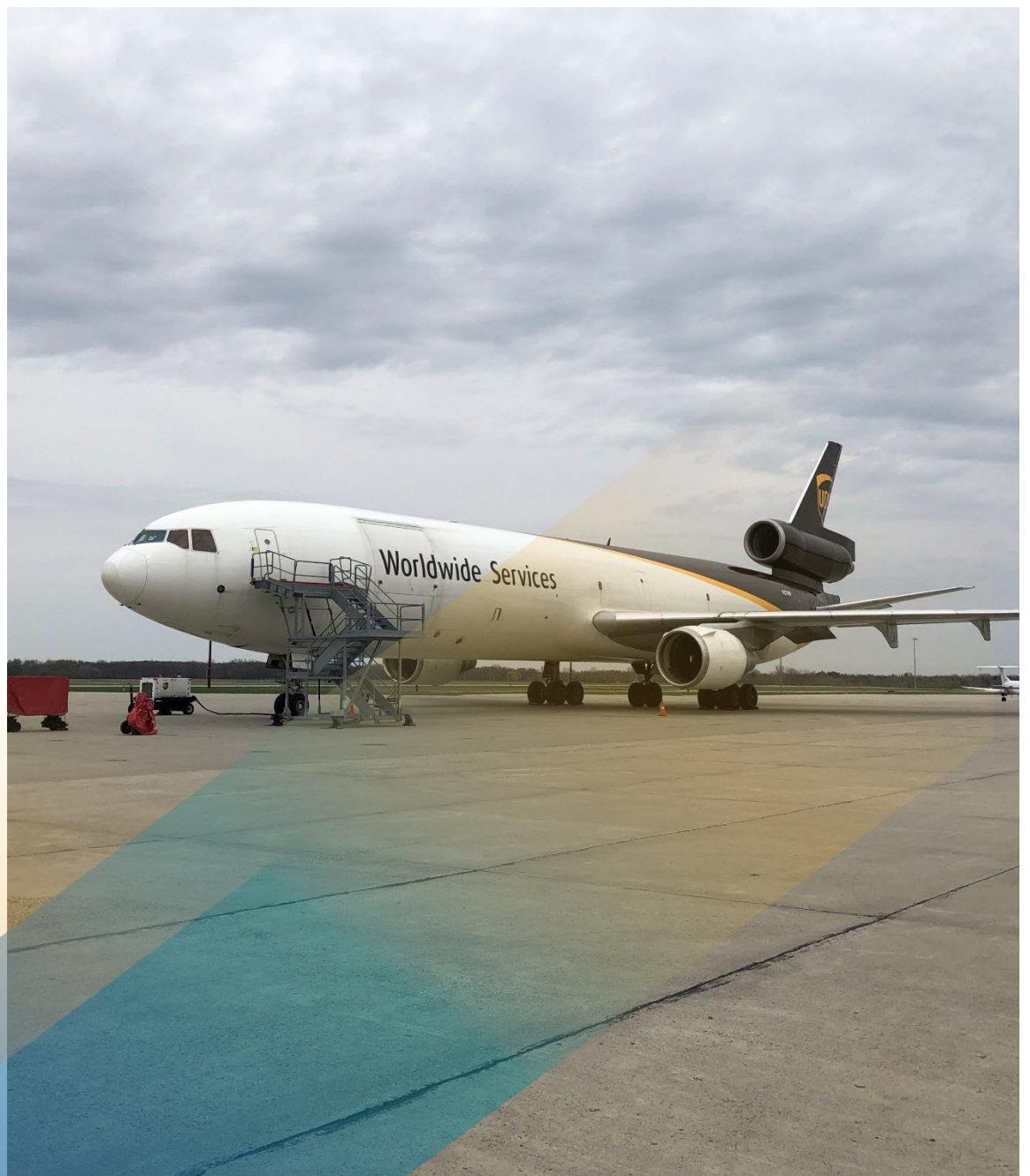




JUNE 2025

Capital Region International Airport Master Plan





LAN Master Plan Land Use Vision

Version 3.0

Date: June 2025

Lansing, MI

RS&H No.: 1010-0093-000

Prepared by RS&H, Inc. at the
direction of Capital Region Airport Authority

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6 Airport Land Use Vision

Prior to resolving immediate facility needs and directing development throughout the PAL 3 planning period, the CRAA must have a plan for how to best use one of the airport's most valuable assets, its land. This analysis will look at the existing land use plan from the 2006 Master Plan and revise/refine the plan to support the CRAA's newly defined goals, economic conditions, and industry changes, as well as known limitations and constraints.

The intent of this vision is to guide decision making over the life of the airport, enabling decision-making continuity for current and future leadership. This helps to support airport development over the long-term which better serves the community and minimizes costly and/or counter-productive investment. The process of formulating this vision began by evaluating existing airport and community land use patterns/plans and examining goals established during the planning process. The following sections describe the process and analysis to define the preferred LAN land use vision.

6.1 Existing Airport Land Use

The LAN airfield, related airport infrastructure, and the protected airport safety areas cover approximately 1,200 acres of land, but the CRAA owns more than 2,000 acres zoned for airport use. Much of this land is contiguous, although a few small separate areas have been acquired to protect airspace for safe navigation.

Land at LAN can be categorized into two major types: Aeronautical use and non-aeronautical use. Aeronautical use land contains subcategories of uses for specific types of facilities including the passenger terminal area, general aviation, cargo, and airport support. The passenger terminal contains all facilities serving commercial air carrier activity such as the terminal building, public parking, and rental car facilities. General aviation relates to civil aviation uses other than scheduled and non-scheduled airlines, such as corporate travel, some air charters, flight training, recreational flying, law enforcement, agricultural, and miscellaneous others. Cargo operations at LAN (such as UPS and Martinaire) transport goods and materials by air. Airport support facilities are necessary to operate and maintain a safe airport, and include airport operations and maintenance, Aircraft Rescue and Firefighting (ARFF), FAA buildings (such as the Air Traffic Control Tower (ATCT)), equipment storage, and other miscellaneous uses directly supporting safe aviation operations.

