



## **Chapter 10: ALP and E-ALP Description**



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# 10 AIRPORT LAYOUT PLAN DRAWINGS

## 10.1 Introduction

The 2040 ABIA Master Plan Study has evolved through the analytical efforts described in previous chapters. The analysis in Chapter 5, *Alternative Development and Analysis*, resulted in selection of an airport development plan for ABIA that accommodates the high-case forecast demand through the next 20-year (2037) period.

This chapter presents the preferred ABIA development plan in a set of detailed drawings, referred to as the Airport Layout Plan (ALP) set, that depict the recommendations for airfield layout, disposition of obstructions, and future use of land on the airport. This set of plans includes the following drawings that are presented in reduced format at the end of this chapter:

- Sheet 1: Cover Sheet
- Sheet 2: Airport Data Sheet
- Sheet 3: Airport Layout Plan - Existing
- Sheet 4: Airport Layout Plan - Future
- Sheet 5: Hazard Zoning Map Airspace (FAR Part 77) Plan
- Sheet 6: Runway 17R Protection Zone - Plan and Profile
- Sheet 7: Runway 35L Protection Zone - Plan and Profile
- Sheet 8: Runway 17L Protection Zone - Plan and Profile
- Sheet 9: Runway 35R Protection Zone - Plan and Profile
- Sheet 10: Runway 17C Protection Zone - Plan and Profile
- Sheet 11: Runway 35C Protection Zone - Plan and Profile
- Sheet 12: Runway Centerline Profiles
- Sheet 13: ATCT Line of Sight
- Sheet 14: Terminal Area Plan - North
- Sheet 15: Terminal Area Plan -South
- Sheet 16: Airport Land Use Plan – Existing
- Sheet 17: Airport Land Use plan - Future
- Sheet 18: Property Map

The ALP set has been prepared in accordance with Federal Aviation Administration (FAA) Advisory Circular 150/5300-13A, *Airport Design*, and the FAA Standard Operating Procedure (SOP) 2.00, *Standard Procedure for FAA Review and Approval of Airport Layout Plans (ALPs)*.

## 10.2 Airport Layout Plan Drawing Set

The following section describes the major components of the ALP drawing set. The ALP is a planning tool for the FAA's review of airport development grant applications under the Airport Improvement Program (AIP). The FAA refers to the ALP in its review of proposed construction projects that may affect navigable airspace. The ALP also serves as a planning tool for use by surrounding jurisdictions to address land use, zoning, and resource planning issues.

### 10.2.1 Sheet 1: Cover Sheet

The Cover Sheet serves as an introduction to the ABIA plans set. It includes the following:

- Name of the Airport
- Name of the Study
- Period of the Study
- Index of the included Drawings
- Approval Blocks

### 10.2.2 Sheet 2: Airport Data Sheet

This sheet provides basic airport and runway data tables associated with the existing and future airport layout. The Data Sheet includes the following information:

- Taxiway Key Map
- Existing Taxiway Data
- Proposed Taxiway Data
- Airport Data
- Heliport Data
- Runway Data
- Declared Distance Data
- Acronym Table
- Wind Coverage Table
- All-Weather and IFR Wind Roses
- Detail of Category I Object Free Zone
- Detail of Category III Object Free Zone
- Drawing Legend

### 10.2.3 Sheets 3 and 4: Airport Layout Plans

The ALP drawings graphically presents the existing and future airport facility layout. It depicts the recommended improvements that will enable ABIA to meet the high-case forecast demand through the 20-year planning period.

The Existing ALP (Sheet 3) is a base drawing that solely depicts the existing airport facilities anticipated to be operational by the end of 2019. The Future ALP (Sheet 4) depicts the proposed airport improvements for both the airside and landside areas “on top of” the existing airport facilities. The proposed future airport development program recommends the following major projects be completed within the 20-year (2037) planning period.

- New North Terminal Building
- New 32-Gate Midfield Concourse
- Additional ADG-V Taxiways/Taxilanes
- New Entrance Roadway Intersection with SH 71
- New and Expanded Remain Overnight (RON) Apron Areas
- New ADG-VI Taxiway ‘D’
- General Aviation Expansion
- Expansion of various Support Facilities (Catering, ARFF, Belly Freight, Airport Maintenance, etc.)
- New Central Utility Plan
- Land Acquisition
- Expansion of Miscellaneous Utilities

In addition, the Future ALP depicts a long-range (Post 20-year) new 10,000-foot long Runway 17C-35C and the relocation of SH 71 to the north. It is anticipated that the new Runway 17C-35C will not be needed until approximately year 2048, or when the airport reaches approximately 445,000 annual operations with an average 10-minutes of delay per operation. ABIA will continue to coordinate with TxDOT on the future relocation of SH 71 with the intention to begin design during the PAL 3 or PAL 4 timeframe.

### 10.2.4 Sheet 5: Hazard Zoning Map Federal Aviation Regulation Part 77 Airspace Plan and Obstruction Data Tables

Federal Aviation Regulation (FAR) Part 77, *Objects Affecting Navigable Airspace*, prescribes airspace standards that establish criteria for evaluating navigable airspace around airports. This sheet presents FAR Part 77 standards and their relationship to the physical features and terrain on and around ABIA. The FAR Part 77 surfaces and limiting heights and evaluations for future development adjacent to ABIA are shown on this sheet.

The intent of FAR Part 77 is to protect the airspace and approaches to each runway from hazards that could affect the safe and efficient operation of aircraft. These Federal criteria have also been

established for use by local jurisdictions to control the height of objects in an airport vicinity. For example, FAR Part 77 can be utilized in zoning ordinances to enhance area land use compatibility. These drawings are also used to identify potential obstructions that are located within the imaginary surfaces of the airport. Ideally, an obstruction should be removed or lowered beneath the imaginary Part 77 surfaces. In some cases, it is appropriate to mark and light the obstruction in accordance with AC 70/7460-1K, *Obstruction Marking and Lighting*. All obstructions must be reviewed by the FAA to determine if they are a hazard to air navigation and to determine which course of action is appropriate.

The FAR Part 77 imaginary surfaces are established relative to the airport and runway system. The size of each imaginary surface is based on the runway approach category (visual, non-precision, or precision). Each of the Part 77 surfaces is described in the following subsections.

- **Primary Surface** – The primary surface is located closest to the runway environment. It is a rectangular area symmetrically located about the runway centerline and extends a distance of 200 feet beyond each runway threshold. Its elevation is the same as the runway centerline at a point perpendicular to the runway centerline. The width of the primary surface depends on the type of runway approach capability (visual, non-precision, or precision). All existing ABIA runways have precision approach capability.

The primary surface must remain clear of most objects to allow unobstructed passage of aircraft. Objects are only permitted if they are no taller than two feet above the ground, and if they are constructed on frangible (breakaway) mounts. The only exception to this rule is for objects for which location is “fixed by function,” such as navigational and visual aid facilities (glide slope, precision approach path indicator, windsock, etc.).

- **Approach Surface** – An approach surface is also established for each runway end. The approach surface has the same inner width as the primary surface, and then flares (gets wider) as it rises upward and outward along the extended runway centerline. The approach surface begins 200 feet beyond the runway end. The slope of the rise and the length of the approach surface is dictated by the type of approach available to the runway (visual, non-precision or precision), and by the approach category of the aircraft for which the runway is designed. All existing ABIA runways have precision approach capability.
- **Transitional Surface** – Each runway has a transitional surface that begins at the outside edge of the primary surface, and at the same elevation as the runway centerline. There are three transitional surfaces: the first is off the sides of the primary surface, the second is off the sides of the approach surface, and the third is outside the conical surface and pertains to precision runways only. The transitional surface rises at a slope of one-foot vertically for each 7 feet of horizontal distance (7:1) up to a height, which is 150 feet above the highest runway elevation.

- **Horizontal Surface** – The horizontal surface is established at 150 feet above the published airport elevation. This is an oval-shaped flat surface that connects the transitional and approach surfaces to the conical surface at a distance of 10,000 feet from the primary surface.
- **Conical Surface** – The conical surface begins at the outer edge of the horizontal surface. The conical surface continues for a distance of 4,000 feet horizontally at a slope of one-foot rise for each 20 feet of horizontal distance (20:1).

