2. INVENTORY OF EXISTING CONDITIONS

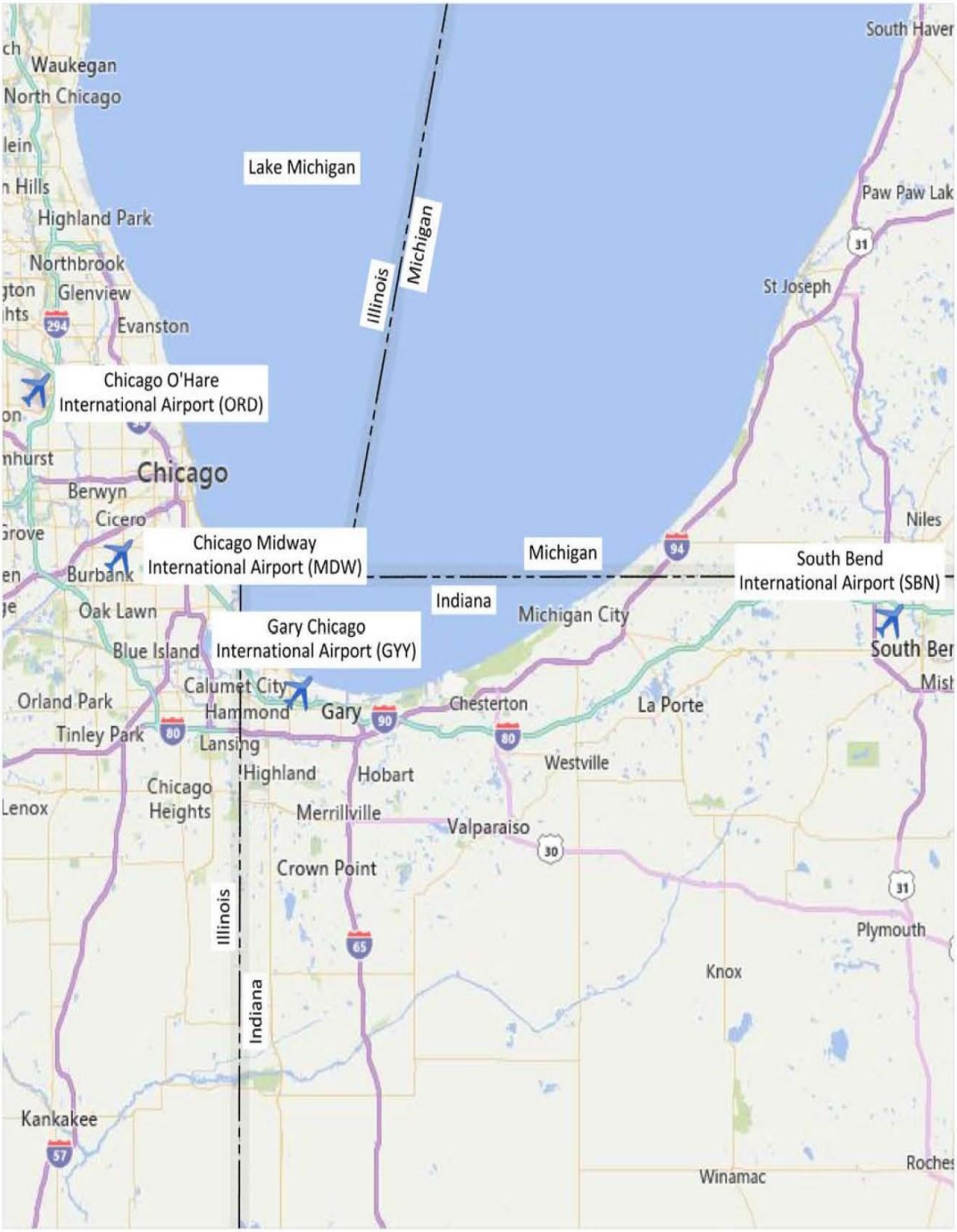
This chapter provides an inventory of the physical, operational, and functional characteristics of the Airport and its immediate environment. In addition, it provides a planning level assessment of the condition of existing facilities and services at the airport. This inventory of data is necessary to evaluate the physical attributes of all aspects of the airport – landside, terminal and airside - and serves, with the Forecast of Aviation Activity, as the basis for all subsequent study tasks.

Multiple sources of information were referenced in order to provide a thorough background and inventory of Gary/Chicago International Airport (GYY). Such resources include: the 2001 Airport Master Plan, site visits and tenant interviews, Federal Aviation Administration (FAA) databases, and Airport records.

2.1 Airport Setting & Location

GYY is located in Northern Indiana, 25 miles southeast of downtown Chicago, Illinois, and three miles northwest of downtown Gary, Indiana. The airport encompasses 993 acres and generally sits at an elevation of 596 feet above sea level. Northwest of the Airport is the City of East Chicago, and the City of Hammond is located to the southwest. The Airport's southern border runs parallel with Interstate 90 (Indiana Tollway), a major thoroughfare of the region. Exhibit 2-1 – Airport Regional Map depicts the location of GYY and its surrounding region.

Exhibit 2-1– Airport Regional Map



Source: Bing Maps, October 2016; Prepared by: AES

2.2 Airport Historical Background

Northwestern Indiana has been linked to aviation since the late 1800s. In the late 1890s, Octave Chanute, a retired engineer, pioneered the use of strut and diagonal wing bracing in glider aircraft. This innovation provided the foundation which the Wright brothers used in their historic flights. Chanute planned and supervised over 2,000 flights in heavier-than-air gliders from the windy dunes outside of Gary. The results of these 300- to 400-foot long flights were published in the *Journal of Western Society of Engineers*, attracting the attention of Wilbur Wright. Chanute's experience and guidance provided the Wright Brothers an initial structural design for their successful aircraft.

During this same time period, the Gary area saw significant growth driven by new industries and Gary Works by the United States Steel Corporation. Gary was an ideal location close to major Midwestern commercial and industrial cities, with an abundance of inexpensive land adjacent to Lake Michigan. This reduced transportation costs of raw materials and manufactured steel products. With its growth, the City of Gary was incorporated in 1906, named after Judge Elbert Gary, Chairman of the Board of Directors for the United States Steel Corporation. The City continued to grow in size and population as the steel industry developed.

In 1939, the City saw a need for a new airport to support their growing city. The City established a Board of Aviation Commissioners, which purchased the current airport site for approximately $180,000. Shortly thereafter however, World War II delayed the site's development, and the land was donated to the Federal government in 1943 to be used for a synthetic rubber plant. Following the War, in 1947, the Federal government returned the land to the city for airport development.

GYY had limited commercial passenger service in the 1950s, while Chicago Midway Airport (MDW) was the dominant airport in the region. As activity increased and larger jet aircraft were introduced, Chicago O'Hare International Airport (ORD) opened in 1963, to provide the necessary expanded airport facilities to accommodate demand. During this period, Chicago area airports became the busiest in the world. This also coincided with the completion of much of the interstate highway system, including the Tri-State Tollway (I-294), which allowed for quick and efficient travel between northwest Indiana and Chicago, including O'Hare Airport. The interstates also permitted easy access to GYY by Illinois residents, who continue to use the facility for business aviation purposes. Most based aircraft owners at GYY live and work in Illinois, many in downtown Chicago.

On April 15, 1995, the City of Chicago and the City of Gary entered into an agreement. The agreement, referred to as the Compact, establishes GYY as Chicago's third airport, strategically used to meet regional demands. The agreement allows Passenger Facility Charges (PFC) collected at ORD to be used for projects at GYY. Additionally, the Compact formed the Gary/Chicago Regional Airport Authority (GCRAA) comprised of a 12-member Board of Directors. The Board of Directors are appointed as follows: five members appointed by the City of Gary, five members appointed by the City of Chicago, one member appointed by the State of Indiana and one member by the State of Illinois. GCRAA coordinates and develops plans for the Chicago and Gary Airports.

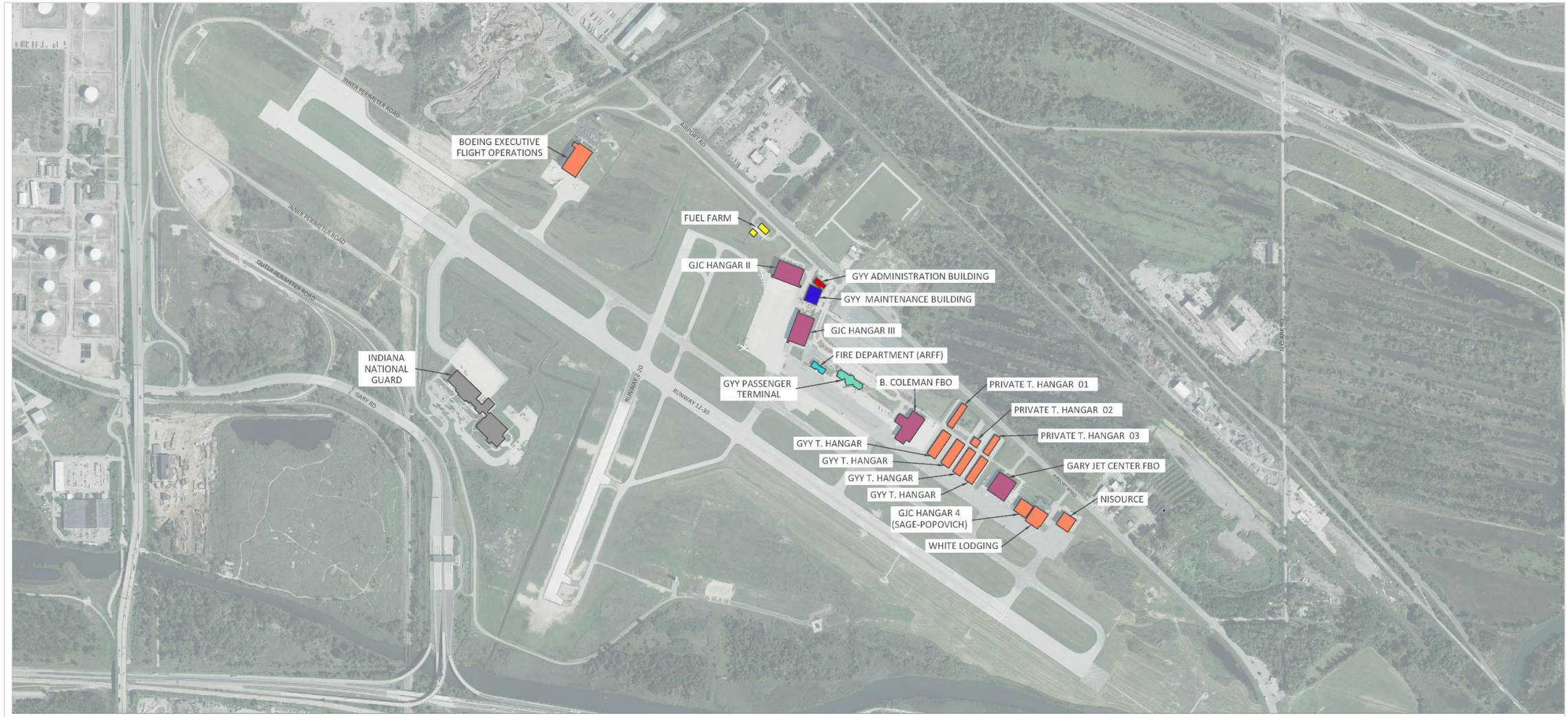
The Gary/Chicago International Airport Authority (GCIAA) has a separate seven-member Board of Directors that oversees the GYY management. The GCIAA is a municipal corporation, separate and distinct from the City of Gary and Lake County. The executive and legislative body that governs the Authority is the Board of Directors, it is comprised of seven members; four appointed by the Mayor of the City of Gary; one each appointed by Lake and Porter Counties; and one appointed by the Governor of the State of Indiana.

Since 2000, passenger activity at the Airport has been intermittent, with the number of enplaned passengers peaking at 27,000 in one year to less than 1,000 in another. Pan Am, Southeast, Pace Aviation, Casino Express, and Allegiant have all provided brief commercial air service at the Airport in this time period. Following Allegiant's departure in 2013, the Airport became a general aviation and corporate facility and is currently categorized as a National airport under the FAA's ASSET categories of GA airports. Additional information pertaining to historical passenger and general aviation air traffic is discussed in Chapter 3 – Forecast of Aviation Demand.

The Airport has received Federal funds since 1949 for airport construction and development. The City of Gary has also used general obligation bonds to finance terminal development and other facilities, which allowed GYY to develop in accordance with the needs of business and corporate aviation. In 2005, the Northwest Indiana Regional Development Authority dedicated $20 million to extend the airport's primary runway, Runway 12-30. The FAA approved the project that year and provided the first grant (AIP-19), FAA funding contributed an estimated $57.8 million. The runway extension was completed in July of 2015. This added an additional 1,859 feet of pavement, making the total length of the runway 8,859 feet. Additionally, there have been numerous other improvement projects at the Airport, including an apron overlay and expansion, new runway lighting, purchase of new snow removal equipment, construction of a new maintenance equipment garage and administrative offices, aircraft hangars, terminal renovation, improvements to airport drainage, and tree-shrub-bush removal. Exhibit 2-2 shows the current Airport and key facilities.

In January 2014, the City of Gary and the GCIAA entered into a public-private partnership with AFCO/AvPorts for the management of the Airport and the development of surrounding land. This partnership maintains public oversight over the Airport while allowing a private entity to operate the Airport and spur economic growth.

Exhibit 2-2 – Airport Facilities



LEGEND			
	Airport Admin. Building		Airport Maintenance Facility
	General Aviation		Fuel
	Fixed Based Operator		GYY Passenger Terminal
	ARFF		Other

0' 800'
GRAPHIC SCALE: 1"=800'

N W E S

Source: Aerial photography 2016, Airport Site Visit, September 2016; Prepared by: Forms + Funktion and Jacobsen|Daniels

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2.2.1 Weather

Weather plays a vital role in airfield capacity and the assessment of future facilities. It is also a key component for pilots making decisions about arriving and departing at an airport. Three important weather factors in planning airport facilities are temperature, visibility, and wind. Temperature information is used to determine runway length requirements, while visibility and wind conditions (direction and speed) determine airfield capacity. Weather conditions are categorized into two main categories, Instrument Meteorological Conditions (IMC) or Visual Meteorological Conditions (VMC). VMC occurs when visibility is greater than or equal to three statute miles and the ceilings are 1,000 feet above ground level (AGL) or higher. IMC occurs when the visibility is less than three statute miles or the ceilings are less than 1,000 feet AGL. Northwest Indiana is home to a vast array of different meteorological conditions, from lake effect snow coming off Lake Michigan in the winter months, to heavy rain and thunderstorms in the summer months. While Northwest Indiana is known for this lake effect snow, the geographic location of GYY Airport generally avoids the most substantial accumulations of snow which typically occur just to the east of the Airport. Basic weather characteristics for GYY are summarized in Table 2-1 – Weather Characteristics.

Table 2-1– Weather Characteristics

Condition	Existing
Hottest Month	July
Mean Max. Temp (Hottest)	84 Degrees
Coldest Month	January
Mean Max. Temp (Coldest)	17 Degrees
Average Annual Rainfall	37.8 Inches
Average Annual Snowfall	24.7 Inches

Source: NOAA National Climatic Data Center; Prepared By: Jacobsen|Daniels, October 2016

2.2.2 Wind Data

The air traffic control procedures and how aircraft are able to use the airport are heavily reliant on wind and weather conditions. Runways are oriented to take advantage of prevailing winds to limit crosswinds on arriving and departing aircraft. In general, smaller aircraft are more affected by crosswinds than larger aircraft. Therefore, wind data is used to determine the adequacy of runway. To document the conditions at GYY, meteorological data was obtained from the National Climatic Data Center's automated weather station for the 10-year period between 2010 and 2019. An analysis of wind data was generated through the FAA's Airport Geographic Information Systems (AGIS).

The prevailing winds at GYY are east/west, which is reflected in the orientation of the Airport's primary runway, Runway 12-30. GYY has at least 97 percent of combined wind coverage for both runways under all-weather conditions. That is, given acceptable crosswind limits for aircraft operations, the airfield can meet operational requirements over 97 percent of the time. **Table 2-2 – Runway Wind Coverage (All Weather)** and **Table 2-3 – Runway Wind Coverage (IMC Weather)** shows the wind coverage percentages for each of the four crosswind component speeds (10.5, 13, 16, & 20 knots) considered critical by the FAA. If a 95 percent wind coverage can be met with the existing airfield, the FAA recommends no changes.

Table 2-2 – Runway Wind Coverage (All Weather)

Wind Speed (Knots)	Runway 2-20	Runway 12-30	Combined
10.5	90.24%	90.07%	97.30%
13	94.62%	94.79%	99.07%
16	98.15%	98.50%	99.71%
20	99.46%	99.61%	99.92%

Source: NOAA National Climatic Data Center, January 1, 2010 to January 1, 2019; Prepared By: Jacobsen|Daniels, October 2020

Table 2-3 – Runway Wind Coverage (IMC Weather)

Wind Speed (Knots)	Runway 2-20	Runway 12-30	Combined
10.5	90.14%	90.25%	97.54%
13	94.70%	94.61%	99.15%
16	98.03%	98.05%	99.76%
20	99.36%	99.38%	99.93%

Source: NOAA National Climatic Data Center, January 1, 2010 to January 1, 2019; Prepared By: Jacobsen|Daniels, October 2020.

