Chapter 2
Inventory

2.1 AIRPORT BACKGROUND

2.1.1 Airport Sponsor

The Airport Sponsor recognized by the Federal Aviation Administration (FAA) for the Niagara Falls International Airport (NFIA) is the Niagara Frontier Transportation Authority (NFTA). The NFTA is a quasi-public agency providing multimodal transportation management services for Erie and Niagara Counties, New York. In addition to NFIA, NFTA facilities and services include the Metro regional bus and light rail system, Buffalo Niagara International Airport (BNIA), and various real estate interests.

2.1.2 Airport History

The Niagara Falls International Airport was opened in 1928 as a municipal airport owned by the city, originally called Niagara Falls Municipal Airport. It covered 230 acres of land, with four runways. Adjacent to the airport, the Bell Aircraft Company established a manufacturing plant that made some of the first fighter aircraft during World War II in the 1940s and 1950s. Some of these aircraft included the Bell 47B, the first commercial helicopter; the Bell P-59A, the first U.S. jet aircraft; and the Bell X-1, the first supersonic plane. In the 1950s, the airport was renamed the Niagara Falls Air Reserve Base becoming home to the U.S. Air Reserve 914th Airlift Wing and the New York Air National Guard's 107th Fighter Wing (later turned into the 107th Air Refueling Wing), and in 1965 the airport was approved for international flights, then becoming the Niagara Falls International Airport. By 1970, NFTA purchased the civil portion of the airport from the city of Niagara Falls. In 1987 and 1991, the airport provided regularly scheduled commercial flights.

Since 1991 passenger service providers and destinations have varied over time from Suncoast Airlines' flights to Grand Bahama Island, Kiwi Airlines to Newark and Direct Air with service to multiple destinations in the south. Today, service levels have become more sustained with Spirit Airlines' service to Fort Lauderdale and Myrtle Beach, and Allegiant Airlines' flights to Fort Myers, Orlando and St. Petersburg, Florida. The civil part of the airport is owned by NFTA; the military parts are owned by the U.S. Air Reserve. The New York Air National Guard leases a portion of this land. The U.S. Army also owns an adjacent parcel, but it is not currently considered part of the airport. (Source: NFTA)

2.1.3 Recent Airport Developments

The last comprehensive study for the Niagara Falls International Airport consisted of a Terminal Area Plan in 2002; the last master plan was completed in 1994. The terminal study was conducted to assess the feasibility and siting/sizing requirements for what would be a new passenger terminal for the airport. At the time of the study, commercial service consisted of occasional unscheduled charters only. The new passenger terminal complex was opened in 2009. The introduction of commercial air service has helped to transition the facility from one that served only military and general aviation to one that now serves all facets of aviation.

In addition to changes in commercial service, there have been notable changes in the military operations at the airport as well. The KC-135s aerial refueling aircraft, previously based at the airport and operating in association with the New York Air National Guard (ANG) Unit 107, have since been reassigned and consolidated into the NY ANG facility in Schenectady, NY. In an effort to preserve jobs associated with the ANG base, crews are cross trained and operate alongside the U.S. Air Force's 914th Reserve Unit. Military facilities are referenced throughout the report; however, military facilities are not included in the scope of the project and analysis.

2.1.4 Role, Classification

The FAA has a variety of classifications and roles assigned for airports of various sizes. In the classification of enplanements, NFIA is a Primary, Non-hub Commercial Service Airport. Non-hub commercial service airports are those which enplane at least 10,000 passengers annually but less than 0.05% of the total nationwide enplanements (approximately 365,000 in 2011). NFIA had approximately 111,212 enplanements in 2014. Nearby airports and their FAA enplanement category are displayed in **Table 2-1**.

Table 2-1 Nearby Airport Hub Categories

Airport	Enplanements	FAA Hub Level
Jamestown (JHW)	3,222	Non-Primary Commercial Service
Erie (ERI)	97,063	Primary - Non-Hub
Rochester (ROC)	1,173,933	Primary - Small-Hub
Buffalo (BUF)	2,378,469	Primary - Medium Hub
Toronto (YYZ)	19,286,208 (approx)	Primary - Large Hub (Equivalent)

Source: FAA ACIS Database, July 2015; Toronto Pearson International Airport.

As a commercial service airport, the FAA is required under FAR Part 139 to issue NFIA and all other commercial service airports, an Airport Operating Certificate. NFIA is certificated as a Class I Part 139 airport meaning it is allowed to serve scheduled air carriers with greater than 30 seats. As such, the airport is required to undergo a comprehensive inspection by the FAA each year in order to maintain the Airport Operating Certificate.

2.1.5 Airport Location

The Niagara Falls International Airport is located in western New York State. Situated in Niagara County, the airport straddles the Town of Niagara and the Town of Wheatfield. The airport is located approximately four miles east of the City of Niagara Falls and five miles from the Canadian border. The City of Buffalo and the associated metropolitan area is located south and southeast of NFIA, with downtown Buffalo being approximately 20 miles, and a 20-minute drive, from the airport. The airport's regional setting is displayed in **Figure 2-1**, while **Figure 2-2** displays the vicinity.

2.1.6 Existing / Recent Operational Activity

Aircraft activity at NFIA is a mix of commercial service, general aviation, and military aircraft. The general trend at NFIA since 1990 has been a steady decrease in overall activity. Local operations have exhibited a steady decline, in part due to a decrease in based aircraft and changing missions of the military units based at NFIA.

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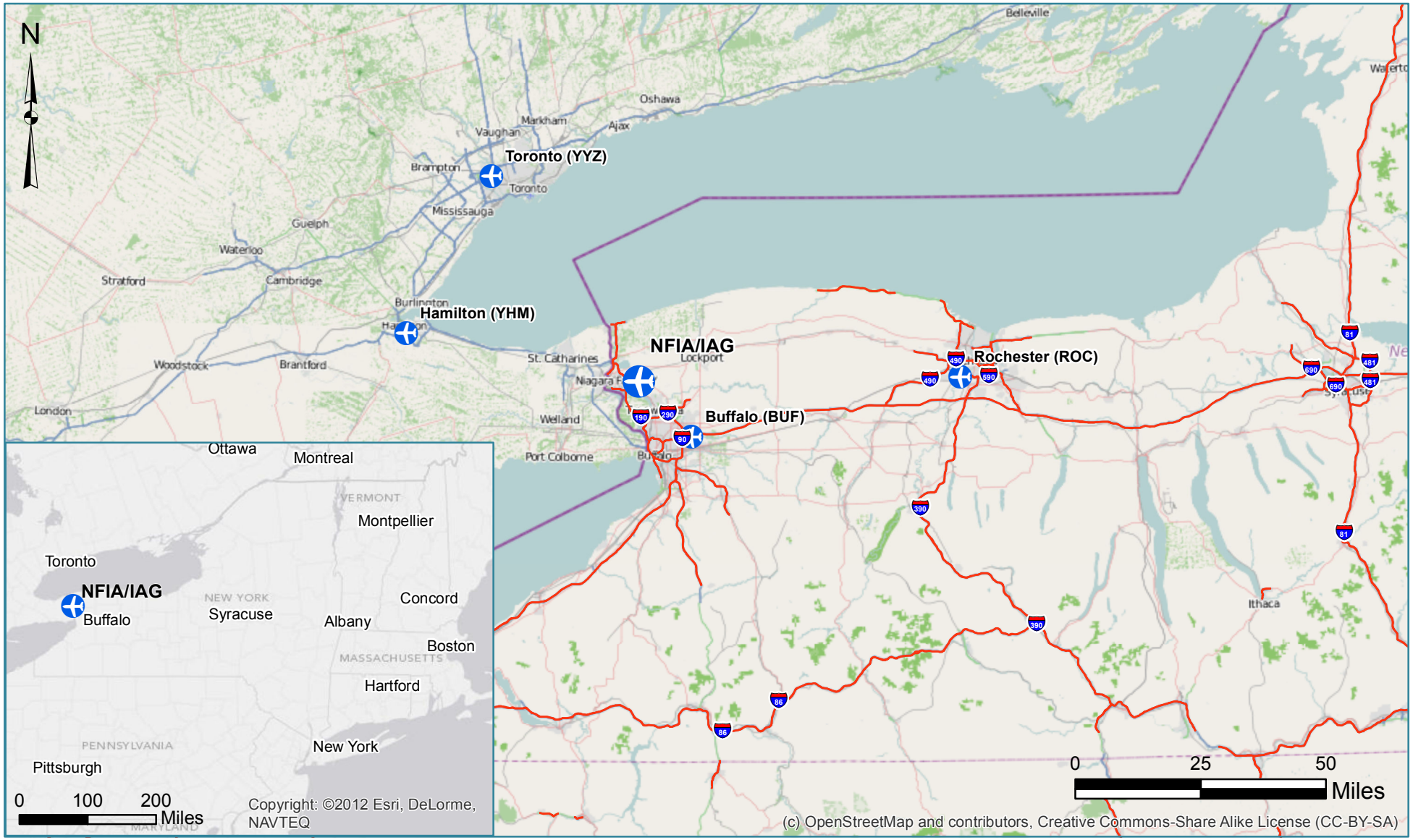
NFIA LOCATION MAP

FIGURE 2-1



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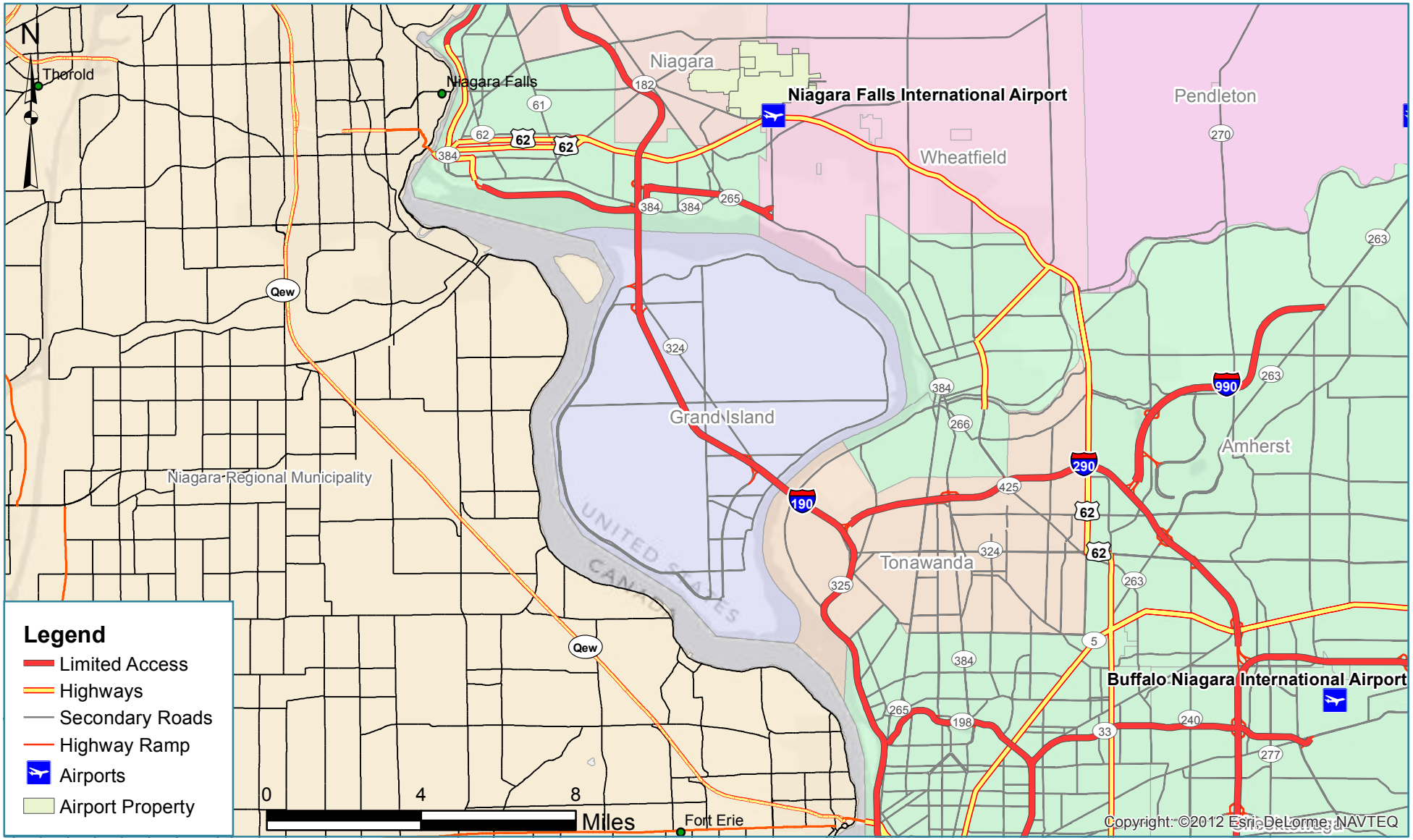
NFIA VICINITY MAP

FIGURE 2-2



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Itinerant operations, primarily commercial and commuter activity, have fluctuated over this time period due to changes in airline service and destinations, as well as changes in the airlines and regional carriers serving NFIA. Activity trends will be further assessed in the Forecast chapter. Operational activity in 2012 at NFIA consisted of the following:

- *Itinerant*
  - Air Carrier 1,066
  - Air Taxi 937
  - General Aviation 10,020
  - Military 4,836
  - Itinerant Total 16,859

- *Local*
  - Civil 4,805
  - Military 3,010
  - Local Total 7,815

Total Operations 24,674

2.1.7 Airport Service Area/ Nearby Airports (Facility Comparison)

The service area for NFIA on the U.S. side is defined by Niagara and Erie Counties, which are included in the Buffalo Metropolitan Statistical Area (MSA). However, a significant portion of airport users come from Canada, specifically the area between St. Catharine's and Toronto. **Figure 2-3** displays the service area for NFIA, which is commonly defined by drive times from the surrounding areas. These drive-times are divided into 30-, 60-, and 90-minute driving distance intervals from the airport along the road network. The Buffalo Niagara International Airport (BNIA), the nearest commercial service provider, is less than a 30-minute drive away. However, NFIA distinguishes itself by providing alternatives for lower-cost leisure air traffic, which differs from the traditional network carrier offerings at BNIA.

