

MAY 2024

Capital Region International Airport Master Plan





Chapter 3

Inventory of Existing Conditions

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

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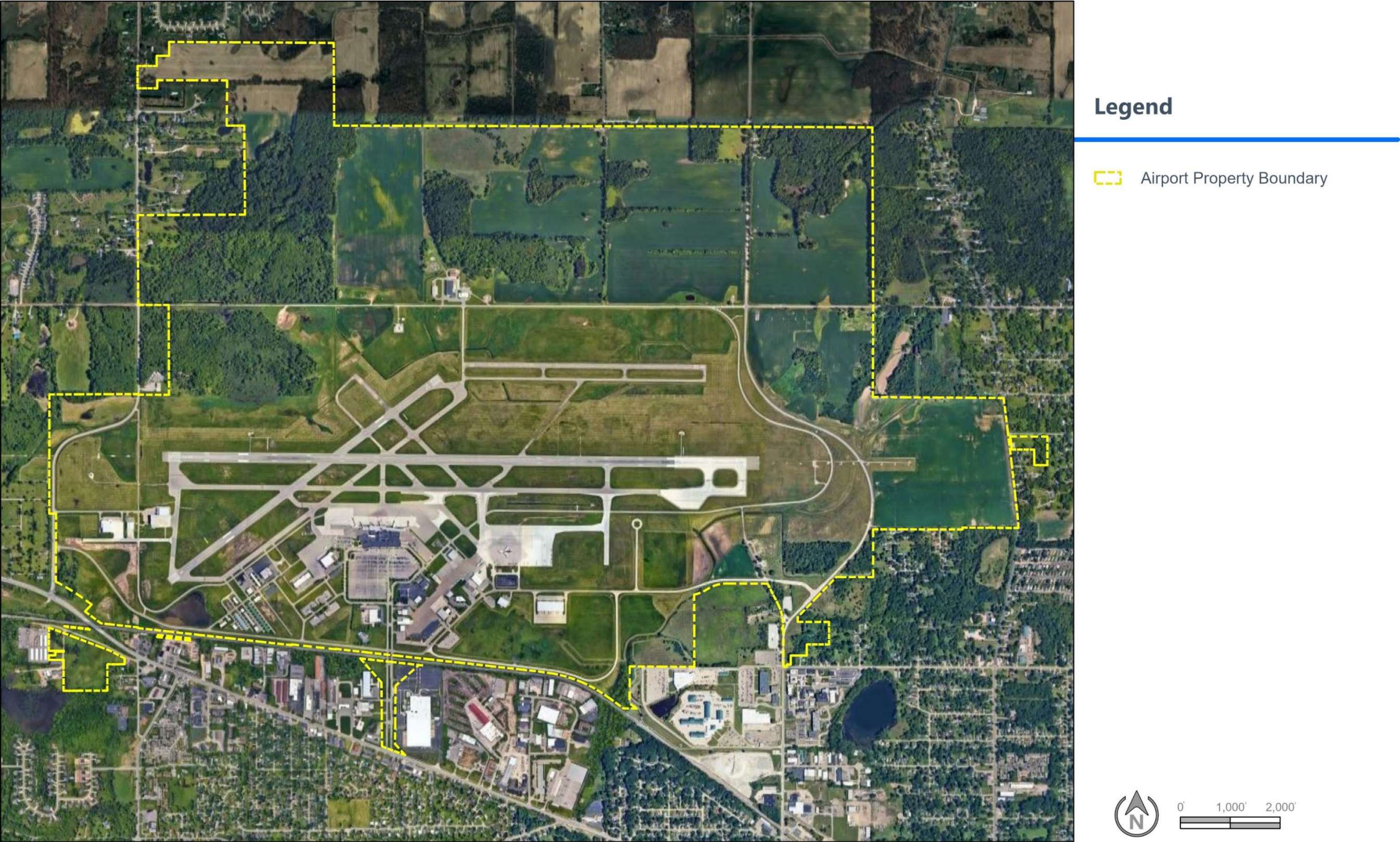
3 Environmental Inventory

3.1.1 Environmental Conditions

Federal Aviation Administration AC 150/5070-6B, *Airport Master Plans*, provides guidance for the preparation of master plans for airports. The purpose of considering environmental factors in airport master planning is to help the Airport Sponsor (CRAA) to thoroughly evaluate airport development alternatives and to provide information that will help expedite subsequent environmental processing. Future development plans at Capital Region International Airport take into consideration environmental resources that are known to exist at, and in the vicinity of, the future development. Early identification of these environmental resources helps to avoid impeding development plans in the future. For a comprehensive description of the existing environmental conditions at the Airport, environmental resource categories described in FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures*, were used.

This section provides an overview of environmental resource categories defined in FAA Order 1050.1F, Chapter 4, as it applies to the environs at the Airport. **Figure 3-1** shows the Airport property boundary and **Table 3-1** provides a summary of the environmental resource categories that were reviewed at LAN.

Figure 3-1
Airport Property



Source: RS&H, 2023; Esri, 2023

Table 3-1

Summary of Environmental Resource Categories at Capital Region International Airport

Environmental Resource	Summary
Air Quality	The CRAA is in attainment for all air quality criteria pollutants. See Section 3.1.1.1 for more details.
Biological Resources	Federal- and state-threatened and -endangered species, as well as migratory birds have the potential to occur at the Airport. However, no critical habitat has been designated for these protected species at the Airport. See Section 3.1.1.2 for more details.
Climate	Greenhouse gas (GHG) emissions are produced at LAN. See Section 3.1.1.3 for more details.
Coastal Resources	The Airport is not within a coastal zone and there are no Coastal Barrier Resource System (CBRS) segments on CRAA Airport property. See Section 3.1.1.4 for more details.
Department of Transportation Act, Section 4(f)	There is a Department of Transportation Act, Section 4(f) resource on Airport property. See Section 3.1.1.5 and Section 3.1.1.8 for more details.
Farmlands	The Airport contains prime farmland, prime farmland if irrigated, and farmland of local importance. Most of LAN is classified as an Urbanized Area and is exempt from the Farmland Protection Policy Act (FPPA). However, some land on the east and west ends of the Airport would be subject to the provisions in the FPPA. See Section 3.1.1.6 for more details.
Hazardous Materials, Solid Waste, and Pollution Prevention	No Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) superfund sites exist at the Airport. Solid waste from the Airport is transported to the Granger Disposal Center of Lansing. The Airport has National Pollutant Discharge Elimination System (NPDES), Stormwater Pollution Prevention Plan (SWPPP), and Spill Prevention, Control, and Countermeasure (SPCC) permits. See Section 3.1.1.7 for more details.
Historical, Architectural, Archaeological, and Cultural Resources	The National Register of Historic Places (NRHP) shows one building as being located on Airport property; however, the building was removed from Airport property in 1995. See Section 3.1.1.8 for more details.
Land Use	The Airport is primarily zoned as "Airport", but also contains agriculture, residential ¹ and industrial land uses. Land uses around LAN include agriculture and residential to the north, commercial, industrial, and agricultural to the west, industrial and residential to the south, and commercial, industrial, agriculture, and residential to the east. See Section 3.1.1.9 for more details.

¹ DeWitt zoning as of July 2022 update has residential zoning for Parcel 050-032-100-010-00 but land is owned by CRAA, and no residential use exists. DeWitt Comprehensive Plan has all airport owned land designated as future Airport use.

Natural Resources and Energy Supply	Consumers Energy and Lansing Board of Water and Light supply electricity and Consumers Energy supplies natural gas to the Airport. See Section 3.1.1.10 for more details.
Noise and Noise-Compatible Land Use	Noise contours developed during the 2005 Part 150 Noise Compatibility Program are the most recent noise contours developed for the Airport. No noise sensitive land uses are within the 65 dB DNL noise contour. See Section 3.1.1.11 for more details.
Socioeconomics, Environmental Justice, and Children's Environmental Health and Safety Risks	The Airport is in the city of Lansing, Dewitt Township, and Watertown Township within Clinton, Ingham, and Eaton Counties in the state of Michigan. The Airport is in US Census Bureau Census Tract 103, Block Group 3, Census Tract 102.03, Block Group 1, and Census Tract 102.04, Block Group 1 in Clinton County, Census Tract 32, Block Group 2 and Census Tract 33.01, Block Group 3 in Ingham County, and Census Tract 201.01, Block Group 2 in Eaton County. There are minority and low-income populations within the Airport Census Tracts. There are no schools or daycare facilities located within 0.5-mile of the Airport. See Section 3.1.1.12 for more details.
Visual Effects	Light emissions at the Airport currently result from airfield lighting, buildings, access roadways, and parking area lighting fixtures. The visual resources and visual character of the Airport currently aligns with that of an urbanized area and an airport. See Section 3.1.1.13 for more details.
Water Resources	According to the National Wetlands Inventory, wetlands exist at the Airport. The floodplain associated with Grand River is located on CRAA Airport property. The Airport is within the Carrier Creek-Grand River watershed (HUC 12 ID: 040500040704). The surface waters located on CRAA Airport property include two freshwater unnamed waterbodies and multiple streams. No wild or scenic rivers, or rivers within the Nationwide Rivers Inventory, exist at the Airport. See Section 3.1.1.14 for more details.

Source: RS&H, 2023

3.1.1.1 Air Quality

The United States Environmental Protection Agency (USEPA) sets National Ambient Air Quality Standards (NAAQS) for specific air pollutants to protect public health and welfare through Section 109 of the Clean Air Act (CAA), which is the primary statute for air quality. The USEPA identifies the following six criteria air pollutants and has set NAAQS for each: Carbon Monoxide (CO), Lead (Pb), Nitrogen Dioxide (NO₂), 8-Hour Ozone (O₃), Particulate Matter (PM₁₀ and PM_{2.5}), and Sulfur Dioxide (SO₂).

