibility will be subject to continued pressure for change. Appropriate zoning changes can increase the value of land within noise-affected areas, promote compatibility, and leave land in private ownership on the tax rolls for an economically productive community.

Table 4–3 provides a breakdown of the generalized zoning (areas off-base, excluding CZs and APZs) within the 65 dB-DNL and greater noise area.

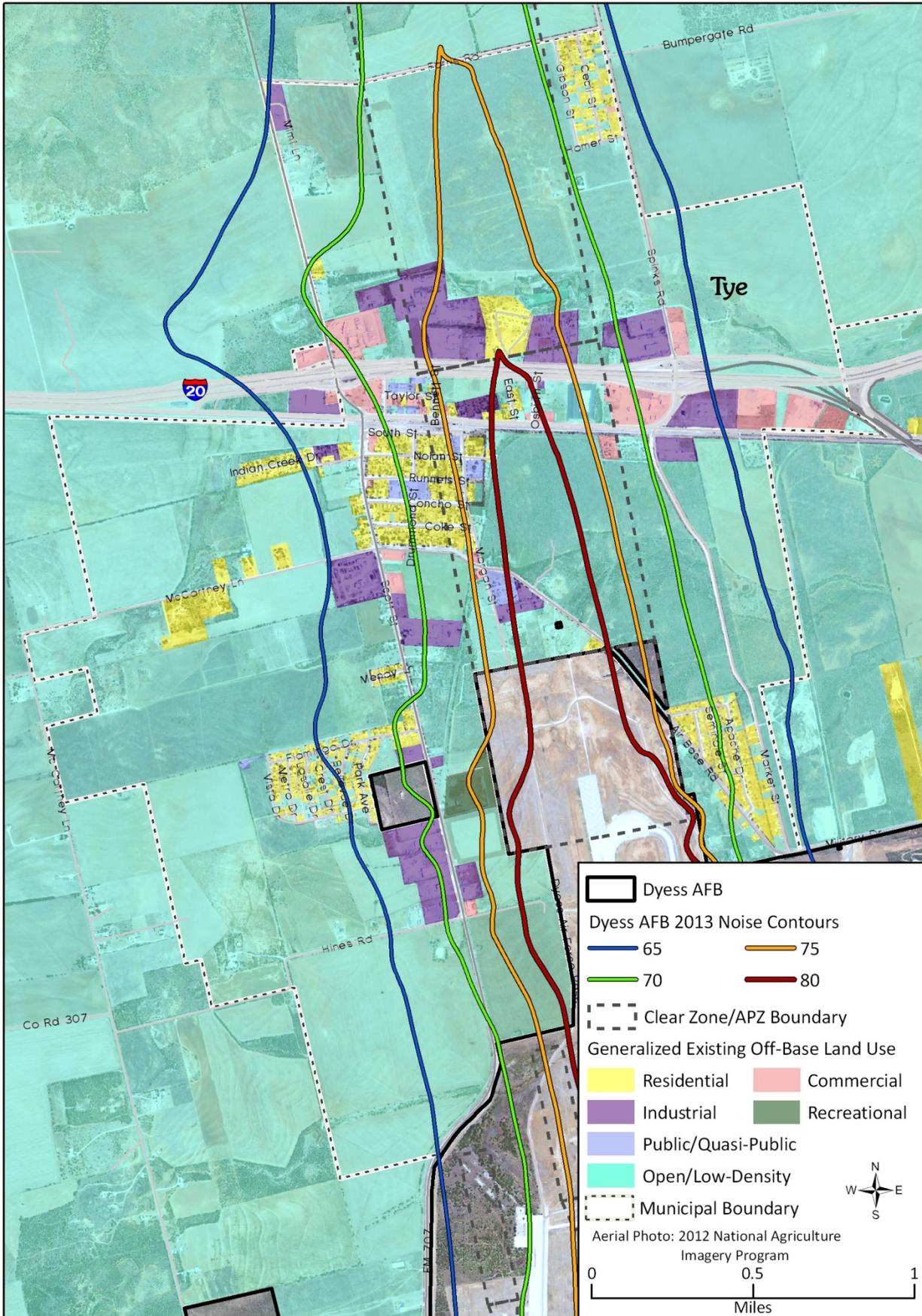


Figure 4-2 Dyess AFB Generalized Existing Off-Base Land Use for the City of Tye

**Table 4–3 Generalized Zoning Within  
≥ 65 dB-DNL Noise Exposure Area for  
Dyess AFB (off-base outside CZs and APZs)**

Category	Acreage Within Noise Zones Not Included in CZs and APZs				Total
	65–69	70–74	75–79	80+	
Residential	183	67	2	0	252
Commercial	93	113	10	10	226
Industrial	49	16	0	0	65
Public/ Quasi-public	0	0	0	0	0
Open/ Low-Density	474	203	38	21	736
Recreational	0	0	0	0	0
Unzoned	4,795	2,211	724	0	7,730
<b>Total</b>	<b>5,594</b>	<b>2,610</b>	<b>774</b>	<b>31</b>	<b>9,009</b>

A similar analysis was performed to determine the acreage of each generalized zoning category within the Dyess AFB CZs and APZs and is shown in Table 4–4.

**Table 4–4 Generalized Zoning Within the  
Dyess AFB Clear Zones and Accident  
Potential Zones (off-base)**

Category	Acreage Within CZs and APZs			Total
	Clear Zone	APZ I	APZ II	
Residential	0	36	0	36
Commercial	0	15	2	17
Industrial	0	5	21	26
Public/ Quasi-public	0	0	0	0
Open/ Low-Density	4	284	315	603
Recreational	0	0	0	0
Unzoned	108	315	583	1,006
<b>Total</b>	<b>112</b>	<b>655</b>	<b>921</b>	<b>1,688</b>

#### 4.3.1 Taylor County Zoning

Taylor County (including the Caps community) currently has no zoning authority; therefore, as shown in Figure 4–3, the area outside the cities of Tye and Abilene is unzoned.

#### 4.3.2 City of Abilene Zoning

Zoning regulations, also known as Land Development Code, for the city of Abilene are provided in the city’s zoning ordinance, was most recently updated in June 2010 (City of Abilene 2010). The purpose of the zoning ordinance is to divide the city into separate districts that, in combination with regulations pertaining to such districts, are designed to comply with the city’s Comprehensive Plan. The ordinance contains

20 zoning districts and four overlay zones. Each of the four overlay zones provides a specific purpose in accordance with the city’s Comprehensive Plan.