After BNIA, the next closest commercial service airport in the U.S. is Greater Rochester International Airport (ROC), which offers airlines and destinations comparable to that of BNIA, on a slightly reduced scale. Just outside of the 90-minute drive time is the Chautauqua County-Jamestown Airport (JHW), which may provide access primarily to residents near Jamestown in southwestern New York. Across the Canadian border within the 90-minute drive time is the Hamilton Airport (YHM) with limited commercial service offerings, while just outside a 90-minute drive is Pearson International Airport (YYZ) in Toronto, which also offers a large amount of commercial service as Canada's busiest airport. Service provided at NFIA is accessible to residents across the border, many of whom are within service area drive times. The vehicular driving distance to nearby commercial airports is as follows:

- Buffalo Niagara International Airport (BNIA) – 20 miles
- Greater Rochester International Airport (ROC) – 80 miles
- Chautauqua County-Jamestown Airport (JHW) – 90 miles
- John C. Munro Hamilton International Airport (YHM) – 60 miles
- Pearson International Airport, Toronto (YYZ) – 85 miles

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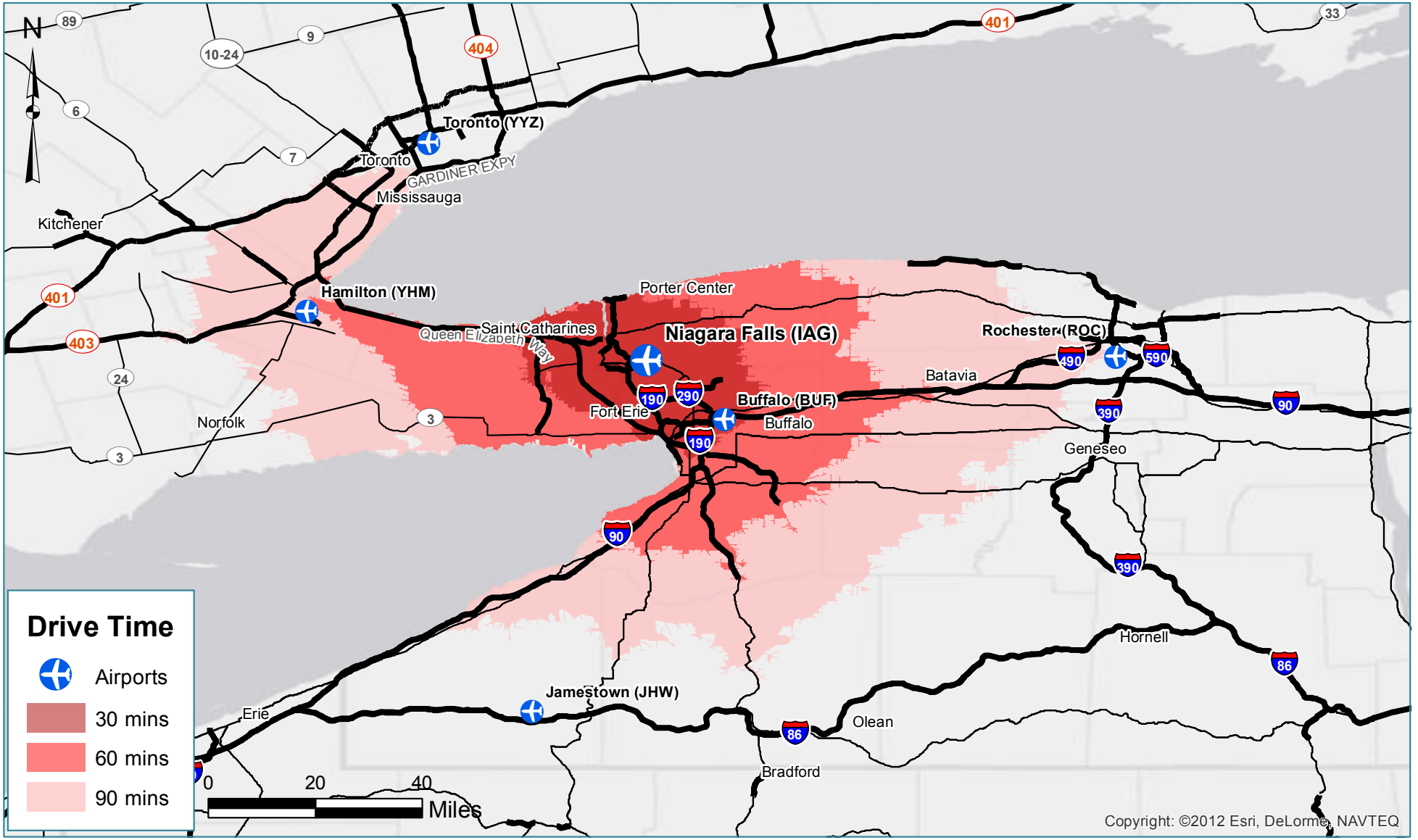
NFIA AIRPORT SERVICE AREA MAP

FIGURE 2-3



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2.1.8 Commercial Airline Service

Niagara Falls is presently served by two airlines, Allegiant and Spirit Airlines, which provide service to destinations in Florida and South Carolina. Allegiant offers service to Orlando/Sanford, FL; Punta Gorda, FL; and St Petersburg, FL, while Spirit flies to Fort Lauderdale and seasonally to Myrtle Beach, SC as shown in **Figure 2-4**. These airlines cater primarily to leisure travelers and often package air travel together with hotels and rental cars as part of the booking process. Because these airlines do not cater to the business travelers, schedule offerings are typically less than daily to most destinations. At Niagara Falls, the typical weekly schedule will fluctuate based on the seasons that are favorable to warm weather destinations. The base schedule consists of approximately 12 weekly flights, while travel periods near Thanksgiving, Christmas, and spring break weeks can offer upwards of 21 weekly flights.

2.1.9 Based Aircraft / Users

Based aircraft are aircraft that remain based, or stored, at an airport over an extended period of time. Based aircraft at NFIA are located on the south central portion of the airfield on the West Ramp. Aircraft are stored on two apron tie-down areas or housed in T-hangars, individual hangar facilities, or in several multi-aircraft hangars. Access to the airfield from the West Ramp is provided by Taxiways C and K.

The number of based aircraft at the airport has decreased from over 100 aircraft in the 1990s to 58 (including military) in 2011, primarily due to changes in the military's role at the airport. Presently aircraft based at the airport consist of:

- Single Engine 32
- Multi-Engine 11
- Jet 3
- Helicopter 1
- Military 11

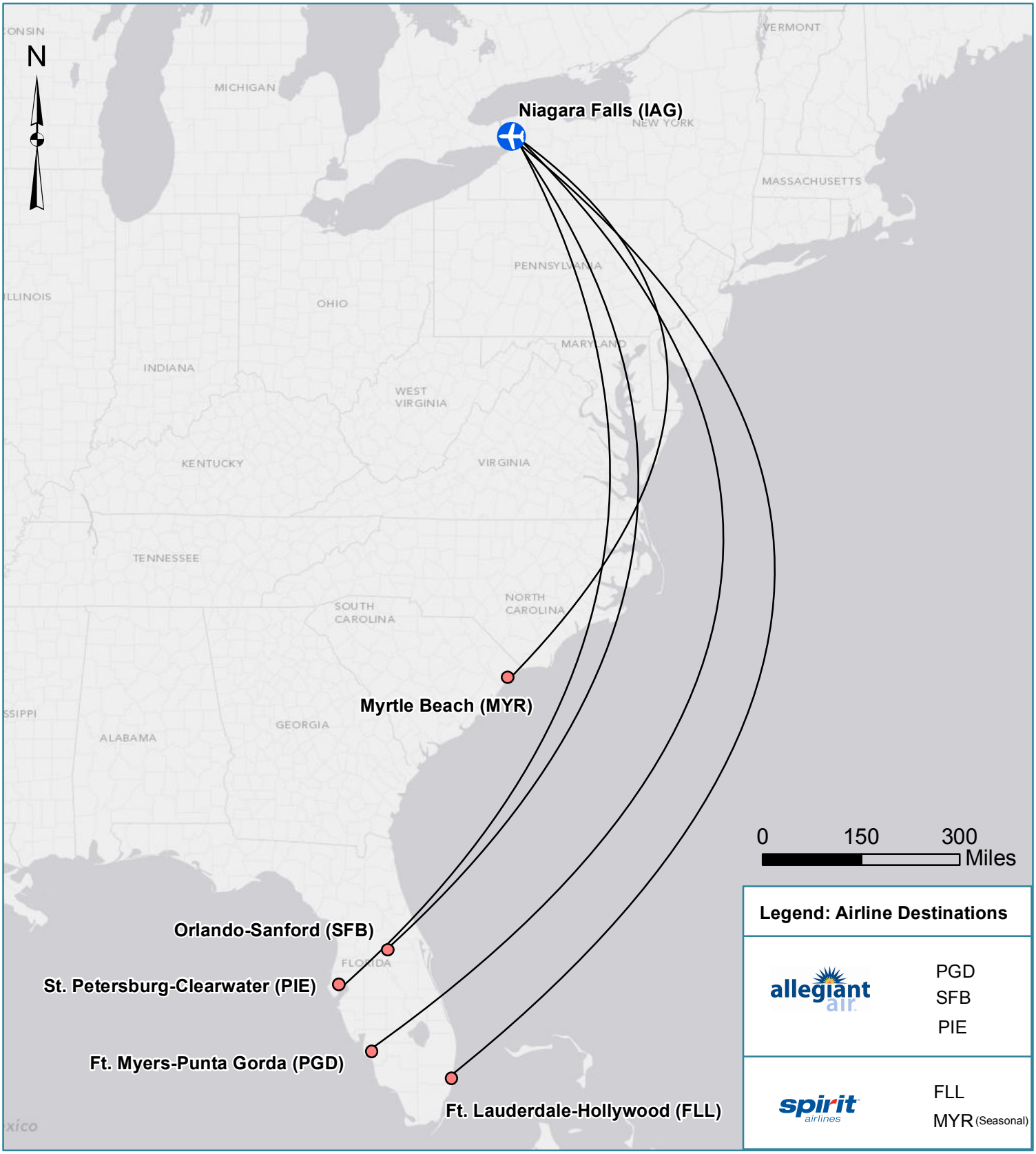
Total Based 58

2.1.10 Meteorological Conditions / Climate

Common with many areas in Upstate New York, the climate in Niagara Falls is influenced by polar and tropical air masses. The Niagara Falls International Airport is located on a 30-mile wide area of land located between Lake Ontario and Lake Erie. Due to these factors, the weather in Niagara Falls is highly variable in precipitation and cloud cover. The average annual precipitation in Niagara Falls is approximately 35.1 inches, distributed evenly throughout the year. The lakes often have a moderating effect on temperature conditions. Temperatures of well below zero degrees Fahrenheit over Canada and the Midwest are typically raised 10 to 30 degrees crossing the lakes. As a result, days with temperatures below zero degrees are limited to about three to five annually. The lakes also have a cooling effect in the summer and temperatures of 90 degrees and above are infrequent. Winds commonly blow off Lake Erie, which lies to the southwest. A detailed analysis of the wind coverage at the airport is presented in the Facility Requirements chapter.

NFIA AIRLINE DESTINATIONS SERVED

FIGURE 2-4



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2.1.11 Airport Tenants

The operational activity at the airport is based around several key tenants that conduct business on the airport. These tenants and their contribution to NFIA are referenced throughout the report.

Terminal Tenants, Airlines, and General Aviation Businesses

- **Spirit Airlines** - Commercial airline offering weekly flights to Florida and South Carolina. While the airline leases space within the passenger terminal, there is no local based staff. Ground handling is provided by Calspan Air Services.

- **Allegiant Airlines** - Commercial airline offering weekly flights to destinations throughout Florida. Similar to Spirit Airlines, there is no local based staff and ground handling services have been contracted out to Winner Aviation.

- **Enterprise Rental Car** - Rental car provider located in the passenger terminal. Customers consist of both airline passengers and local residents. Enterprise also represents the Alamo Rental Car brand.

- **Hertz Rental Car** - Rental car provider located in the passenger terminal. Customers consist of both airline passengers and local residents.

- **The Catering Company (Food Concession)** – The Catering Company provides food and beverage service in the passenger terminal. The central location on the lower level of the passenger terminal allows the company to service passengers on both the secure and non-secure sides. Hours vary based on the flight schedule.

- **Calspan Air Services** - Full service fixed base operator (FBO) servicing both local and itinerant general aviation operations. Facilities include a general aviation terminal, hangars, apron space, and fueling facilities.

- **Calspan** - The Calspan facility is a research and development facility that specializes in flight research technology.

- **Midwest Air Traffic** – Local air traffic control duties are performed by Midwest Air Traffic, which is a contractor for the FAA.

Government Agencies

- **Department of Homeland Security** – The Department of Homeland Security (DHS) includes the Transportation Security Administration (TSA), which handles the passenger and baggage screening operations at the airport. In addition, DHS also includes U.S. Customs and Border Protection, which has the capabilities to process passengers through the airport's Federal Inspection Service (FIS) facility.

- **Niagara Frontier Transportation Authority** – The NFTA, which owns and operates the airport, has offices located in the second floor of the passenger terminal building.

- **United States Air Force** - The U.S. Air Force is not a tenant of the airport, though they own the north and west portions of the airport. While these portions are not directly included in this master plan, their operations and facilities play an integral role and are considered throughout this report.

- **United States Army** - The U.S. Army owns an adjacent parcel of land on the south side of the airport west of the general aviation area. This facility is currently inactive and ownership is slated to transfer to the Town of Niagara.

2.2 AIRSIDE FACILITIES AND ACTIVITY

Airside facilities include the runways, taxiways, associated airfield signage and navigation equipment, aprons, and approaches to each runway end. There are a total of three active runways at the airport - a primary, a parallel, and a crosswind. There are additional pavement areas that are the remnants of former runways and associated taxiways from the World War II era airbase.

2.2.1 *Runways*

Runway 10L-28R

Runway 10L-28R is the primary runway at the airport. The runway is 9,829 feet long and 150 feet wide. The runway surface is a mix of grooved asphalt pavement and concrete and is in good condition. Runway 10L has a 703-foot displaced threshold and includes a new portion of pavement with a turnaround that was constructed since the previous master plan. This new portion of the runway was proposed in the previous master plan with the intention of providing additional runway takeoff length for the larger aircraft, primarily the KC-135 (Boeing 707) refueling aircraft operating at the airport at the time. The additional paved area (blast pad, marked with chevrons) is not considered runway, 1,000 feet beyond 10L and 700 feet (not all of which is paved) beyond 28R is designated as clearway, meaning it can be factored into the aircraft's takeoff distance available (TODA) performance calculations.

The runway is marked with precision markings at both runway ends. The runway is lighted with High Intensity Runway Lights (HIRLs), a four-box Visual Approach Slope Indicator (VASI) for Runway 10L and a Medium Intensity Approach Lighting System with Sequenced Flashers (MALSR) on Runway 28R. A 4-box Precision Approach Path Indicator (PAPI) was installed for Runway 28R in the spring of 2016. NFIA runway data is displayed in **Table 2-2**.

Runway 10R-28L

Runway 10R-28L is the smaller parallel runway that is used primarily by general aviation aircraft. The runway is 3,973 feet long and 75 feet wide. The runway surface is asphalt pavement and is in good condition. The runway has a parallel runway centerline to centerline offset of approximately 1,890 feet from Runway 10L-28R. The offset allows simultaneous approaches during VFR weather conditions and maintaining two-way radio communication, which requires 700 feet at a minimum.

The runway is marked with basic markings at both runway ends. The runway is lighted with Medium Intensity Runway Lights (MIRLs), two four-box VASI units for each runway end and Runway End Identifier Lights (REILs) at each runway end.

Table 2-2 Runway Data

Runway	10L-28R	6-24	10R-28L
Role	Primary	Crosswind	Parallel/Utility
Length	9,829	5,188	3,973
Width	150	150	75
Surface	Asph-Con	Asph	Asph
Strength	957,000 DDTW	462,000 DTW	97,000 DW
Lighting	High	Med	Med
Markings	Precision	Non-Precision	Visual
VGSI	VASI/PAPI	PAPI/PAPI	PAPI/PAPI
Approach Lighting	MALSR 28R	REILs	REILs
Declared Distances			
TORA	9,829 / 9,829	5,188 / 5,188	3,973 / 3,973
TODA	10,829 / 10,529	5,188 / 5,188	3,973 / 3,973
ASDA	9,829 / 9,129	5,188 / 5,108	3,973 / 3,973
LDA	9,129 / 9,129	5,188 / 5,108	3,973 / 3,973

Source: FAA Form 5010; Airport Master Record, April 2013.

Runway 6-24

Runway 6-24 is the crosswind runway at the airport. The runway is 5,188 feet long and 150 feet wide. The runway surface is asphalt pavement and is in good condition. The approach end of Runway 24 is very nearly co-located with the approach end of Runway 28R. The two runways intersect approximately 200 feet from the 28R end and 800 feet from the 24 end. Runway 6-24 also intersects Runway 10R-28L approximately 3,800 feet from the 24 end.

The runway is marked with basic markings and aiming points. The runway is also marked with military "Assault Runway" markings. These markings are nonstandard for civilian runways, but are in place to assist in night vision training for the military. These special markings are approved for NFIA. The runway is lighted with Medium Intensity Runway Lights (MIRLS), has two Precision Approach Path Indicators (PAPIs) for each runway, and REILs at both runway ends.