Nonaeronautical uses are those which are not reliant on having immediate access to the airfield (runways, taxiways, and aprons). These land uses often do benefit from having proximity and adjacency to airport facilities, however, immediate access to the airfield is not necessary. Because airport land with airfield access is finite, it is important for airport owners/sponsors to

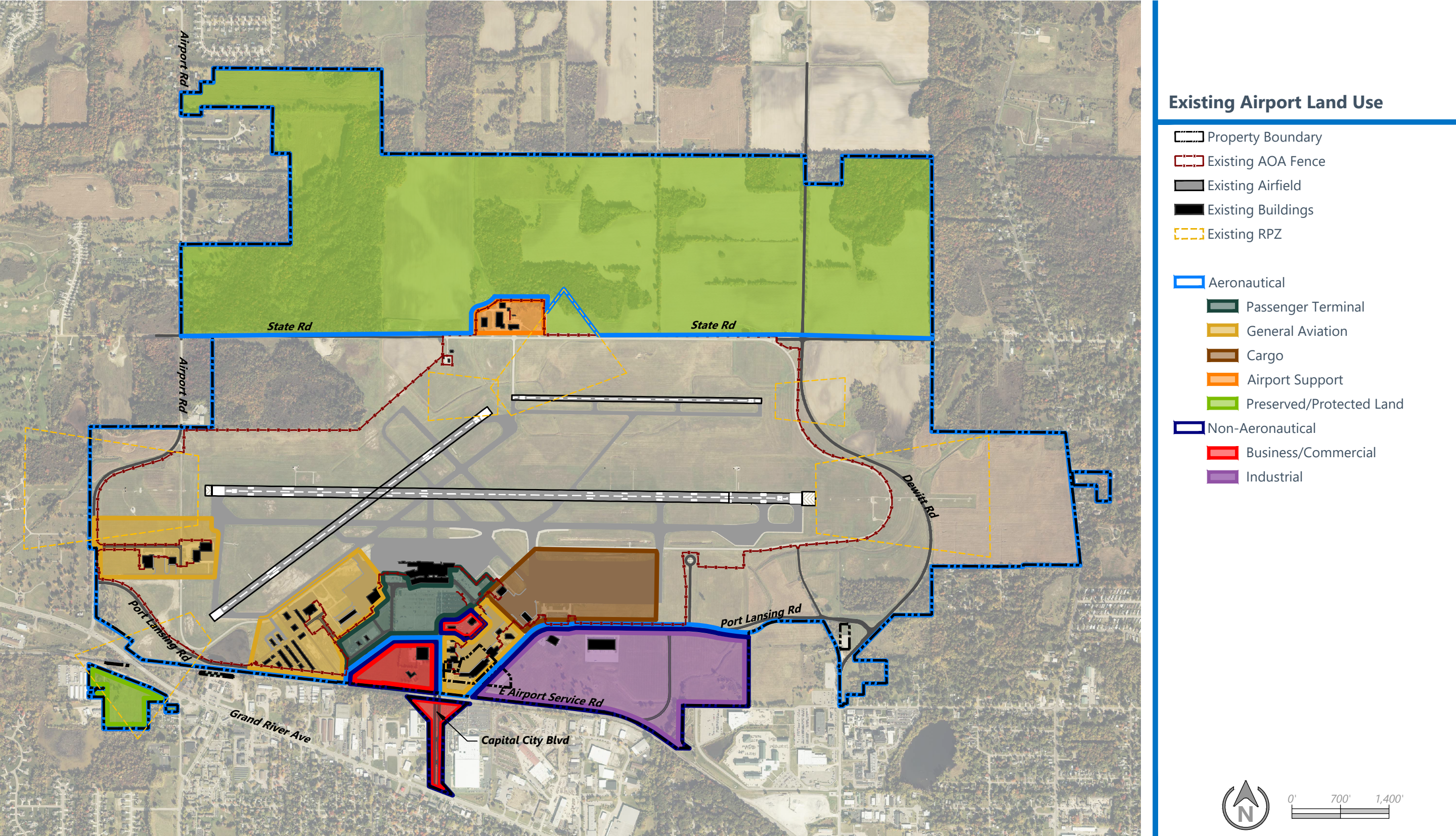
develop land strategically as to preserve adequate land for aeronautical uses and be flexible to adapt as conditions change. At LAN, non-aeronautical land uses are subcategorized as either business/commercial or industrial. Business/commercial uses can come in many forms, but generally include establishments which purchase/sell/exchange goods and services. Industrial uses typically produce/package/process good or materials. Industrial uses are sometimes broken out as light and heavy industrial. Heavy industrial is generally viewed by the public as “unclean” because it often focuses on residentially incompatible land uses (ex., large-scale manufacturing, extraction of raw materials, power generation, etc.) and is historically associated with noise and the creation of waste products requiring disposal or clean up, however, this is not always the case. Light industrial is generally viewed as “cleaner” and typically includes the production of end consumer goods, such as the case with Peckham, Inc. which is located just south of the airport terminal. The Port Lansing Business Park is programmed for light industrial uses that would benefit from airport proximity and a location within a licensed Foreign Trade Zone¹.

Figure 6-1 shows how airport zoned land is currently² used. Land north of State Rd is shown on the 2010 ALP programmed for future aeronautical use, but it is currently vacant and outside of existing airport perimeter fencing.

¹ “Foreign-trade zones are designated sites licensed by the Foreign-Trade Zones Board (Commerce Secretary is Chairperson) at which special customs procedures may be used. These procedures allow domestic activity involving foreign items to take place prior to formal customs entry.”, International Trade Administration, April 2024

² Analysis performed December 18, 2024.