Areas found to be in violation of one or more NAAQS of these pollutants are classified as “nonattainment” areas. States with nonattainment areas must develop a State Implementation Plan (SIP) demonstrating how the areas will be brought back into attainment of the NAAQS within designated timeframes. Areas where concentrations of the criteria pollutants are below (i.e., within) these threshold levels are classified as “attainment” areas. Areas with prior nonattainment status that have since transitioned to attainment are known as “maintenance” areas.

The Airport is in Clinton County, Eaton County, and Ingham County, all of which are in “attainment” for all six criteria pollutants.²

3.1.1.2 Biological Resources

Biological resources include terrestrial and aquatic plant and animal species; game and non-game species; special status species; and environmentally sensitive or critical habitats. The following are federal laws, regulations, Executive Orders (EOs), and guidance that protect biotic communities:

- Endangered Species Act (ESA) (16 U.S.C. §§ 1531-1544);
- Bald and Golden Eagle Protection Act (16 U.S.C. §§ 668 et seq.);
- Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. § 1801 et seq.);
- Fish and Wildlife Coordination Act (16 U.S.C. § 661-667d);
- Executive Order (EO) 13112, Invasive Species (64 FR 6183);
- Marine Mammal Protection Act (16 U.S.C. § 1361 et seq.);
- Migratory Bird Treaty Act (MBTA) (16 U.S.C. §§ 703 et seq.);
- EO 13186, Responsibilities of Federal Agencies to Protect Migratory Birds (66 FR 3853);
- Council on Environmental Quality (CEQ) Guidance on Incorporating Biodiversity Considerations into Environmental Impact Analysis under NEPA; and
- EO 13751, Safeguarding the Nation from the Impacts of Invasive Species (81 FR 88609).

According to the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Conservation (IPaC), there are two federally listed endangered species, the Indiana Bat (*Myotis sodalis*) and the Northern Long-eared Bat (*Myotis septentrionalis*), one federally proposed endangered species, the Tricolored Bat (*Perimyotis subflavus*), two federally listed threatened species, the Eastern Massasauga (*Sistrurus catenatus*) and the Eastern Prairie Fringed Orchid (*Platanthera leucophaea*), one federal candidate species, the Monarch Butterfly (*Danaus plexippus*), one Non-Birds of Conservation Concern (BCC) vulnerable species, the Bald Eagle

² U.S. Environmental Protection Agency, Air Quality Green Book, Michigan. Accessed: https://www3.epa.gov/airquality/greenbook/anayo_mi.html, June 2023.

(*Haliaeetus leucocephalus*), and one experimental population, non-essential species,³ the Whooping Crane (*Grus americana*), with the potential to occur at the Airport.⁴ Additionally, there are 15 migratory birds protected under the MBTA with the potential to occur at the Airport.⁵ According to the Michigan Department of Agriculture and Rural Development (MDARD), the Indiana bat (*Myotis sodalis*) is an endangered species with the potential to occur in Eaton and Ingham Counties.⁶ Although the aforementioned species have the potential to occur at the Airport, the Airport does not contain any critical habitat for any federally or state-protected species.^{7, 8}

3.1.1.3 Climate

Relevant federal laws, regulations, and EOs that relate to climate include:

- CAA (42 U.S.C. §§ 7408, 7521, 7571, 7661 et seq.);
- EO 13514, Federal Leadership in Environment Energy and Economic Performance (74 FR 52117);
- EO 13653, Preparing the United States for the Impacts of Climate Change (78 FR 66817); and
- EO 13693, Planning for Federal Sustainability (80 FR 15869).

Greenhouse gases (GHG) are gases that trap heat in the earth's atmosphere. Both naturally occurring and man-made GHGs primarily include water vapor, carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. Activities that require fuel or power are the primary stationary sources of GHGs at airports. Aircraft and ground access vehicles that are not under the control of an airport typically generate more GHG emissions than airport-controlled sources.

Research has shown there is a direct correlation between fuel combustion and GHG emissions. In terms of U.S. contributions, the Government Accountability Office (GAO) reports that "domestic aviation contributes about three percent of total carbon dioxide emissions, according

³ U.S. Fish and Wildlife Service, What is a 10(j) Rule? Accessed: <https://www.fws.gov/sites/default/files/documents/ESA-section10%28j%29-fact-sheet.pdf>, August 2023.

⁴ U.S. Fish and Wildlife Service, Information for Planning and Consultation. Accessed: <https://ipac.ecosphere.fws.gov/location/V2TZAX355NFTBGSURG4OVLB7QQ/resources#endangered-species>, July 2023.

⁵ Michigan Department of Agriculture and Rural Development, Endangered Species by County. Accessed: <https://www.michigan.gov/mdard/plant-pest/pesticide-enforcement/pesticide-regulatory-info/endangered-species-by-county>, June 2023.

⁶ U.S. Fish and Wildlife Service, Information for Planning and Consultation. Accessed: <https://ipac.ecosphere.fws.gov/location/V2TZAX355NFTBGSURG4OVLB7QQ/resources#endangered-species>, July 2023.

⁷ U.S. Fish and Wildlife Service, Information for Planning and Consultation. Accessed: <https://ipac.ecosphere.fws.gov/location/V2TZAX355NFTBGSURG4OVLB7QQ/resources#endangered-species>, July 2023.

⁸ U.S. Fish and Wildlife Service, ECOS, Environmental Conservation Online System. Accessed: <https://ipac.ecosphere.fws.gov/location/V2TZAX355NFTBGSURG4OVLB7QQ/resources#endangered-species>, July 2023.

to EPA data⁹ compared with other industrial sources, including the remainder of the transportation sector (20%) and power generation (41%).¹⁰ The International Civil Aviation Organization (ICAO) estimates that GHG emissions from aircraft account for roughly three percent of all anthropogenic GHG emissions globally.¹¹

3.1.1.4 Coastal Resources

The primary statutes, regulations, and EOs that protect coastal resources include:

- Coastal Barrier Resources Act (16 U.S.C. § 3501 et seq.);
- Coastal Zone Management Act (CZMA) (16 U.S.C. § 1451-1466);
- National Marine Sanctuaries Act (16 U.S.C. §1431 et seq.);
- EO 13089, Coral Reef Protection (63 FR 32701); and
- EO 13547, Stewardship of the Ocean, Our Coasts, and the Great Lakes (75 FR 43021-43027).

The Airport is not within a coastal zone.¹² Additionally, there are no Coastal Barrier Resource System (CBRS) segments within CRAA Airport property. The closest CBRS segment is CBRS Unit MI-04 Sturgeon Bar, which is approximately 85 miles southeast of the Airport.¹³

3.1.1.5 Department of Transportation Act, Section 4(f)

Relevant federal laws, regulations, and Eos that protect Section 4(f) resources include:

- United States Department of Transportation (USDOT) Act, Section 4(f) (49 U.S.C. § 303.);
- Land and Water Conservation Fund Act of 1965 (16 U.S.C. §§ 4601-4604 et seq.);
- Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) – Section 6009 (49 U.S.C. § 303.); and
- United States Department of Defense Reauthorization (Public Law (P.L.) 105-185, Division A, Title X, Section 1079, November 18, 1997, 111 Stat. 1916).

The USDOT Act, Section 4(f) (Section 4(f)) provides that no project that requires the use of any land from a public park or recreational area, wildlife and waterfowl refuge, or historic site be approved by the Secretary of Transportation unless there is no feasible and prudent alternative

⁹ U.S. Government Accountability Office, Report to Congressional Committees, Aviation and Climate Change, June 2009. Accessed: <https://www.gao.gov/products/gao-09-554>, June 2023.

¹⁰ U.S. Government Accountability Office, Report to Congressional Committees, Aviation and Climate Change, June 2009. Accessed: <https://www.gao.gov/products/gao-09-554>, June 2023.

¹¹ Melrose, Alan, European ATM and Climate Adaptation: A Scoping Study, ICAO Environmental Report, 2010. Accessed: http://www.icao.int/environmental-protection/Documents/EnvironmentReport-2010/ICAO_EnvReport10-Ch6_en.pdf, June 2023.

¹² Michigan Water Resources Division, Coastal Zone Boundary Maps. Accessed: <https://www.michigan.gov/-/media/Project/Websites/egle/Documents/Programs/WRD/Coastal-Management/coastal-zone-maps.pdf?rev=5f849175a60742c8ab9106fa415970a5>, August 2023.

¹³ U.S. Fish and Wildlife Service, Coastal Barrier Resources System Mapper. Accessed: <https://fwsprimary.wim.usgs.gov/CBRSMapper-v2/>, June 2023.

and provisions to minimize any possible harm are included in the planning. Similarly, the Land and Water Conservation Fund (LWCF) Act prevents the conversion of lands purchased or developed with Land and Water Conservation funds to non-recreation uses, unless the Secretary of the Interior, through the National Park Service, approves the conversion. Conversion may only be approved if it is consistent with the comprehensive statewide outdoor recreation plan when the approval occurs. Additionally, the converted property must be replaced with another recreation property of reasonably equivalent usefulness and location, and at least equal fair market value.

There was a Section 4(f) resource on Airport property: the 9622nd Army Air Corps Reserve Recovery Unit--Civil Air Patrol Quonset Huts, which are currently listed on the National Register of Historic Places (NRHP). However, the huts no longer exist at the Airport (see **Section 3.1.1.8** for more information).¹⁴ The site is the current location of the Jackson National Life Hangar.

3.1.1.6 Farmlands

The following statutes, regulations, and guidance pertain to farmlands:

- Farmland Protection Policy Act (FPPA) (7 U.S.C. §§ 4201-4209);
- CEQ Memorandum on the Analysis of Impacts on Prime or Unique Agricultural Lands in Implementing the National Environmental Policy Act (45 FR 59189); and
- State and local regulations.