2.2.2 Taxiways

The taxiway system at NFIA has been modified over the years as the airport transitioned from military use and auxiliary runways were decommissioned. All runway ends are served by taxiways. However, the transition from military use to civilian/commercial use resulted in complex taxiway procedures for some operations. The taxi operations near the Runway 28R and 24 areas are complex as result of the recent extension and changes in ATC procedures for crossing runways. Military operations require multiple runway crossings to access Runway 24 and there is insufficient holding space on Taxiway D for either Runway 24 or 28R without blocking the other runway. A description of each taxiway is provided below. It should be noted that all taxiways described below are lighted with Medium Intensity Taxiway Lighting (MITL).

Taxiway A

Taxiway A is a full parallel taxiway that is 75 feet wide and is located on north of Runway 10L-28R. The taxiway varies in distance to the runway from 800 feet on the west end and 1,014 feet separation on the east side of the runway.

The taxiway serves the military located on the north side of the airport. Both civilian and military aircraft are authorized to use the taxiway, but civil aircraft are restricted from leaving the taxiway to enter the adjacent military apron areas. There are three stub taxiways that provide key exit points along the runway, all of which connect to Taxiway A. Those stub taxiways are Taxiway A1 which is 75 feet wide; Taxiway A2 which is 50 feet wide; and Taxiway A3 which is 75 feet wide.

The entire length of Taxiway A and all associated connectors between Taxiway A and Runway 10L-28R are owned by the U.S. Air Force. These surfaces are also considered non-movement, meaning movement is not controlled or monitored by the Air Traffic Control Tower.

Taxiway C

Taxiway C provides access from the West Ramp, general aviation parking, and the terminal, to Runways 6 and 10R. The taxiway is a partial parallel taxiway to Runway 10R-28L and is 75 feet wide. The Taxiway C portion connecting to Runway 10R is 50 feet wide.

Taxiway D

Taxiway D is a full parallel taxiway to Runway 6-24. The taxiway is located on the east side of the runway and is 75 feet wide. The taxiway has a runway to parallel taxiway separation of 400 feet. There are five stub taxiways connecting the runway to Taxiway D, all are 75 feet wide and are designated Taxiway C, D1, D2, D3, and H.

Taxiway H

Taxiway H is a short taxiway that connects Runway 6 to the general aviation parking area. The taxiway's width is 75 feet wide.

Taxiway J

Taxiway J connects Taxiways C and D and general aviation parking. The taxiway's width is 75 feet east of Runway 6-24 and 40 feet west of Runway 6-24.

Taxiway K

Taxiway K is a 75-foot wide taxiway that connects the West Ramp to Runway 10L-28R. Aircraft proceeding to the departure end of Runway 10L back-taxi approximately 3,500 feet to the runway end or back-taxi approximately 1,200 feet to Taxiway A1, which leads to Taxiway A and the departure end of Runway 10L.

Taxiway L

Taxiway L provides access from the Calspan Hangar to Runway 28L. North of the Runway 28L threshold is it called Taxiway M. Taxiway L is 75 feet wide.

Taxiway M

Taxiway M provides access from Taxiway D to Runway 28L. Across from Runway 28L the taxiway is identified as Taxiway L. The changing of taxiway designations as aircraft cross the runway creates the potential for pilot confusion. This taxiway is 75 feet wide.

2.2.3 Pavement Management Study

The 2005 Pavement Management Study was updated in conjunction with this project. Findings have been compiled in a separate report and recommendations are included as an appendix in this report.

2.2.4 Apron Space

There are several apron areas on the airport; each of the areas varies in size and use. The apron areas on the airport consist of the following:

- Passenger Terminal – 30,404 square yards (SY) – Airline operations
- Fixed Base Operator – 23,308 SY – Itinerant general aviation
- General Aviation – 56,031 SY – Local based general aviation
- Calspan – 5,338 SY – Calspan operations
- U.S. Air Force (Main Ramp) – 187,206 SY – U.S. Air Force and NY ANG operations
- U.S. Air Force – 40,993 SY – U.S. Air Force operations
  U.S. Army – 36, 147 SY – Inactive, former U.S. Army operations

2.2.5 Visual / Navigational Aids

Visual approach aids at the airport include VASIs on Runway 10L, PAPIs on Runway 6-24 and 10R-28L, windsock(s), and a rotating beacon.

VASIs are lighting systems that provide pilots with visual decent guidance indications during the approach to a runway. These lights are visible between three and five miles during the day and up to 20 miles or more at night. The visual glide path of the VASI provides safe obstruction clearance within plus or minus 10 degrees of the extended runway centerline and up to four nautical miles from the runway threshold. There is a four box VASI unit on the left side of Runway 10L.

PAPIs use light units similar to VASIs but are installed in a single row. PAPIs vertically guide a pilot to the runway with a narrower beam of light than the VASI; therefore, the PAPI is more precise. PAPIs have an effective visual range of approximately five miles during the day and up to 20 miles at night. There is a four-box PAPI on the left side of Runways 6 and 24, and a 2-box PAPI on both Runways 10R and 28L.

In addition to these visual aids, the airport also has a rotating beacon to assist pilots in locating the airport during nighttime and inclement weather. At civil airports such as NFIA, a rotating beacon emits alternating white and green flashes to indicate the location and type of the airport. The beacon at NFIA is located atop the ATCT cab.

Existing airside facilities are displayed in **Figure 2-5.**

2.2.6 Instrument Approach Procedures

Instrument approaches to NFIA are made up of a series of predetermined maneuvers that position an aircraft to a point where the pilot can make a visual landing. Information related to the existing instrument approaches at NFIA was obtained from the U.S. Terminal Procedures – Northeast (NE) Vol. 2 of 3, effective through September 16, 2016. The approaches are described more below.

Instrument Landing System (ILS)

An ILS provides horizontal and vertical guidance to a runway end, which allows pilots to land aircraft when visual navigation is limited. The ILS is used during poor weather conditions with low visibility. Currently, there is an ILS precision approach to Runway 28R. The ILS provides pilots with a set of cloud ceiling height and visibility requirements, referred to as minimums, to land under these conditions. The minimums for the ILS on Runway 28R consist of a decision height of 250 feet (cloud ceiling) above ground level (AGL) and 3/4-mile visibility.

The electronic components that comprise the ILS are the localizer and glide slope. The localizer signal is used to establish and maintain the aircraft's horizontal position until visual contact confirms the runway alignment and location. The glide slope is an electronic transmitter that emits signals used to establish and maintain the aircraft's descent rate, or glide path, until a pilot can visually confirm the runway alignment and location.

Global Positioning System (GPS) Approaches

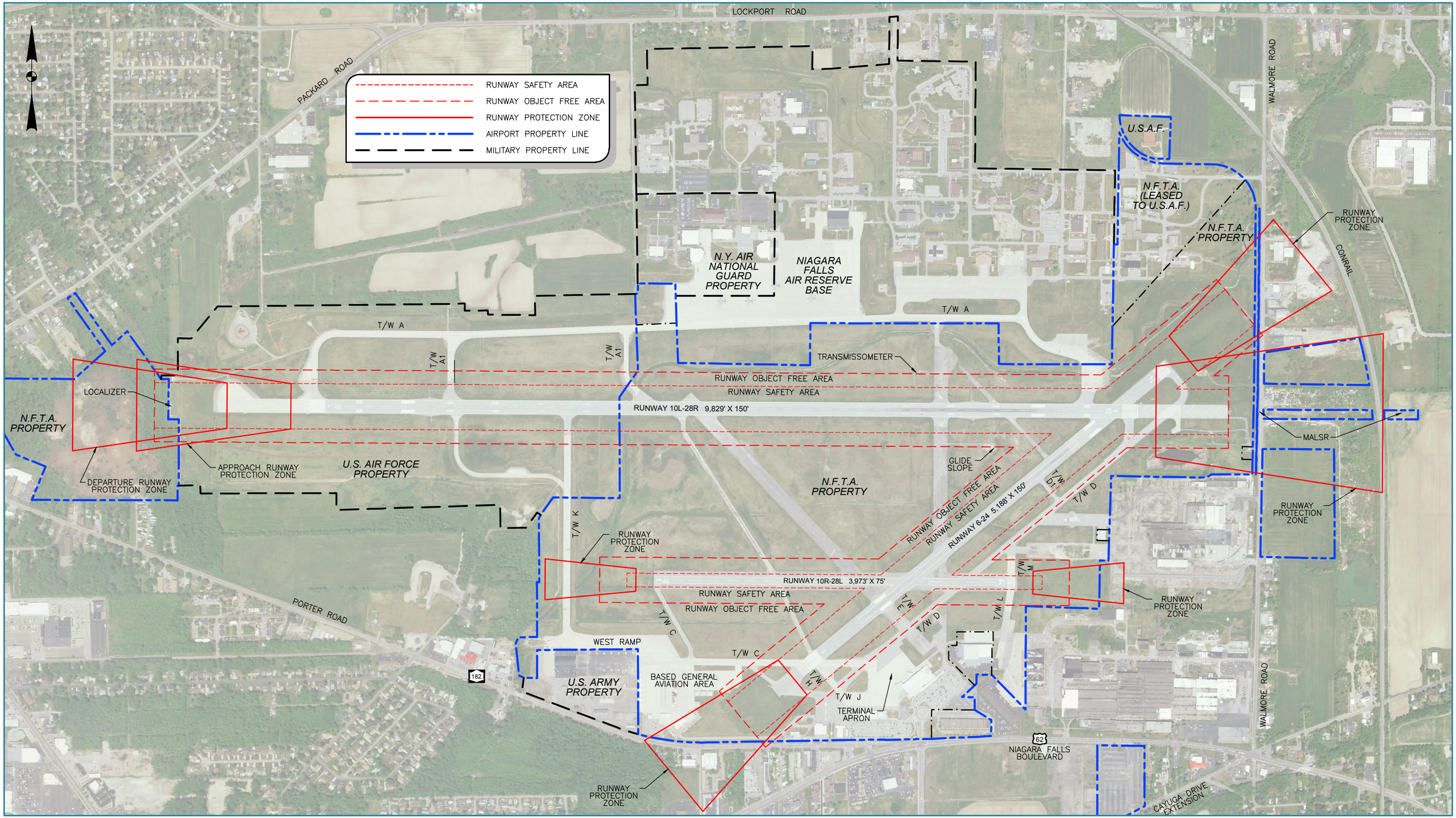
Presently, GPS approaches are published for Runways 6, 10L, 24, and 28R. The approaches to Runway 6, 10L, and 24 are all relatively new, having been developed and published in early 2013 (2014 for 10L). The approach to Runway 10L is a 10 degree offset due to restricted airspace surrounding the tourist areas associated with Niagara Falls, publishing the approach required an agreement between the Buffalo Terminal Radar Approach Control (TRACON) and NavCanada, the Canadian air traffic control agency. The lowest visibility minimums published for each runway end are as follows:

Runway End	Visibility Minimum
6	278-foot AGL ceiling and 1 mile
24	408-foot AGL ceiling and 1 mile for category A and B aircraft and 1 1/8 mile for category C and D aircraft
10L	392-foot AGL ceiling and 1 mile for category A and B aircraft and 1 1/8 mile for category C and D aircraft
28R	250-foot AGL ceiling and ¾ mile

Figures 2-6/10 displays the current approaches published for NFIA

EXISTING AIRSIDE FACILITIES

FIGURE 2-5



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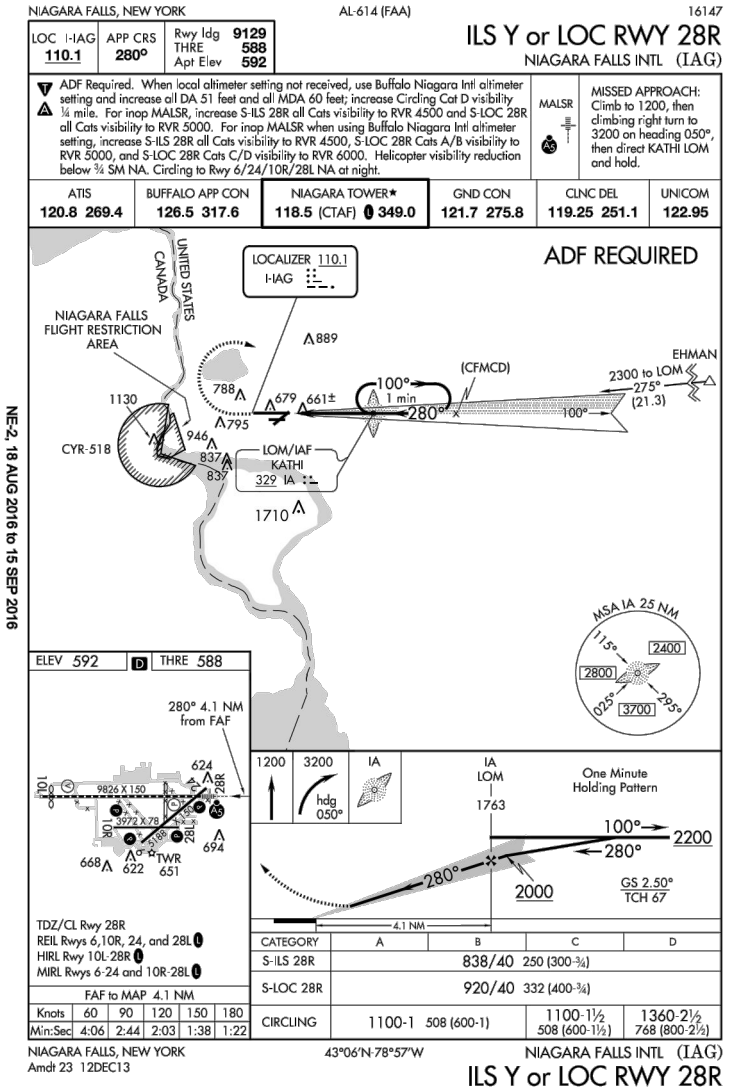
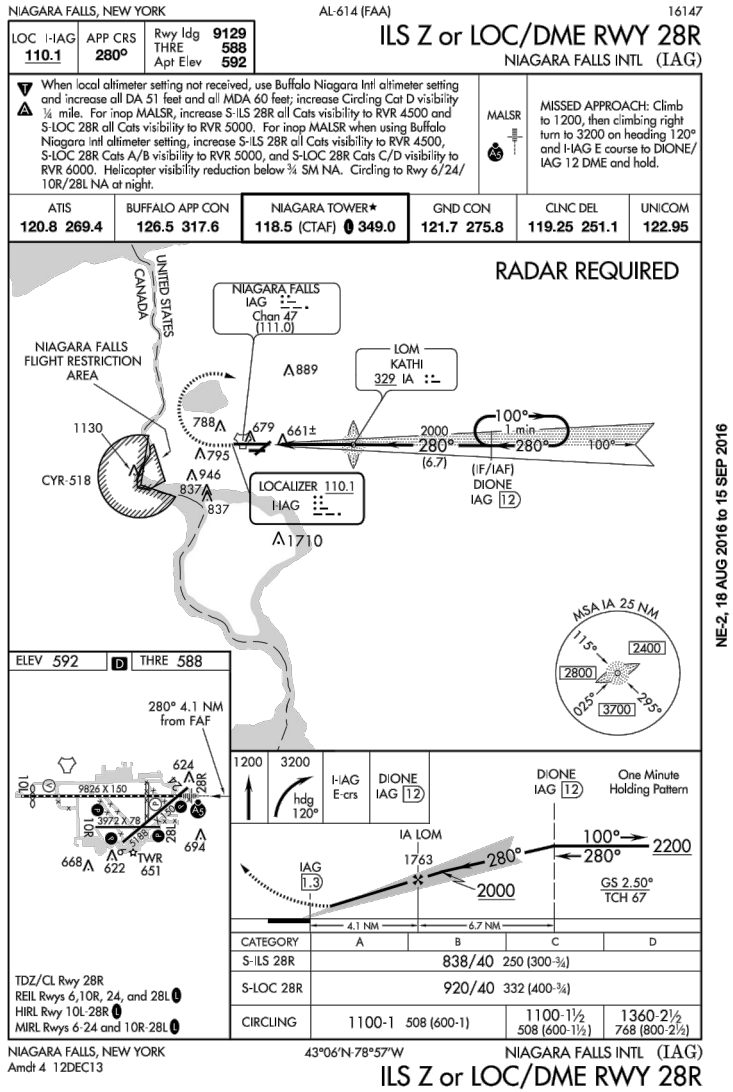
RUNWAY 28R PRECISION APPROACH PROCEDURES

