

Chapter 2

Inventory

2.0 AIRPORT BACKGROUND

2.0.1 Airport Sponsor

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

2.0.2 Airport History

In 1925, 200 acres of Cheektowaga farmland were purchased to build Buffalo Municipal Airport. The Airport was expanded with the purchase of another 338 acres between 1926 and 1929. Buffalo Municipal Airport opened for business on September 25, 1926, with one hangar, a small terminal building, and four 3,000 foot long by 100 foot wide runways.

As a result of the airport’s convenient location between New York City, NY, Cleveland, OH and Chicago, IL, passenger service grew quickly. In 1927 passenger and airmail service between Buffalo and Cleveland was started.

As demand increased for passenger service, the need for a new terminal became evident and a new terminal and administration building (later referred to as the East Building) was completed and opened May 11, 1939. New aprons were completed several months later. In 1941, Curtis Aeroplane Company moved their aircraft manufacturing to a new hangar located on the southeast side of the airport.

In order to facilitate aircraft manufacturing, and increasing operations due to passenger demands, major airfield improvements were required at the start of World War II. The result of these improvements was four paved runways as follows:

Runway	Dimensions
Runway 5-23	5,630 feet by 150 feet
Runway 13-31 (now 14-32)	5,730 feet by 150 feet
Runway 1-19	5,000 feet by 150 feet
Runway 8-26	3,650 feet by 150 feet

Due to the heavy use during the war effort, the badly deteriorated airfield required reconstruction. During the late 1940’s and early 1950’s, the airfield and landside facilities underwent major reconstruction. Runways 1-19 and 8-26 were permanently closed and Runway 13-31 was re-designated Runway 14-32.

In 1955, the now undersized terminal building required a major expansion effort. The expansion, which included the west concourse, tripled the square footage and gave the airport a

total of eleven aircraft gates. In 1956, the Niagara Frontier Port Authority (NFPA) acquired the airport from the City of Buffalo, and in 1959, the name of the airport was changed to “Greater Buffalo International Airport”.

The NFPA continued to expand and improve the facility as passenger demand increased. In 1961, a new air traffic control tower was constructed, the east terminal was renovated, and a new concourse was added to accommodate American Airlines. In 1965, Runway 5-23 was extended to 8,100 feet as the use of jet aircraft for commercial service grew and longer runways became necessary. In 1967, the New York legislature created the Niagara Frontier Transportation Authority (NFTA) to replace NFPA.

A study was conducted in 1968 to determine the long term aviation needs of the region. As a result of the study, a temporary nine gate west terminal was constructed and opened in 1971 to alleviate some of the overcrowding in the east terminal, until a new, permanent terminal could be built. Also, construction in 1971 included a new Air Rescue and Fire Fighting Facility (ARFF). In 1974, the Federal Services Building was constructed to accommodate the FAA Flight Services, US Customs, and FAA’s Airways Field Sector. In 1982, two new gates were added to the east end of the West Terminal followed by a state-of-the-art fuel storage facility in 1984.

Seeking to keep pace with the ever expanding air travel market, NFTA opened a modern passenger terminal in 1997 and has since expanded the terminal to provide additional gates to meet growing demand. The existing Terminal Building is expandable to 40 gates.

BNIA has continued to grow over the years and offer a valuable service to the greater Buffalo residents and businesses. Like most airports, BNIA is a powerful economic engine for the Buffalo region of New York. The previous master plan for the airport, completed in 2002, focused on this growth and recommended a number of airside and landside development options. (Source: <http://www.buffaloairport.com/History.asp>)

2.0.3 Recent Airport Developments

The 2002 Master Plan identified a number of airside and landside projects to enhance the airport’s ability to accommodate then existing activity as well as future demand. Almost all major recommendations presented in the Master Plan have been completed. Many of these projects completed over the past eight years have provided significant upgrades to the runways and safety areas, onsite treatment of spent aircraft deicing fluids, a new baggage handling system as well as a Part 150 Noise Compatibility Study. These projects are summarized in **Table 2-1**.

Table 2-1 Recent Airport Developments

Project	Year Complete	Cost
Runway 14-32 Safety Area Extension/Improvements	2004	\$20.0 million
Runway 5-23 & Taxiway A Extension & Rehabilitation	2007	\$35.8 million
Wetland Treatment of Glycol	2009	\$14.0 million
Baggage Handling System/Security Screening System	2010	\$30.9 million
Noise Mitigation Program	Ongoing	\$29.3 million (to date)
(Noise Compatibility Program Schedule/Estimated Costs)	2016	\$71.8 million

Source: Niagara Frontier Transportation Authority

2.0.4 Airport Location, Role, Classification

Buffalo Niagara International Airport is located in the Town of Cheektowaga, Erie County, New York, approximately 5 miles northeast of Buffalo and 16 miles southeast of Niagara Falls. The airport is situated along the southern border of the Town of Amherst and the Village of Williamsville, and is bounded by State Route. 33 (Genesee Avenue), State Route. 78 (Transit Road), Interstate 90 (New York State Thruway), and Cayuga Road. **Figure 2-1** displays the location of BNIA in relation to the surrounding region while **Figure 2-2** displays BNIA’s location to the greater Buffalo vicinity.

BNIA is classified under the National Plan of Integrated Airport Systems (NPIAS) as a Primary Commercial Service Medium Hub Airport. A Primary Commercial Service Airport is defined as an airport that annually handles more than 10,000 enplaned passengers annually. Medium Hub airports are defined as those which serve between 0.25% and 1.0% of total U.S. passenger enplanements annually; this currently ranges from 1.8 million enplanements (Tucson, AZ), up to 6.5 million enplanements (Portland, OR).

2.0.5 Nearby Airports (facility comparison)

A variety of airports are located in the area surrounding BNIA with over a dozen public airports within 50 miles. These are General Aviation (GA) airports, of which seven are identified by the Federal Aviation Administration (FAA) as reliever airports (Niagara Falls is identified by the FAA as a Reliever Airport, but will be considered Commercial Service for this report). Reliever airports provide alternate facilities for aircraft to operate to or from and are intended to relieve larger congested airports. Nearby airports are compared in **Table 2-2**.

2.0.6 Airport Service Area

The primary service area for BNIA is defined by the boundaries of the Buffalo Metropolitan Statistical Area (MSA) which includes Erie and Niagara Counties. However, the service area can be better defined by conducting a drive time analysis for the surrounding areas and their distance from BNIA. **Figure 2-3** displays the commercial service area for BNIA, depicting drive times of 30, 60 and 90 minutes. While Niagara Falls International Airport is less than a 30-minute drive, scheduled flights are less than daily and cater nearly exclusively to leisure traffic. The nearest commercial service airport with legacy airline service to hubs and business markets is the Greater Rochester International Airport (ROC), located 55 miles to the east. Services provided at Rochester International are comparable to those provided at Buffalo, so there is no service or convenience advantage for Buffalo Residents to use an alternative airport. The combination of lower fares and/or additional service offerings can increase the appeal beyond a 90-minute drive time which would apply to passengers in Erie, PA, Jamestown, NY as well as Hamilton and Toronto in Ontario Canada. The border crossing times for Canadian passengers can greatly influence the appeal of using BNIA, for better or worse depending on the amount of delay. The vehicular driving distance to these nearby airports is as follows:

- Niagara Falls International Airport – 19 miles
- Greater Rochester International Airport – 60 miles
- Chautauqua County – Jamestown Airport – 77 miles
- Hamilton Airport -- 80 miles
- Pearson International Airport (Toronto) –104 miles



VICINITY MAP

FIGURE 2-2



Table 2-2 Nearby Airports

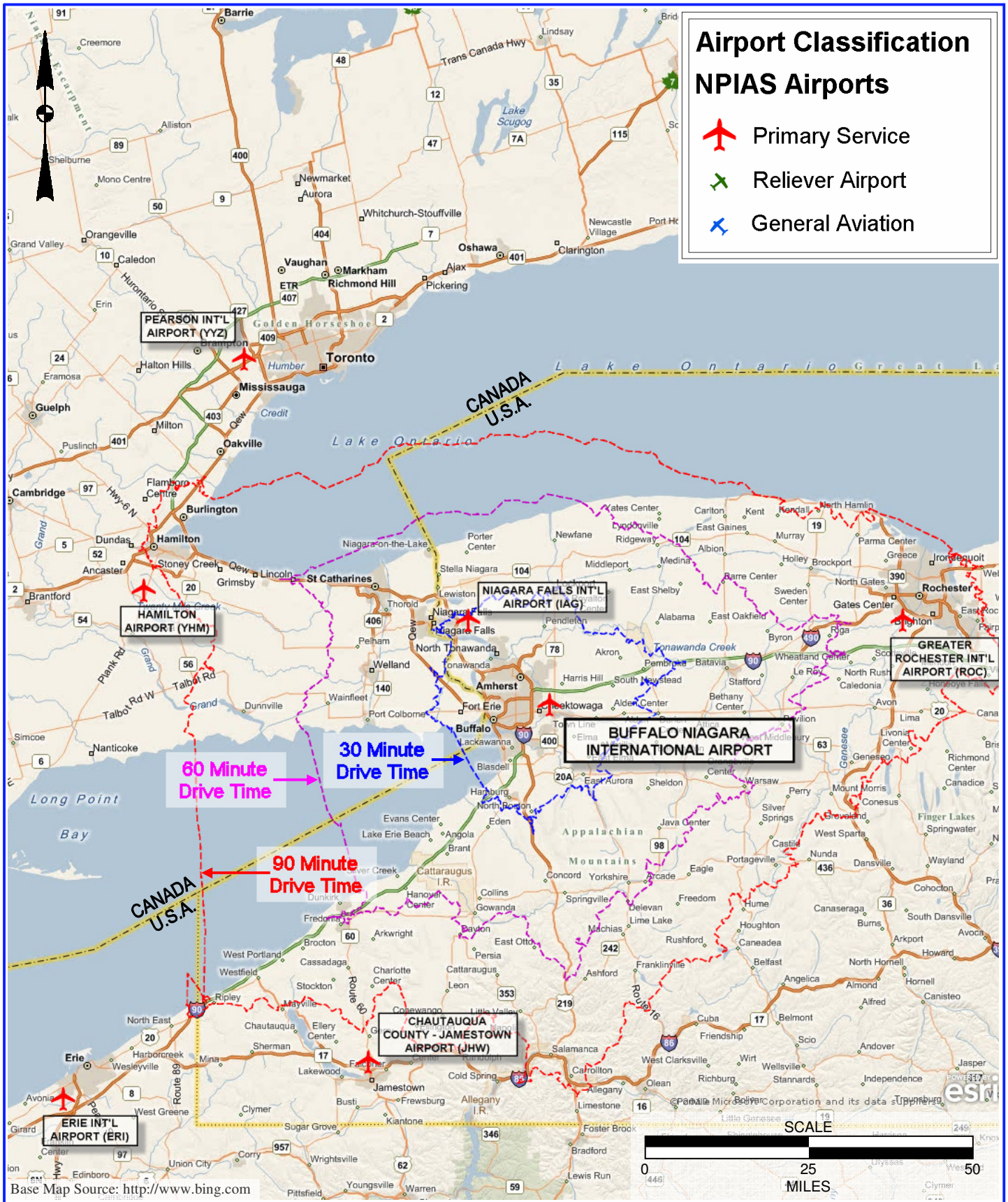
Airport	Primary Runway	Annual Operations	Based Aircraft
Commercial Service – Primary/Non-Primary Airports			
Greater Rochester International Airport (ROC)	8,000 x 150	106,445	75
Niagara Falls International (IAG)	9,829 x 150	35,552	64
General Aviation – Relievers			
Akron Airport (9G3)	3,268 x 75	50,900	54
Buffalo – Lancaster Regional Airport (BQR)	3,200 x 75	45,000	53
Buffalo Airfield (9G0)	2,668 x 59	55,000	23
Genesee County Airport (GVR)	5,500 x 100	40,000	56
Le Roy Airport (5G0)	3,855 x 60	14,660	19
Ledgesdale Airpark (7G0)	4,204 x 75	16,100	38
General Aviation - Public Use			
Clarence Aerodome (D51)	2,500 x 67	10,000	20
North Buffalo Suburban Airport (0G0)	2,830 x 50	3,600	31
Perry – Warsaw (01G)	3,472 x 60	14,500	21
Hollands International Field (85N)	2,875 x 75	2,500	2
Pine Hill Airport (9G6)	2,659 x 36	6,500	10
Spencerport Airpark (D91)	2,490 x 90	212	7
Gowanda (D59)	3,430 x 100	3,600	5
Arcade Tri-County (D23)	3,220 x 60	1,900	3
Geneseo (D52)	4,695 x 90	7,500	21
Hamburg Inc (4G2)	2,465 x 30	12,000	26
Royalton Airport (9G5)	2,530 x 35	6,100	43
Chautauqua Co – Dunkirk (DKK)	5,000 x 100	31,625	39

Source: Airnav.com November, 2010

For general aviation activity, one of the primary advantages to using general aviation is the ability to arrive closer to your intended destination, because of a greater number and variety of airports. The general aviation service area is assumed to be smaller than the commercial service area and **Figure 2-4** contains a drive time analysis depicting 15-30 and 45 minute drive times. There are a total of nine public use general aviation airports within a 45 minute drive of BNIA.

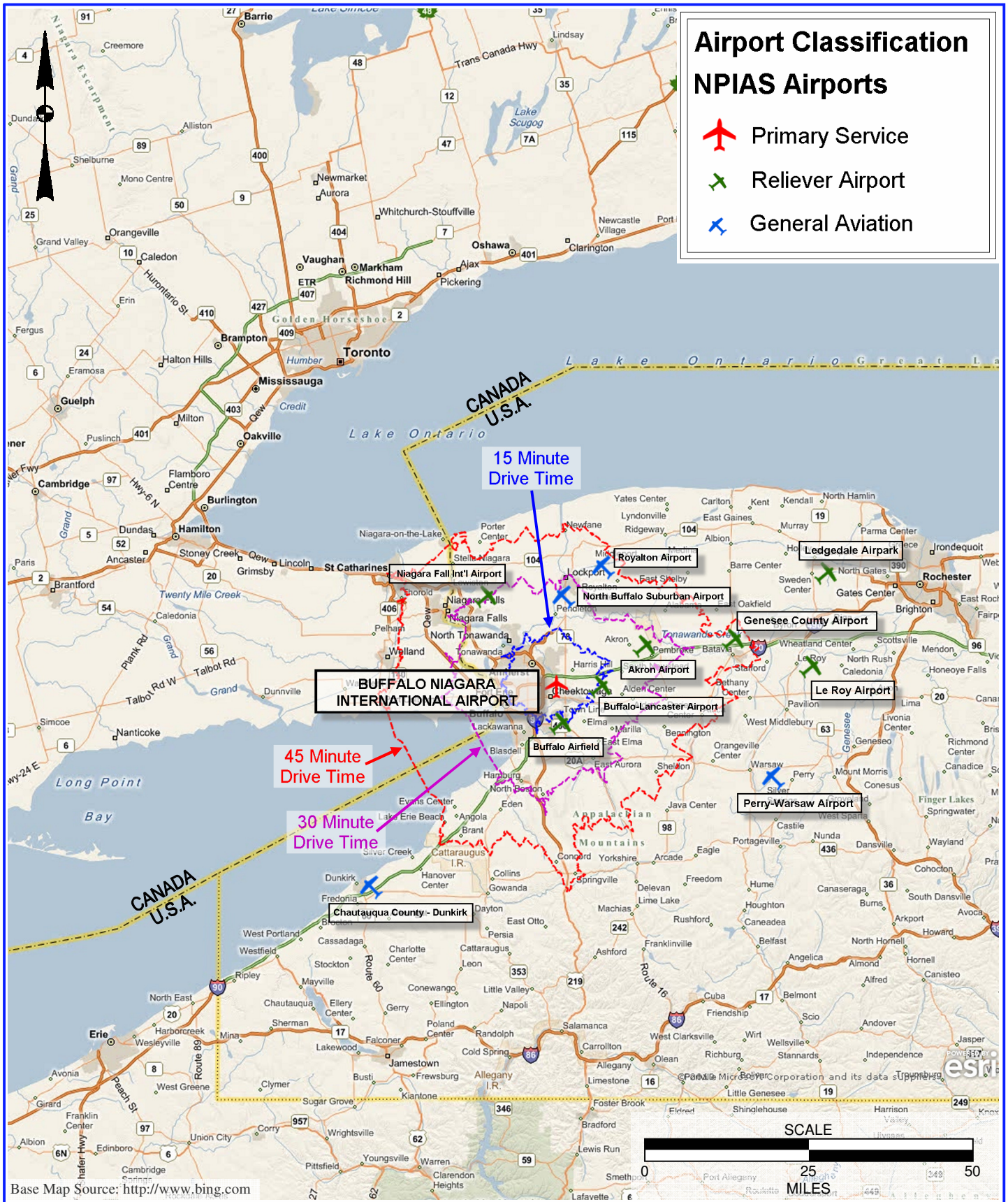
COMMERCIAL SERVICE AREA

FIGURE 2-3



GENERAL AVIATION SERVICE AREA

FIGURE 2-4



2.0.7 Meteorological Conditions/Climate

As with much of upstate New York, Buffalo’s climate is influenced by polar and tropical air masses. Buffalo is also in close proximity to Lake Erie and Lake Ontario. These factors result in highly varied and changeable weather in terms of cloud cover and precipitation. Precipitation is distributed relatively evenly throughout the year, and amounts to approximately 40.5 inches annually. 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 blow off Lake Erie, which lies to the southwest; this is reflected in the runway utilization with Runway 23 having the highest use. While the lake encourages a relatively consistent wind direction, it also increases wind velocity.

Flying in the winter months can be limited by lake effect snow when prevailing westerly and southwesterly winds blow across Lake Erie and pick up moisture. When they reach the comparatively rough land areas, vertical wind currents occur as a result of turbulence due to the terrain, and large amounts of snow are deposited in a short period of time. These snow squalls are characterized by near blizzard conditions and can result in snow fall at a rate of up to six inches per hour. Flying weather is also hindered by low clouds and poor visibility most often in winter months. According to data collected by the National Climatic Data Center, weather conditions are below VFR minimums (cloud cover is less than 1,000 feet AGL or visibility is less than three miles) 8.9 percent of the time annually. This percentage is as high as 17.4 percent in February and as low as 3.4 percent in August. Poor visibility occurs most often during morning hours, due to fog and low clouds associated with radiational cooling. **Table 2-3** provides a summary of weather conditions for BNIA.

Table 2-3 – Weather Summary

Month	Avg Daily Max Temp.	Avg Daily Min Temp.	Avg Temp.	Total Precip. (Inches)	Snowfall (Inches)	% IFR Conditions
January	31.1	17.8	24.5	3.2	26.1	17.4
February	33.2	18.6	25.9	2.4	17.8	15.9
March	42.5	26.1	34.3	3.0	12.4	12.6
April	54.1	36.4	45.3	3.0	3.6	10.1
May	66.4	47.7	57.0	3.4	0.3	6.0
June	74.8	56.9	65.8	3.8	0.0	4.4
July	79.6	62.1	70.8	3.1	0.0	3.7
August	77.8	60.5	69.1	3.9	0.0	3.4
September	70.1	52.9	61.5	3.8	0.0	4.1
October	58.9	42.6	50.7	3.2	0.3	6.3
November	46.7	33.7	40.2	3.9	11.0	9.9
December	36.0	23.6	29.8	3.8	25.5	13.4
ANNUAL	55.9	39.9	47.9	40.5	97.0	8.9

Source: National Climatic Data Center

2.0.8 Airport Tenants

Airport tenants at BNIA include a wide variety of aviation, commercial, and governmental organizations, as illustrated in **Table 2-4**. A summary of active leases, compiled in Fall 2010, can be found in **Table 2-5**.

Table 2-4 Airport Tenants

Aviation		
Scheduled Airlines	Cargo/Express	Aviation Business
AirTran Airways	FedEx	Aircraft Service International Group
American Airlines/American Eagle	United Parcel Service	Integrated Deicing Services
Delta Air Lines /Delta Connection	US Postal Service	Mercy Flight, Inc. of Western New York
JetBlue Airways		Prior Aviation Services, Inc.
Southwest Airlines		
United Airlines / Express (Continental)		
US Airways/Express		
Government Organizations		
FAA	National Weather Service	U.S. Customs
U. S. Dept. of Agriculture	U.S. Immigration	Dept. of Homeland Security/ Transportation Security Administration (TSA)
Commercial		
Car Rental	Other	
Alamo	Aircraft Service International	OneSource Facility Services
Avis	Corey Airport Services (Advertising)	Regional Elite Airline Services
Budget	Delaware North Companies Travel Hospitality Services	Smarte Carte, Inc.
Enterprise	Independent Taxi Association	Standard Parking
Hertz	International Total Services (ITS)	Travel Team Business Center
National	Monarch Companies Inc.	

Note: United Airlines merged with Continental Airlines in 2010.