The FPPA of 1981 regulates federal actions that have the potential to convert farmland to non-agricultural uses. The FAA requires consideration of “important farmlands,” which it defines to include “all pasturelands, croplands, and forests (even if zoned for development) considered to be prime, unique, or of statewide or local importance.”¹⁵ According to Section 523.10(B) of the FPPA, lands identified as urbanized areas by the U.S. Census Bureau are not subject to the provisions of the FPPA.

According to the Natural Resource Conservation Service (NRCS), portions of the Airport contain soil rated as prime farmland, prime farmland if drained, and farmland of local importance, as defined above.¹⁶ Most of the Airport is located entirely in an urbanized area¹⁷ and, therefore, is not subject to the FPPA. However, some land on the east and west ends of the Airport that are not designated as an urbanized area by the U.S. Census Bureau would be subject to the provisions in the FPPA (see **Figure 3-2**).

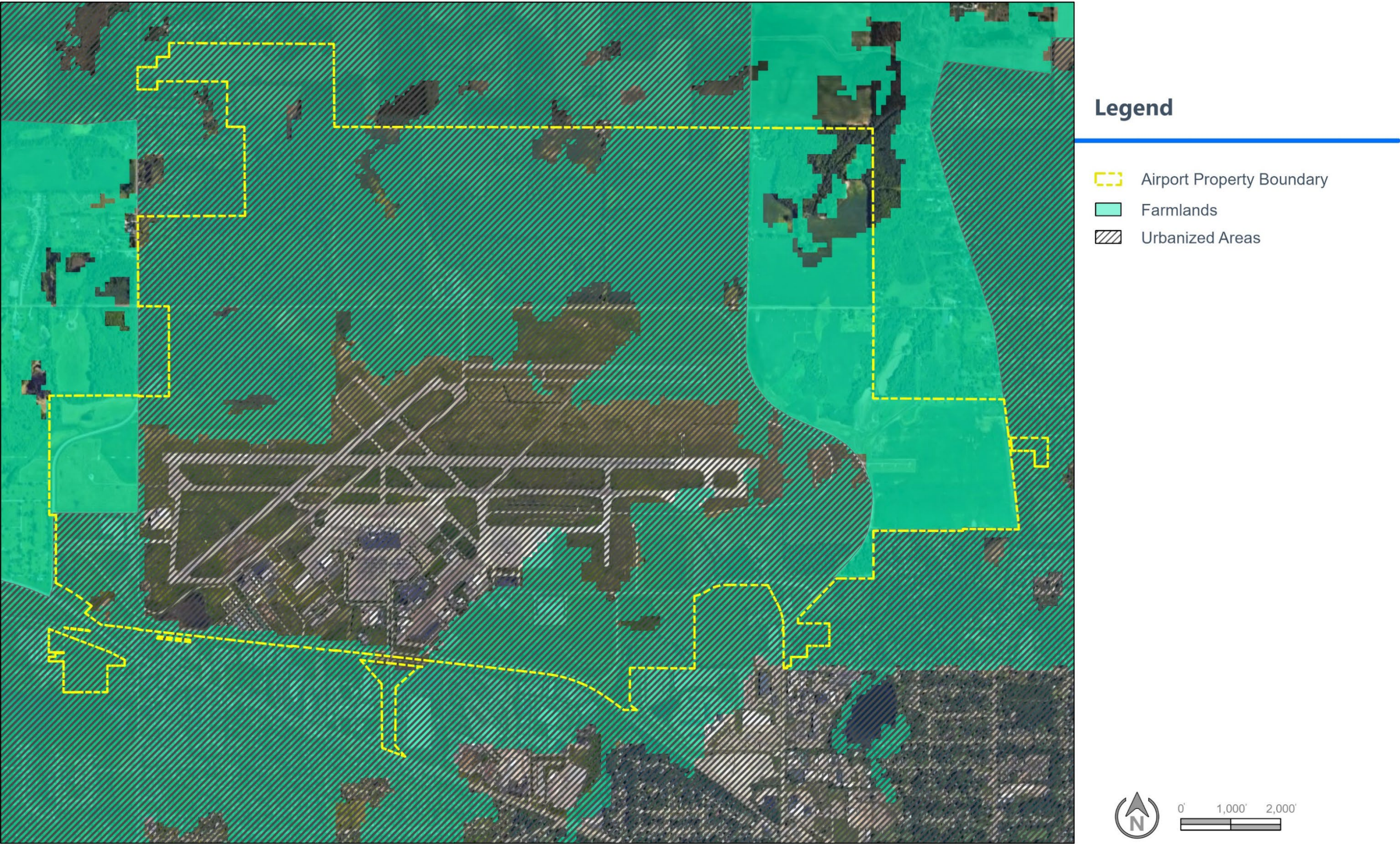
¹⁴ National Park Service, National Register of Historic Places. Accessed: <https://www.nps.gov/maps/full.html?mapId=7ad17cc9-b808-4ff8-a2f9-a99909164466>, August 2023.

¹⁵ Federal Aviation Administration, Order 1050.1F Desk Reference, February 2020. Accessed: June 2023.

¹⁶ Natural Resources Conservation Service, Web Soil Survey. Accessed: <https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>, June 2023.

¹⁷ Lansing, MI Urbanized Area, 2010 Census. Accessed: https://www2.census.gov/geo/maps/dc10map/UUAUC_RefMap/ua/ua47719_lansing_mi/DC10UA47719.pdf, June 2023.

Figure 3-2
Farmlands



Source: RS&H, 2023; USDA, 2023; NRCS, 2023; Esri, 2023

3.1.1.7 Hazardous Materials, Solid Waste, and Pollution Prevention

Federal laws, regulations, and EOs that relate to hazardous materials, solid waste, and pollution prevention include:

- Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (42 U.S.C. §§ 9601-9765);
- Emergency Planning and Community Right to Know Act (42 U.S.C. §§ 11001-11050);
- Federal Facilities Compliance Act (42 U.S.C. § 6961);
- Hazardous Materials Transportation Act (49 U.S.C. §§ 5101-5128);
- Oil Pollution Act of 1990 (33 U.S.C. §§ 2701-2762);
- Pollution Prevention Act (42 U.S.C. §§ 13101-13109);
- Toxic Substances Control Act (TSCA) (15 U.S.C. §§ 2601-2697);
- Resource Conservation and Recovery Act (RCRA) (42 U.S.C. §§ 6901-6992k);
- EO 12088, Federal Compliance with Pollution Control Standards (43 FR 47707); and
- EO 12580, Superfund Implementation (52 FR 2923), (63 CFR 45871), and (68 CFR 37691).

3.1.1.7.1 Hazardous Materials

In a regulatory context, the terms “hazardous wastes,” “hazardous substances,” and “hazardous materials” have very precise and technical meanings:

Hazardous Wastes. Subpart C of the RCRA defines hazardous wastes (sometimes called characteristic wastes) as solid wastes that are ignitable, corrosive, reactive, or toxic. Examples include waste oil, mercury, lead, or battery acid. In addition, Subpart D of the RCRA contains a list of specific types of solid wastes that the USEPA has deemed hazardous (sometimes called listed wastes). Examples include degreasing solvents, petroleum refining waste, or pharmaceutical waste.

Hazardous Substances. Section 101(14) of the CERCLA defines hazardous substances broadly and includes hazardous wastes, hazardous air pollutants, or hazardous substances designated as such under the Clean Water Act and TSCA and elements, compounds, mixtures, solutions, or substances listed in 40 CFR Part 302 that pose substantial harm to human health or environmental resources. Pursuant to the CERCLA, hazardous substances do not include any petroleum or natural gas substances and materials. Examples of hazardous substances include ammonia, bromine, chlorine, per- and polyfluoroalkyl substances (PFAS), aqueous firefighting foam, or sodium cyanide.

Hazardous Materials. According to 49 CFR Part 172.101, hazardous materials are any substances commercially transported that pose unreasonable risk to public health, safety, and property. These substances include hazardous wastes and hazardous substances, as well as

petroleum and natural gas substances and materials. As a result, hazardous materials represent hazardous wastes and substances. Examples include household batteries, gasoline, or fertilizers.

Aircraft fuel constitutes the largest quantity of hazardous substances stored and consumed at LAN. The main fuel farm is just south of the existing cargo apron, located off Port Lansing Road and stores 40,000 gallons of aviation fuel in above ground storage tanks (ASTs) and 15,000 in underground storage tanks (USTs). The southeast apron consists of two USTs storing a total of 18,000 gallons of aviation fuel. The north fuel farm contains a 5,000-gallon AST of unleaded fuel and a 15,000-gallon AST of diesel fuel.

There are no CERCLA superfund sites on Airport property. The closest superfund site to the Airport, Motor Wheel Inc. (Site EPA ID: MID980702989), is located about 1.7 miles southeast of the Airport.¹⁸

3.1.1.7.2 Solid Waste

Solid waste is defined by the implementing regulations of RCRA and includes refuse and scrap metal and spent materials. Solid waste generated at LAN is disposed of at the Granger Disposal Center of Lansing, located about five miles east of the Airport.¹⁹ According to the USEPA Landfill Methane Outreach Program (LMOP), the landfill is projected to be operational until 2060.²⁰

3.1.1.7.3 Pollution Prevention

Pollution prevention includes methods used to avoid, prevent, or reduce pollutant discharges. The CAAA has a National Pollutant Discharge Elimination System (NPDES), Stormwater Pollution Prevention Plan (SWPPP), and a Spill Prevention Control and Countermeasure Plan (SPCC) for LAN.

