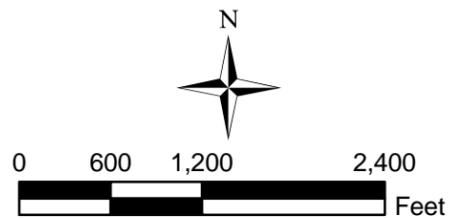
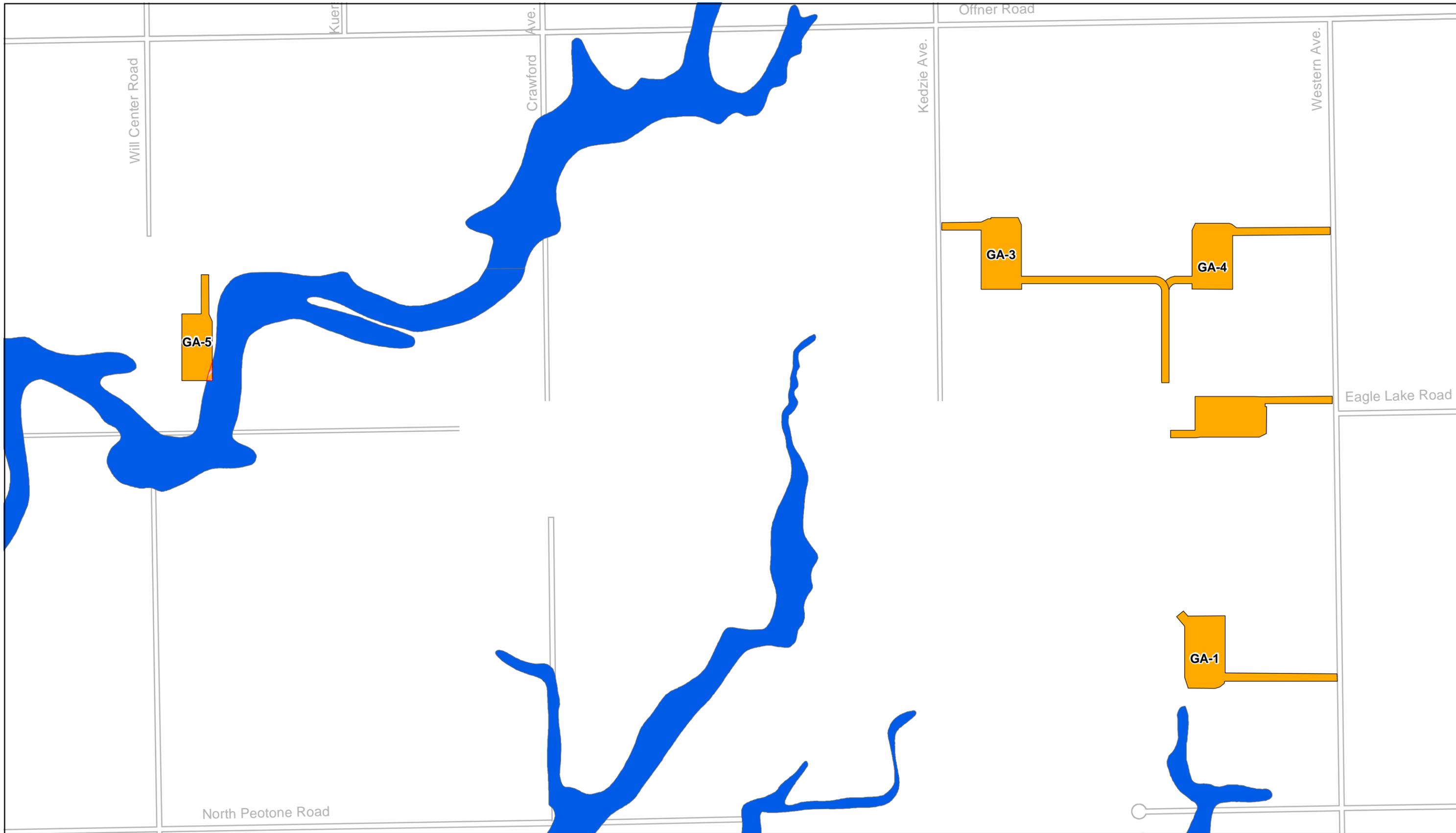