### 10.2.5 Sheets 6 through 11: Runway Approach Plans and Profiles

These Runway Approach Plan and Profiles sheets show both plan and profile views of the approaches to each of the existing and future runways. The plan and profile views facilitate identification of obstructions located within the areas that should be void of objects that may endanger safe aircraft flight during takeoff and landing.

### 10.2.6 Sheet 12: Runway Centerline Profiles

The sheet shows the centerline profiles for the two existing Runways 17R-35L and 17L-35R, along with the preliminary centerline profile for new Runway 17C-35C. The new Runway 17C-35C centerline profile is an approximation and will need to be better determined during the conceptual design stage of development.

### 10.2.7 Sheet 13: ATCT Line-of-Sight

A preliminary line-of-sight study was conducted from the existing Air Traffic Control Tower (ATCT) cab to the existing and future airfield “movement areas” based on the proposed airport development projects. An ATCT eye-level elevation of 696.7 MSL (cab floor elevation of 691.2 MSL) and preliminary future building elevations were used in this analysis. Based on this information, there should be no line-of-sight issues from the existing ATCT to existing or future airfield “movement areas.” In order to see the entire length of the new midfield taxiway that connects between the parallel runways, it will be necessary to reconfigure some equipment within the tower cab. Additional study will be necessary to determine the full extent of this issue during the design stage.



### **10.2.8 Sheets 14 and 15: Terminal Area Plans - North & South**

These two North and South Terminal Area Plan sheets show additional detail of the proposed New North Terminal Building and Midfield Concourse complex development that includes the following major projects:

- North Terminal Building
- Midfield Concourse
- North Terminal Curbfront
- Airport Entrance Roadway
- Aircraft Parking Apron
- Taxiways/Taxilanes
- Personal Rapid Transit System
- High Capacity Transit Line
- Auto Parking Areas
- Support Facilities

### **10.2.9 Sheets 16 and 17: Airport Land Use Plans - Existing & Future**

The purpose of developing an on-airport land use plan is to achieve an arrangement of land uses within the airport's boundary that best utilizes available property for existing and future airport needs; it should also be compatible with the surrounding environment. The Future Airport Land Use Plan provides adequate growth for all airport functions and provides for the potential to develop non-aviation related development that could generate additional revenue for ABIA.

### **10.2.10 Sheet 18: Property Map**

The purpose of a Property Map is to represent all real property currently owned and previously owned by the Airport. Specific data is maintained for each numbered parcel presented in the Property Map. The data includes physical description of parcel, grantee information, type of interest acquired, and public land record references. The Property Map also includes information, such as project number, specific to FAA funded projects. The Property is maintained by the Airport and must be provided to the FAA to receive funding for airport projects.

Exhibit 10.2-1: Cover Sheet


# AUSTIN-BERGSTROM INTERNATIONAL AIRPORT

## AIRPORT LAYOUT PLAN


XXXXX, 2018

FDU 4910-8107-3343

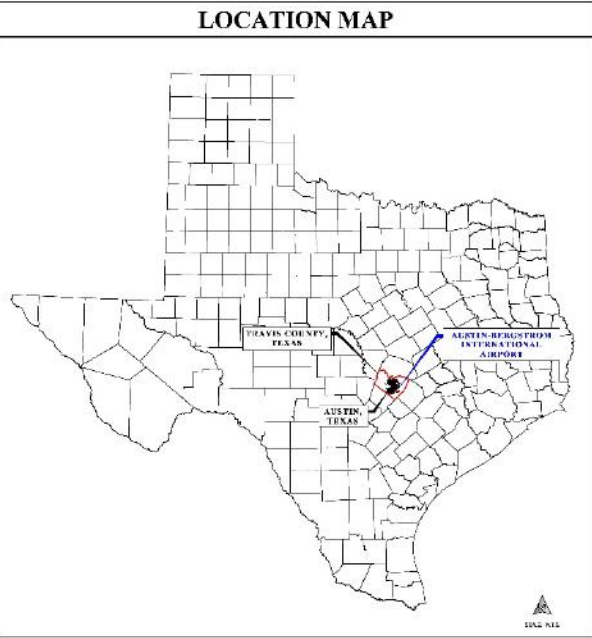
CITY OF AUSTIN



DEPARTMENT OF AVIATION



Austin-Bergstrom  
International Airport



LOCATION MAP

**SHEET INDEX**

1. COVER SHEET
2. AIRPORT DATA SHEET
3. AIRPORT LAYOUT PLAN – EXISTING
4. AIRPORT LAYOUT PLAN – FUTURE
5. HAZARD ZONING MAP AIRSPACE (PART 77) PLAN
6. RUNWAY 17R PROTECTION ZONE-PLAN AND PROFILE
7. RUNWAY 35L PROTECTION ZONE-PLAN AND PROFILE
8. RUNWAY 17L PROTECTION ZONE-PLAN AND PROFILE
9. RUNWAY 35R PROTECTION ZONE-PLAN AND PROFILE
10. RUNWAY 17C PROTECTION ZONE-PLAN AND PROFILE
11. RUNWAY 35C PROTECTION ZONE-PLAN AND PROFILE
12. RUNWAY CENTERLINE PROFILES
13. ATCT LINE OF SIGHT
14. TERMINAL AREA PLAN-NORTH
15. TERMINAL AREA PLAN-SOUTH
16. AIRPORT LAND USE PLAN-EXISTING
17. AIRPORT LAND USE PLAN-FUTURE
18. PROPERTY MAP