Source: Niagara Frontier Transportation Authority

Table 2-5 NFTA Lease Agreement Information

Entity	Date Effective	Date Expired	Square Footage (including Joint Use space)	Space Use/Purpose
*****AIR CARGO LEASES*****				
Erie County Industrial Development Agency	10/1/1992	12/22/2028	359,631	Parcel 1 on Cayuga Road - Air Cargo Strip Building (air cargo use)
Erie County Industrial Development Agency	10/1/1992	2/1/2032	165,789	Parcel 2A - 303 Cayuga Road (air cargo use)
Erie County Industrial Development Agency	10/1/1992	12/22/2028	130,332	Parcel 2B - 305 Cayuga Road (air cargo use)
Erie County Industrial Development Agency	10/1/1992	12/22/2028	345,300	Parcel 3 Air Cargo Area (air cargo use)
Erie County Industrial Development Agency	2/24/1998	12/22/2028	Not Available	Parcel 3A Air Cargo Area (air cargo use)
Erie County Industrial Development Agency	10/1/1992	10/31/2029	128,807	Parcel 4 - 301 Cayuga Road (air cargo use)
Erie County Industrial Development Agency	3/30/1987	12/22/2028	193,101	FedEx Site (air cargo use)
*****AIRLINE LEASES*****				
Northwest Airlines	8/7/1997	3/31/2013	56,531	Use of terminal/ramps/runways etc. to operate airline
Southwest Airlines	10/16/2000	3/31/2013	60,141	Use of terminal/ramps/runways etc. to operate airline
United Airlines	3/3/1998	3/31/2013	55,545	Use of terminal/ramps/runways etc. to operate airline
US Airways	10/29/1997	3/31/2013	68,249	Use of terminal/ramps/runways etc. to operate airline
AirTran Airways	3/26/1998	3/31/2013	45,426	Use of terminal/ramps/runways etc. to operate airline
American Eagle Airlines	4/1/2010	3/31/2013	53,078	Use of terminal/ramps/runways etc. to operate airline
Continental Airlines	2/26/1998	3/31/2013	58,056	Use of terminal/ramps/runways etc. to operate airline
Delta Air Lines	7/1/1997	3/31/2013	57,381	Use of terminal/ramps/runways etc. to operate airline
JetBlue Airways	12/2/1999	3/31/2013	49,753	Use of terminal/ramps/runways etc. to operate airline
*****CAR RENTAL LEASES*****				
Snorac Inc. (as Enterprise Rent-A-Car)	12/1/2007	11/30/2012	Not Available	Operation of rental car business, space at rental car counter, etc.
Alamo Rental Inc.	12/1/2007	11/30/2012	Not Available	Operation of rental car business, space at rental car counter, etc.
Avis Rent A Car System LLC	12/1/2007	11/30/2012	Not Available	Operation of rental car business, space at rental car counter, etc.
Marita Car Rentals (as Budget Rent A Car)	12/1/2007	11/30/2012	Not Available	Operation of rental car business, space at rental car counter, etc.
The Hertz Corporation	12/1/2007	11/30/2012	Not Available	Operation of rental car business, space at rental car counter, etc.
National Rental Inc.	12/1/2007	11/30/2012	Not Available	Operation of rental car business, space at rental car counter, etc.
*****CONCESSION LEASES*****				
Delaware North Companies Travel Hospitality Services	10/24/1995	11/30/2027	Not Available	Operation of various concession and retail locations
*****OTHER LEASES*****				
Corey Airport Services	4/7/2008	4/30/2013	Not Available	Operation of advertising services within passenger terminal
Ground Handler: Aircraft Services International	9/1/2009	month to month	Not Available	Operation of ground handling services (below-wing ops)
Ground Handler: International Total Services	9/1/2000	month to month	Not Available	Operation of ground handling services (below-wing ops)
Ground Handler: OneSource Facility Services	3/12/2008	month to month	Not Available	Operation of ground handling services (below-wing ops)
Ground Handler: Regional Elite Airport Services	10/28/2009	9/26/2010	Not Available	Operation of ground handling services (below-wing ops)
Ground Handler: USAirports Air Cargo	9/15/2008	9/14/2009	Not Available	Operation of ground handling services (below-wing ops)
Independent Taxi Association	1/1/2009	12/31/2011	Not Available	Operation of taxi services at airport
Miller's Towing	5/11/2010	7/31/2012	Not Available	Operation of towing services for NFTA
Boingo (formerly Parsons) Wireless Internet	1/23/2008	1/22/2011	Not Available	Provide wireless internet service within passenger terminal
Sleep Inn & Suites	3/1/2010	2/28/2011	Not Available	Use of 500 spaces in NFTA parking lot
Smarte Carte	2/1/2006	1/31/2011	Not Available	Operation of baggage carts, automated mailing system, charging station, etc.
Standard Parking Corporation	5/15/2007	11/15/2012	Not Available	Management of airport parking facilities including shuttles
Vanderlande Industries	8/1/2008	8/1/2011	Not Available	Operation and maintenance of Outbound Baggage Handling System

Source: Niagara Frontier Transportation Authority

2.0.9 Airport Access

Regional expressway access to BNIA is provided by the New York State Thruway (I-90), Interstate 290, and the Kensington Expressway (State Route 33). I-90 provides access from points east and south of the airport, while I-290 provides access from areas to the north, including Tonawanda, North Tonawanda, Grand Island, and Niagara Falls. The Kensington Expressway provides direct access to BNIA from downtown Buffalo. These major highways have connections with the local highway network in the immediate vicinity of BNIA.

Local roads providing immediate access to BNIA include: Genesee Street to the south, Holtz Road to the east, Cayuga Road to the west, Wehrle Drive to the northwest, and Aero Drive to the north. Genesee Street provides access to the passenger terminal facilities at BNIA while Cayuga Road provides access to the air cargo facilities and various commercial establishments located on the west side of the airport. Wehrle Drive provides access to the general aviation area, while Aero Drive provides access to FAA’s Flight Service Station, the Aviation Fuel System Facilities, and the National Weather Service facilities. Access to the FAA Control Tower is provided from Holtz Road, which borders the east side of the airport.

2.1 AIRPORT ACTIVITY

2.1.1 Commercial Airline Service

Buffalo Niagara International Airport is currently served by seven commercial passenger airlines offering non-stop service to 21 airports in 18 cities across the United States and they are detailed in **Table 2-6**: Collectively, these carriers provide daily non-stop service to:

- Atlanta, Georgia
- Baltimore, Maryland
- Boston, Massachusetts
- Charlotte, North Carolina
- Chicago, Illinois (O’Hare and Midway)
- Cleveland, Ohio
- Detroit, Michigan
- Fort Lauderdale, Florida
- Fort Myers, Florida
- Las Vegas, Nevada
- Minneapolis, Minnesota
- New York, New York (LaGuardia and Kennedy)
- Newark, New Jersey (Liberty)
- Orlando, Florida
- Philadelphia, Pennsylvania
- Phoenix, Arizona
- Tampa, Florida
- Washington, D.C. (Regan National and Dulles)

Data presenting the schedule for the airlines and respective destinations is contained in **Appendix B**.

The Niagara Falls International Airport (IAG), also operated by the NFTA, has low fare service to Fort Lauderdale, FL, Orlando, FL, Punta Gorda, FL St. Petersburg, FL, West Palm Beach, FL and Myrtle Beach, SC on leisure airlines. These flights are provided on a seasonal or less than daily basis.

Table 2-6 Airlines and Non-Stop Destinations

Scheduled Airlines	Non-Stop Destinations Served (Daily Frequency)
AirTran Airways	Atlanta (3) and Orlando (1)
American Airlines/ American Eagle	Chicago-O'Hare (5)
Delta Air Lines / Delta Connection	Atlanta (5), New York-JFK (5), Detroit (8), and Minneapolis-St. Paul (1)
JetBlue Airways	Boston (3), Fort Lauderdale (1), Fort Myers (1-Seasonal), New York-JFK (9), and Orlando (1)
Southwest Airlines	Baltimore (7), Chicago-Midway (4), Fort Lauderdale (1), Las Vegas (2), Orlando (3), Phoenix (1), and Tampa (2)
United Airlines/Express	Chicago-O'Hare (6), Cleveland (3), Newark (6), and Washington-Dulles (4)
US Airways/Express	Boston (3), Charlotte (5), New York-LaGuardia (8), Philadelphia (6), and Washington-Reagan (2)

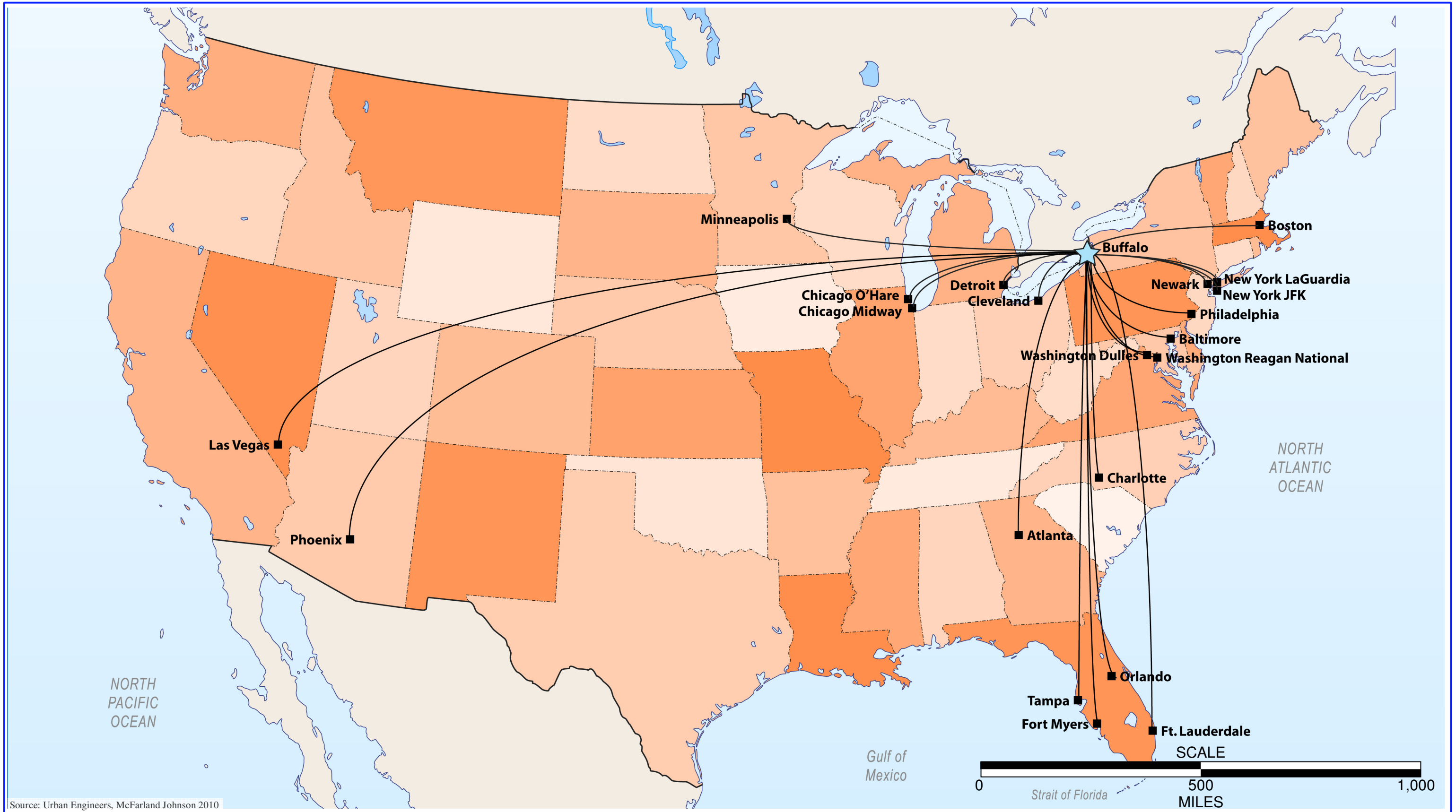
Note: United Airlines merged with Continental Airlines in 2010; AirTran Airways and Southwest Airlines merged in 2011; some destinations and frequencies vary by season.

Source: Official Airline Guide (OAG), May 2011 schedules, 2010

In addition to passenger service, BNIA is served by several cargo carriers, including FedEx, and United Parcel Service (UPS) along with their regional feeder affiliates,

The Fixed Based Operator (FBO) at BNIA—Prior Aviation—also offers private charter flights.

Figure 2-5 illustrates non-stop destinations served by commercial carriers from BNIA.



2.1.2 Based Aircraft/Users

Based aircraft are aircraft that base at an airport over an extended period of time. At BNIA, the number of based aircraft has hovered around 50 over the last two decades; from a high of 58 in 1995, to a low of 37 in 2007. However, the airport had 44 based aircraft in 2009 which is projected by the FAA Terminal Area Forecast (TAF) to grow slightly over the next decade. **Table 2-7** provides a summary of based aircraft at BNIA from 2001 through 2009.

Table 2-7 Based Aircraft

Year	Service Area Registered Aircraft	BNIA Based Aircraft	Market Share
2001	670	43	6.42%
2002	686	43	6.27%
2003	696	42	6.03%
2004	695	43	6.19%
2005	698	46	6.59%
2006	696	45	6.47%
2007	679	37	5.45%
2008	644	44	6.83%
2009	687	44	6.40%

Source: RA Wiedemann, McFarland Johnson, 2010

2.1.3 Existing/Recent Operational Activity

Buffalo Niagara International Airport ranked 58th in the United States in 2008 with 2,753,620 total passenger enplanements. While total operations declined in the mid-2000's, activity in the last several years has increased primarily in the form of local civilian aircraft operations. **Table 2-8** provides a summary of aircraft operations at BNIA from 1990 through 2008.

Table 2-8 Buffalo Niagara International Airport Terminal Area Forecast (TAF)

Year	Enplanements			Aircraft Operations Itinerant Operations				Local Operations			Total Ops	Total Tracon Ops	Based Aircraft	
	Air Carrier	Commuter	Total	Air Carrier	Air Taxi & Commuter	GA	Military	Total	Civil	Military				Total
1990	1,663,927	72,254	1,736,181	50,991	18,675	26,651	2,336	98,653	7,316	1,032	8,348	107,001	189,947	53
1991	1,638,000	61,269	1,699,269	56,193	29,756	30,495	3,163	119,607	7,706	892	8,598	128,205	178,018	56
1992	1,588,538	106,547	1,695,085	58,336	34,307	29,334	3,250	125,227	9,538	1,278	10,816	136,043	184,025	56
1993	1,411,337	163,165	1,574,502	66,669	28,985	30,300	3,126	129,080	11,264	1,792	13,056	142,136	189,806	56
1994	1,667,180	132,872	1,800,052	57,405	34,004	38,548	2,668	132,625	11,038	1,558	12,596	145,221	190,164	56
1995	1,452,014	176,828	1,628,842	50,185	45,533	42,315	2,289	140,322	11,998	1,326	13,324	153,646	195,433	58
1996	1,352,295	208,176	1,560,471	43,727	46,331	40,817	3,623	134,498	12,348	1,558	13,906	148,404	187,813	55
1997	1,347,667	202,894	1,550,561	43,091	45,731	40,414	3,574	132,810	13,330	1,934	15,264	148,074	188,611	55
1998	1,397,323	209,682	1,607,005	42,223	46,500	42,729	4,478	135,930	18,278	2,966	21,244	157,174	197,105	55
1999	1,495,976	279,017	1,774,993	46,211	49,577	41,369	4,174	141,331	11,258	2,470	13,728	155,059	201,822	40
2000	1,730,198	308,242	2,038,440	49,530	49,592	44,145	3,725	146,992	12,892	2,496	15,388	162,380	210,285	40
2001	1,989,358	345,069	2,334,427	58,827	46,871	49,179	3,479	158,356	12,144	1,794	13,938	172,294	212,507	43
2002	1,627,455	379,183	2,006,638	48,731	41,258	32,136	3,624	125,749	8,631	2,405	11,036	136,785	190,123	43
2003	1,475,766	551,288	2,027,054	49,658	39,712	29,479	2,405	121,254	9,258	1,981	11,239	132,493	184,250	42
2004	1,406,117	759,248	2,165,365	50,275	48,194	27,952	2,286	128,707	10,928	1,499	12,427	141,134	191,093	43
2005	1,581,588	815,083	2,396,671	54,677	46,096	21,493	1,444	123,710	11,897	1,357	13,254	136,964	186,417	46
2006	1,764,789	736,086	2,500,875	43,274	52,079	19,548	572	115,473	16,313	1,023	17,336	132,809	182,097	45
2007	1,871,066	762,900	2,633,966	43,796	50,890	18,813	664	114,163	21,843	1,460	23,303	137,466	186,295	37
2008	2,026,647	726,973	2,753,620	50,948	42,085	19,344	854	113,231	24,235	1,056	25,291	138,522	185,259	44
2009	2,003,902	658,119	2,662,021	49,400	38,698	21,224	958	110,280	21,224	1,108	22,332	132,612	182,713	40

Source: FAA Terminal Area Forecast (TAF)

2.2 AIRSIDE FACILITIES

2.2.1 Runways

Buffalo Niagara International Airport has two asphalt runways; Runway 5-23 is the primary runway and Runway 14-32 is the crosswind runway. Both runways are used regularly for air carrier operations and intersect near the midpoint of each runway.

Runway 5-23

Runway 5-23 measures 8,828 feet long and 150 feet wide and is aligned in a southwest to northeast direction with grooved asphalt pavement. The design aircraft for this runway is the Airbus A300. As the primary runway, it supports all airport users and aircraft types. Runway 5 has a displaced threshold of 535 feet necessitated by runway safety area and road clearance requirements. Runway 23 has a displaced threshold of 725 feet to provide a full 1000-foot safety area before Interstate 90. The displaced threshold results in a Landing Distance Available (LDA) of 7,757 ft for Runway 5 and 7,567 ft for Runway 23.

The Airport's Master Record (FAA Form 5010-1) published pavement strength of Runway 5-23 is 75,000 pounds single wheel, 195,000 pounds dual wheel, and 450,000 pounds dual tandem wheel.

Runway 14-32

Runway 14-32 measures 7,161 feet long and 150 feet wide and is aligned in a southeast to northwest direction with grooved asphalt pavement. The design aircraft for this runway is the Boeing 757. The runway has had several extensions over the past decade; these extensions occurred on the Runway 32 approach end. Runway safety area and road clearance requirements create a 720 ft displacement on the Runway 32 approach end and 320 ft on the Runway 14 approach end. As the crosswind runway, it supports all airport users and aircraft types. The displaced threshold results in a Landing Distance Available (LDA) of 6,121 for both Runways 14 and 32.

The Airport's Master Record (FAA Form 5010-1) published pavement strength of Runway 14-32 is 75,000 pounds single wheel, 150,000 pounds dual wheel, and 240,000 pounds dual tandem wheel.

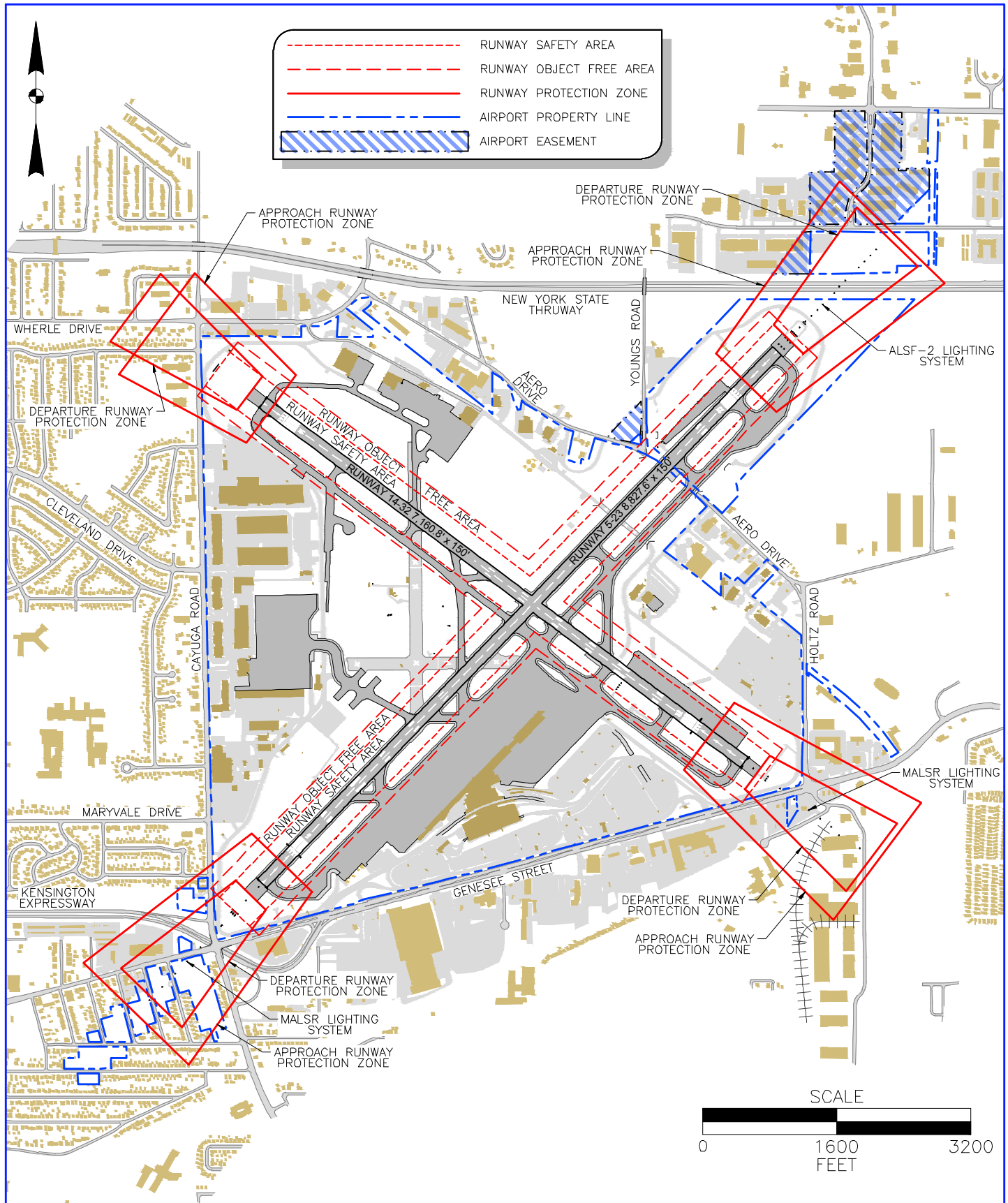
BNIA's airside facilities are illustrated in **Figure 2-6**.

2.2.2 Taxiways

The runways are supported by a system of 23 asphalt taxiways including full parallel taxiways to Runway 5-23 (Taxiway A) and Runway 14-32 (Taxiway D). In addition, there are two holding bays, located near the approach ends of Runway 5 (4,600 square yards), Runway 23 (7,500 square yards). The taxiway system is configured to provide access between the airfield and the various landside functional components including the passenger terminal facilities, air cargo facilities, and general aviation area. BNIA's taxiway system is summarized in **Table 2-9** and illustrated in **Figure 2-6**.