Figure 6-1
Existing Airport Land Use



Source: RS&H, 2024

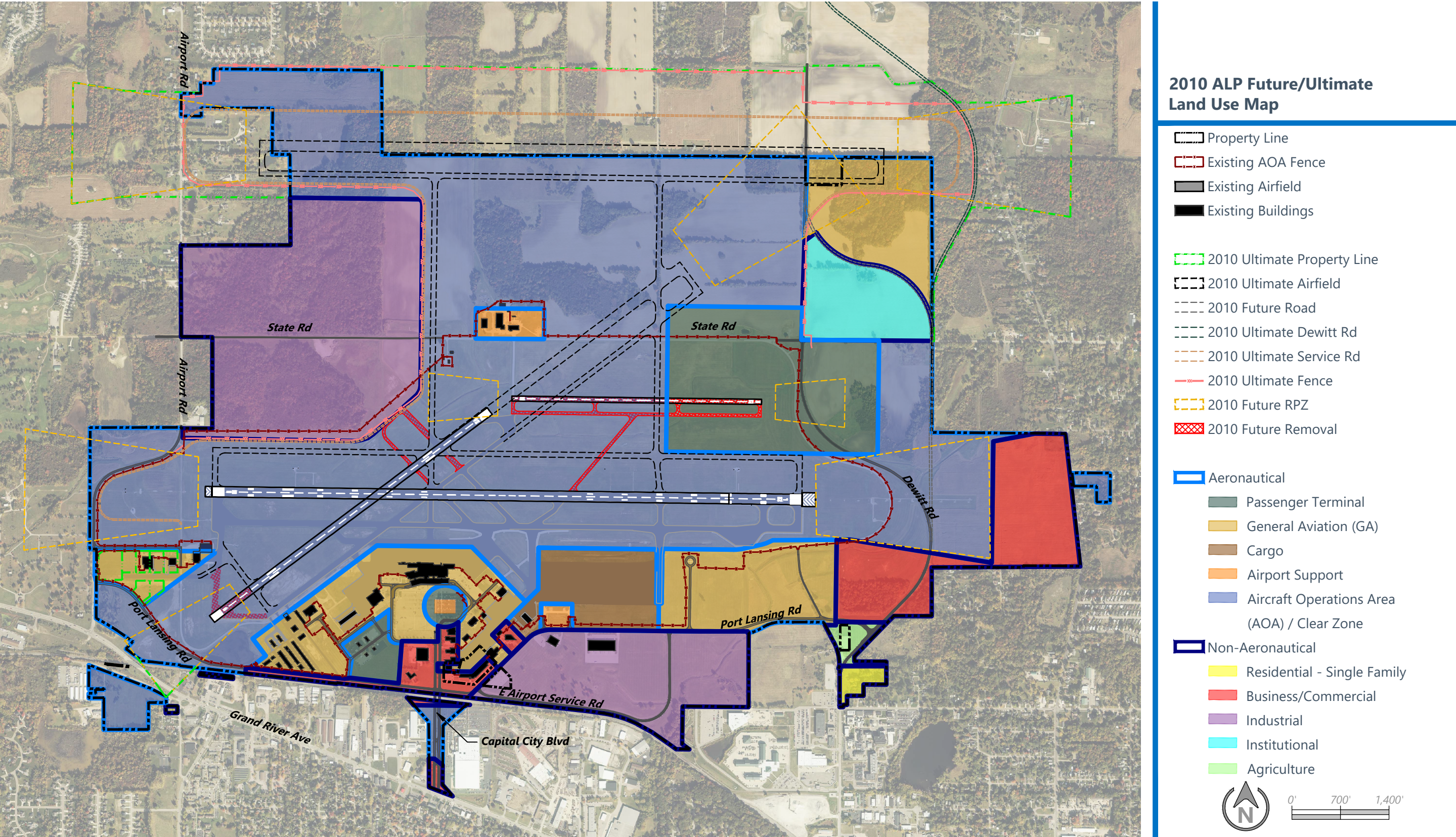
6.2 Existing Land Use Plans (2010 ALP)

The 2010 LAN ALP shows a vision for LAN development that constructs a new terminal at the east end of the airport, a new 9,000-foot north ADG D-IV parallel runway, removal of existing Runway 10L-28R, and an ultimate 2,782-foot northeast extension to Runway 6-24, upgrading it to ADG C-III. Facility requirements analysis demonstrated three key factors that necessitate a new vision for airport development, as follows:

1. LAN has adequate airfield capacity to serve the forecast fleet well beyond the 20-year planning period, eliminating the need for the north parallel runway.
2. Analysis showed the existing and forecast fleet mix using crosswind Runway 6-24 primarily consist of B-II category aircraft that do not require the runway length shown in the 2010 ALP ultimate development plan during the 20-year master planning period. However, CRAA prefers to preserve land allowing the ability to extend the crosswind runway under an ultimate ADG C-IV condition. This land use plan will preserve that ability. The runway configuration is fully analyzed in **Chapter 7, Alternatives Development and Evaluation**.
3. The terminal assessment (**Appendix X**) and terminal area plan (**Appendix Y**) eliminated a new eastside terminal side as impractical do to unrealistic infrastructure investment requirements.

These three key factors support establishment of a new vision for LAN land development as part of this Master Plan update. **Figure 6-2** shows the 2010 LAN ALP land use vision and ultimate development plan to serve as a historical reference point from which this Master Plan will develop a new land use vision to meet CRAA needs under the current/projected demand and industry trends.

Figure 6-2
2010 ALP Future/Ultimate Land Use Map



Source: RS&H, 2024

6.3 Known Development Constraints

Development at any public airport needs to be responsive to regulations, environmental factors, and pervasive conditions such as ongoing/upcoming airport development. Constraining factors can come in many forms, such as:

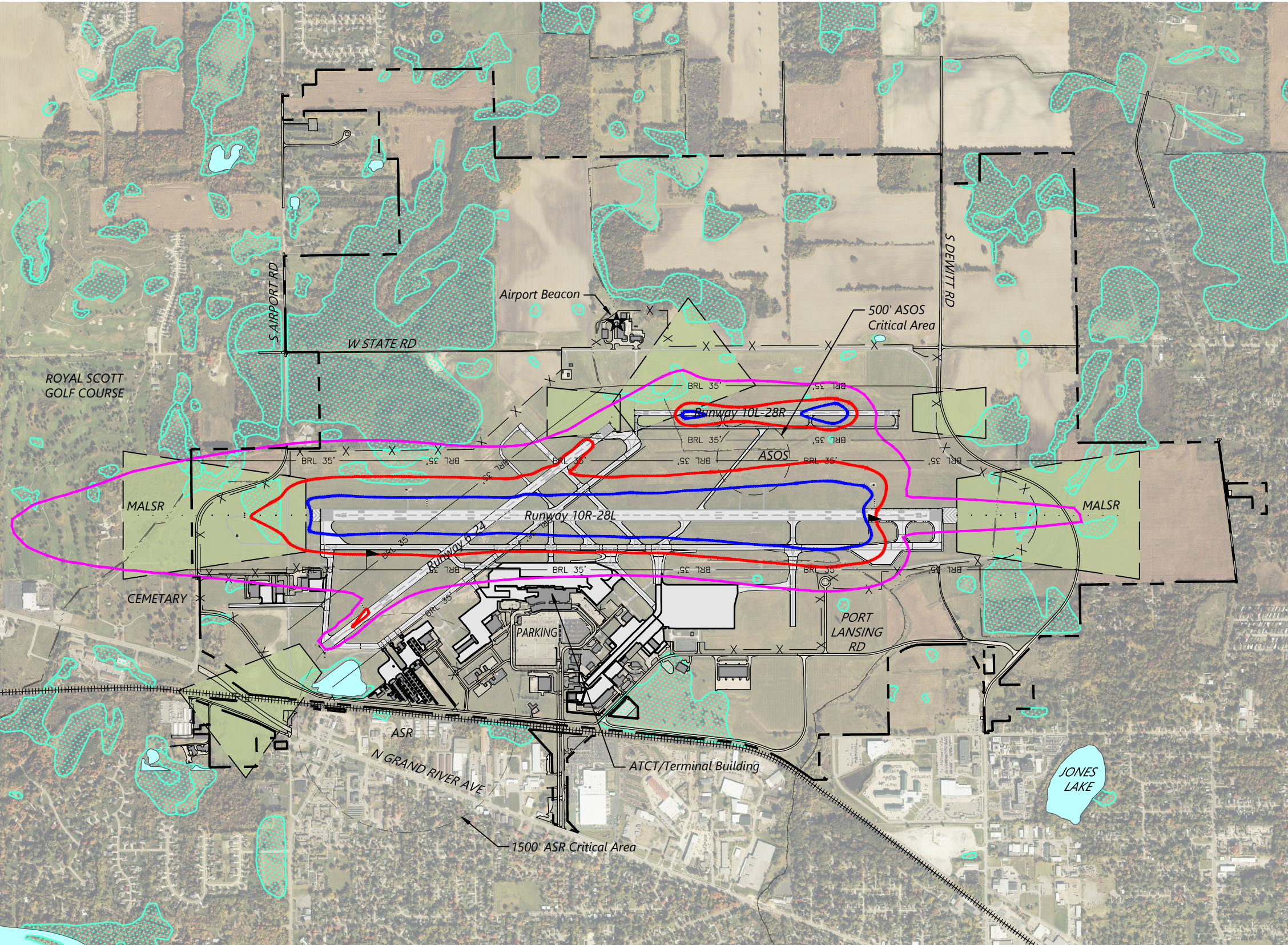
- **Physical** – Existing facilities/infrastructure/features
- **Topography and Geotechnical** – Terrain and natural features of the land
- **Airspace** – Protected navigable airspace for 14 CFR Part 77, TERPs, FAA standards
- **Political** – Local leaders and community support
- **Regulatory** – Alignment with jurisdictional codes (Federal, State, Local)
- **Environmental** – NEPA requirements and process (a form of regulation)
- **Economic** – Practicality of a project, market conditions, financing