FIGURE 2-6





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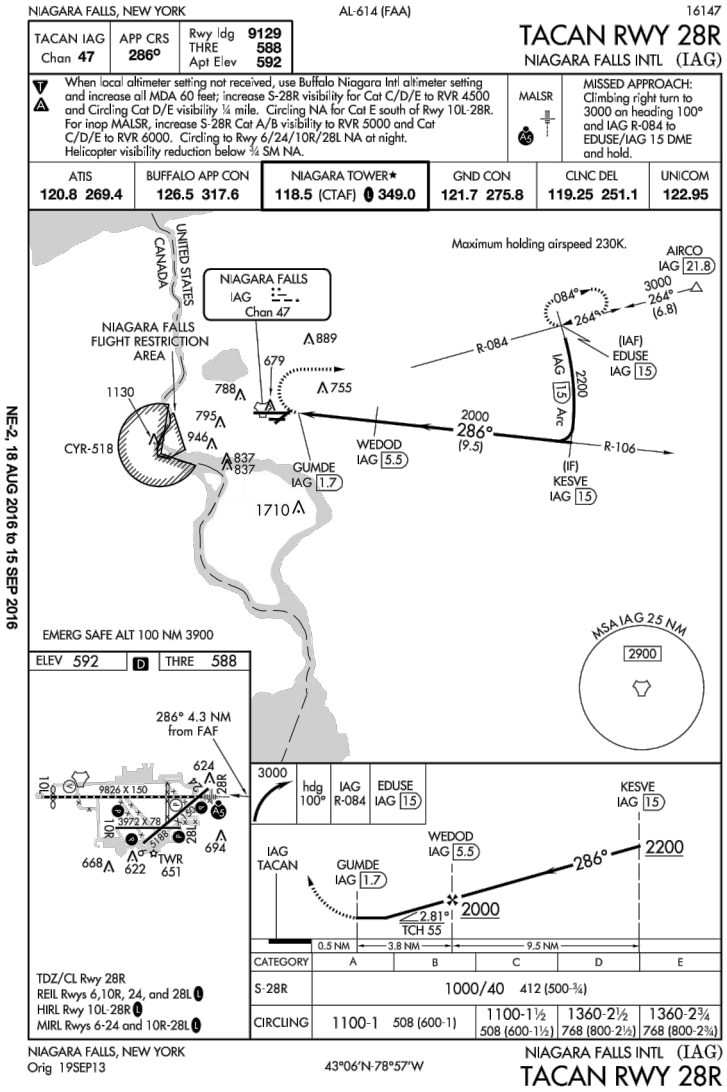
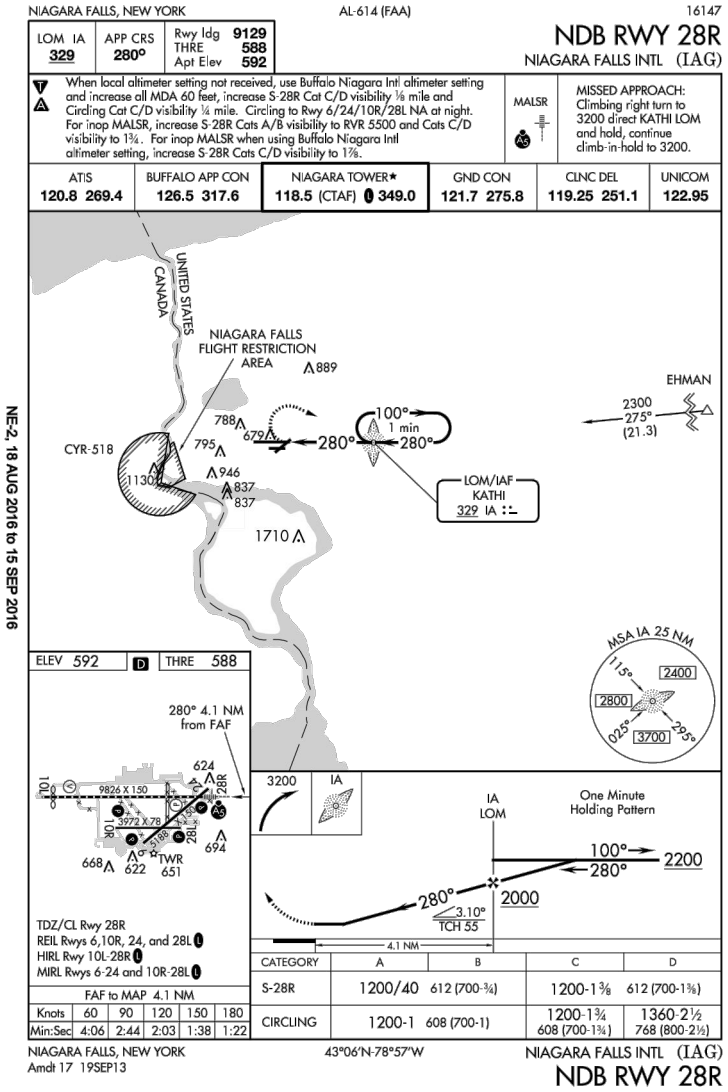
RUNWAY 28R NDB AND TACAN APPROACH PROCEDURES

FIGURE 2-7





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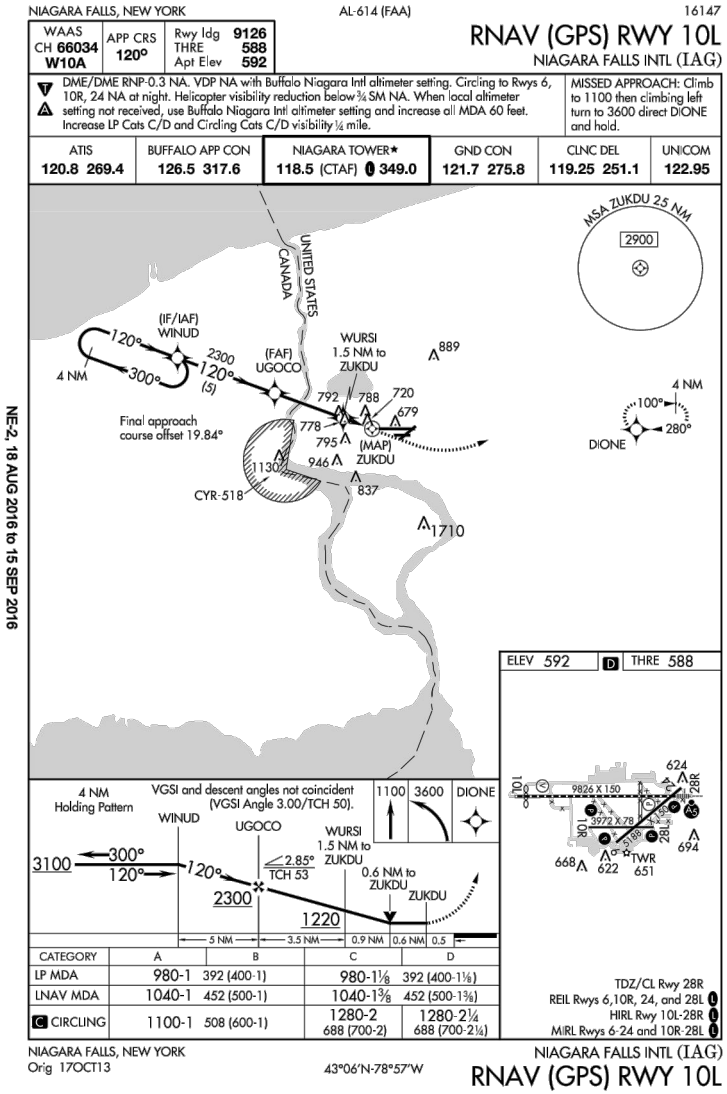
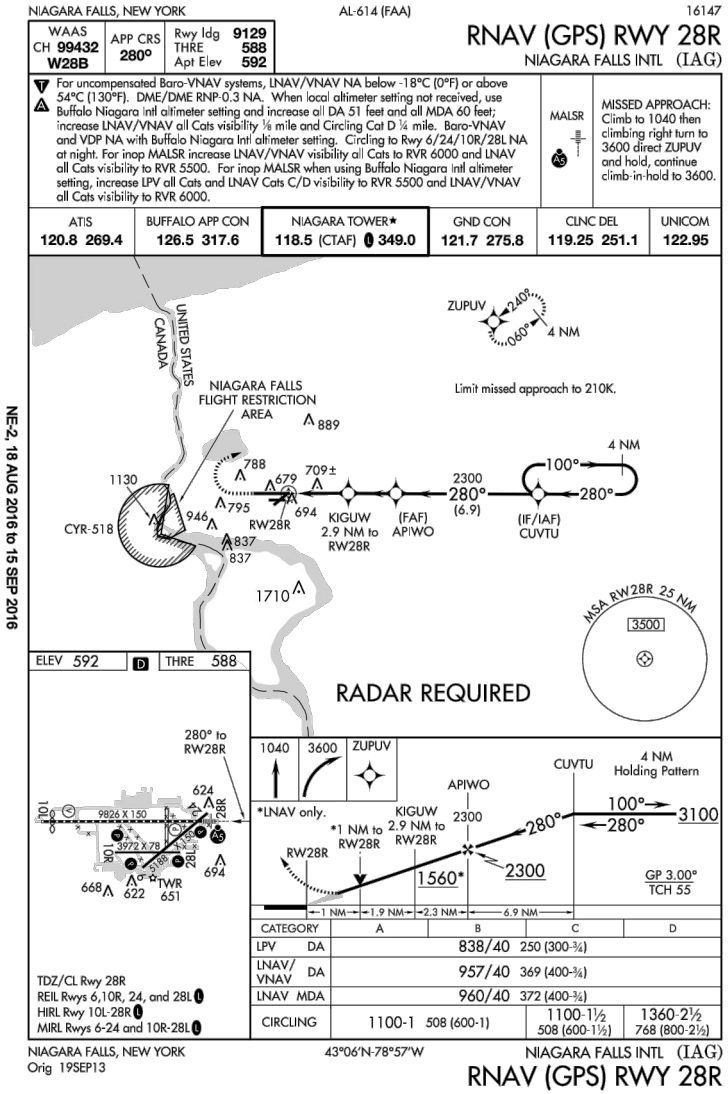
RUNWAY 10L-28R GPS APPROACH PROCEDURES

FIGURE 2-8





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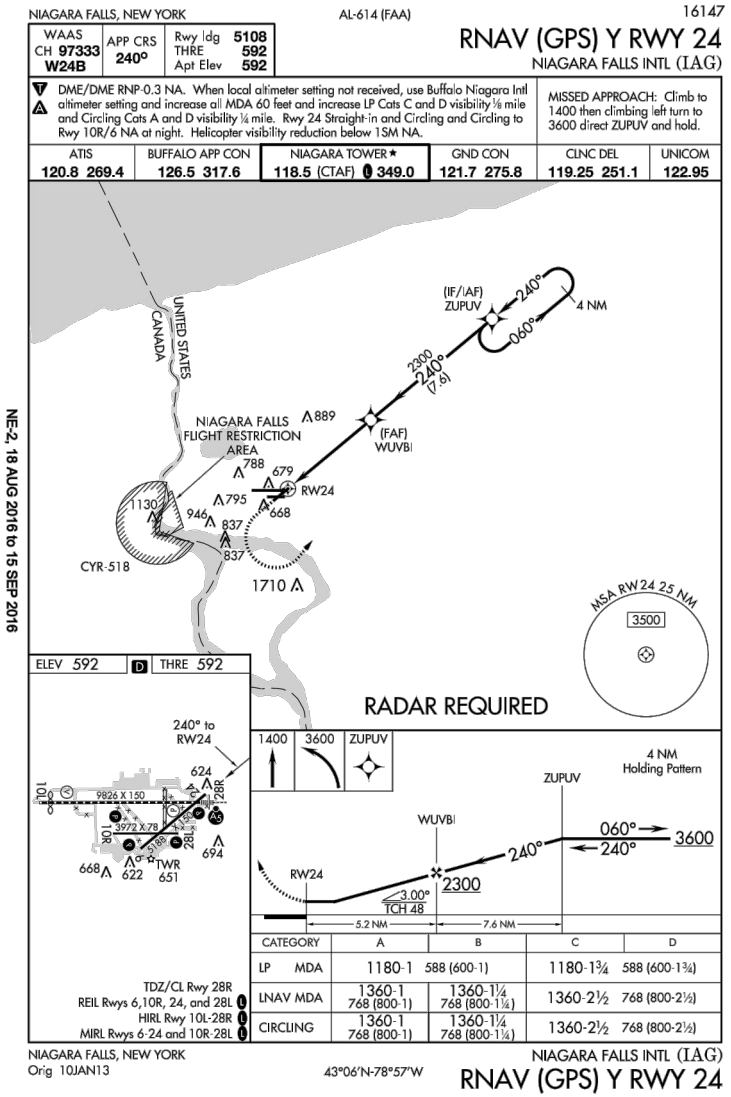
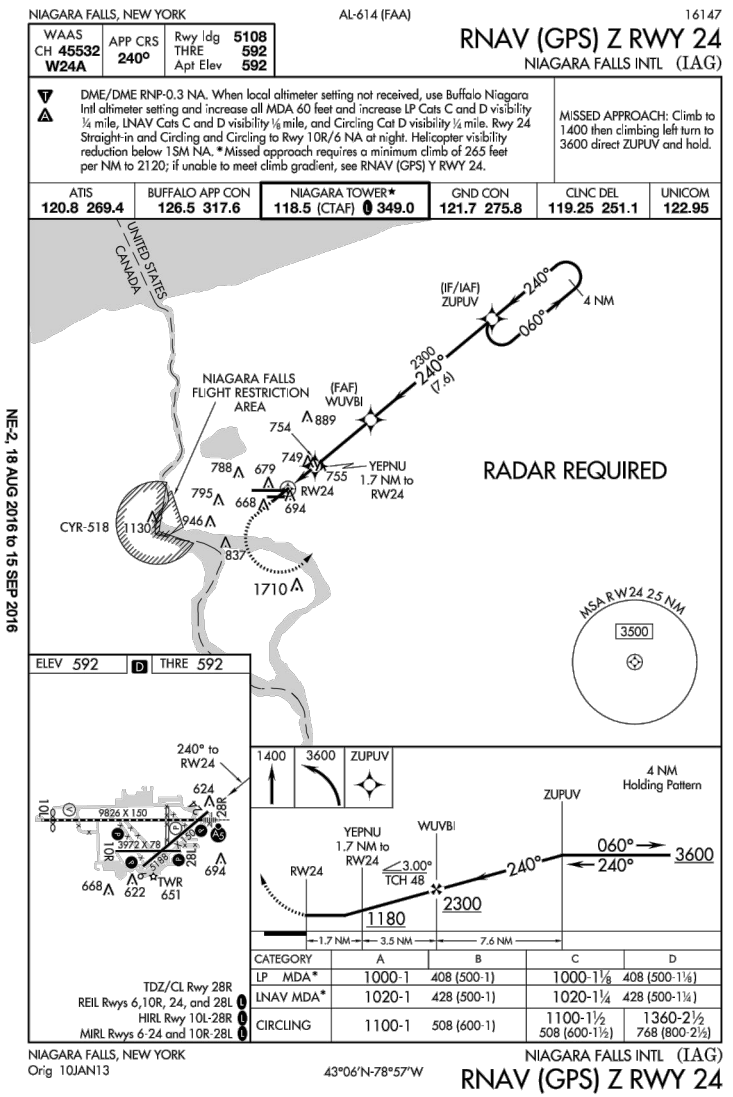
RUNWAY 24 GPS APPROACH PROCEDURES