AUSTIN CITY COUNCIL

STEVE ADLER - MAYOR

KATHIE TOVO - MAYOR PRO TEM, COUNCIL MEMBER DISTRICT 9

ORA TROSTON - COUNCIL MEMBER DISTRICT 1

DIANA GARZA - COUNCIL MEMBER DISTRICT 2

SABINO "PRO" RENTERIA - COUNCIL MEMBER DISTRICT 3

GREGORIO "GRIG" CASAR - COUNCIL MEMBER DISTRICT 4


ANN KITCHEN - COUNCIL MEMBER DISTRICT 5

JIMMY FLANNIGAN - COUNCIL MEMBER DISTRICT 6

LESLIE POOL - COUNCIL MEMBER DISTRICT 7

ELLEN TROCLAIR - COUNCIL MEMBER DISTRICT 8

ALISON ALTER - COUNCIL MEMBER DISTRICT 10



VICINITY MAP

**DRAFT**

APPROVAL

MARIN BERTRAND, INTERNATIONAL AIRPORT  
CITY OF AUSTIN, DEPARTMENT OF AVIATION

COVER SHEET

1 OF 18

Source: Landrum & Brown and Garver

December 2018

ALP and E-ALP  
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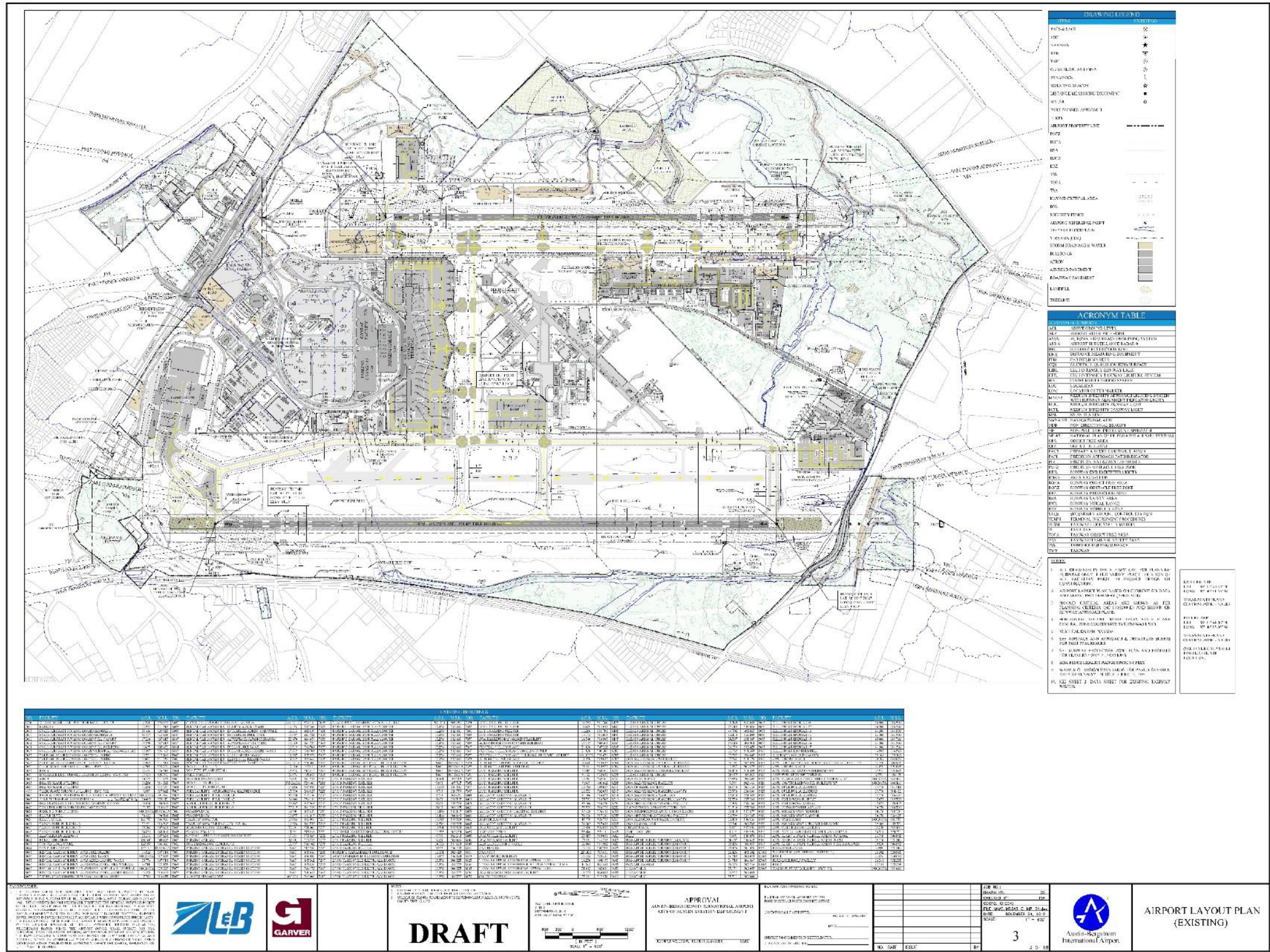
**TAXIWAY/TAXILANE KEY MAP**  
N.T.S.

**PROPOSED TAXIWAY/TAXILANE DATA**

NAME	TYPE	WIDTH (FT)	LENGTH (FT)	AREA (SQ FT)	PERIMETER (FT)	STATUS
TAXIWAY 1	1	100	100	10,000	600	PROPOSED
TAXIWAY 2	2	150	150	22,500	900	PROPOSED
TAXIWAY 3	3	200	200	40,000	1,200	PROPOSED
TAXIWAY 4	4	250	250	62,500	1,500	PROPOSED
TAXIWAY 5	5	300	300	90,000	1,800	PROPOSED
TAXIWAY 6	6	350	350	122,500	2,100	PROPOSED
TAXIWAY 7	7	400	400	160,000	2,400	PROPOSED
TAXIWAY 8	8	450	450	202,500	2,700	PROPOSED
TAXIWAY 9	9	500	500	250,000	3,000	PROPOSED
TAXIWAY 10	10	550	550	302,500	3,300	PROPOSED
TAXIWAY 11	11	600	600	360,000	3,600	PROPOSED
TAXIWAY 12	12	650	650	422,500	3,900	PROPOSED
TAXIWAY 13	13	700	700	490,000	4,200	PROPOSED
TAXIWAY 14	14	750	750	562,500	4,500	PROPOSED
TAXIWAY 15	15	800	800	640,000	4,800	PROPOSED
TAXIWAY 16	16	850	850	722,500	5,100	PROPOSED
TAXIWAY 17	17	900	900	810,000	5,400	PROPOSED
TAXIWAY 18	18	950	950	902,500	5,700	PROPOSED
TAXIWAY 19	19	1,000	1,000	1,000,000	6,000	PROPOSED
TAXIWAY 20	20	1,050	1,050	1,102,500	6,300	PROPOSED
TAXIWAY 21	21	1,100	1,100	1,210,000	6,600	PROPOSED
TAXIWAY 22	22	1,150	1,150	1,322,500	6,900	PROPOSED
TAXIWAY 23	23	1,200	1,200	1,440,000	7,200	PROPOSED
TAXIWAY 24	24	1,250	1,250	1,562,500	7,500	PROPOSED
TAXIWAY 25	25	1,300	1,300	1,690,000	7,800	PROPOSED
TAXIWAY 26	26	1,350	1,350	1,822,500	8,100	PROPOSED
TAXIWAY 27	27	1,400	1,400	1,960,000	8,400	PROPOSED
TAXIWAY 28	28	1,450	1,450	2,102,500	8,700	PROPOSED
TAXIWAY 29	29	1,500	1,500	2,250,000	9,000	PROPOSED
TAXIWAY 30	30	1,550	1,550	2,402,500	9,300	PROPOSED
TAXIWAY 31	31	1,600	1,600	2,560,000	9,600	PROPOSED
TAXIWAY 32	32	1,650	1,650	2,722,500	9,900	PROPOSED
TAXIWAY 33	33	1,700	1,700	2,890,000	10,200	PROPOSED
TAXIWAY 34	34	1,750	1,750	3,062,500	10,500	PROPOSED
TAXIWAY 35	35	1,800	1,800	3,240,000	10,800	PROPOSED
TAXIWAY 36	36	1,850	1,850	3,422,500	11,100	PROPOSED
TAXIWAY 37	37	1,900	1,900	3,610,000	11,400	PROPOSED
TAXIWAY 38	38	1,950	1,950	3,802,500	11,700	PROPOSED
TAXIWAY 39	39	2,000	2,000	4,000,000	12,000	PROPOSED
TAXIWAY 40	40	2,050	2,050	4,202,500	12,300	PROPOSED
TAXIWAY 41	41	2,100	2,100	4,410,000	12,600	PROPOSED
TAXIWAY 42	42	2,150	2,150	4,622,500	12,900	PROPOSED
TAXIWAY 43	43	2,200	2,200	4,840,000	13,200	PROPOSED
TAXIWAY 44	44	2,250	2,250	5,062,500	13,500	PROPOSED
TAXIWAY 45	45	2,300	2,300	5,290,000	13,800	PROPOSED
TAXIWAY 46	46	2,350	2,350	5,522,500	14,100	PROPOSED
TAXIWAY 47	47	2,400	2,400	5,760,000	14,400	PROPOSED
TAXIWAY 48	48	2,450	2,450	6,002,500	14,700	PROPOSED
TAXIWAY 49	49	2,500	2,500	6,250,000	15,000	PROPOSED
TAXIWAY 50	50	2,550	2,550	6,502,500	15,300	PROPOSED
TAXIWAY 51	51	2,600	2,600	6,760,000	15,600	PROPOSED
TAXIWAY 52	52	2,650	2,650	7,022,500	15,900	PROPOSED
TAXIWAY 53	53	2,700	2,700	7,290,000	16,200	PROPOSED
TAXIWAY 54</						