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Legend

- General Aviation Alternatives
- Areas of Wetland Impact
- Wetland Areas

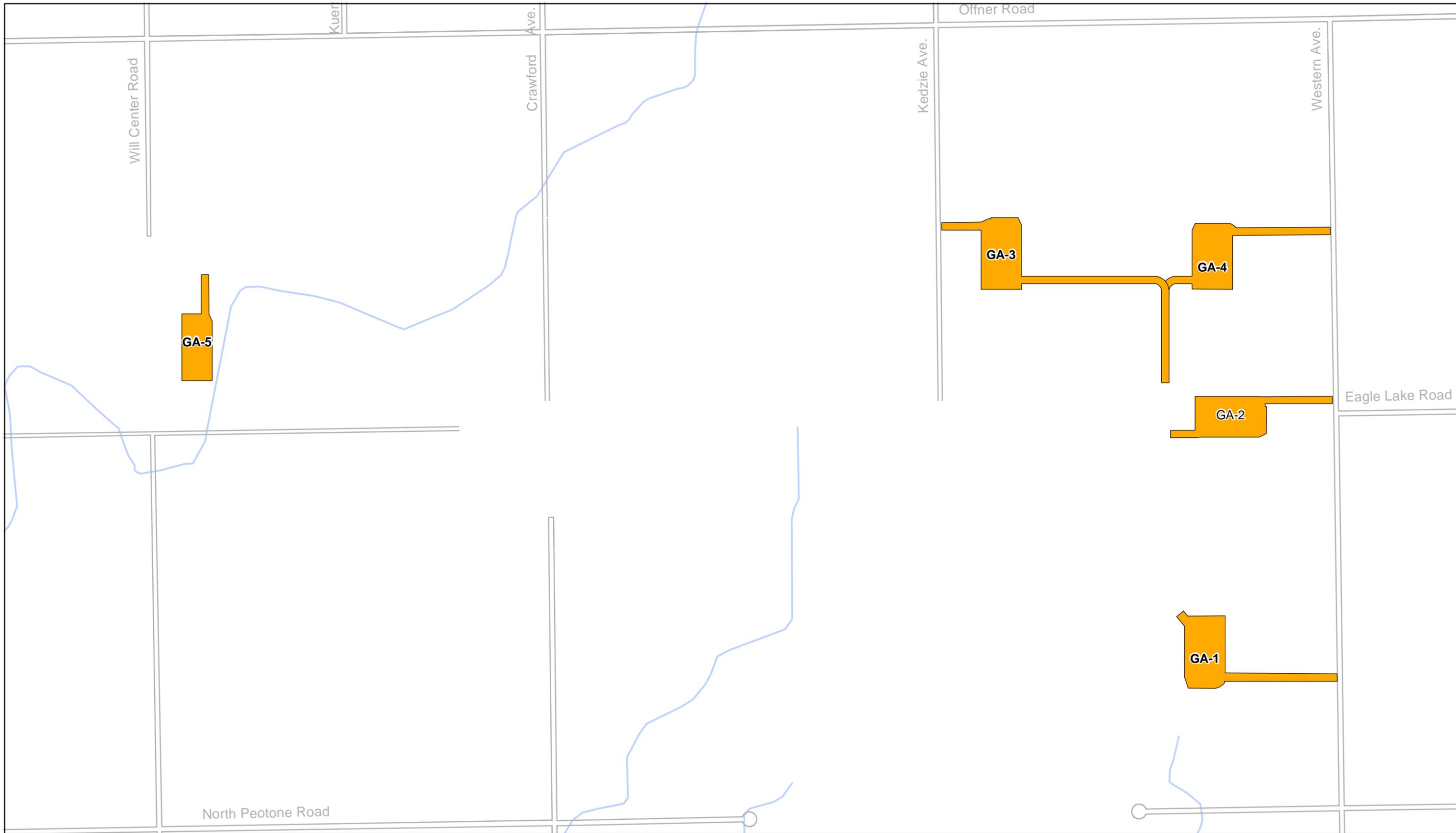


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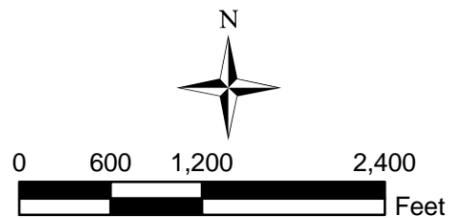
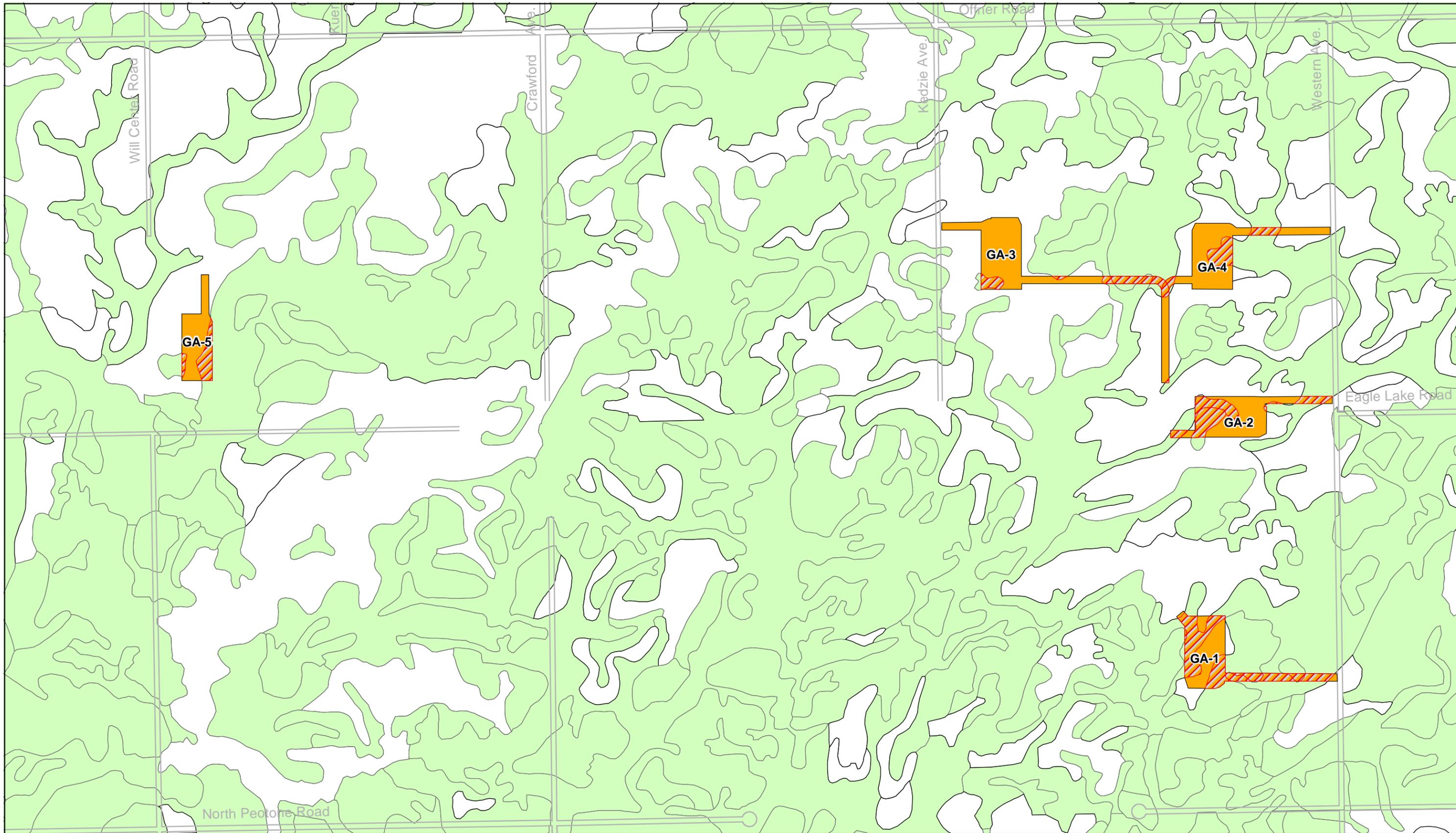
Legend

- General Aviation Facility Alternatives
- Areas of Floodplain Impact
- Floodplain Areas



Legend

- General Aviation Facility Alternatives
- Areas of Stream Impact
- Streams



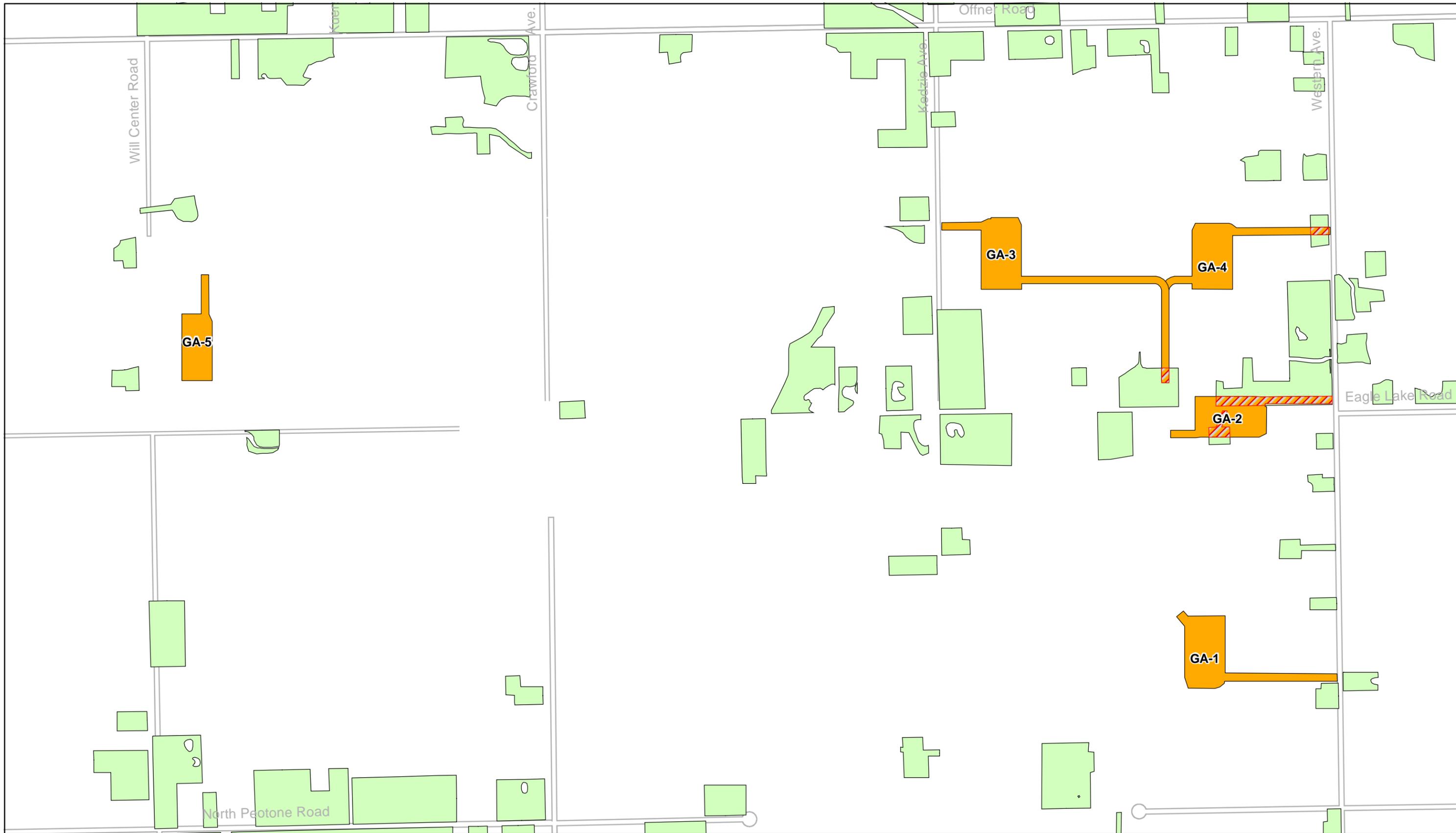
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Legend

-  General Aviation Facility Alternatives
-  Areas of Prime Farmland Impact
-  Prime Farmland Areas

Inaugural Airport Program
Support Facilities Concept Alternatives
General Aviation Facility
Environmental Impacts - Prime Farmland
Exhibit A-22



Legend

-  General Aviation Facility Alternatives
-  Areas of Population Displacement
-  Existing Residences

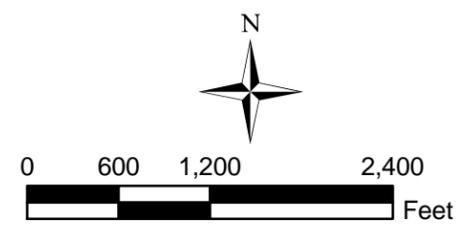


Table A-35 Inaugural Airport – ATCT Concept Alternatives Evaluation Methodology		
No.	Criteria	Methodology
1	Ability to maximize ATCT operational efficiency	
a	Greatest distance to runway threshold	<i>Line-of-site plan drawings were prepared in AutoCAD for each ATCT concept alternative. Critical points of the runway, taxiways and aircraft aprons were defined. The line of sight from the control tower to the critical points on the runway, taxiways and aprons were drawn and the distance from the control tower to the critical points of interest were measured from the drawings.</i>
b	Minimum tower height to achieve 35' line-of-sight in accordance with FAA 6480.4	<i>The minimum tower height was calculated in accordance with the formula provided in FAA Order 6480.4, Appendix 1, Par. 3.b..</i>
c	Viewing orientation – depth of field to arriving aircraft	<i>Arriving aircraft would be aligned on the runway centerline. The viewing angle of the controllers line of sight relative to the arriving aircraft was determined graphically by drawing the line of sight from the control tower to the runway threshold. The viewing angles for each ATCT alternative were measured for each runway threshold and were assigned a score. The scores for each runway were averaged to create a combined score for each ATCT alternative. The ATCT concept alternatives were evaluated according to their combined score.</i>
d	Shadowing conditions	<i>Preliminary plan and section shadowing sketches were made by drawing the line of sight to the main airport structures. Some small areas of possible shadowing of aircraft aprons were identified but appeared to be limited.</i>
2	Landside access	Each concept alternative was evaluated to determine the average access distance from the major highways providing vehicle access to the airport. The access travel distance from nodes established at the major highways was determined for traffic from the west via I-57 and from the east via IL-I/397. The east and west travel distances were summed and the average access distance was calculated
3	Compatibility with future airport plan.	Each concept alternative was evaluated to determine if it was in conflict with the intermediate and ultimate airport plans. If there was a significant conflict with the future plan the concept alternative was considered to not be compatible with the future airport plan.
4	Ability to minimize adverse land use impacts and community disruption	