3.1.1.8 Historical, Architectural, Archaeological, and Cultural Resources

The National Historic Preservation Act (NHPA) (54 U.S.C. §§300101 et seq.) establishes the Advisory Council on Historic Preservation (ACHP). The ACHP oversees federal agency compliance with the NHPA. The NHPA also established the National Register of Historic Places (NRHP) that the National Park Service (NPS) oversees. Other applicable statutes and EOs include:

- American Indian Religious Freedom Act (42 U.S.C. § 1996);
- Antiquities Act of 1906 (54 U.S.C. §§320301-320303);
- Archeological and Historic Preservation Act (54 U.S.C. §§ 312501-312508);

¹⁸ U.S. Environmental Protection Agency, Superfund National Priorities List (NPL) Where You Live Map. Accessed: <https://epa.maps.arcgis.com/apps/webappviewer/index.html?id=33cebcdfdd1b4c3a8b51d416956c41f1>, June 2023.

¹⁹ Granger Waste Services, Disposal Center of Lansing. Accessed: <https://www.grangerwasteservices.com/self-haul/self-haul-disposal/disposal-center-lansing/>, June 2023.

²⁰ U.S. Environmental Protection Agency, Landfill Methane Outreach Program (LMOP). Accessed: <https://www.epa.gov/lmop/project-and-landfill-data-state>, June 2023.

- Archeological Resources Act (16 U.S.C. §§ 470aa-470mm);
- USDOT Act, Section 4(f) (49 U.S.C. § 303);
- Historic Sites Act of 1935 (16 U.S.C. §§ 461-467);
- Native American Graves Protection and Repatriation Act (25 U.S.C. §§ 3001-3013);
- Public Building Cooperative Use Act (40 U.S.C. §§ 601a, 601a1, 606, 611c, and 612a4);
- EO 11593, Protection and Enhancement of the Cultural Environment (36 FR 8921);
- EO 13006, Locating Federal Facilities on Historic Properties in Our Nation's Central Cities (61 FR 26071);
- EO 13007, Indian Sacred Sites (61 FR 26771);
- EO 13175, Consultation and Coordination with Indian Tribal Governments (65 FR 67249);
- Executive Memorandum, Government-to-Government Relations with Native American Tribal Governments (April 29, 1994);
- Executive Memorandum on Tribal Consultation (Nov. 5, 2009) (65 FR 67249); and
- USDOT Order 5650.1, Protection and Enhancement of the Cultural Environment.

There is one resource listed on the NRHP formerly located on CRAA Airport property. The 9622nd Army Air Corps Reserve Recovery Unit--Civil Air Patrol Quonset Huts, an NRHP-listed resource was located on the west end of the Airport.²¹ There were three buildings that make up this NRHP-listed resource. However, the Quonset huts have not existed at this location since 1995, and the site is currently occupied by the Jackson National Life Hangar.²²

²¹ National Park Service, National Register of Historic Places. Accessed: <https://www.nps.gov/maps/full.html?mapId=7ad17cc9-b808-4ff8-a2f9-a99909164466>, June 2023.

²² Library of Congress, Capital City Airport, Quonset Huts, North side of Grand River Avenue, DeWitt, Clinton County, MI. Accessed: <https://loc.gov/pictures/item/mi0487/>, May 2024.

3.1.1.9 Land Use

Various statutes, regulations, and EOs relevant to land use include:

- Airport and Airway Improvement Act of 1982, and subsequent amendments (49 U.S.C. 47107(a)(10));
- Airport Improvement Program (49 U.S.C. 47106(a)(1);
- Airport Safety, Protection of Environment, Criteria for Municipal Solid Waste Landfills (40 CFR § 258.10); and
- state and local regulations^{23 24}.

The Airport is located within the City of Lansing, DeWitt Township, and Watertown Township in Clinton, Ingham, and Eaton Counties. The Airport is primarily zoned as “Airport”, but also contains agriculture to the east, commercial to the west, agriculture, residential and industrial to the southwest and industrial to the south (see **Figure 3-3**).^{25 26 27 28} Existing land uses around the Airport generally include agriculture and residential to the north, commercial, industrial, and agricultural to the west, industrial and residential to the south, and commercial, industrial, agriculture, and residential to the east.

²³ Airport in PA425 Agreement with City of Lansing and DeWitt Township. Agreement in place for 50 years beginning 2011 and ending 2061. Michigan Economic Development Corporation information about PA425 Agreements at <https://www.michiganbusiness.org/495973/globalassets/documents/reports/fact-sheets/conditionallandusetransferpa425.pdf>

²⁴ *Airport Tax Deal Gets Approval From Lansing, DeWitt Township*, Michigan Public Radio, October 24, 2011, <https://www.michiganpublic.org/2011-10-24/airport-tax-deal-gets-approval-from-lansing-dewitt-township>

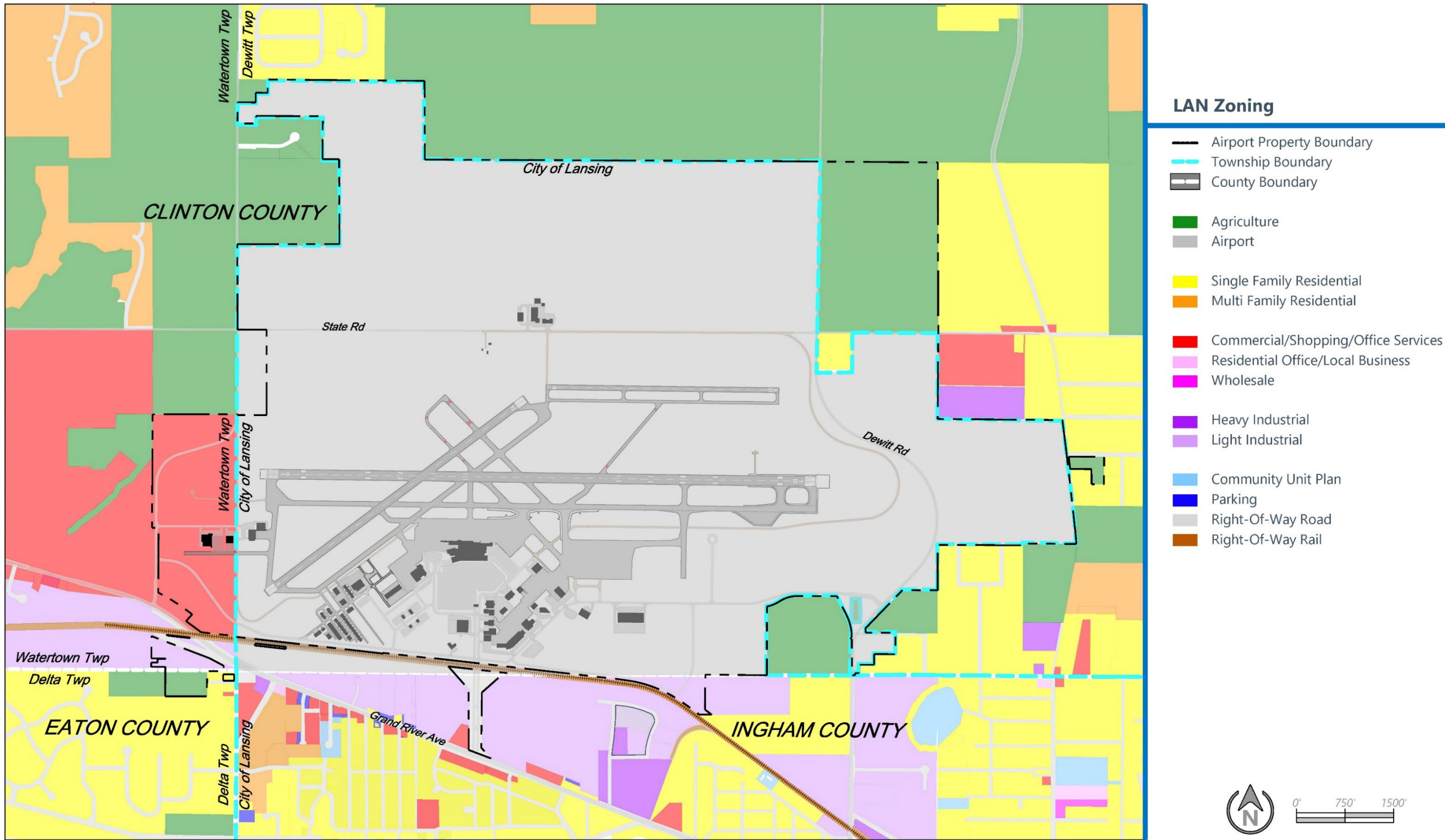
²⁵ Clinton County GIS. Accessed: https://app.fetchgis.com/?currentMap=clinton&switchingMaps=false¢erLng=-84.54549662616124¢erLat=42.79935010663698&mapZoom=13&pageSize=letter&pageOrientation=landscape&pageTitle=Clinton%20County&subTitle=&northArrow=1&rptPIN=0&rptLayer=&rptMap=1&rptPic=1&rptTax=1&activeControl=layerControls&activeLayers=baseLayersCheckbox_osmLayerRadio_imageryLayersCheckbox_imageryLayerCheckbox_clintonParcelLayerCheckbox_streetLayerCheckbox_cvtLayerCheckbox_hydroLayerCheckbox_zoningLayersCheckbox_zoningLayerCheckbox_stJohnsZoningLayerCheckbox&partialLayerGroups=undefined&opacity64=&printLegendLayers=, July 2023.

²⁶ DeWitt Charter Township, GIS. Accessed: <https://www.dewitttownship.org/198/Maps>, July 2023.

²⁷ Lansing Open Data, Zoning. Accessed: https://data-lansing.opendata.arcgis.com/datasets/b03dbc1892194ef78a81e7b3d10d5445_0/explore, July 2023.

²⁸ Delta Township Zoning Explorer. Accessed: <https://deltatownship.maps.arcgis.com/apps/instant/interactivelegend/index.html?appid=b4a734c63e704bf88314979a8f9de1fa>, July 2023.