Figure 6-3 maps some of the known constraining factors for facility development at LAN.

Specific constraining factors identified at LAN, and warranting consideration in the planning process, include:

- Upcoming and high-potential future projects
- 14 CFR Part 77 (Part 77) protected surfaces and Building Restriction Lines (BRLs)
- US Army Corps of Engineer (USACE) determined wetlands and/or areas of potential wetlands identified within the National Wetlands Inventory
- Aircraft noise contours (as modeled using FAA Aviation Environmental Design Tool (AEDT))

Figure 6-3
Airport Development Constraints



Source: RS&H, 2023

Airport Development Constraints

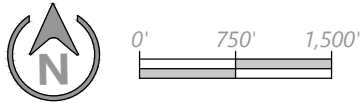
- Airfield Pavement
- Existing Buildings
- Runway Protection Zone (RPZ)
- BRL 35' — 35' Building Restriction Line
- Airport Property Line
- x — Perimeter Fence
- Lighted Windcone
- River/Pond
- Wetlands
- Drainage Ditch
- 75 DNL Noise Contour
- 70 DNL Noise Contour
- 65 DNL Noise Contour

Source:

- Noise Contours: FAR Part 150 Noise Capacity Study (January 2005).
- Wetlands: U.S. Fish and Wildlife Services' National Wetlands Inventory (December 2023)

Abbreviations:

ASOS = Automated Surface Observation Station
ASR = Airport Surveillance Radar
ATCT = Air Traffic Control Tower



6.3.1 Upcoming and Potential Future Development Projects

At the time of this writing³, there are no ongoing or official upcoming projects at LAN. There are, however, multiple possibilities for future development currently progressing. These potential projects are still in the early stages of development and are documented for posterity. The following project possibilities should be considered during this analysis:

- Niowave expansion – New building adjacent to, and southeast of, the existing building
- Lansing Community College (LCC) – Demolition of four buildings between the southwest T-hangars and Avflight (FBO) to be replaced by a large-scale corporate hangar development
- Potential expansion of Martinaire to the southwest of their existing building

6.3.2 Title 14 CFR Part 77 Protected Surfaces

The “imaginary” airspace surfaces defined within 14 CFR Part 77, *Safe, Efficient Use, and Preservation of the Navigable Airspace*, promote air safety and the efficient use of airspace by identifying potential obstructions to air navigation prior to their construction. Using Part 77 airspace surfaces as guidance, Building Restriction Lines (BRLs) are defined as a planning tool on the ALP to help airports protect navigable airspace by defining a standard height and location at which a penetration to the imaginary surface would constitute an obstruction. It is important to evaluate any object height which will be present on-airport, especially within the BRL area, even if it will be temporary. This commonly applies to the tails of aircraft parked near, or within, any protected surface areas. It is equally important to ensure all development falling under a protected Part 77 surface be evaluated prior to construction or alteration. Part 77 approach surfaces are dependent upon the type of approach serving the runway type (utility or greater than utility), runway approaches (visual, non-precision instrument, or precision instrument) and any published instrument procedure visibility minimums, ultimately limiting locations and heights of obstacles within the approach surface area. Any obstruction within these protected surfaces, whether permanent or temporary, is subject to the FAA Obstruction Evaluation/Airport Airspace Analysis (OE/AAA) process. This process files 7460 obstruction evaluation forms and is now available online through the FAA OE/AAA portal⁴. Proposed alternative concepts in the master plan must take caution not to plan development that may impact these protected surfaces.

6.3.3 Wetlands

Wetlands are protected by the Environmental Protection Agency (EPA) of the federal government under the Clean Water Act of 1972 (CWA) and application of the National Environmental Policy Act of 1969 (NEPA). The CWA serves to protect wetlands from pollutants