2.3 Airfield Facilities

Airfield facilities include the runways, taxiways, and the airfield inner perimeter roadway system. Together, these facilities provide the basic airfield pavement infrastructure needs of an airport. The following sections describe the characteristics and conditions of the various airfield facilities.

2.3.1 Airport Reference Code

The Airport Reference Code (ARC) for GYY is C-III, which indicates that the airfield facilities meet the FAA's standards to accommodate aircraft such as the Gulfstream G500 and Boeing B737. The ARC designation is comprised of two components, the Airport Approach Category (AAC) and the Airport Design Group (ADG). Each of these components are based on the aircraft using, or expected to use, the airport on a regular basis,

which is defined as a minimum 500 operations/year. The AAC is designated by a letter which represents aircraft approach speeds, and the ADG is designated by a number based on aircraft wingspan and tail height. The ARC does not limit the airport from operating aircraft beyond the designation, but rather, it is used to identify various planning and design parameters, helping to ensure safe operations. The runways, taxiways, and associated airport infrastructure are planned and built with the ARC parameters in mind.

2.3.2 Runways

GYY's airfield consists of two active runways: Runway 12-30 and Runway 2-20. Runway 12-30 is the primary runway and the most heavily used. It is designed for Airport Design Group (ADG) C-III and is equipped with an Instrument Landing System (ILS) on the approach end of Runway 30. This system provides vertical and horizontal guidance for aircraft to the runway. Runway 2-20 is a crosswind runway with a designation of ADG B-II. It is primarily used for light general aviation (GA) traffic due to its length and operational capabilities; however, it is also used by larger aircraft when crosswinds are not favorable for operations on the primary runway. Table 2-4 lists characteristics for each runway and Exhibit 2-3, the Airport Diagram, illustrates the layout of key elements.

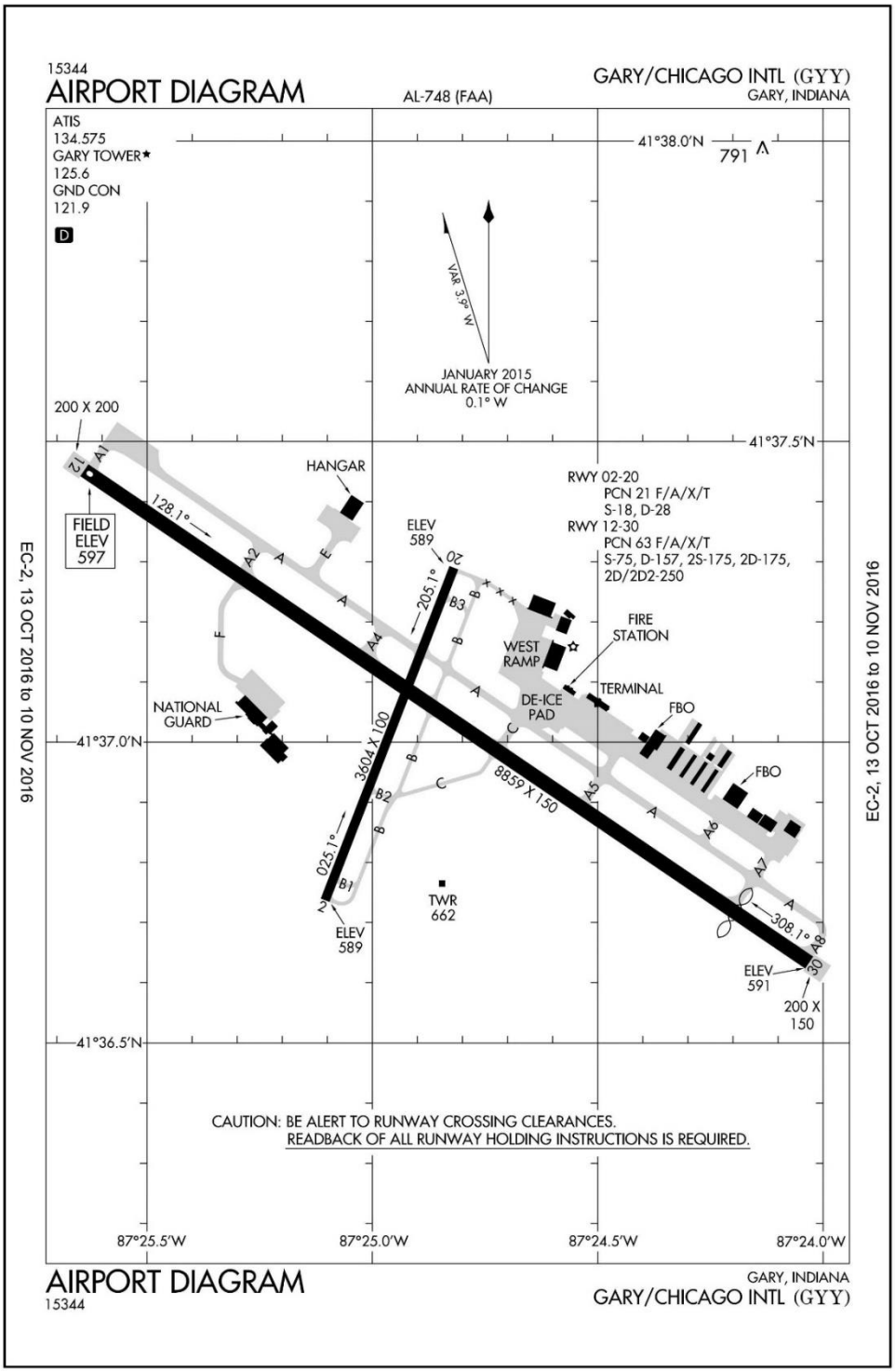
Table 2-4 – Runway Characteristics

	Runway 2	Runway 20	Runway 12	Runway 30
Length/Width	3,604'/100'		8,859'/150'	
Displaced Threshold	N/A		900'	N/A
Pavement Strength[1]	S-18 D-28		S-75 D-157 2D-175 2D/2D2-250	
Pavement Type[2]	Asphalt, Concrete (Southern Portion)		Asphalt – Grooved, Concrete (Western Portion)	
Runway Design Group	B-II		C-III	
Blast Pad	N/A		200' x 200'	
TORA[3]	N/A		8,859'	
TODA[4]			8,859'	
ASDA[5]			7,959'/8,859'	
LDA[6]			7,959'	

Source: Federal Aviation Administration, National Flight Data Center, Airport Data; Prepared By: Jacobsen|Daniels, October 2016

[1] Pavement strength is expressed in terms of allowable loading for aircraft gear types: single wheel (S), dual wheel (D), dual tandem (2D), and multiple dual tandem (2D2).
[2] Asphalt pavement will be replaced with concrete as runway rehabilitation projects are approved and funded.
[3] TORA – Take-Off Run Available
[4] TODA – Take-Off Distance Available
[5] ASDA – Accelerated Stop Distance Available
[6] LDA – Landing Distance Available

Exhibit 2-3– Airport Diagram



Source: FAA National Flight Data Center, October 2016; Prepared by: Jacobsen|Daniels, October 2016

2.3.2.1 Navigational Aids

Identification of an airport for pilots to use is just as important as the navigational aids used to get them to the airport. Airport beacons help a pilot to identify an airport at night. The beacons are normally operated from dusk until dawn. The beacon omits an omnidirectional lighted signal based on the type of airport it is, at GYY it is a flashing white and green beacon which is used for civilian land airports. The beacon at GYY is located north of the Gary Jet Center Hangar, adjacent to Airport Road.

Each runway is equipped with navigational aids (NAVAIDs) and lighting aids supporting ground movements, visual guidance, and instrument guidance to and from the runways. Table 2-5 - Runway Navigational and Lighting Aids breaks down the equipment and markings associated with each runway at GYY.

Table 2-5 - Runway Navigational and Lighting Aids

Equipment	Runway 2	Runway 20	Runway 12	Runway 30
Navigational Aids[7]	GPS			LOC, GS, DME, GPS
Runway Lighting[8]	MIRL, REIL		HIRL-CL, REIL	HIRL-CL
Approach Lighting/VISAIDS[9]	PAPI-2L		PAPI-4L	PAPI-4L, MALSR
Pavement Marking	Non-Precision			Precision

Source: Federal Aviation Administration, National Flight Data Center (NFDC) Airport Data; Prepared By: Jacobsen|Daniels, October 2016

In addition to NAVAIDs that provide guidance information, other NAVAIDs provide general airport information pertinent to pilots which enable them to make decisions such as current winds, active runway, and altimeter settings. Current wind information is provided via a single lighted windsock located near the intersection of the runways, just south of the main apron area and adjacent to the ARFF Building. The windsock provides pilots with immediate feedback regarding wind speed and direction. The Airport is also equipped with an Automated Weather Observation System (AWOS). The AWOS allows pilots to obtain current airport information via communication radios, including active runway, wind speed and direction, altimeter setting and other pertinent operational data. When the control tower is in operation, weather information from the AWOS is recorded by ATC and broadcast using the Automatic Terminal Information System (ATIS). When the tower is closed, AWOS automatically broadcasts weather information. The AWOS unit is located south of Runway 12-30 and east of the Airport Traffic Control Tower.

[7] Navigational Aids – Global Positioning System (GPS), Localizer (LOC), Glide Slope (GS), and Distance Measuring Equipment (DME)
[8] Runway Lighting – Medium Intensity Runway Lights (MIRL), Runway End Identifier Lights (REIL), High Intensity Runway Lights with Centerline Lights (HIRL-CL)
[9] Approach Lighting/VISAIDS – Medium Intensity Approach Lighting System (MALSR), Precision Approach Path Indicator (PAPI)

2.3.3 Taxiways

The taxiway system illustrated in Exhibit 2-2, provides aircraft access between the runways and aprons throughout the airfield. The system also provides access for the passenger terminal building, Fixed Based Operators (FBOs), corporate hangars, and military facility to each runway. Taxiways A and B are two full length taxiways parallel to Runways 12-30 and 2-20, respectively. Taxiway A has a width of 75 feet and is located north of Runway 12-30. The northern portion of Taxiway A from Taxiway A2 to Taxiway A1, which was constructed with the 2015 runway extension, is laterally offset from the runway by the standard separation for runway classification of 400 feet. The remaining portion of the runway, from Taxiway A2 south to Taxiway A8, is offset from the runway at 392 feet. Seven taxiways connect Taxiway A to Runway 12-30. Taxiway B has a width of 40 feet and is located east of Runway 2-20. The majority of Taxiway B is laterally offset from the runway by 300 feet. A small portion of the taxiway to the south is offset by 250 feet, but is planned to be offset to 300 feet when rehabilitated in the future. Six taxiways connect Taxiway B to Runway 2-20. Taxiway F serves the National Guard area.

The airfield has several taxiways that provide direct access without a turn to a runway. These include Taxiways A5, A7, C and D. GCIAA plans to decommission and remove Taxiway C as part of a future Taxiway B south rehabilitation project. It will be removed rather than rehabilitated as part of an effort to eliminate the direct access from the apron to Runway 12-30. Taxiway D, that provided direct between the West Ramp and Runway 2-20 has been also been closed.

2.3.4 Airfield Pavement Condition

The most common pavement used at the Airport is flexible (bituminous/asphalt), but rigid (concrete) pavement is also used for the parking positions adjacent to the terminal building and portions of the de-ice pad. A majority of both Runway 12-30 and Runway 2-20 have a grooved asphalt surface, the southern portion of Runway 2-20 and the western portion of Runway 12-30 are concrete. A substantial amount of pavement rehabilitation and replacement have been performed from 2012 to 2018. Projects have included reconstruction of the south end of Runway 2-20, overlaying Runway 12-30, new de-ice pad, apron pavement by NiSource and White Lodging hangars, replacement of the general aviation and terminal aprons, and reconstruction of portions of Taxiway A..

Pavement condition is categorized using Pavement Condition Index (PCI), a metric which identifies pavement conditions using factors such as the pavement's structural integrity, surface traction, capacity, and roughness. The PCI scale ranges from a value of 0 (pavement failure conditions) to a value of 100 (pavement in excellent condition). PCI can be used to manage pavement assets and help airport operators make cost-effective decisions regarding maintenance and repairs. The FAA requires federally-obligated airports to perform a detailed inspection of airfield pavements every year as part of a formalized pavement management program.

The Indiana Department of Transportation's Office of Aviation (INDOT) retains a consultant to provide airfield pavement inspection, pavement evaluation, and pavement management services for Indiana's

statewide network of airports on a regular basis. This includes GYY, for which analysis was completed in 2012 and 2018.

Exhibit 2-4 provides a visual representation of the pavement assessment from the 2018 assessment, while Table 2-6 presents the areas, ages and PCI of each branch and section.

Exhibit 2-4– Pavement Condition Map

Source: INDOT Aviation, Indiana 2018 IDEA, https://www.in.gov/indot/div/aviation/airport-details/airport-details.html
Prepared by Jacobsen|Daniels, April 2020

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Table 2-6 – Pavement Assessment Condition Summary 2018

Branch ID	Section ID	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
A01GA	10	80	80	79	78	77	76	75	74	72	71	70
A01GA	20	89	89	88	87	86	85	84	83	81	80	79
A01GA	30	90	90	89	88	87	86	85	84	82	81	80
A02GA	10	26	25	21	17	11	5	0	0	0	0	0
A02GA	20	22	21	17	11	5	0	0	0	0	0	0
A03GA	10	84	84	83	82	81	80	79	78	76	75	74
A03GA	15	100	100	99	98	97	96	95	94	92	91	90
A03GA	20	76	76	75	74	73	72	71	70	68	67	66
A03GA	30	85	85	84	83	82	81	80	79	77	76	75
A03GA	40	80	80	79	78	77	76	75	74	72	71	70
A03GA	50	100	100	99	98	97	96	95	94	92	91	90
A03GA	60	74	74	73	72	71	70	69	68	66	65	64
A03GA	70	88	88	87	86	85	84	83	82	80	79	78
A04GA	10	48	48	47	45	44	43	42	41	40	38	36
A04GA	15	100	100	99	98	97	96	95	94	92	91	90
A04GA	20	100	100	99	98	97	96	95	94	92	91	90
A04GA	30	100	100	99	98	97	96	95	94	92	91	90
A04GA	40	100	100	99	98	97	96	95	94	92	91	90
A04GA	50	95	95	91	88	85	81	78	75	72	69	66
A04GA	60	100	100	98	95	93	91	88	86	83	81	78
AHOLD12GA	10	99	99	98	97	96	95	94	93	91	90	89
RW0220GA	10	100	100	99	98	97	96	96	95	94	94	93
RW0220GA	20	35	35	33	31	29	27	25	23	21	19	17
RW0220GA	25	94	94	92	90	88	86	84	82	80	78	76
RW0220GA	30	54	54	52	50	48	46	44	42	40	38	36
RW0220GA	40	53	53	51	49	47	45	43	41	39	37	35
RW1230GA	10	100	100	99	98	97	96	96	95	94	94	93
RW1230GA	100	87	87	84	82	79	77	75	73	71	70	68
RW1230GA	110	100	100	99	98	97	96	96	95	94	94	93
RW1230GA	120	100	100	99	98	97	96	96	95	94	94	93
RW1230GA	20	100	100	99	98	97	96	96	95	94	94	93
RW1230GA	30	100	100	98	96	94	92	90	88	86	84	82
RW1230GA	40	100	100	98	96	94	92	90	88	86	84	82
RW1230GA	50	46	46	44	42	40	38	36	34	32	30	28
RW1230GA	60	55	55	53	51	49	47	45	43	41	39	37

Branch ID	Section ID	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
RW1230GA	70	52	52	50	48	46	44	42	40	38	36	34
RW1230GA	80	50	50	48	46	44	42	40	38	36	34	32
RW1230GA	90	88	88	85	83	80	78	76	74	72	70	69
TH01GA	10	15	15	12	10	8	6	3	1	0	0	0
TWA2GA	10	37	37	36	34	33	32	30	29	28	26	25
TWA4GA	10	41	41	39	36	34	32	30	28	25	23	21
TWA5GA	10	43	43	41	38	36	34	32	30	27	25	23
TWA5GA	20	44	44	42	39	37	35	33	31	28	26	24
TWA5GA	30	100	100	98	95	93	91	89	87	84	82	80
TWA6GA	10	37	37	35	32	30	28	26	24	21	19	17
TWA7GA	10	53	53	51	48	46	44	42	40	37	35	33
TWA7GA	20	100	100	98	95	93	91	89	87	84	82	80
TWA7GA	30	29	29	27	24	22	20	18	16	13	11	9
TWAGA	10	100	100	99	98	97	96	96	95	95	95	94
TWAGA	20	92	92	89	87	84	82	80	78	76	74	73
TWAGA	30	32	32	31	29	28	27	25	24	23	21	20
TWAGA	40	41	41	39	36	34	32	30	28	25	23	21
TWAGA	50	35	35	34	32	31	30	28	27	26	24	23
TWAGA	60	100	100	98	95	93	91	89	87	84	82	80
TWB1GA	10	95	95	93	90	88	86	84	82	79	77	75
TWB1GA	20	100	100	99	98	97	96	96	95	95	95	94
TWB2GA	10	93	93	91	88	86	84	82	80	77	75	73
TWB2GA	20	100	100	99	98	97	96	96	95	95	95	94
TWB3GA	10	49	49	47	44	42	40	38	36	33	31	29
TWBGA	10	58	58	56	53	51	49	47	45	42	40	38
TWBGA	20	43	43	41	38	36	34	32	30	27	25	23
TWBGA	30	35	35	33	30	28	26	24	22	19	17	15
TWBGA	40	100	100	99	98	97	96	96	95	95	95	94
TWCGA	05	93	93	91	88	86	84	82	80	77	75	73
TWCGA	10	59	59	57	54	52	50	48	46	43	41	39
TWCGA	20	59	59	57	54	52	50	48	46	43	41	39
TWCGA	30	100	100	98	95	93	91	89	87	84	82	80

Source: INDOT Aviation, Indiana 2018 IDEA, https://www.in.gov/indot/div/aviation/airport-details/airport-details.html

Prepared by Jacobsen|Daniels, April 2020

2.3.5 Airfield Perimeter Road

There are two paved roads that together service the majority of the airfield perimeter. These roads provide the airport staff, Indiana Army National Guard, and Air Traffic Tower personnel with secure access routes to the airfield and their associated facilities without having to mix with aircraft operations. The Inner Perimeter Road runs along the north side adjacent to Airport Road, then curves around the west side of the Runway 12 approach, south to the Army National Guard, then back east around the sound end of Runway 2 to the ATCT. The Inner Perimeter Road ends at the Automated Weather Observation Station (AWOS), which is located east of the ATCT. An additional secured access point exists on what used to be Chicago Avenue. The road becomes the Outer Perimeter Road once inside the gate and terminates at the Inner Perimeter Road just west of the Indiana Army National Guard Facility. The perimeter roads do not provide additional access from the AWOS to the Runway 30 approach end. The operator must go back around and utilize the airfield (taxiway and runway system) to reach equipment and facilities located on the east side of the airport. The perimeter roads are depicted on Exhibit 2-2.