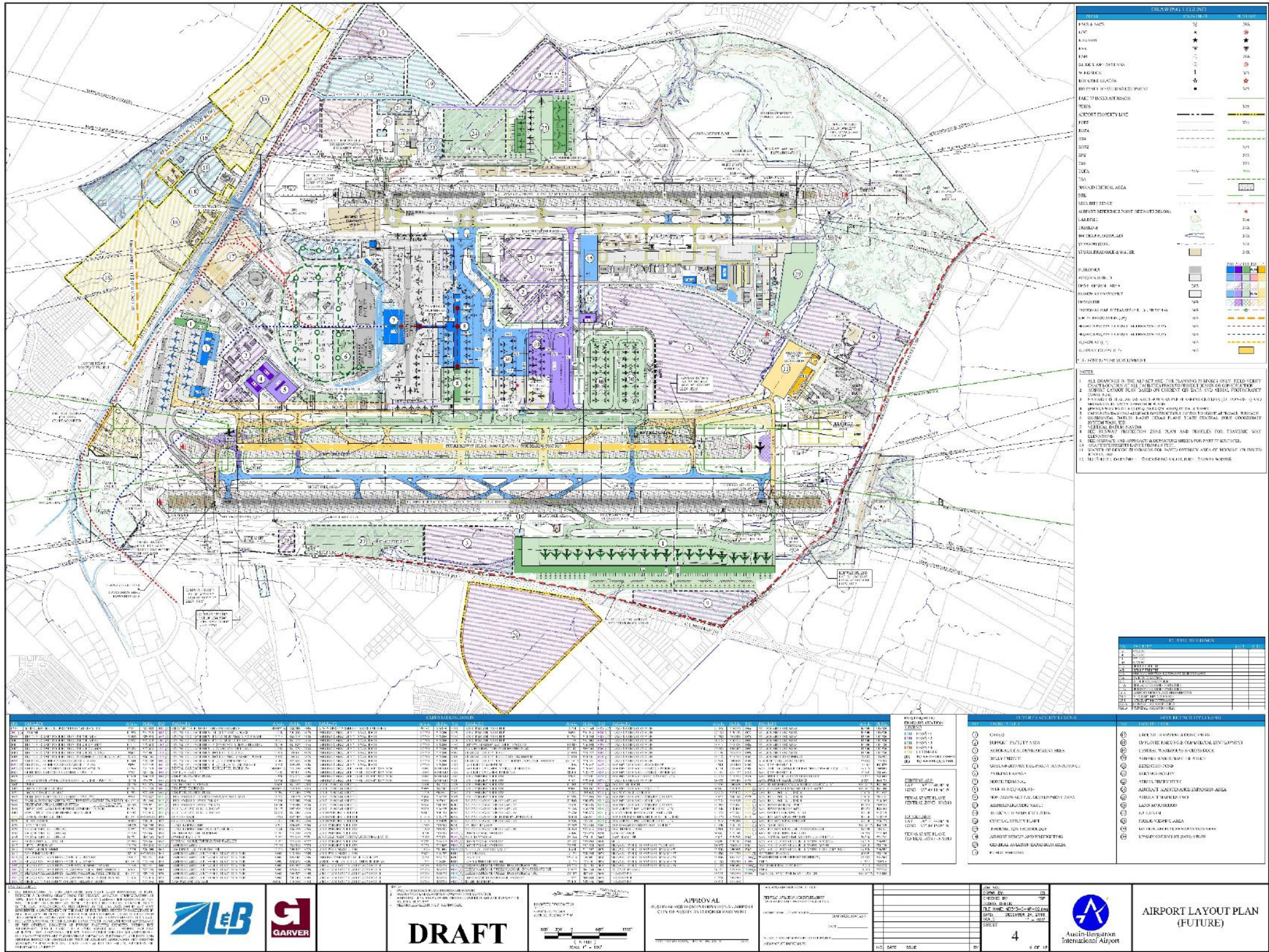
Exhibit 10.2-3: Airport Layout Plan – Existing



Source: Landrum & Brown and Garver



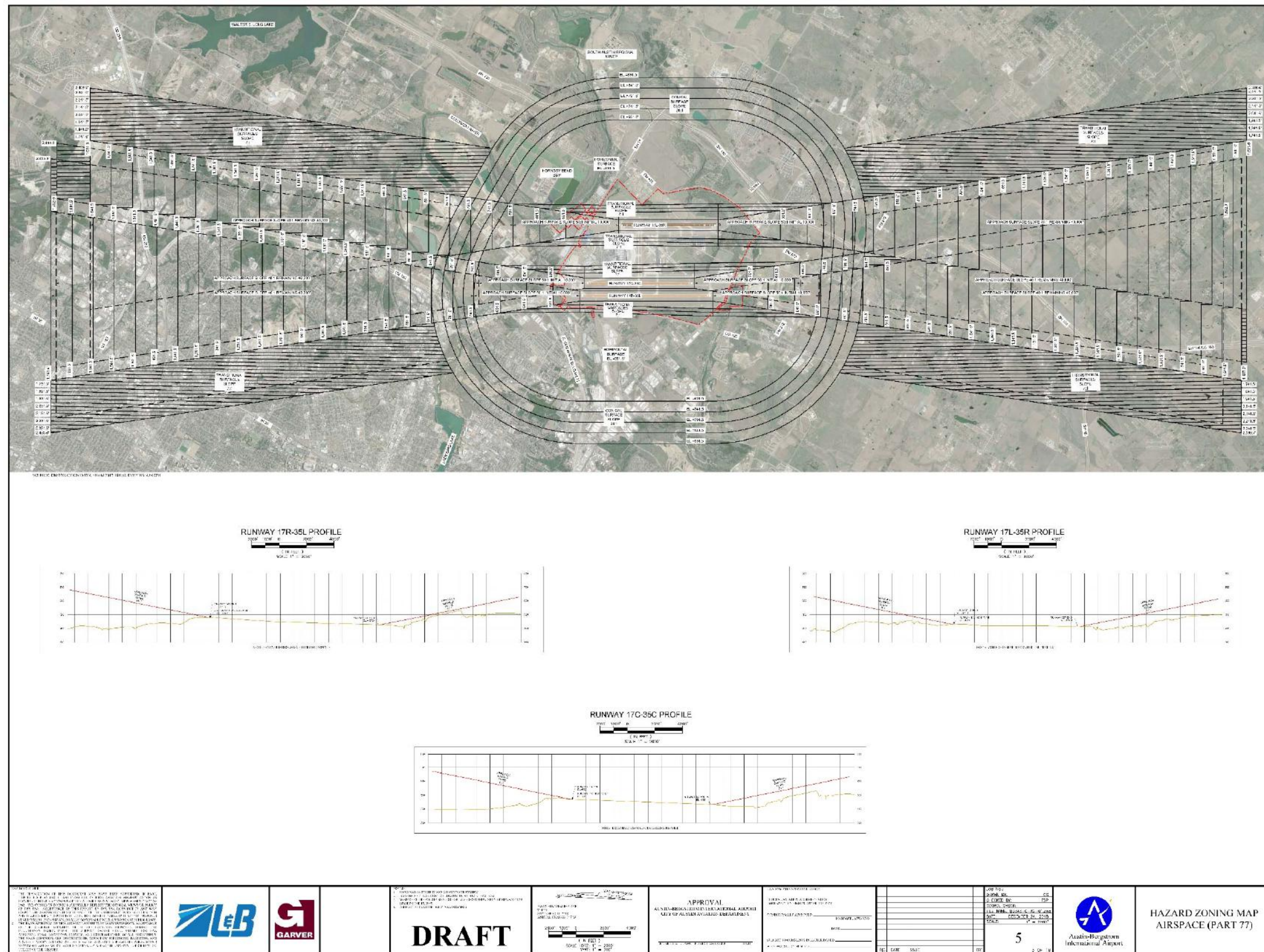
Exhibit 10.2-4: Airport Layout Plan – Future



Source: Landrum & Brown and Garver



**Exhibit 10.2-5: Hazard Zoning Map Airspace (Part 77) Plan**



Source: Landrum & Brown and Garver



[illegible]