The city of Abilene’s Land Development Code was modified in 2008 to include additional regulations pertaining to airport zoning. The purpose of the new regulations, found in Chapter 2, Division 5, Section 2.3.5.1, “Airport Zoning,” was to establish regulations limiting the height of structures, natural growth, and potential obstructions, as well as to establish compatible land uses and noise attenuation standards for the areas surrounding Dyess AFB and Abilene Regional Airport. The airport zoning regulations apply to the corporate limits and unincorporated areas within the extra-territorial jurisdiction of the city of Abilene, as well as Airport Hazard Areas in and surrounding Dyess AFB and Abilene Regional Airport. An Airport Hazard Area is defined as “an area of land or water on which an airport hazard could exist” (City of Abilene 2008). Please see Section 2.3.5.1(c) of the zoning ordinance for the full definition of an airport hazard. Section 2.3.5.1(g) of the ordinance established a procedure for acquiring an Airport Zone Development Permit, which is now required for any development, construction, reconstruction, modification, repair, remodeling, or change in use within an area regulated by Section 2.3.5.1(g). The ordinance also provides an enforcement mechanism for the city of Abilene in the areas around the airports, both within and outside the extra-territorial jurisdiction, except for any incorporated areas.

Dyess AFB is not within a zoning district in the city’s zoning ordinance; Dyess AFB is its own entity. The city of Abilene Comprehensive Plan places Dyess AFB in a sensitive development area called the Airport Influence Zone (AIZ). The AIZ is not specifically discussed in the Comprehensive Plan; however, it is shown on the Sensitive Development Areas Map presented on pages 80–81 of the Comprehensive Plan. The Sensitive Development Areas Map shows two AIZs in the Abilene extra-territorial jurisdiction. The boundary of the eastern AIZ matches the noise zones for Abilene Regional Airport, and the boundary of the western AIZ matches the hypothetical noise zones for Dyess AFB presented in the AICUZ Study published in 2000. One of the priorities in the Comprehensive Plan is to “avoid potential hazard situations/areas, including areas delineated in the Sensitive Development Areas Map” (City of Abilene 2004).

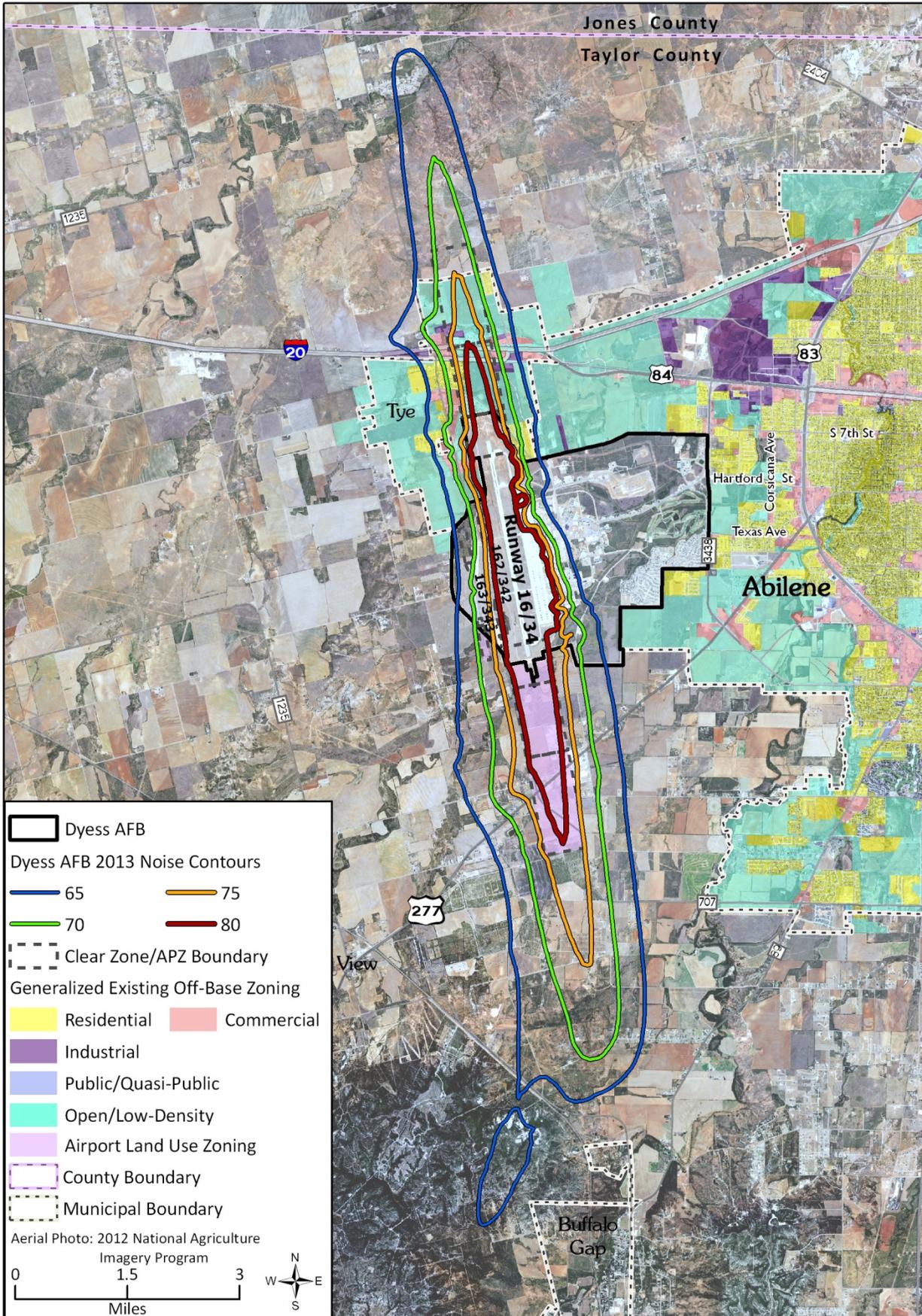


Figure 4-3 Dyess AFB Generalized Off-Base Zoning

Zoning in the city of Abilene is depicted in Figure 4–3. The center of the city consists primarily of residential zones with industrial and commercial zones along transportation routes and business zones in the downtown area. Toward the outskirts of the city, zoning consists mostly of agricultural, industrial, and planned areas of development. Planned areas of development might encompass industrial parks, office or other commercial centers, shopping centers, residential developments of multiple or mixed housing, or any appropriate combination thereof.

### 4.3.3 City of Tye Zoning

Zoning regulations for the city of Tye are provided in the city's zoning ordinance published in 2006 (City of Tye 2006). The city of Tye is divided into eight zoning districts: agricultural/open space, single-family residence, multi-family residence, mobile/modular home, local business, general business, light industrial, and heavy industrial. The city of Tye zoning ordinance provides permitted uses and height restrictions within each zoning district.

As shown in Figure 4–4, the majority (77 percent) of the land within the city limits is zoned as agricultural/open space. Three mobile/modular home districts are west, northeast, and east of Runway 16/34. A single-family residence district is northwest of Runway 16/34. The land directly north of Runway 16/34 within the city of Tye city limits is primarily zoned agricultural/open space, but contains small areas zoned for single-family residence, commercial, and industrial.