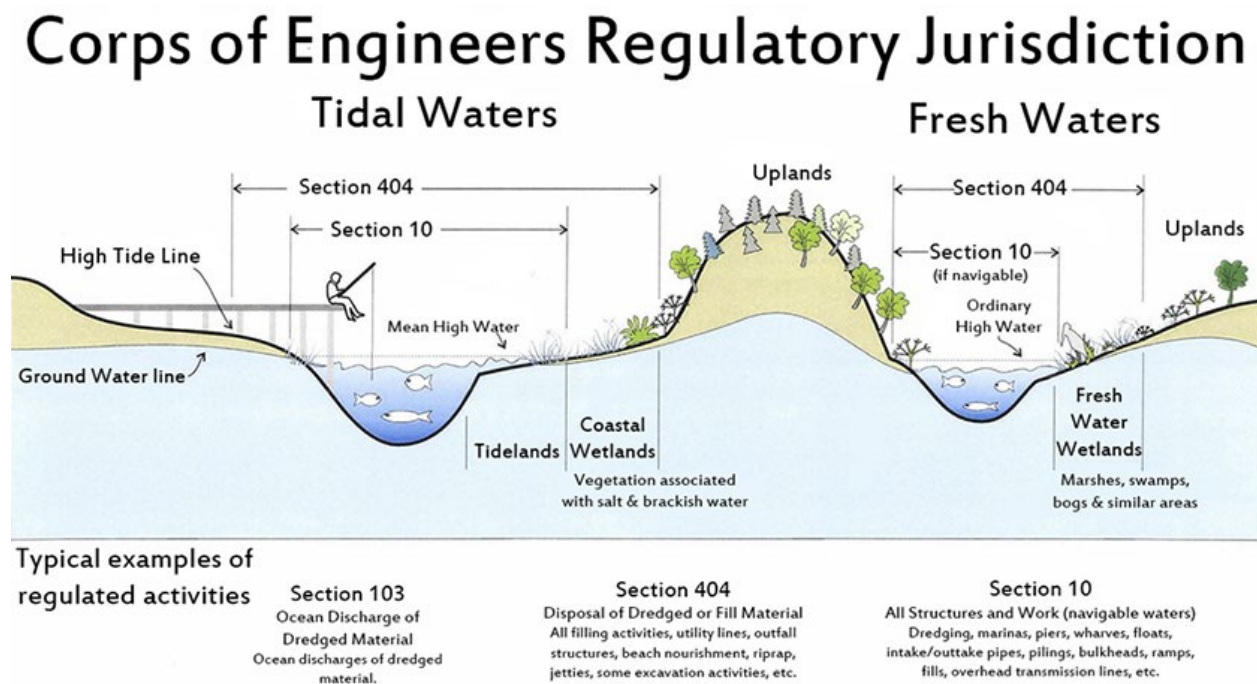
³ Analysis performed December 18, 2024.

⁴ FAA OE/AAA website: <https://oeaaa.faa.gov>

and adverse impacts to surface water quality. NEPA serves as a tool to inform and involve the public in any development decisions which carries significant impact to the natural environment, such as waters and wetlands.

The EPA enforces CWA and NEPA compliance within wetland “determination areas”. The distinction between “delineation” of a wetland area and “determination” of a wetland is an important one, as not all of the wetlands shown in **Figure 6-3** have been determined (USACE jurisdictionally approved) and serve only as guidance for areas where additional environmental review could be necessary. The more robust the environmental process, the more important it becomes that associated projects account for additional time and cost. It’s important to note that no jurisdictional determinations were made during this study. All projects funded by federal grants which take place in determined wetlands, as determined under jurisdiction of the USACE District Office, would require the NEPA process with potential need for permits authorizing proposed development alterations under Section 404 of the CWA.

Figure 6-4
USACE Regulatory Jurisdiction



Source: US Army Corp of Engineers, Retrieved April 26, 2024 from <https://www.nwp.usace.army.mil/Missions/Regulatory/Jurisdiction>

6.4 New Airport Land Use Vision (Under Existing Airfield Configuration)

When considering the changes which have occurred at LAN and across the aviation industry since the time of the 2006 Master Plan and 2010 ALP update, development of an updated airport land use vision is an important element of this Master Plan. The 2010 land use development plan is not incompatible with current needs⁵ and revising the vision for how airport land is programmed for development helps guide facility alternatives analysis and implementation planning. **Figure 6-5** shows the updated vision for how CRAA will program airport land uses over the next 20-years and beyond. Land is again divided into aeronautical and non-aeronautical uses with their respective subcategories. The Airport Operations Area (AOA) footprint is anticipated not to grow over the 20-year planning period beyond what exists today⁵ with land surrounding the airfield preserved for aeronautical development. Land north of State Road previously designated and preserved for a new ultimate north parallel runway is no longer necessary. However, aeronautical land must still be preserved to allow for the ultimate development of a an ADG C-IV crosswind runway (extension/shift of Runway 6-24). The FAA-approved forecast does not reflect this need within the 20-year planning horizon so the land will be preserved for development beyond that time. Other land north of State Rd that is not needed to support a Runway 6-24 extension which was once acquired and set aside for a future north parallel runway airfield expansion (north of State Road and separated from the airfield) will instead be programmed for non-aeronautical uses. CRAA owns approximately 630 undeveloped acres of land north of State Road (secured access). Of this acreage, sizable portions of the land are known to be wetlands. Nevertheless, wetlands can be avoided/mitigated and large land areas exist that could be developed for non-aeronautical uses compatible with airport operations and provide revenue diversification that supports investment for needed airport improvements.

Appendix X, Terminal Assessment and **Appendix Y, Terminal Area Plan** describe terminal development options that can all be achieved within the existing terminal area, with the preferred terminal area plan being a phased renovation of existing facilities. Maintaining the land currently programmed for commercial passenger terminal facilities would meet any of the analyzed terminal area alternatives, therefore preserving this land use is preferred within this updated land use vision.

Chapter 4, Facility Requirements describes the required airfield improvements to meet critical aircraft needs for both the 20-year master plan and ultimate conditions.