FIGURE 2-9





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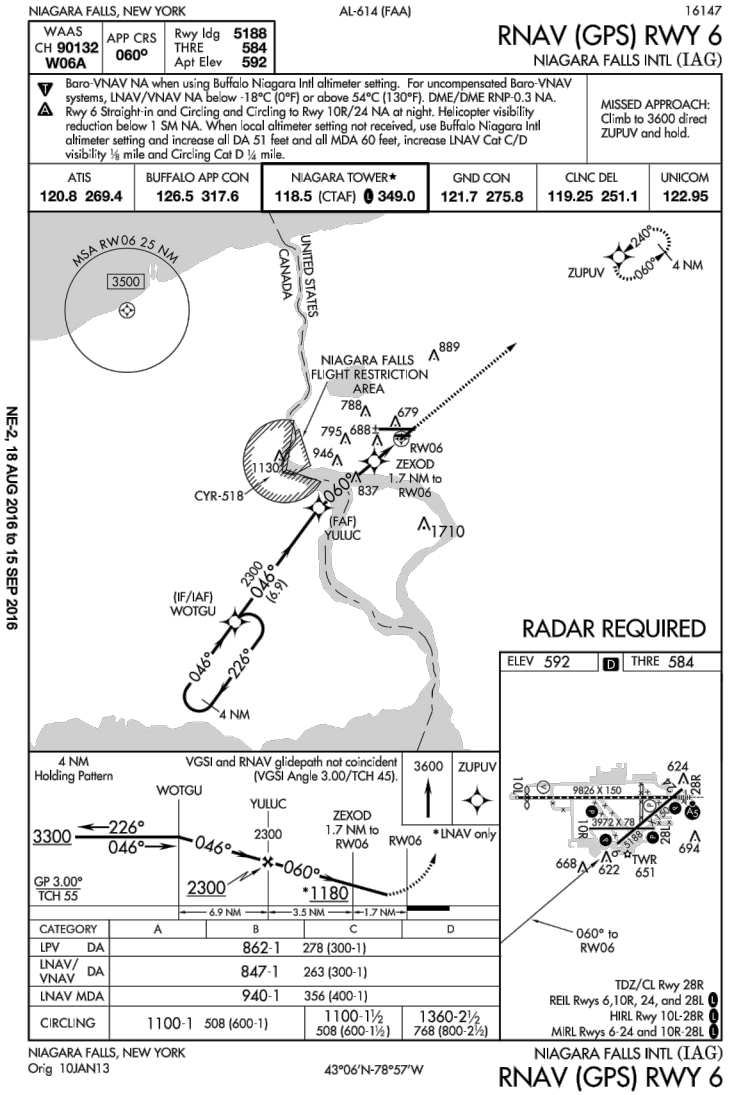
RUNWAY 6 GPS APPROACH PROCEDURE

FIGURE 2-10



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2.3 PASSENGER TERMINAL

The original passenger terminal, built in the 1950's, was replaced in 2009 with a new 72,333 square feet (SF), two-level passenger terminal. This terminal provides for multiple airline operations, concessions, Customs and Border Protection (CBP), Transportation Security Administration (TSA), and airport administration. Terminal space allocation is presented in **Table 2-3,** while **Figures 2-11/12** display the main level and upper level terminal floor plans**.**

Table 2-3 Passenger Terminal Space Allocation

Functional Area	Arrival Level	Departure Level	Total	Percent
Airline Offices	1,100	0	1,100	1.50%
Circulation	8,987	2,767	11,754	16.2%
Restrooms	2,942	1,098	4,040	5.6%
Mechanical	4,669	3,267	7,936	11%
TSA				
Passenger Screening	2,463	0	2,463	3.40%
Checked Baggage	1,665	0	1,665	2.30%
Customs/Border Prot.	7,606	1,380	8,986	12.40%
Concession/Retail	1,878	0	1,878	2.6%
NFTA Transit	627	0	627	1%
Baggage Make-up	3,678	0	3,678	5.10%
Ticketing	2,956	0	2,956	4.10%
Airport Offices	0	2,225	2,225	3.10%
Holdroom	2,407	8,901	11,308	15.6%
Baggage Claim				
International	3,415	0	3,415	4.7%
Domestic	2,779	0	2,779	3.8%
Baggage Offload	4,768	0	4,768	6.6%
Loading Bay	755	0	755	1%
Total	**52,695**	**19,638**	**72,333**	**100%**

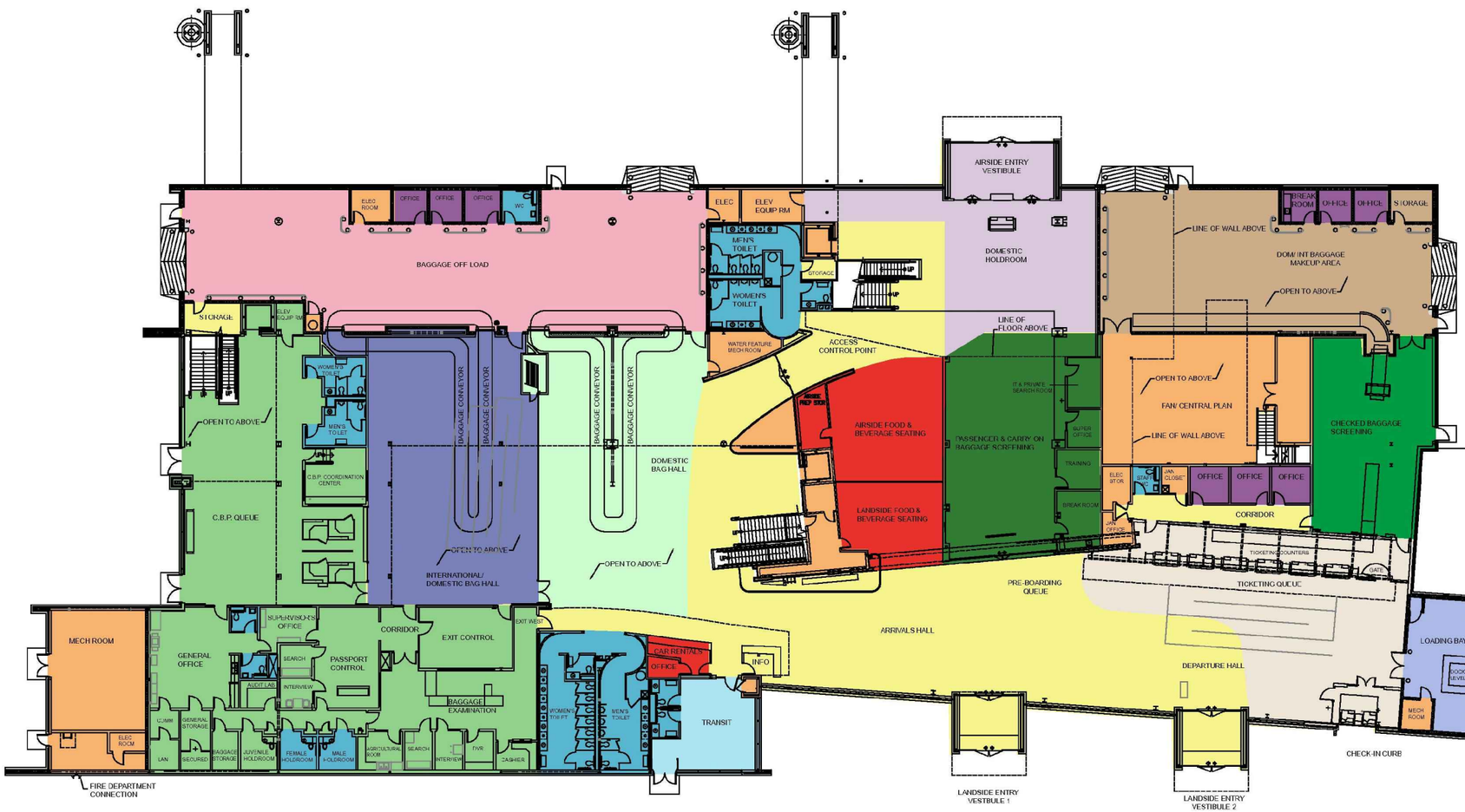
Source: NFTA Engineering, 2013.

2.3.1 Ticketing Area

The airline ticketing area occupying approximately 2,960 SF is operated to maximize flexibility based on tenant and facility demands. Six two-position ticket counters are provided and assigned according to demand and schedule. Each ticket position is supported with electrical power, IT cable, and path. Computer and ticket printers are provided by the tenant airlines. Switching is available to allow a second airline to use each ticketing position provided that an additional computer and printer are installed by that airline and use of the desk is scheduled accordingly. Flat panel displays on the back wall provide the ability to display the appropriate airline logo. A single out-bound baggage conveyor is located behind the counters feeding the TSA checked-baggage screening area. Three tenant offices are available to the airlines, accessed from a secure corridor behind the ticketing area. The ticket queue area is flexible and

PASSENGER TERMINAL MAIN LEVEL

FIGURE 2-11



LEGEND

- AIRLINES: 1,100
- CIRCULATION: 8,987
- RESTROOMS: 2,942
- MECHANICAL: 4,669
- T.S.A. PASSENGER SCREENING: 2,463
- T.S.A. HOLD BAGGAGE: 1,665
- C.B.P.: 7,606
- CONCESSION/RETAIL: 1,878
- NFTA TRANSIT: 627
- BAGGAGE MAKEUP: 3,678
- TICKETING: 2,956
- HOLDROOM: 2,407
- BAGGAGE CLAIM - INTERNATIONAL: 3,415
- BAGGAGE CLAIM - DOMESTIC: 2,779
- BAGGAGE OFFLOAD: 4,768
- LOADING BAY: 755

TOTAL FLOOR: 52,695 SF

0 8′ 16′ 32′

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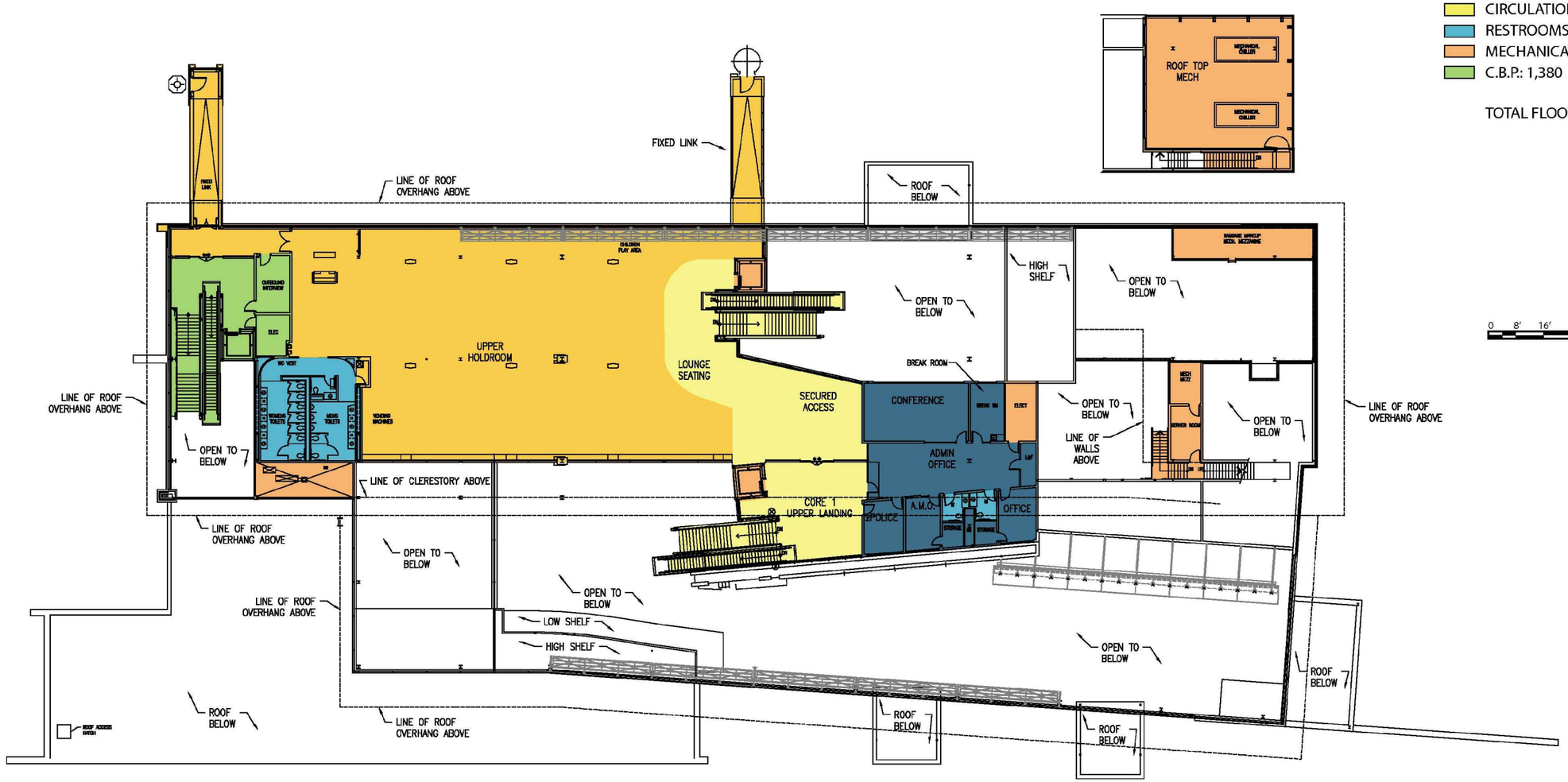
PASSENGER TERMINAL UPPER LEVEL

FIGURE 2-12



LEGEND

- HOLDROOM: 8,901
- AIRPORT OFFICES: 2,225
- CIRCULATION: 2,767
- RESTROOMS: 1,098
- MECHANICAL: 3,267
- C.B.P.: 1,380

TOTAL FLOOR: 19,638 SF

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is defined by tape/stanchions in the ticketing area. Curb-side baggage check-in is located at the east end of the ticketing area with baggage cart access to the east end of the ticket counter bag belt.

2.3.2 Arrivals Hall

The arrivals hall occupies approximately 2,680 SF on the arrivals level. It forms the core of the terminal, providing for "meet and greet" opportunities, information, car rental, baggage claim, landside food and beverage, seating, ticketing, restrooms, and the NFTA ground transit facility.

2.3.3 Concessions

The concessions/vending area of approximately 1,880 SF and offering seating, cold food, and beverages is located adjacent to the TSA passenger screening area. This area is currently divided into a non-secure area with vending machines accessed from the arrivals hall and a secure area offering cold food and non-alcoholic/alcoholic beverages adjacent to the passenger holdroom, which is accessed post-security screening. Both the secure and non-secure areas are leased to "The Catering Crew."

2.3.4 Baggage Handling and Claim

Out-bound baggage make-up occupies approximately 3,680 SF and has ground service equipment (GSE) access via two overhead doors. Three operations offices and one storage area are provided within the bag make-up area. Baggage is received from the TSA baggage screening area via a flat baggage conveyor. Baggage is transported to the aircraft by contract handlers, Calspan Air Services (Spirit Airlines), and Winner Aviation (Allegiant Air).

In-bound baggage occupies approximately 4,768 SF and has GSE access via two overhead doors. Three operations offices, one storage room, one washroom, and one electrical closet are provided within the in-bound bag area. All GSE is stored near the original terminal by the FBO and Winner Aviation.