## 4.4 FUTURE LAND USE AND FUTURE DEVELOPMENT

### 4.4.1 City of Abilene

The city of Abilene Comprehensive Plan provides a future land use plan (see Figure 4–5). At the center of the city is the central business district. Under the proposed plan, there would be five local community centers and a special activity center surrounding the central business district. Local community centers would include a mix of shopping, employment, entertainment, and civic uses for the surrounding neighborhoods. Special activity centers would provide locations for unique attractions or activities serving local, regional, and statewide needs. Along the main loop of roadways that surround the city center, there would be six major commercial business centers

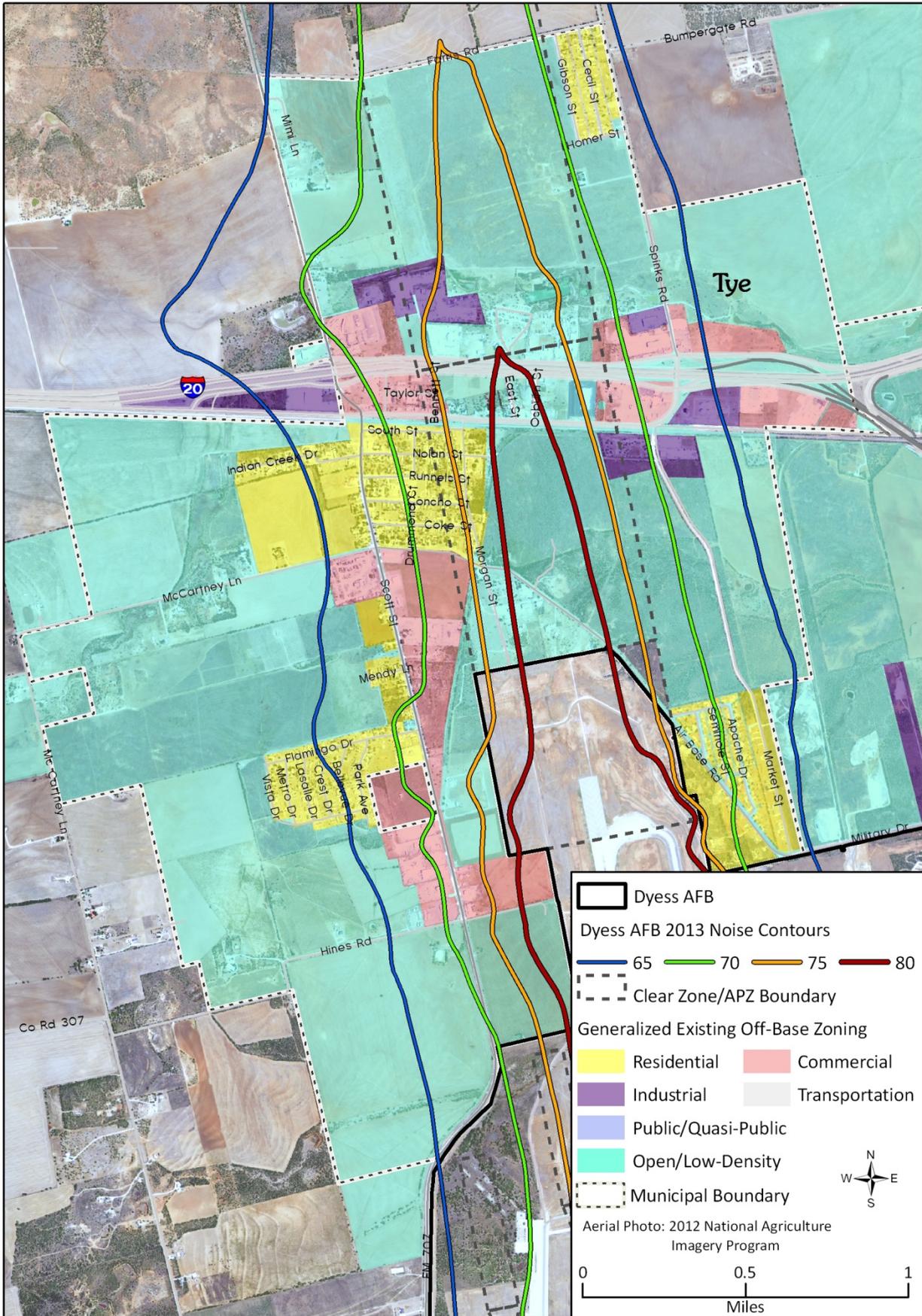
and two special activity centers. A local community center is planned on the northeastern corner of the installation boundary (City of Abilene 2004).

South of the installation, restricted open space is planned to prevent encroachment from incompatible land uses. Low-density residential land use is proposed southeast of the installation; this type of development would continue east into the city of Abilene. This proposed residential land use is not encompassed by the 2013 noise zones. During the planning process of the city of Abilene Comprehensive Plan, the residents of Abilene stressed the importance of ensuring that land use and development decisions protect and support the continued success of Dyess AFB. Due to the fact that Dyess AFB is surrounded by the cities of Abilene and Tye and Taylor and Jones counties, the citizens of Abilene recognize that protecting Dyess AFB as a community asset will require close intergovernmental cooperation to ensure that decisions made by one entity do not compromise the goals of another entity. The city of Abilene's Comprehensive Plan provides a series of strategies to ensure this type of intergovernmental cooperation is successful. If the strategies outlined in the Comprehensive Plan are implemented, encroachment around Dyess AFB should be avoided.