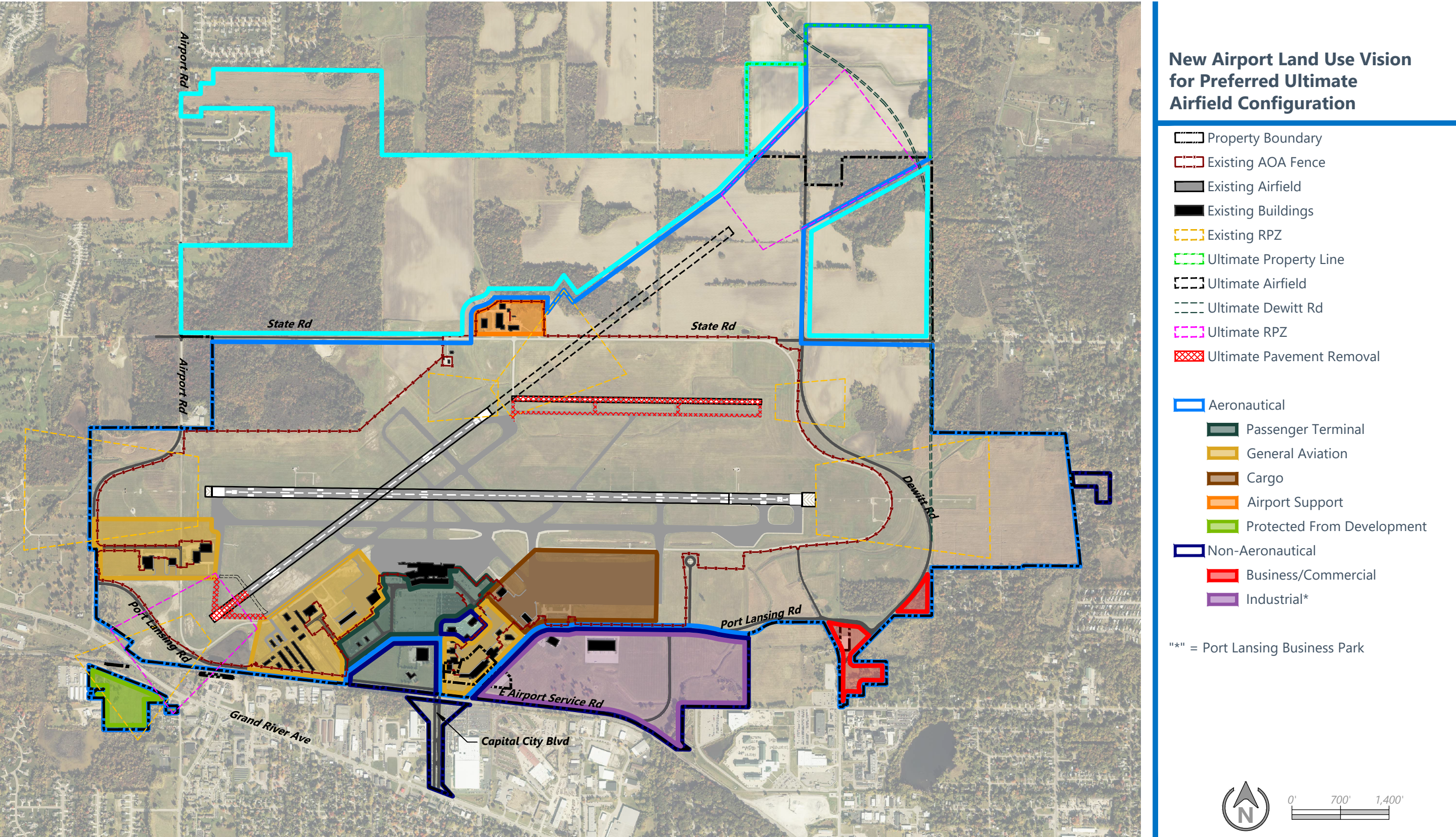
⁵ Analysis performed December 18, 2024.

In 2023, the cargo apron at LAN doubled in size along with the construction of a second deicing capture pond to collect effluent runoff. This expansion was programmed on the 2010 ALP and later supported by a 2021 LAN Cargo Study⁶ which concluded that UPS facilities were over capacity for the existing building and they would eventually need additional facilities to support steady growth. As it relates to the need for further expansion for new cargo entrants, the study notes that strategic decisions by other major carriers favored using their extensive trucking capabilities and their previously established airport operations. The study also notes that due to the extensive established networks of these cargo carriers, spoke airports (like LAN) have very little ability to influence growth beyond supporting organic growth of existing operators, so preserving space to allow for additional airside and landside cargo buildings is a practical approach to allowing cargo operations growth. With the recent expansion of air cargo apron and the opportunity site for a new sorting facility already in place south of the new apron, the forecast growth does not support expanding the apron further east. Therefore, the vision for cargo land use remains in its existing area, as shown in **Figure 6-5**.

Other subcategories of aeronautical and non-aeronautical land uses at LAN are shown in **Figure 6-5**, and include general aviation, airport support, passenger terminal, industrial, and areas protected from development. Analysis performed within **Chapter 7, Airport Development Alternatives**, will consider further changes to these land use subcategories under alternatives that impact the airfield configuration.

⁶ *Air Cargo Assessment*, Landrum & Brown, Inc., December 2021

Figure 6-5
New Airport Land Use Vision for Preferred Ultimate Airfield Configuration



Source: RS&H, 2024

6.5 FAA AIP Obligated Land

The CRAA-owned land north of State Road was purchased with intent of constructing a new parallel runway matching the capabilities of Runway 10R-28L. The total land area held is 631.57 acres, of which nearly 65 percent is obligated through FAA grants for aeronautical use. Federally conveyed or federally acquired land must be used for airport purposes until the FAA approves⁷ or consents to a change in land use as recorded on an approved ALP. To release CRAA of federal land use obligations, any land acquired for an approved ALP purpose using federal funds is required to undergo the FAA land release⁸ approval process with the respective FAA Airports Regional Office. FAA Order 5190.6B, *Airport Compliance Manual*⁹, outlines the laws, regulations, policies, and procedures for airport sponsors to request a release from federal obligations and land use requirements.

Under the FAA Reauthorization Act of 2018, Section 163 changed FAA's legal approval authority for proposed new development as well as FAA authority to regulate land use and subsequent actions need to approve a land use change. An FAA memo¹⁰ dated June 22, 2023, outlines the impacts of Section 163 on FAA authority for land release approvals. Per the memo, Section 163(a) narrows the scope of FAA authority over airport land uses by generally prohibiting FAA for "directly or indirectly regulating" airport land. FAA ALP approval authority is retained for many situations, but the authority is limited if certain conditions are met.

The FAA Reauthorization Act of 2024 was signed into law on May 16, 2024. This amended and revised certain provisions within Section 163 (2018) under the new Section 743 (2024) with the intent of clarifying the language for FAA interpretation. Overall, Section 743 builds upon the existing framework of Section 163 regarding FAA oversight, approval authority, and approval procedures. Section 743 reinforces the prohibition of FAA from regulating airport property transactions (directly and indirectly) unless land was purchased with federal funds. Exceptions do remain to safeguard airport operational safety and ensure fair market value for all land transactions. New language within Section 743 expands the oversight of FAA for airport "zones of interest", which include safety critical infrastructure such as the airfield, safety areas, navigational aids, fueling facilities, and other critical airport infrastructure. Section 163 Determinations are no longer a requirement for all airport project under Section 743 changes. Instead, new rules simply require airport sponsors to provide notice to FAA prior to

⁷ Congress requires the FAA to submit an annual report listing airports not in compliance with airport land use restrictions and identifying necessary corrective action under Title 49 USC §47131(a)(5).

⁸ Per FAA Order 5190.6B, A "release" is defined as the formal, written authorization discharging and relinquishing the FAA's right to enforce an airport's contractual obligations. In some cases, the release is limited to releasing the sponsor from a particular assurance or federal obligation. In other cases, a release may permit disposal of certain airport property.