2.4 Airspace

The following sections describe the existing airspace conditions, which includes regional airspace, airport air traffic control tower, operations, and navigational aids.

2.4.1 Regional Airspace

The FAA holds jurisdiction of the airspace within the United States. The National Airspace System (NAS) is a complex system which provides for the safe and efficient flow of aircraft in and out of airports across the country. The airspace is divided into various Classes, A through G, which are defined as regulatory controlled airspace. Class A is the most restrictive, while Class G is the least. The Classes vary depending on proximity to an airport and the size of the airport it surrounds. Table 2-7 describes the various levels along with the requirements necessary to enter each type of airspace. These are graphically depicted in Exhibit 2-5.

Exhibit 2-6 shows the regional area airspace, which includes Chicago O'Hare International Airport (ORD) and Chicago/Midway International Airport (MDW). Gary's airspace extends out to a radius of five statute miles from the geographic center of the airport, and up to an altitude of 3,000 above mean sea level (MSL). Although GYY is over 30 miles from ORD, there is an overlap of ORD's airspace with GYY's airspace. A portion of GYY's Class D airspace lies directly below the Class B airspace of ORD. ORD's Class B airspace, which extends out to a radius of 25 statute miles from the Airport's geographic center, and up to 10,000 feet MSL. The proximity to ORD and MDW makes GYY's and the surrounding region's air traffic tightly controlled and coordinated for safety and efficiency. Air Traffic Control personnel coordinate runway usage at ORD, MDW, and GYY; they assign altitude restrictions and flight corridors, which are used to separate air traffic. Three

standard arrival routes (STARS) are used to sequence arriving aircraft into GYY. STARS are used by controllers to simplify aircraft routing and clearance delivery, this helps to ensure a smooth flow of traffic through the Chicago area.

Table 2-7 – Airspace Requirements

Airspace Class	Entry Requirements	Equipment	Minimum Pilot Rating
A	ATC Clearance	IFR Equipped	Instrument Rating
B	ATC Clearance	Two-Way Radio, Transponder w/ Altitude reporting capability	Private Rating
C	Two-Way Radio Communications prior to entry	Two-Way Radio, Transponder w/ Altitude reporting capability	No Specific Requirement
D	Two-Way Radio Communications prior to entry	Two-Way Radio	No Specific Requirement
E	None for VFR	No Specific Requirement	No Specific Requirement
G	None	No Specific Requirement	No Specific Requirement

Source: Federal Aviation Administration; Prepared By: Jacobsen|Daniels, October 2016

Exhibit 2-5– Airspace Diagram

Source: Pilot's Handbook of Aeronautical Knowledge, 2016; Prepared by: Jacobsen|Daniels, October 2016

Exhibit 2-6– Regional Airspace

Source: FAA Chicago Visual Flight Rules (VFR) Sectional, October 2016; Prepared by: Jacobsen|Daniels

2.4.1.1 Instrument Approach Procedures

Instrument approaches are published flight procedures that help guide the pilot to a position where visual contact can be made with the runway and result in a safe landing. Important to these procedures are the approach "minimums", which are the lowest cloud ceiling and visibility required to perform the procedure. Table 2-8 lists the minimums for all of the instrument approaches available at GYY. The first number depicted indicates the decision height in feet above the runway touchdown zone elevation. The second number indicates the lowest the visibility can be reported at the airport in statute miles (sm) or feet, if Runway Visual Range (RVR) equipment is available.

Table 2-8 – GYY Approach Procedures

	Approach Category			
Approach Procedure	**A**	**B**	**C**	**D**
ILS/LOC RWY 30				
S-ILS 30		791' / 2,400'		
S-LOC 30	1,240' / 2400'		1,240' / 2,200'	
RNAV (RNP) Z RWY 30				
RNP 0.13		942' / 1,000'		
RNAV (GPS) Y RWY 30				
LPV		791' / 2,400'		
LNAV		991' / 4,500'		
COPTER ILS/LOC RWY 30				
S-ILS 30		791' / 400'		
S-LOC 30		1,240' / 400'		
RNAV (GPS) Y RWY 12				
LP	1,020' / 1,600'		1,020' / 2,000'	
LNAV	1,060' / 1,600'		1,060' / 2,200'	
RNAV (RNP) Z RWY 12				
RNP 0.13		978' / 1,800'		NA
RNP 0.30		1,056' / 2,200'		NA
RNAV (GPS) RWY 20				
LNAV MDA	1,040' / 1,600'		1,040' / 2,200'	
RNAV (GPS) RWY 2				
LPV DA		901' / 1,600'		
LNAV/VNAV DA		931' / 1,800'		

Source: Federal Aviation Administration; Prepared By: Jacobsen|Daniels, December 2016

2.4.2 Airport Traffic Control Tower

The airport traffic control tower (ATCT) is located south of Runway 12-30 and east of Runway 2-20 (See Exhibit 2-2—Airport Diagram. GYY ATCT is classified by the FAA as a contract tower and operates under visual flight rules (VFR). As a contract tower, the tower's staff members are not FAA employees, but are contractors who are required to follow the same standards as FAA air traffic controllers. The ATCT provides local control (runways), flight data, and ground control (taxiways). The tower's control extends from the surface to 3,000 feet MSL with a 5-statute mile radius from the center of the Airport. Controllers must get permission for IFR departures and clearances from another air traffic control facility, Chicago Air Route Traffic Control Center, also referred to as Chicago Center (ZAU).

The tower has a staff of four individuals who take rotating shifts; only one controller is on duty in the tower each shift except for shift change when two controllers are present. The tower is operational between 5am and 10 pm, seven days per week. Controller eye height is about 65 feet, which is at 662 feet MSL. The

location of the tower provides full views of the runways and taxiways. Controllers have indicated visibility issues for line of sight between the tower and aircraft on the approach to Runway 30 due to on-and off-airport brush.

The tower is very old and in fair to poor condition. Facilities include a small office, bathroom, and small break area, in addition to the tower cab and equipment rooms. Equipment housed in the facility is owned by both the City of Gary and the FAA.

2.4.3 Airport Operations

Airport operations and runway use is determined by a number of factors at GYY, including prevailing winds, airfield layout, and runway length. Aircraft operating from an airport generally need to take off and land into the wind (known as a headwind), in order to reduce takeoff and landing ground roll length. Aircraft can also operate in a crosswind. Use of the runway operating configurations is ultimately limited by the maximum crosswind or tailwind that aircraft can safely handle. Winds beyond these limit operational capabilities and force an aircraft to choose a different runway. At GYY, Runway 12-30 serves as the primary runway for all aircraft operations, which indicates that wind coverage for this runway are prevailing in most cases. It is also the only runway available for jet operations. Light GA aircraft use Runway 2-20 when crosswinds restrict the use of Runway 12-30. Table 2-9 provides a breakdown by operations type at the Airport, from 2011 to 2015.

Table 2-9 – Summary of Annual Airport Operations

Year	Passenger Operations	Cargo	GA[10]	Military	Total
2011	39	133	25,628	2,438	28,238
2012	191	247	26,153	3,086	28,677
2013	185	157	21,016	990	22,348
2014	182	266	19,890	1,691	22,029
2015	89	244	22,915	1,981	25,229

Source: Federal Aviation Administration, GYY Contract Tower – Airport Operations Count Record; Prepared By: Jacobsen|Daniels, October 2016

2.5 Passenger Terminal

The terminal area is on the north side of the Airport property, generally bounded by Airport Road on the north, Taxiway A on the south, Taxiway B on the west, and the B. Coleman FBO facility on the east. The

[10] Includes General Aviation, as well as flights that are not classified in any other category shown.

Terminal Entrance Road extends from Airport Road to the north face of the terminal building, separating the terminal from its adjacent surface parking lot Exhibit 2-6 presents the terminal building floor plan.

The terminal building was constructed in 1982 and in 2001 renovations were made throughout the facility, including the concessions areas and restrooms. Additional expansion projects occurred in later years which added the loading bridges and expanded the baggage handling area. It is a single level facility with exposed roof framing system and fire protection coating. The entry is in the middle of the building and opens to a high-ceiling lobby. The small restaurant is to the left of the entrance, ticketing to the right, and security screening straight ahead. A large sculpture of a canvas glider is suspended from the ceiling of the lobby. The overall facility is approximately 16,665 SF.

The terminal is currently not in use; the last Airline to operate at GYY was Allegiant Airlines with operations ceasing in 2013. Intermittent casino-chartered flights have used the facility as recent as fall of 2015. The terminal building is maintained by the Gary Chicago International Airport Staff. While the terminal does not currently have any tenants or an operating airline, the mechanical, electrical and plumbing systems are monitored and maintained by the GCIAA staff to ensure that no major system failures occur due to the lack of use or unobserved deteriorating conditions

The following sections provide more detail on the various terminal elements.

2.5.1 Gates and Boarding Bridges

The terminal building has three gates and two boarding bridges located on the southeast end of the building. Although there are two bridges, additional aircraft can be accommodated on the ramp. The boarding bridges are in poor condition; there are multiple openings in the structures large enough to allow birds to access the space, and the carpeting is well worn. There is also a collection of poster art provided by a local artist in the loading bridges. The boarding bridges were purchased in used condition over 10 years ago and have fixed cabs; thus, limiting the capacity to accommodate multiple types of aircraft. Entrance to the bridges is from ground level and one of the bridges has stairway access.

2.5.2 Departure Lounges

The secured portion of the terminal post-security is a single large open area. This area is a shared departure lounge, which serves the aircraft gates: two with bridges and an additional ground-loaded gate. There are three gate podiums with counters and back wall/storage. There is seating for up to 100 passengers and the seats are in fair condition. The ceiling slopes, with a minimum height of approximately 18 feet above the lounge floor, with exposed roof structure, which makes the space feel open. Large industrial light fixtures and HVAC ducts are suspended over the area. The exterior walls of the departure lounge and the security screening checkpoint (SSCP) have floor to ceiling windows, allowing an abundance of sunlight to enter at all times. The intensity of the afternoon sunlight may cause issues with glare and temperature; the condition creates a large amount of heat gain and heat loss within these spaces. The terminal has adequate lighting levels that are provided by various types of light fixtures (industrial pendants, recessed cans and

surface mounted). Currently, no amenities are available to passengers within the Departure Lounge. The large open space is utilized at times as a meeting space for various Airport and non-Airport related events.

2.5.3 Check-In

The check-in counters are located to the right of the terminal entrance. Four counters are separated by baggage wells with eight total positions. Airline inserts, for the most part have been removed. Two static display boards on the back wall are available for flight schedule and status information. Checked bags must be manually transferred to the bag well behind the counters, as there is no intake belt. The facilities – fixtures, carpeting and amenities - are worn, and may not meet current ADA or operational requirements.

2.5.4 Baggage Claim

On the west end of the terminal there is one flat plate baggage claim belt with approximately 40 linear feet of presentation frontage. The belt appears to be in fair condition. This area of the terminal is not physically defined from the rest of the west wing. Approximately 10 seats are available for arriving passengers in the baggage claim area.

2.5.5 Baggage Processing

The baggage processing area is a narrow area spanning the south side of the terminal building. It serves both outbound and inbound bags. Personnel doors from the ticket counter and baggage claim area provide access to the baggage room. There are also two other doors opening onto the airside. Roll-up doors at either end may allow a small baggage cart to drive through, but the narrow width of the area would not allow any other activity or equipment (such as baggage screening equipment) to operate simultaneously. Bags are loaded into the area from the ticket counter through four openings onto a short-sloped plate. Baggage screening was done using ETD equipment as no inline system is currently in place. A single flat plate carousel is available for offloading arriving passenger's bags. The carousel doors to the terminal are plywood sheets and not secure. The baggage processing area is constrained and reportedly does not have adequate heating.

Exhibit 2-7- Terminal Building Floor Plan

Source: NGC Corporation; Prepared by: Forms + Funktion, October 2016

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2.5.6 Security Screening Checkpoint

Immediately east of the passenger check-in area are two entries to the departure lounge area in which the security screening checkpoint (SSCP) was staged. The area is a part of the overall departure lounge. Roll-down gates separate the SSCP from the entry area and main corridor and short partitions divide the screening area and departure lounge. A small, partitioned space was at one point used as an office and private screening area. In addition, a small security office is located adjacent to the terminal entrance and is accessible from the lobby. When configured as a checkpoint, the TSA had two lanes for processing passengers, using a walk-through magnetometer and an x-ray. The equipment has since been removed; currently no TSA SSCP equipment is located in the building.

2.5.7 Concessions

There is a single space designated for concessions in the terminal building. As there is no current airline service at the Airport, there is no current tenant in the space. During prior commercial service, the concessions space did not offer retail, and the food/beverage area only provided quick serve options. An exhaust hood and appropriate receptacles would be required for cooking in the space. Currently the concession is accessed on the non-secure side of the terminal, though it could potentially be reconfigured to provide airside access.

2.5.8 Rental Car

Two rental car counters are located across from the baggage claim carousel. The counters occupy approximately 130 sf and have no adjacent office or support space. The counters are branded for Hertz and Enterprise (also branded as Alamo/National) though the counters are not currently utilized due to the lack of air service. Hertz previously provided service during and after commercial flights were scheduled in and out of the Airport.

2.5.9 Airline Support Space

Airline support space includes the space generally leased by the airlines to support their day-to-day operations. These spaces include airline ticket offices, airline operations, and baggage service offices.

The existing building provides two small offices available for airline use, each of these are less than 150 sf. The low voltage infrastructure is outdated and the offices do not have any visibility into the terminal. The finishes and furniture for the spaces are in poor condition. Currently, there is no airline service in the terminal and the support space is unoccupied.

2.5.10 Airport Support Space

Airport support facilities include the support space for the day-to-day operations of the Airport. These functions primarily include space for the GCIAA staff, police, and airport operations. There is one office space available for the airport in the terminal.

2.5.11 Other Tenants

There are currently no other tenants in the terminal building.

2.5.12 Circulation

Public circulation includes the areas of the terminal utilized by people to move through the terminal building. These functions are broken down into two distinct areas: non-secure circulation and secure circulation. Non-secure circulation is the circulation in the terminal building prior to the security screening checkpoint. It includes circulation in the check-in lobby, baggage claim hall, as well as other general circulation connecting other terminal functions. Typically, the primary drivers for non-secure circulation are the size of the check-in lobby and the size of the baggage claim hall.

The existing terminal has approximately 2,000 sf of public circulation. Upon entering the terminal, a large entrance with a hallway welcomes passengers. Ticketing is to the right and security is straight ahead. Both arriving and departing passengers use this hallway, which creates cross traffic going from entry to ticketing then back to the gates, while arriving passengers have to pass the check-in area to reach baggage claim and either reverse to exit through the front entrance or use the exit from baggage claim. The baggage claim exit does not have a vestibule door.

There is very little way-finding signage throughout the terminal, which reinforces a lack of direction or order of circulation for passengers. While the terminal is not very large, the current terminal configuration does not provide or encourage clearly defined or intuitive circulation paths.

2.5.13 Other Public Functions

Other public functions are spaces such as the restrooms or other supporting functions available to the travelling public. Two types of restrooms are distinguished in the terminal building, non-secure restrooms and secure restrooms. Non-secure restrooms are pre-security, whereas secure restrooms are post-security.

Non-secure restrooms generally have a lower volume of passengers and therefore the facilities are typically sized smaller than those in the secure concourses. There are approximately 475 sf of public restrooms on the non-secure side. The women's restroom has 3 toilets and 2 sinks. The men's restroom has 2 toilets, 2 urinals, and 2 sinks.