EXISTING AIRSIDE LAYOUT

FIGURE 2-6



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Table 2-9 Summary of Existing Taxiway Facilities

Taxiway	Function	Width	Paved Shoulder Width	Length	Maximum Aircraft Group Usage
A	Parallel taxiway for Rwy 5-23	75 feet	25 feet	9,227 feet (including connectors to runway)	IV
B	Connector between Rwy 5-23 and Twy A	75 feet	25 feet	290 feet	IV
C	Connector between Rwy 5-23 and Twy A	95 feet (centerline stripe located off-center)	25 feet (east of Rwy 5-23 crossing)	290 feet	IV
D	Parallel taxiway for Rwy 14-32	75 feet	25 feet (east of Rwy 5-23 crossing)	7,531 feet (including connectors to runway)	IV
E	Connector between Rwy 5-23 and Twy A	95 feet (centerline stripe located off-center)	25 feet (south of Rwy 5-23 crossing)	2,037 feet (including connectors to runway)	IV
F	Connector between Rwy 5-23 and Twy E	75 feet	25 feet	378 feet	IV
G	Connector between Rwy 5-23 and Twy H	95 feet (centerline stripe located off-center)	25 feet	301 feet	IV
H	Connector between Rwy 5-23 and Twy G	75 feet	25 feet	461 feet	IV
J	Connector between Rwy 14-32 and Twy A	75 feet	25 feet	928 feet	IV
K	Connector between Rwy 14-32 and Twy D	105 feet (centerline stripe located off-center)	25 feet	325 feet	IV
L	Connector between Rwy 5-23 and Twy G	75 feet	None	307 feet	IV
M	Connector between Rwy 5-23 and Air Cargo Apron	Varies (75 feet minimum)	None (first 926 feet from runway) 25 feet (elsewhere)	1,607 feet	IV
P	Connector between Rwy 14-32 and General Aviation Apron (Prior Hangars 1 & 2)	50 feet	None	2,147 feet	III
P1	Connector between Twy P and General Aviation Apron (Prior Hangar 3)	50 feet	None	125 feet	III
P2	Connector between Twy P and General Aviation Apron (Prior Hangars 1 & 2)	50 feet	None	125 feet	III
Q	Connector between Twy D and General Aviation Apron (Prior Hangars 1 & 2)	50 feet (north of Rwy 14-32 crossing) 75 feet (south of Rwy 14-32 crossing)	50 feet (north of Rwy 14-32 crossing) 25 feet (south of Rwy 14-32 crossing)	1,011 feet (north of Rwy 14-32) 236 feet (south of Rwy 14-32)	IV (north of Rwy 14-32) III (south of Rwy 14-32)
R	Connector between Rwy 14-32 and Twy D	75 feet	None	237 feet	IV
U	Connector between Rwy 14-32 and Twy D	100 feet (centerline stripe located off-center)	25 feet	325 feet	IV
V	Connector between Rwy 5-23 and Twy A	95 feet (centerline stripe located off-center)	25 feet	290 feet	IV
Taxilane A1	Connector between Twy A and Twy D	75 feet minimum	25 feet	965 feet	IV
Taxilane A2	Connector between Twy A and Taxilane A1	75 feet	None	2,492 feet	IV
Taxilane K	Connector between Twy D and Terminal Apron	75 feet	None	1,408 feet	IV
Taxilane K1	Connector between Twy D and Terminal Apron	75 feet	None	1,456 feet	IV

Source: Urban Engineers, McFarland Johnson, 2010.
 Note: Maximum aircraft usage is by taxiway geometry, not pavement strength

2.2.3 Airfield Signage, Marking and Lighting

The airfield signage and marking is documented in the current Airport Certification Manual (ACM) for BNIA and is approved by the FAA. Airfield signage consists of standard guidance and mandatory instruction signs along with runway distance remaining signage on both runways. Runways 5-23 and 14-32 markings are in good condition. Runways 5, 23, and 32 have precision markings, while Runway 14 has non-precision markings. Runway/taxiway intersections have recently been marked with the new enhanced centerline markings and in-pavement markings required by the FAA for runway/taxiway intersections.

Edge lights are used to outline and define usable operational areas of airports during periods of darkness and low visibility weather conditions. Both Runway 5-23 and Runway 14-32 are equipped with High Intensity Runway Lights (HIRL). Runway centerline and Touchdown Zone (TDZ) lighting systems are designed to facilitate landings, rollouts, and takeoffs. The TDZ lights are primarily a landing aid, while the centerline lights are used by pilots to track the runway centerline for both landings and taking offs. Runways 5 and 23 have centerline lights and TDZ lights.

2.2.4 Apron Space

There are four asphalt aircraft parking aprons located at the passenger terminal, air cargo and general aviation areas. A summary of current apron facilities is provided in **Table 2-10** and **Figure 2-7**.

Table 2-10 Summary of Existing Apron Facilities

Apron	Area
Terminal Apron	155,480 SY
General Aviation Apron abutting Prior Hangars 1 & 2	44,750 SY
General Aviation Apron abutting Prior Hangar 3	6,580 SY
Air Cargo Apron	89,530 SY

Source: Urban Engineers, McFarland Johnson, 2010

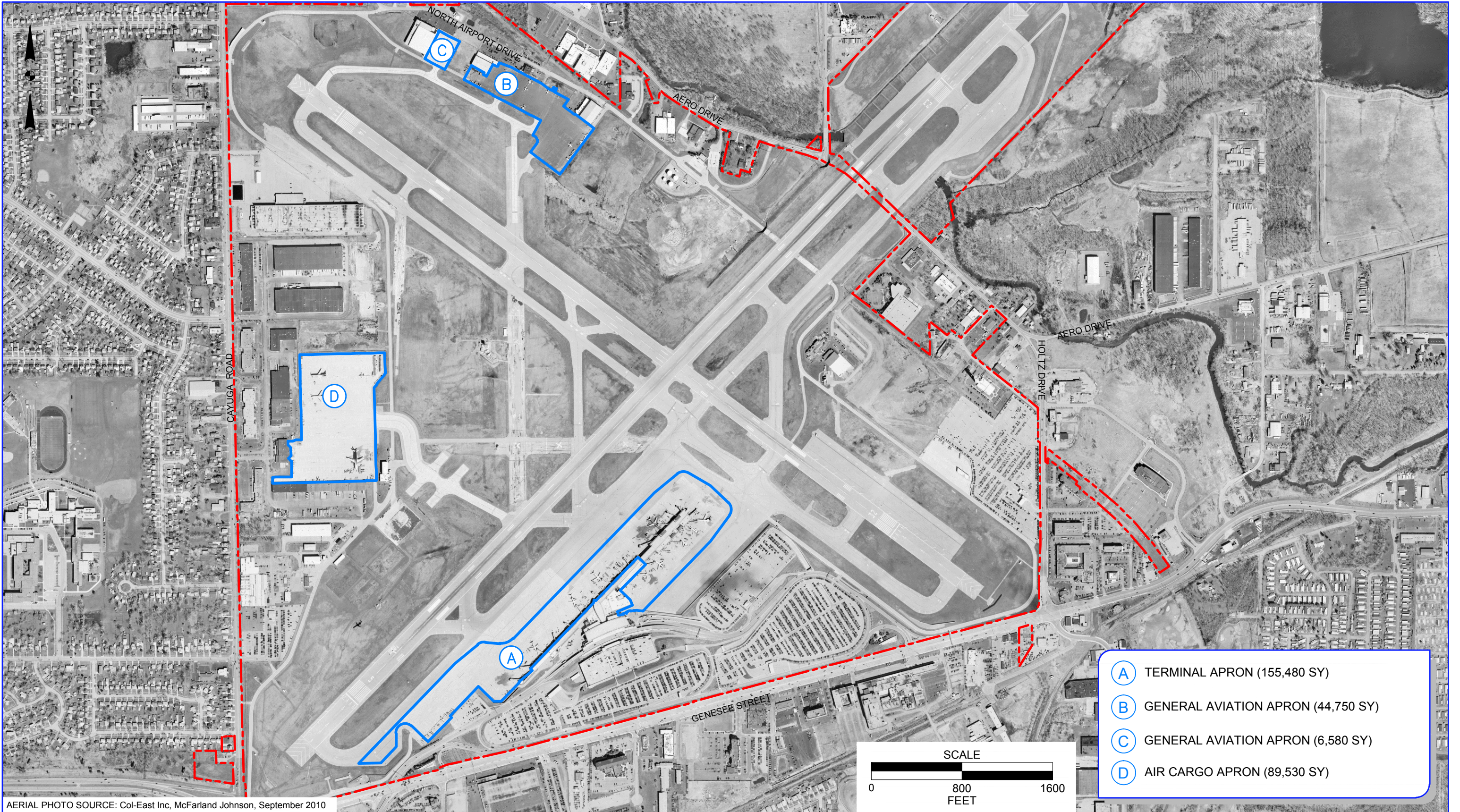
Designated Remain Over Night (RON) areas for airline aircraft include a portion of the west terminal apron and four remote positions located off Taxiway M near the air cargo facility. Taxiway K1 is also closed nightly from 9am to 9am to accommodate RON parking of aircraft on the back side of the east concourse.

2.2.5 Pavement Management Study

A pavement management study conducted as part of this sustainable master plan is included as a separate report. Pavement conditions and recommendations from this report are incorporated into the master plan and recommended plan.

EXISTING APRON FACILITIES

FIGURE 2-7



AERIAL PHOTO SOURCE: Col-East Inc, McFarland Johnson, September 2010

2.2.6 Visual/Navigational Aids

Navigational aids (NAVAIDs) are any electronic or visual devices, airborne or on the ground, which provide point-to-point guidance information or position data to aircraft in flight. All local traffic is controlled by the FAA Air Traffic Control Tower (ATCT), which is operational 24 hours per day. BNIA has several electronic and visual navigational aids that pilots use to locate, navigate to, and land at the airport.

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 conditions. Currently, precision approaches are available on Runways 5, 23, and 32; each runway is equipped with a Category I Instrument Landing System (CAT-I ILS). The Runway 32 ILS was commissioned in 2004. 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 a CAT I ILS are a decision height of 200 feet (cloud ceiling) and a runway visual range (RVR) of approximately 1,800 feet or ½ mile visibility.

The electronic components that comprise the ILS are the localizer, glide slope, outer marker, and middle marker. 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 until a pilot can visually confirm the runway alignment and location. The outer marker radiates a signal that marks the point at which glide slope altitude is verified or at which descent without glide slope is initiated. The outer marker beacon for the ILS approach to Runway 5 is located 4.9 nautical miles from the landing threshold; the Runway 23 outer marker is located 4.4 nautical miles from the threshold and the Runway 32 outer marker is located 4.8 nautical miles from the landing threshold. The middle marker radiates a signal that marks the decision point of a CAT I ILS approach. The middle marker beacon for the ILS approaches to Runway 5, 23, and 32 are located 0.5 nautical miles from the respective runway thresholds.

Approach lighting systems are often used in conjunction with an ILS to assist pilots transitioning from instrument to visual conditions. Runway 5 is equipped with a Medium Intensity Approach Lighting System with Runway Alignment Indicator Lights (MALSR). A MALSR is an economy approach lighting system approved for CAT-I precision approaches. The Medium Intensity Approach Lighting System (MALS) portion is a series of steady burning light bars that begin at the runway threshold and extend outward 1,400 feet into the runway approach area along the extended centerline of the runway. The Runway Alignment Indicator Lights (RAIL) portion of the system is a series of single flashing lights that extend outward an additional 1,000 feet.

Runway 23 is equipped with a High Intensity Approach Lighting System with Sequenced Flashing Lights (ALSF-2). An ALSF-2 consists of a series of light bars that begin at the runway threshold and extend outward 2,400 feet into the runway approach area along the extended centerline of the runway. This type of approach lighting system is generally used in conjunction with a Category II (CAT II) precision approach. In February of 2001, the FAA completed installation of a capture effect glide slope antenna on Runway 23 that will provide the capability to conduct CAT II approaches (i.e., a decision height of 100 feet and a runway visual range of approximately 1,200 feet). However, other facility improvements, such as the installation of an

emergency power generator, will need to be completed before a published CAT II instrument approach procedure can be commissioned at the airport.

Visual Aids

To assist pilots in locating the airport at night and during periods of low visibility, an airport rotating beacon is located on the west side of the airfield, east of the air cargo area. The beacon emits alternating green and white flashes of light that pilots can identify in flight.

In addition to the rotating beacon, various visual landing aids are associated with each runway. Runway 14 and 32 are equipped with a 4-light PAPI (Precision Approach Path Indicator). A PAPI system provides visual approach path and slope information. They system provides a definite white and red light projection pattern along the desired descent path to the touchdown point. The PAPI systems replaced the Visual Approach Slope Indicators (VASI) in 2005. Runway 14 is also equipped with Runway End Identification Lights (REILs). REILs are synchronized flashing lights located on either side of the runway threshold to provide rapid and positive identification of the end of a runway. REILs allow pilots to quickly identify runway ends when an airport is located in a concentration of other light sources, as is typically found in urban areas. Edge lights are used to outline usable operational areas of airports during periods of darkness and low visibility weather conditions. Both Runway 5-23 and Runway 14-32 are equipped with HIRL. Runway centerline and Touchdown Zone (TDZ) lighting systems are designed to facilitate landings, rollouts, and takeoffs. The TDZ lights are primarily a landing aid, while the centerline lights are used for both landing and taking off. Runways 5 and 23 have centerline lights and TDZ lights.

BNIA also has a lighted windsock located on the airfield near the intersection of Runways 5-22 23 and 14-32 to provide information on wind direction.

2.2.7 Instrument Approach Procedures

Instrument approaches to BNIA 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 BNIA was obtained from the *U.S. Terminal Procedures – Northeast (NE) Vol. 2 of 3*, effective November 18, 2010. There are 16 published instrument approach procedures to BNIA. A listing of published approaches, including height above touchdown and visibility minimums is presented in **Table 2-7**.

Table 2-11 Published Instrument Approach Landing Minimums

Designated Runway	Published Instrument Approach Procedure	Height Above Touchdown (feet)	Visibility Minimum
5	ILS	200	1,800 feet
5	LPV	267	2,400 feet
5	LNAV/VNAV	320	4,000 feet
5	LNAV	374	2,400 feet (Categories, A, B, & C) 5,000 feet (Category D)

Designated Runway	Published Instrument Approach Procedure	Height Above Touchdown (feet)	Visibility Minimum
14	LNAV	409	1 mile (Categories A & B) 1.25 miles (Categories C & D)
23	ILS	200	1,800 feet
23	LPV	250	2,400 feet (Categories A, B, C, & D)
23	LNAV/VNAV	371	4,000 feet (Categories A, B, C, & D)
23	LNAV	412	2,400 feet (Categories A & B) 4,000 feet (Category C) 5,000 feet (Category D)
23	VOR/DME RNAV or GPS	556	0.5 mile (Categories A & B) 1 mile (Category C) 1.25 miles (Category D)
32	ILS	224	0.5 mile (Categories A, B, C, & D)
32	LPV	289	0.5 mile (Categories A, B, C, & D)
32	LNAV/VNAV	432	1 mile (Categories A, B, C, & D)
32	LNAV	506	0.5 mile (Categories A & B) 1 mile (Categories C & D)
32	VOR/DME RNAV or GPS	506	1 mile (Categories A & B) 1.5 miles (Categories C & D)
Circling	VOR or GPS-A	472	1 mile (Categories A & B)
		472	1.5 miles (Categories C)
		552	2 miles (Category D)

Source: U.S. Terminal Procedures, Northeast, Vol. 2 of 3, 26 November 2010.

Legend:

DME = Distance Measuring Equipment
 GPS = Global Positioning System
 ILS = Instrument Landing System
 LOC = Localizer
 LNAV = Lateral Navigation
 LPV = Localizer Performance with Vertical guidance
 RNAV = Area Navigation
 VNAV = Vertical Navigation
 VOR = Very High Frequency Omnidirectional Range

Approach Category A: 0-90 Knots
 Approach Category B: 91-120 Knots
 Approach Category C: 121-140 Knots
 Approach Category D: 141-165 Knots

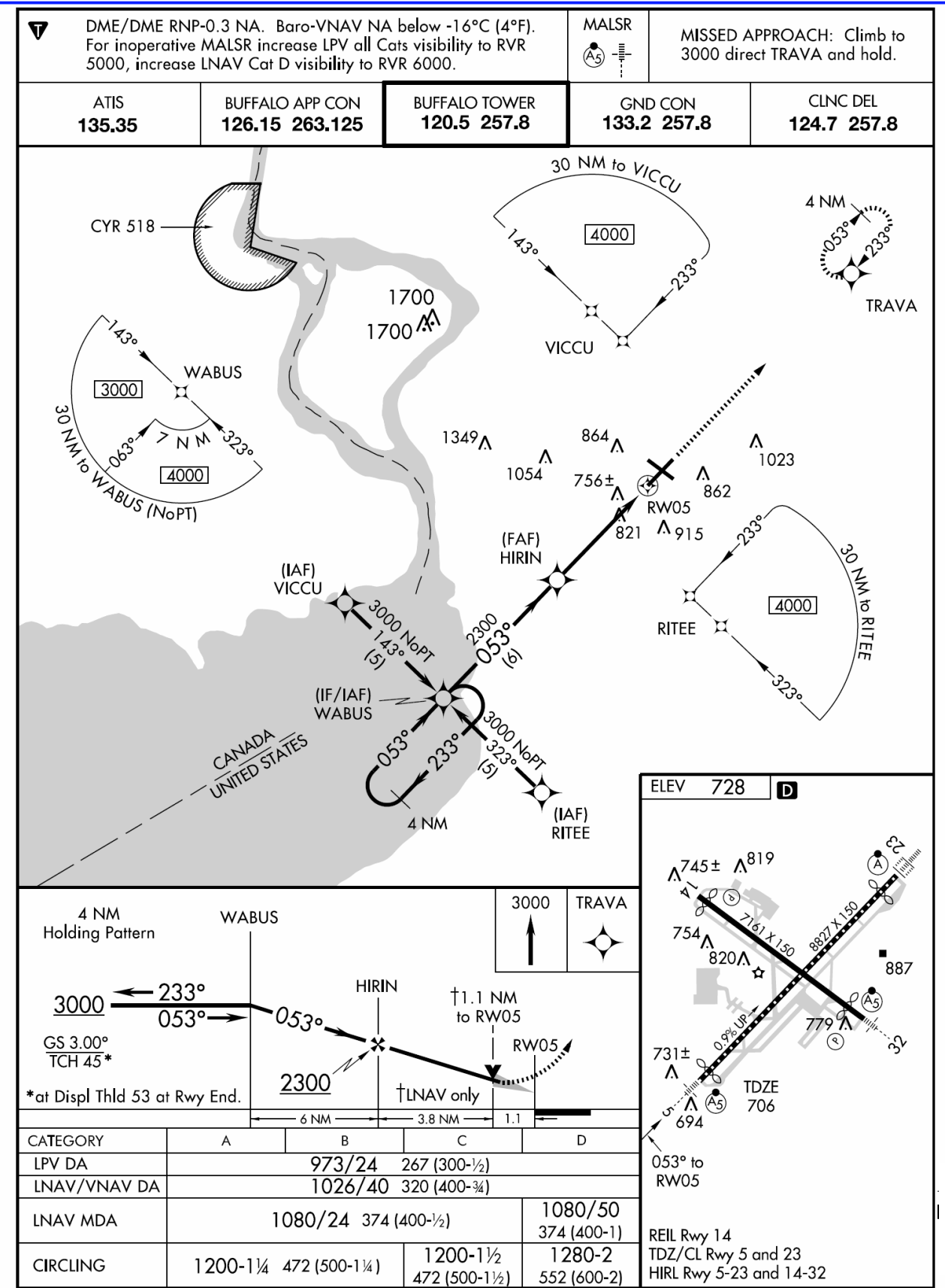
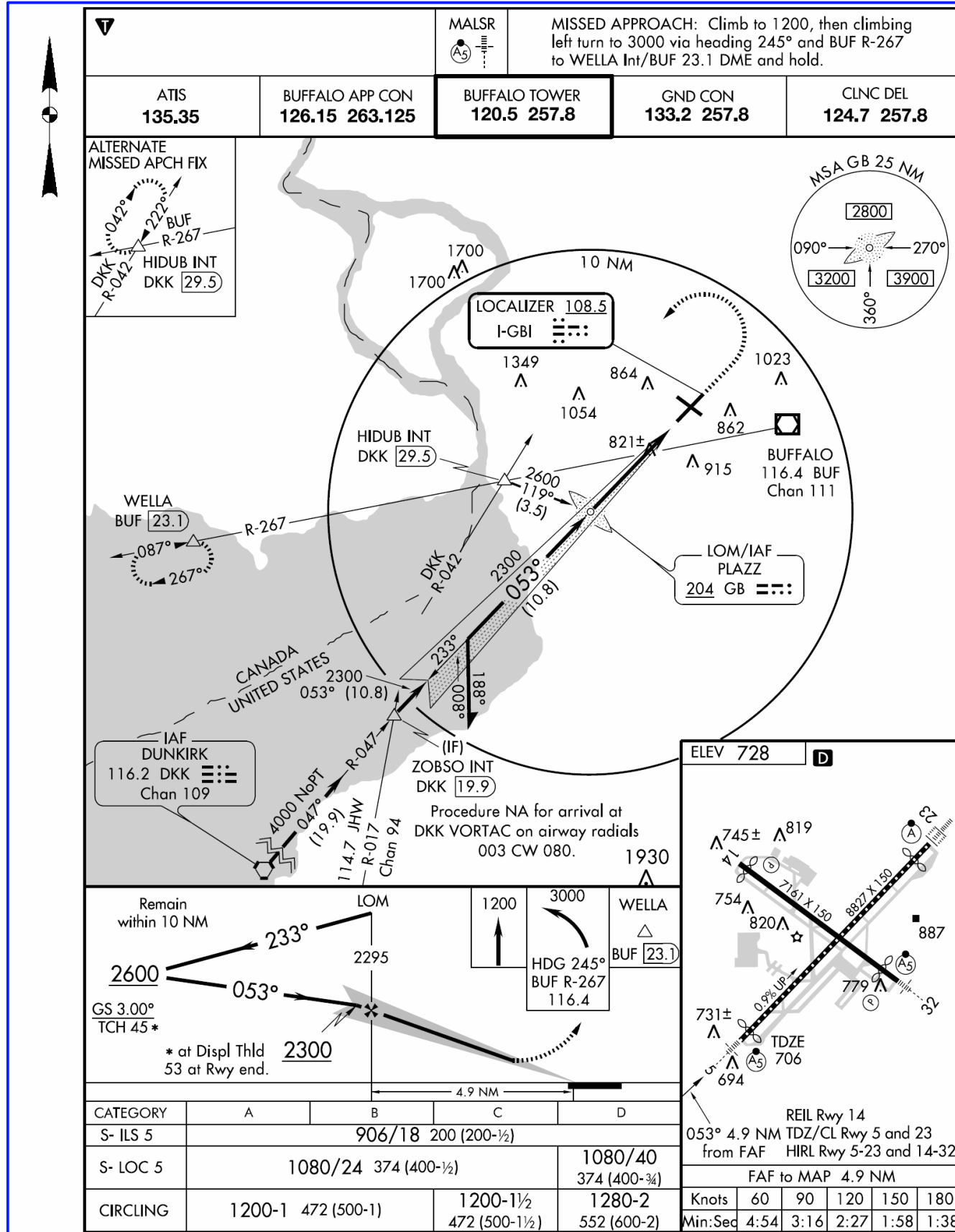
At BNIA, pilots can use Global Positioning System (GPS) equipment or instrument rated aircraft to fly to the airport’s existing VOR/DME (very high omnidirectional range/distance measuring equipment area navigation) non-precision instrument approach procedures to all runways. The

GPS approaches are provided by satellite navigation systems. GPS utilizes range measurements from 30 satellites to determine an aircraft's position anywhere in the world. An aircraft must be properly equipped with antennas and receiver-processors in order to receive positioning, velocity, and timing from the satellites. The VOR/DME and LNAV/VNAV approaches provide azimuth guidance only to the runway, and provide the pilot with a Minimum Descent Altitude (MDA). The MDA is the point at which the pilot must make a visual approach to the runway or execute the published missed approach procedures. Improvements in GPS technology have resulted in better instrument approaches, which can now provide vertical guidance in properly equipped aircraft. Localizer Performance with Vertical Guidance (LPV) approaches can provide approach minimums near that of an ILS. Presently LPV approaches are published for Runways 5, 23 and 32. In addition, a VOR or GPS-A non-precision approach is provided at BNIA. The VOR radiates azimuth information to the airport, but not to any particular runway. Once pilots make visual contact with the airport, they must perform a circling approach to land.