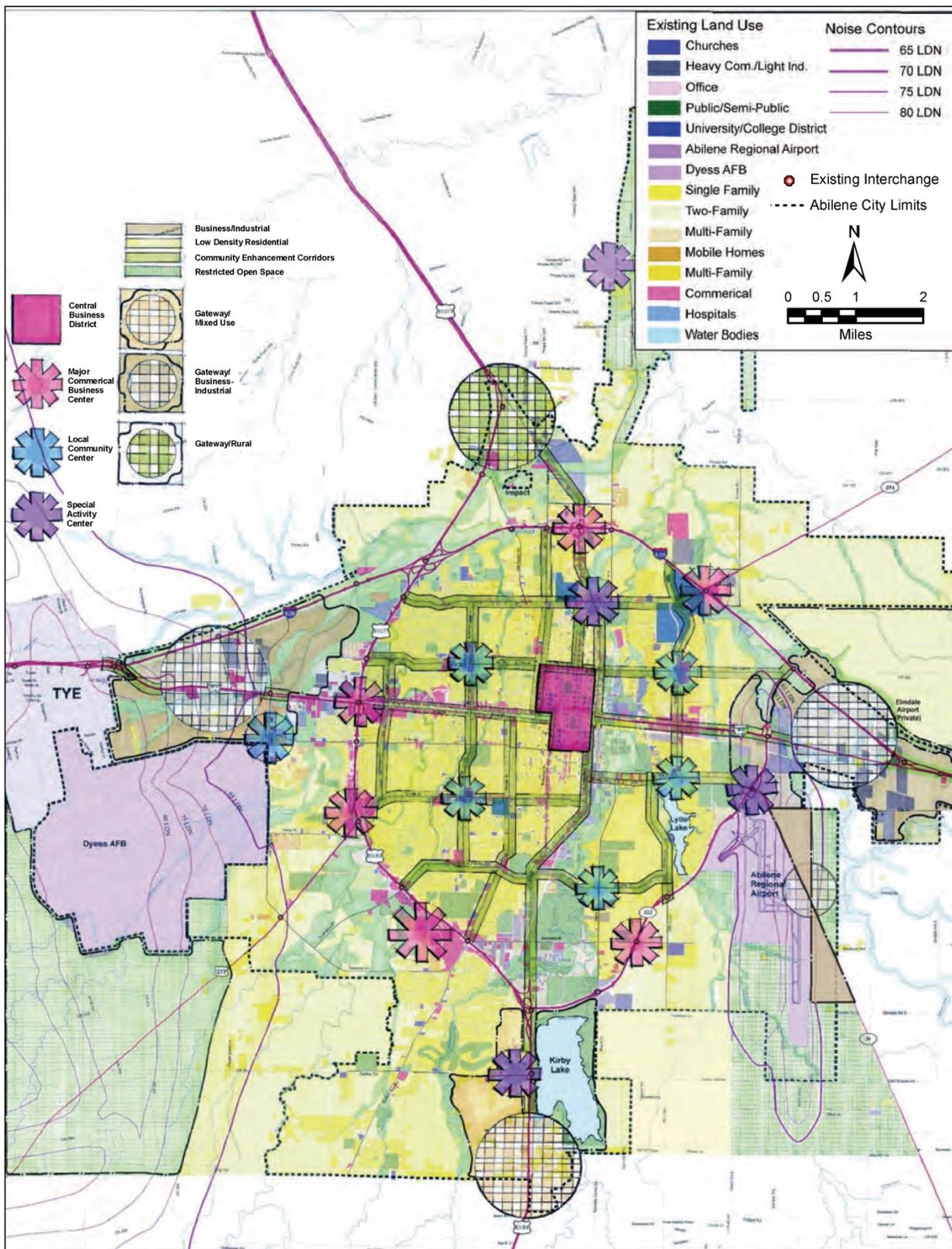
### 4.4.2 City of Tye

The city of Tye, Texas, General Plan Report 2004–2020 recognizes the importance of Dyess AFB and the Dyess AFB AICUZ area as a growth development restraint (City of Tye 2004). The city of Tye General Plan Report provides a plan for future land use through 2020 (see Figure 4–6). Two major considerations were examined when the city of Tye projected its future land use. One was the identification of areas where potential growth might occur because of community need, existing trends, and the availability of community facilities.

The second consideration was identifying areas in which growth should be restricted or mitigated due to physical limitations. The AICUZ Program area (noise zones and APZs) would fall under the second consideration. The city plans to establish a written procedure that will include an extra-territorial jurisdiction agreement with the city of Abilene, as well as establish a development review process with Dyess AFB (City of Tye 2004). This written procedure should help to prevent any future incompatible development.



**Figure 4-4 Dyess AFB Generalized Off-Base Zoning for City of Tye**



Source: City of Abilene 2004

**Figure 4-5 Planned Future Land Use and Development for the City of Abilene**

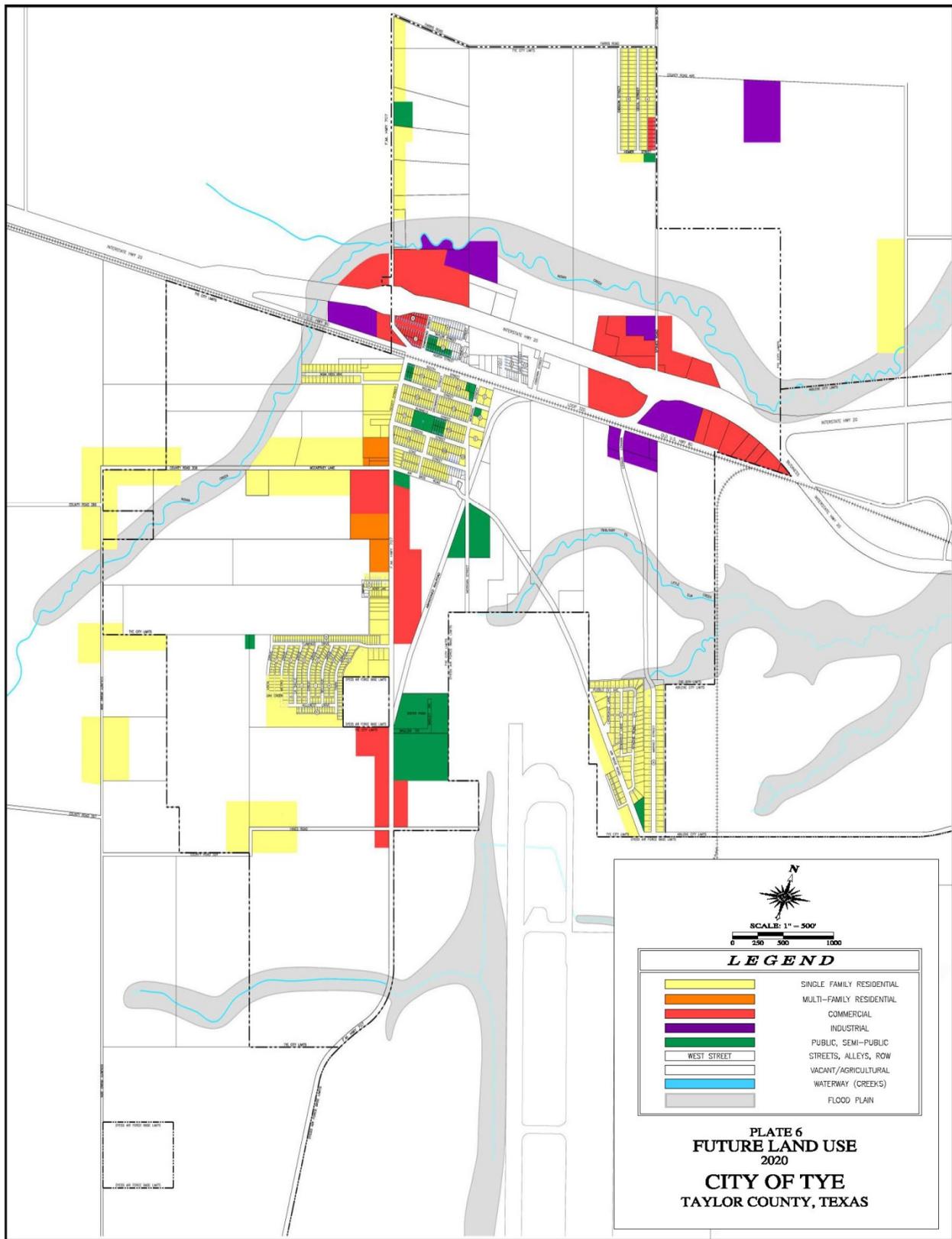


Figure 4-6 Planned Future Land Use for the City of Tye

Population projections for the city indicate modest growth; the city anticipates that new housing will be multi-family units and apartments (City of Tye 2004). The General Plan Report stipulates that new construction should utilize vacant tracts within the city where utilities are available and that areas that are incompatible with AICUZ recommendations should be avoided.