The baggage claim area occupies 6,194 SF and is supported by two re-circulating, flat-plate baggage conveyors from the offload baggage area. The international bag claim area occupies 3,415 SF when secured through the use of a sliding wall that can be collapsed and stored in a dedicated closet.

2.3.5 Security Infrastructure

Terminal security is provided by the NFTA Transit Police, the Transportation Security Administration (TSA), and Customs and Border Protection (CBP). The NFTA Transit Police works cooperatively with the other agencies and is responsible for law enforcement in the terminal and on NFTA property.

TSA is responsible for passenger and baggage screening. The passenger/carry-on baggage screening area occupies approximately 2,460 SF and is supported by one walk-through full-body scanner, one walk-through metal detector, and two X-Ray scanners. Queuing organization is available for passengers via stanchion and tape lanes; however, this system is not presently used. The facility has the ability to screen approximately 225 passengers per hour. Checked baggage scanning occupies approximately 1,670 SF and is located in a secure area between

the ticketing area and bag make-up room. Capacity is consistent with the 225 passenger per hour rate. Detailed information concerning checked-baggage screening is available on request from the airport administration.

CBP is responsible for processing in-bound international passengers and baggage. The facility occupies approximately 8,990 SF on the departures and arrivals levels. Four document inspection stations are provided as well as passenger interview and baggage examination areas. In-bound baggage is able to be secured for inspection through the use of sliding partition to separate the International baggage belt from the overall claim area. Detailed information concerning CBP operations is available on request from the airport administration.

2.3.6 Passenger Holdrooms/Departure Lounges

Passenger holdrooms/departure lounges are located on both secure levels of the facility. The arrivals level holdroom occupies approximately 2,410 SF and provides access to Gates 1 and 2. Gate 1 does not currently have an associated aircraft parking position; however, Gate 2 does and it is used as required for ground-loading. The holdroom is immediately adjacent to restrooms as well as food and beverage concessions.

All out-bound passenger traffic either exits the passenger screening facility directly to the Gate 1 and 2 holdroom or transits the holdroom to the departures level via stair/escalator and elevator. The departures level holdroom occupies 8,901 SF and can be configured to accommodate passengers for up to two flights simultaneously through the two existing loading bridges (Gates 3 and 4). Restrooms are provided at the west end of the holdroom.

Arriving international passengers access the CBP facility through a secured corridor opposite the western-most load bridge door. The arrivals level of the CBP facility is served by stair/escalator and elevator.

2.3.7 Terminal Support Facilities

Two major mechanical rooms occupy approximately 7,940 SF and are located at the west end of the arrivals level and the eastern roof top. Electrical and communications rooms are distributed throughout the terminal. Deliveries and receiving is located at the east end of the arrivals level. It includes a depressed loading dock with leveling capability and a trash compactor.

Public restrooms are located on both levels accommodating baggage claim, arrivals hall, NFTA transit, arrivals level holdroom, and departures level holdroom. Dedicated restrooms are provided in ticketing/airline operations, CBP, baggage offload, and the airport offices.

2.4 PASSENGER TERMINAL LANDSIDE

2.4.1 Airport Access

The Niagara Falls International Airport is located immediately north of U.S. Route 62, which connects to Interstate 290, turning into Interstate 90 and Ontario Route 405. To the west of the airport is Interstate 190. Interstate 190 (U.S. Route 62) connects the airport to Interstate 290, south of the airport. Shortly after, Interstate 290 turns into Interstate 90. This route goes from

Buffalo across Upstate New York eastward, and goes westward towards Erie, PA. The tourist area of Niagara Falls can be found on either side of the U.S./Canada border, to the west of the airport.

For the NFIA property, state and local roads surrounding and providing access to the airport are: Niagara Falls Boulevard (U.S. Route 62) going east and southwest from the NFIA entrance, Porter Road (NY Route 182) going west from the airport, and Williams Road going south from the entrance. North of the airport is Lockport Road, which goes into the city of Niagara Falls. Niagara Falls Boulevard westbound turns into Pine Avenue, which is near the Rainbow Bridge at the Canadian border.

2.4.2 Auto Parking

There are four (4) parking lots associated with the passenger terminal at NFIA. Lots 1, 2, and 3 all operate as long-term lots and Lot 1A provides short-term parking. There is no revenue control equipment such as ticket dispensers or gates. All vehicles pay upon entering based on their itinerary and anticipated parking duration. Collection envelopes are placed on the windshields of vehicles parking longer than their prepaid duration amount.

- **Lot 1** – A 238-space lot located directly in front of the new passenger terminal; this lot contains spaces for the NFTA though most employees park in a lot adjacent to the terminal. Due to the proximity to the passenger terminal, there is a height restriction of 6 feet 2 inches. The overhead barrier in place to enforce this height restriction creates complications for snow removal due to the height of the plow trucks used.

- **Lot 1A** – A 167-space lot located east of Lot 1, across from the terminal access road on top of existing pavement that of one of the former runways at the airport. This lot acts as short-term parking for meters and greeters; there is no charge to use this lot as overnight parking is not permitted.

- **Lot 2** – A 255-space lot located directly in front of the old passenger terminal, this lot served as the primary passenger parking area prior to the new terminal and associated parking lot construction. The size and operation of this lot is similar to Lot 1; however, there is no height restriction.

- **Lot 3** – A 1,100-space lot located off of Niagara Falls Boulevard approximately ¼ mile from the passenger terminal, this lot requires shuttle service to/from the terminal. Lot 3 is only used during peak times due to the cost and added complexity of the shuttle operation. Lot 3 is typically in operation from October through April, which represents the busier travel season for NFIA.

2.4.3 Rental Car Facilities

Since the majority of commercial passengers using the airport are outbound to leisure destinations, demand for rental cars at NFIA is significantly lower compared to airports of similar size. Presently, Hertz and Enterprise (Enterprise also offers the Alamo brand) are the only rental car providers at the airport. Rental car facilities consist of a customer service counter inside the passenger terminal with spaces located in the parking lot directly adjacent to the terminal. Rental cars for general aviation passengers can be coordinated through the FBO.

2.4.4 Terminal Roadways

The roadway system for the passenger terminal facilities at NFIA is a combination of the roadways associated with both the old terminal and the new terminal buildings. Each piece of the roadway system encompasses one of the parking lots adjacent to the terminal with segments that contain one or two vehicle lanes. A traffic circle connects these two roadway segments with the main airport entrance and exit. The traffic circle provides incoming vehicles with access to either the terminal or parking lots, while providing outgoing vehicles with the option to exit the terminal area, park in either lot, or to re-circulate back to the terminal.

2.4.5 Ground Transportation

Passengers using NFIA have the option of several bus routes that directly service the passenger terminal building. For local access, the NFTA Metro Bus has two routes, 55 and 57, that stop at the airport continuously throughout the day. Route 55 provides service to downtown Niagara Falls, while Route 57 serves the town of Tonawanda. For Regional access, Greyhound Canada serves the airport with two daily round trip busses to Toronto while making intermediate stops in Niagara Falls, St. Catharine's, and Mississauga. Passenger terminal landside facilities are displayed in **Figure 2-13.**

2.5 GENERAL AVIATION AND LANDSIDE FACILITIES

2.5.1 Fixed Base Operators

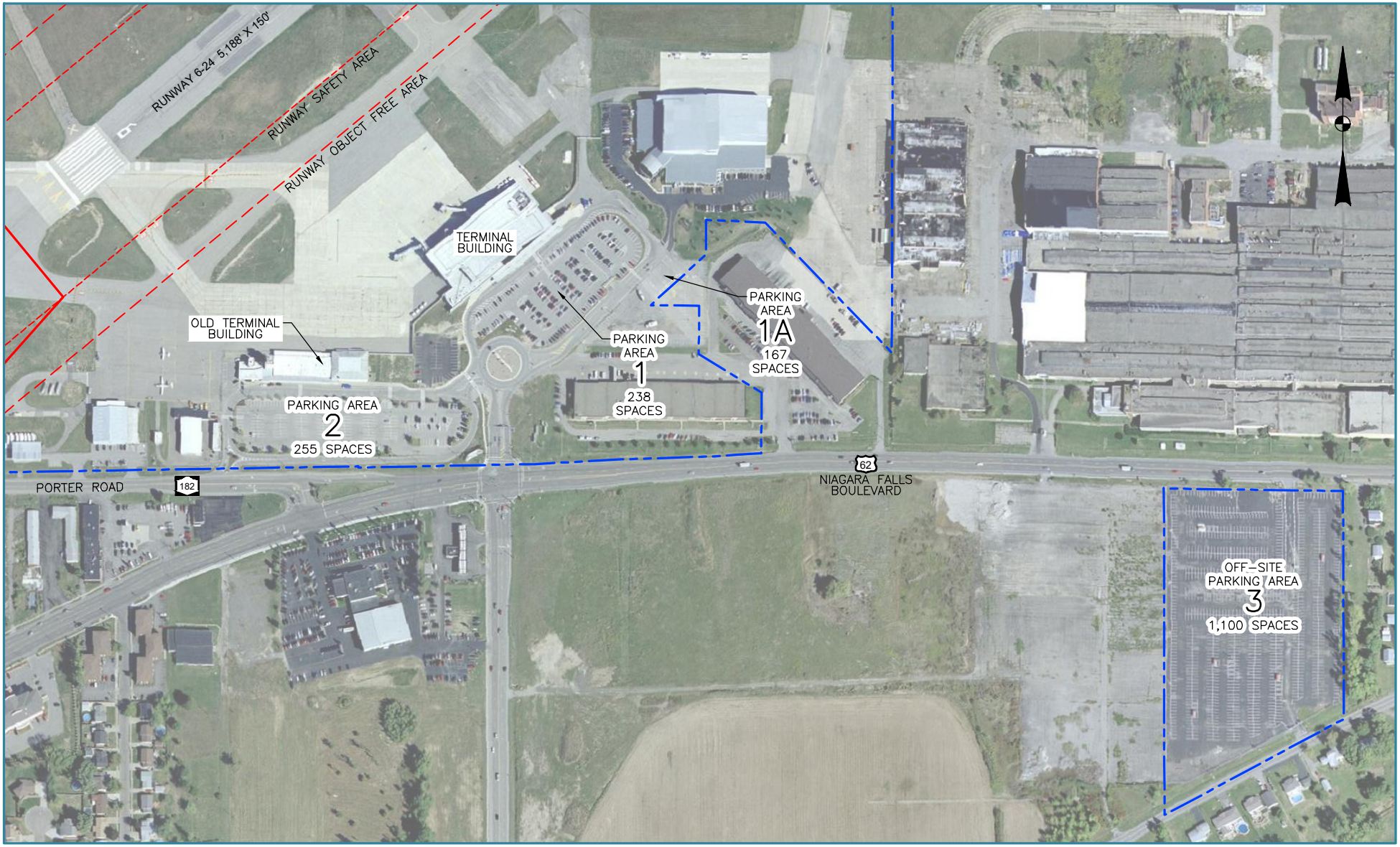
Calspan Air Services is the only fixed base operator (FBO) at the airport. It is separate from the Calspan research facility located adjacent to the passenger terminal complex on the east side of the airport. The facilities managed by Calspan Air Services are located on the south side of the airport on both the east and west sides of Runway 6-24. The general aviation terminal area is located just west of the old passenger terminal on the southwest corner of the airport. The proximity of the new terminal and Runway 6-24 limit the general aviation development opportunities in this location. FBO facilities associated with based aircraft are located on west of Runway 6-24.

2.5.2 Vehicle Access and Parking (Non-Terminal)

All general aviation facilities, with the exception of the Calspan research facility, are accessed via Porter Road, which connects Niagara Falls Boulevard and Interstate 190. The FBO hangar, located on the east side of Runway 6-24, is separated from the other general aviation facilities and has its own parking lot containing approximately 25 vehicles spaces. The other general aviation area, which consists of the T-hangars and individual hangars, is also located off of Porter Road, west of the FBO area. This area contains a parking lot for approximately 70 vehicles. Based pilots have the ability to access their personal hangars via an access gate and park their private vehicles there, if they choose.

TERMINAL AREA FACILITIES

FIGURE 2-13



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2.5.3 Former Passenger Terminal

The original terminal occupies approximately 26,098 SF and was, for the most part, decommissioned in 2009 with the opening of the new terminal. The portions that remain active include the 2,460 SF Air Traffic Control Tower (ATCT), the 550 SF National Weather Service station, and 250 SF tenant space. At the end of 2012, approximately 13,900 SF of the terminal was leased to the Niagara Aerospace Museum for use as its main display area and Museum operations. All security and baggage equipment has been removed from the terminal by the NFTA. Area outside of the leased space is presently considered vacant. With the change in use, alterations are being made to provide dedicated access to the ATCT and the National Weather Service, while providing required emergency egress from the Museum. Long term use of the former passenger terminal will be evaluated in later chapters of this report. The layout for the former passenger terminal building is displayed in **Figure 2-14.**

2.5.4 Corporate Tenants

The primary corporate tenant on the airport is the Calspan research facility, which operates out of a large 70,000 SF hangar facility located adjacent to the passenger terminal. Calspan is a technology company with a strong heritage in aerospace and transportation research and development. It was originally founded in 1940 as the Research Laboratory of the Curtiss Wright Aircraft Company in Buffalo, NY. After the Curtiss Wright factory in Buffalo was closed following World War II, it then operated as the Cornell Aeronautical Laboratory, a not-for-profit research facility affiliated with Cornell University. In 1972 Cornell re-organized the Laboratory as the for-profit Calspan Corporation. Over the next 33 years the company had a series of outside corporate owners including Arvin Industries, Space Industries, Veridian Corporation, and General Dynamics. In 2005 the aerospace and transportation businesses were divested from General Dynamics and were acquired by an independent ownership group from Western New York. The ownership team restored the Calspan name with a renewed focus on transportation and aerospace testing and technical services related to safety. (Source: Calspan)

2.5.5 General Aviation Buildings

Aside from the Calspan research facility hangar (Building #16) and FBO facilities, there are a variety of general aviation hangars located on the south side of the airport, west of Runway 6-24 and south of Runway 10R-28L. The following buildings comprise the non-terminal elements of the airport; many of these buildings are associated with the FBO operation at the airport. On-airport buildings are listed below and displayed in **Figure 2-15**.

- **Bldg. #3** - (Electrical building) - This 1,492 SF building and its equipment provided power for the original terminal facility. While the new terminal is powered by a dedicated transformer and switchgear, the ATCT, National Weather Service and airfield lights, remain dependent on Bldg. # 3 and its equipment.

- **Bldg. #4** – (GA administration and service garage) – This 11,250 SF building houses the general aviation administration, NFTA field operations and a service garage. It is located immediately adjacent to the general parking area for the original terminal and fronts to a large apron area.

- **Bldg. #5** – (Triturator) – The 630 SF building provides toilet processing services for aircraft using the facility.