Table A-35 Inaugural Airport – ATCT Concept Alternatives Evaluation Methodology		
No.	Criteria	Methodology
a	<i>Minimize population displacement</i>	<i>The number of residences that would be impacted by each concept alternative was determined through use of GIS. The GIS database established during the Phase 1 Engineering Study and updated for the Tier 1 EIS was used as a baseline. The number of existing residences was verified and modified from aerial photography of the site obtained by IDOT in 2002 and a windshield survey performed by TAMS in spring of 2004. Based on U.S. Census results from the 2000 Census, each house or farmhouse was assumed to contain 2.7 people; each mobile home was assumed to contain 2.0 people. All residences within the site area for each concept alternative were counted, and then the appropriate ratio of people per residence was applied to determine potential population displacement.</i>
5	Ability to minimize impacts on natural resources	
a	Wetlands	<i>Potential wetland impacts were calculated based on a GIS analysis of a wetlands database for the site created during the Phase 1 Engineering Study. A wetland delineation of the site was conducted in 1996 (see "Wetland Delineation Report", TAMS Consultants, Inc., January 1996). A review of the wetland delineation was conducted in 2004 to determine potential changes to wetland boundaries that have occurred since the delineation. The GIS database has been updated to include those changes, which are being documented in a revised Wetland Delineation Report (in progress). It was assumed that any wetland or portion of wetland located within the site area of each concept alternative would be potentially impacted. Updated wetland boundaries within the airport site are depicted on Exhibit A-4 (see Inaugural Airport Primary Runway (09-27) Concept Alternatives section).</i>
b	Floodplains	<i>Potential floodplain impacts were calculated based on a GIS analysis of Q3 digital flood data purchased from FEMA for Will County. It was assumed that any 100-year floodplain or portion of 100-year floodplain located within the AOA for each concept alternative would be potentially impacted. Existing floodplain boundaries within the airport site are depicted on Exhibit A-4 (see Inaugural Airport Primary Runway (09-27) Concept Alternatives section).</i>
c	Water Resources	<i>Potential impacts to water resources were calculated by determining the linear extent of existing stream channel that would be contained within the site area for each concept alternative. Stream channels were identified from the GIS database established for this project, and are shown on Exhibits 3-1 through 3-9.</i>

Table A-35 Inaugural Airport – ATCT Concept Alternatives Evaluation Methodology		
No.	Criteria	Methodology
d	Prime Farmland	<i>Potential impacts to prime farmland were calculated by determining the amount of prime farmland soils contained within the site area of each concept alternative. A soil map of the entire site was digitized from the Will County Soil Survey and input into the project GIS. Prime and important farmland designation for each soil type was obtained from the U.S. Department of Agriculture. Figure 5.15-3 from the Tier 1 FEIS³ depicts the prime and important farmland soils database used for this analysis.</i>
6	Relative Cost Comparison	Relative costs were estimated based on earthwork, site preparation, access road improvements, creek crossings, taxiway length, and environmental impacts, such as, wetlands, floodplains, and water resources. Ratings for the amount of each item were established separately, and then averaged together to obtain an overall rating for this criterion. (See Table A-38)

Source: TAMS, an Earth Tech Company, 2005.

³ *Final Environmental Impact Statement, Tier 1: FAA Site Approval and Land Acquisition by the State of Illinois, Proposed South Suburban Airport*, FAA, April 2002.

Table A-36 Inaugural Airport Traffic Control Tower Concept Alternatives Evaluation Matrix Data						
No.	Criteria	ATCT-1	ATCT-2	ATCT-3	ATCT-4	ATCT-5
1	Ability to maximize ATCT operational efficiency					
<i>a</i>	<i>Greatest distance to runway threshold</i>	12,477	8,516	6,206	9,879	10,282
<i>b</i>	<i>Minimum tower height to achieve 35' line of sight</i>	165	137	111	161	137
<i>c</i>	<i>Viewing orientation – depth of field to arriving aircraft (controller's angle of view to arriving aircraft at RW threshold in degrees)</i>	RW 9 – 110 RW 27 - 19	RW 9 – 46 RW 27 - 24	RW 9 – 26 RW 27 - 17	RW 9 – 70 RW 27 - 24	RW 9 – 21 RW 27 - 90
<i>d</i>	<i>Shadowing conditions</i>	Slight Air Cargo and GA apron	Slight Air Cargo and GA apron	None	Slight Air Cargo and GA apron	Slight Air Cargo and GA apron
2	Landside access <i>Average access distance (feet)</i>	2,700	2,500	3,200	2,500	2,000
3	Compatibility with future airport plan (refer to Table 9-8)	No - 1	Yes - 5	Yes - 3	Yes - 3	Yes - 5
4	Ability to minimize adverse land use impacts and community disruption					
<i>a</i>	<i>Minimize population displacement (population impacted)</i>	0 people	0 people	0 people	0 people	0 people
5	Ability to minimize impacts on natural resources					
<i>a</i>	<i>Wetlands (acres impacted)</i>	0	.29	0.12	0	0.27
<i>b</i>	<i>Floodplains (acres impacted)</i>	0	.49	0	0.55	0
<i>c</i>	<i>Water Resources (miles of stream impacted)</i>	0	0	0	0	0
<i>d</i>	<i>Prime Farmland (acres impacted)</i>	0.51	3.36	2.96	1.06	2.7
6	Relative Cost Comparison	Table A-38	Table A-38	Table A-38	Table A-38	Table A-38

Source: TAMS, an Earth Tech Company, 2005.

Table A-37 Inaugural Airport – ATCT Concept Alternatives Evaluation Matrix Scoring Assignments																								
Alternative	Criterion 1a		Criterion 1b		Criterion 1c			Criterion 1d		Criterion 2		Criterion 3		Criterion 4		Criterion 5a		Criterion 5b		Criterion 5c		Criterion 5d		
	Greatest Distance to Runway Threshold		Minimum Tower Height		Viewing Orientation (degrees)			Shadow Conditions		Landside Access Distance		Compatibility with future airport plan		Population Displacement		Wetlands		Floodplains		Water resources (streams)		Prime Farmland		
	(feet)	Score	(feet)	Score	RW 9	RW 27	Score	Operational Area	Score	(miles)	Score	(conflicts)	Score	People	Score	(acres)	Score	(acres)	Score	(miles)	Score	(acres)	Score	
ATCT 1	12,477	1	165	1	110	19	3	0	5	2700	1	Excellent	1	0	5	0.00	5	0.00	5	0	5	0.51	5	
ATCT 2	8,516	4	137	3	46	24	1.5	0	5	2500	4	Good	4	0	5	0.29	1	0.49	1	0	5	3.36	1	
ATCT 3	6,206	5	111	5	26	17	3	0	5	3200	3	Average	3	0	5	0.12	3	0.00	5	0	5	2.96	1	
ATCT 4	9,879	3	161	1	70	24	3	0	5	2500	5	Fair	5	0	5	0.00	5	0.55	1	0	5	1.06	5	
ATC 5	10,282	2	134	3	21	90	5	0	5	2000	5	Poor	1	0	5	0.27	1	0.00	5	0	5	2.70	2	
Max Value	12,477		165		110	90		0		3200		0		0		0.29		0.55		0		3.36		
Min Value	6,206		111		21	17		0		2000		0		0		0.00		0.00		0		0.51		
Range of Values	6,271		54		89	73		0		1200		0		0		0.29		0.55		0		2.85		
20% of Range	1,270		10.8		17.8	14.6		0		240		0		0		0.058		0.11		0		0.57		
SCORE	Scoring Range		Scoring Range		Scoring Range				Scoring Range		Scoring Range		Scoring Range		Scoring Range		Scoring Range		Scoring Range		Scoring Range		Scoring Range	
	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High
1	11,223	12,477	155	165	(5) 92	110	75	90	4.85	4.92	2960	3200	0	0	0	0	0.232	0.290	0.44	0.55	0	0	2.79	3.36
2	9,967	11,160	144	154	(4) 75	91	61	75	4.78	4.84	2720	2948	0	0	0	0	0.174	0.230	0.33	0.43	0	0	2.22	2.76
3	8,714	9,906	133	143	(3) 57	74	46	60	4.71	4.77	2480	2708	0	0	0	0	0.116	0.170	0.22	0.32	0	0	1.65	2.19
4	7,460	8,652	122	132	(2) 39	56	32	45	4.64	4.7	2240	2468	0	0	0	0	0.058	0.110	0.11	0.21	0	0	1.08	1.62
5	6,206	7,397	111	121	(1) 21	38	17	31	4.57	4.63	2000	2228	0	0	0	0	0.000	0.055	0.00	0.10	0	0	0.51	1.05

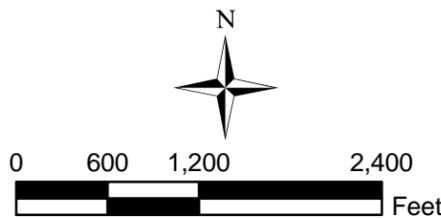
Source: TAMS, an Earth Tech Company, 2005.