As shown in Figure 4–6, the residential areas northwest, northeast, and east of Runway 16/34 do not change under the future land use plan. The residential area west of Runway 16/34 expands slightly to the north and south and new residential parcels are proposed west of Runway 16/34.

#### 4.5 COMPATIBILITY ANALYSIS

Land use compatibility is expressed as being “compatible,” “conditionally compatible,” and “incompatible.” Conditionally compatible land use may require incorporation of noise attenuation measures into the design and construction of the structures and further evaluation to be considered “compatible” or density limitations for land in APZs. When a land use falls within a safety and noise zone, the most restrictive criteria shown in Table 3–1 determines its compatibility.

For a land use area to be considered incompatible, it may be listed as such in any combination of noise zone and accident potential criteria shown in Table 3–1. Land that is within the 65–80+ dB-DNL noise zones and within the APZs outside of Dyess AFB boundaries was evaluated to determine the land use compatibility. Compatibility of each type of use in noise zones or APZs was evaluated separately and then both together. For example, residential use at a density greater than one unit per acre would be considered a conditionally compatible use within the 70–74 dB-DNL noise zone. Within APZ I, this same residential use would represent an incompatible use. Therefore, if this residential use was within both 70–74 dB-DNL

noise zone and APZ I, it would represent an incompatible use. Table 4–5 identifies the compatibility guidelines used in the analysis of land use.

For the purpose of compatibility analysis, more specificity was required than the generalized land use categories would allow. Residences in open/low-density land uses were evaluated for noise compatibility, and mobile home parks were evaluated as such instead of generalized residential. This more detailed analysis was performed in order to more accurately describe existing land use compatibility where such compatibility was easily discernable.

The compatibility guidelines shown in Table 3–1 were combined with the existing land use plan shown in Figure 4–1 to determine land use incompatibility associated with aircraft operations at Dyess AFB. Results of this analysis are illustrated in Figures 4–7, 4–8, and 4–9, and in Table 4–6.

**Table 4–6 Incompatible Acreage by Land Use**

Land Use Category	Incompatible Acreage		
	Noise	CZ/APZ	Overlap Noise/CZ/APZ
Residential	108	39	28
Commercial	1	0	0
Industrial	0	0	0
Public/Quasi-public	10	2	2
Open/Low-Density	33	0	0
Recreational	0	0	0
<b>Total</b>	<b>152</b>	<b>41</b>	<b>30</b>

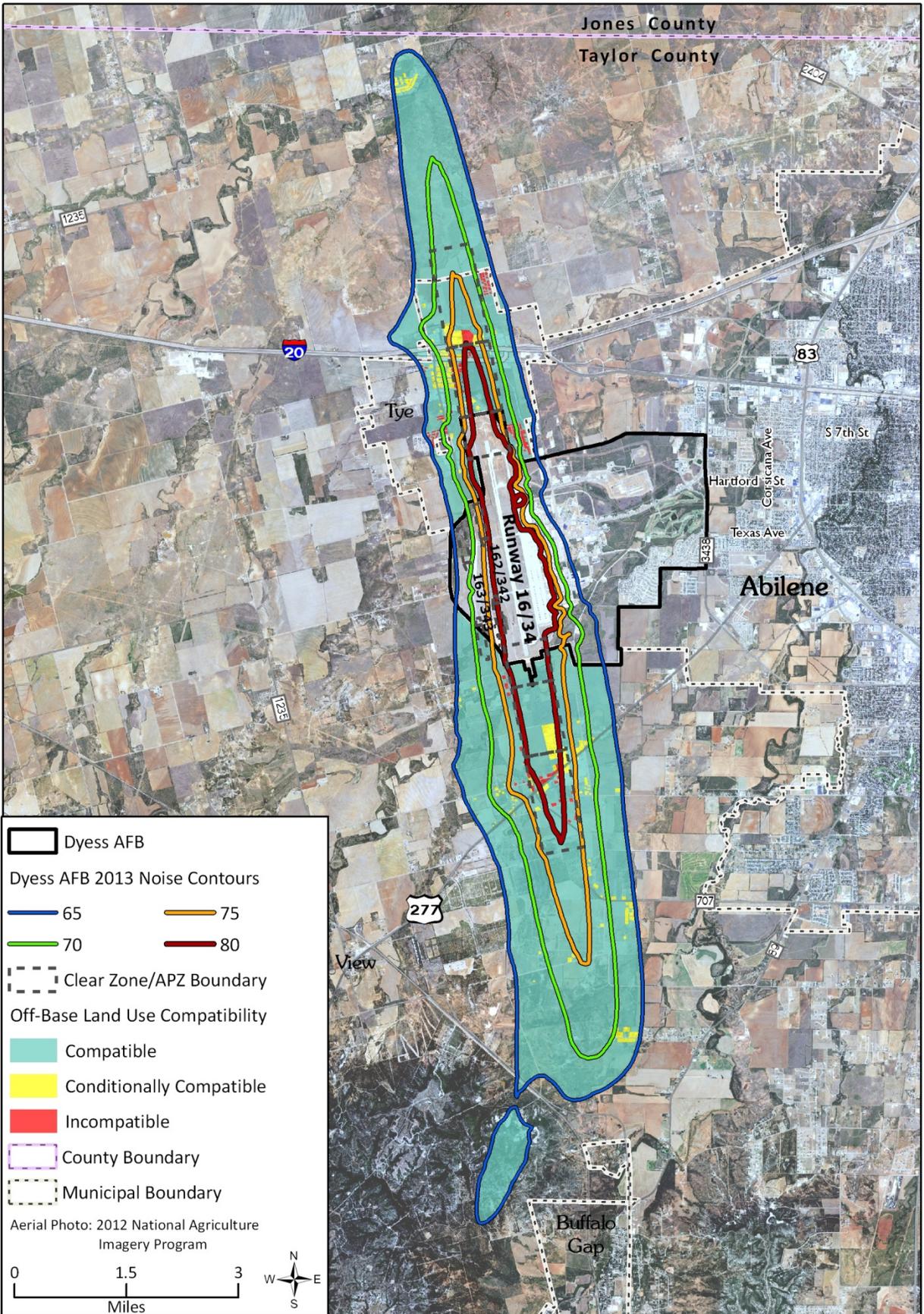
There are 152 acres of land surrounding Dyess AFB that are considered incompatible due to aircraft noise and 41 acres off base that are incompatible due to CZs and APZs. Of these two totals, 30 acres overlap due to incompatibility with both noise and CZ/APZ guidelines. Therefore, there is a total of 163 acres of incompatible land use surrounding Dyess AFB.