Figure 3-3
Land Use/Zoning



3.1.1.10 Natural Resources and Energy Supply

Statutes and EOs that are relevant to natural resources and energy supply include:

- Energy Independence and Security Act (42 U.S.C. § 17001 et seq.);
- Energy Policy Act (42 U.S.C. § 15801 et seq.); and
- EO 13834, Efficient Federal Operations (83 FR 23771).

Natural resources (e.g., water, asphalt, aggregate, etc.) and energy use (e.g., fuel, electricity, etc.) at an airport is a function of the needs of aircraft, support vehicles, airport facilities, support structures, and terminal facilities. Energy use at LAN is primarily in the form of electricity required for the operation of airport-related facilities (e.g., fixed-base operator (FBO), hangars, airfield lighting) and fuel for aircraft, aircraft support vehicles/equipment, and airport maintenance vehicles/equipment. Consumers Energy and Lansing Board of Water and Light supplies electricity to the Airport, and Consumers Energy supplies natural gas to the Airport.²⁹

3.1.1.11 Noise and Noise-Compatible Land Use

Statutes and EOs relevant to noise and noise-compatible land use include:

- The Control and Abatement of Aircraft Noise and Sonic Boom Act of 1968 (49 U.S.C. § 44715);
- The Noise Control Act of 1972 (42 U.S.C. §§ 4901-4918);
- Aviation Safety and Noise Abatement Act of 1979 (49 U.S.C. § 47501 et seq.);
- Airport and Airway Improvement Act of 1982 (49 U.S.C. § 47101 et seq.);
- Airport Noise and Capacity Act of 1990 (49 U.S.C. §§ 47521-47534, §§ 106(g);
- Section 506 of the FAA Modernization and Reform Act of 2012, Prohibition on Operating Certain Aircraft Weighting 75,000 Pounds or Less Not Complying with Stage 3 Noise Levels (49 U.S.C. §§ 47534); and
- State and local noise laws and ordinances.

Day-Night Sound Level (DNL) is based on sound levels measured in relative intensity of sound, decibels (or dB) on the “A-weighted scale” (or dBA) over a time-weighted average normalized to a 24-hour period.³⁰ DNL has been widely accepted as the best available method to describe aircraft noise exposure. The USEPA identifies the DNL as the principal metric for aircraft noise analysis. The FAA requires DNL as the noise descriptor for use in aircraft noise exposure analysis and noise compatibility planning. DNL levels are commonly shown as lines of equal noise

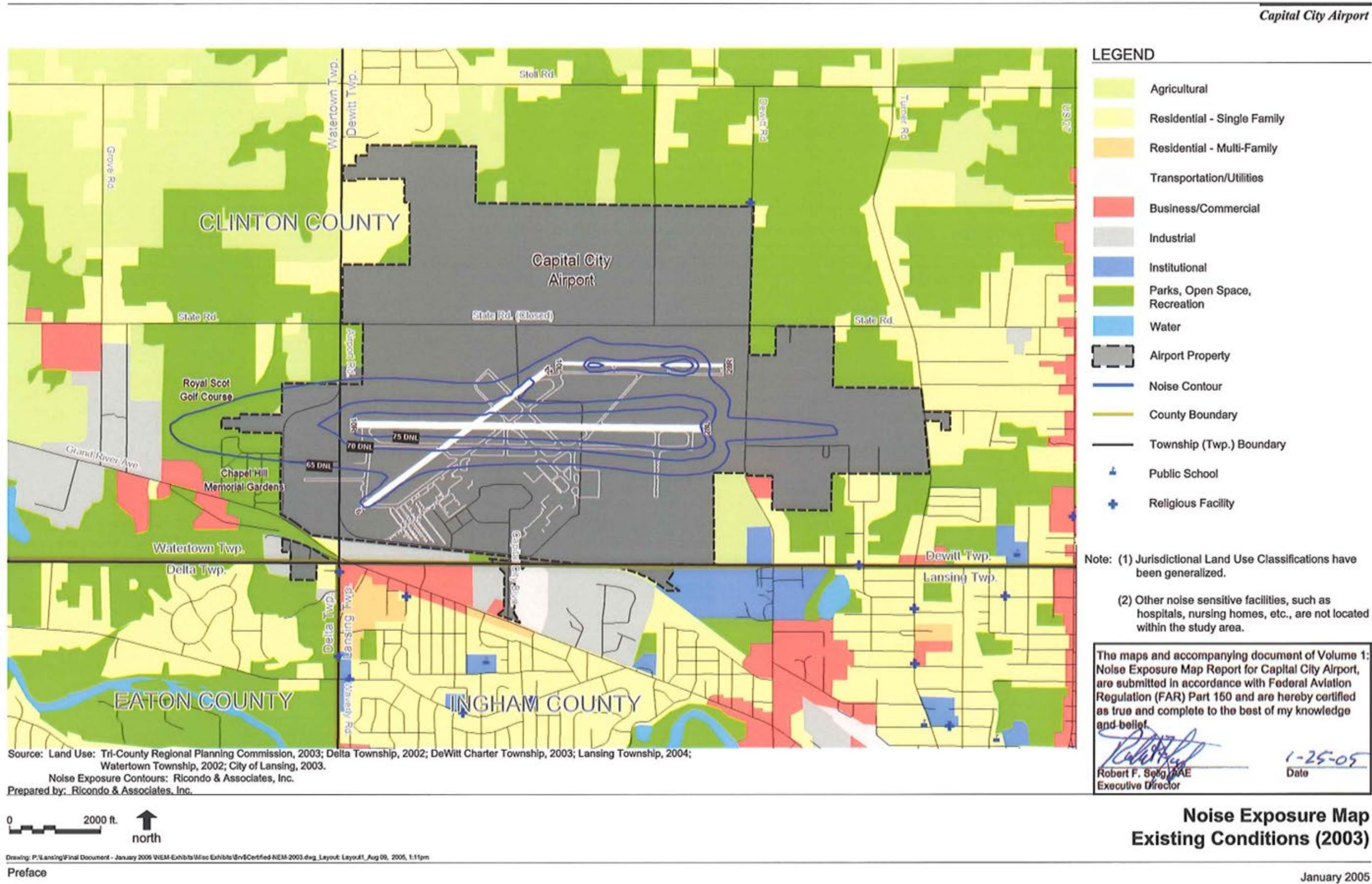
²⁹ Michigan Public Service Commission, Utility Provider Search – Michigan Service Area of Electric and Gas Utilities. Accessed: <https://utilitysearch.apps.lara.state.mi.us/search>, June 2023.

³⁰ Federal Aviation Administration, Technical Support for Day/Night Average Sound Level (DNL) Replacement Metric Research, Final Report, June 14, 2011.

exposure, similar to terrain contour maps, referred to as noise contours. All residential areas are considered compatible with cumulative noise level below DNL 65 dBA.

The noise contours developed during the Part 150 Noise Compatibility Study in 2005 were the last noise contours developed at the Airport. Both the 2003 and 2008 noise contours are primarily within the CRAA Airport boundary. The only portion of the 2003 and 2008 noise contours outside the LAN boundary are the Royal Scot Golf Course and the Chapel Hill Memorial Garden, both of which are not noise-sensitive land uses (see **Figure 3-4**, which is directly from the NEM and shows a different property boundary than exists today).

Figure 3-4
Noise Exposure Map (2005)



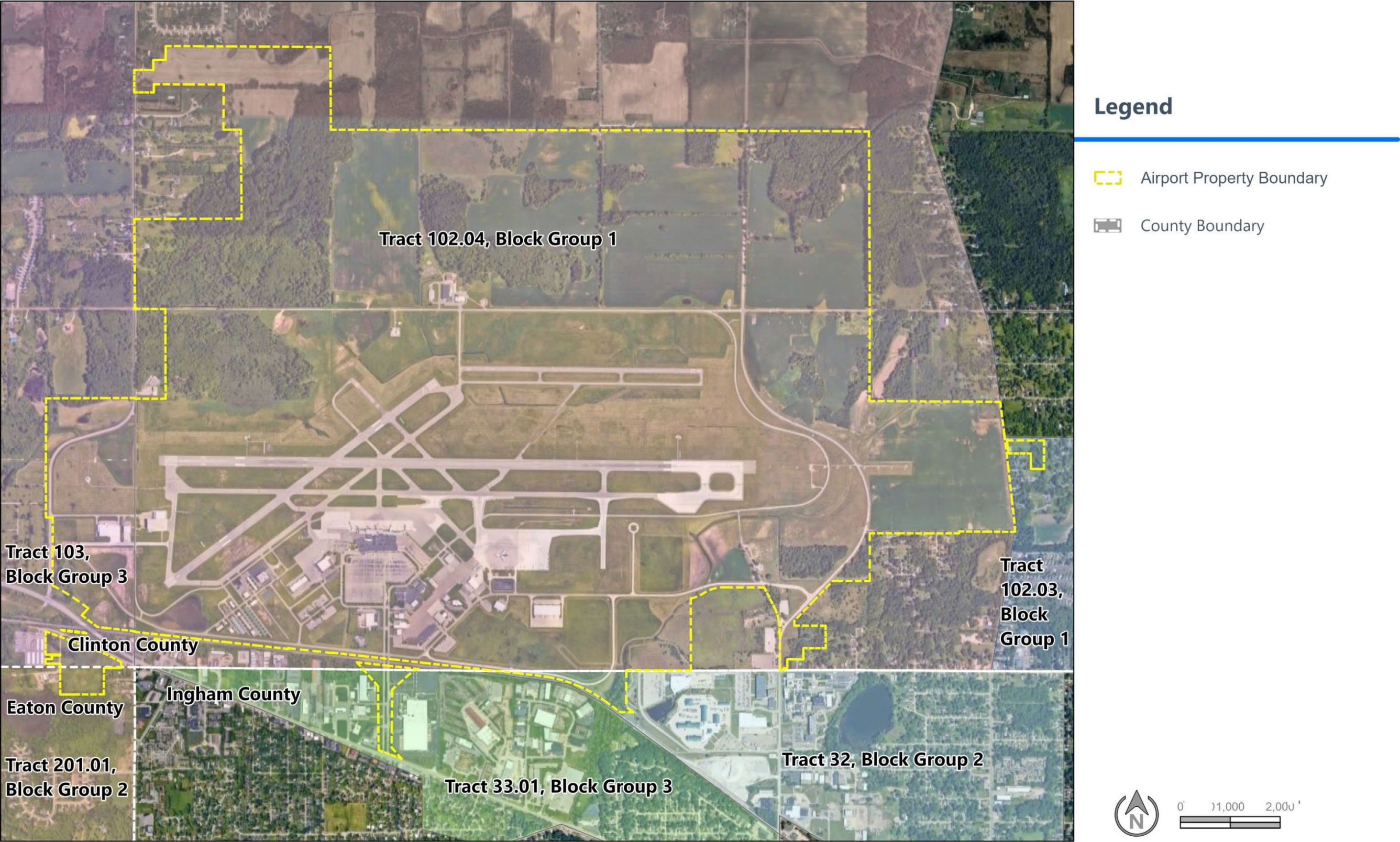
3.1.1.12 Socioeconomic, Environmental Justice, and Children's Environmental Health and Safety Risks