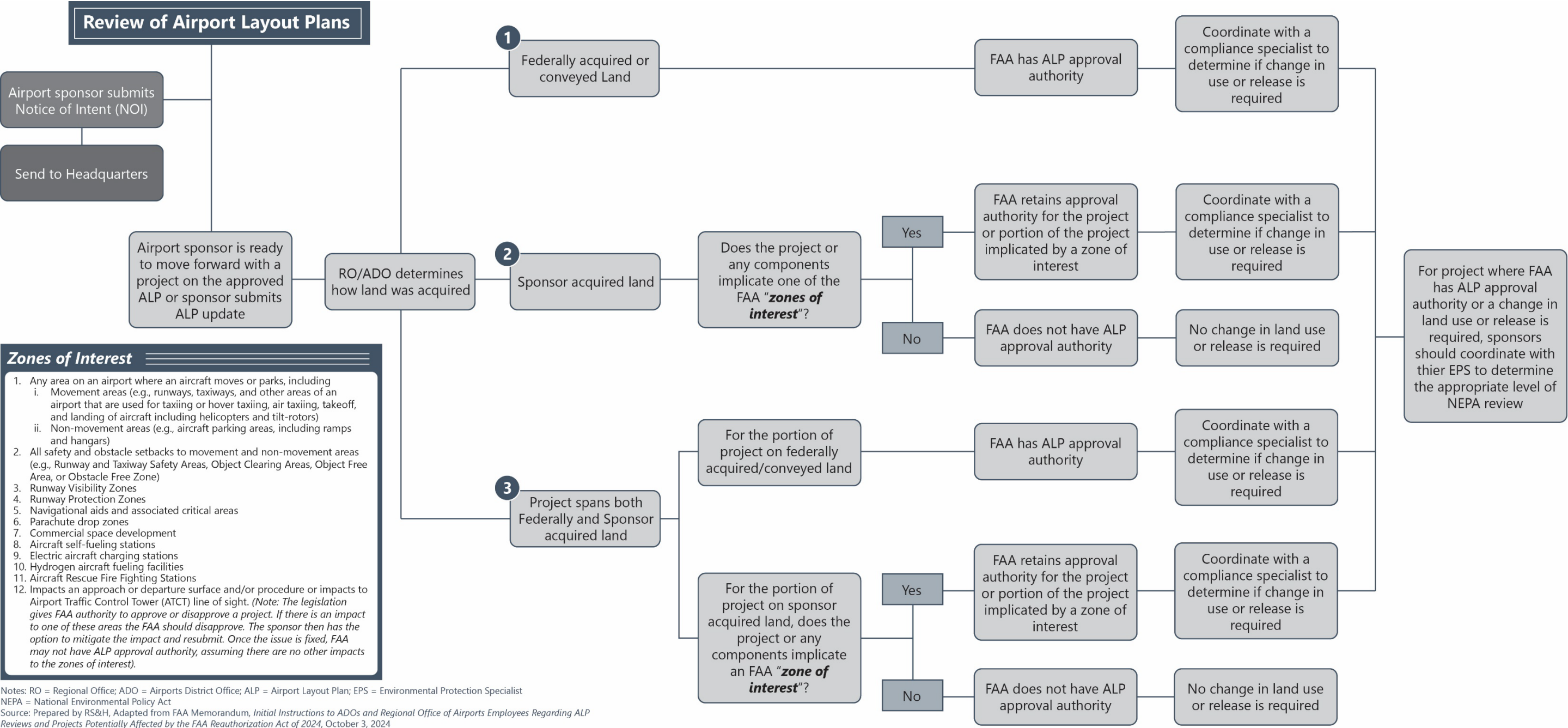
⁹ FAA Order 5190.6B, Change 3, *Airport Compliance Manual*, Part VII, Chapter 22, Effective September 15, 2023.

¹⁰ FAA Memorandum, *Updated Instructions to Airports District Offices and Regional Office of Airports Employees Regarding Airport Layout Plan Reviews and Projects Potentially Affected by Section 163 of the FAA Reauthorization Act of 2018*, June 22, 2023.

implementing a project when it is clear FAA has no jurisdiction over the project. This allows FAA a limited 45-day period to either assert jurisdiction over the project or lose the ability to do so.

Figure 6-6, adopted from the FAA Memorandum, *Initial Instructions to Airports District Offices and Regional Office of Airports Employees Regarding Airport Layout Plan Reviews and Projects Potentially Affected by the FAA Reauthorization Act of 2024* (October 3, 2024), shows a flow chart for determining when Section 743 can be applied to the land release process.

Figure 6-6
FAA Land Release Approval Authority and ALP Review Flow Chart



6.5.1 FAA Grant Obligated Parcels

Table 6-1 shows LAN parcels with relevant information to their federal grant obligations.

Figure 6-7 shows the parcels on CRAA property that would require either the Section 743 or FAA Order 5190.6B Land Release process to change the land use as shown on the 2010 ALP.