Table A 38 Inaugural Airport – ATCT Concept Alternatives Criterion 6 - Relative Cost Comparison Scoring Assignments																		
Alternative	Tower Height	Score	Earth-work (cubic yards)	Score	Construction Site Area (acres)	Score	Access Road Length (miles)	Score	Estimated Cost – Creek Crossings ⁴ (dollars)	Score	Wetlands (acres)	Score	Flood plains (acres)	Score	Streams (miles)	Score	Combined Score	Average Score
ATCT 1	165	1	5,837	5	0.71	5	2700	3	0	5	0.00	5	0.00	5	0	5	34	4.3
ATCT 2	137	3	50,917	1	6.21	1	2500	3	1mill.	4	0.29	1	0.49	1	0	5	19	2.4
ATCT 3	111	5	50,141	1	6.11	1	3200	1	1 mill.	4	0.12	3	0.00	5	0	5	25	3.1
ATCT 4	161	1	9,396	5	1.15	5	2500	3	1 mil.	4	0.00	5	0.55	1	0	5	29	3.6
ATCT 5	137	3	47,333	1	5.77	1	2000	5	1 mill.	4	0.27	1	0.00	5	0	5	25	3.1
Max Value	165		50,917		6.21		14,000				0.29		0.55		0			
Min Value	111		5,837		0.71		500				0.00		0.00		0			
Range of Values	54		45,080		5.50		13,500				0.29		0.55		0			
20% of Range	10.8		9,016		1.1		2,700				0.058		0.11		0			
Score	Scoring Range		Scoring Range		Scoring Range		Scoring Range		Scoring Range		Scoring Range		Scoring Range		Scoring Range		Combined Score	Average Score
	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High		
1	155	165	41,901	50,917	5.11	6.21	2960	3200			0.232	0.290	0.44	0.55	0	0		
2	144	154	32,885	41,450	4.01	5.06	2720	2948			0.174	0.230	0.33	0.43	0	0		
3	133	143	23,869	32,434	2.91	3.96	2480	2708			0.116	0.171	0.22	0.32	0	0		
4	122	132	14,853	23,418	1.81	2.86	2240	2468			0.058	0.113	0.11	0.21	0	0		
5	111	121	5,837	14,402	0.71	1.76	2000	2228			0.000	0.055	0.00	0.10	0	0		

Source: TAMS, an Earth Tech Company, 2005. 0

⁴ For evaluation purposes an estimated cost of \$ 1 million/ per creek crossing was assumed. See Table 9-9 for definition.

Table A-39 Inaugural Airport – Air Traffic Control Tower Concept Alternatives Criterion 2 – Roadway Access Distance				
Alternative	East and West Access <i>(without CW RW 5-23)</i>			
	East (IL 1/ IL 394) (miles)	West (IL 50) (miles)	Total (miles)	Average (miles)
ATCT 1	5.6	4.24	9.84	4.92
ATCT 2	5.6	3.7	9.3	4.65
ATCT 3	5.2	4.24	9.44	4.72
ATCT 4	6.1	3.1	9.2	4.6
ATCT 5	3.43	5.7	9.13	4.57

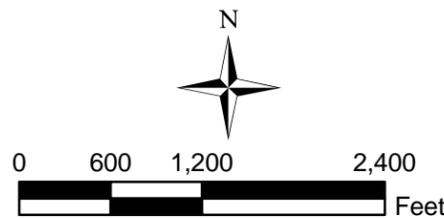


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Legend

-  Airport Traffic Control Tower Alternatives
-  Areas of Wetland Impact
-  Wetland Areas



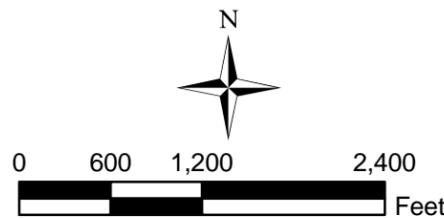
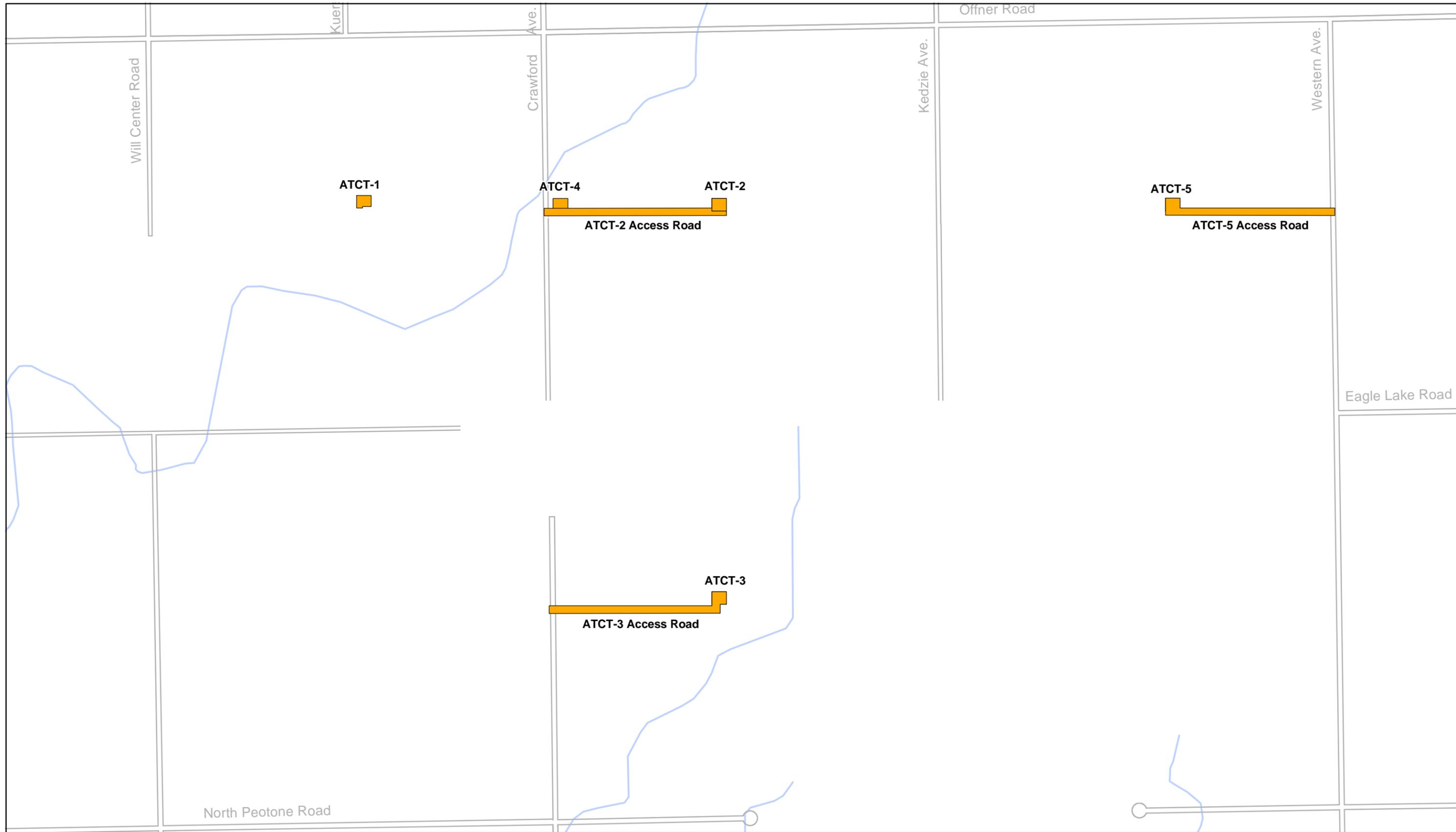
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Legend

-  Airport Traffic Control Tower Alternatives
-  Areas of Floodplain Impact
-  Floodplain

Inaugural Airport Program
Support Facilities Concept Alternatives
Airport Traffic Control Tower
Environmental Impacts - Floodplain
Exhibit A-25