The primary considerations of socioeconomic analysis are the economic activity, employment, income, population, housing, public services, and social conditions of the area. The Uniform Relocation Assistance and Real Property Acquisitions Policy Act of 1970 (42 U.S.C. § 61 et seq.), implemented by 49 CFR Part 24, is the primary statute related to socioeconomic impacts. The Airport is in the City of Lansing, DeWitt Township, and Watertown Township within Clinton, Ingham, and Eaton Counties in the state of Michigan. The Airport is located within U.S. Census Bureau census tracts:

- Census Tract 103, Block Group 3, Clinton County
- Census Tract 102.03, Block Group 1, Clinton County
- Census Tract 102.04, Block Group 1, Clinton County
- Census Tract 32, Block Group 2, Ingham County
- Census Tract 33.01, Block Group 3, Ingham County
- Census Tract 201.01, Block Group 2, Eaton County

Together, these census tracts make up the LAN Airport Census Tracts (see **Figure 3-5**).

Figure 3-5
Airport Census Tracts



Source: RS&H, 2023; U.S. Census Bureau, 2023; Esri, 2023

3.1.1.12.1 Socioeconomics

Population and Housing, Employment, Environmental Justice and Children's Health and Safety

Table 3-2 compares population and housing data for the Airport Census Tracts compared to the City of Lansing, Watertown Township, DeWitt Township, Ingham County, Eaton County, Clinton County, and the state of Michigan, which were included for comparison purposes. Housing occupancy and average persons per household for the Airport Census Tracts is generally similar to the surrounding cities and counties and slightly higher slightly higher compared to Michigan.

Employment

Table 3-2 compares unemployment rates for the Airport Census Tracts compared to the City of Lansing, Watertown Township, DeWitt Township, Ingham County, Eaton County, Clinton County, and the state of Michigan. Unemployment rates in the Airport Census Tracts vary, ranging from 0 to 15 percent. This range is in line with unemployment rates within the City of Lansing, DeWitt Township, Ingham County, Eaton County, Clinton County, and the state of Michigan, and is lower than Watertown Township (34.1 percent).

Public Services

CRAA provides police, fire, and emergency medical services (EMS) at the Airport.³¹ The City of Lansing is the primary mutual aid provider. Emergency services are available at multiple locations in Lansing, with the closest urgent care centers located 2.5 miles southeast and southwest of the Airport.³²

3.1.1.12.2 Environmental Justice

Statutes, EOs, memorandums, and guidance that are relevant to environmental justice include:

- Title VI of the Civil Rights Act, as amended (42 U.S.C. §§ 2000d-2000d-7);
- EO 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (59 FR 7629);
- Memorandum of Understanding on Environmental Justice and EO 12898;
- USDOT Order 5610.2(a), Environmental Justice in Minority and Low-Income Populations (77 FR 27534);
- CEQ Guidance: Environmental Justice: Guidance Under the National Environmental Policy Act;
- Revised USDOT Environmental Justice Strategy (77 FR 18879); and
- Promising Practices for EJ Methodologies in NEPA Reviews, Report of the Federal Interagency Working Group on Environmental Justice & NEPA Committee

³¹ Capital Region International Airport, Public Safety Department. Accessed: <https://www.flylansing.com/business/public-safety-department>, April 2024.

³² Lansing, Michigan, About Ambulance & EMS. Accessed: <https://www.lansingmi.gov/283/About-Ambulance-EMS>, June 2023.

Table 3-2 shows environmental justice characteristics of the Airport Census Tracts compared to the City of Lansing, Watertown Township, DeWitt Township, Ingham County, Eaton County, Clinton County, and the state of Michigan. As shown, the Airport Census Tracts have a minority population ranging from 13.2 to 47 percent. This range is in line with minority populations within the City of Lansing, DeWitt Township, Ingham County, Eaton County, Clinton County, and the state of Michigan. Watertown Township has the lowest minority population (6.1 percent). Airport Census Tracts have a poverty population ranging from 1.7 to 41.3 percent. This range is in line with poverty populations within the surrounding counties, townships, and the state of Michigan.

3.1.1.12.3 Children's Health and Safety

Statutes, EOs, memorandums, and guidance that are relevant to Children's health and safety include:

- EO 13045, Protection of Children from Environmental Health Risks and Safety Risks (62 FR 19885).

There are no daycares, or childcare facilities on CRAA Airport property. The closest daycare and childcare facility to the Airport is Little Blessings Learning Center, located over 1,200 feet south of the Airport.³³ There are no schools, daycares, or childcare facilities located in the 2003 or 2008 DNL 65+ dBA noise contours. **Table 3-2** shows the children age distribution of the Airport Census Tracts compared to the City of Lansing, Watertown Township, DeWitt Township, Ingham County, Eaton County, Clinton County, and the state of Michigan. The Airport Census Tracts have a lower percentage of their population below the age of 20 compared to the surrounding cities, townships, counties, and the state of Michigan.

³³ Department of Health and Safety, Homeland Infrastructure Foundation-Level Data (HIFLD): Child Care Centers. Accessed: <https://hifld-geoplatform.opendata.arcgis.com/datasets/child-care-centers/explore?location=42.403969%2C-96.399574%2C13.99>, June 2023.

Table 3-2
Summary of Socioeconomic, Environmental Justice, and Childrens Environmental Health and Safety Risks at Capital Region International Airport³⁴

Characteristic	Airport Census Tracts						Lansing city	Watertown Township	DeWitt Township	Ingham County	Eaton County	Clinton County	Michigan
	Census Tract 33.01, Block Group 3	Census Tract 32, Block Group 2	Census Tract 201.01, Block Group 2	Census Tract 103, Block Group 3	Census Tract 102.04, Block Group 1	Census Tract 102.03, Block Group 1							
Total Population	837	1,202	1,882	1,416	2,299	477	112,644	2,091	15,073	284,900	109,175	79,128	10,077,331
Percent Minority (%)	32.5	47.0	23.8	14.7	13.2	14.9	45.0	6.1	13.7	30.3	18.2	12.6	26.1
Percent Living Below the Poverty Level (%)	4.3	41.3	2.3	1.7	2.9	23.0	18.0	7.2	6.5	15.5	8.7	9.6	13.1
Percent Unemployed (%)	11.9	13.3	2.7	0	2.7	15.0	9.5	34.1	3.7	8.4	7.0	3.7	6.9
Percent of Population below Age of 20 (%)													
Percent of population from ages 0-4 (%)	0	0.6	0	3.9	1.8	0	6.9	5.3	6.0	5.5	5.3	5.4	5.6
Percent of population from ages 5-9 (%)	0	6.1	0.8	2.6	3.2	0	7.2	4.5	5.4	5.6	5.7	5.9	5.9
Percent of population from ages 10-14 (%)	2.2	4.6	0	1.9	5.2	6.6	5.7	2.3	6.3	5.4	6.0	6.7	6.3
Percent of population from ages 15-19 (%)	7.4	2.6	2.9	3.7	4.1	0.7	5.4	5.1	6.4	8.8	6.2	6.4	6.6
Total Housing Units	361	498	755	568	896	261	54,599	920	6,320	125,251	47,497	32,821	4,570,173
Percent Households Occupied (%)	94.7	92.8	96.6	97.4	95.3	86.2	90.7	89.1	94.8	92.3	94.6	94.7	88.4
Persons per Household	2.32	2.41	2.49	2.49	2.57	1.83	2.06	2.27	2.38	2.27	2.30	2.41	2.21

³⁴ U.S. Census Bureau, Explore Census Data. Accessed: <https://data.census.gov/>, August 2023.

3.1.1.13 Visual Effects

There is no federal statutory or regulatory requirement for adverse effects resulting from light emissions or visual impacts.

3.1.1.13.1 Light Emissions

Various lighting features currently illuminate portions of the Airport, such as buildings, access roadways, automobile parking areas, and airfield lighting, such as taxiway lighting and runway lighting, for the safe and secure movement of people and vehicles (e.g., aircraft, passenger cars, etc.).