Secure concourse restrooms typically have a higher passenger load, particularly upon the arrival of an inbound aircraft. This results in the need for additional restroom fixtures and a larger module for restrooms. The existing secure restrooms, while smaller than the non-secure restrooms at 400 sf, provide the same

number of men's fixtures and more women's fixtures. The women's restroom has a total of 5 toilets and 2 sinks. The men's restroom has 1 toilet, 2 urinals, and 2 sinks.

2.5.14 Terminal Support

Terminal support functions are the non-public and building support functions in the existing facility. These areas include non-public circulation, non-public restrooms, maintenance rooms, mechanical, electrical, plumbing, and information technology spaces. Approximately 640 sf is dedicated to terminal support in this building including a mechanical room and janitorial closet.

Utilities available are gas, electric, water and internet services. A forced air heating and cooling system is powered by gas. Air handling units are located at ground level in a fence enclosed area at both the east and west ends of the building. The mechanical supply system is exposed throughout the public spaces of the terminal. The terminal has a standby generator as well, which is located with the air handler units at the west end of the building.

2.6 General Aviation

General aviation operations are aircraft operations not operated by airlines, charter operators, or the military. These operations consist of business, sightseeing, training, recreational, search and rescue, and a variety of other purposes. General aviation at GYY is composed of 3 primary components, 1) Fixed Based Operators (FBOs), 2) Corporate Aviation, 3) Small private general aviation. Error! Reference source not found., shows location for each of the identified general aviation and fixed based operator tenants and the following subsections describe each in more detail.

2.6.1 Gary Jet Center

Gary Jet Center (GJC) is a full service FBO which provides a range of services to its customers from aircraft fueling and maintenance to hangar parking and a multitude of flight crew amenities. GJC serves primarily corporate jet activity. Of their approximately 45 clients, two thirds of their aircraft are jets and one third are turbo props. Additionally, GJC provides fuel and maintenances services to other airport tenants including the Boeing Company and the Indiana Army Air National Guard.

GJC's main building is located east of the T-hangars and is accessible via Airport Road. GJC has four hangars, one of which is subleased to Sage Popovich. Hangar #3 was built and certified LEED Gold by United States Green Building Council. Additional modifications to Hangar #3 are expected to be completed in late 2017 and will add 7,000 square feet of office space.

The apron is considered common-use and is available to all tenants to use on a first come basis. The hangars and apron space available have been sufficient for GJC operations. Customer and employee parking are available adjacent to the facility and are adequate for existing operations. Additional parking is available for

customers inside all hangars on an as needed basis. Table 2-10 depicts general information regarding each of GJC's facilities.

Table 2-10 – Gary Jet Center Facility Usage

Facility	Area (SF)	Function/Usage	Condition
Main Building/Hangar 1	36,000	Hangar, Offices, Conference Rooms, Flight Operations	Good
GJC Hangar 2	40,000	Hangar	Good
GJC Hangar 3	47,000	Hangar, Offices	Good
GJC Hangar 4 (Sage Popovich)	19,250	Hangar, Conference Rooms, Offices	Good

Source: Gary Jet Center Site Visit, September 2016; Prepared By: Jacobsen|Daniels, October 2016

2.6.1.1 Sage Popovich Inc.

One of GJC's hangars, which is located east of their main facility, is sub-leased to Sage Popovich Inc. (SP Inc.). SP Inc. is an aviation consulting firm that specializes in aircraft repossession and parts. The company also has various other business operations such as asset management and charter operations. Their based aircraft consist of a Bombardier Challenger, and a Hawker 800. SP Inc. has also been considering acquiring an additional Hawker jet. Their existing aircraft can park inside the hangar; however additional aircraft may need to be placed outside on the apron. The company has invested $100,000 in clean up and remodeling of the hangar to add and improve office space. However, SP Inc. noted that additional amenities, such as high-speed internet, are not available.

Although parking spaces are not marked alongside the building, there is room for approximately 14 head-in parking spaces for employees, customers, and visitors. According to SP Inc., space is very tight and additional parking is needed. Additional parking is made available for customers as needed by moving vehicles inside the hangar.

2.6.2 B. Coleman Aviation, LLC

B. Coleman Aviation is another full service FBO at GYY which provides services and amenities ranging from catering and fuel to pilot lounges and crew rest areas. The facility, which was constructed in 2013, serves all types of aircraft ranging from small single engine aircraft like Cessna 172 and Cirrus SR22 to larger jet aircraft such as Gulfstream IV and the Falcon 10. Additionally, B. Coleman provides fuel and maintenance services for its customers and manages the six T-Hangars and one private hangar on behalf of the Airport.

The FBO has a number of based aircraft that are housed within its hangars, the list includes; 2 Gulfstream IV's, Falcon 10, Citation II, MU 2, Husky, Piper Malibu, Cessna, Baron, and Duke. Aircraft are seldom parked outside on the apron unless customers are arriving to use the aircraft, or if a customer flies into Gary for a

short trip. Seventy percent of the FBO's operations consist of itinerant aircraft, while only 30 percent are generated by based aircraft.

B. Coleman is located east of the terminal building and is accessible via the airport's terminal access roadway. Customer and employee parking are available next to the facility and are adequate for existing operations. The Airport's primary parking facility, generally used for the passenger terminal, is adjacent to the facility and available as overflow.

The FBO has one main building at the Airport, with a large hangar and three floors of customer service area, operations support, and office space. Table 2-11 provides a breakdown of each hangar, square footage, usage, and condition. The facility also has an 11,500 square foot covered apron adjacent to the airside entrance allowing aircraft to enplane and deplane passengers under cover. The covered apron, which has heating coils in the pavement for melting snow and ice, is used for staging of arriving and departing aircraft.

Table 2-11 – B. Coleman Facility Usage

Facility		Area (SF)	Function/Usage	Condition
Main Building				
	Hangar	20,000	Hangar	Good
	1st Floor	5,000	Terminal, Catering, Conference Rooms, Passenger and Pilot Lounges	Good
	2nd/3rd Floor	10,000	Offices	Good
Covered Apron		11,500	Aircraft Staging	Good

Source: B.Coleman Aviation Site Visit, September 2016; Prepared By: Jacobsen|Daniels, October 2016

2.6.3 The Boeing Company – Executive Flight Operations

The Boeing Company is the world's largest aerospace company and leading manufacturer of commercial jetliners along with defense, space and security systems. The company supports airlines and U.S. and allied government customers in more than 150 countries around the world. The facility at GYY is known as Boeing's Executive Flight Operations (EFO) department. EFO provides safe and efficient travel accommodations for the company's senior executives to locations all across the globe using a fleet of seven aircraft. Boeing's entire EFO fleet is based at GYY; the fleet consists of three Boeing Business Jets (BBJ 1) and four Bombardier Challengers.

The EFO facility is located north of Taxiway A and west of Runway 2-20. The entire facility is owned by the Airport, with a majority leased to Boeing. It consists of a large hangar with two floors of adjoining offices and support space. The hangar door is 53 feet tall, which gives Boeing the ability to accommodate larger aircraft such as their BBJ. The hangar is large enough to accommodate two of the BBJs and all of the smaller jets, so when all aircraft are at GYY – which is seldom – one of the BBJs is parked on the apron. The adjacent space includes staff offices, flight crew rest facilities, scheduling and flight operations offices, and a flight kitchen for catering their flights. Boeing has put a large investment into the facility, and it has been fully

renovated to the company's needs and specifications. A portion of the facility (southwest corner) is currently unleased. This area remains unfinished from the original construction in 2001.

The facility has a deluge fire suppression system. The system's storage tank is located across the employee parking lot from the hangar. Guest and employee parking are available next to the facility in a private lot. Space is generally considered adequate, but tight during peak operation periods. Parking space usage fluctuates based on activity levels at the facility. The space is available on a first come basis with no reserved spots for guests and employees of the company.

2.6.4 NiSource Corporation Services

NiSource Inc. is one of the largest fully regulated utility companies in the United States, serving approximately 4 million customers across seven states through its local utilities: Columbia Gas and NIPSCO (Northern Indiana Public Service Company). The company headquarters is based in nearby Merrillville, Indiana and has its corporate hangar located at GYY. NiSource fleet consists of one jet aircraft, a Cessna Citation Sovereign, and one helicopter, a Bell 206L-IIII Long Ranger. The Airport owns the corporate hangar and leases it to NiSource Inc. The facility is located on the east end of the general aviation apron.

The hangar, built in 1994, meets the current and future needs of the company, with approximately 13,000 square feet of space which consists of hangar, offices, and conference rooms. The high bay space of the hangar could accommodate large aircraft; however, the building width limits the wingspan and therefore size of aircraft that the hangar can accommodate. Aircraft with longer wingspans would need to be parked on the apron.

The facility is accessible on the landside from Airport Road. Employee and guest parking are available adjacent to the facility and are adequate for existing operations. NiSource has 18 reserved spaces for its employees and 23 reserved spaces for its customers. Additional parking is available for guests on an as needed basis.

2.6.5 White Lodging

White Lodging is an industry leading hotel property management company headquartered in nearby Merrillville, Indiana. The company's corporate aircraft fleet is based at GYY. The fleet consists of three jet aircraft: a Cessna Citation CJ3, a Cessna Citation Mustang, and a Dassault Falcon 900 (which is anticipated to be upgraded to a Falcon 7X in 2017-2018). The corporate hangar is located west of the NiSource corporate hangar and is abutting the SP Inc. hangar. It is accessible from Airport Road.

On the landside of the hangar, office space is built out on the second floor over maintenance space below. Employee and guest parking is available adjacent to the facility and guests may also park their vehicles inside the hangar as needed. Parking is considered adequate for existing operations.

2.6.6 Other General Aviation Hangars

The Airport owns six T-Hangar buildings with a total of 45 individual units. The hangars are located midfield between B.Coleman Aviation and Gary Jet Center's Main Building. The t-Hangars are managed by B.Coleman Aviation on behalf of the Gary/Chicago International Airport Authority. The t-hangars house 35 small single engine or multi engine propeller driven aircraft. Table 2-12 provides a summary of each building size, dimensions, and condition. In addition to the T-hangars owned by the Airport, Private Hangar 01 is also located in the same vicinity, and is used for both aircraft, and GSE storage.

Table 2-12 – Other General Aviation Hangars

Name	Area (SF)	Dimensions (Feet)	Condition
Leuwick Hangar 01	12,000	50' x 240'	Good
GYY Hangar 02	4,200	60' x 70'	Good
GYY Hangar 03	9,750	50' x 195'	Good
T-Hangars (B1 & B2)	13,000	50' x 260'	Good
T-Hangars (B3 & B4)	7,800	30' x 260'	Good

Source: GYY Site Visit, September 2016; Prepared by: Forms + Funktion

2.7 Support Facilities

Support facilities include airport administration, airport rescue and firefighting (ARFF), maintenance, and fueling. These facilities support the operations of the airport and tenants. The following sections describe the various support facilities located at GYY. Exhibit 2-2 shows the names and locations of all support facilities and their locations on the Airport.

2.7.1 Administration

The administration office is located immediately west of the Airport's main entrance roadway to the terminal and it is directly connected with the Airport's maintenance facility to the south. The administrative building features a large conference room, office spaces for staff, storage facilities, and break rooms. The Airport's day-to-day administrative and operational functions are accommodated at this facility. The facility has two stories, with a suite of offices and storerooms on the second level. The original building was constructed in 1979 and includes the eastern half of the Maintenance building. Renovations and expansion efforts were made in 2005. The facility is in generally good condition. Parking is adjacent to the facility on the north and east.

2.7.2 Cargo Facilities

There are no dedicated cargo buildings on the existing airport site. Cargo operations are conducted through the FBOs and typically are for manufacturing and industrial companies in the region for just-in-time/on-demand shipment of goods and services.

2.7.3 Aircraft Rescue and Firefighting (ARFF)

The ARFF facility at GYY is located immediately west of the passenger terminal facility, as depicted on Exhibit 2-2. The ARFF occupies the eastern half of the building. Police were located in the western portion of the building which is currently planned for redevelopment as a US Customs and Border Patrol (CBP) facility for GA flights. The ARFF area is approximately 6,839 square feet and consists of three equipment bays, an office, dorms, and break room spaces. The facility is old and is in fair condition. The Airport's 2013 – 2018 Capital Improvement Program (CIP) listed design and construction of a new ARFF in fiscal years 2017 and 2018, however the project was delayed in favor or higher priority needs.

GYY is a Class IV airport, with no scheduled air carriers, but approved for unscheduled large air carrier operations. As such, it is required to meet Index A ARFF coverage. However, based on the Airport's current aircraft rescue and firefighting equipment and agents, GYY ARFF could support Index Group B or C. Table 2-13 provides a summary of the existing equipment and their respective characteristics.

The FAR Part 139 index determination is based on the largest group aircraft that serves the airport with an average of five or more daily departures of scheduled passenger service. Index B includes aircraft of at least 90 feet, but less than 126 feet, in length such as the Gulfstream G500, DC9, B737-700, A-320, and B717. Index C covers aircraft that are at least 126 feet in length, but less than 159 feet. This grouping includes medium narrowbody aircraft such as B737-800, 900 and MAX.

Table 2-13 – ARFF Equipment List

Apparatus	Function	Capabilities		
		Water	Foam[1]	Extinguishing Agent
Rescue 6 Ford F-350	Command Vehicle	n/a	n/a	n/a
Rescue 2 – Oshkosh T1-1500	Primary Rapid Intervention Vehicle	1500 gallons	210 gallons	500 lbs. Halotron
Rescue 3 – Oshkosh Stryker-1500	Primary Rapid Intervention Vehicle	1500 gallons	210 gallons	450 lbs. Purple K

Notes:
1. Aqueous film forming foam agent (AFFF)

Source: GCIAA Rolling Stock Inventory, September 2016; Prepared By: Jacobsen|Daniels

Maintaining an Index classification is dependent not only on the aircraft size, but also on the equipment available to support that aircraft. Based on the FAR Part 139 aircraft rescue and firefighting equipment and agents criteria, GYY ARFF could support up to Index Group C. Index C is required to have one vehicle carrying 500 pounds of dry chemical (sodium based, halon 1211, or clean agent) and two vehicles combined carrying 3,000 pounds of water/foam.

2.7.4 Airport Maintenance

The airport maintenance facility is located between the administration building and GJC Hangar 3. It is directly connected to the administration building by a hallway. The original building was constructed in 1979. It was expanded and renovated in 2005. The building consists of a single story high-bay set of back-to-back metal buildings with four large equipment bays. The facility stores snow equipment, tractors, mowers, pickup trucks, and a snow broom. Offices, maintenance areas, shops, and parts storage areas are situated around the perimeter of the equipment bays. The paved area adjacent to the south side of the facility is also used for equipment and materials storage. The Airport's electrical vault is located adjacent to the south of the storage area, abutting GJC Hangar 3. The existing electrical vault building is planned to be replaced by a new vault connected to the maintenance facility. The maintenance facility and administration parking lot, with 68 shared spaces, runs along the east side of the facility with an entrance to the storage areas, and is contiguous to the administration building parking lot. Table 2-14 provides a summary of the Airport's equipment and their respective characteristics at the time of this inventory.

Table 2-14 - Airport Maintenance Equipment List

GCIA Unit Number	Make	Model/Year	Use
M-1	Ford	F-250/1998	Maintenance/Business
Ops 1	Ford	Explorer/2006	Security/Inspections/Business
M-7	Ford	F-250/2000	Maintenance
M-8	Ford	F-250/2000	Maintenance
M-10	Ford	F-350/2007	Airfield (Urea Dispenser/Plow)
M-11	Ford	F-350/2000	Maintenance/Business
M-13	Chevrolet	Colorado	Maintenance/Business
Truck 17	Osh-Kosh	HB-2516/1994	Airfield Broom
Truck 18	Osh-Kosh	H-2518/1996	Airfield Broom
Truck 19	Osh-Kosh	HB-2518/1994	Airfield Broom
Truck 21	Volvo GM	3306B/1990	Airfield Plow/Dump Truck
Truck 22	Osh-Kosh	HB-2718/1999	Airfield Snow Broom
Truck 25	Osh-Kosh	H-2718B/1999	Airfield Snow Blower
Truck 27	Osh-Kosh	P-2526/1995	Airfield Plow/Spreader
Truck 28	Osh-Kosh	H-2318/1985	Airfield Snow Blower
Truck 29	Osh-Kosh	H-2318/1984	Airfield Snow Blower

GCIA Unit Number	Make	Model/Year	Use
Truck 30	Osh-Kosh	H-2318/1985	Airfield Snow Blower
Truck 31	Osh-Kosh	P2526	Airfield Plow/Spreader
Tractor 33	John Deere	RE258991A/2006	Lawn Maintenance
Tractor 34	Ford	FA315M/1987	Lawn Maintenance
Tractor 37	Ford	FA315M/1987	Lawn Maintenance
Tractor 38	Ford	FA3150/1989	Lawn Maintenance
Tiger-Paw	John Deere	7219/1999	Airside Lawn Maintenance
Hydro-Axe	Not Provided	511E/1992	Airside Lawn Maintenance
Sweeper Truck 39	Elgin	SC8000/2006	Lawn Maintenance
Salt Truck	Volvo GM	Not Provided	Landside
Small Loader	Not Provided	Not Provided	Lawn Maintenance
Fork-Lift	Clark	C500/1977	Facility Use
Zero Turn Mower	John Deere	Z Track 797/2005	Lawn Maintenance
Cheetah 1	Scag	72 Cheetah/2013	Airfield

Source: GCIAA Rolling Stock Inventory, September 2016; Prepared By: Jacobsen|Daniels

2.7.5 Fuel Services

The fuel farm at GYY is located on the north side of the airport along the north perimeter road, adjacent to Gary Jet Center's Hangar #2 as seen in Error! Reference source not found.. The fuel tanks are all above ground. All six are owned by the Airport, two of which are operated by B.Coleman Aviation. The fuel farm contains tanks for Jet A and 100LL aircraft fuel types, as well as two smaller tanks for auto and diesel fuel. In all, the fuel farm contains storage for 120,000 gallons of Jet A and 24,000 gallons of 100LL fuel. Table 2-15 shows the size and type of each of the fuel tanks located at the Airport. Airport fueling operations are handled by the FBO, and are transported across the airport via fuel trucks that are owned and operated by the FBOs. Fuel is delivered via tanker truck through the main terminal/administrative entrance from Airport Road.