**Table 4–5 Generalized Land Use Compatibility**

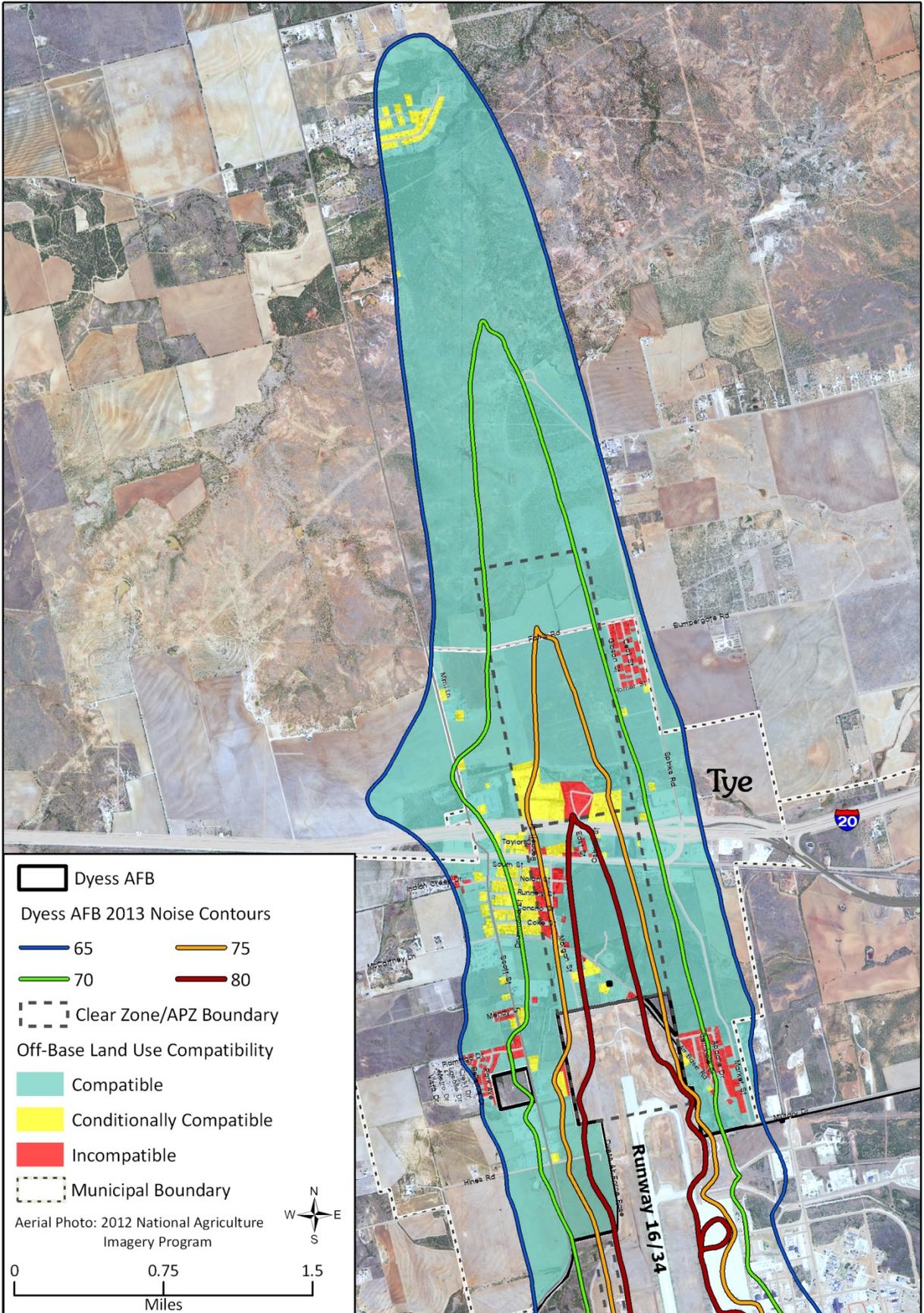
Land Use Category	Clear / Accident Potential Zones			Noise Zones (dB-DNL)			
	CZ	APZ I	APZ II	65–69	70–74	75–79	80+
Residential <sup>a</sup>	N	N	C	C	C	N	N
Commercial	N	C	C	Y	C	C	N
Industrial	N	C	C	Y	C	C	C
Public/Quasi-public	N	N	C	C	C	N	N
Open/Low-Density <sup>b</sup>	C	Y	Y	Y	Y	Y	Y
Recreational	N	C	Y	Y	C	C	N

Y = Compatible Use  
 C = Conditionally Compatible Use  
 N = Non-Compatible Use

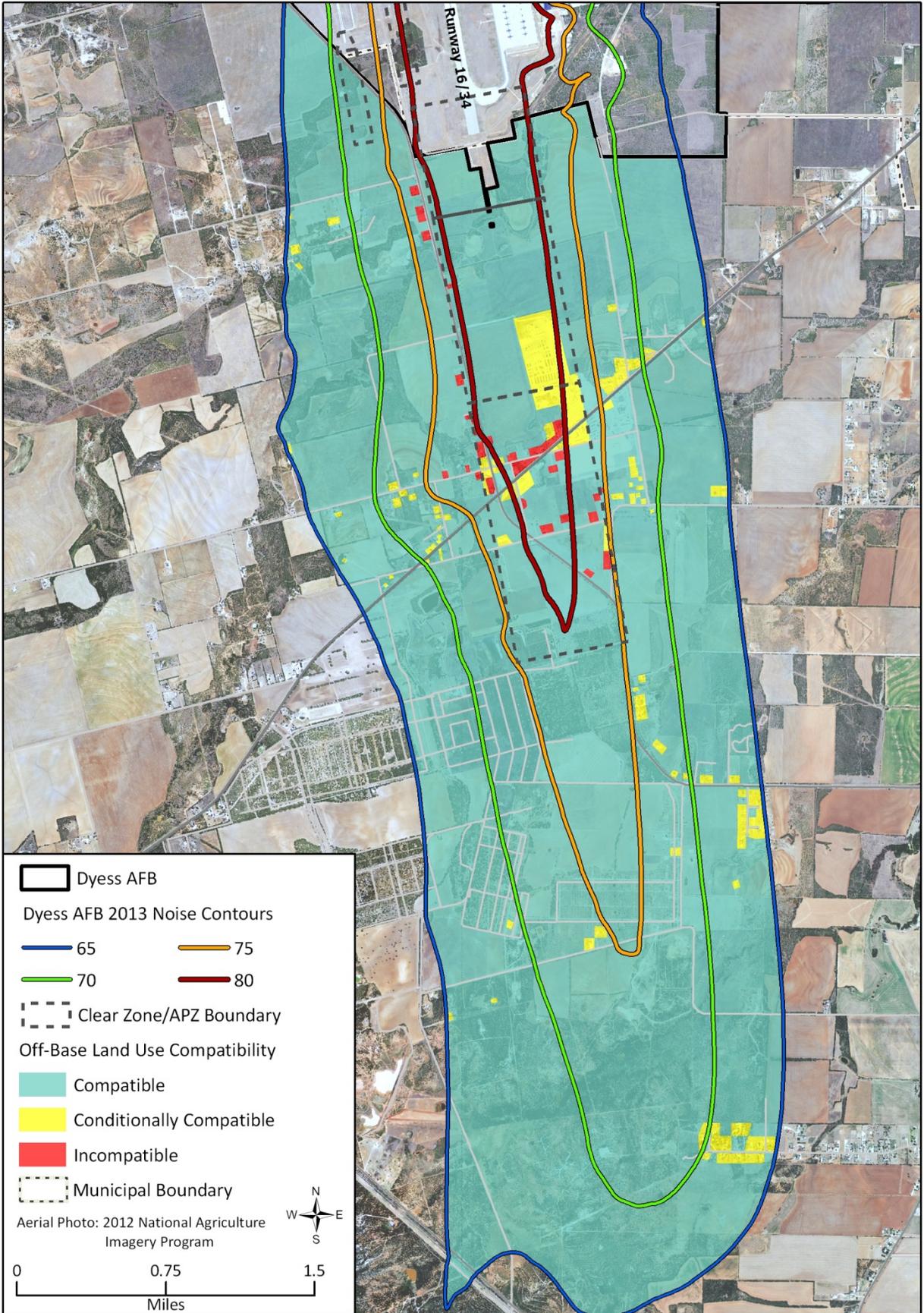
a. Residential with mobile home parks are incompatible in any noise zone.  
 b. Open/Low-Density with residences in 65–74 dB-DNL noise zones are conditionally compatible. Residences in 75+ dB-DNL noise zones are incompatible.