Figures 2-8 through 2-11 illustrate the published approaches for Instrument and GPS Approach Procedures while **Figure 2-12** illustrates Instrument Departure Procedures as they relate to VORs and obstructions in the airport vicinity.

RUNWAY 5 ILS & GPS APPROACH PROCEDURES

FIGURE 2-8

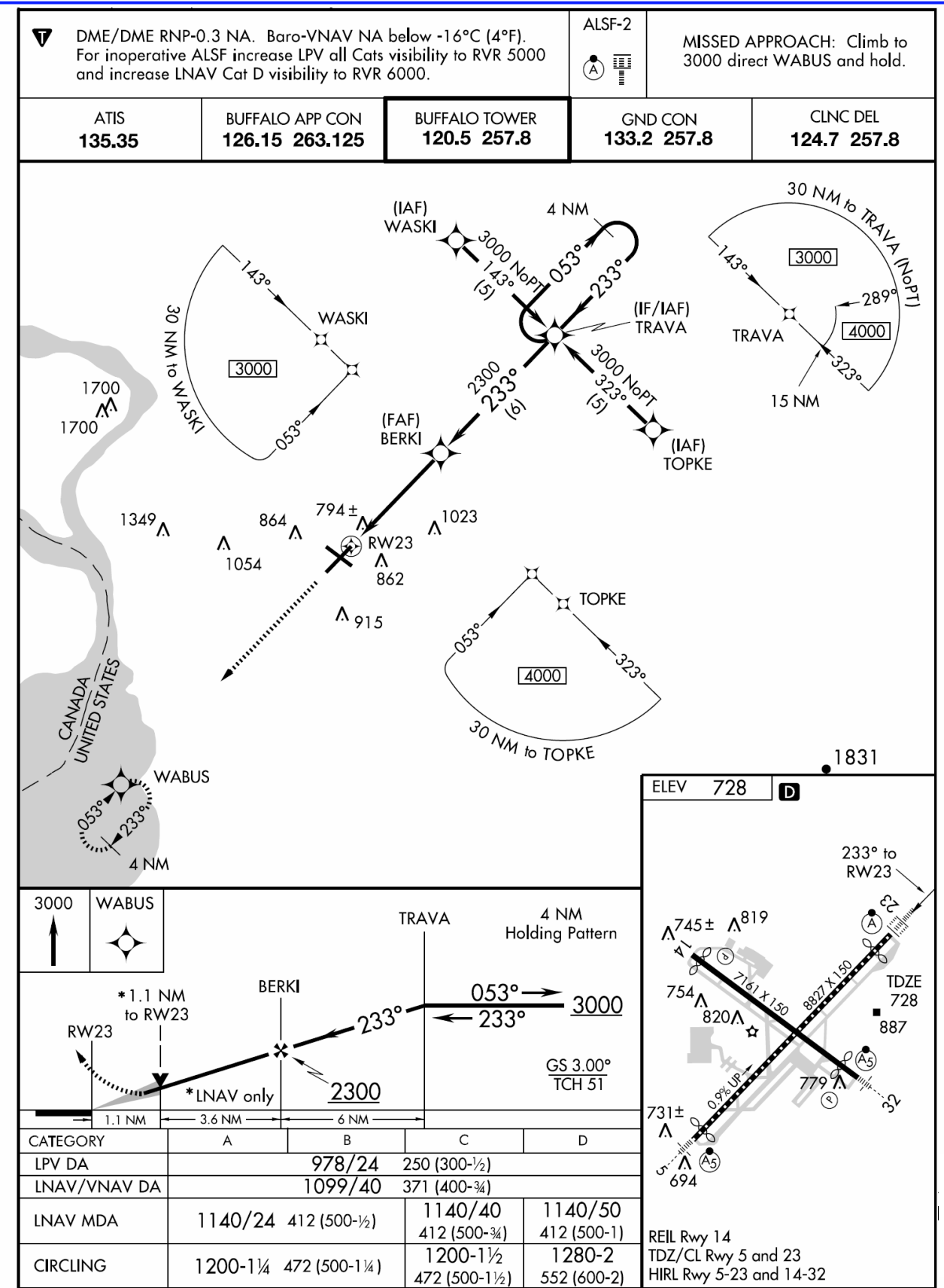
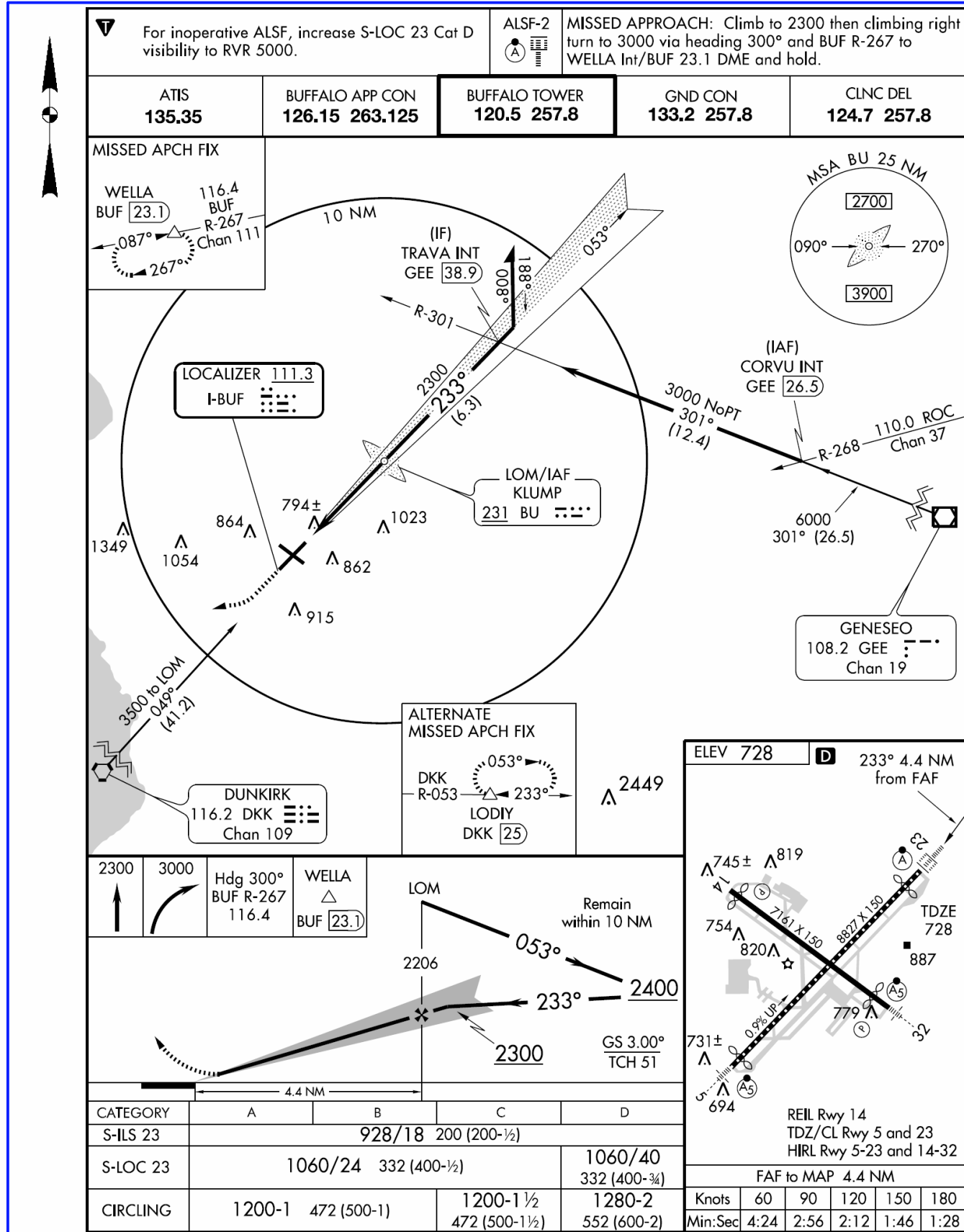


Source: U.S. Terminal Procedures, Northeast, Vol. 2 of 3, 26 November 2010



RUNWAY 23 ILS & GPS APPROACH PROCEDURES

FIGURE 2-9

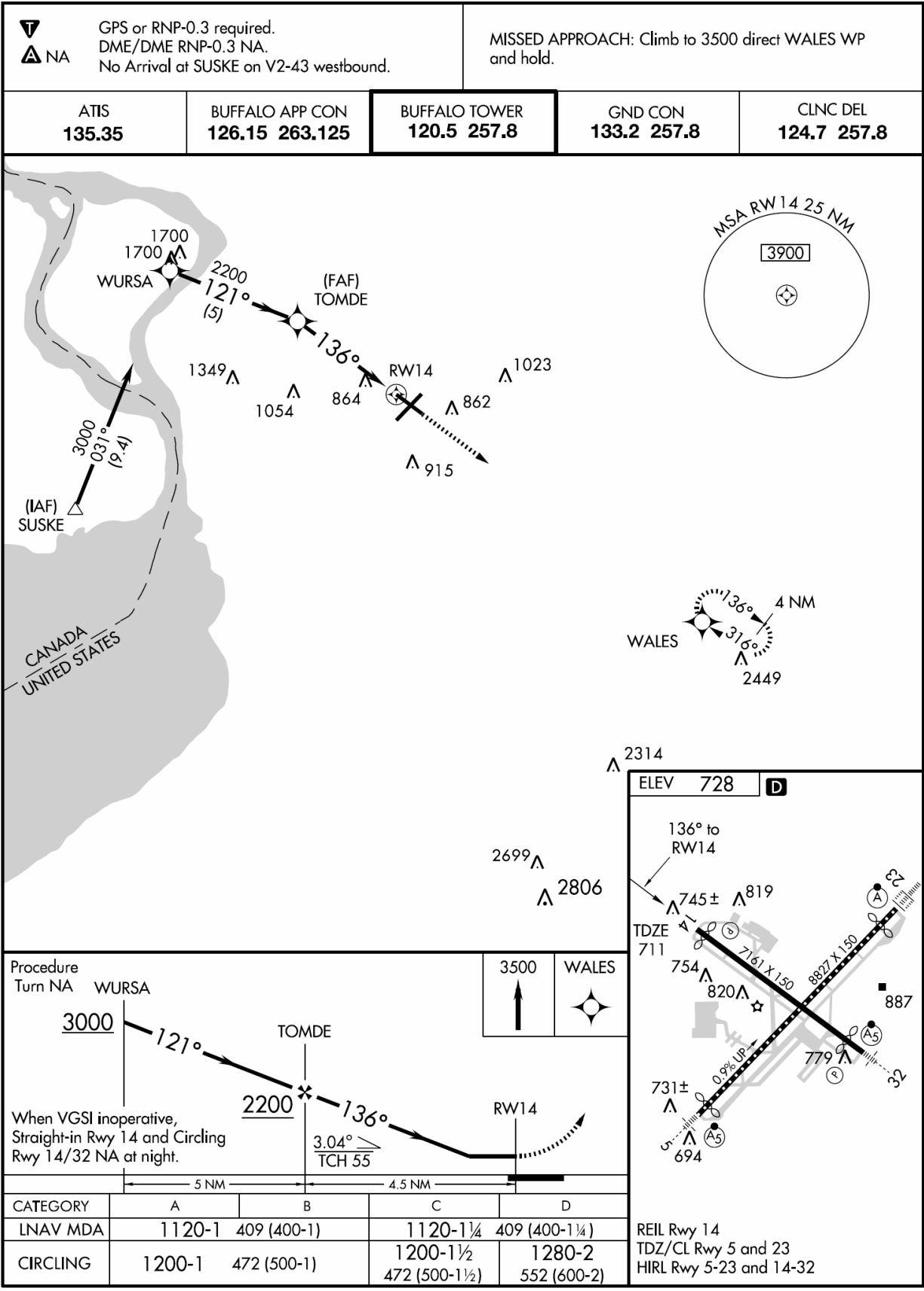


Source: U.S. Terminal Procedures, Northeast, Vol. 2 of 3, 26 November 2010



RUNWAY 14 GPS APPROACH PROCEDURES

FIGURE 2-10

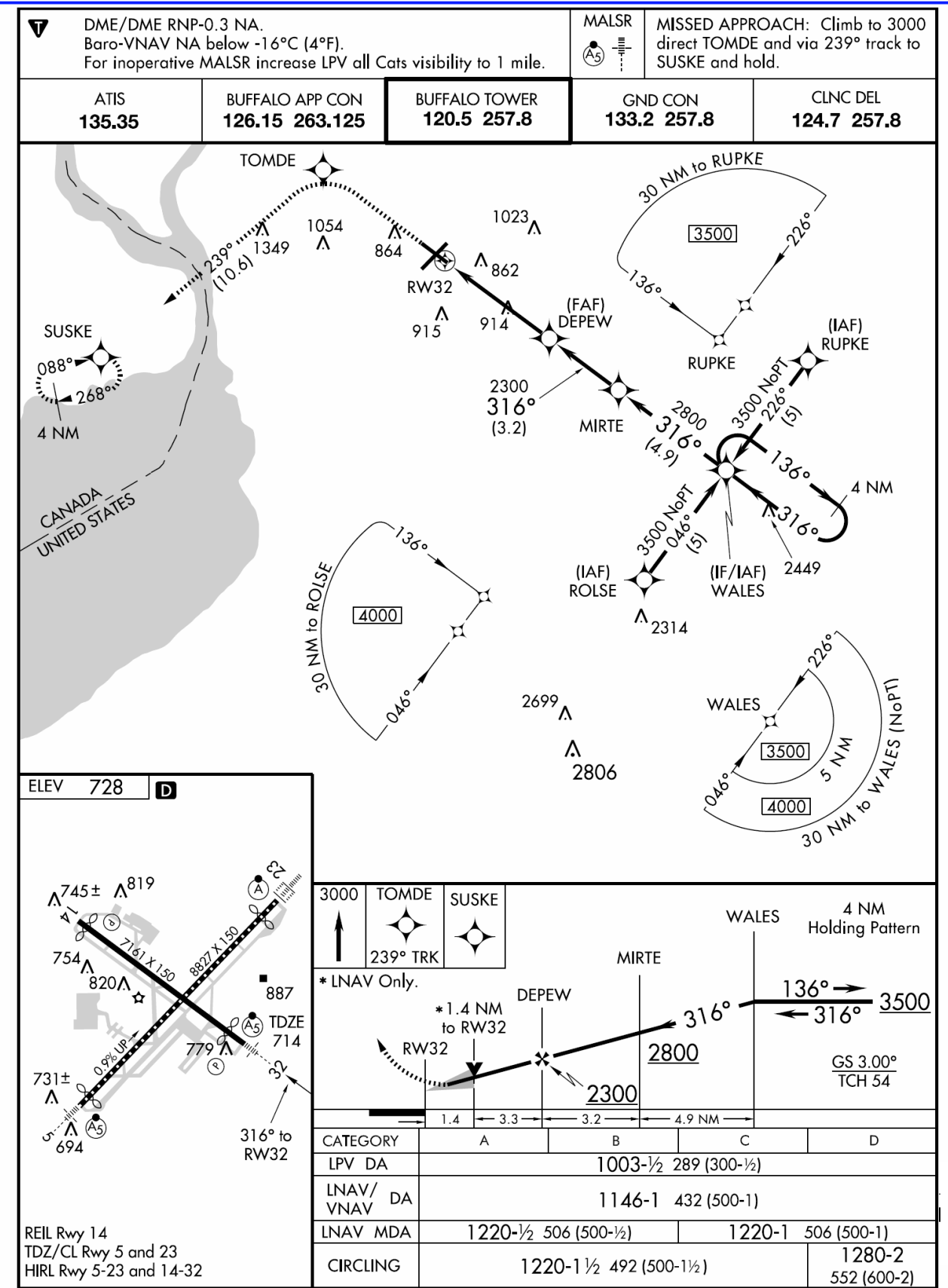
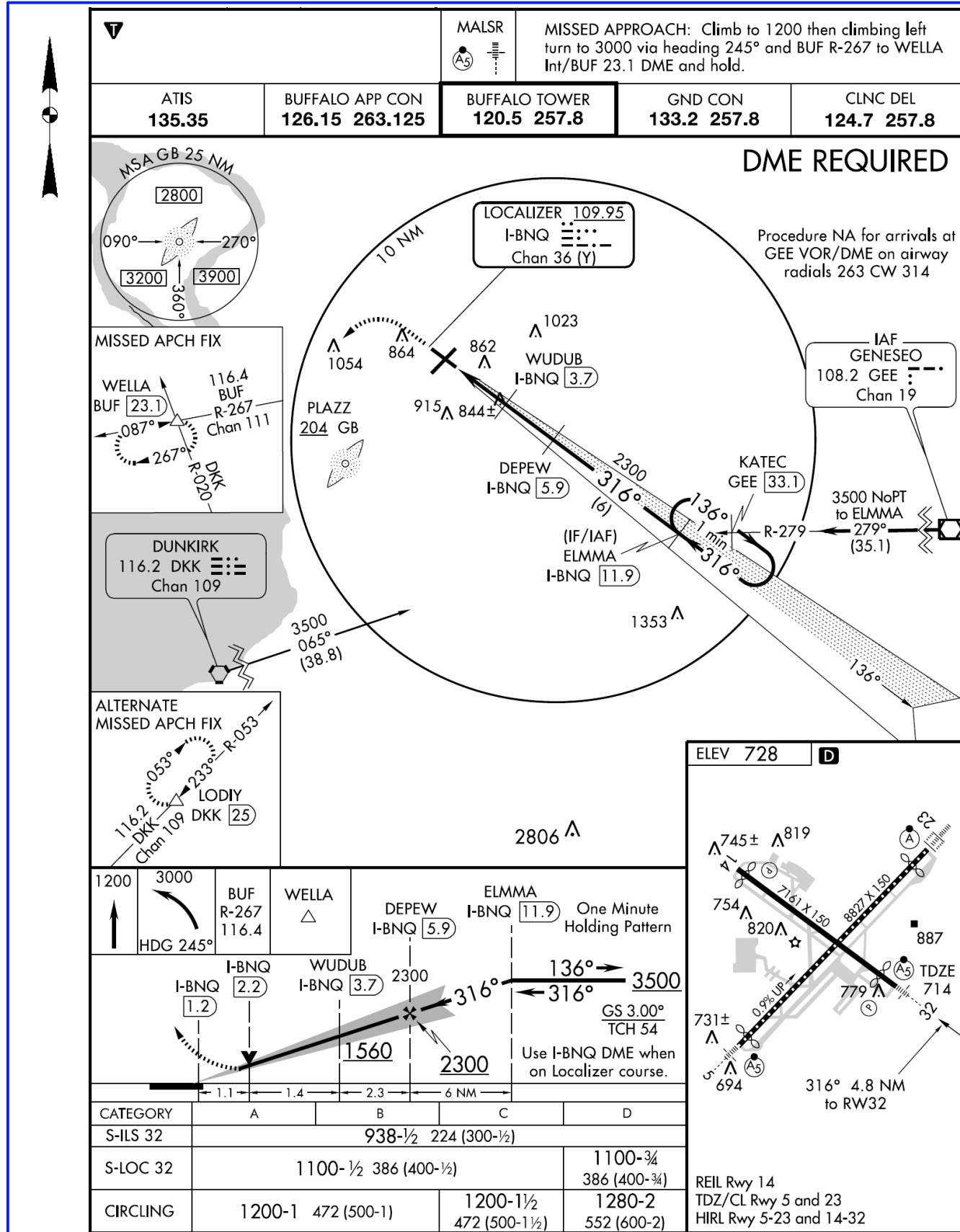


Source: U.S. Terminal Procedures, Northeast, Vol. 2 of 3, 26 November 2010



RUNWAY 32 ILS & GPS APPROACH PROCEDURES

FIGURE 2-11



Source: U.S. Terminal Procedures, Northeast, Vol. 2 of 3, 26 November 2010



2.3 LANDSIDE FACILITIES

Landside facilities support the many activities and services involved in storing and maintaining aircraft and in processing aircraft and passengers before and after use of the airside facilities. Typical landside facilities include aircraft hangars and aprons, terminal buildings, aviation fuel facilities, parking lots, and access roads. Well-maintained and affordable landside facilities are important to an airport’s efficient operation and success. Landside facilities and services have been divided into the following categories and will be discussed in detail on the pages to follow:

- Fixed Base Operations
- Hangars
- Vehicle Access and Parking (non-terminal)
- Airport Buildings (non-terminal)

A table of Landside Facilities situated inside of the airport’s security fence is presented in **Table 2-12**:

Table 2-12 Landside Facilities

Facility	Size	Use
Prior Executive Terminal	9,000 s.f.	FBO Office/Operation Space
Prior Aviation Hangar 1	25,500 s.f.	Aircraft Storage and Vehicular Maintenance
Prior Aviation Hangar 2	29,900 s.f.	Aircraft Storage and Aircraft Maintenance
Prior Aviation Hangar 3	20,965 s.f.	Aircraft Storage and Aircraft Maintenance
485 Cayuga Road	235,000 s.f.	Private Aircraft Storage
Mercy Flight Offices	12,850 s.f.	Mercy Flight Offices and Dispatch
Mercy Flight Hangar	8,600 s.f.	Aircraft Storage and Aircraft Maintenance
NFTA Maintenance Garage	34,500 s.f.	Maintenance of NFTA fleet
NFTA Maintenance Building/ Airfield Storage	5,150 s.f.	Maintenance Equipment Storage
Ground Support Equip. Bldg.	9,700 s.f.	Leased by ASIG; Under-Wing Services
Salt Storage Building	2,100 s.f.	Salt Storage for Snow/Ice Removal
NFTA Airfield Operations	3,180 s.f.	Base for Airfield Operations
Superintendent’s Office	1,400 s.f.	Airfield Superintendent’s Office
251C Cayuga Road	4,500 s.f.	Airport Operations Center
275 Aero Drive	2,350 s.f.	Aviation Fuel System Control Building
ARFF	10,550 s.f.	Airport Rescue and Fire Fighting

Source: Urban Engineers, McFarland Johnson, 2010

2.3.1 Fixed Base Operations

Prior Aviation Services is currently the sole Fixed Base Operator (FBO) at BNIA. Prior Aviation began services on the grounds in 1962, moving to the north side of the airport into the existing hangar at Building 36 in the 1970’s. Prior built a second hangar (Building 34) in the 1980’s. Prior constructed their current administrative building (Building 33) under a land lease contract with NFTA and moved office operations in 1992. Prior took over Building 37 from the former

operator, Calspan, and recently completed major renovations to the facility providing available hangar space in three facilities. Prior Aviation provides a wide variety of commercial, general aviation and airport support services including:

- Aircraft maintenance
- Aircraft charter services
- Airline fueling
- Flight instruction
- Deicing services
- Aircraft management
- Air cargo management
- Aircraft rentals and sales
- Airport vehicle maintenance
- Leased office space
- Maintaining jet bridges
- Hangar storage
- Ground handling services

Prior Aviation reports that current charter service flights average about 50 flights per year. This is down from a high of about 150 charter flights per year 3 to 5 years ago. Customs services are available on site.