Table 2-15 - Fuel Tank Storage

Owner/Operator	Type	Capacity (Gallons)
GCIAA/ Gary Jet Center	Jet A	20,000 (4 Tanks)
GCIAA/ Gary Jet Center	100LL	12,000 (1 Tank)
GCIAA	Diesel	3,000
GCIAA	Auto Fuel	3,000
GCIAA/ B. Coleman Aviation	Jet A	20,000 (2 Tanks)
GCIAA/ B. Coleman Aviation	100LL	12,000 (1 Tank)

Source: Airport Site Visit, Tenant Interviews, September 2016; Prepared By: Jacobsen|Daniels

2.8 Landside and Ground Access

Landside and ground access roadway network provide essential infrastructure between the air and ground transportation modes. This section describes the physical and operational features related to the Airport's regional and terminal area landside and ground access roadway network.

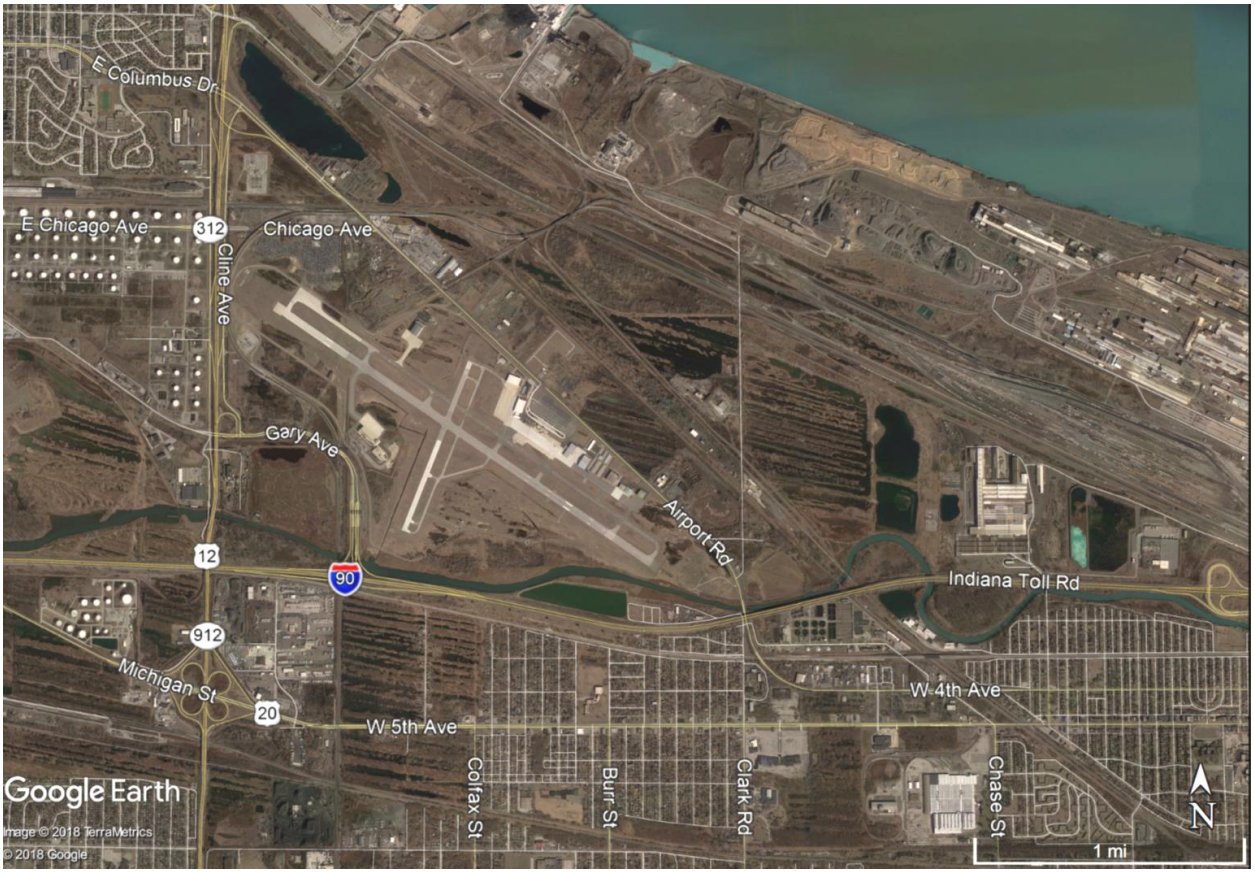
2.8.1 Airport Access Roadway Network

Gary Airport is encompassed by a multimodal transportation hub, including major highways and railroads. The following sections describe the existing roadway network and airport access routes.

2.8.1.1 Regional Roadways

The regional roadways include the freeways, highways and arterials that are primarily used for non-airport trips but also carry airport related traffic. The regional roadway network is shown in Exhibit 2-8.

Exhibit 2-8- Regional Roadway Network



Source: Google Earth, 2018; Prepared by: Jacobsen|Daniels, December 2018

Interstate 90 (Indiana Toll Road)

Interstate 90 (I-90) is a cross-country interstate highway serving major cities such as Seattle, Chicago, Cleveland, Buffalo, Albany and Boston. Throughout Indiana, I-90 follows the Indiana Toll Road. According to the Indiana Department of Transportation Traffic Count Database System (TCDS), in 2015, the Average Daily Traffic (ADT) of I-90 was 40,700 vehicles east of Cline Avenue. I-90's cross-section is 6 lanes and 4 lanes east and west of Cline Avenue, respectively. I-90 connects to the Airport through State Road 912 (Cline Avenue/SR 912) via Gary Avenue.

State Road 912 (Cline Avenue)

SR 912 is a freeway that runs north from Exit 3 of I-90 for approximately four miles, and then south, from the Gary Airport area to Borman Expressway (I-80/I-94/US 6). West of the Airport, its cross-section varies from four to six lanes and the ADT varies between 37,500 north of Chicago Avenue and 47,300 south of Chicago Avenue[11]. The relocation of railroad tracks owned by the EJ&E Railway, a subsidiary of the Canadian National Railroad, led to the reduction of northbound Frontage Road to one lane and to the closure of Chicago Avenue, east of Cline Avenue. Currently, northbound SR 912 traffic connects to Airport Road by Frontage Road via a signalized intersection with yielding eastbound right turn while the southbound traffic connects to Airport Road via an overpass merging ramp. While the airport vehicular traffic can access southbound SR 912 via Airport Road to Cline Avenue East Frontage Road, the access to northbound SR 912 is somewhat less intuitive. Traffic leaving the airport towards northbound SR 912 can only access the northbound on ramp via Airport Road to Cline Avenue East Frontage Road to Guthrie Street/Buffington Harbor Drive. Chicago Ave is permanently closed between Cline and Airport Road.

U.S. Highway 12 (4th Avenue) and U.S. Highway 20 (5th Avenue)

U.S. Highway 12 (US 12) is a principal arterial that provides east-west access across northern Gary. It follows U.S. Highway 20 (US 20) entering Gary on the northwest side, splits from US 20 at Bridge Street, and it becomes a one-way westbound throughout the city. US 12 merges with US 20 again at approximately one mile west of the I-90/I-65 system interchange. US 12 provides three travel lanes with left turn lanes at major intersections. US 20 also provides east-west access across northern Gary and it becomes a three-lane one-way eastbound to complement US 12 throughout the city.

The ADTs are approximately 9,000 vehicles per direction in the one-way segment, and 14,700 vehicles south of the airport area where the two routes are combined. These two routes have a direct connection with the airport through 4th Avenue that continues onto Airport Road.

Airport Road (Industrial Highway) and Airport Access

Airport Road, also identified as Industrial Highway, is an arterial roadway in northwest Gary that provides access between East Chicago and Gary. Airport Road turns into West 4th Avenue at its east end. The main airport entrance is located on Airport Road at a signalized intersection. Airport Road has a four-lane cross-section and an ADT of 11,000 vehicles close to SR 912 (data based on the INDOT Year 2009 TCDS). The

[11] Data based on the Indiana Department of Transportation, Transportation Traffic Count Database System, 2015

pavement condition was described as between poor and fair, with seasonal potholes. Rehabilitation work is scheduled to start in 2017. The project length is approximately 1.5 miles, with the southeast and northwest limits extending 1 mile and 0.5 mile, respectively from the airport main access. The project scope includes removing the existing pavement, improving the subgrade, and new asphalt paving application.

State Route 312 (Chicago Avenue)

SR 312 is an east-west arterial that connects SR 912 (Cline Avenue) with the City of East Chicago. It has a 4 lane cross-section and it carries an ADT of 6,400 vehicles west of SR 912 (INDOT Year 2015 TCDS). Chicago Avenue used to extend to Airport Road but now it ends east of Cline Avenue due to the railroad relocation for the runway extension.

Clark Road

Clark Road is a local road that intersects Airport Road approximately 0.15 miles north of I-90, merges with Airport Road for a short 0.17 mile stretch and continues south for 4 miles ending at Ridge Avenue. The north leg provides access to the industrial developments along the lake and the south leg provides access to the NITCD South Shore Line. Clark Road has one lane in each direction and runs north-south east of the airport and east-west north of the airport.

2.8.1.2 Key Roadway Intersections

There are several key signalized and un-signalized intersections in the vicinity of the airport that impact the area traffic as depicted in Exhibit 2-9.

Airport Road (Industrial Highway) and Airport Entrance Road

This is a signalized intersection. Airport Road has two through lanes in each direction with no dedicated turn lanes at Airport Entrance Road. However, an exclusive left turn signal phase is provided for the northwest bound traffic into the Airport. Traffic exiting the Airport has one dedicated left and one dedicated right turn lane.

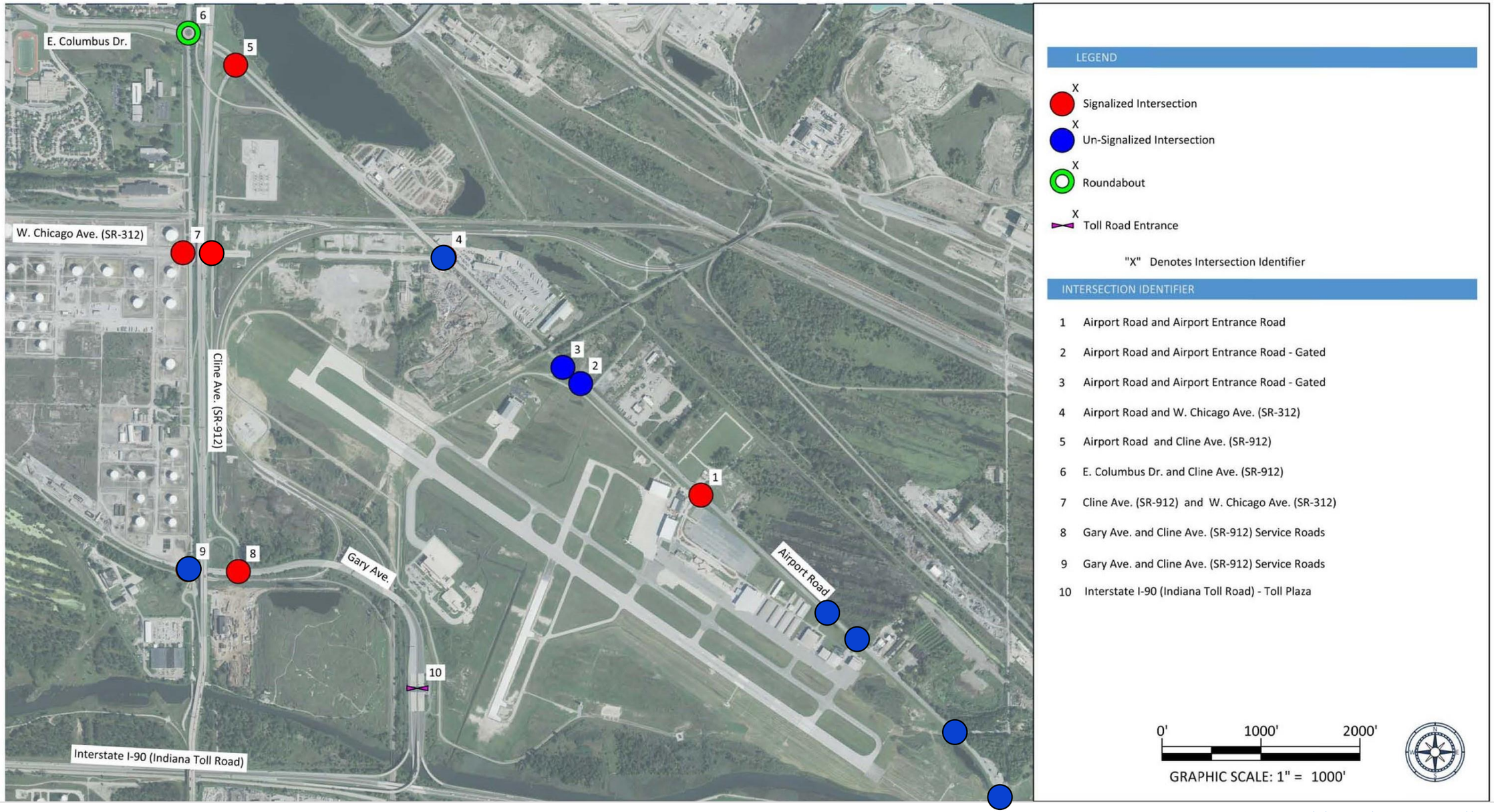
Airport Road (Industrial Highway) and Chicago Avenue

This is an un-signalized T-intersection. Airport Road has two through lanes in each direction. Chicago Avenue is stop-controlled and has one lane in each direction. At its intersection with Airport Avenue, Chicago provides one exclusive left and one exclusive right turn lanes. The traffic using Chicago Avenue in this area is limited to the businesses and customers along the short section of roadway east of the railroad.

Airport Road (Industrial Highway) and Northbound Cline Frontage Road

This is a T signalized intersection. The northwest and southeast approaches have two through lanes each. The northeast approach is one-way and its two through lanes become left turn lanes at the intersection towards the northwest bound Airport Road. The right turn is channelized and yields to the southeast bound through traffic.

Exhibit 2-9– Key Airport Access Intersections



Source: Aerial photography 2016;. Prepared by: AES

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Airport Road/Columbus Drive and Cline Avenue

Airport Road becomes Columbus Drive in East Chicago and it connects to Cline Avenue West Frontage through a newly constructed roundabout. The north leg of the West Frontage Road is a two-way street, has two lanes in each direction and it provides access to Buffington Harbor Drive/Guthrie Street and to northbound Cline Avenue via Buffington Harbor Drive. The south leg of West Frontage is one-way southbound and its two lanes provide access to southbound Cline Avenue, Chicago Avenue and to I-90 via Gary Road.

Chicago Avenue and Cline Avenue Frontage Roads

Chicago Avenue (SR 312) connects to Cline Avenue (SR 912) via two closely spaced signalized intersections. Chicago Avenue provides two through lanes in each direction and exclusive left turn lanes at the Frontage Roads. The East and West Cline Frontage Roads are two-lane one-way streets and they also provide exclusive U-turn lanes north and south of SR 312. The east leg is currently a dead-end leg.

Gary Road and Cline Avenue Frontage Roads

Gary Road is a local road that connects Cline Avenue with I-90 via four junction ramps. Gary Road provides two lanes in each direction between Cline Avenue and I-90 and one lane in each direction west of Cline Avenue.

The intersection of Gary Road with East Frontage Road is signalized. The eastbound traffic has two through lanes and an exclusive left turn lane with an exclusive left turn phase. The westbound traffic has two through lanes and a channelized right turn lane. The southbound traffic is generated by the one-lane northbound Cline Avenue loop ramp that flares to an exclusive left and an exclusive right turn lane the intersection. The north leg of the intersection has a wide landscaped median separating the two directions of traffic.

The intersection of Gary Road with West Frontage Road is 4-Way stop controlled. While the north leg is one-way southbound, the south leg of the intersection is two-ways and it connects with Dewey Street.