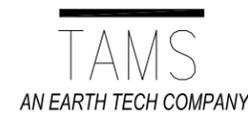
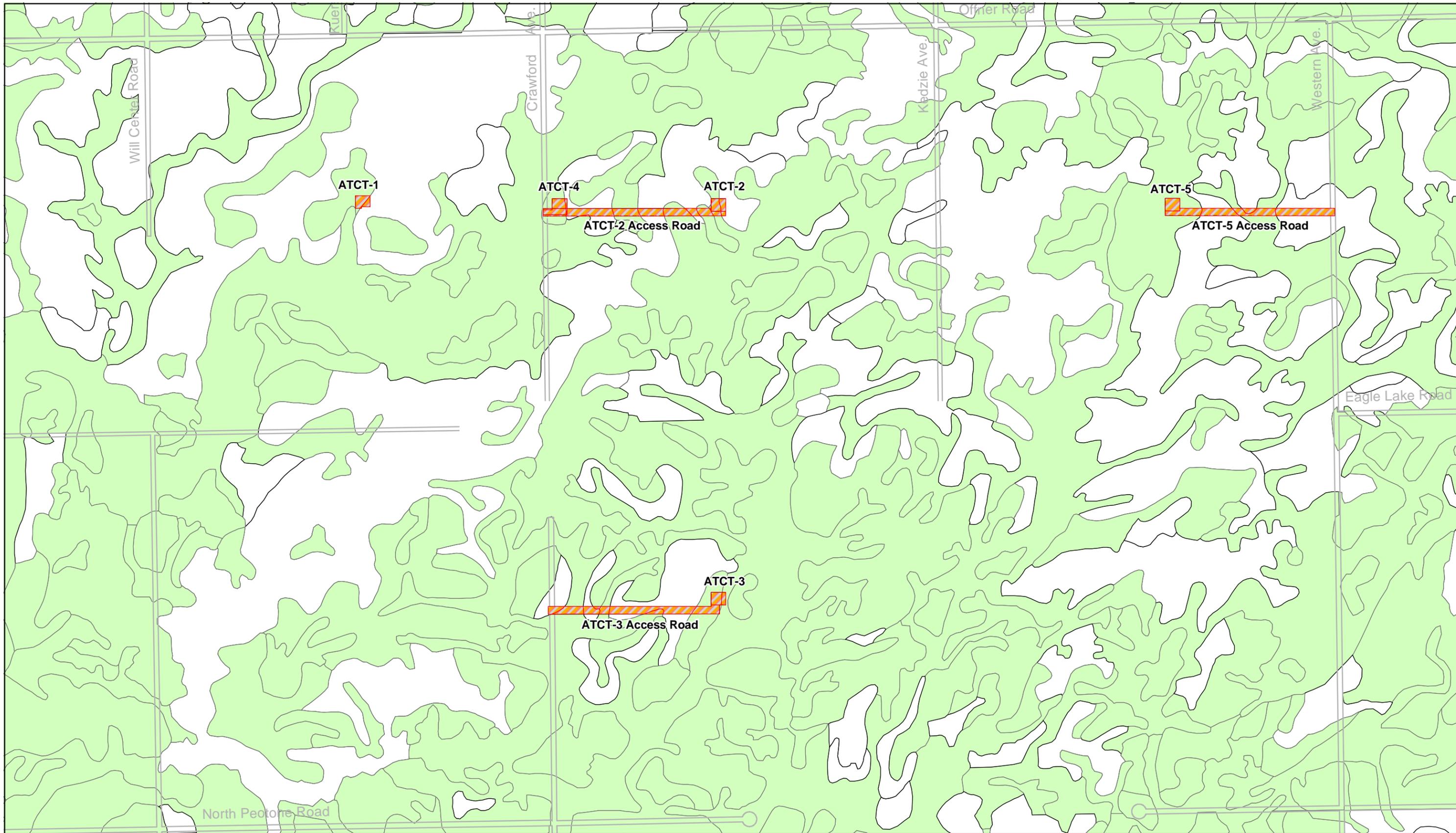
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Legend

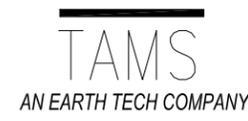
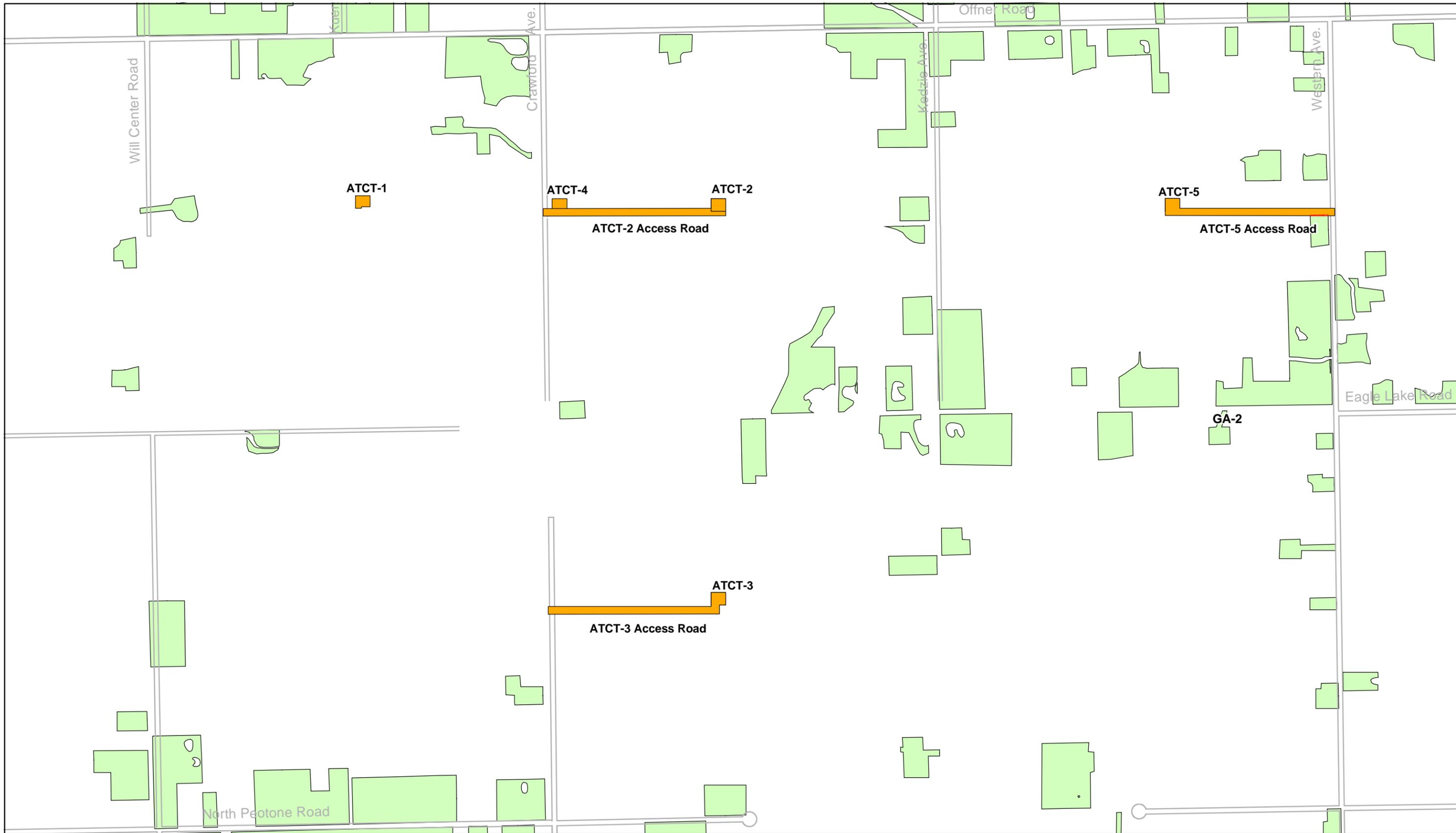
-  Airport Traffic Control Tower Alternatives
-  Areas of Stream Impact
-  Streams

Inaugural Airport Program
Support Facilities Concept Alternatives
Airport Traffic Control Tower
Environmental Impacts - Water Resources (Streams)
Exhibit A-26



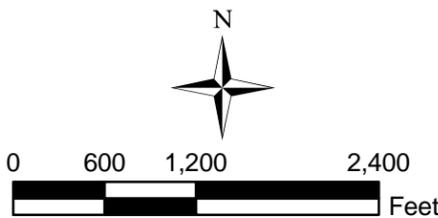
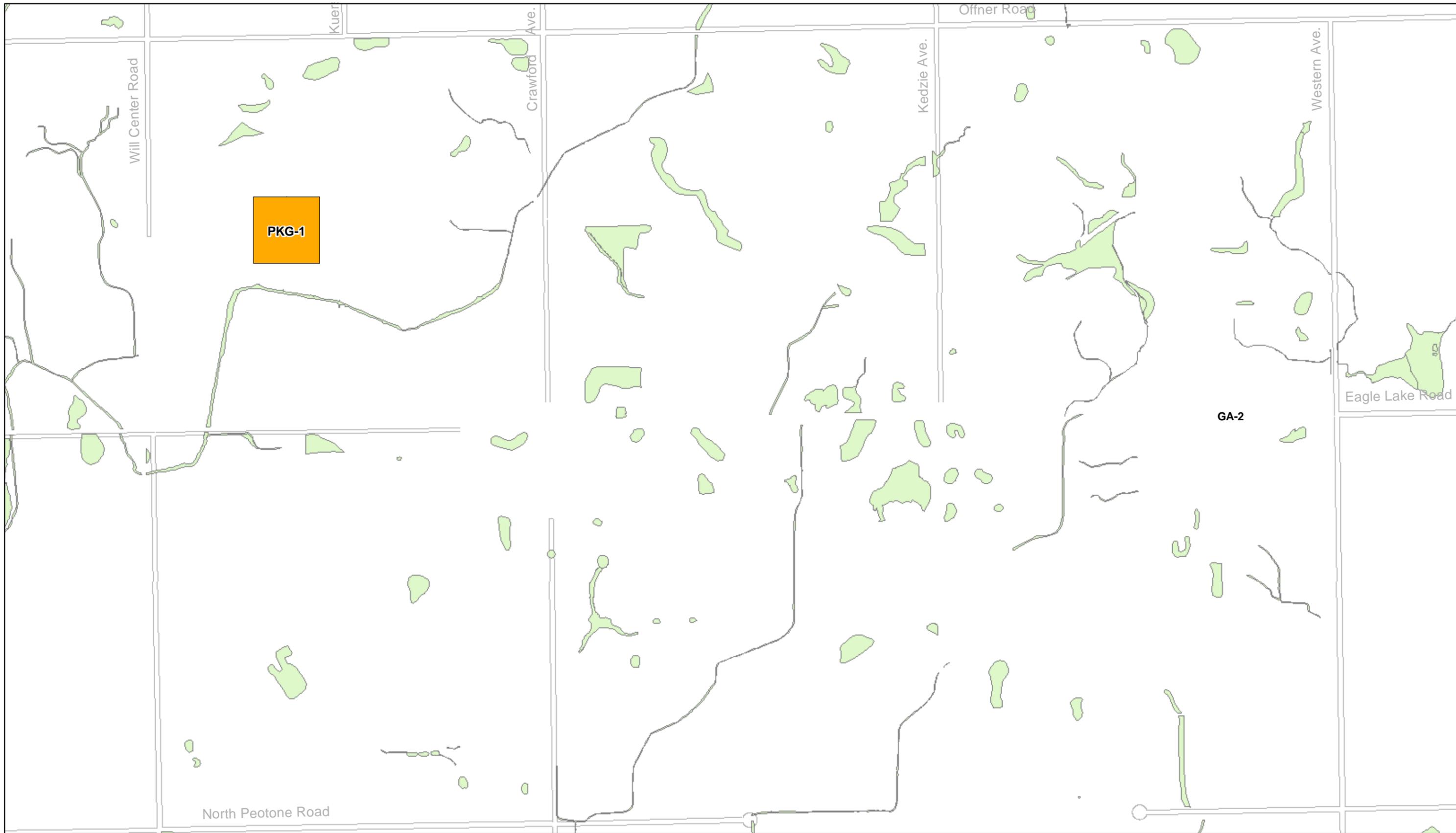
Legend