**Figure 4-7 Land Use Compatibility in Relation to 2013 DNL Noise Zones, Including Clear Zones and Accident Potential Zones**



**Figure 4-8 Land Use Compatibility in Relation to 2013 DNL Noise Zones, Including Clear Zones and Accident Potential Zones for Northern CZ and APZs**



**Figure 4-9 Land Use Compatibility in Relation to 2013 DNL Noise Zones, Including Clear Zones and Accident Potential Zones for Southern CZ and APZs**

#### 4.5.1 Noise Zones

The majority of off-base land inside the 65–80+ dB-DNL noise zones consists of open space/low-density land use (see Table 4–1), which is compatible for every noise zone. There are also smaller amounts of commercial, industrial, public/quasi-public, recreational, and residential land uses.

As shown in Figure 4–1, land use within the Abilene city limits encompassed by the 2013 noise zones is north of the installation and consists of open space/low-density use. A variety of land uses, residential, public/quasi-public, commercial, industrial, and recreational, are outside of the 65–69 dB-DNL to the east of Dyess AFB. All land uses located in noise zones less than 65 dB-DNL are considered compatible. The western and southwestern limits of the city of Abilene include open space/low-density land uses adjacent to the 65–69 dB-DNL noise zone and are considered compatible.

In the city of Tye, there are five residential areas that are impacted by noise zones greater than 65 dB-DNL (Figure 4–2). The first residential area is west of Runway 16/34 CZ off Flamingo Drive within the 65–74 dB-DNL noise zone. The second is the largest area and is northwest of Runway 16/34 CZ centered around Drummond Street and within the 65–79 dB-DNL noise zone. The third area is just west of this large residential area on Indian Creek Drive. The fourth residential area is directly east of the CZ within the 65–74 dB-DNL noise zone. The residential area centered around Drummond Street consist of a mixture of single family homes and mobile homes. The residential area in the 75+ dB-DNL noise zone is considered an incompatible use due to noise. The remaining four residential areas within the city of Tye are considered incompatible uses under AICUZ guidelines for mobile homes. The proposed residential parcels west of Runway 16/34 will be single-family homes and would be considered conditionally compatible since they would be constructed within the 65–69 dB-DNL and 70–74 dB-DNL noise zones.

For this study, the recreational vehicle park directly north of Interstate 20 is considered residential transient lodgings (Standard Land Use Coding Manual [SLUCM] number 15 in Table 3–1). This recreational vehicle park is located in the 75–79 dB-DNL noise zone, and is considered an incompatible use. Because of the transient nature of recreational vehicles, NLR measures cannot be enforced.

The center of Tye is interspersed with public/quasi-public land use and the 75+ dB-DNL noise zones. These areas are considered

incompatible. Rister Park, which is classified as a public/quasi-public land use, is directly west of the northern CZ in the city of Tye. As shown in Table 3–1, public/quasi-public is conditionally compatible in noise zones less than 75 dB-DNL but incompatible in noise zones 75+ dB-DNL. Therefore, a majority of Rister Park is considered conditionally compatible, while the eastern edge is incompatible because it is within the 75–79 dB-DNL noise zone.

In the community of Caps to the south of the base, conditionally compatible land in the 80+ dB-DNL noise zone consists of industrial use and incompatible residential land uses in the 75–79 dB-DNL noise zone. There are several residential areas in the south that are conditionally compatible because they are in the 65–74 dB-DNL noise zone.

#### 4.5.2 Clear Zones and Accident Potential Zones

##### 4.5.2.1 North Clear Zone and Accident Potential Zones I and II

The northern CZ is entirely within the installation boundaries, with the exception of Air Base Road, which traverses the northeastern corner of the northern CZ. Land in the northern APZ I consists primarily of open space/low-density use but also contains residential, commercial, and public/quasi-public use. Residential land use is considered incompatible, while commercial and public/quasi-public uses are considered conditionally compatible. Land in the northern APZ II also consists primarily of open space/low-density use but includes large commercial and industrial parcels, which are considered conditionally compatible. The residential land in the northern APZ II includes a recreational vehicle park that is considered incompatible. Residential land in APZ II is compatible with a maximum density of one to two dwellings per acre.

The City of Tye General Plan Report proposes to convert several existing large industrial and commercial parcels, along with some small residential lots, to vacant/agricultural use. This would alleviate some of the compatibility issues associated with the APZs.

##### 4.5.2.2 South Clear Zone and Accident Potential Zones I and II

Approximately half of the land in the southern CZ is within the installation boundaries; the remaining land (108 acres) consists of open space/low-density. There is an industrial use in southern APZ I. Dyess AFB owns restrictive easements to prevent development within this acreage, and because of these easements, it is considered a compatible use. Without these easements, this area would be classified conditionally compatible.

All of the land in the southern APZ I and the majority of the land in the southern APZ II consist of open space/low-density, which is compatible. Residential and industrial lands within southern APZ II (in the Caps community) are considered conditionally compatible uses.

#### 4.5.2.3 Runway 162/342 and Runway 163/343 Clear Zones and Accident Potential Zones

The majority of the land in the Landing Zone (LZ) APZs (as discussed in Section 3.1.3 and shown in Figure 3–3) is within the installation boundary. A small portion of land in the southern APZ for Runway 163/343 (paved LZ) extends outside the installation boundary. Land use in this area consists of open space/low-density, which is compatible in all AICUZ environs.