December 2018



**RUNWAY 35L APPROACH/DEPARTURE SURFACES**

DISCHARGE ID	DESCRIPTION	DATE OF SURVEY	PORT 17 APPROACH SURFACE (MSL)		DEPARTURE SURFACE (MSL)		THRESHOLD SURFACE (MSL)		GDS SURFACE (MSL)		DISPOSITION	REMARKS/REMOVAL DATE
			MSL (ft)	AGE (ft)	MSL (ft)	AGE (ft)	MSL (ft)	AGE (ft)	MSL (ft)	AGE (ft)		
001	TRF	2005/0000	541.7	85.96	454.7	87.4	454.7	87.4	454.7	87.4	TRF	Existing 12/14/2008
002	TRF	2005/0000	541.7	85.96	454.7	87.4	454.7	87.4	454.7	87.4	TRF	Existing 12/14/2008
003	TRF	2005/0000	541.7	85.96	454.7	87.4	454.7	87.4	454.7	87.4	TRF	Existing 12/14/2008
004	TRF	2005/0000	541.7	85.96	454.7	87.4	454.7	87.4	454.7	87.4	TRF	Existing 12/14/2008
005	TRF	2005/0000	541.7	85.96	454.7	87.4	454.7	87.4	454.7	87.4	TRF	Existing 12/14/2008
006	TRF	2005/0000	541.7	85.96	454.7	87.4	454.7	87.4	454.7	87.4	TRF	Existing 12/14/2008
007	TRF	2005/0000	541.7	85.96	454.7	87.4	454.7	87.4	454.7	87.4	TRF	Existing 12/14/2008
008	TRF	2005/0000	541.7	85.96	454.7	87.4	454.7	87.4	454.7	87.4	TRF	Existing 12/14/2008
009	TRF	2005/0000	541.7	85.96	454.7	87.4	454.7	87.4	454.7	87.4	TRF	Existing 12/14/2008
010	TRF	2005/0000	541.7	85.96	454.7	87.4	454.7	87.4	454.7	87.4	TRF	Existing 12/14/2008
011	TRF	2005/0000	541.7	85.96	454.7	87.4	454.7	87.4	454.7	87.4	TRF	Existing 12/14/2008
012	TRF	2005/0000	541.7	85.96	454.7	87.4	454.7	87.4	454.7	87.4	TRF	Existing 12/14/2008
013	TRF	2005/0000	541.7	85.96	454.7	87.4	454.7	87.4	454.7	87.4	TRF	Existing 12/14/2008
014	TRF	2005/0000	541.7	85.96	454.7	87.4	454.7	87.4	454.7	87.4	TRF	Existing 12/14/2008
015	TRF	2005/0000	541.7	85.96	454.7	87.4	454.7	87.4	454.7	87.4	TRF	Existing 12/14/2008
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023	TRF	2005/0000	541.7	85.96	454.7	87.4	454.7	87.4	454.7	87.4	TRF	Existing 12/14/2008
024	TRF	2005/0000	541.7	85.96	454.7	87.4	454.7	87.4	454.7	87.4	TRF	Existing 12/14/2008
025	TRF	2005/0000	541.7	85.96	454.7	87.4	454.7	87.4	454.7	87.4	TRF	Existing 12/14/2008

**RUNWAY 35L PLAN VIEW**

December 2018



**RUNWAY 17L PLAN VIEW**

This aerial plan view shows the layout of Runway 17L and its associated infrastructure. Key features include:
 

- Runway 17L:** The main runway running horizontally across the center.
- Boundaries:** Various colored lines representing different zones like the Runway Safety Area, Taxiway, and Obstacle Free Zone.
- Roads:** Several roads are labeled, including East Perimeter Rd, Hotel Dr, Presidential Blvd, and others.
- Infrastructure:** Structures like the East SH-71 Svc Rd, Cardinal Loop, and various utility lines are shown.
- Elevations:** Numerous spot elevations are provided for specific points along the runway and surrounding areas.

OBSTACLE ID	OR DESCRIPTION	DATE OF SURVEY	MSL (ft)	ASR (ft)	PART 77 APPROACH SURFACE (ft)		DEPARTURE SURFACE (ft)		THRESHOLD SITING SURFACE (ft)		GDS SURFACE (ft)		DCS SURFACE (ft)		OR DESCRIPTION	TROUBLESHOOT EVENT (ft) DATE OF REMOVAL
					ELEVATION	PENETRATION	ELEVATION	PENETRATION	ELEVATION	PENETRATION	ELEVATION	PENETRATION	ELEVATION	PENETRATION		
108	CILL TOWER	2026	575.9	81.0	498.9	15.1	255.8	N/A	255.8	N/A	415.8	N/A	255.8	N/A	Lighted	Existing / TBD
109	BULB ROAD	2026	571.1	77.0	494.0	15.2	255.8	N/A	255.8	N/A	415.8	N/A	255.8	N/A	Lighted	Existing / TBD
110	RUNWAY LIGHT	2026	490.8	1.0	491.0	N/A	491.0	<1	491.0	N/A	415.4	<1	491.0	N/A	Not Lit	Existing / TBD
111	RUNWAY LIGHT	2026	490.7	1.0	491.0	N/A	491.0	<1	491.0	N/A	415.4	<1	491.0	N/A	Not Lit	Existing / TBD
112	POLE LIGHT	2026	490.7	1.0	491.0	N/A	491.0	<1	491.0	N/A	415.4	<1	491.0	N/A	Not Lit	Existing / TBD
113	FENCE	2026	490.2	0.0	490.2	N/A	490.2	N/A	490.2	N/A	415.2	N/A	490.2	N/A	Fixed Function	Existing / TBD
114	FENCE	2026	490.2	0.0	490.2	N/A	490.2	N/A	490.2	N/A	415.2	N/A	490.2	N/A	Fixed Function	Existing / TBD
115	FENCE	2026	490.2	0.0	490.2	N/A	490.2	N/A	490.2	N/A	415.2	N/A	490.2	N/A	Fixed Function	Existing / TBD
116	FENCE	2026	490.2	0.0	490.2	N/A	490.2	N/A	490.2	N/A	415.2	N/A	490.2	N/A	Fixed Function	Existing / TBD
117	FENCE	2026	490.2	0.0	490.2	N/A	490.2	N/A	490.2	N/A	415.2	N/A	490.2	N/A	Fixed Function	Existing / TBD
118	FENCE	2026	490.2	0.0	490.2	N/A	490.2	N/A	490.2	N/A	415.2	N/A	490.2	N/A	Fixed Function	Existing / TBD
119	FENCE	2026	490.2	0.0	490.2	N/A	490.2	N/A	490.2	N/A	415.2	N/A	490.2	N/A	Fixed Function	Existing / TBD
120	FENCE	2026	490.2	0.0	490.2	N/A	490.2	N/A	490.2	N/A	415.2	N/A	490.2	N/A	Fixed Function	Existing / TBD
121	FENCE	2026	490.2	0.0	490.2	N/A	490.2	N/A	490.2	N/A	415.2	N/A	490.2	N/A	Fixed Function	Existing / TBD
122	FENCE	2026	490.2	0.0	490.2	N/A	490.2	N/A	490.2	N/A	415.2	N/A	490.2	N/A	Fixed Function	Existing / TBD
123	FENCE	2026	490.2	0.0	490.2	N/A	490.2	N/A	490.2	N/A	415.2	N/A	490.2	N/A	Fixed Function	Existing / TBD
124	FENCE	2026	490.2	0.0	490.2	N/A	490.2	N/A	490.2	N/A	415.2	N/A	490.2	N/A	Fixed Function	Existing / TBD
125	FENCE	2026	490.2	0.0	490.2	N/A	490.2	N/A	490.2	N/A	415.2	N/A	490.2	N/A	Fixed Function	Existing / TBD
126	FENCE	2026	490.2	0.0	490.2	N/A	490.2	N/A	490.2	N/A	415.2	N/A	490.2	N/A	Fixed Function	Existing / TBD
127	FENCE	2026	490.2	0.0	490.2	N/A	490.2	N/A	490.2	N/A	415.2	N/A	490.2	N/A	Fixed Function	Existing / TBD
128	FENCE	2026	490.2	0.0	490.2	N/A	490.2	N/A	490.2	N/A	415.2	N/A	490.2	N/A	Fixed Function	Existing / TBD
129	FENCE	2026	490.2	0.0	490.2	N/A	490.2	N/A	490.2	N/A	415.2	N/A	490.2	N/A	Fixed Function	Existing / TBD

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**Runway 17C Plan View**

The plan view shows the runway layout, protection zone, and surrounding infrastructure. Key features include:

- Runway 17C:** Runway length 1701 m, width 60 m.
- Runway Safety Area:** 300 m wide on both sides of the runway.
- Runway Protection Zone:** 300 m wide on both sides of the runway.
- Perimeter Road:** 11 m wide, 4.5 m high.
- Future Runway 17C:** 1701 m long, 60 m wide.
- Future Runway 17D:** 1701 m long, 60 m wide.
- Future Runway 17E:** 1701 m long, 60 m wide.
- Future Runway 17F:** 1701 m long, 60 m wide.
- Future Runway 17G:** 1701 m long, 60 m wide.
- Future Runway 17H:** 1701 m long, 60 m wide.
- Future Runway 17I:** 1701 m long, 60 m wide.
- Future Runway 17J:** 1701 m long, 60 m wide.
- Future Runway 17K:** 1701 m long, 60 m wide.
- Future Runway 17L:** 1701 m long, 60 m wide.
- Future Runway 17M:** 1701 m long, 60 m wide.
- Future Runway 17N:** 1701 m long, 60 m wide.
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- Future Runway 17P:** 1701 m long, 60 m wide.
- Future Runway 17Q:** 1701 m long, 60 m wide.
- Future Runway 17R:** 1701 m long, 60 m wide.
- Future Runway 17S:** 1701 m long, 60 m wide.
- Future Runway 17T:** 1701 m long, 60 m wide.
- Future Runway 17U:** 1701 m long, 60 m wide.
- Future Runway 17V:** 1701 m long, 60 m wide.
- Future Runway 17W:** 1701 m long, 60 m wide.
- Future Runway 17X:** 1701 m long, 60 m wide.
- Future Runway 17Y:** 1701 m long, 60 m wide.
- Future Runway 17Z:** 1701 m long, 60 m wide.

**Runway 17C Profile View**

The profile view shows the elevation of the runway and surrounding terrain. Key features include:

- Runway 17C:** Runway length 1701 m, width 60 m.
- Runway Safety Area:** 300 m wide on both sides of the runway.
- Runway Protection Zone:** 300 m wide on both sides of the runway.
- Perimeter Road:** 11 m wide, 4.5 m high.
- Future Runway 17C:** 1701 m long, 60 m wide.
- Future Runway 17D:** 1701 m long, 60 m wide.
- Future Runway 17E:** 1701 m long, 60 m wide.
- Future Runway 17F:** 1701 m long, 60 m wide.
- Future Runway 17G:** 1701 m long, 60 m wide.
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- Future Runway 17R:** 1701 m long, 60 m wide.
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- Future Runway 17U:** 1701 m long, 60 m wide.
- Future Runway 17V:** 1701 m long, 60 m wide.
- Future Runway 17W:** 1701 m long, 60 m wide.
- Future Runway 17X:** 1701 m long, 60 m wide.
- Future Runway 17Y:** 1701 m long, 60 m wide.
- Future Runway 17Z:** 1701 m long, 60 m wide.

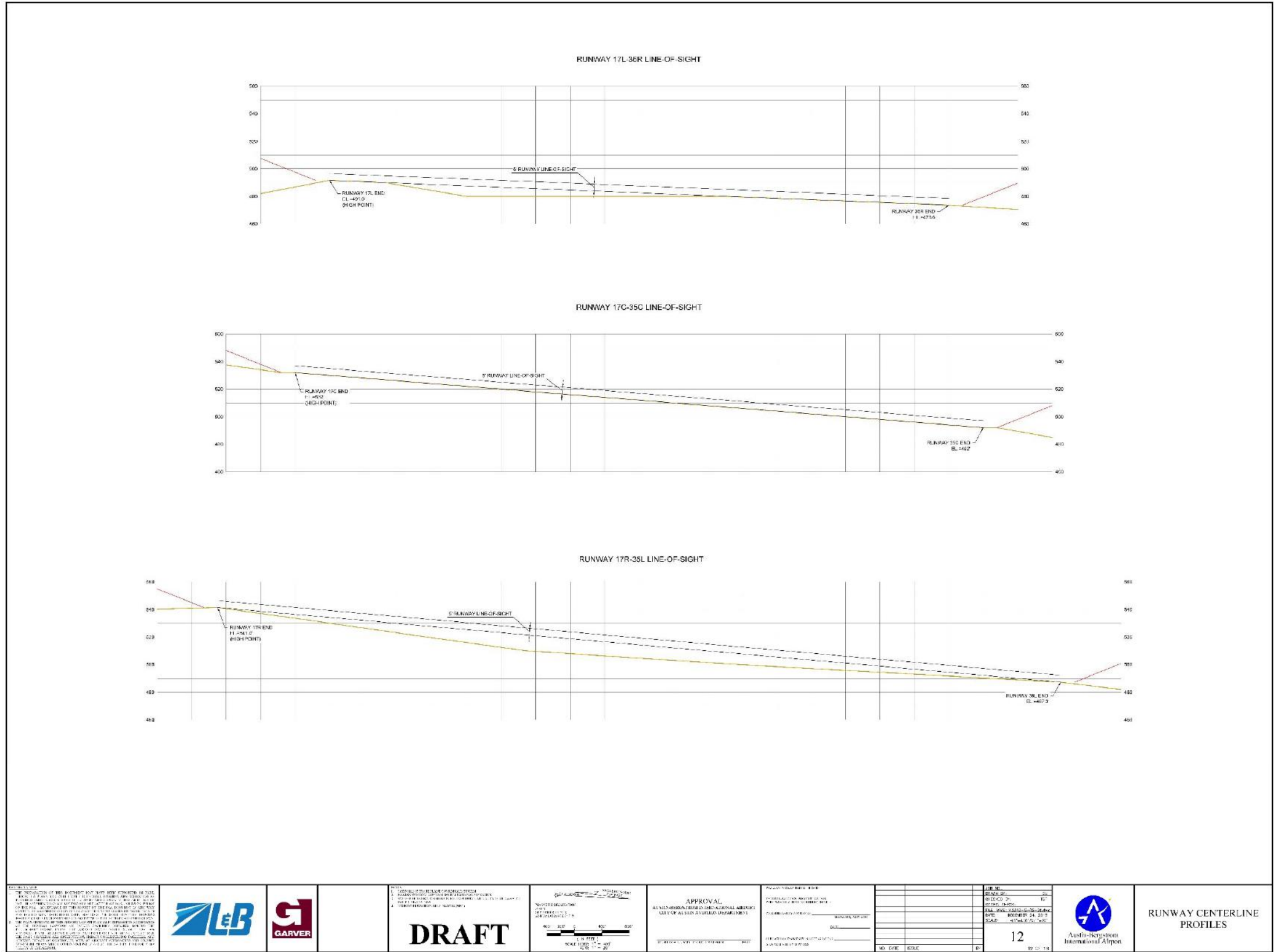
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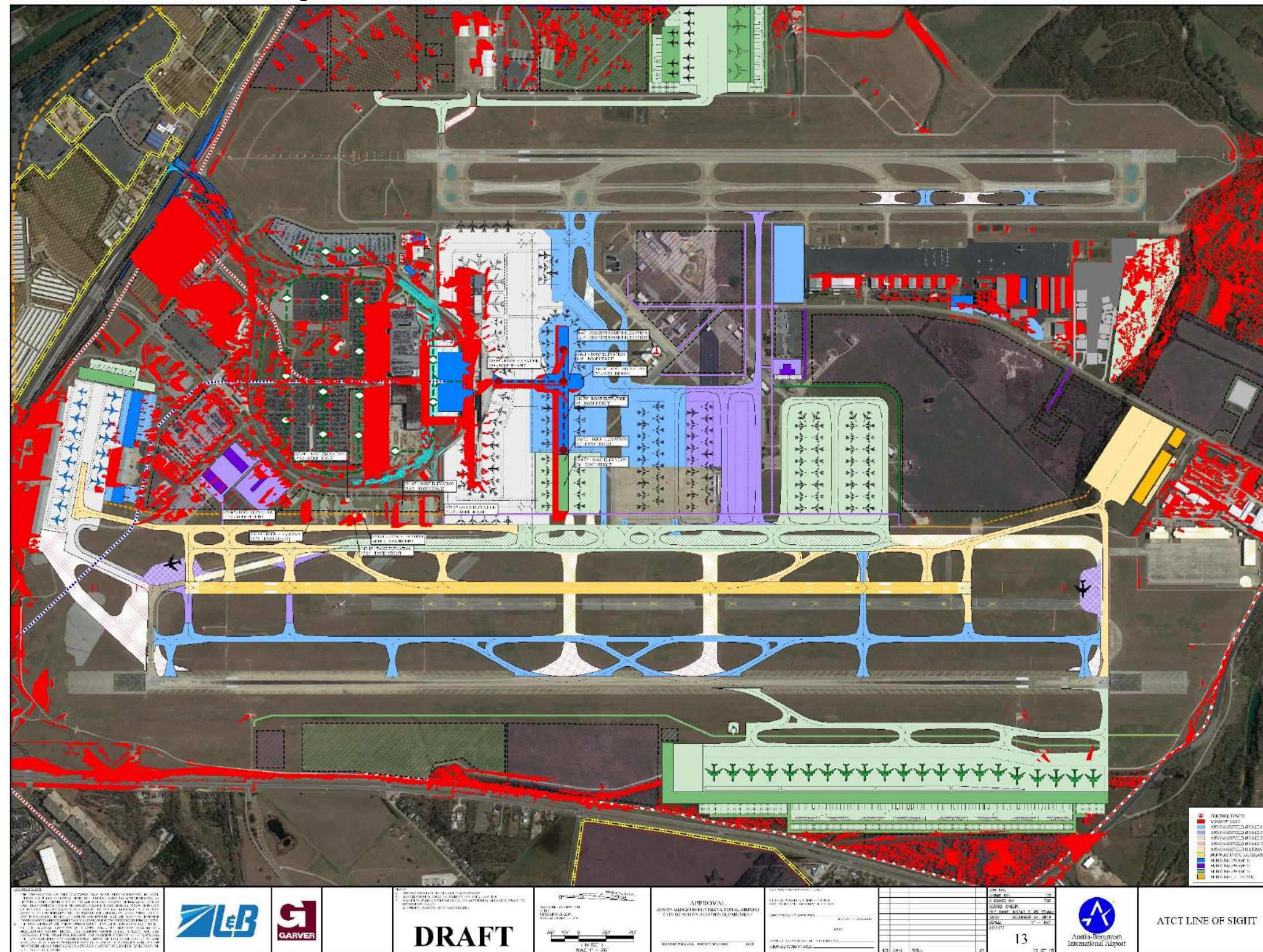