In the past, the FBO area included a radiant de-icing facility. This facility was operated for 2 seasons and was then removed. The FBO offers limited outside tie down areas for aircraft parking. Currently only 3-5 aircraft utilize tie down spots.

Prior Aviation offers commercial office space in three facilities and reports 5% vacancy in Building 37, 20% vacancy in Building 36, and 90% vacancy in Building 34. Hangar space at each facility is currently in use; however, the total space available is underutilized as it is serving much smaller aircraft than can be accommodated in the facilities. **Table 2-13** describes the current hangar use at Prior Aviation.

Table 2-13 FBO Hangar Usage

Aircraft Type	Hangar 1		Hangar 2		Hangar 3	
	# of Acft.	Sq/Ft	# of Acft.	Sq/Ft	# of Acft.	Sq/Ft
Single Engine Piston	7	4,116	4	2,352	7	4,116
Single Engine Turbo	1	588	0	0	0	0
Twin Engine Piston	3	2,262	0	2	0	0
Twin Engine Turbo	0	0	3	2,262	1	754
Small Jet	2	3,816	2	3,816	2	3,816
Medium Jet	0	0	1	2,240	3	6,720
Large Jet	0	0	1	3,072	1	3,072
Small Helicopter	0	0	0	0	2	160
Total Aircraft. Square Ft.		10,782		13,742		18,638
Total Hangar Aircraft Floor Space Square Ft.		13,000		21,600		32,000
Vacant Square Ft.		2,218		7,858		13,362
Excess Vacant %		17%		36%		42%

Source: Prior Aviation, 2010

The general aviation area at BNIA, which encompasses Prior Aviation’s holdings, is located on the north side of the airfield. The general aviation area includes the three hangars described in **Table 2-13** and a 9,000 square foot general aviation administration building that is leased to Prior Aviation (Bldg. #29). This building is in good condition and includes administrative offices, flight school classrooms, a pilots’ lounge, and operation space. The General Aviation area is illustrated in **Figure 2-13**.

2.3.2 Mercy Flight

Mercy Flight of Western New York is an independent, not-for-profit provider of emergency air medical transport. Mercy Flight operates on the airport grounds in the former Flying Tigers Restaurant under a 30 year lease agreement. Mercy Flight renovated and moved into the facility in 2007, prior to that they operated a temporary facility at 485 Cayuga. Mercy Flight operates five rotary-wing aircraft and utilizes two remote facilities in Olean, NY and Batavia, NY. Mercy Flight has a staff of approximately 80 employees and operates 24 hours a day conducting an average of one or two operations daily.

In 2008, Mercy Flight completed construction of an 8,600 square foot hangar facility for maintenance and storage of the aircraft. They utilize an on-site 3,000 gallon fuel storage tank for Jet A fuel storage.

2.3.3 Vehicle Access and Parking (non-terminal)

There are numerous ancillary buildings at BNIA that are leased to a wide variety of tenants. Access to these buildings typically comes from the nearest main road (i.e. Cayuga Road or Aero Drive) or a service road branching off from these main roads. Prior Aviation’s terminal and hangars are situated on North Airport Drive, the west end of which is connected to Aero Drive.

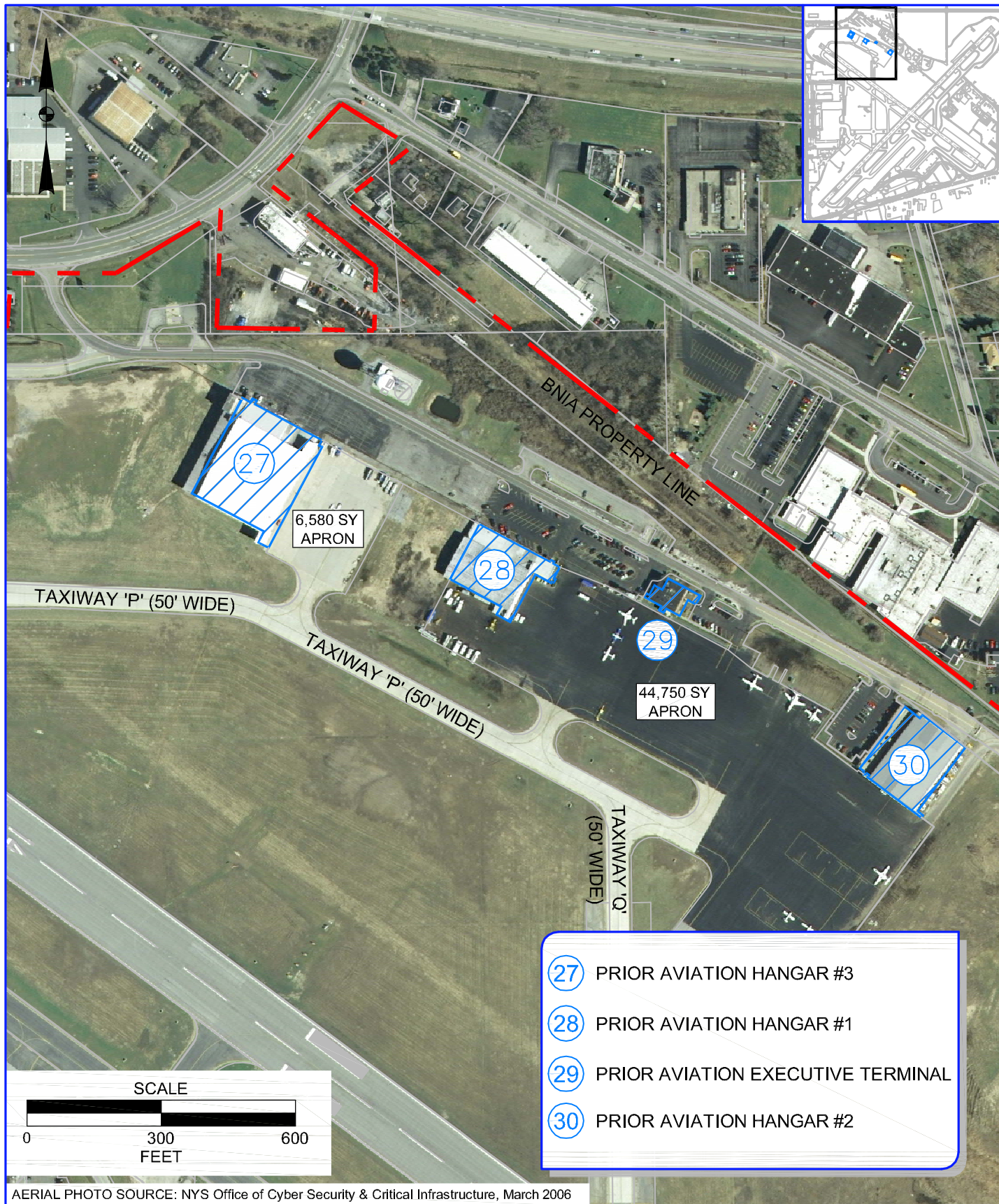
Most of the buildings on the airport have associated parking lots. Specific information on parking capacity at each building can be found in **Appendix C**.

2.3.4 Airport Buildings (non-terminal)

The ancillary buildings referenced in **Table 2-12** are shown in **Figure 2-14** and are described below. All building numbers given herein refer to this figure. A more detailed building inventory can be found in **Appendix C**.

Air Cargo Complex - A major air cargo facility is located on the west side of the airport. The air cargo complex includes an 805,770 square foot apron, four apron-accessible air cargo buildings totaling 218,500 square feet, and three additional buildings totaling 101,200 square feet. Current air cargo service providers include the US Postal Service, FedEx, United Parcel Service, Southwest Airlines Cargo, and Worldwide Flight Services. The entire air cargo complex is leased to Ciminelli Development Corporation and is sublet to various commercial tenants. This complex is illustrated in **Figure 2-15** and includes seven buildings:

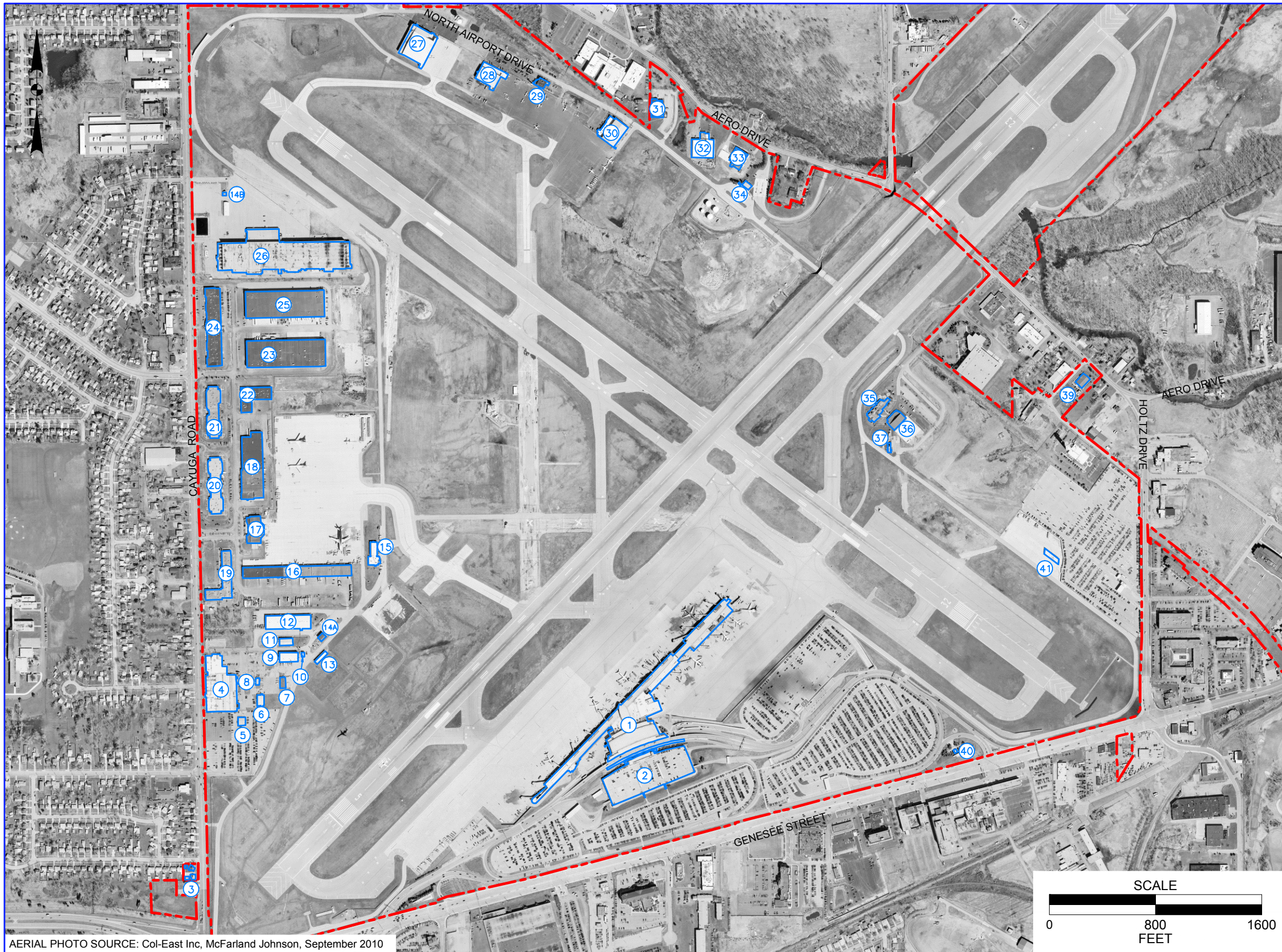
Bldg. #16 - 283 Cayuga Road – This 66,250 square foot building houses the BNIA’s **Air Cargo Facility**. Several companies have leased space within the building, including UPS, FedEx, Delta Air Lines, JetBlue Airways, Continental Airlines, and Southwest Airlines. A small salt storage shed is situated in the southwest corner of the lot.



AERIAL PHOTO SOURCE: NYS Office of Cyber Security & Critical Infrastructure, March 2006

AIRPORT BUILDINGS

FIGURE 2-14



NO.	BUILDING
1	PASSENGER TERMINAL
2	PARKING STRUCTURE
3	68 CAYUGA RD (NOISE COMPATIBILITY OBSERVATION HOUSE)
4	247 CAYUGA RD
5	BNIA EMPLOYEE PARKING SHELTER
6	251C CAYUGA RD (AIRPORT OPERATIONS)
7	251 CAYUGA RD #3 (ELECTRICAL MAINTENANCE FACILITIES)
8	251 CAYUGA RD #4 (ADMINISTRATIVE/RECORDS STORAGE)
9	GROUND SUPPORT EQUIPMENT BUILDING
10	TRITURATOR BUILDING
11	NFTA FLEET MAINTENANCE BUILDING/AIRFIELD STORAGE
12	NFTA MAINTENANCE GARAGE
13	GLYCOL TREATMENT UTILITY BUILDING
14A-B	SALT STORAGE BUILDINGS
15	AIRPORT RESCUE AND FIRE FIGHTING
16	283 CAYUGA RD (AIR CARGO FACILITY)
17	285 CAYUGA RD (USPS AIR MAIL FACILITY)
18	299 CAYUGA RD (FedEx)
19	301 CAYUGA RD
20	303 CAYUGA RD
21	305 CAYUGA RD
22	307 CAYUGA RD
23	425 CAYUGA RD
24	455 CAYUGA RD
25	475 CAYUGA RD
26	485 CAYUGA RD (DRS TECHNOLOGIES)
27	PRIOR AVIATION HANGAR #3
28	PRIOR AVIATION HANGAR #1
29	50 N. AIRPORT DR (PRIOR AVIATION EXECUTIVE TERMINAL)
30	PRIOR AVIATION HANGAR #2
31	175 AERO DR (AUTOMATED FLIGHT SERVICE STATION)
32	199 AERO DR (NFTA FMD/DOCUMENT STORAGE)
33	235 AERO DR (EVOLUTION DENTAL LAB)
34	275 AERO DR (FUEL FARM CONTROL BUILDING)
35	100 AMHERST VILLA RD (MERCY FLIGHT)
36	MERCY FLIGHT HANGAR
37	NATIONAL WEATHER SERVICE OBSERVATORY
39	587 AERO DR (NATIONAL WEATHER SERVICE)
40	GROUNDWATER TESTING FACILITY
41	REMOTE FUEL DISPENSING FACILITY

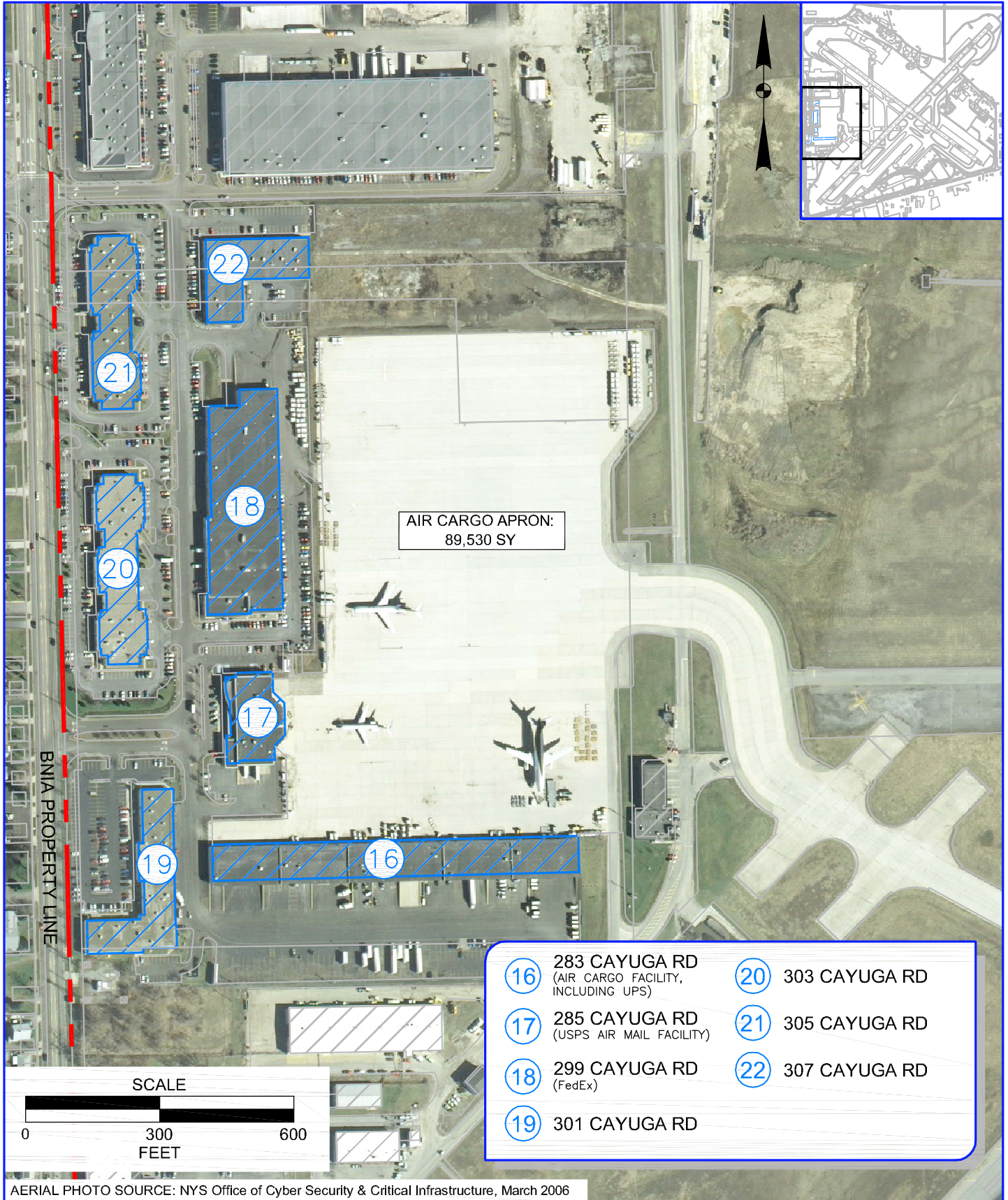
AERIAL PHOTO SOURCE: Col-East Inc, McFarland Johnson, September 2010



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AIR CARGO COMPLEX

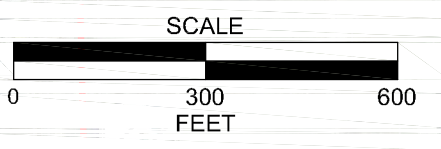
FIGURE 2-15



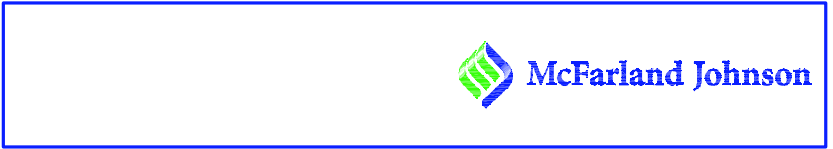
AIR CARGO APRON:
89,530 SY

BNIA PROPERTY LINE

- | | | | |
|----|---|----|---------------|
| 16 | 283 CAYUGA RD
(AIR CARGO FACILITY,
INCLUDING UPS) | 20 | 303 CAYUGA RD |
| 17 | 285 CAYUGA RD
(USPS AIR MAIL FACILITY) | 21 | 305 CAYUGA RD |
| 18 | 299 CAYUGA RD
(FedEx) | 22 | 307 CAYUGA RD |
| 19 | 301 CAYUGA RD | | |



AERIAL PHOTO SOURCE: NYS Office of Cyber Security & Critical Infrastructure, March 2006



Bldg. #17 - 285 Cayuga Road - This 26,000 square foot building is home to the United States Postal Service's Buffalo **Air Mail Facility**. It also contains a customer service center.

Bldg. #18 - 299 Cayuga Road - This 75,000 square foot building is home to **FedEx's** shipping center. The building contains a service center as well as a warehouse with several loading docks. A gate in the airport's security fence is situated to the east of the building to allow the transportation of shipping containers to and from the adjacent air cargo apron.

Bldg. #19 - 301 Cayuga Road – This 32,600 square foot L-shaped building houses several leasable office suites. Current tenants include the YMCA Buffalo-Niagara (Corporate Office) and Child Adolescent Treatment Services. Parking areas surround the building. A fenced-in area exists near the southwest corner of the building; this area contains three (radio) towers and is used for FAA Air Traffic Control.

Bldg. #20 - 303 Cayuga Road – This 34,850 square foot building houses several leasable office suites. Current tenants include Ikon Office Solutions, National Electrical Contractor's Association Western New York (WNY) Chapter, Tomczak and Associates, Niagara Frontier Orthopaedic Supplies, Depuy, Fire Safety Systems, MES Solutions, Cardinal Health, and T-Mobile. Parking areas surround the building.

Bldg. #21 - 305 Cayuga Road – This 33,750 square foot building houses several leasable office suites. Current tenants include Benco Dental, Panasonic WNY Imaging Systems, Inc., Omega World Travel, United Steelworkers District 4, and Professional Emergency Services, PLLC. Parking areas surround the building.

Bldg. #22 - 307 Cayuga Road - This 27,000 square foot building is BNIA's **Air Cargo Flex Building**. It contains several office suites as well as a warehouse with accompanying loading docks. Current lessees include United Auto Workers (UAW) Legal Services Plan and ADI; at least two more suites are available for lease.

Other Buildings:

Bldg. #3: 68 Cayuga Road – This 1,425 square foot building is a **Noise Compatibility Observation House**. It is situated to the southwest of the airport, where the largest noise concerns exist. The house was renovated/converted as part of the airport's \$60 million *QuieterHome®* Program. The program exists to provide noise-reducing home improvements to residents that live within the vicinity of the airport. These residents can visit the Noise Compatibility Observation House to experience these sound reduction improvements and view the products and services offered as part of the program. The house will also serve as the project office through the completion of the program in 2016.

There is an additional 850 square foot building behind (to the west of) the Observation House, which serves the purpose of showcasing additional noise-reducing products.