-  Airport Traffic Control Tower Alternatives
-  Areas of Prime Farmland Impact
-  Prime Farmland



Legend

-  Airport Traffic Control Tower Alternatives
-  Areas of Population Displacement
-  Existing Residences



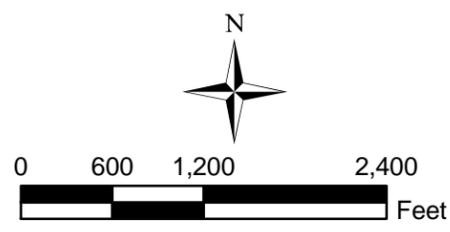
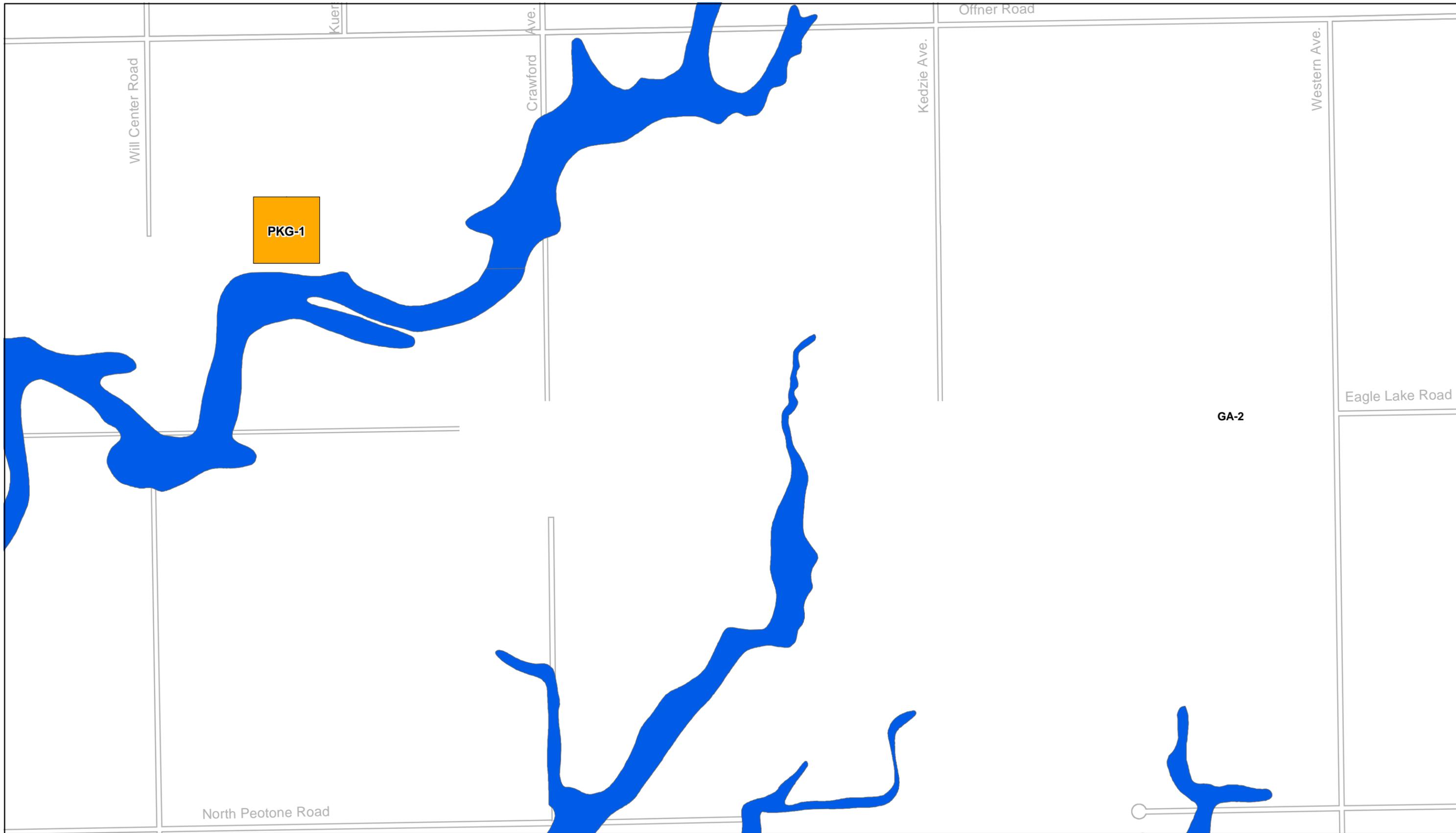
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Legend

-  Parking, Rental Car, and Commercial Vehicle Staging Alternatives
-  Areas of Wetland Impact
-  Wetland Areas

Inaugural Airport Program
Support Facilities Concept Alternatives
Parking, Rental Car, and Commercial Vehicle Staging
Environmental Impacts - Wetlands
Exhibit A-29



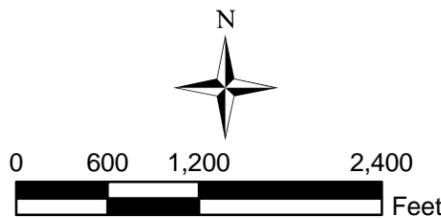
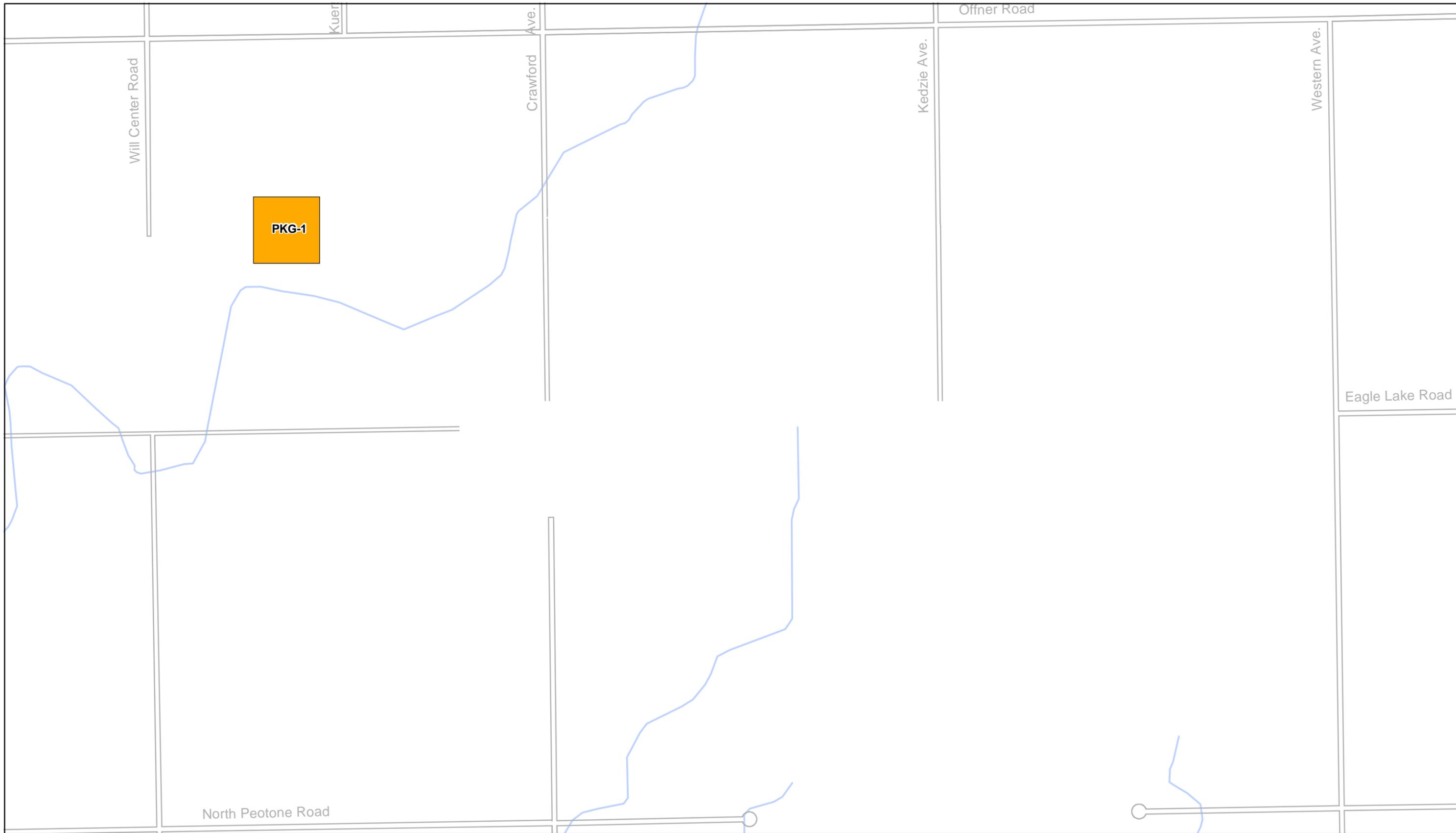
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Legend