3.1.1.13.2 Visual Resources and Visual Character

Structures at the Airport include, but are not limited to, terminals, FBOs, hangars, and maintenance buildings. The closest residence is located off CRAA Airport property on Jones Lake Road to the east and has an obstructed line of sight to the Airport facilities. The visual character of the developed areas of the Airport are consistent with surrounding commercial and industrial developed areas while the current undeveloped areas of the Airport are consistent with the surrounding agricultural land to the north of the Airport.

3.1.1.14 Water Resources

Water resources include wetlands, floodplains, surface waters, groundwater, and wild and scenic rivers. These resources typically function as a single, integrated natural system that are important in providing drinking water and supporting recreation, transportation and commerce, industry, agriculture, and aquatic ecosystems.

3.1.1.14.1 Wetlands

Statutes and EOs that are relevant to wetlands include:

- EO 11990, Protection of Wetlands (42 FR 26961);
- Clean Water Act (33 U.S.C. §§ 1251-1387);
- Fish and Wildlife Coordination Act (16 U.S.C. § 661-667d) ;
- USDOT Order 5660.1A, Preservation of the Nation's Wetlands; and
- State statutes protecting wetlands.

The Clean Water Act defines wetlands as "...those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions."³⁵ The U.S. Army Corps of Engineers' (USACE) wetland delineation manual requires that positive indicators of a wetland be present for hydrophytic vegetation, hydric soil, and

³⁵ U.S. Environmental Protection Agency, Section 404 of the Clean Water Act. Accessed: <https://www.epa.gov/cwa-404/section-404-clean-water-act-how-wetlands-are-defined-and-identified>, June 2023.

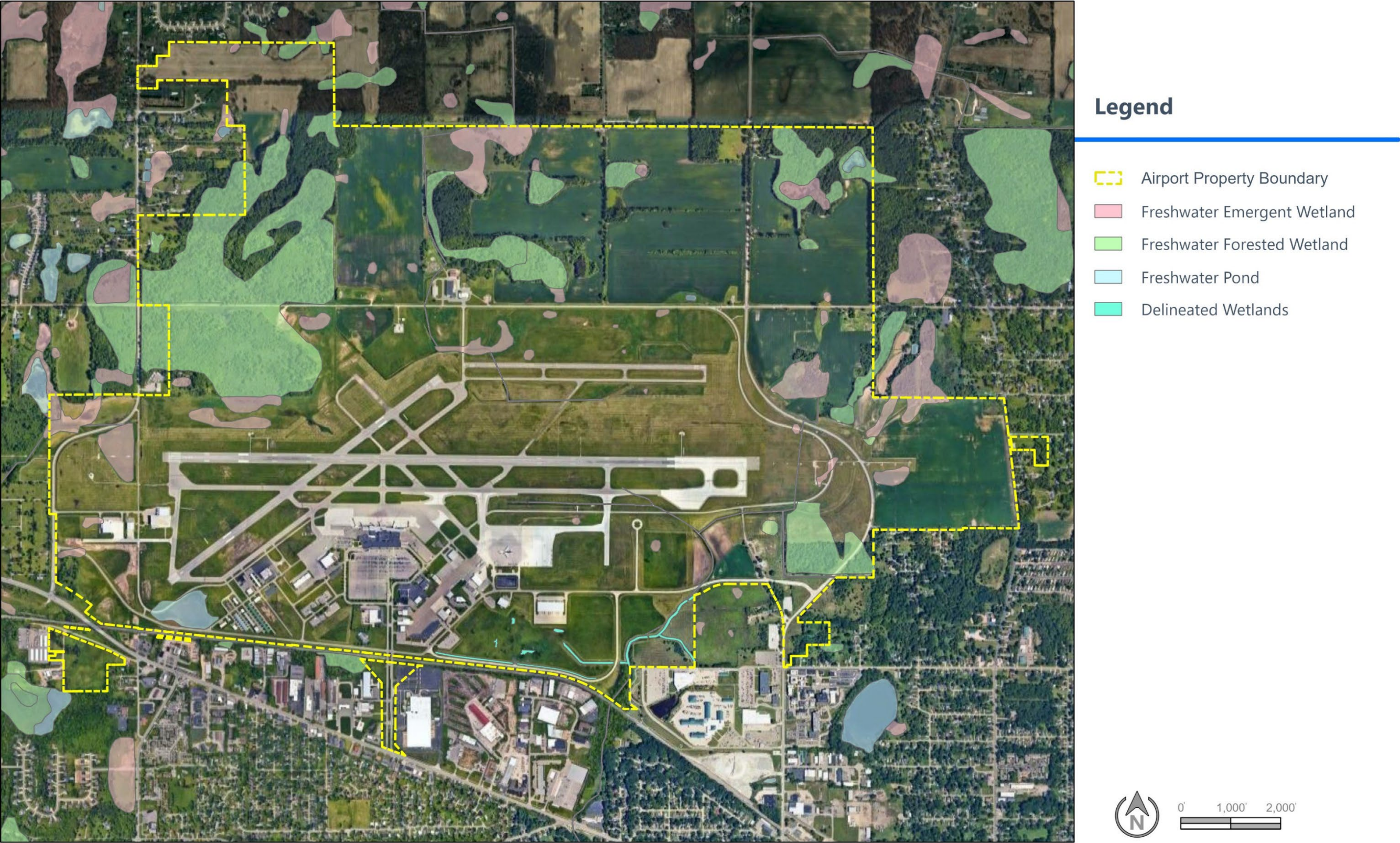
hydrology. Wetlands are defined by their hydrology, abundance of hydrophytic plants and abundance of hydric soils.³⁶

According to the USFWS National Wetland Inventory (NWI) freshwater emergent wetlands, freshwater forested wetlands, and freshwater ponds are present on CRAA Airport property (see **Figure 3-6**).³⁷ A wetlands delineation near the industrial park on the southern end of the Airport was conducted on May 24, 2021 and reviewed by the Michigan Department of Environment, Great Lakes, and Energy (EGLE), Water Resources Division (WRD) on September 22, 2022. The delineation confirmed the presence of six wetlands in the area.

³⁶ U.S. Army Corps of Engineers, Corps of Engineers Wetland Delineation Manual. Accessed: <https://www.lrh.usace.army.mil/Portals/38/docs/USACE%2087%20Wetland%20Delineation%20Manual.pdf>, June 2023.

³⁷ U.S. Fish and Wildlife Service, National Wetlands Inventory. Accessed: <https://fwsprimary.wim.usgs.gov/wetlands/apps/wetlands-mapper/>, June 2023.

Figure 3-6
Wetlands



Source: RS&H, 2023; Esri, 2023; USFWS, 2023

3.1.1.14.2 Floodplains

Statutes and EOs that are relevant to floodplains include:

- EO 11988, Floodplain Management (42 FR 26951);
- National Flood Insurance Act (42 U.S.C. § 4001 et seq.);
- U.S. Department of Transportation (USDOT) Order 5650.2, Floodplain Management and Protection; and
- State and local statutes protecting floodplains

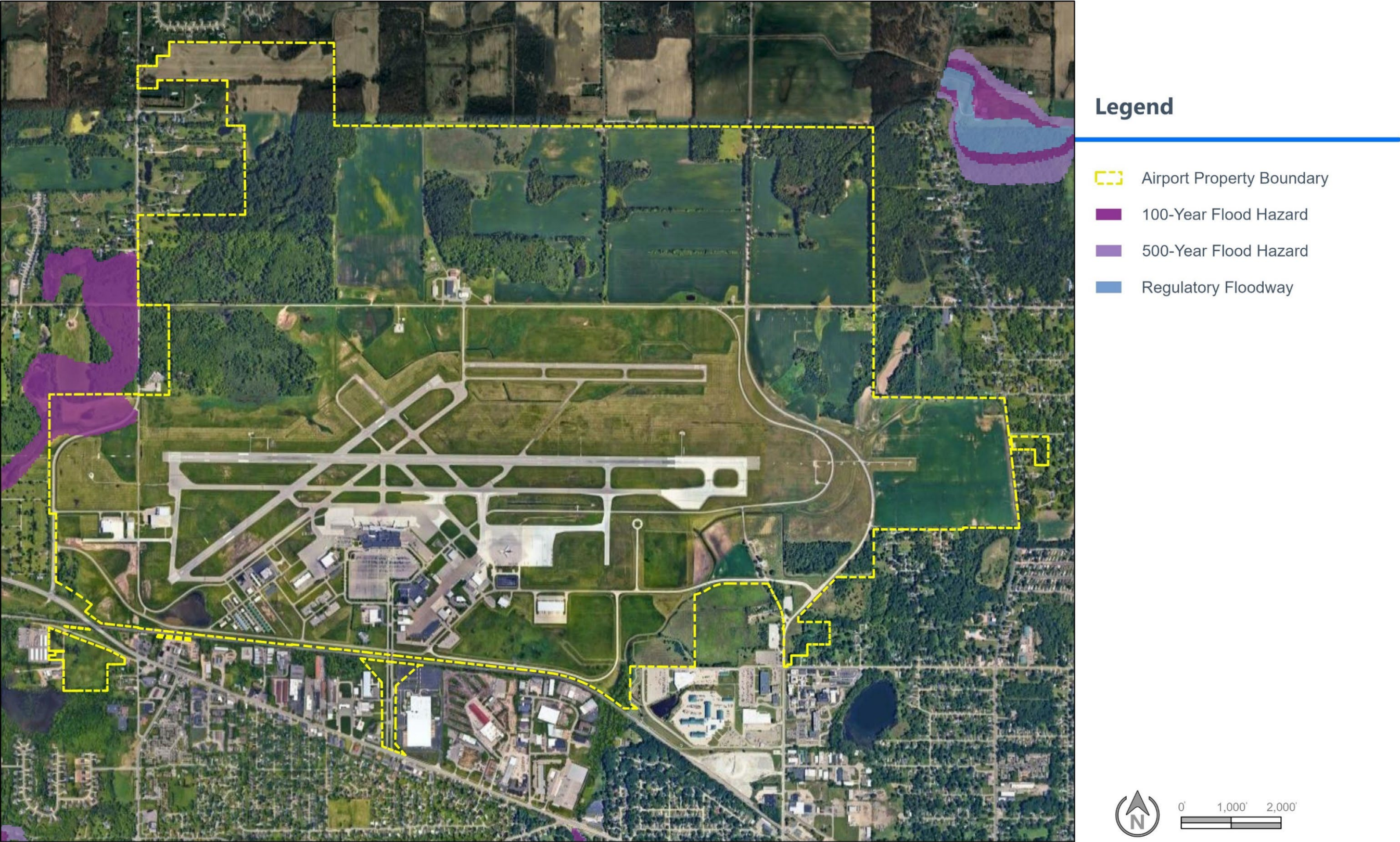
Floodplains are "...lowland areas adjoining inland and coastal water which are periodically inundated by flood waters, including flood-prone area of offshore islands."³⁸ Floodplains are often referred to in terms of the 100-year floodplain, rather, the one percent chance of a flood occurring in any given year and the 500-year floodplain, or the 0.2 percent chance of a flood occurring in any given year. The USDOT Order 5650.2 outlines the policies and procedures for ensuring that proper consideration is given to the avoidance and mitigation of adverse floodplain impacts in agency actions, planning programs, and budget requests. Therefore, the objective is to avoid, to the extent practicable, any impacts within the 100-year floodplain.