Bldg. #4: 247 Cayuga Road - This 82,600 square foot facility houses the NFTA Police and a NFTA Training Center, as well as a variety of commercial tenants, including: Architectural Wire Works, Inc., Wholesail Yachting Products, Integrated Deicing Services, Warehouse Sport Sales, R.I. Spivack Consulting Inc., Normal Communications, Corey Airport Services, Quality Printing,

Scratchbusters, Judy's Signs, Feel Rite, E.P. Jordan & Associates, Audiomedtric Technology, Diamond Detective Agency Inc., Split Second Delivery, Winon USA Inc., Cornerstone Resolution Group, Klauk Lloyd & Wilhelm Inc., K LW Residential Inc., Desmon & Kohnstamm, Acme Screenprinting, Mail Masters, Amherst Bridge Club, and 2-D Imaging Inc.

Parking areas surround the north, east, and south sides of the building. However, the east side of the lot is fenced and considered partially off-limits to the public, as it provides access to the NFTA Police's portion of the building.

Bldg. #5 - BNIA Employee Parking Shelter - This 3,400 square foot single-story building is associated with and located in the BNIA employee parking lot, and acts as a pick-up/drop-off center for employees being shuttled to and from the passenger terminal.

Bldg. #6 - 251C Cayuga Road – This 4,500 square foot building houses the NFTA's **Airport Operations Center**. It also acts as a pedestrian link between the unsecure and secure sides of BNIA's security fence.

Bldg. #7 - 251 Cayuga Road, Bldg. #3 – This 3,180 square foot building was previously the NFTA's Field Office. It now hosts the **NFTA's Airfield Operations**.

Bldg. #8 - 251 Cayuga Road, Bldg. #4 – This 1,400 square foot building acts as the **NFTA Administrative/Records Storage** building.

Bldg. #9: 251 Cayuga Road, Bldg. #2: Ground Support Equipment Building – This 9,700 square foot building is leased by Aircraft Service International Group (ASIG), which provides under-wing services (baggage handling, fueling, etc.) to BNIA. A loading platform is situated on the west side of the building, and a diesel tank is located on the east side for refueling.

Bldg. #10 – Triturator Building – This 700 square foot building is used to empty sewage from airplanes into Cheektowaga's sanitary sewer system.

Bldg. #11 - NFTA Fleet Maintenance Building/Airfield Storage – This 5,150 square foot warehouse-style building houses maintenance equipment for the NFTA.

Bldg. #12 - NFTA Maintenance Garage – This 34,500 square foot building has five drive-through garages for servicing and storage of ground vehicles. There is a large diesel tank to the east of the building, used in refueling vehicles.

Bldg. #13 - Glycol Treatment Utility Building – This 3,300 square foot building houses pumps that convey contaminated water to a series of engineered subsurface wetlands. This system is designed to remove glycol (a de-icing agent) from BNIA's sewer discharge.

Bldg. #14A - Salt Storage Building – Situated near the NFTA's Maintenance Garage on BNIA property, this shed stores salt stockpiles for snow and ice removal.

Bldg. #14B - Salt Storage Building – Situated on the 485 Cayuga Road property, this shed stores salt stockpiles for snow and ice removal.

Bldg. #15 - Airport Rescue and Fire Fighting (ARFF) – This 10,550 square foot building consists of offices as well as a garage with a capacity for five (5) fire trucks. These trucks are supplemented by additional vehicles to make up a squad that serves the entire airport.

Bldg. #23 - 425 Cayuga Road – This 116,900 square foot building is owned by the Ciminelli Real Estate Corporation, with suites leased to Graybar Electric and Design For Industry. The building contains offices as well as loading docks.

Bldg. #24 - 455 Cayuga Road – This 62,000 square foot single-story building is home to several office spaces. Lessees include Eastern Sales & Marketing (Great Lakes Region), The PCA Group, Pfalzgraf Beinhauer & Menzies LLP, Gallagher Bassett of NY, and the Thruway Authority.

A vacant hangar was recently demolished on the site to accommodate the construction of this building as well as 425 Cayuga Road and 475 Cayuga Road.

Bldg. #25 - 475 Cayuga Road – This 116,900 square foot building is owned by the Ciminelli Real Estate Corporation, with suites leased to Hammond Manufacturing, Dunn Tire, and Express Tire Delivery. The building contains offices as well as loading docks.

Bldg. #26 - 485 Cayuga Road - This 239,200 square foot building is leased to DRS Technologies, Inc., a supplier of defense electronics to government and commercial markets. The building was formerly leased to Sierra Technologies, Inc., an aviation research and development company. It is subdivided into office space, research labs, and an aircraft hangar (which is currently leased to the NFTA for aircraft storage). Auxiliary buildings including a salt storage shed and a chemical storage shed exist on the site to the north of the main building.

Bldg. #31 - 175 Aero Drive – This 11,500 square foot building is currently under renovation; the building previously housed the Automated Flight Service System, and will be the future home of the NFTA Police and local offices for both the FAA and Homeland Security’.

Bldg. #32 - 199 Aero Drive – This 25,750 square foot building houses both the **NFTA’s document storage** and its **Facilities Maintenance Department**. The southern portion of the building is a large garage and storage space.

Bldg. #33 - 235 Aero Drive - This 13,100 square foot warehouse building is currently occupied by Evolution Dental Lab, a manufacturer in the dental industry. The northwest corner of the building houses offices.

Bldg. #34 - 275 Aero Drive – This 2,350 square foot building acts as the **Aviation Fuel System Control Building**. It is part of the airport’s Fuel Farm, along with several fuel pumping stations and fuel storage tanks located nearby. A small building to the west houses a generator.

Bldg. #35 - 100 Amherst Villa Road – This 12,850 square foot building, formerly Flying Tigers Restaurant, is now home to **Mercy Flight of Western New York’s** offices. Mercy Flight is a not-for-profit emergency air medical transport service that delivers those in medical need to nearby hospitals. A parking lot is shared with the adjacent hangar.

Bldg. #36 - Mercy Flight Hangar – This 8,600 square foot hangar has an accompanying helicopter launch pad.

Bldg. #37 & 39 - National Weather Service Facilities - The National Weather Service (NWS) facilities at BNIA include: an 1,800 square foot observatory, a 6,800 square foot forecast office at 587 Aero Drive, and a radar tower. Services provided by the NWS at BNIA include weather forecasting for the Buffalo, Rochester, and most of western New York. The center collects and stores climatological data for all areas in and around these major cities. All of the NWS data is made available to the FAA control tower via telephone lines.

Bldg. #38 - 585 Aero Drive – Former NFTA property has been sold since the previous master plan.

Bldg. #40 - Groundwater Testing Facility - This 480 square foot building is operated by Viacom. The building is a testing facility used to monitor groundwater in the wake of contamination from Westinghouse Electric Corporation, deposited in the former Pfohl Brothers Landfill nearby.

2.4 PASSENGER TERMINAL

The passenger terminal at BNIA has been augmented by a recent expansion involving a first-floor baggage processing facility and a second-floor food court to the east of the TSA's security checkpoint (totaling 50,050 square feet). The terminal as a whole now encompasses 462,256 square feet. **Table 2-14** summarizes and **Figure 2-16** illustrates the general configuration of the terminal facilities including these expansions.

The terminal building has a total of 24 gates, a 10-lane security checkpoint, two public elevators and two escalators for access to the second floor, as well as a moving walkway in the East Concourse Extension. Airport staff and other Security Identification and Display Area (SIDA) badged personnel have access to 17 additional elevators within the terminal. Additionally, the terminal is equipped with 10 Flight Information Display screens (FIDS), eight on the concourse and two in the arrivals area. Several concessions and retail businesses are housed in the terminal building, including nine restaurants, a barbershop, and two gift stores. Other services provided in the terminal building include travel services, automated teller machines (ATM), public telephones, luggage carts, airport lost and found, rental car agencies, limousine service, taxis, hotel shuttles, and public transit services.

A series of passenger terminal floor plans has been developed, with space use delineated and color-coded. Overviews of the first and second floor are included as **Figures 2-17 and 2-18**; the full set of terminal floor plans is included in **Appendix D**. **Table 2-14** provides a tabulation of floor space allocations within the new terminal building.

Table 2-14 Terminal Facilities (Square Feet)

Functional Area	Arrival Level	Departure Level	Total	Percent
Airlines	113,286	61,341	174,627	37.8%
Airport Operations	6,960	3,923	10,883	2.4%
Circulation	16,930	99,093	116,023	25.1%
Public Restrooms	1,493	9,226	10,719	2.3%
Mechanical	19,126	7,760	26,886	5.8%
TSA	9,437	1,339	10,776	2.3%
FIS	18,474	6,867	25,341	5.5%
Concession/Retail	4,655	32,838	37,493	8.1%
Common Use	14,611	7,486	22,097	4.8%
Vacant	19,861	7,548	27,409	5.9%
TOTAL	224,833	237,423	462,256	100.0%

Source: Niagara Frontier Transportation Authority

Note: Small discrepancies may occur due to rounding.

A description of the above space allocation categories follows:

- Airlines – space leased to one or more airlines
- Airport Operations – space used by the NFTA, the FBO, and other administrative agencies
- Circulation – public concourse area
- Public Restrooms – restrooms available for use by the public, generally found in the concourse area
- Mechanical – mechanical/telecommunications/electrical areas
- TSA – space allocated to the Transportation Security Administration
- FIS – space allocated to Federal Inspection Services
- Concession/Retail – space leased to restaurants or for the sale of goods and services
- Common Use – restricted space used jointly by airlines and administrative agencies
- Vacant – unused leasable space

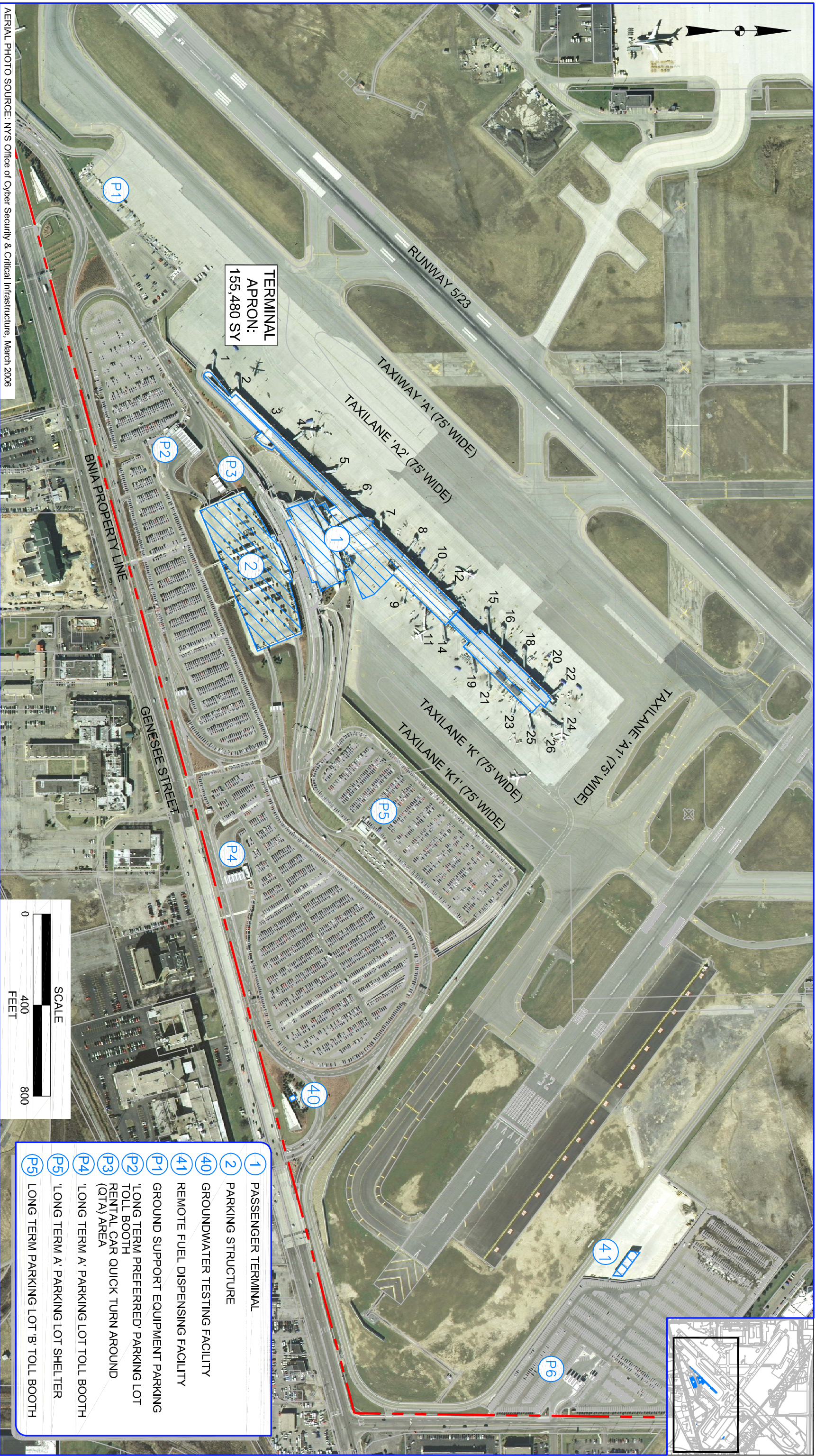
2.4.1 Departure Lobby

The 17,272 square foot departure lobby, which is located on the second floor, provides access to the airlines’ ticketing counters and the passenger security checkpoint. Four revolving doors and eight standard doorways provide access from the elevated departure roadway, and stairways, elevators, and escalators provide access to and from the Arrivals Lobby on the first floor. There are four sky cap positions outside the departure lobby to facilitate the processing of passengers and baggage.

2.4.2 Arrivals Lobby

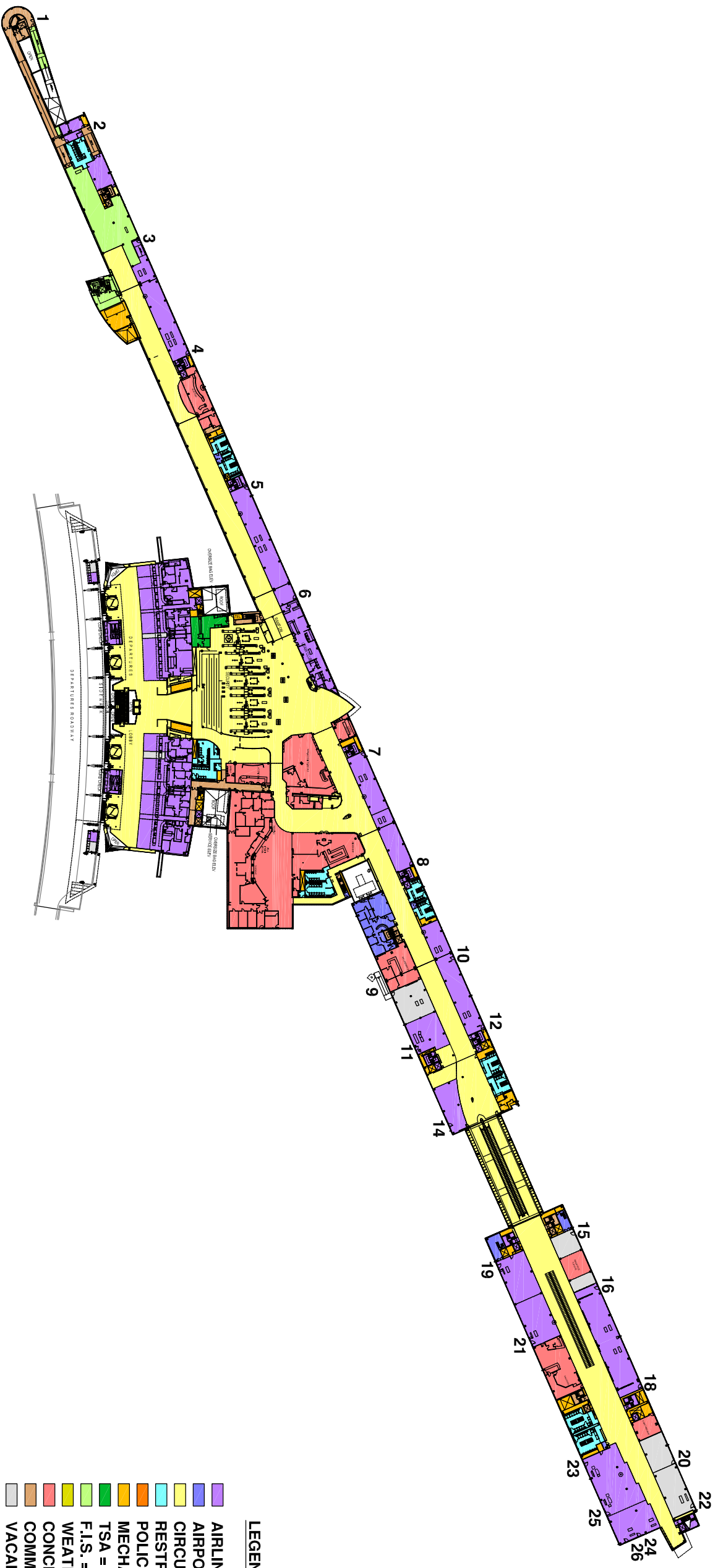
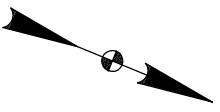
The 17,098 square foot arrivals lobby is located on the first floor of the airport, adjacent to the Baggage Claim area. Incoming travelers access the lobby via stairways, elevators, and escalators from the second floor. Amenities such as restrooms, pay phones, and an Information Desk are available here. Four revolving doors and several standard doorways lead outside to the arrivals roadway. From there, passengers can be picked up, make use of shuttle or taxi services, or cross the roadway to the parking ramp and surface parking lots.

Additionally, a series of eight airline-operated lost-baggage desks are situated near the arrivals lobby, four on either side of the baggage claim area.



AERIAL PHOTO SOURCE: NYS Office of Cyber Security & Critical Infrastructure, March 2006





LEGEND:

	AIRLINES = 61,341
	AIRPORT OPER. = 3,923
	CIRCULATION = 99,093
	RESTROOMS = 9,226
	POLICE = 0
	MECHANICAL = 7,760
	TSA = 1,339
	F.I.S. = 6,867
	WEATHER BUREAU = 0
	CONCESSION/RETAIL = 32,838
	COMMON USE = 7,486
	VACANT = 7,548

TOTAL FLOOR = 237,423

SOURCE: Niagara Frontier Transportation Authority (NFTA)



2.4.3 Security Infrastructure

The terminal security is overseen by Transportation Security Administration (TSA), which is under the Department of Homeland Security (DHS). The screening area encompasses approximately 23,853 square feet located between the public departures lobby and the secure concourse. The area is configured for 10 lanes, each equipped with an X-Ray Scanner, as well as one walkthrough Full Body Scanner shared between two lanes. Each walk through scanner runs about 12-15 seconds per scan providing a throughput of about 175 scans per hour. During peak periods, TSA reports that nine lanes are needed for screening. The screening area operates between 4:00 a.m. and 8:30 p.m. daily to serve the scheduled flights. The exit gate is staffed 24 hours per day.

With the recent baggage handling improvements, all outbound baggage is scanned and monitored by TSA. The baggage area includes six scanning units capable of handling about 400 bags per hour each. Baggage screening currently operates at approximately 60% of capacity in peak periods. TSA reports current staffing levels of about 250 full-time and part-time employees at BNIA.

2.4.4 Concourse

The concourse is a 62,438 square foot circulation area (of which 4,584 square feet are used by the TSA), situated on the second floor that connects the security/screening area with the departure lounges. There are a total of 24 gates and as of Fall 2010, 23 have jet bridges and are operated by airlines, while 2 are operated by the NFTA.

2.4.5 Concessions

BNIA is under contract with Delaware North Companies as master concessionaire. A number of concessions areas (occupying 31,888 square feet total) are located on the concourse, both interspersed with the airlines' departure lounges and centrally located near the security/screening area. Vendors include:

- Anchor Bar
- Lake Erie Grille
- Coffee Beanery
- Blue Zone
- Villa Italian Kitchen
- Frëshens Energy Zone
- Checkers
- Landmark Bar
- Mattie's Texas Red Hots
- Which Wich
- www.newsgifts.buffalo
- Everything ASAP

Delaware North maintains three sub-agreements for operation of the barbershop, Mattie's Texas Red Hots, and Monarch (Everything ASAP). Other retail areas are directly managed by Delaware North. Several of these vendors are situated in a newly installed food court to the northeast of the security/screening area. Currently, all available retail areas are in use.

Delaware North operates out of offices behind the food court area. They also maintain a locker area and break room at that location. Delaware North operates a temporary training area on the first floor in NFTA unused space. Support space for employees, training and storage is very limited.

Vending machines are also available in the Arrivals Lobby on the first floor. Non-food related services include a barbershop and shoe shine in close proximity to the security/screening area.

The US Airways Club, located on the secure side of the terminal atrium, is a facility that provides additional luxuries and business resources to its paying members. The US Airways Club utilizes Delaware North for selected food and beverage service needs; US Airways staff provides customer service functions.

Also accessible from the concourse are restrooms, electrical/communications areas, and spaces used for storage, custodial, and administrative purposes.

2.4.6 Terminal Support Facilities

The first floor of the airport largely consists of restricted space. Each second-floor gate has a corresponding first-floor operations area, generally accommodating storage, training and break rooms, ready rooms, offices, etc.

Federal Inspection Services (FIS) has a 18,474 square foot operations center on the first floor; the center contains a baggage processing center, interview and search rooms, a passport control office, and offices for the Immigration and Naturalization Service, U.S. Citizenship and Immigration Services, and the USDA Animal and Plant Health Inspection Service. An additional 6,867 square feet of space are leased to FIS on the second floor of the terminal.

To support the FIS facility, there is a small single lane checkpoint adjacent to the facility to re-screen arriving international passengers needing access to the concourse. Passengers terminating in Buffalo will bypass the checkpoint and exit via a walkway to the arrivals curb. The TSA also occupies a large (9,437 square foot) space on the first floor, mostly consisting of offices, conference rooms, and storage. An additional 1,340 square feet of space on the second floor is allocated to the TSA; this area houses offices and a break room/kitchenette near the main security checkpoint.

2.5 PASSENGER TERMINAL LANDSIDE

Landside elements of the passenger terminal are utilized by all originating or terminating passengers using the airport, airport employees and tenants, meeters and greeters, as well as those conducting business in the passenger terminal. The safe and efficient operation of all of the landside facilities is essential to the overall operation of the airport. Landside elements for the passenger terminal complex include:

- Auto Parking
- Rental Cars
- Terminal Roadways
- Ground Transportation

2.5.1 Auto Parking

The auto parking facilities for the passenger terminal complex include passenger vehicle parking for both short and long term, as well as parking for rental cars, limousines, and employees for both the NFTA and terminal tenants. Combined, these spaces add up to over 8,500 spaces; excluding rental cars and employee parking, there are over approximately 7,800

vehicle spaces for passengers and visitors using the airport terminal. **Table 2-15** displays the public airport parking facilities available at the airport.