-  Parking, Rental Car, and Commercial Vehicle Staging Alternatives
-  Areas of Floodplain Impact
-  Floodplain

Inaugural Airport Program
Support Facilities Concept Alternatives
Parking, Rental Car, and Commercial Vehicle Staging
Environmental Impacts - Floodplain
Exhibit A-30



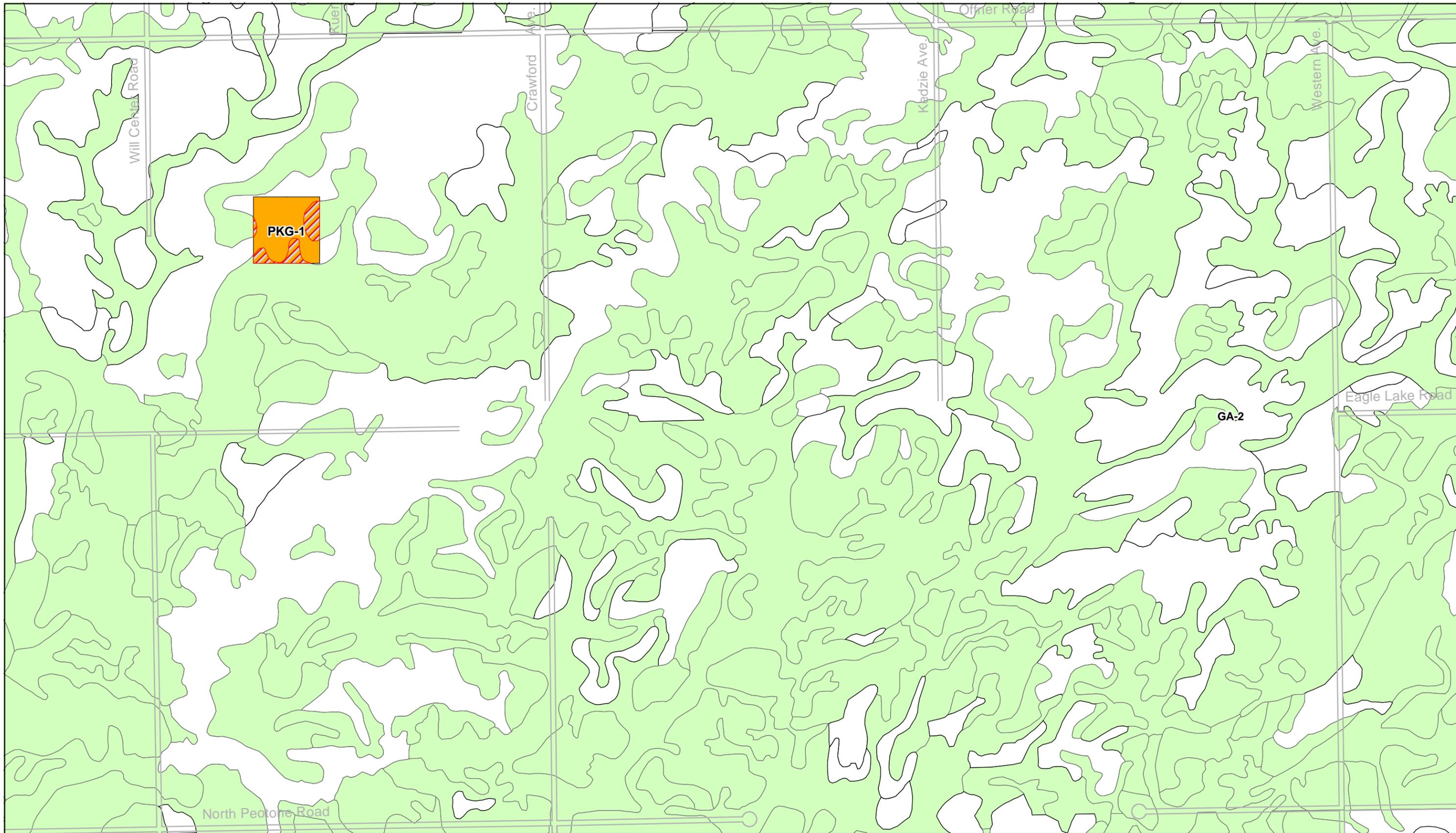
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Legend

- Parking, Rental Car, and Commercial Vehicle Staging Alternatives
- Areas of Stream Impact
- Streams

Inaugural Airport Program
Support Facilities Concept Alternatives
Parking, Rental Car, and Commercial Vehicle Staging
Environmental Impacts - Water Resources (Streams)



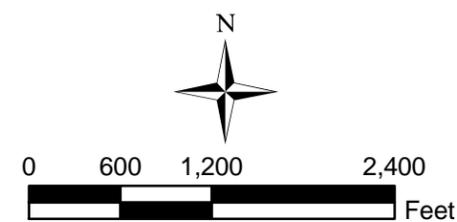
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Legend

-  Parking, Rental Car, and Commercial Vehicle Staging Alternatives
-  Areas of Prime Farmland Impact
-  Areas of Prime Farmland

Inaugural Airport Program
Support Facilities Concept Alternatives
Parking, Rental Car, and Commercial Vehicle Staging
Environmental Impacts - Prime Farmland
Exhibit A-32



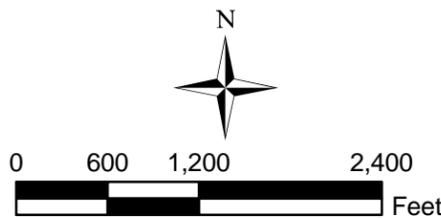
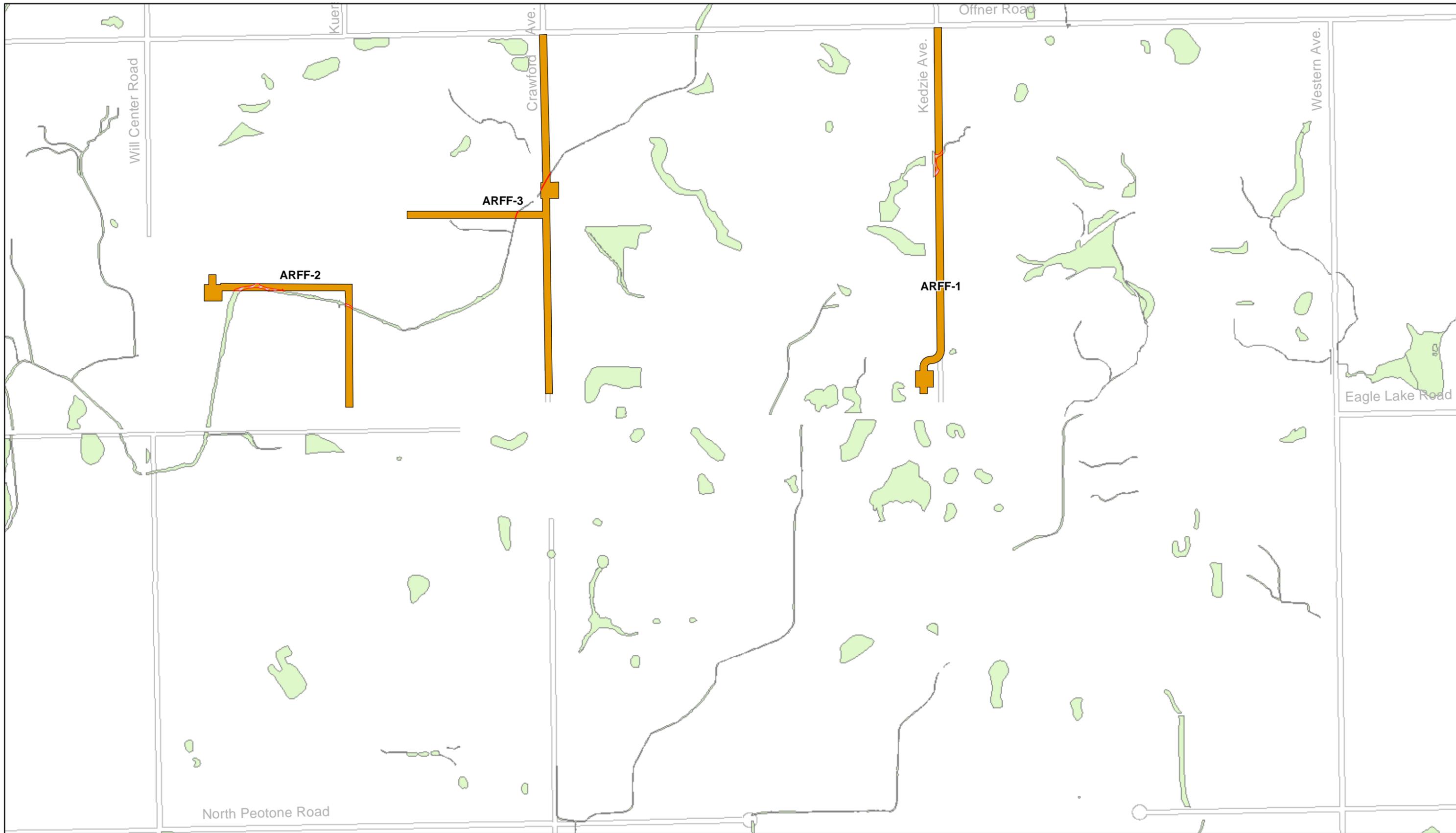
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Legend