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRMs), a 100-year floodplain associated with Grand River is present on the far western portion of CRAA Airport property. However, no 500-year floodplains are on CRAA Airport property (see **Figure 3-7**).³⁹

³⁸ Federal Aviation Administration, Order 1050.1F Desk Reference, February 2020. Accessed: June 2023.

³⁹ Federal Emergency Management Agency, Flood Map Service Center, Flood Insurance Rate Maps 26037C0311D (effective 5/3/2011), 26037C0312D (effective 5/3/2011), 26037C0318D (effective 5/3/2011), 26037C0314D (effective 5/3/2011), 26037C0313D (effective 5/3/2011), 26045C0113E (effective 11/26/2010) and 26065C0014D (effective 8/16/2011). Accessed: <https://msc.fema.gov/portal/search#searchresultsanchor>, July 2023.

Figure 3-7
Floodplains



Source: RS&H, 2023; FEMA, 2023, Esri, 2023

3.1.1.14.3 Surface Waters

Statutes that are relevant to surface water include:

- Clean Water Act (33 U.S.C. §§ 1251-1387);
- Fish and Wildlife Coordination Act (16 U.S.C. § 661-667d);
- Rivers and Harbors Act (33 U.S.C. § 401 and 403);
- Safe Drinking Water Act (42 U.S.C. §§ 300(f)-300j-26; and
- State statutes protect surface waters.

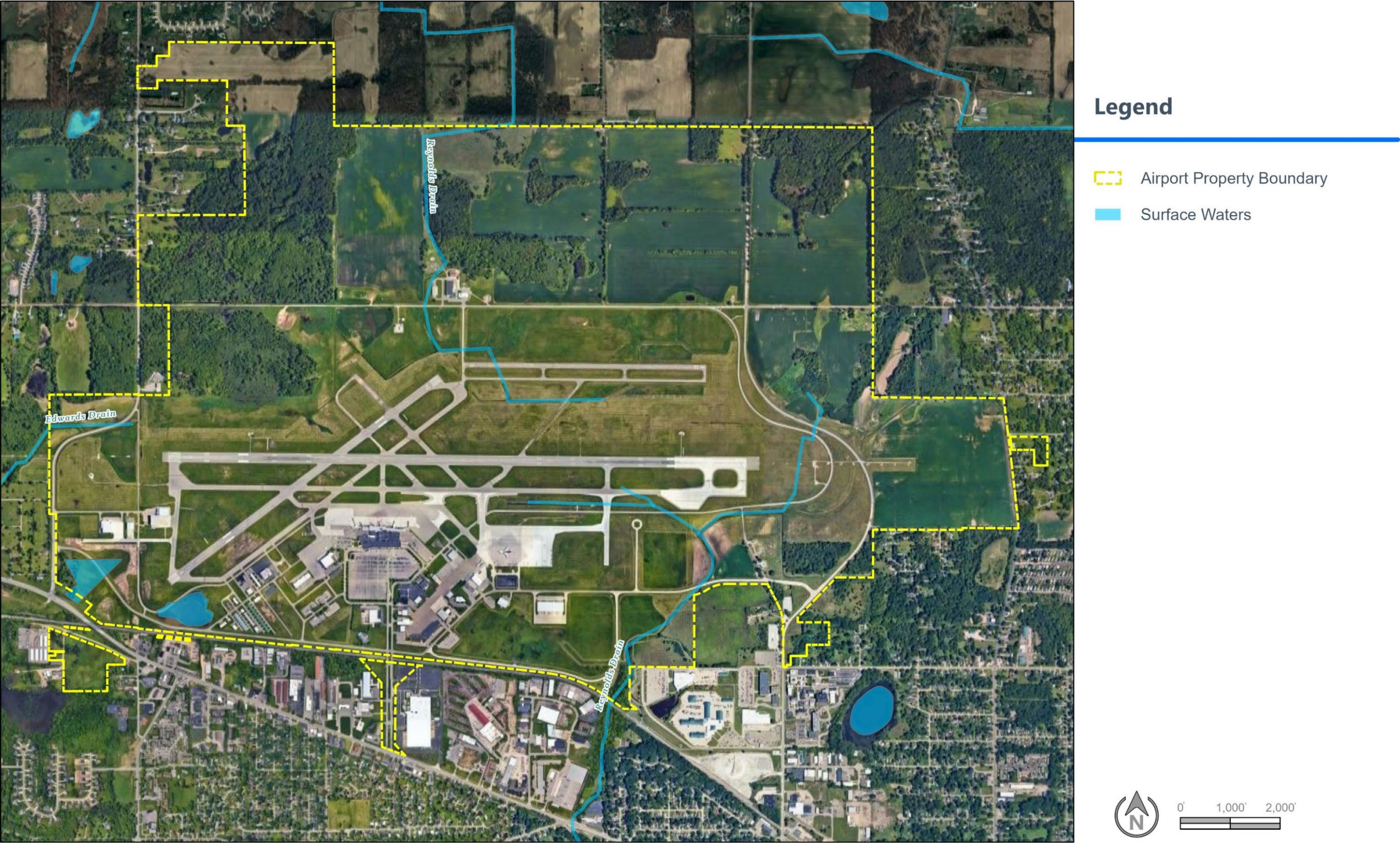
There are surface waters within the southwestern portion of CRAA Airport property (see **Figure 3-8**). This includes two unnamed freshwater surface waters and multiple streams.⁴⁰

Surface waters include areas where water collects on the surface of the ground, such as streams, rivers, lakes, ponds, estuaries, and oceans. There are surface waters present on CRAA Airport property, including Edwards Drain and Reynolds Drain (see **Figure 3-8**).⁴¹

⁴⁰ U.S. Environmental Protection Agency, NEPAassist. Accessed: <https://www.epa.gov/nepa/nepassist>, October 2023.

⁴¹ U.S. Environmental Protection Agency, NEPAassist. Accessed <https://www.epa.gov/nepa/nepassist>, June 2023.

Figure 3-8
Surface Wetlands



Source: RS&H, 2023; NEPAassist, 2023

3.1.1.14.4 Groundwater

Statutes relevant to groundwater include:

- Safe Drinking Water Act (42 U.S.C. §§ 300(f)-300j-26); and
- State statutes protect groundwater.

Groundwater is described as the “subsurface water that occupies the space between sand, clay, and rock formations.”⁴² The Airport is within the Carrier Creek-Grand River watershed (HUC 12 ID: 040500040704).⁴³ The Airport is not within a sole source aquifer.⁴⁴

3.1.1.14.5 Wild and Scenic Rivers

Statutes relevant to wild and scenic rivers include:

- Wild and Scenic Rivers Act (16 U.S.C. §§ 1271-1278).

Wild and scenic rivers are defined as “outstanding natural, cultural, and recreational values in a free-flowing condition for the enjoyment of present and future generations.”⁴⁵ There are no wild and scenic river segments within the Airport. The closest wild and scenic river segment is the Pere Marquette Wild and Scenic River, located 95 miles northwest of the Airport.⁴⁶ The closest river on the Nationwide Rivers Inventory is Grand River located 0.5-mile south of the Airport.⁴⁷ The closest state protected river is the Flat River, approximately 37 miles northwest of the Airport.⁴⁸

⁴² Federal Aviation Administration, 1050.1F Desk Reference, Section 14.4 Groundwater. February 2020.

⁴³ U.S. Environmental Protection Agency, How's my Waterway. Accessed: <https://mywaterway.epa.gov/community/040500040704/overview>, June 2023.

⁴⁴ U.S. Environmental Protection Agency, NEPAassist. Accessed <https://www.epa.gov/nepa/nepassist>, June 2023.

⁴⁵ National Wild and Scenic Rivers System, About the WSR Act. Accessed: <https://www.rivers.gov/wsr-act.php>, June 2023.

⁴⁶ National Wild and Scenic Rivers System, Michigan. Accessed: <https://www.rivers.gov/michigan.php>, June 2023.

⁴⁷ National Park Service, U.S. Department of the Interior, Nationwide Rivers Inventory. Accessed: <https://www.nps.gov/maps/full.html?mapId=8adbe798-0d7e-40fb-bd48-225513d64977>, June 2023.

⁴⁸ Michigan Department of Natural Resources, Natural Rivers. Accessed: <https://www.michigan.gov/dnr/managing-resources/fisheries/natural-rivers>, June 2023.