2.8.2 Terminal Access and Curbfront

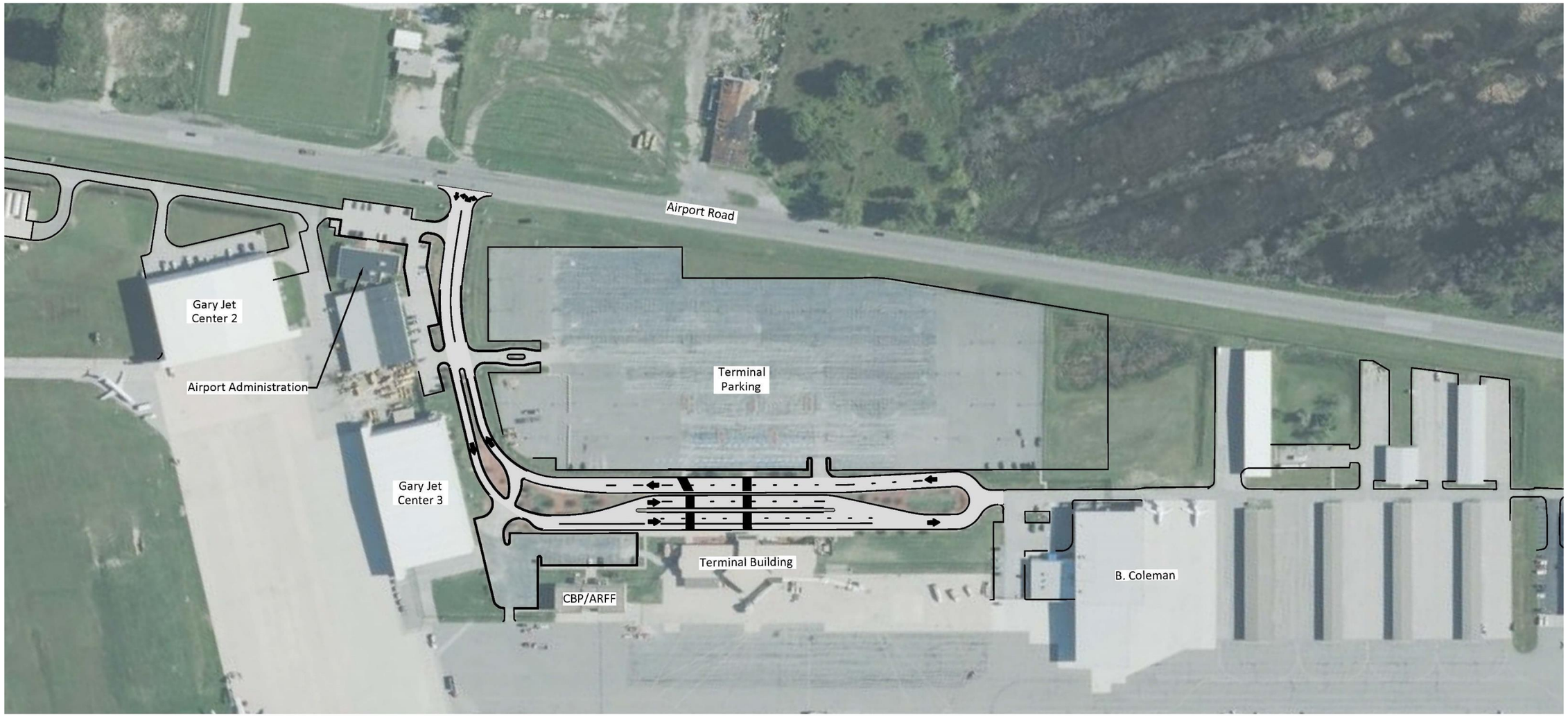
The GYY terminal and curbfront are accessed via one entrance/exit at the signalized intersection with Airport Road as depicted in Exhibit 2-10. Access is comprised of one entrance lane and two exit lanes, all of which are 12 feet wide. As the roadway approaches the terminal it splits between a three-lane inner curb and a two-lane outer curb. The inner curb, closest to the terminal, is approximately 400 feet long; the outer curb is approximately 375 feet long. The inner curb roadway has three, eleven-foot lanes. Two are used for through traffic and the closest lane to the terminal used for passenger pick-up and drop-off. The outer curb roadway has two, twelve-foot lanes and is used for commercial vehicles. There are two crosswalks between the passenger parking lot and the terminal. Traffic exiting the terminal makes a 180-degree turn and flows back towards the exit to Airport Road. There are two entrances to the terminal parking lot from the Airport Entrance Road: one prior to approaching the terminal and the other on the

outbound lanes just past the terminal curb front. The terminal access road also provides access to B. Coleman located southeast of the terminal building.

2.8.3 Parking

Exhibit 2-11 shows the parking lots serving employees, tenants, and the public. The surface lot adjacent to the terminal was used for public passenger parking and was expanded in 2001 to have 1,100 spaces. There is no separation between short- and long-term parking. This lot currently serves as overflow for other Airport functions. B. Coleman uses approximately 100 spaces in the terminal parking lot. Table 2-16 lists the number of parking spaces for each facility.

Exhibit 2-10- Terminal Access Roadway



Source: 2016 Gary Chicago International Airport Aerial; Prepared by: Jacobsen|Daniels

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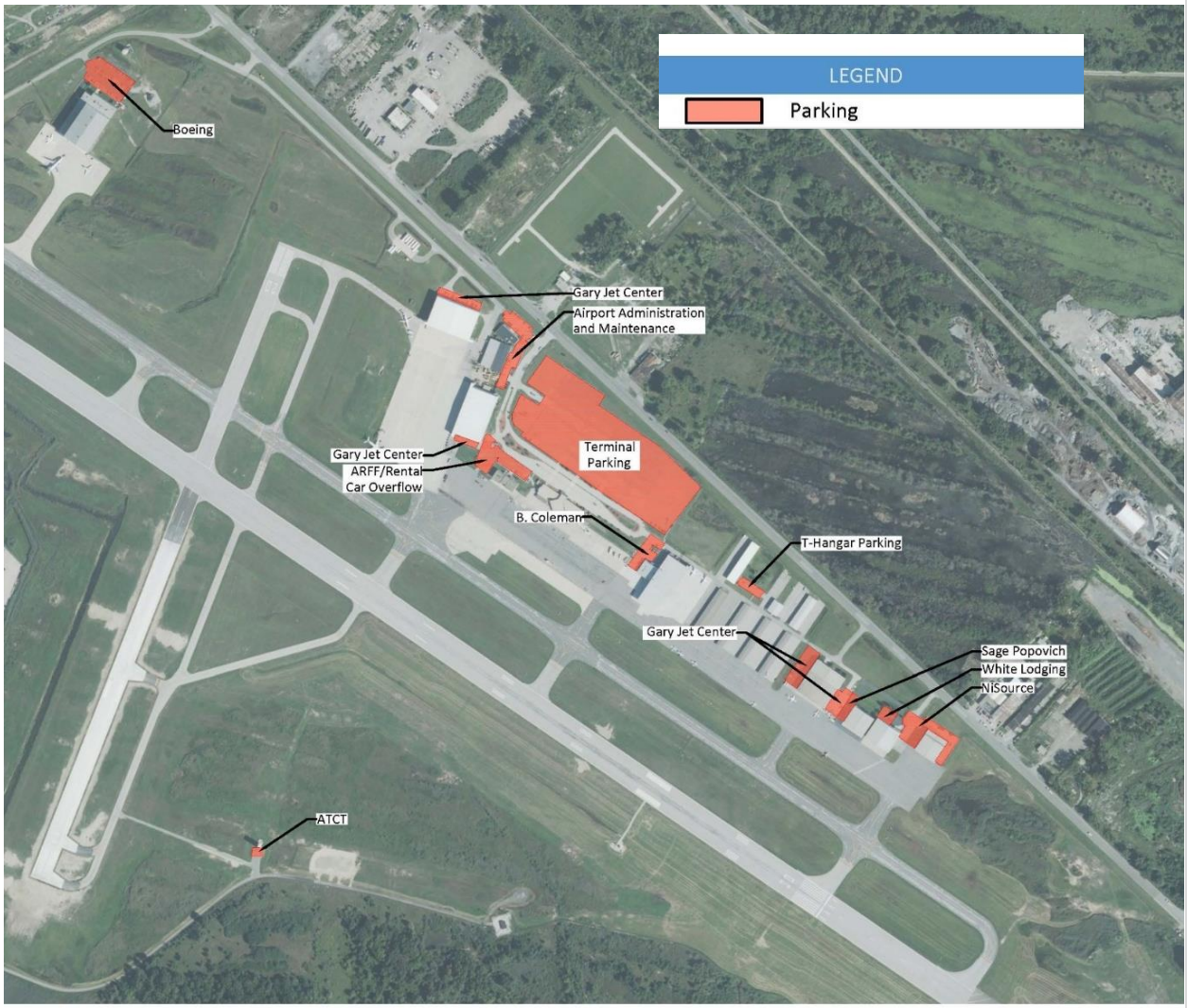
Exhibit 2-11– Airport/Tenant Parking Locations



Source: 2016 Gary Chicago International Airport Aerial; Prepared by: Jacobsen|Daniels, October 2016

Table 2-16 - Airport Parking Summary

Facility	Number of Spaces
Airport Administration and Maintenance	64
ARFF[12]	68
ATCT	7
B. Coleman	190
Boeing Company	67
Gary Jet Center (Main Bldg.)	53
Gary Jet Center Hangar 2	21
Gary Jet Center Hangar 3[13]	8
Gary Jet Center (Sage Popovich)	14
NiSource	41
Terminal Parking	950
T-Hangar Parking	12
White Lodging	13

Source: Google Earth Aerial Imagery, October 2016;, Prepared by: Jacobsen|Daniels, December 2016

2.8.4 Rental Car Facilities

Currently, rental car operations are coordinated through the Gary Jet Center and B.Coleman Aviation. The services are available to their customers on an as needed basis through agreements set up between the FBOs and the rental car agencies. The agreements allow Enterprise Rent-A-Car and Hertz to provide their services to the FBO. The FBO acts as a liaison between the customer and rental car agency to simplify the logistical component of renting a vehicle. In some cases, the FBO staff may provide fueling and cleaning for quick turn-around of rental vehicles. Under this arrangement, the rental cars are delivered to the FBOs and stored in their parking areas until pick-up. Returned cars are dropped at the FBOs and then retrieved by the rental car companies. For special events such as annual NASCAR races, in which a large number of cars are rented, ready and return rental cars may be staged in the terminal parking lot and lot adjacent to the ARFF Station.

Prior rental car agreements included leases with two companies, each with 47.6 square feet of operating space in the terminal and 24 designated parking spaces in the terminal parking lot.

[12] ARFF facility uses no more than 10 parking positions at any given time, they include parking for the fire chief, firefighters, medical and emergency response parking, and guest parking. Additional parking is unused but is used on an as needed basis by the airport when space is required for special events (i.e. NASCAR overflow rental car parking).
[13] Gary Jet Center Hangar 3 is scheduled for expansion to the south to make room for office spaces. Parking counts will change as a result.

2.8.5 Public Transportation

The Airport is accessible through multiple public transportation methods. The Gary Public Transportation Corporation (GPTC) operates bus service in Northwest Indiana. The local network of routes that GPTC provides to Gary and the regional network, which reach Calumet Township, Crown Point, East Chicago, Griffith, Hammond, Hobart, and Merrillville, make travel to and from the airport accessible to employees and passengers who live within the route network. The stop is located at the signalized intersection at Airport Road and the Terminal Access Road, and the bus can also pick up and drop off passengers at the terminal building by request.

Rail service to the region also expands the reach of easily accessible public transportation options to employees and customers. The Northern Indiana Commuter Transportation District operates the South Shore Line train with service from Millennium Station in Chicago, Illinois through the Gary area continuing east and ending at South Bend International Airport, in South Bend, Indiana. As a courtesy service to customers, B. Coleman Aviation provides shuttle service to and from the train station located at the intersection of Clark Ave and West 2nd Ave (approximately 1 mile from the Airport), which is a flag stop on the line.

2.9 Utilities and Storm Water Drainage

This section outlines the existing utilities serving the Airport. The purpose is to understand what utilities can support additional development as well as constraints or relocations, if any, that would be required as a result of the recommended development plan. There are various utility easements within the airport. Exhibit 2-12 provides an overview of utility information and their location relative to the airport environment.

Following utilities are recorded in the existing archive data received from GYY:

- Electric
- Communications/Fiber Optic
- Gas
- Water
- Stormwater
- Sanitary Sewer

2.9.1 Electric

The Airport electrical services are currently provided by NIPSCO. The electric main feed for the Airport is from the substation located at about ½ mile northwest corner of Runway 12-30, which was reconstructed with the runway extension. Distribution power lines are both above and below

ground, and generally 3-phase 34 KV. The substation is powered with 138 KV coming from the north.

2.9.2 Communication/Fiber Optic

Services are available to the areas along Airport Road; however, access to high capacity broadband to and at the airport is limited.

2.9.3 Gas

The Airport gas services are currently provided by NIPSCO through mains along the eastern portion of the Airport. A 6-inch gas main runs in the pavement along Airport Rd. and is tapped with a 2" main at the entrance drive to the parking lot from Airport Rd. to service the buildings.

2.9.4 Water

The Airport water services are currently provided by Indiana American Water via a 12-inch water main along Airport Road.

2.9.5 Stormwater

The Airport's 993-acres are divided into five storm water drainage areas. The facility's five outfalls discharge to the Grand Calumet River, located south of the facility.

Outfalls 001, 002, 003 and 004 are located along the southern boundary of the facility and receive storm water runoff from majority of the facility. Outfall 00A3 is an internal outfall upstream of Outfall 003. Surface drainage from these areas generally flow from north to south and into the storm water drainage system, which consists of piping and open ditches. Outfall 005 is located in the northwestern portion of the facility. Section 2.10.14 provides more information about floodplains and floodways at the Airport.

The governing body for stormwater in the City of Gary is the Gary Stormwater Management District (GSWMD). The GSWMD Stormwater Ordinance requires runoff storage facilities to be designed for a 100-year return interval and a release rate of 0.18 cfs per acre. The Stormwater Ordinance also requires that the required storage volume for watersheds larger than 25 acres shall be computed by manual storage routing methods or computer modeling methods.

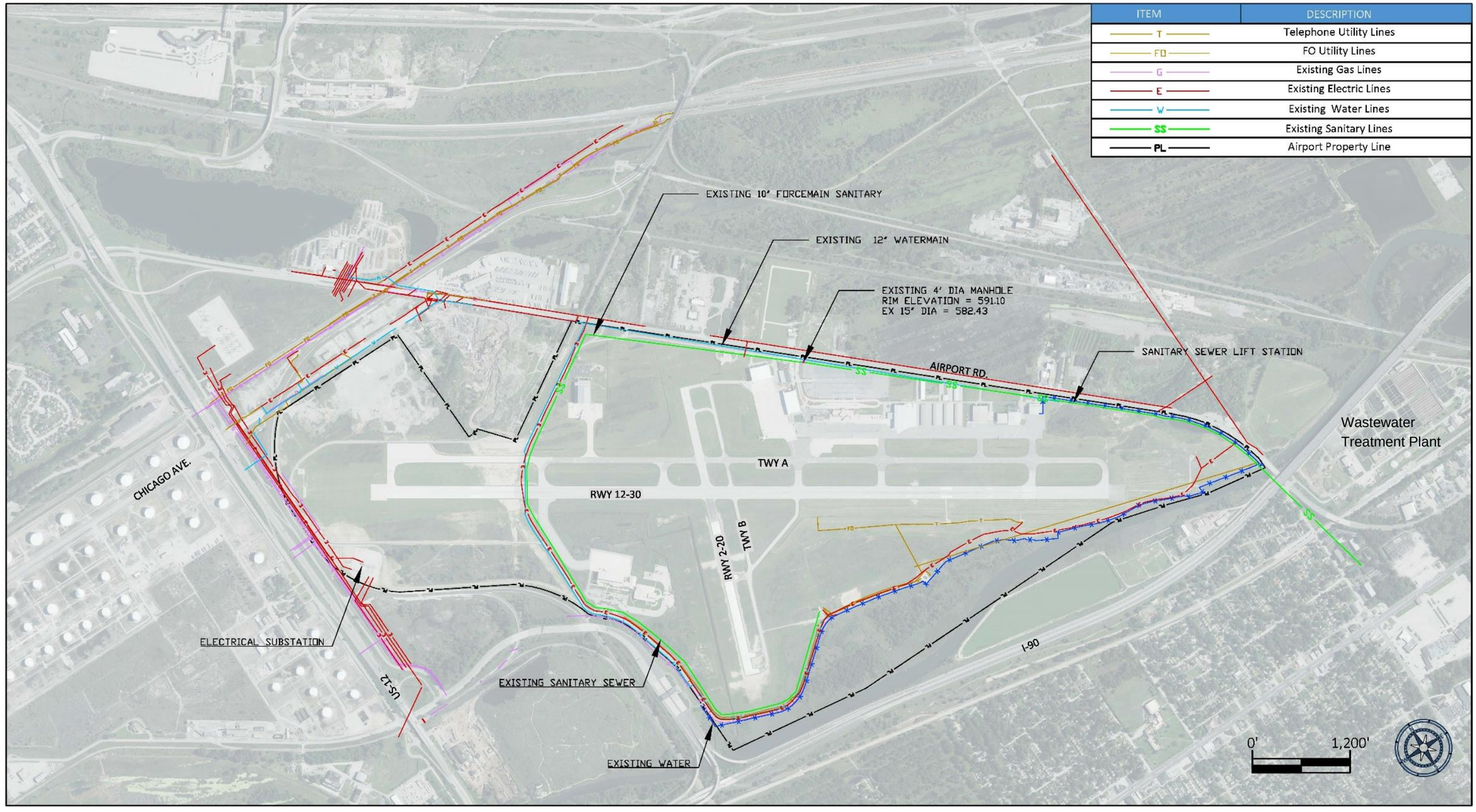
2.9.6 Sanitary Sewer

Sanitary wastewater and indoor floor drains discharge to Gary Sanitary District, the local Publically-Owned Treatment Works (POTW)[14]. Drainage from the Deicing Pad also drains to the Sanitary District. The Sanitary Sewer flows out of the facility through a 15-inch diameter pipe to Airport Rd. (U.S. 12) and outfalls to a 4-foot diameter manhole located in the south-east corner of the entrance drive to the terminal. Flow is then conveyed to the 60 million gallons per day wastewater treatment plant located just south of the Grand Calumet River and Indiana Toll Road, off of Airport Road and W 3rd Avenue.