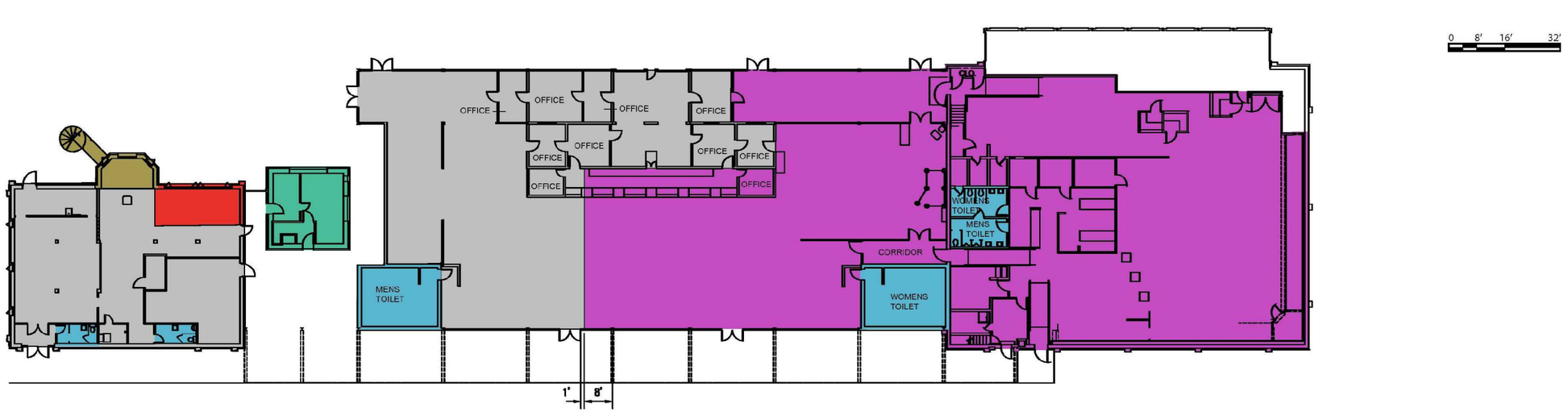
FORMER PASSENGER TERMINAL

FIGURE 2-14

LEGEND

- NIAGARA AEROSPACE MUSEUM: 13,887
- VACANT: 7,894
- RESTROOMS: 1,337
- WEATHER BUREAU: 233
- CONCESSION/RETAIL: 288
- ATCT: 2,459

TOTAL FLOOR: 26,098 SF



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AIRPORT BUILDINGS

FIGURE 2-15

1. PASSENGER TERMINAL BUILDING
2. OLD TERMINAL BUILDING / MUSEUM
3. ELECTRICAL VAULT
4. GSE EQUIPMENT STORAGE
5. TRITURATOR BUILDING
6. HANGAR "A" (FBO)
7. T-HANGAR
8. CONVENTIONAL HANGAR
9. MAINTENANCE BUILDING
10. PORTABLE HANGARS
11. CONVENTIONAL HANGAR
12. T-HANGAR
13. CONVENTIONAL HANGAR
14. CONVENTIONAL HANGARS
15. HANGAR "B"
16. CALSPAN

N.F.T.A. PROPERTY

RUNWAY 10R-28L 3,973' X 75'

RUNWAY 6-24 5,188' X 150'

N.F.T.A. PROPERTY

U.S. ARMY PROPERTY

N.F.T.A. PROPERTY

PORTER ROAD

NIAGARA FALLS BOULEVARD

182

62

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- **Bldg. #6** – (Hangar A and fixed base operator) – This 13,500 SF general aviation hangar also houses the field operations offices. It fronts the apron adjacent to the general aviation building and service garage.

- **Bldg. #7** – (GA hangars #101 – 110) – This 12,960 SF prefabricated building complex houses tenant hangar space for multiple tenants on the general aviation side of the airport.

- **Bldg. #8** – (Hangar complex– BRP Corp., Manitoba Corp., Hangar E, and Unknown) – This 12,960 SF prefabricated building complex of four hangars houses private corporate aircraft.

- **Bldg. #9** – (Airport Maintenance Facility/SRE Building) – This 17,300 SF prefabricated facility fronts on to the general aviation apron in the general aviation hangar complex. It is the storage location for NFTA's airport maintenance equipment, including its fleet of snow removal equipment.

- **Bldg. #10** – (Hangars #49 – 55 and 57 – 63) – This 16,112 SF prefabricated t-hangar complex provides space for 14 aircraft on the general aviation apron.

- **Bldg. #11** – (Tenant hangars) – This 5,100 SF prefabricated complex provides two tenant hangar spaces.

- **Bldg. #12** – (Hangars #30 – 34 and 43 – 48) – This 8,021 SF prefabricated complex provides open tenant t-hangar area.

- **Bldg. #13** – (Tenant hangar) – This 1,744 SF prefabricated conventional hangar provides for a single bay fronting on the general aviation apron.

- **Bldg. #14** – (Hangars #1 – 8) – This 19,026 SF, prefabricated, 8-hangar complex forms the western edge of the general aviation apron.

- **Bldg. #15** – (Hangar B) – This 10,000 SF pre-engineered warehouse building is located on the eastern property line and has airside access from Taxiway D, as well as secured landside access from Walmore Road.

2.6 AIRPORT SUPPORT INFRASTRUCTURE

2.6.1 *Military Facilities*

While not included in the scope of this master plan, military installations are identified below and presented in **Figure 2-16**. For additional information, please contact the individual military operators for facility base plans.

- **Air Force Reserve** – Land for the U.S. Air Force Reserve (914th) consists of approximately 581 acres (34 leased from NFTA). Of the 581 acres, approximately 244 acres comprise the western portion of Runway 10L-28R.

- **New York Air National Guard** – 39-acre facility located within the U.S. Air Force property.

- **U.S. Army** – Vacant 19-acre parcel located adjacent to the southwest corner of the airfield. Should this parcel be transferred to the Town of Niagara, it will not be considered as having airside access.

- **Non-Aviation Land** – Over 150 acres of the northern portion of the U.S. Air Force land (not included as part of the airport property) does not serve aeronautical use and consists of residences, training rooms, and office space.

2.6.2 *Airport Utilities*

The airport's utilities infrastructure including electric, natural gas, water, and sewer were reviewed as part of this Master Plan and the following information found to be relevant for the airport.

- **Electric -** Electric power is supplied to NFIA by National Grid. The service is supplied by underground service to the new terminal. The power from the new NFIA terminal does not feed into general aviation areas. In the event of a power outage, the airport is equipped with four generators. Three generators are set up to supply the NFIA terminal. The fourth generator is set up to power the airfield and Air Traffic Control Tower.

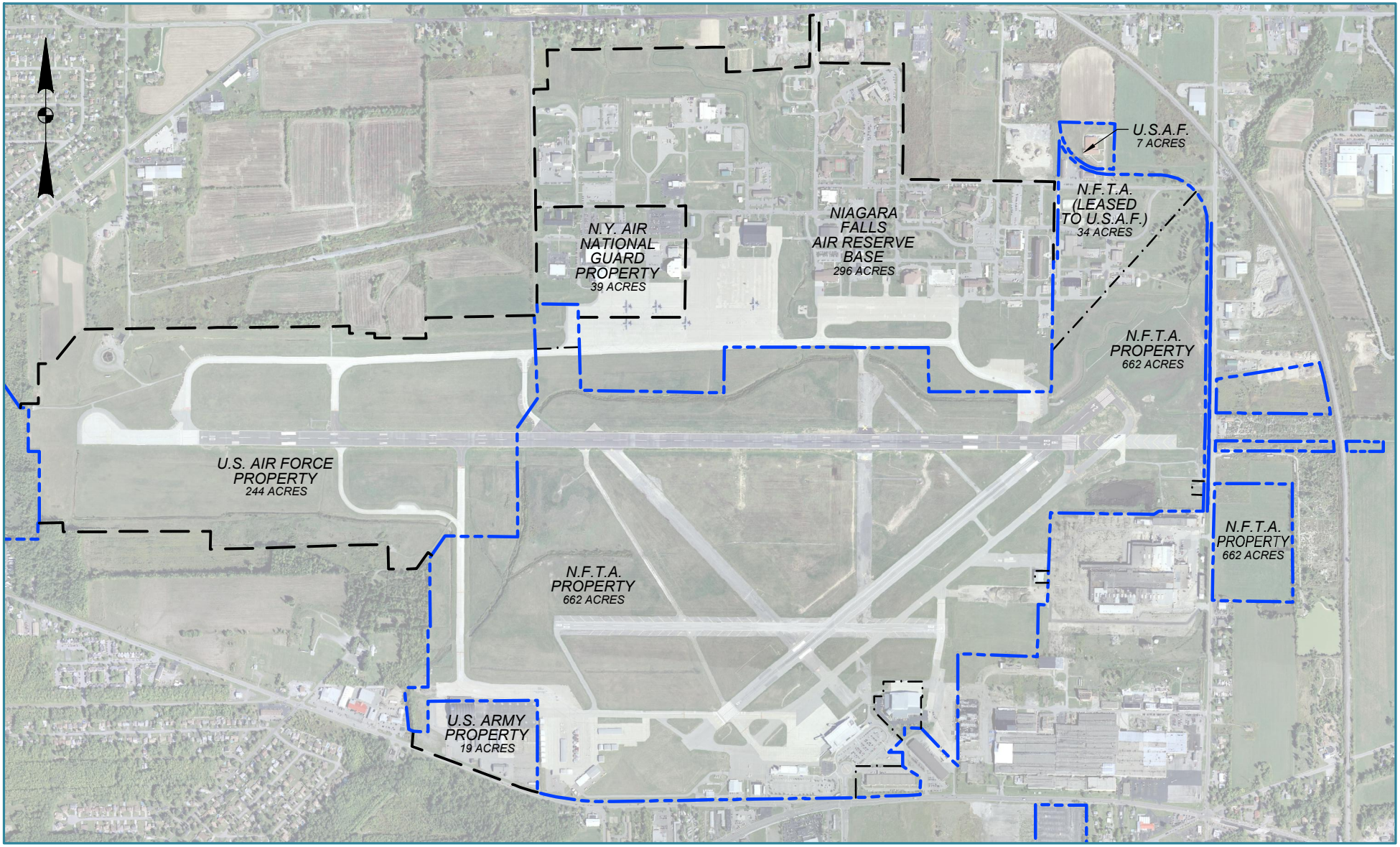
- **Water -** Water is supplied to NFIA from the Niagara County Water District. This service is only provided to the NFIA terminal. There are six fire hydrants located throughout the airport also supplied by the Niagara County Water District. Three are located airside and three are located landside. The terminal sprinkler system also supplied by the Niagara County Water District.

- **Natural Gas -** Natural Gas is supplied by National Fuel Resources, a bulk transport fuel company. The gas is distributed throughout the airport via supply lines along the utility corridor. This corridor is located at the intersection of Niagara Falls Boulevard and Porter Road.

- **Sanitary Sewer -** The current sanitary sewer system at NFIA provides service to all the major areas of the airport. The sanitary sewer system is connected to the Town of Wheatfield municipal system.

MILITARY FACILITIES

FIGURE 2-16



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2.6.3 Airfield Maintenance

The NFTA airport operations staff performs the day-to-day duties of inspecting and maintaining the portions of the airfield owned by the NFTA. The U.S. Air Force is responsible for the upkeep and maintenance of their owned facilities.

2.6.4 Snow Removal

Snow removal operations are shared between NFIA operations staff and the U.S. Air Force. The U.S. Air Force provides snow removal Monday through Friday from 7am to 4pm on the main runway (10L-28R). Snow removal outside of those hours and for Runways 6-24 and 10R-28L is the responsibility of NFIA operations staff. NFIA maintains a fleet of equipment to complete snow removal activities. This equipment is detailed in Table 2-4. Snow removal equipment is currently stored within and adjacent to the 17,300 SF Airport Maintenance Facility/SRE Building.

Table 2-4 Snow Removal Equipment Fleet

Type of Equipment (Vehicle #)	Year of Manufacture	Brand
Plow (21)	1995	Oshkosh
Plow (22)	1997	Peterbuilt
Plow (23)	2007	Oshkosh
Plow/Spreader (35)	2012	International
Plow (36)	2011	Oshkosh
Plow (37)	2011	Oshkosh
Plow/Blower (34)	2011	Bobcat
Blower (14)	1983	Oshkosh
Blower (26)	2007	Oshkosh
Blower (27)	2013	M B
Blower (50)	1999	Rolba
Broom (45)	1993	Schmidt
Broom (46)	1993	Schmidt
Broom (47)	2010	Oshkosh / M B
Broom (48)	2010	Oshkosh / M B
Loader (29)	1995	CAT
Loader (38)	2005	CAT
Sander (64)	1983	GMC
Sweeper (40)	2007	Tennant

Source: NFTA, 2014.

2.6.5 Airport Deicing

There is currently no deicing removal system. The glycol used goes into the sewer system at NFIA. In case of a spike in biochemical oxygen demand (BOD) levels, the Town of Wheatfield will add an additional charge to the NFIA sewer cost.

2.7 LAND USE

2.7.1 NFIA Property Summary

NFIA is composed of four different airport property owners. The airport is enclosed by Route 62 and Route 182 on the south end of the airport, Walmore Road on the east side, and Lockport Road on the north which turns into Packard Road going westward. Packard Road connects to Route 182, enclosing the airport property. The largest portion of the airport belongs to NFIA. There is a very small portion on the southwest side of the airport belonging to the Army. The Air Force owns the land north of Runway 10L-28R as well as the west portion of the airfield that encompasses a portion of Runway 10L-28R; there is a smaller portion within this land that belongs to the NY Air National Guard. Detailed property information can be found on the Property Map contained in the Airport Layout Plan set.

2.7.2 Existing Land Use and Zoning

The airport is located east of the city center of Niagara Falls, NY. The surrounding area is primarily a mix of industrial and residential land use. Much of the land immediately surrounding the airport is industrial, with the exception of residential properties located near the Runway 6 approach end. Commercial land use is located along the main thoroughfares such as Niagara Falls Boulevard. **Figure 2-17** displays the land use surrounding NFIA. NFIA has technically been zoned as an industrial site, along with the property immediately surrounding it as shown in **Figure 2-18**. The airport is located on the eastern edge of the City of Niagara Falls, with a portion residing in the Town of Wheatfield. West of the airport is progressively more urbanized; there is more industrial and commercial land available for potential development. Along the major roads near the airport, most of the zoning is commercial. Beyond the commercial and industrial areas to the north and east, the zoning is mostly agricultural or residential.