Exhibit 10.2-12: Runway Centerline Profiles





**Exhibit 10.2-13: ATCT Line-of-Sight**



Source: Landrum & Brown and Garver



The image is a detailed architectural site plan for the Terminal Area at Almer Aviation Department. The plan shows various buildings, parking lots, and infrastructure. A legend is located in the top left corner, and a table of contents is in the bottom left corner. The title block is in the bottom right corner.

**LEGEND**

**GENERAL**

1. BUILDING FOOTPRINT

2. BUILDING OUTLINE

3. BUILDING NUMBER

4. BUILDING NAME

5. BUILDING TYPE

6. BUILDING STATUS

7. BUILDING COLOR

8. BUILDING MATERIAL

9. BUILDING HEIGHT

10. BUILDING AREA

11. BUILDING VOLUME

12. BUILDING WEIGHT

13. BUILDING DENSITY

14. BUILDING EFFICIENCY

15. BUILDING SUSTAINABILITY

16. BUILDING RESILIENCE

17. BUILDING ADAPTABILITY

18. BUILDING FLEXIBILITY

19. BUILDING INNOVATION

20. BUILDING QUALITY

21. BUILDING SAFETY

22. BUILDING SECURITY

23. BUILDING HEALTH

24. BUILDING WELLNESS

25. BUILDING COMFORT

26. BUILDING CONVENIENCE

27. BUILDING ACCESSIBILITY

28. BUILDING CONNECTIVITY

29. BUILDING INTEGRATION

30. BUILDING SYNERGY

31. BUILDING COOPERATION

32. BUILDING COLLABORATION

33. BUILDING PARTNERSHIP

34. BUILDING ALLIANCE

35. BUILDING CONSORTIUM

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37. BUILDING ECOSYSTEM

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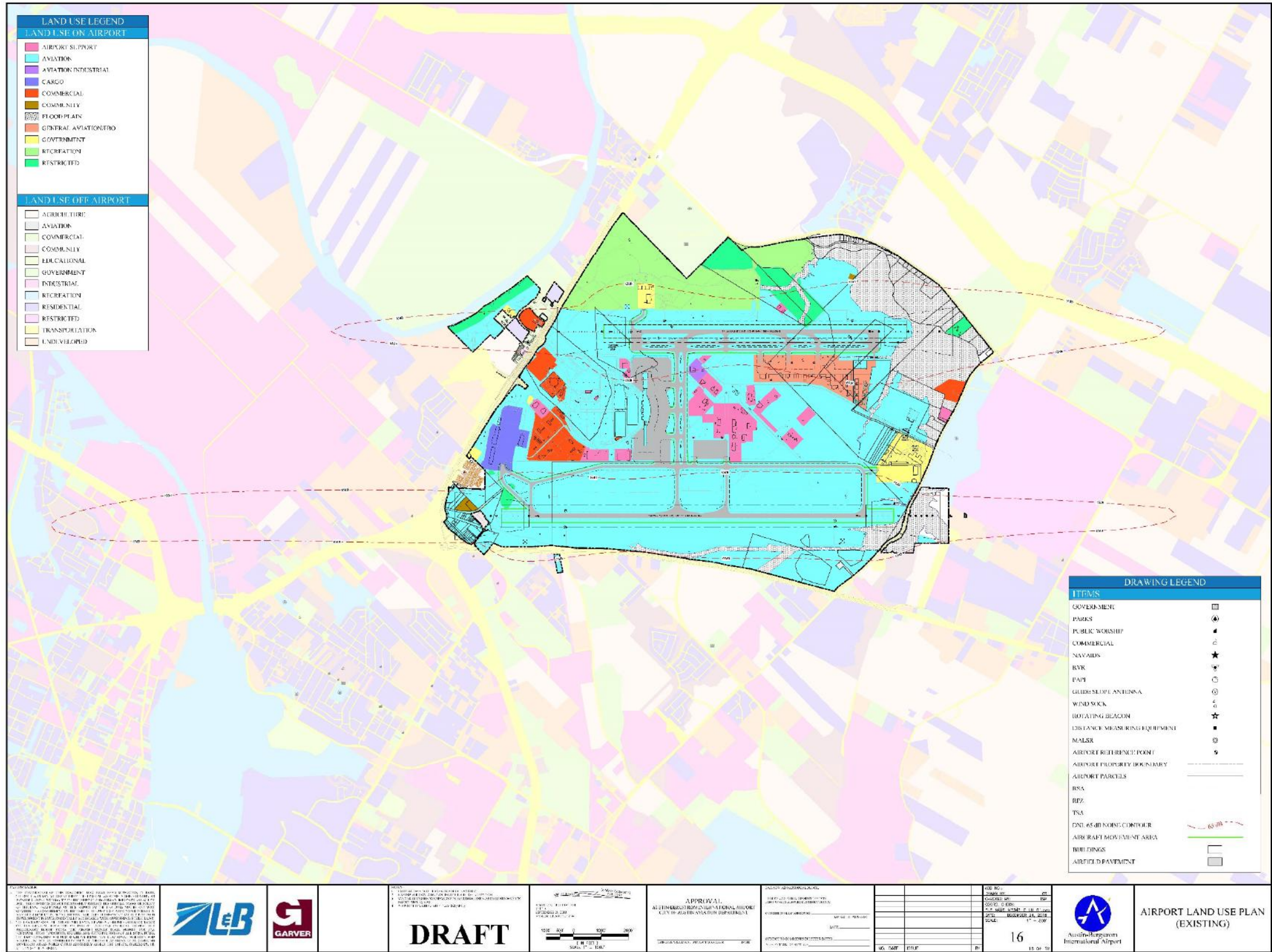
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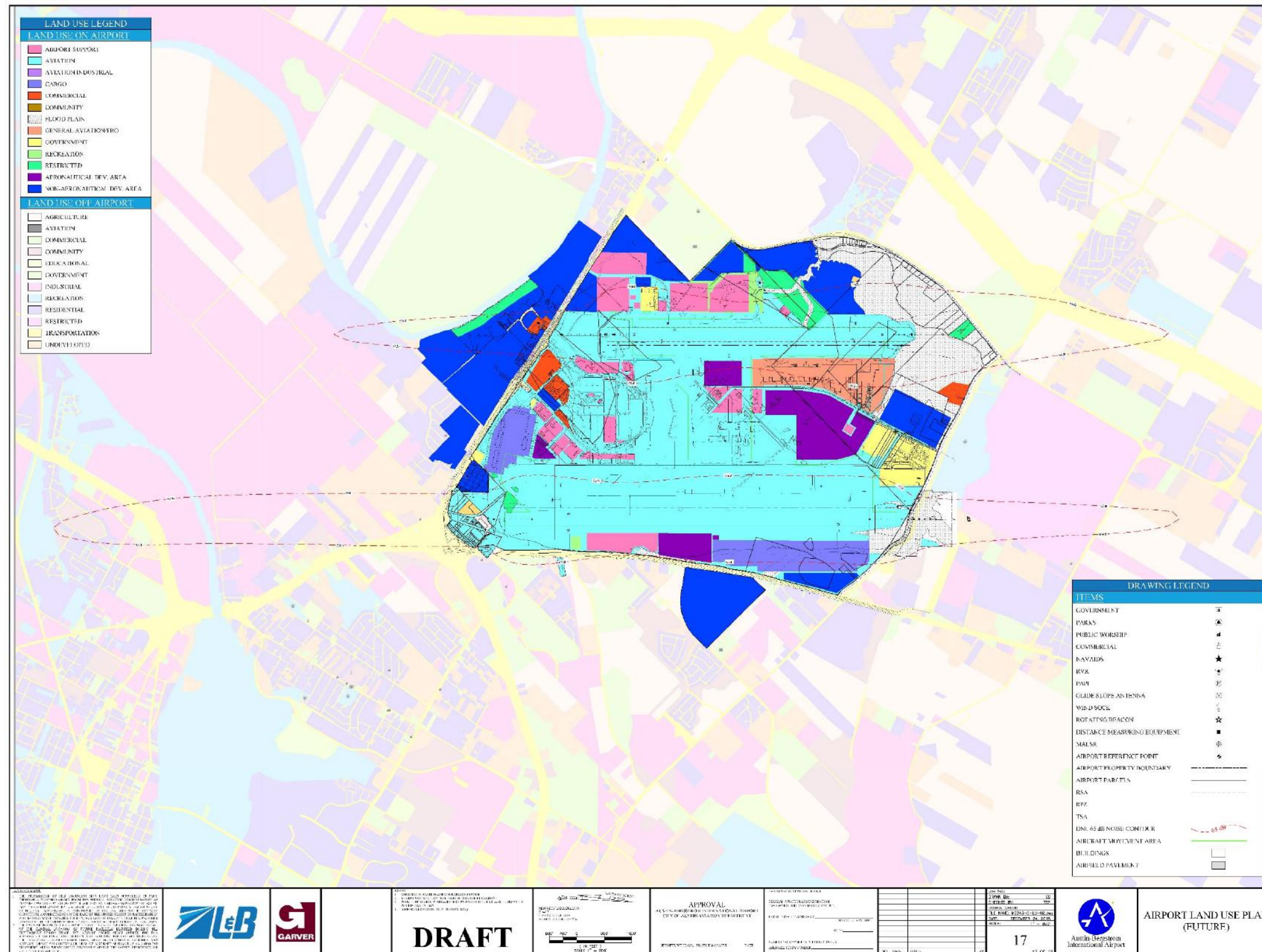
Exhibit 10.2-16: Airport Land Use Plan – Existing



Source: Landrum & Brown and Garver



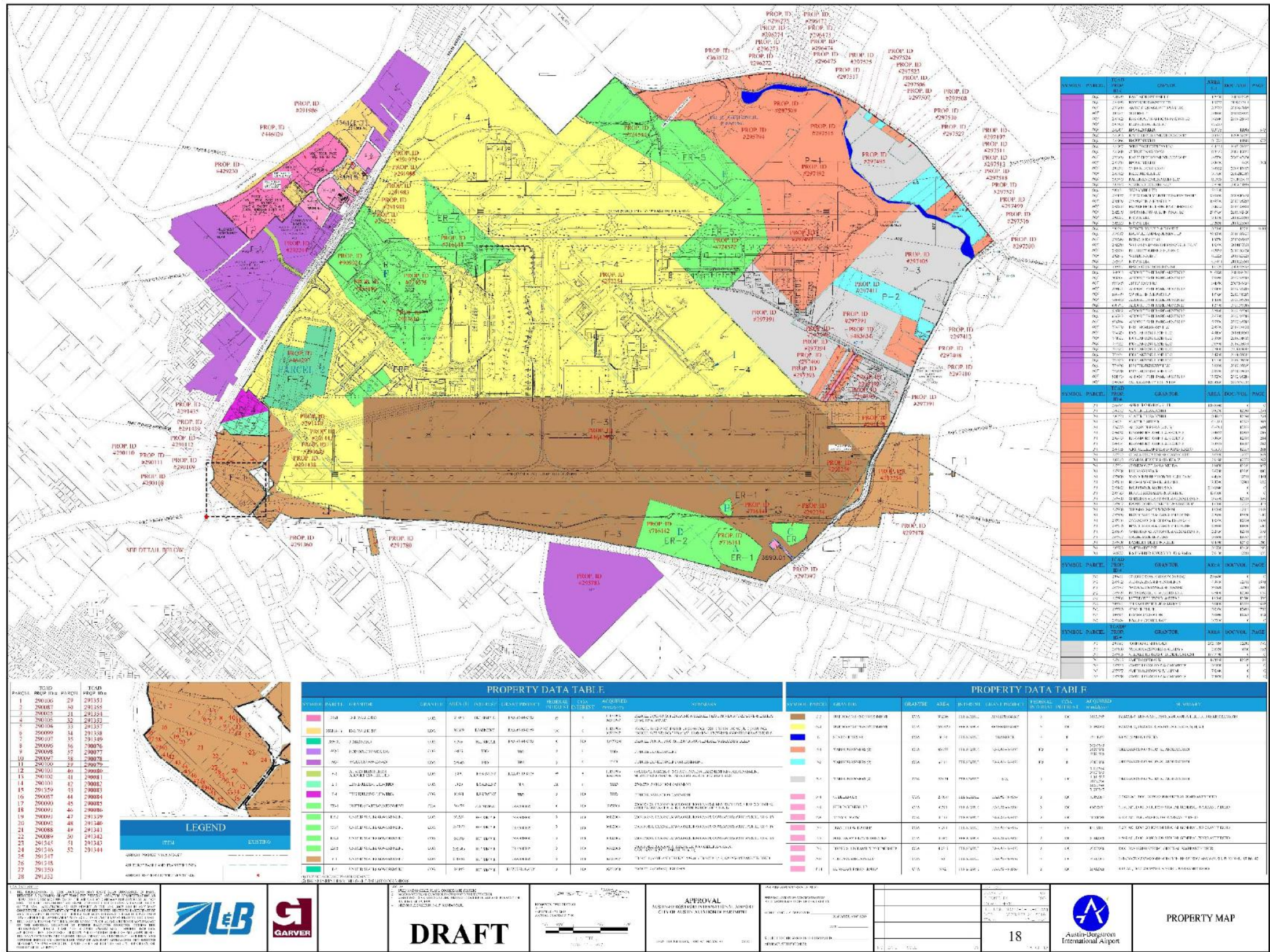
**Exhibit 10.2-17: Airport Land Use Plan – Future**



Source: Landrum & Brown and Garver



Exhibit 10.2-18: Property Map



Source: Landrum & Brown and Garver