A 10-inch sanitary forcemain serving the Buffington Harbor Casino Resort runs along the south side of Airport Road and flows east. The force main elevation is approximately 584.9 (+/-).

[14] Storm Water Pollution Prevention Plan – SWPP, AECOM, February 2016.

Exhibit 2-12– Existing Airport Utilities



Source: 2016 Gary Chicago International Airport Aerial; Prepared by: AES, October 2016

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2.10 Environmental Conditions

The purpose of considering environmental factors in airport master planning is to assist GCIAA in evaluating current environmental conditions and future airport development, as well as providing information that will help expedite subsequent environmental processing. FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures*, and FAA Order 5050.4B, N*ational Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*, are the FAA's environmental guidance for aviation projects/actions to comply with NEPA. It is important to note that the environmental analysis included in this Master Plan Update is not, in and of itself, a NEPA document.

FAA Order 1050.1F identifies the following environmental impact categories:

- Air Quality
- Biological Resources
- Climate
- Coastal Resources
- Department of Transportation Act, Section 4(f) Resources
- Farmlands
- Hazardous Materials, Solid Waste, and Pollution Prevention
- Historical, Architectural, Archeological, and Cultural Resources
- Land Use
- Natural Resources and Energy Supply
- Noise and Noise-Compatible Land Use
- Socioeconomics, Environmental Justice, and Children's Environmental Health and Safety Risks
- Visual Effects
- Water Resources (including Wetlands, Floodplains, Surface Waters, Groundwater, and Wild and Scenic Rivers)

Results of the environmental conditions inventory are summarized in this chapter. The full report is Appendix A of the Master Plan.

2.10.1 Air Quality

Responsibility for protecting and improving the nation's air quality rests with the U.S. Environmental Protection Agency (USEPA). Section 109 of the Clean Air Act establishes National Ambient Air Quality Standards (NAAQS) to protect public health and environmental welfare. The USEPA identifies the following six criteria pollutants for which NAAQS apply: carbon monoxide, lead, nitrogen dioxide, ozone, particulate matter, and sulfur dioxide. The USEPA considers geographic areas that are in violation of one or more NAAQS nonattainment areas. Section 110 of the Clean Air Act requires states with nonattainment areas to develop a state implementation plan (SIP) that demonstrates how the area will reach attainment of the NAAQS within a specific timeframe.

According to the Indiana Department of Environmental Management (IDEM), the Airport property is located in a nonattainment area (Lake County) for the 2008 8-hour ozone standard.[15]

Partial preliminary ozone monitoring data for 2014-2015 indicates that the nonattainment area is above the 2009 standard. IDEM is beginning to prepare an attainment demonstration and technical support document for Lake County. The Airport is also in a maintenance area for carbon monoxide, particulate matter, and sulfur dioxide.[16] IDEM has redesignation and maintenance plans in place for Lake County for those pollutants.

2.10.2 Biological Resources

Biological resources include terrestrial and aquatic plant and animal species; game and non-game species; special status species; and environmentally sensitive or critical habitats. Provisions have been set forth in NEPA for the protection of biological resources.

Although the Endangered Species Act does not protect state-protected species or habitats, NEPA documentation ensures that environmental analysis prepared for airport actions addresses the potential effects to state-protected resources.

Habitat characteristics of the Airport property are primarily cleared or developed areas (e.g., terminal, hangars, runways, roads, parking, etc.). The developed areas of the Airport, aside from the airfield development (e.g., runways and taxiways) are mostly in the northeast portion of the Airport property. The undeveloped land around those areas has been primarily cleared of dense vegetation. Airport personnel regularly mow and maintain grasses in these areas. There is a rare dune and swale ecosystem around the Airport that is unique to Northwest Indiana and considered a globally threatened habitat.[17] This ecosystem consists of upland dune ridges alternating with low-relief wetlands. There are ditches that run through the cleared/grassland areas that are part of the Airport's stormwater management system. The dune and swale ecosystem is considered an important ecosystem for wildlife species and over 60 protected species have been previously observed in the area.[18]

The Authority has a Wildlife Hazard Management Plan in place at the Airport, which addresses the responsibilities, policies, and procedures necessary to reduce wildlife hazards at the Airport.[19] The Wildlife Hazard Management Plan includes habitat management as a way to reduce wildlife hazards on, or near, the Airport. The long-range goal is to actively reduce attractive wildlife habitat on property under the

[15] IDEM. (2016, September 9). *Current Nonattainment Areas*. Retrieved September 2016, from Nonattainment Status for Indiana Counties: http://www.in.gov/idem/airquality/files/nonattainment_areas_map.pdf
[16] IDEM. (2016, September 13). *Current and Historical List of Nonattainment Areas by County*. Retrieved September 2016, from Nonattainment Status for Indiana Counties: http://www.in.gov/idem/airquality/files/nonattainment_county_list.pdf
[17] Cardno JFNEW. (2012, December 20). *Gary Airport Conservation and Economic Development Plan, Lake County, Indiana*. Walkerton : Cardno JFNew.
[18] Cardno JFNEW. (2012, December 20). *Gary Airport Conservation and Economic Development Plan, Lake County, Indiana*. Walkerton : Cardno JFNew.
[19] Gary/Chicago International Airport Authority. (2005, June 9). *Gary/Chicago International Airport Certification Manual, Exhibit 14, Wildlife Hazard Management Plan*. Gary : Gary/Chicago International Airport Authority.

control of the Authority. The Authority is currently coordinating with the U.S. Department of Agriculture to update the Wildlife Hazard Assessment and Wildlife Hazard Management Plan.

2.10.3 Climate

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

Research has shown there is a direct correlation between fuel combustion and GHG emissions. In terms of U.S. contributions, the Government Accountability Office reports that "domestic aviation contributes about three percent of total carbon dioxide emissions, according to [US]EPA data," compared with other industrial sources, including the remainder of the transportation sector (20%) and power generation (41%).[20] The International Civil Aviation Organization estimates that GHG emissions from aircraft account for roughly three percent of all anthropogenic GHG emissions globally.[21]

2.10.4 Coastal Resources

The Coastal Zone Management Act and the National Oceanic and Atmospheric Administration provide procedures for ensuring that an action is consistent with approved coastal zone management programs. The DNR manages the Indiana Lake Michigan Coastal Program. The Indiana Lake Michigan Coastal Program is based on a watershed approach; the boundary for the program includes areas that drain into Lake Michigan.[22] The Airport is within the inland program boundary of the Indiana Lake Michigan Coastal Program.[23] The closest Coastal Barrier Resources System unit, Sadony Bayou (Unit MI-22), is about 130 miles northeast of the Airport.[24]

[20] U.S. Government Accountability Office. (2009). *Aviation and Climate Change: Aircraft Emissions Expected to Grow, but Technologicals and Operational Improvements and Government Polices Can Help Control Emissions.* Washington, DC: GAO. Retrieved February 2016, from http://www.gao.gov/news.items/d09554.pdf

[21] Melrose, A. (2010). European ATM and Climate Change Adaptation: A Scoping Study. In ICAO Environmental Branch, *ICAO Environmental Report 2010: Aviation and Climate Change* (pp. 195-198). Montreal: ICAO. Retrieved June 2016, from http://www.icao.int/environmental-protection/Documents/Publications/ENV_Report_2010.pdf

[22] DNR. (2016). Coastal Program Area. Retrieved September 2016, from Programs Information: http://www.in.gov/dnr/lakemich/6039.htm

[23] DNR. (2002, April). *United States Department of Commerce Combined Coastal Program Document and Final Environmental Impact Statement for the State of Indiana*. Retrieved September 2016, from History of Indiana Coastal Program Development: http://www.in.gov/dnr/lakemich/files/feis-i-iich1-4.pdf

[24] USFWS. (2016, May 6). *Coastal Barrier Resources System Mapper*. Retrieved September 2016, from Coastal Barrier Resources Systems: http://www.fws.gov/CBRA/Maps/Mapper.html

2.10.5 Department of Transportation Act, Section 4(f) Resources

The USDOT Act, Section 4(f) provides that no project that requires the use of any land from a public park or recreational area, wildlife and waterfowl refuge, or historic site be approved by the Secretary of the Interior unless there is no viable alternative and provisions to minimize any possible harm are included in the planning. Similarly, the LWCF Act prevents the conversion of lands purchased or developed with LWCF funds to non-recreation uses, unless the Secretary of the Interior, through the National Park Service, approves the conversion. Conversion may only be approved if it is consistent with the comprehensive statewide outdoor recreation plan in force when the approval occurs. Additionally, the converted property must be replaced with other recreation property of reasonably equivalent usefulness and location, and at least equal fair market value.

The closest Section 4(f) property to the Airport is Ivanhoe Nature Preserve, about 3,000 feet south of the Airport.[25] Other Section 4(f) properties near the Airport are Brunswick Park (southeast of the Airport), Gibson Woods Nature Preserve (southwest of the Airport), Washington Park (northwest of the Airport), and Sunnyside Park (northwest of the Airport), all about 2 miles away.[26] Gibson Woods Nature Preserve is also the closest LWCF site to the Airport.[27] See the Historic, Architectural, Archaeological, and Cultural Resources section for a description of historic resources at and around the Airport.

2.10.6 Farmlands

Farmlands are agricultural areas that are considered important and protected by federal, state, and local regulations. Important farmlands can include all pasturelands, croplands, and forests considered prime, unique, or of statewide or local importance.

According to the Natural Resources Conservation Service (NRCS) Web Soil Survey, a majority of the Airport property is urban land. There are areas with Adrian muck (0 to 1 percent slopes) that the NRCS classifies as farmland of statewide importance.[28] The 2010 U.S. Census identifies the entire Airport property as an "urbanized area."[29] Under Section 523(10)(B) of the Farmland Protection Policy Act, land identified as urbanized areas on U.S. Census Bureau maps are not subject to the provisions of the Farmland Protection Policy Act. Therefore, there are no prime, unique, state, or locally important farmland soils on the Airport property.

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[25] The Nature Conservancy. (2016). Indiana Ivanhoe Dune & Swale. Retrieved October 2016, from Indiana: http://www.nature.org/ourinitiatives/regions/northamerica/unitedstates/indiana/placesweprotect/ivanhoe-dune.xml
[26] Lake County. (2014). 2014-2018 Lake County Parks and Recreation Master Plan. Retrieved October 2016, from Lake County Parks: http://www.lakecountyparks.com/pdf_documents/LCPRD%20Open%20Space%20Plan%201_109.pdf
[27] NPS. (2016). Lake County Indiana. Retrieved October 2016 from Detailed Listing of Grants Grouped by County: http://waso-lwcf.ncrc.nps.gov/public/index.cfm
[28] NRCS. (2016, September). *Soil Data Explorer*. Retrieved September 2016, from Web Soil Survey: http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx
[29] U.S. Census Bureau. (2010). *2010 Census Urban Area Reference Map Chicago, IL-IN*. Retrieved October 2016, from The U.S. Census Bureau: http://www2.census.gov/geo/maps/dc10map/UAUC_RefMap/ua/ua16264_chicago_il--in/DC10UA16264.pdf

2.10.7 Hazardous Materials, Solid Waste, and Pollution Prevention

In a regulatory context, the terms "hazardous wastes," "hazardous substances," and "hazardous materials" have very precise and technical meanings as described in Appendix A.

Aircraft fuel constitutes the largest quantity of hazardous substances stored and consumed at the Airport. The USEPA does not identify any hazardous waste sites under Resource Conservation and Recovery Act (RCRA) at or around the Airport.[30] According to the USEPA, there is a National Priorities List site, Midco II, north of the Airport.[31] Midco II includes a seven-acre disposal area with contaminated groundwater and an additional four acres of contaminated sediments and additional groundwater contamination. The USEPA continuously monitors groundwater and is conducting the final phase of site cleanup.[32]

There are no open landfills in Lake County.[33] There is a closed landfill directly west of the Airport, located east of State Road 912 and north of the Grand Calumet River. This land remain undeveloped since the landfill was closed. Solid waste from Lake County is transferred to Liberty Landfill and Newtown County Landfill. Based on the most recent USEPA data, Liberty Landfill is not expected to reach capacity until 2029 and Newton County Landfill is not expected to reach capacity until 2050.[34]

2.10.8 Historical, Architectural, Archeological, and Cultural Resources

The National Historic Preservation Act (NHPA) (54 U.S.C. §§300101 et seq.) establishes the Advisory Council on Historic Preservation (ACHP). The ACHP oversees federal agency compliance with the NHPA. The NHPA also established the National Register of Historic Places (NRHP), which the National Park Service (NPS) oversees.

The closest NRHP-listed resource is the West Fifth Avenue Apartments Historic District, about two miles southeast of the Airport.[35] The closest Indiana historical marker is the St. John's Lutheran Church Tolleston,

[30] USEPA. (2016). *NEPAssist*. Retrieved October 2016, from https://nepassisttool.epa.gov/nepassist/nepamap.aspx?wherestr=gary%2C+indiana
[31] USEPA. (2016). *Cleanups in My Community*. Retrieved October 2016, from https://ofmpub.epa.gov/apex/cimc/f?p=CIMC:73::::71:P71_WELSEARCH:IN%7CState%7CMI%7C%7C%7Ctrue%7Ctrue%7Ctrue%7Ctrue%7Ctrue%7C%7C-1%7Csites%7CN%7Cbasic
[32] USEPA. (2016, September 17). *EPA Superfund Program: MIDCO II, Gary, IN*. Retrieved October 2016, from USEPA: https://cumulis.epa.gov/supercpad/cursites/csitinfo.cfm?id=0501800
[33] USEPA. (2016, July). Landfill-level data. Retrieved October 2016, from Landfill Gas Energy Project Data and Landfill Technical Data: https://www.epa.gov/lmop/landfill-gas-energy-project-data-and-landfill-technical-data#states
[34] USEPA. (2016, July). Landfill-level data. Retrieved October 2016, from Landfill Gas Energy Project Data and Landfill Technical Data: https://www.epa.gov/lmop/landfill-gas-energy-project-data-and-landfill-technical-data#states
[35] USEPA. (2016). *NEPAssist*. Retrieved October 2016, from https://nepassisttool.epa.gov/nepassist/nepamap.aspx?wherestr=gary%2C+indiana

about two miles southeast of the Airport.[36] No archaeological sites were recorded in the northwest and southeast portions of the Airport during the 2004 Environmental Impact Statement for the Airport.[37]

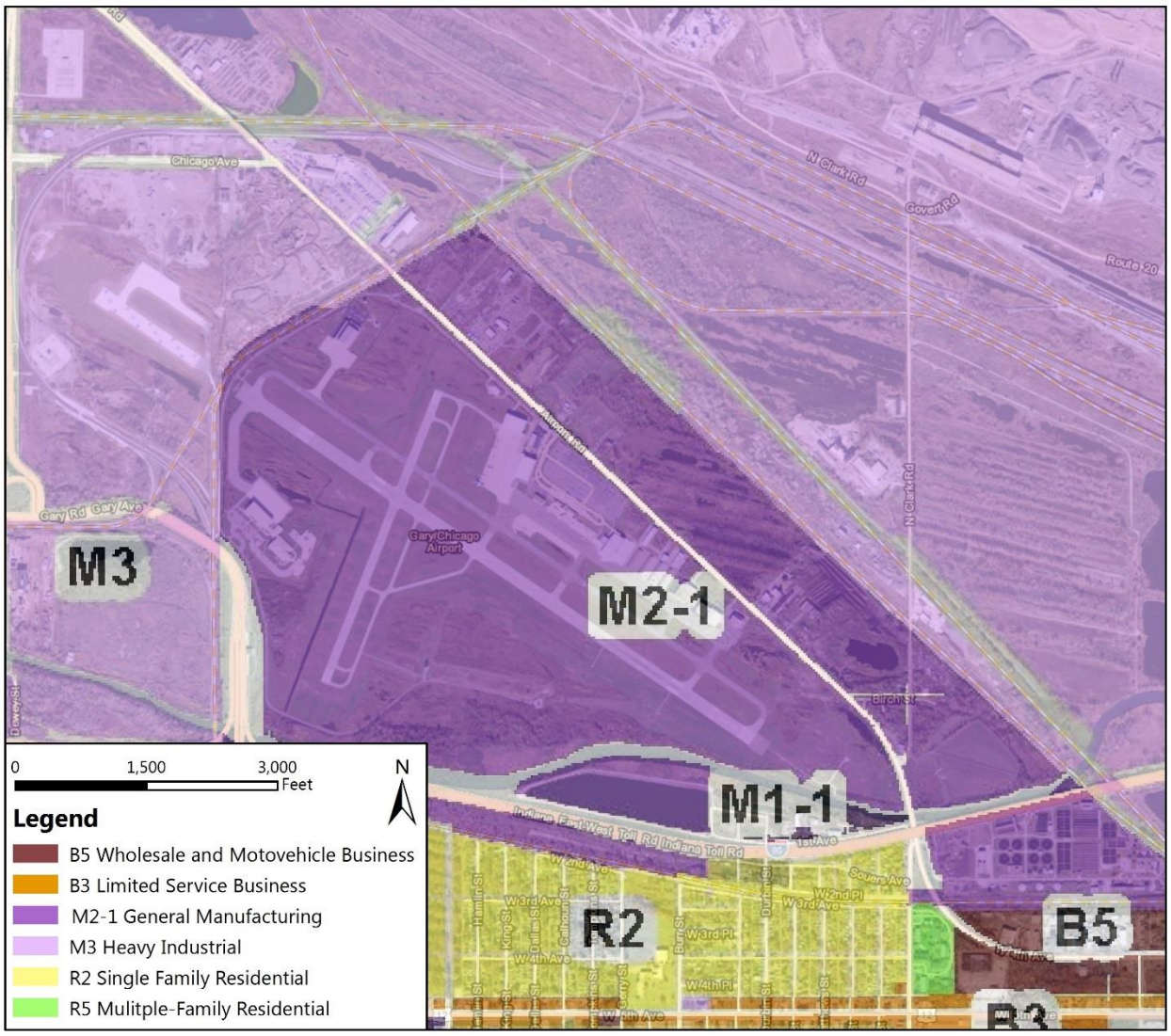
2.10.9 Land Use

The Airport property is within the limits of the City of Gary. The City of Gary classifies the Airport as general manufacturing within its zoning code as depicted in Exhibit 2-13.[38] The areas in the immediate vicinity of the Airport are zoned as heavy manufacturing. Land uses in the area include rail lines, trucking and transportation service companies, high voltage power line towers, major electrical substations, tank farms, chemical processing facilities, sewage treatment, and freeways. The closest residential area to the Airport is about 1,500 feet south, on the opposite side of the Indiana Toll Road.