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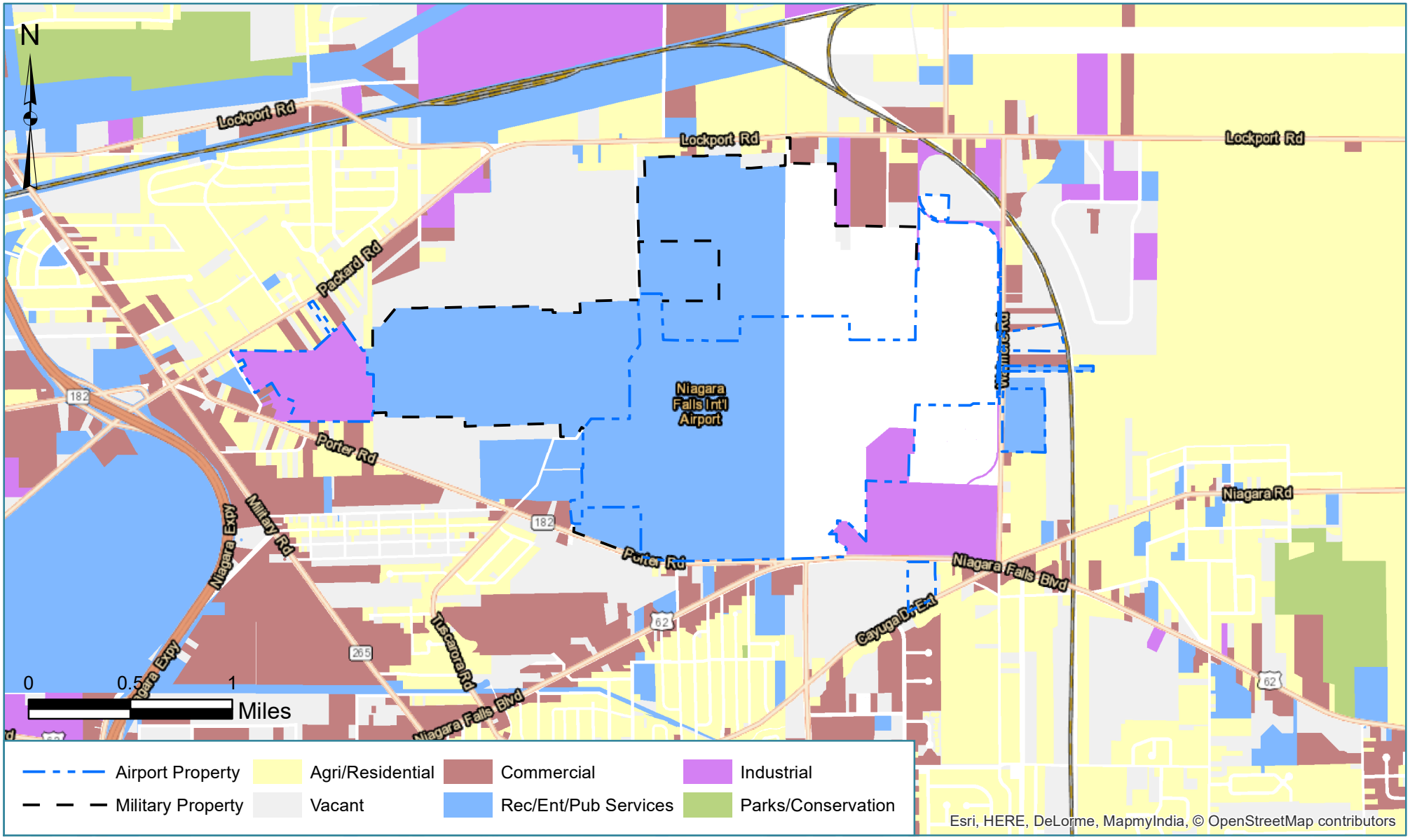
NFIA LAND USE MAP

FIGURE 2-17



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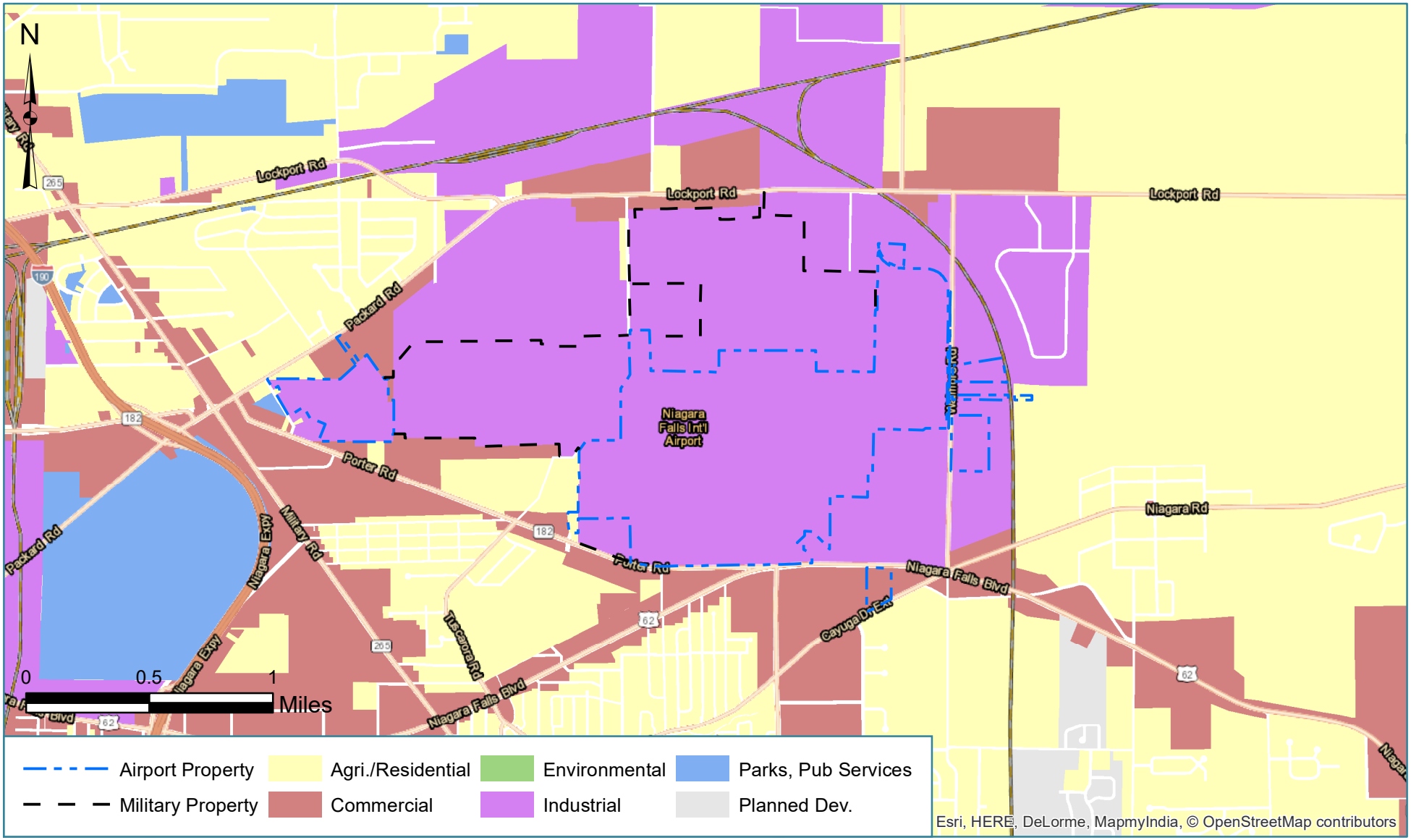
NFIA ZONING MAP

FIGURE 2-18



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2.8 AIR TRAFFIC CONTROL AND AIRSPACE

The following sections describe how aircraft are controlled and the airspace structure on and surrounding the airport.

2.8.1 Air Traffic Control

Air Traffic Control in the United States is managed by three primary types of facilities: Air Route Traffic Control Centers (ARTCC), Terminal Radar Approach Control (TRACON), and ATCT. A brief overview of these facilities and how they control flight to and from NFIA is provided here.

- **ARTCC** – Enroute airspace in the United States is managed by a series of Air Route Traffic Control Centers located in major cities across the United States. Enroute airspace in the vicinity of NFIA is controlled by the Cleveland Center. Commercial airlines and other aircraft flying under instrument flight rules in the vicinity of NFIA, that are not under the control of military or terminal facilities, are monitored by the Cleveland Center. This center controls an aircraft's route of flight between airports, and provides separation services, and traffic and weather advisories.

- **TRACON** – Aircraft arriving to or departing from NFIA and other nearby airports are controlled by the Buffalo TRACON, located at the base of the Buffalo Niagara International Airport ATCT. The purpose of the TRACON is to separate and sequence arriving and departing flights. The Buffalo TRACON controls airspace within an area of approximately 40 nautical miles of BNIA (excluding Canadian airspace) up to an altitude of 10,000 feet.

- **Air Traffic Control Tower** – The ATCT at NFIA is located on the south side of the airport, directly adjacent to the old passenger terminal building. The facility is short in height which presents visibility and line-of-sight issues and poor pavement visibility angles for some portions of the airfield. As an ATCT for Class D airspace, the area controlled by the ATCT usually encompasses the airport traffic area. The airport traffic area extends horizontally to five statute miles from the airport and upward to an altitude of 3,100 feet. Controllers in the tower are responsible for separating aircraft, sequencing aircraft in the traffic pattern, expediting arrivals and departures, separating aircraft on the ground, and providing clearance and weather information to pilots.

2.8.2 Airspace

Airspace in the United States is classified into the following categories: controlled, uncontrolled, and special use. A brief description of these categories and how they apply to airspace in the vicinity of NFIA is provided in the following paragraphs.

Controlled Airspace

Controlled airspace is classified as Class A, B, C, D, and E. Each of these classes has different dimensions, purposes, and requirements. Class A airspace covers the entire United States and encompasses all airspace from 18,000 feet above mean sea level (MSL) to 60,000 feet MSL above NFIA. Aircraft flying in Class A airspace must operate under instrument flight rules.

ATCT clearance is required prior to operating an aircraft within either Class B or Class C airspace. All aircraft that have received such clearance are provided with separation services by ATCT and TRACON after ATCT is closed. Class B and Class C airspace define areas inside which all aircraft are subject to certain operating, pilot, and equipment rules. Class B airspace is usually reserved for areas surrounding the nation's busiest airports. The nearest Class B (equivalent) airspace is that which surrounds the Toronto Pearson International Airport. The airspace for the Buffalo Niagara International Airport is considered Class C. Aircraft arriving and departing NFIA will traverse through Buffalo Class C airspace by communicating with the Buffalo TRACON.

NFIA is located in the center of an area defined as Class D airspace. The Class D airspace surrounding NFIA resembles a cylinder with a radius of five nautical miles, extending from the ground to an altitude of 3,100 feet above ground level (AGL). Aircraft operating in Class D airspace must maintain radio contact with the appropriate control facility while operating in the airspace. Pilots must also abide by certain operating, pilot, and equipment rules while operating within Class D airspace.

Class E airspace includes all controlled the airspace that is not classified as A, B, C, or D. Class E airspace has no special restrictions with respect to pilot or aircraft equipment rules. However, it is controlled airspace, meaning that aircraft can be provided with air traffic control services.

Uncontrolled Airspace

Class G airspace is uncontrolled airspace. It consists of all airspace that is not classified as A, B, C, D, or E.

Special Use Airspace

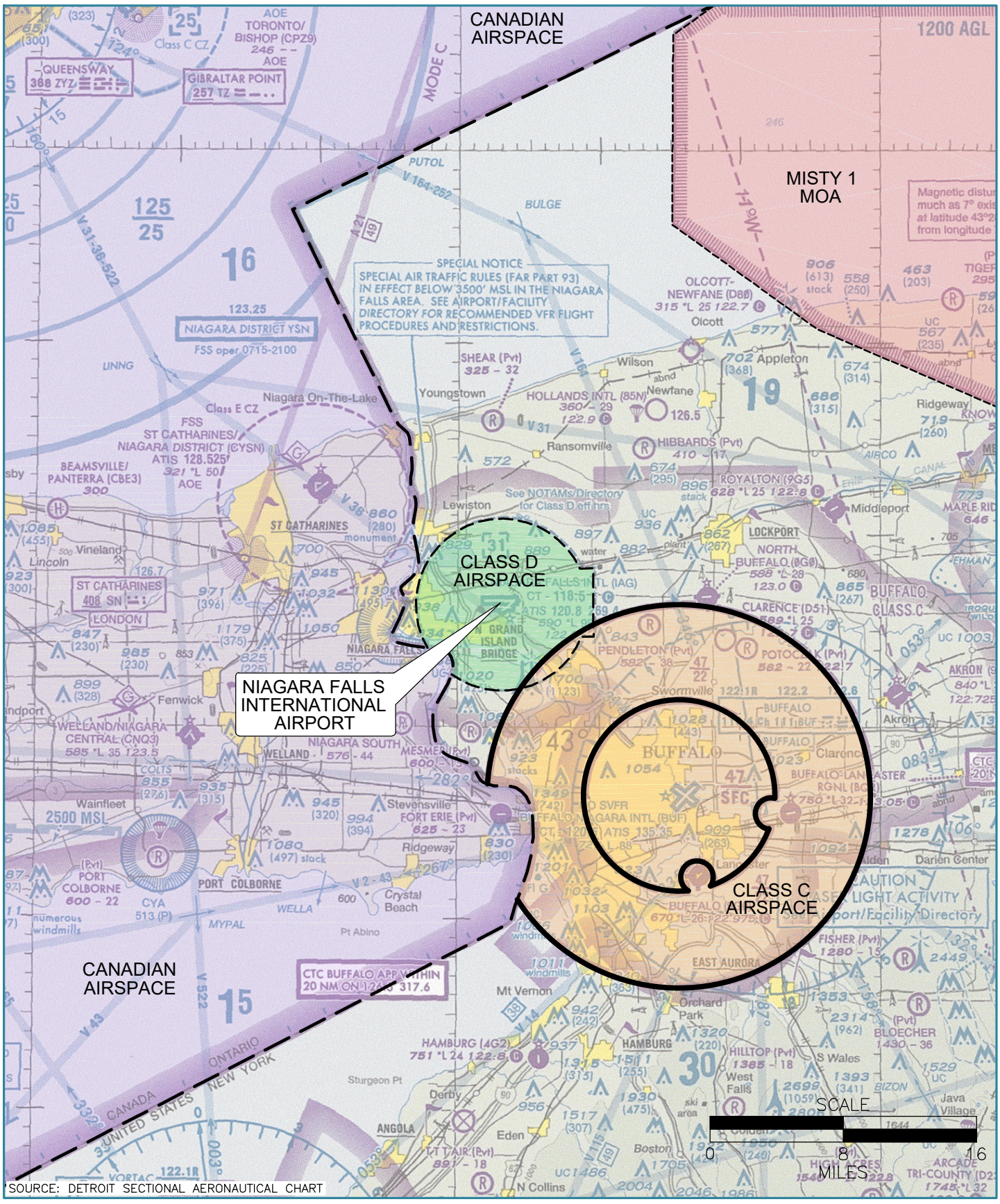
Special use airspace consists of Prohibited and Restricted Areas, Warning Areas, Military Operation Areas, Alert Areas, and Controlled Firing Areas. There are no prohibited areas in the vicinity of NFIA. However, there are several areas of restricted airspace. These include the following:

- CYA-518 located over Niagara Falls, Ontario.
- CYA-513 located 18 nautical miles southwest of NFIA (a parachute jumping area).

There are no Warning Areas, Alert Areas, or Controlled Firing Areas; however, there is one Military Operation Area (MOA) in the vicinity of NFIA. This MOA, Misty 1, is located 20 nautical miles northeast of the airport. The Misty 1 MOA extends from 4,000 feet to 18,000 feet, and is active from 08:00 to 22:00 Monday through Friday and 08:00 to 16:00 Saturday and Sunday. **Figure 2-19** illustrates the regional airspace around NFIA.

REGIONAL AIRSPACE

FIGURE 2-19



SOURCE: DETROIT SECTIONAL AERONAUTICAL CHART

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2.9 AIRPORT SAFETY AND SECURITY

2.9.1 Airport Rescue and Fire Fighting (ARFF)

Airport Rescue and Fire Fighting coverage is provided by the U.S. Air Force. The ARFF index, or requirement, is based upon the largest aircraft types conducting an average of five daily operations at the airport. When the largest aircraft is not covered under this formula, the index becomes the next lowest. For NFIA, Index B is based upon serving over five daily departures with aircraft up to 126 feet in length since the MD-80 and the A320 do not combine to conduct over five daily operations. Index B requirements consist of:

- One vehicle carrying at least 500 pounds of sodium-based dry chemical, halon 1211, or clean agent, and 1,500 gallons of water and the commensurate quantity of aqueous film forming foam (AFFF) for foam production.
- OR two vehicles:
- One vehicle carrying the extinguishing agents as specified above; and
- One vehicle carrying an amount of water and the commensurate quantity of AFFF so the total quantity of water for foam production carried by both vehicles is at least 1,500 gallons.

While ARFF Index B is required by the FAA, the U.S. Air Force provides ARFF Index E coverage, which covers the largest commercial aircraft flying.

2.9.2 NFTA Transit Police

The NFTA has a dedicated police force for their facilities and services located throughout the Buffalo-Niagara region. NFTA Transit Police have a regular presence at the airport and staffing levels fluctuate based on the flight schedule at the airport. Transit Police staff the airport routinely during commercial operations at the airport.

2.9.3 Perimeter Roads and Fencing

The entire airport property is enclosed by a security fence topped with barbed wire. Several facilities are connected via service roads along the perimeter; however, there is no dedicated airport perimeter road.

2.9.4 Security Systems

As a commercial service facility, the airport is required to comply with Transportation Security Regulations (TSR) 1542, *Airport Security*. Detailed information about the systems and procedures are not documented in this report and any inquiries regarding airport security should be directed to airport management.