Short Term Garage – The Short Term Garage is a three level parking structure located directly in front of the passenger terminal and provides the only covered parking of any of the lots in the passenger terminal complex. The first level of the garage contains approximately 432 spaces used by the rental car companies and 79 spaces for special NFTA permits. Levels two and three of the parking garage contain approximately 754 short term public parking spaces.

Preferred Long Term – The Preferred Long Term lot is located adjacent to the Short Term Garage and Genesee Street. This lot is the closest surface lot to the passenger terminal and contains 1,439 public spaces. This lot shares a common tollbooth/exit with the Short Term Garage.

Long Term A – The Long Term A lot is located east of the passenger terminal complex. The lot is split into two pieces that are connected by a tunnel underneath the airport entrance road. While it is possible to walk to the terminal from this lot, frequent shuttle service is provided. The Long Term A lot contains a total of 2,693 spaces.

Long Term B – The Long Term B lot is located east of Runway 14-32, unlike the other on-airport parking lots, it is not located adjacent to the passenger terminal and shuttle service is required. This lot contains approximately 1,901 spaces which includes approximately 164 spaces for the nearby Sleep Inn Hotel.

Cell Phone Lot – The Cell Phone lot is located adjacent to the Long Term B lot and has a dual purpose of also being used as an NFTA bus park and ride lot. The purpose of the Cell Phone Lot is to keep traffic from those waiting to pick up arriving passenger from parking or excessively circulating on the terminal roadway system.

The Parking Spot (Off Airport) – The Parking Spot airport parking, a nationwide private airport parking company, is the largest private off-site lot containing approximately 1,100 vehicle spaces. The lot is located across Genesee Street from the airport terminal and provides shuttle service every 5-7 minutes.

Airport Valet Parking (Off Airport) – Airport Valet Parking is operated by Budget rental car and provides valet parking and optional cleaning and maintenance services while parked. This lot contains approximately 90 parking spaces.

Thrifty Airport Parking (Off Airport) – The Thrifty Airport Parking lot is located on Genesee Street just east of the airport. This lot provides vehicle parking and shuttle service to the terminal and contains approximately 200 spaces.

Table 2-15 Public Parking Facilities

Lot	NFTA Owned	# Spaces	Weekly Rate
Short Term Garage	Yes	754 (844*)	\$168
Preferred Long Term	Yes	1,439	\$78
Long Term A	Yes	2,693	\$55
Long Term B	Yes	1,901	\$50
Cell Phone Lot	Yes	22	N/A
Airport Valet (Budget)	No	90	\$55
The Parking Spot	No	1,100	\$40
Thrifty Airport Parking	No	200	\$49
TOTAL		6,899 (NFTA)/ 8,289	

Source: McFarland Johnson, 2010.

* Note: Total lot size including employee spaces

Employee Parking – Employee parking for both the NFTA and terminal tenants is spread out among three lots around the passenger terminal complex. There are approximately 90 employee spaces in the Short Term Garage, 128 spaces in the west lot, and approximately 474 spaces within the Cayuga Road employee lot for a total of approximately 692 employee spaces.

Parking facilities are visually depicted in **Figure 2-19**.

2.5.2 Rental Car Facilities

Rental car operations relating to the Buffalo Niagara International Airport occur both on-airport as well as off-airport. On-site facilities and services are typically geared toward customer service and passengers using rental cars, while off-site facilities typically include the cleaning, maintenance and storage of the rental car fleet for each of the companies doing business at the airport.

On-site facilities

In addition to the counter space on the lower level of the Short Term Garage directly across from the passenger terminal, the rental car companies occupy a significant portion of the parking spaces on the lower level of the Short Term Garage. Rental car ready and return spaces comprise approximately 432 spaces on the lower level of the Short Term Garage. Rental car providers with on-site facilities include Alamo, Avis, Budget, Enterprise, Hertz, and National.

Off-site facilities

To support rental car fleets which can exceed 1,200 vehicles per company at peak times, each rental car operator maintains their own off-airport facility for the storing, cleaning and servicing of vehicles. These off-site facilities located near the airport are necessary to support the on-airport operations throughout the year, especially during peak times.

AUTO PARKING FACILITIES

FIGURE 2-19



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2.5.3 Terminal Roadways

The roadway system for the passenger terminal complex is used by all passengers and employees using the terminal building whether it is picking up, dropping off, parking or using one of the commercial busses or shuttles. The counter clockwise traffic pattern with no traffic signals allows for a repetitious vehicle flow around the passenger terminal complex with the ability to switch between the arrivals and departure curb or utilize the terminal curbside and subsequently utilize airport parking facilities.

Entrance/Exit Roads

There are two entrances to the passenger terminal roadway system. The busier of the two entrances is the west entrance which is utilized primarily by vehicles entering from the Kensington Expressway along with vehicles approaching from the west using Genesee Street. The east entrance is primarily used by vehicles approaching from the east on Genesee Street; this includes traffic from the New York Thruway. Traffic counts conducted in 2007 indicate that the west entrance is preferred by a 2:1 ratio over the east entrance.

Departure Level

The departure level is the upper level of the dual roadway system that exists directly in front of the passenger terminal. The departure level roadway consists of two traveling lanes and space for vehicles to park along the sidewalk (curbside parking is prohibited, though vehicles can park for active loading and unloading). There is approximately 500 linear feet of curbside available for the loading and unloading of passengers on the departure level.

Arrival Level

The arrival level is the lower level of the dual roadway system that exists directly in front of the passenger terminal. The arrival level roadway consists of two roadways, an inner roadway for passengers and an outer roadway for commercial vehicles. The inner arrivals roadway consists of two traveling lanes and space for vehicles to park along the sidewalk (curbside parking is prohibited, though vehicles can park for active loading and unloading). There is approximately 500 linear feet of curbside adjacent to the terminal building available for the loading and unloading of passengers. The outer curb, which is similar in size, is located across from the arrivals roadway vehicle lanes and is used by shuttles and commercial ground transportation providers.

Circulation Roads

The circulation roads within the passenger terminal complex connect the east and west entrances, the arrivals and departures roadways as well as the entrances and exits to the Short Term Garage, Long Term Preferred lot and Long Term A lot. The circulation roads are two lanes wide with additional lanes located where merging traffic occurs.

An overview of the terminal roadway system is shown in **Figure 2-20**.

2.5.4 Ground Transportation

Combined, there are nearly 100 commercial ground transportation providers serving the Buffalo Niagara International Airport. Many services, such as shuttle services and limousines, are on-demand service and do not have a schedule for serving the airport. Most hotels in the vicinity of the airport, as well as some hotels in downtown Buffalo, provide a shuttle to/from the airport. Taxi service is provided by Airport Taxi, which has an exclusive operating agreement for transporting passengers from the airport (other operators may drop off passengers but are not permitted to pick up). The staging area for taxis is located along side the terminal loop roadway just prior to the terminal; taxis are staged and wait in this area until needed to load passengers from the commercial arrivals curb on the lower level of the passenger terminal.

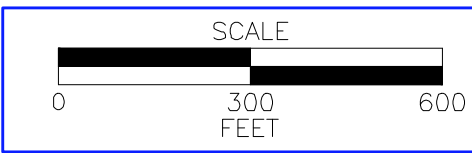
Bus Services

Aside from the on-demand shuttles and taxis, scheduled bus service is provided by several operators. The Niagara Frontier Transportation Authority, which oversees the airport, also oversees the NFTA-Metro which provided bus and light rail service in the Buffalo and Niagara Falls area. The regional bus system offers five routes from the airport that are scheduled to operate throughout the day; two of these routes are express busses to downtown Buffalo and Niagara Falls, while the other three are local services serving the surrounding area and connect to other bus services.

In addition to the local bus service, several intercity bus companies also provide service directly to the airport terminal. Greyhound, Neon (Greyhound affiliate) and Megabus each provide intercity service with busses to destinations including Toronto, Canada, Rochester, NY, Syracuse, NY, New York, NY and Philadelphia, PA. These busses use a designated area on the lower level arrivals roadway just prior to the passenger terminal.



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2.6 AIRPORT SUPPORT INFRASTRUCTURE

The airport's support infrastructure, including such entities as the maintenance department and Airport Rescue and Fire Fighting, is illustrated in **Figure 2-21**.

2.6.1 Airport Utilities

BNIA utilizes a number of local utility companies in order to meet their basic needs:

Electric

Electric power is supplied to BNIA by New York State Electric and Gas (NYSEG) and Niagara-Mohawk Company. The service is supplied by underground power lines entering the airport from Genesee Street. The power lines run to all areas of the airport including the general aviation area, the air cargo facility, and the leased properties.

In the event of a power outage the airport is equipped with a number of generators. Two main generators are set up to supply the airport facilities, and several secondary generators are to be used for all other tenants. The main generators are located on the first floor of the airport; one is directly north of the baggage claim area, the other is adjacent to the northern-most ramp that passes underneath the passenger terminal.

Water

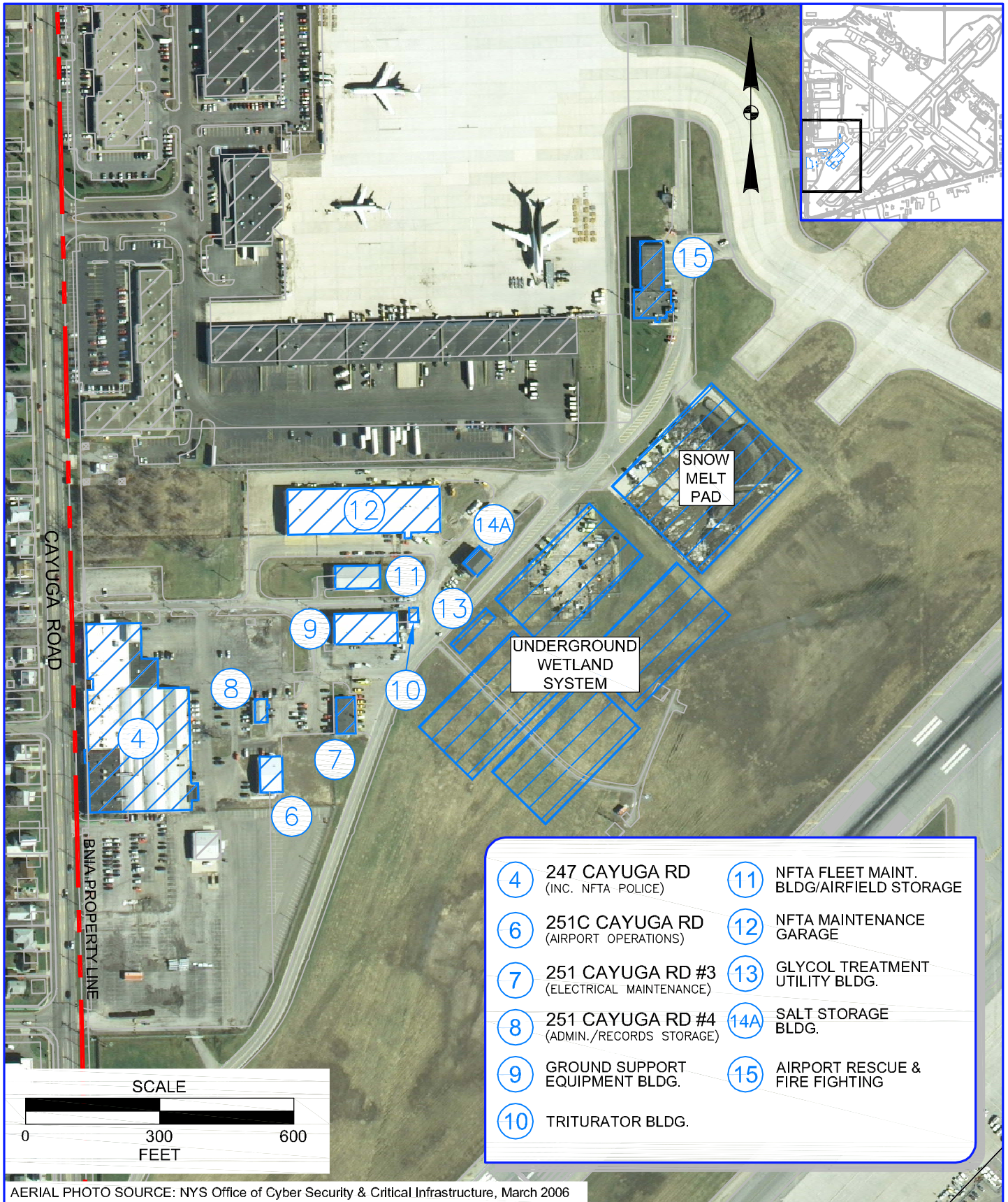
BNIA is supplied water by the Erie County Water Authority. The service is fed to all of the airport buildings and facilities. There are several fire hydrants on the airport site that are fed from separate pipelines, which are also supplied by Erie County Water Authority. The terminal facility is equipped with a sprinkler system running off the same lines as the fire hydrants.

Telephone

Verizon provides telephone service to the majority of the NFTA buildings in the airport's vicinity. The company also provides most of the service to the passenger terminal, including to the public pay phones in the main concourse. Additional service providers utilized at the airport include One Communications and Level3. Airport tenants are responsible for contracting their own long-distance phone service.

Natural Gas

Natural gas service is provided to the airport by Howard-Avista Fuel Supplies, a bulk transport fuel company. The gas is distributed via National Gas fuel lines once it is purchased from Howard-Avista. The main gas line distributes gas first to the terminal building and then to all other areas of the airport. The lines enter the airport from Genesee Street.



Drainage

The Airport has two major stormwater drainage basins. The area to the east of Runway 14-32 (the crosswind runway) and north of the intersection of the two runways flows northerly and discharges into Ellicott Creek. Stormwater runoff from the remainder of the Airport, including the terminal, the southwestern end of the Runway 5-23, the commercial flight area (General Aviation and Air Cargo) and the parking areas, generally flows southerly ultimately discharging into Scajaquada Creek. Stormwater sewers in the area tributary to Scajaquada Creek cross Genesee Street at three locations. A 54" diameter Reinforced Concrete Pipe (RCP) culvert located near the BNIA east entrance collects runoff from much of the Long Term Parking Lots A and B as well as from the southern end of the Runway 14-32.

Stormwater from the remainder of the area tributary to Scajaquada Creek flows to a 3.4 million gallon concrete storm water vault and to three existing concentrate storage tanks totaling about 1.6 million gallons in volume. This water is held for treatment in the onsite wetland treatment system.

Under high flow conditions, when the storage tanks are full, there are two overflow discharge points: a 30" High-Density Polyethylene (HDPE) pipe culvert crossing Genesee Street (via Manhole No. 3A) into an existing stormwater channel network (the U-Crest ditch) and a 24" concrete pipe discharging into the Genesee Street drainage network near Cayuga Drive. The 24" pipe also serves as the effluent discharge from the Wetland treatment System.

The existing stormwater vault, which currently provides flood protection, is a concrete chamber about 64 feet in width and 740 feet in length. The chamber is about 8 feet deep at the west end, increasing to approximately 11 feet at the east end. It has a total volume of approximately 3.4 million gallons.

The concentrate containment areas at the terminal gates have catch basins with dual-valved outlets. During normal operations, the valves to the stormwater sewers are closed and the valves from glycol drains on the de-icing pads leading to the glycol collection network are opened. Collected glycol at Gates 1 - 15 and at Gate 19 flows by gravity to 18" - 30" dia. glycol collection system pipes discharging to a buried 400,000 gallon glycol storage tank located just north of the storm water vault. The drainage from the remainder of the gates flows by gravity to two underground glycol storage tanks (865,000 gallon total) near Runway 14-32. That storage facility is pumped into a force main which discharges into a glycol collection pipe in front of gates 1 – 15 and then flows to the 0.4 MM gal glycol storage tank located near the SW Vault. Flows from the Cayuga drive area, air cargo and an existing snow melt pad are collected in a third glycol storage tank, a 800,000 gallon vessel (the Glycol Storage Tank) buried near the periphery road near the southwest corner of the Airport. All collected flows are then pumped to the Wetland Treatment System.

Subsurface Engineered Wetlands

In 2009, an on-site storm water treatment system commonly referred to as the "Engineered Wetlands" was installed for the treatment of spent deicing fluids. The treatment system consists of four discrete subsurface wetland cells excavated from an open area near the airport's operations area. Each cell is about 300 feet long by 167 feet wide with a depth of about 5.5 feet fill with crushed stone. Bacteria grow in the cells and consume the glycol and other contaminants.

Air and nutrients are supplied to the system to match the pounds of glycol measured. An aeration system used to distribute air uniformly over the floor of each bed is fed by four, 250-horsepower positive-displacement blowers. The operation of blowers is modified to match the level of glycol being treated. Supplemental nutrients—nitrogen and phosphorus—are also paced into the influent relative to organic loading to match nutrient requirements for bacterial growth. Treated effluent flows by gravity to the discharge point.

The Wetland Treatment System was designed for a loading of 10,000 pounds per day treatment capacity (as biological oxygen demand). This capacity is sufficient to treat the average daily volume collected during high use months. However, due to limited concentrate storage capacity, prolonged and high glycol use periods (i.e. during ice storms) can strain the limitations of the treatment system. Future airport growth could result in additional strain to the system under high demand periods. Additional storage capacity and/or treatment capacity may be appropriate to address these instances.

Under extreme conditions, the system maintains the capability of directly discharging the stormwater from the three million gallon storage vault to the neighboring storm sewer network and directly discharging glycol concentrate storage to the sanitary sewer.

Sanitary Sewer

The existing sanitary sewer system at BNIA provides service to all major areas of the airport including the terminal, general aviation and air cargo facilities. The airport's sanitary sewer system is connected to the Town of Cheektowaga municipal system, and ultimately to treatment facilities owned and operated by the Buffalo Sewer Authority. Prior to 2009, BNIA utilized the sanitary sewer system to dispose of the glycol separated from storm water. All flows have been redirected to the Wetland Treatment System, however a bypass to the sewer was installed such that, the concentrate stream can be directed to the sanitary sewer in emergency conditions.

BNIA maintains a triturator building in the operations area. This building is used by the airlines to dispose of sanitary wastes collected from the aircraft.

2.6.2 Airfield Maintenance

BNIA's Airfield Department is responsible for maintaining optimal airside operating and safety conditions for airport users on a year-round basis. During the winter season, snow and ice removal operations on the airport's runways, movement areas, roadways (airside and landside), and parking lots remain top priorities of the department.

The Airfield Maintenance Facility is located on the west side of the airfield along Cayuga Road, south of the Air Cargo area. The buildings include a heated maintenance garage (34,500 square feet), an equipment storage building (5,150 square feet), and a salt storage building (2,100 square feet). The maintenance garage houses the airfield equipment and also includes three service bays, a wash bay, a grit storage area, a mechanical room, a general store, a tool room, a paint storage area, and a bathroom. Currently, the garage is not large enough to house all of the airfield maintenance equipment, and many of the snowplows, trucks, and other maintenance vehicles are stored outside.

The department consists of 27 employees and is staffed 24 hours a day, seven days per week, year-round. In addition to its fleet of specialized vehicles, the airport utilizes a SCAN system,

which monitors weather as well as pavement surface temperature and identifies contaminants, and the SAAB friction tester which provides computerized measurements of pavement surface friction.

The department has a 110 vehicle fleet of snow removal and other ground maintenance vehicles. In addition to maintaining its own fleet, the department also maintains the airport's ARFF fleet vehicles. The vehicle fleet, workshops, and offices are spread out between 10 buildings, some buildings of which are old and in poor condition. Many of these vehicles are also stored outside due to a lack of storage. The 65 vehicles not dedicated to snow removal are listed in **Table 2-16**.

Table 2-16 Airfield Maintenance Vehicles

Vehicle Description	Quantity
Commercial Truck	1
Dump Truck	1
Forklift	1
John Deere Gator (with salt hopper)	1
Plow	1
Vacuum	1
Loader	2
Miscellaneous	2
Sweeper	3
SUV/Van	4
Utility Truck	4
Golf Cart	6
Pickup Truck	12
Tractor	12
Grass Mower	14

Source: BNIA Maintenance Department

2.6.3 Snow Removal

As mentioned in previously, the Airfield Maintenance Facility is responsible for snow removal. Of the Maintenance Facility's 110 vehicles, 45 are dedicated exclusively to this task. See **Table 2-17** for a breakdown of these vehicles.

Table 2-17 Snow Removal Equipment

Vehicle Description	Quantity
Backhoe	1
Grader	1
Tank Truck	1
Dump Truck	3
Miscellaneous	3
Spreader	4
Loader	5
Pickup Truck	6
Snow Blower	6
Plow	7
Broom	8

Source: BNIA Maintenance Department

2.6.4 Airport Deicing

Federal Aviation Regulations (FAR) prohibit takeoff when snow, ice, or frost is adhering to wings, propellers, control surfaces, engine inlets, and other critical surfaces of the aircraft. This rule is the basis for the *clean aircraft concept*. It is imperative that takeoff not be attempted in any aircraft unless the pilot-in-command (PIC) has ascertained that all critical components of the aircraft are free of frozen contaminants. As a result, conditions which necessitate deicing occur often in a cold weather region like Buffalo.

There are three areas on the airfield where deicing operations take place: the passenger terminal apron, the air cargo apron, and the general aviation apron. These operations involve spraying the aircraft with a glycol anti-freeze liquid, which is a very effective de-icing agent but is regarded as an environmental contaminant.

The general aviation (GA) apron located in the northern portion of the airport does not have a contained underground system to collect the spent glycol. On the general aviation apron, the catch basin valves are closed off during glycol deicing and the spent fluid is subsequently removed from the apron by vacuum sweeper vehicles.

Table 2-18 summarized the monthly glycol use at BNIA.

2.6.5 Airport Fueling Facilities

The aviation fuel storage system facility is located on the north side of the airfield and includes a small 2,350 square foot control building and five aboveground fuel storage tanks. Currently, the airport has three 225,000-gallon storage tanks for Jet-A fuel, one 42,000-gallon storage tank for AvGas (100LL), and one 20,000-gallon storage tank for gasoline.

The three Jet-A fuel tanks are commingled. Filling of the tanks is completed on a rotating basis to allow for fuel loading, settling and dispensing purposes. The fuel farm receives approximately 8-10 deliveries per day. Based on the current levels of demand, the storage capacity at BNIA provides about a five day fuel supply.

The remote fuel dispensing facility is located on the south side of the airfield near where the Westinghouse complex was formerly located. A 12-inch distribution line connects the fuel dispensing facilities to the storage facilities on the north side of the airport. The fuel facility is owned and maintained by NFTA. On-airport deliveries of fuel to aircraft are handled by Prior Aviation, a fixed base operator (FBO), as well as by United Airlines.

The fuel farm and facilities are operated by airfield operations. All costs are shared by a fuel consortium. The fuel consortium consists of representatives of all major airlines, the FBO, and the NFTA.