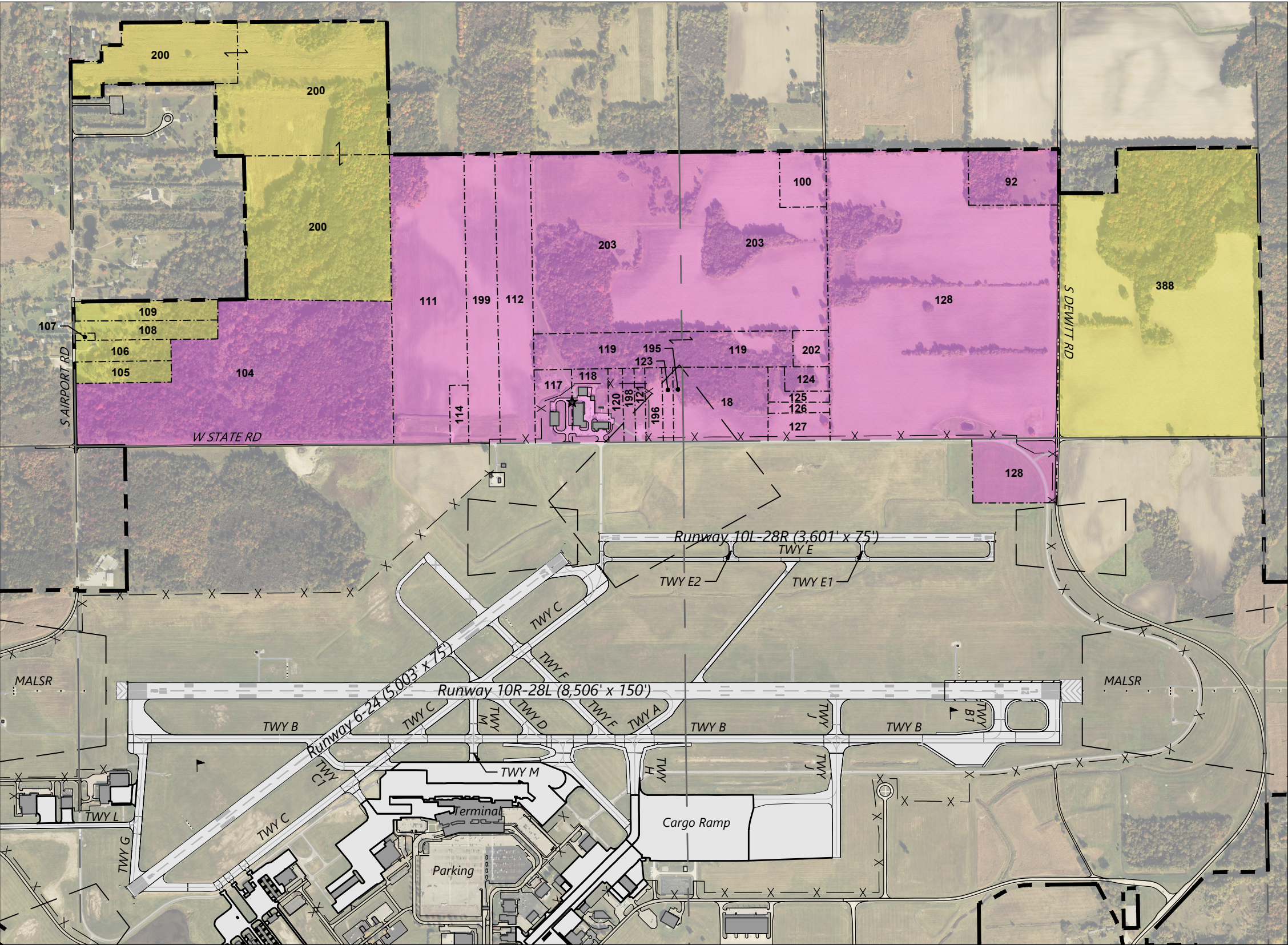
Table 6-1

FAA Grant Obligated Parcels

Parcel Number	Federal Project Number	Date Acquired	Acres	Federal Funding	State Funding	Local Funding	Total
18	9-20-035-6012	9/30/1958	12.00	\$24,000	\$14,500	\$11,500	\$50,000
92	3-26-0055-3805	9/10/1903	10.00	\$304,000	\$8,000	\$8,000	\$320,000
100	3-26-0055-2196	10/20/1976	5.00	\$33,500	-	-	\$33,500
104	3-26-0055-0182/0283	11/16/1982	18.70	\$94,000	-	-	\$94,000
111	3-26-0055-0283	7/31/1981	41.30	\$115,000	-	-	\$115,000
112	3-26-0055-0182	3/23/1977	17.77	\$85,500	-	-	\$85,500
114	3-26-0055-0283	12/20/1977	2.00	\$10,200	-	-	\$10,200
117	6-26-0055-06	2/15/1977	5.00	-	\$35,800	-	\$35,800
118	6-26-0055-06	12/14/1976	5.00	-	\$35,000	-	\$35,000
119	6-26-0055-06	3/29/1979	17.50	-	\$43,900	-	\$43,900
120	6-26-0055-06	2/22/1977	2.00	-	\$36,500	-	\$36,500
121	6-26-0055-06	12/29/1976	1.50	\$1,100	-	-	\$1,100
123	6-26-0055-06	1/6/1977	1.30	-	\$22,000	-	\$22,000
124	6-26-0055-06	4/11/1977	2.00	-	\$46,500	-	\$46,500
125	6-26-0055-06	2/9/1977	1.92	-	\$24,000	-	\$24,000
126	6-26-0055-06	3/22/1977	1.25	-	\$27,500	-	\$27,500
127	6-26-0055-06	4/28/1977	2.48	-	\$36,000	-	\$36,000
128	3-26-0055-0485	8/2/1989	140.92	\$420,000	-	-	\$420,000
195	6-26-0055-06	11/7/1975	1.20	\$1,175	-	-	\$1,175
196	3-26-0055-0182	6/29/1972	2.50	\$12,500	-	-	\$12,500
198	6-26-0055-06	5/14/1975	1.50	\$11,500	-	-	\$11,500
199	3-26-0055-0283	10/29/1974	17.00	\$42,500	-	-	\$42,500
202	3-26-0055-2196	8/26/1982	2.50	\$70,500	-	-	\$70,500
203	3-26-0055-2196	9/18/1989	95.00	\$237,500	-	-	\$237,500

Source: Airport Records; Prepared by RS&H, 2024

Figure 6-7
AIP-Obligated Airport Property (North Development Area)



Source: RS&H, 2024

AIP-Obligated Airport Property
(North Development Area)

- Existing Airfield Pavement
- Existing Building
- Runway Protection Zone (RPZ)
- Airport Property Line
- Perimeter Fence
- Section Line
- AIP-Obligated Airport Property
- Non AIP-Obligated Airport Property

Parcel Number	Federal Project Number	Date Acquired	Acres
18	9-20-035-6012	9/30/1958	12.00
92	3-26-0055-3805	9/10/1903	10.00
100	3-26-0055-2196	10/20/1976	5.00
104	3-26-0055-0182/0283	11/16/1982	18.70
105	N/A	9/10/1976	4.00
106	N/A	2/23/1977	4.00
107	N/A	4/19/1977	0.30
108	N/A	4/29/1977	4.70
109	N/A	2/25/1977	5.00
111	3-26-0055-0283	7/31/1981	41.30
112	3-26-0055-0182	3/23/1977	17.77
114	3-26-0055-0283	12/20/1977	2.00
117	6-26-0055-06	2/15/1977	5.00
118	6-26-0055-06	12/14/1976	5.00
119	6-26-0055-06	3/29/1979	17.50
120	6-26-0055-06	2/22/1977	2.00
121	6-26-0055-06	12/29/1976	1.50
123	6-26-0055-06	1/6/1977	1.30
124	6-26-0055-06	4/11/1977	2.00
125	6-26-0055-06	2/9/1977	1.92
126	6-26-0055-06	3/22/1977	1.25
127	6-26-0055-06	4/28/1977	2.48
128	3-26-0055-0485	8/2/1989	140.92
195	6-26-0055-06	11/7/1975	1.20
196	3-26-0055-0182	6/29/1972	2.50
198	6-26-0055-06	5/14/1975	1.50
199	3-26-0055-0283	10/29/1974	17.00
200	N/A	12/11/1975	99.11
202	3-26-0055-2196	8/26/1982	2.50
203	3-26-0055-2196	9/18/1989	95.00
388	N/A	UNKNOWN	107.12