### 4.6 PLANNING CONSIDERATIONS

AICUZ noise contours describe the noise characteristics of a specific operational environment, and as such, will change if a significant operational change is made. Should a new mission be established at Dyess AFB, adding a larger number of aircraft or additional model types, the AICUZ noise contours could be amended.

With these thoughts in mind, this 2015 AICUZ Study updates the 2008 AICUZ Study (Dyess AFB 2008) and provides flight track, APZ, and noise contour information that reflects aircraft activities as of 2013.

### 4.7 DYESS AFB OBSTRUCTIONS TO NAVIGABLE AIRSPACE

Obstructions to navigable airspace are a concern for Dyess AFB. The bluffs to the south of the installation are very attractive to wind turbine development due to an ideal combination of topography, wind, and proximity to the electrical distribution grid. Construction of tall structures within the Dyess AFB airspace has the potential to adversely affect the installation's current and future mission capability. In accordance with Title 14 of the *Code of Federal Regulations* Part 77, an object is considered an obstruction if it penetrates or rises above one of the imaginary surfaces described in Appendix D and depicted in Figure 4–10.

What exacerbates the obstruction issue at Dyess AFB is the rising terrain to the southwest of the installation. The terrain itself penetrates the Outer Horizontal Surface in multiple locations (as shown in Appendix D, Figure D–4); therefore, any objects constructed on these sites would be an obstruction to navigable airspace. For example,

the height of the Outer Horizontal Surface is 500 feet above airfield elevation (1,788 feet above mean sea level [MSL]), or 2,288 feet MSL. A 400-foot-tall wind turbine constructed at a site elevation of 2,288 feet MSL is 900 feet tall in relation to the Dyess AFB runway.

There are three wind turbines that are obstructions to Dyess AFB navigable airspace. The location of these objects is shown in Figure 4–6. A map of the imaginary surfaces has been overlaid onto the area to provide a determination of compatibility based on height. These three wind turbines are southwest of Dyess AFB and are within the Outer Horizontal Surface. For the purposes of this AICUZ Study, the wind turbines have been labeled A, B, and C.

The airspace around Dyess AFB is generally free of obstructions. Excepting the previously mentioned wind turbines, the Federal Aviation Administration (FAA) imaginary surfaces are free of man-made obstructions outside the installation boundaries (see Figure 4–10). However, several major wind energy development companies have investigated areas in the southwestern quadrant of the Outer Horizontal Surface directly under the C-130J Drop Zone corridors. In addition, a major development was planned under the southern precision and non-precision primary runway approach corridors. To date, all initiatives that would have encroached on Dyess AFB navigable airspace have been abandoned after the proponents were informed of the impact they would have on the Dyess AFB mission. The FAA has served as an excellent partner with Dyess AFB in keeping the installation informed of any potential developments and giving the installation an opportunity to contact the proponent and provide input to the FAA response. However, the FAA lacks land use control authority. While it has the responsibility to evaluate structures and determine whether they present hazards to air navigation, the FAA's only remedies are marking, lighting, and communicating the hazard to the flying community. It does not have the authority to actually prohibit construction of a structure that presents a hazard. This authority is reserved for state and local governments.

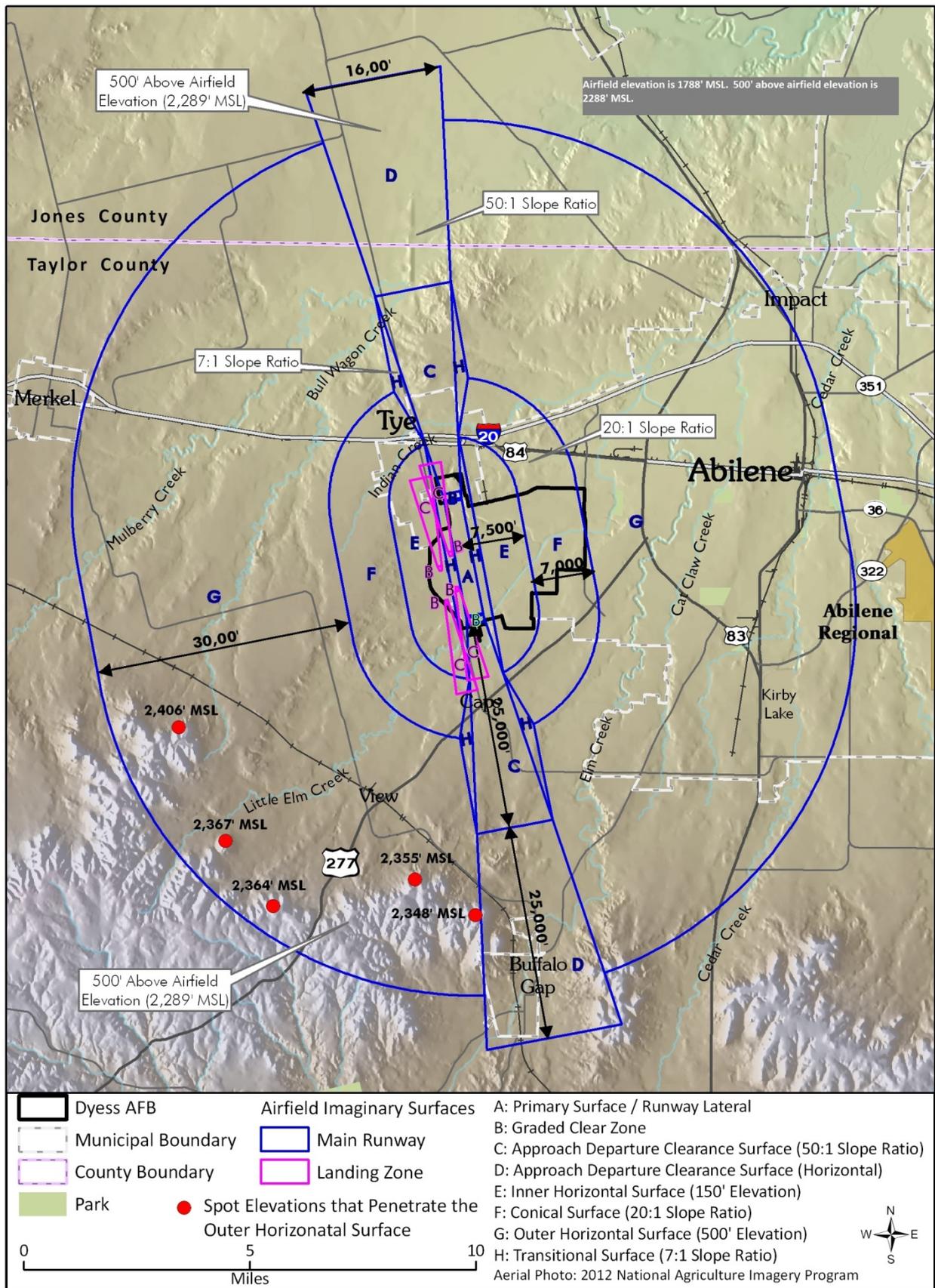


Figure 4-10 FAA Imaginary Surfaces