Table 2-18 BNIA Monthly Glycol Usage (Gallons), 2009-2010

	Integrated Airtran	Prior Am. Eagle	ASIG Continental	Integrated Delta	Prior Jet Blue	Integrated Northwest	Southwest	UAL/UAX	ASIG US Airways	Prior Prior GA	FedEx	TOTAL
Oct-09	44	76	328	93	176	45	2,594	413	1041	0	0	4,809
Nov-09	30.0	194	464	99	535	70	4,982	488	1806	0	1060	9,728
Dec-09	2,059	1,529	12,790	4,572	9,081	2,589	11,667	5,349	74,028	1,097	3549	128,310
Jan-10	2,519	2,250	16,677	7,112	16,059	3,319	8,841	6,092	58,297	1,356	1610	124,134
Feb-10	2,176	1,554	16,519	6,713	12,425	663	19,718	6,075	42,880	1,745	0	110,469
Mar-10	0	41	6,471	0	0	0	1,036	690	19,606	78	0	27,922
Apr-10	0	0	360	0	0	0	0	0	167	0	0	527
May-10	0	0	0	0	0	0	0	0	0	0	0	0
Total	6,828	5,644	53,609	18,589	38,276	6,686	48,838	19,107	197,825	4,276	6,219	405,899

Source: Niagara Frontier Transportation Authority

Note: Reported use by ASIG represents gallons of a 50-50 mix; actual glycol usage is 50% of reported volume; Shaded cell indicates no report for the 2009-2010 season

2.7 LAND USE

This section presents the major land uses surrounding the airport.

2.7.1 BNIA Noise Compatibility Program (NCP)

Since completing Phase One of the 2002 BNIA Master Plan – construction of the new terminal and expanded parking facilities – Buffalo Niagara International Airport has become the fastest-growing airport in Upstate New York. In recognition of this and in consideration to the many homeowners whom have experienced this growth, the NFTA has conducted a voluntary Part 150 Noise Compatibility Study

The study began in February 2003 and was completed and submitted to the FAA in March 2005. The FAA approved the study in April of 2006. Once approved, the 10-year, \$80+ million (estimated) dollar Noise Compatibility Project was initiated and commenced in August 2006.

The Program consists of noise mitigation by installation of acoustical windows, doors and new/upgraded HVAC systems as necessary. Approximately 1,225 parcels, one church and one school will undergo mitigation efforts. With many parcels being multi-family homes, approximately 1,746 households will receive mitigation.

The Part 150 Study also recommended the purchase of two homes in the 75DNL. Both were purchased under the Noise Compatibility Program (NCP). One home was renovated to act as the demonstration homes and also used as the NCP office. The other home purchased was demolished and is being used as parking for visitors to the demonstration home. In total, the program is approximately 48% complete and is expected to finish by the year 2016.

2.7.2 Existing Land Use

BNIA figures heavily into the Town of Cheektowaga’s 2010 Master Plan. The Town recognizes the airport as one of its two largest employers (alongside the Walden Galleria mall) and a major point of entry for tourists visiting the area. As a result of BNIA lying within the Town’s boundaries, Cheektowaga serves as many travelers’ first impression of the Buffalo-Niagara Falls metropolitan area. The Town hopes to reinforce its connection with the downtown Buffalo area by implementing a light-rail service running from BNIA into the city. Such a public transit system would simultaneously help to revitalize the downtown area and improve BNIA’s effectiveness as a point-of-entry to the region. An abandoned rail corridor exists which may be implemented for this purpose and the Town plans to aggressively pursue funding in order to move the project forward.

Figure 2-22 illustrates existing land use around BNIA.

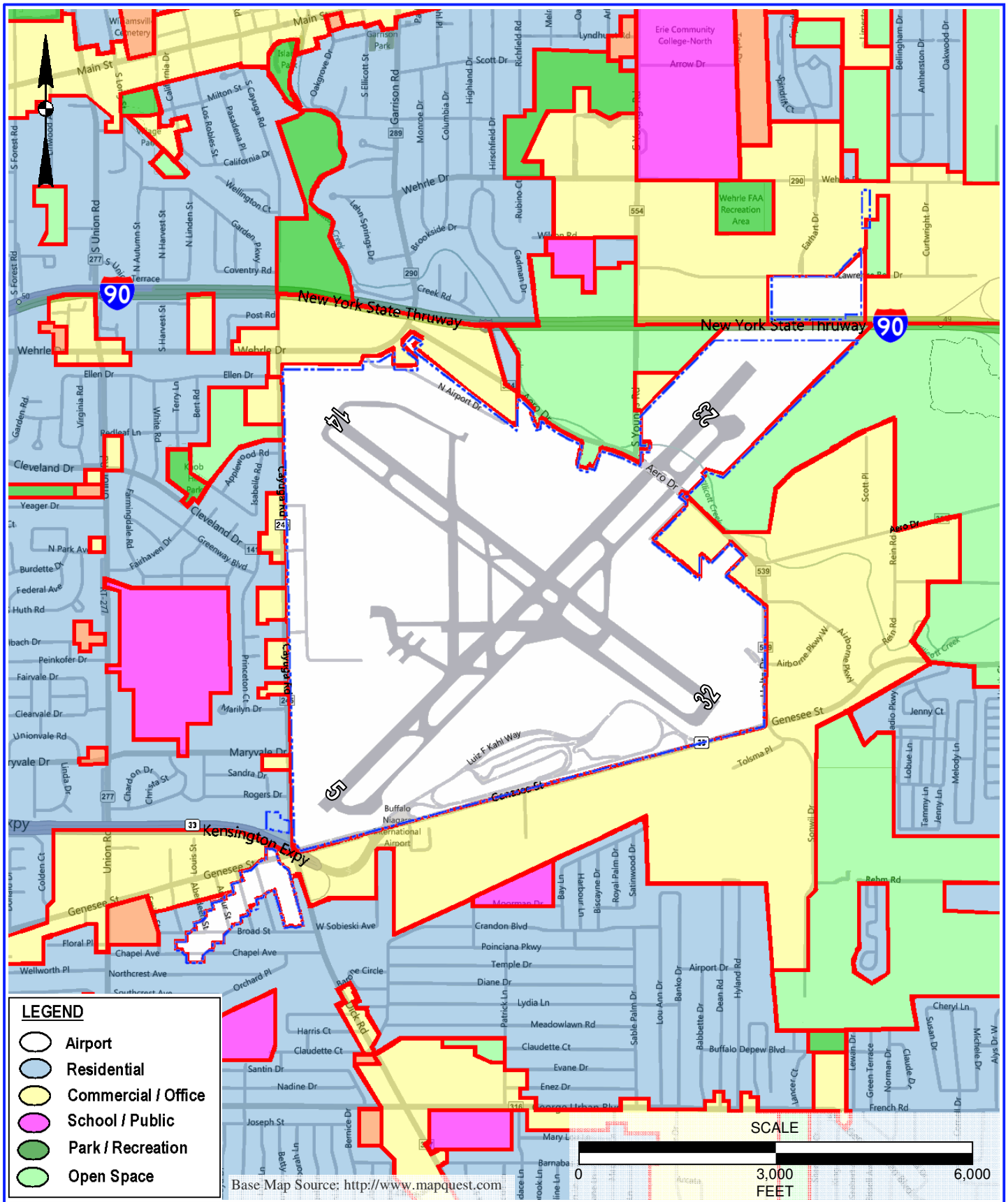
2.7.3 Zoning

The Town of Cheektowaga has zoned BNIA as a Community Facilities District (CF). This special district is used for public facilities, and has been applied to various parks, cemeteries, and government facilities.

Zoning in nearby areas encompasses everything from Residential to General Manufacturing. Generally, areas east of the airport fall under zones M-1 (light manufacturing), M-2 (general

LAND USE MAP

FIGURE 2-22



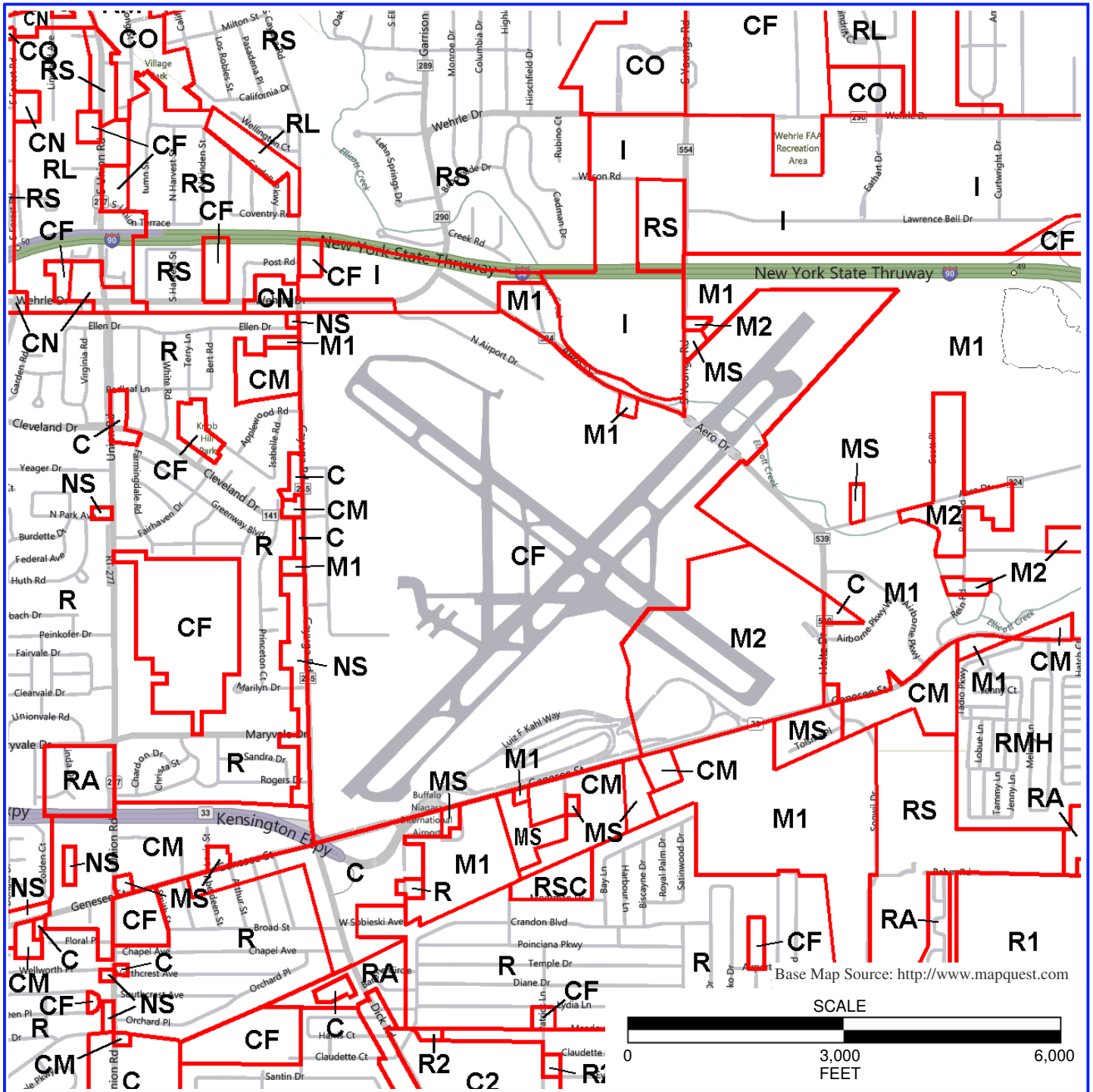
manufacturing), C (retail business), MS (motor service), and CM (general commercial). To the south, Genesee Street is mostly zoned as CM and MS, being home to several business parks and rental car facilities. Additionally, the Sky Harbor mobile home development is located south of Genesee Street, zoned RMH (residential mobile home). To the west, Cayuga Road and the Nob Hill and St. Barnabas areas are largely residential with small instances of C and CM zoning.

The Town foresees the airport area continuing with only minor rezoning in the future; the most apparent candidate for rezoning is Cayuga Road, which could benefit from additional hospitality-related businesses.

Figure 2-23 depicts current zoning around BNIA.

ZONING MAP

FIGURE 2-23



Zoning Districts

C	Retail Business	M1	Light Manufacturing	RA	Apartment
CF	Community Facilities	M2	General Manufacturing	RL	Low Density Residential
CF	Community Facilities	MS	Motor Service	RMH	Residential Mobile Home
CM	General Commercial	NS	Neighborhood Service	RS	Single Family Residential
CN	Commercial Non-Office	R	Residence	RSC	Residential Senior Citizen
CO	Commercial Office	R1	Single-Family Residential		
I	Industrial	R2	Multi-Family Residential		



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 airport traffic control towers (ATCT). A brief overview of these facilities and how they control flight to and from BNIA is provided in the following paragraphs.

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 BNIA is controlled by the Cleveland Center. Commercial airlines and other aircraft flying under instrument flight rules in the vicinity of BNIA, 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 BNIA and other airports surrounding BNIA are controlled by the Buffalo TRACON. 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 up to an altitude of 10,000 feet. The TRACON facility is located at the base of the Buffalo Air Traffic Control Tower.

Air Traffic Control Tower - The air traffic control tower at BNIA is located in the northeast quadrant of the airport, near the intersection of Holtz Road and Aero Drive. Access to the tower is provided via Holtz Road. The control tower and associated TRACON is a modern facility that was opened in 1994. 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 3,000 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.

Additionally, an Airport Surveillance Radar (ASR-9) facility is located east of the air cargo area. This radar system provides directional and distance information, as well as weather information to air traffic controllers, who, in turn, use that information to provide sequencing and separation of aircraft.

2.8.2 Airspace

Airspace in the United States is classified into the following categories: controlled, uncontrolled, special use, and other. A brief description of these categories and how they apply to airspace in the vicinity of BNIA 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 to 60,000 feet above BNIA. Aircraft flying in Class A airspace must operate under instrument flight rules.

Air traffic control 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 air traffic control. 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. There is no Class B airspace in the vicinity of BNIA.

BNIA is located in the center of an area defined as Class C airspace. The Class C airspace surrounding BNIA resembles a cylinder with a radius of five nautical miles, extending from the ground to an altitude of 2,200 feet above ground level (AGL). This cylinder is topped by another, larger, cylinder with a radius of ten nautical miles which extends to an altitude of 4,700 feet AGL.

The only Class D airspace in the vicinity of BNIA is associated with Niagara Falls International Airport, which is located 14 nautical miles northwest of BNIA. This airspace extends five nautical miles in all directions from the center of the Niagara Falls airfield and extends upward to an altitude of 3,100 feet. 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 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 BNIA. However, there are several areas of restricted airspace. These include the following:

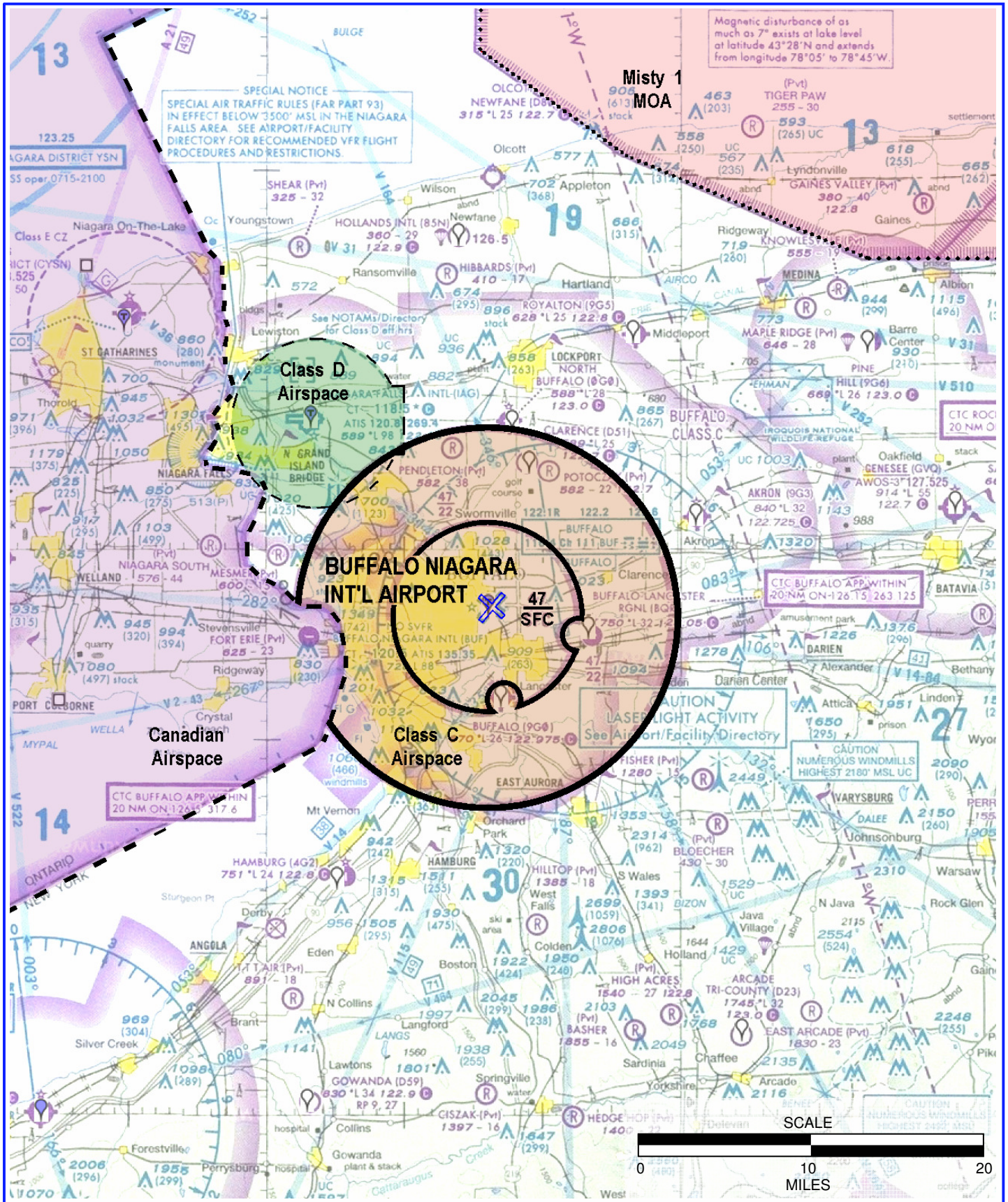
- CYA-518 located over Niagara Falls, Ontario
- CYA-513 located 25 nautical miles west of BNIA (a parachute jumping area)
- R-5203 located 41 nautical miles northeast of BNIA

There are no Warning Areas, Alert Areas, or Controlled Firing Areas; however, there is one Military Operation Area (MOA) in the vicinity of BNIA. This MOA, Misty 1, is located 24 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 2-24 illustrates the regional airspace around BNIA.

REGIONAL AIRSPACE

FIGURE 2-24



2.8.3 Obstructions

The following obstructions are for BNIA as published on the Airport Master Record (Form 5010), a more detailed obstruction analysis will be included as part of the Airport Layout Plan Drawing Set.

Runway 5 - tree 648' from departure end of runway, 662' left of centerline, 65' AGL/751' MSL. Trees beginning 697' from departure end of runway, 385' right of centerline, up to 100' AGL/787' MSL.

Runway 23 - trees, poles, building and pump beginning 6' from departure end of runway, 290' left of centerline, up to 40' AGL/721' MSL. Tree 3317' from departure end of runway, 916' right of centerline, 68' AGL/759' MSL.

Runway 14 - 35' tree 607' from runway, 548' right of centerline, 12:1 slope to clear.

Runway 32 - multiple trees and a bush beginning 141' from departure end of runway, 66' left of centerline, up to 67' AGL/756' MSL. Multiple trees beginning 43' from departure end of runway, 90' right of centerline, up to 66' AGL/752' MSL.

2.9 AIRPORT SAFETY AND SECURITY

2.9.1 Airport Rescue and Fire Fighting (ARFF)

The ARFF is responsible for the safety and protection of the passengers, users, public, and employees of BNIA. This includes all fire protection and prevention, hazardous material response and control, airport communications (radio and telephone), employee safety training, and all emergency medical responses. The ARFF responds to an average of 15-45 aircraft alerts, 380 Emergency Services (EMS) calls, and 200 building alarms per year. The facility is located in a two story brick building which is east of the cargo complex and proximate to Taxiway M which provides rapid access to all areas of the airfield and airport complex.

The station maintains a fleet of crash and rescue vehicles capable of meeting the FAA standard for Index D certified airports as displayed in **Table 2-19**:

Table 2-19 Airport Rescue and Firefighting Fleet

Quantity	Vehicle Description	Additional Notes
2	3,000 gallon Oshkosh T-3000 crash truck	
1	1,000 gallon Rapid intervention vehicle	Configured to perform as a Class A pumper
1	3,000 gallon Crash Truck with 55 foot telescoping nozzle	
1	Mass Casualty Response Unit	Equipped to provide EMS supplies and treatment for up to 100 patients
2	Command Vehicles	

Source: BNIA Airport Rescue and Fire Fighting

The station is manned 24 hours per day, seven days per week with a minimum staff level of six employees per shift. Total staffing includes nine firefighters and one captain. Recall and Community Mutual Aid agreements and procedures are in place for all emergencies as required. All firefighters and supervisory personnel are trained to basic FAA required standards

and above, including New York State certification at the basic EMT level with defibrillation certification.

2.9.2 NFTA Police

The NFTA Police, like the ARFF, is responsible for protecting and serving the traveling public. Officers have the authority to exercise police power and duties as pertaining to traffic and criminal matters within the jurisdiction of the NFTA. The BNIA sub-station is located at 247 Cayuga Road, and is staffed by a total of 43 officers, including one captain, four lieutenants, two detectives, four K-9 officers, and 32 patrol officers. All officers are New York State certified in accordance with the New York State Bureau of Municipal Training. The division maintains 15 squad cars for patrolling the airport grounds.

2.9.3 Perimeter Roads

Roadways on BNIA grounds can be divided into two categories: public and restricted. The former are located near the airport's south property line and connect the airport's various parking lots, the passenger terminal, and the parking structure to Genesee Street. The latter are located within the airport's security fence and are restricted to those granted vehicle driving privileges.

2.9.4 Perimeter Fencing

The airport is completely enclosed within an 8' security fence. The total area inside the fence is approximately 740 acres. The majority of the fence is chain link with barbed wire on top. However, in the southwest corner of the lot (near the intersection of Genesee Street and Cayuga Road), approximately 2,275 feet of wooden picket-style fence are used for aesthetic purposes.

2.9.5 Security Systems

As required by the TSA, access to the inside of the airport's security fence is restricted. Individuals entering this area must display SIDA (Security Identification Display Area) badges, or be escorted by a SIDA-badged individual with escort privileges. In order to operate a vehicle within the security fence, special badge privileges must be obtained.