The Airport and surrounding areas are within an airport development zone, as established by Indiana Code 8-22-3.5-14. Under this code, businesses located in an airport development are treated as if they are located in an enterprise zone.

[36] Indiana Historical Bureau. (2016). *St. John's Lutheran church Tolleston*. Retrieved October 2016, from Find a Marker: http://in.gov/history/markers/179.htm
[37] FAA. (2004, October). *Final Environmental Impact Statement for Master Plan Development Including Runway Safety Area Enhancements/Extension of Runway 12-30, and Other Improvements*. Des Plaines : FAA.
[38] City of Gary. (2016). Zoning Map. Retrieved October 2016, from Zoning Department: http://www.gary.in.us/zoning/pdf/Zoning_Map_2013.pdf

Exhibit 2-13– 101 Zoning



Sources: City of Gary, 2016; Esri, 2016; Prepared by: RS&H, 2016

2.10.10 Natural Resources and Energy Supply

Natural resource (e.g., water, asphalt, aggregate, etc.) and energy use (e.g., fuel, electricity, etc.) at an airport is a function of the needs of aircraft, support vehicles, airport facilities, support structures, and terminal facilities. Water is the primary natural resource used at the Airport on a daily basis (see the Water Resources section for further details). Asphalt, aggregate, and other natural resources have also been used in various construction projects at the Airport. None of the natural resources that the Airport uses, or has used, are in rare or short supply. Indiana American Water Company provides water services and the Gary Sanitary District provides sewer services to the Airport. Energy use at the Airport is primarily in the form of

electricity required for the operation of Airport-related facilities (e.g., terminal building, hangars, airfield lighting) and fuel for aircraft, aircraft support vehicles/equipment, and Airport maintenance vehicles/equipment. Northern Indiana Public Service Company supplies electricity services to the Airport. According to the Airport, there are underground utility lines in the northwest portion of the Airport property. These utilities are underground to avoid penetrating the Runway 12/30 runway protection zone.

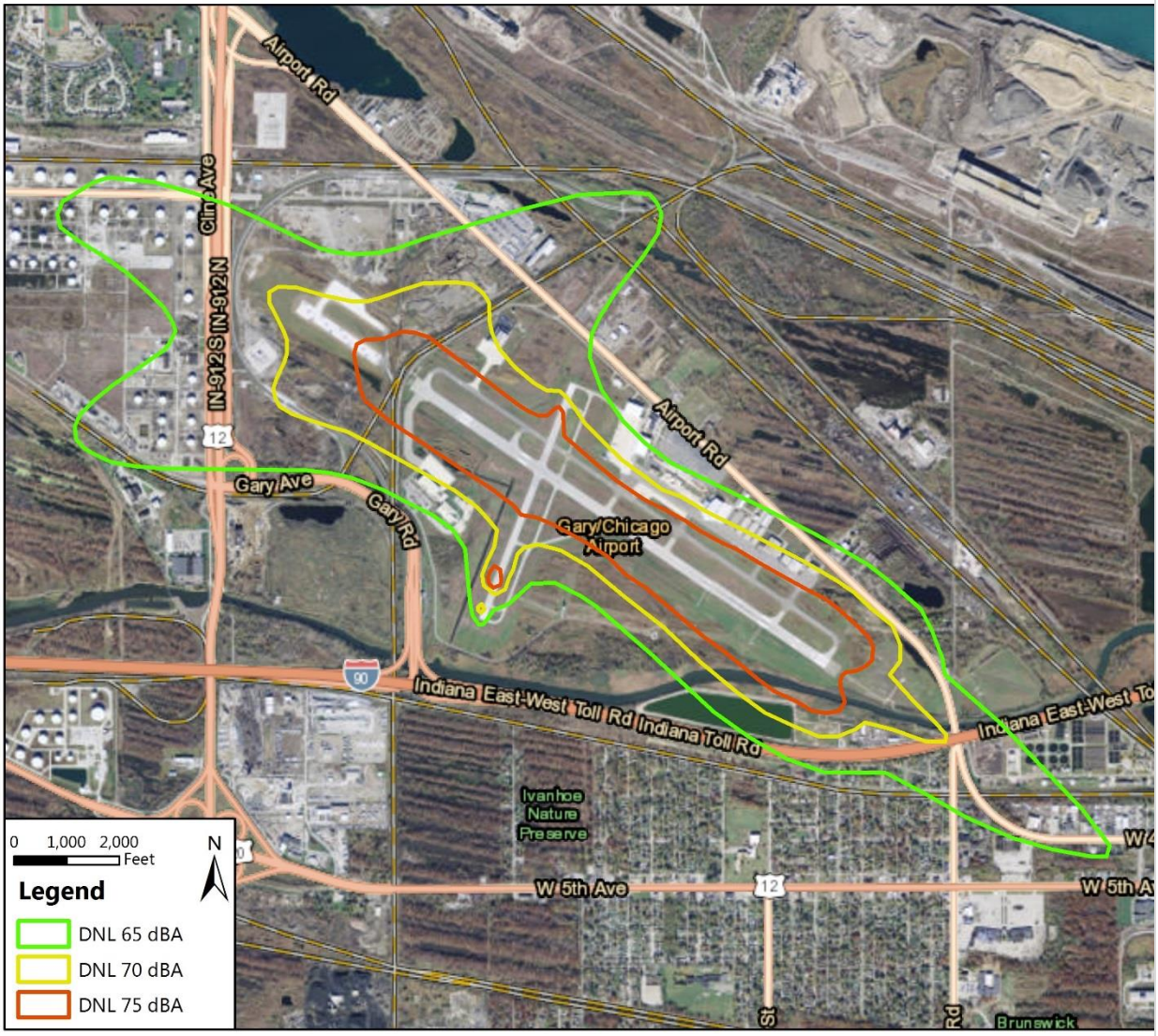
2.10.11 Noise and Noise-Compatible Land Use

Noise is the most apparent environmental effect from an airport, and at most airports, accounts for the majority of comments from nearby residents.

As Section 2.10.10 describes, there are residential land uses near the Airport. These areas may be sensitive to aircraft noise associated with the Airport. The Airport's aviation noise contours were updated in 2000 as part of the Airport's 2004 Final Environmental Impact Statement. Exhibit 2-14 shows the 2000 aviation noise contours that were defined under the EIS. Note that since the time these contours were produced, the Authority extended Runway 12/30 and associated taxiways to the northwest by about 1,900 feet and relocated the Runway 30 threshold by about 900 feet.[39] Select portions of residential land south of the Airport are subject to an avigation easement.

[39] The 2004 Final Environmental Impact Statement analyzed the potential noise effects from these extensions.

Exhibit 2-14- GYY Noise Contours (Year 2000)



Sources: FAA, 2004; Esri, 2016; Prepared by: RS&H, 2016

2.10.12 Socioeconomics, Environmental Justice, and Children's Environmental Health and Safety Risks

The primary considerations of a socioeconomics analysis within NEPA documentation are the economic activity, employment, income, population, housing, public services, and social conditions of the area. The Uniform Relocation Assistance and Real Property Acquisitions Policy Act of 1970 (42 U.S.C. § 61 et seq.), implemented by 49 CFR Part 24, is the primary statute related to socioeconomic impacts. EO 13045,

Protection of Children from Environmental Health Risks and Safety Risks (62 FR 19885) is the primary EO related to Children's Environmental Health and Safety Risks.

Table 2-17 provides the socioeconomic and environmental justice characteristics of the area around the Airport. This data is from the U.S. Census Bureau 2010-2014 American Community Survey at the tract level (the tract that the Airport is in and the adjacent tracts).

Table 2-17– Socioeconomic Characteristics

Characteristics	
Total Population	16,049
Percent Minority	88.36%
Percent Living Below the Poverty Level	30.77%
Percent of the Population below 18 Years of Age	27.55%
Percent Unemployed (above 16 Years of Age)	21.24%
Total Housing Units	7,132
Vacant Housing Units	1,237

Source: U.S. Census Bureau American Community Survey 2010-2014 (Census Tracts 103.04, 307.00, 210.00, 103.02, 110.00 and 102.03); Prepared by: RS&H, 2016

With regards to children's environmental health and safety risks, the closest school to the Airport is the West Side Leadership Academy, about one mile south of Airport.

2.10.13 Visual Effects

Aesthetic effects are generally more difficult to quantify because of the subjective nature of annoyances associated with light emissions and visual impacts. Various landside lighting illuminates current Airport facilities such as the airfield (e.g., runways and taxiways), buildings, access roadways, automobile parking areas, and apron areas. As previously described, the Airport is zoned as a manufacturing district. The Airport is developed in a manner that is consistent with this zoning. Structures at the Airport include, but are not limited to, the terminal building, FBO, hangars, and maintenance buildings.

Vegetation (e.g., trees and shrubs) helps to reduce light emissions from the Airport to nearby residential areas and block a direct line of sight from most residential areas to the Airport. Manufacturing land uses have a direct line of sight to the Airport; however, the visual effects of the Airport to commercial or industrial land uses are not typically considered a nuisance.

2.10.14 Water Resources

Water resources are considered wetlands, floodplains, surface waters (including wild and scenic rivers), and groundwater. These resources typically function as a single, integrated natural system that are

important in providing drinking water and in supporting recreation, transportation and commerce, industry, agriculture, and aquatic ecosystems.

2.10.14.1 Wetlands

There are various water resources in and around the Airport property. The Airport property was previously surveyed for wetlands.[40,41] **Exhibit 2-15 – Wetlands** shows the location of the wetlands, as well as areas that are anticipated to be wetland areas but were not formally delineated. Wetlands present at the Airport include freshwater forested/shrub wetlands and freshwater emergent wetlands.

Exhibit 2-15– Wetlands

Sources: Gary/Chicago International Airport Authority, 2013; DLZ Indiana, LLC, 2015; Esri, 2016; Prepared by: RS&H, 2016

2.10.14.2 Floodplains and Floodways

According to current FEMA Flood Insurance Rate Maps for the Airport area, there are 100-year floodplains and floodways on and around the Airport property.[42] **Exhibit 2-16** shows the location of floodplains and floodways.

The Grand Calumet River is directly south of the Airport and Lake Michigan is about 1.5 miles north/northeast of the Airport. The USEPA identifies the Grand Calumet River as impaired due to the presence of pathogens (E. coli), polychlorinated biphenyls, impaired biota, and oil and grease in the water.[43] The Ralston Street Lagoon is directly south of the Grand Calumet River and in close proximity to the southern end of Runway 12-30. The lagoon covers 19 acres and was previously used for municipal sewage sludge disposal by the Gary Sanitary District. Studies have documented that the sludge is contaminated with hazardous polychlorinated biphenyls. The lagoon is no longer in use. The shoreline of Lake Michigan is impaired due to the presence of mercury and polychlorinated biphenyls in the water. [44] For the same reasons, the USEPA classifies Lake Michigan as impaired.[45]

[40] FAA. (2004, October). *Final Environmental Impact Statement for Master Plan Development Including Runway Safety Area Enhancements/Extension of Runway 12-30, and Other Improvements*. Des Plaines : FAA.
[41] DLZ Indiana, LLC. (2015 November 16). Gary/Chicago International Airport Wetland Review Boeing and B Coleman Sites. Indiana : Aviation Facilities Company, Inc.
[42] FEMA. (2012, January 18). *Panels 18089C0043E, 18089C0044E, 18089C0131E, and 18089C0132E.* Retrieved October 2016, from FEMA Flood Map Service Center: Search by Address - Gary, Indiana: https://msc.fema.gov/portal/search?AddressQuery#searchresultsanchor
[43] USEPA. (2010). *2010 Waterbody Report for Grand Calumet River*. Retrieved September 2016, from Waterbody Quality Assessment Report: https://ofmpub.epa.gov/waters10/attains_waterbody.control?p_list_id=INK0346_04&p_cycle=2010
[44] USEPA. (2010). *2010 Waterbody Report for Michigan, Lake*. Retrieved September 2016, from Waterbody Quality Assessment Report: https://ofmpub.epa.gov/waters10/attains_waterbody.control?p_list_id=INC0163G_G1074&p_cycle=2010
[45] USEPA. (2010). *2010 Waterbody Report for Lake Michigan*. Retrieved September 2016, from Waterbody Quality Assessment Report: https://ofmpub.epa.gov/waters10/attains_waterbody.control?p_list_id=INM00G1000_00&p_cycle=2010

Exhibit 2-16– Floodplains and Floodways

Source: FEMA, 2012; Esri, 2016; Prepared by: RS&H, 2016

With regards to Wild and Scenic Rivers, Pere Marquette River, in Michigan and about 175 miles northeast of the Airport, is the closet Wild and Scenic River segment.[46]

The Airport is in the Southwestern Lake Michigan watershed.[47] As previously described, Indiana American Water Company provides water services and the Gary Sanitary District provides sewer services to the Airport. Sanitary wastewater and indoor floor drains flow to the Gary Sanitary District. Similarly, drainage

[46] National Wild and Scenic Rivers System (2016). *Michigan*. Retrieved September 2016, from Explore Designated Rivers: https://www.rivers.gov/rivers/pere-marquette.php
[47] USEPA. (2016). *NEPAssist*. Retrieved October 2016, from https://nepassisttool.epa.gov/nepassist/nepamap.aspx?wherestr=gary%2C+indiana

from the deice pad also drains to the Gary Sanitary District. There are no drinking water wells on Airport property.[48] The Airport works to balance the groundwater and surface water levels in order to keep existing contamination in place. The Airport property has a high water table, and when combined with a strong north fetch on Lake Michigan, the Airport's water table rises.

There are four stormwater drainage areas as the Airport, all of which discharge to the Grand Calumet River as depicted in **Exhibit 2-17 – Stormwater Drainage**.[49] Four conveyance points are located along the southern boundary of the Airport and receive stormwater runoff from the majority of the Airport. Surface drainage from these areas generally flow from north to south and into the stormwater drainage system, which is a series of piping and open ditches. The fifth conveyance point is located in the northwestern corner of the facility and receives stormwater runoff from the northwestern portion of the Airport. Currently, one conveyance point (004) is plugged with sediment and does not exhibit visible flow. The Authority has no plans to allow flow through that outfall. According to the Authority, there are no stormwater system issues.

The Authority maintains a Stormwater Pollution Prevention Plan (SWPPP) for the Airport. As the SWPPP describes, stormwater from the Airport is considered discharge from an industrial activity. As such, stormwater discharge at the Airport is permitted under the Indiana Department of Environmental Management (IDEM) Permit-by Rule for Stormwater Discharged Exposed to Industrial Activity. The SWPPP identifies potential sources of pollutants in stormwater and stormwater control measures to reduce the ability of pollutants entering the stormwater runoff. The Authority regularly monitors stormwater runoff, including meeting the appropriate reporting requirements, and conducts quarterly visual facility inspections.

[48] Gary/Chicago International Airport Authority. (2016, February). *Stormwater Pollution Prevention Plan (SWPPP)*. Gary : Gary/Chicago International Airport Authority
[49] Gary/Chicago International Airport Authority. (2016, February). *Stormwater Pollution Prevention Plan (SWPPP)*. Gary : Gary/Chicago International Airport Authority

Exhibit 2-17– Stormwater Drainage

Source: DLZ Indiana, LLC., 2015; Esri, 2016; Prepared by: RS&H, 2016