- Parking, Rental Car, and Commercial Vehicle Staging Alternatives
- Areas of Population Displacement
- Existing Residences

Inaugural Airport Program
 Support Facilities Concept Alternatives
 Parking, Rental Car, and Commercial Vehicle Staging
 Land Use Impacts - Population Displacement
 Exhibit A-33

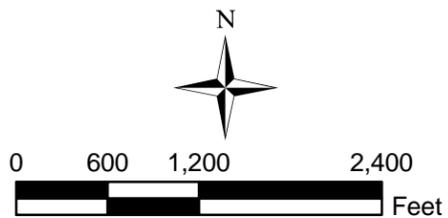
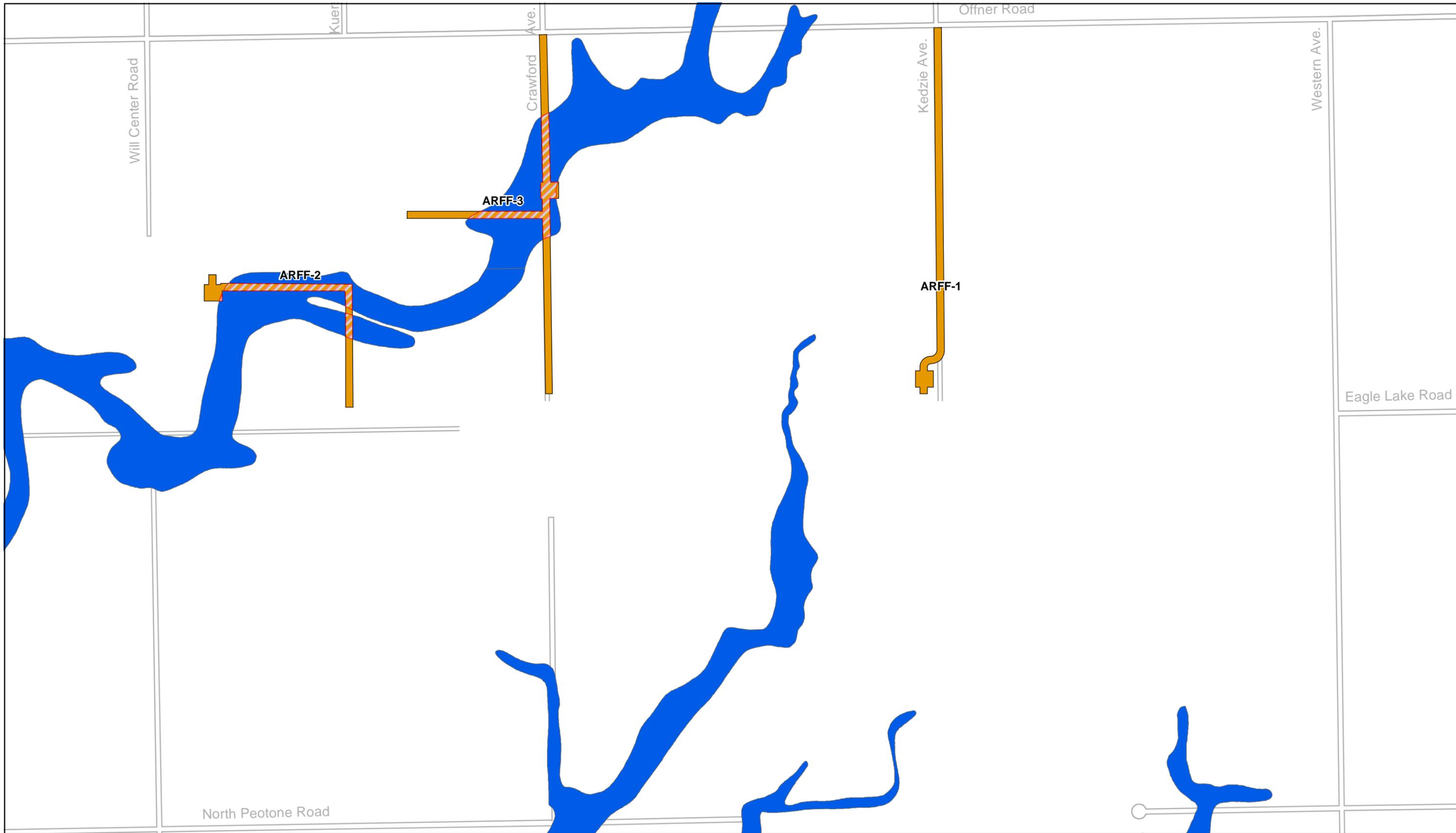


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Legend

-  Aircraft Rescue and Fire Fighting Facility Alternatives
-  Areas of Wetland Impact
-  Wetland Areas

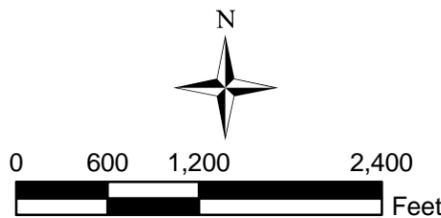
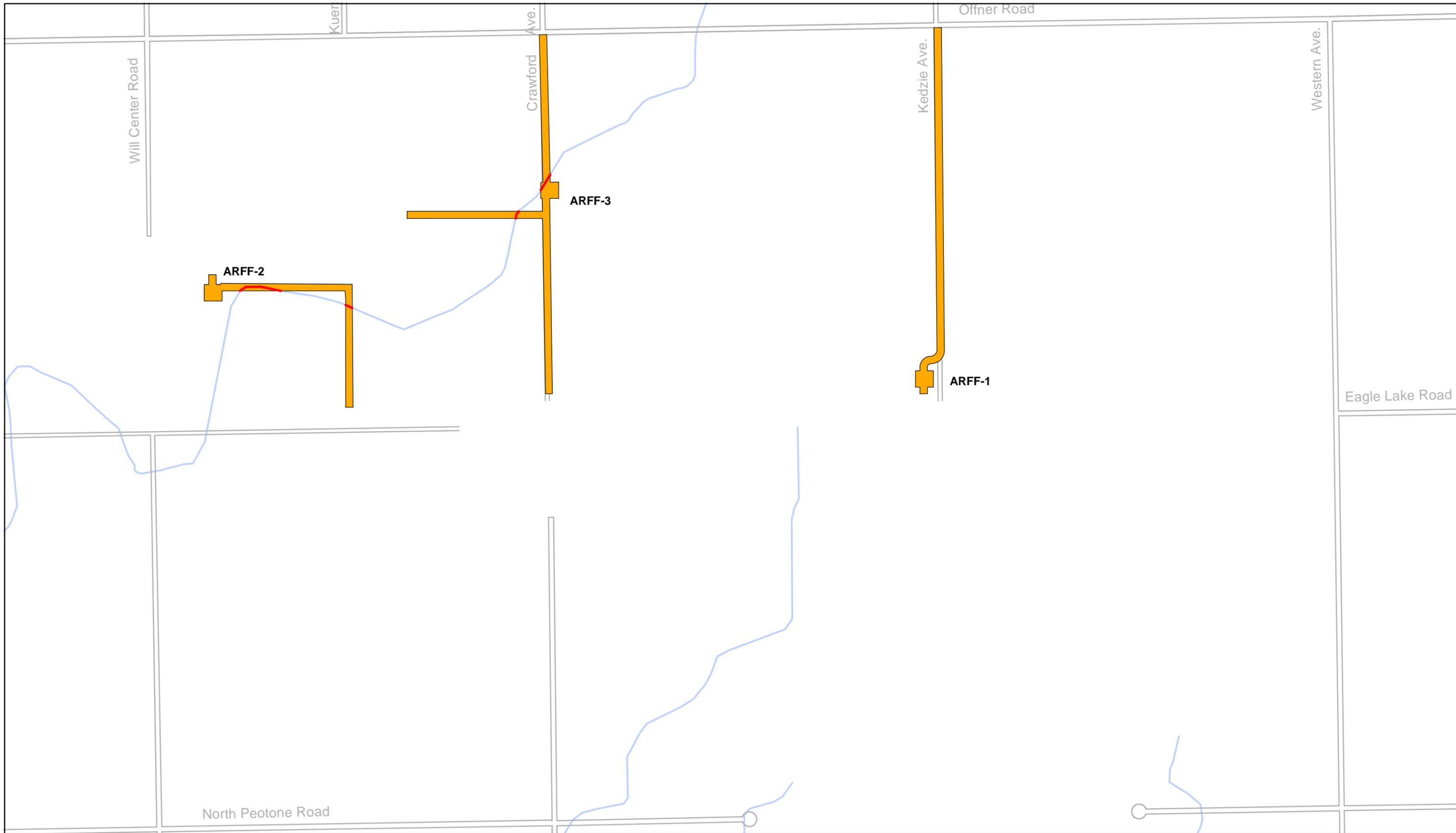


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Legend

-  Aircraft Rescue and Fire Fighting Facility Alternatives
-  Areas of Floodplain Impact
-  Floodplain



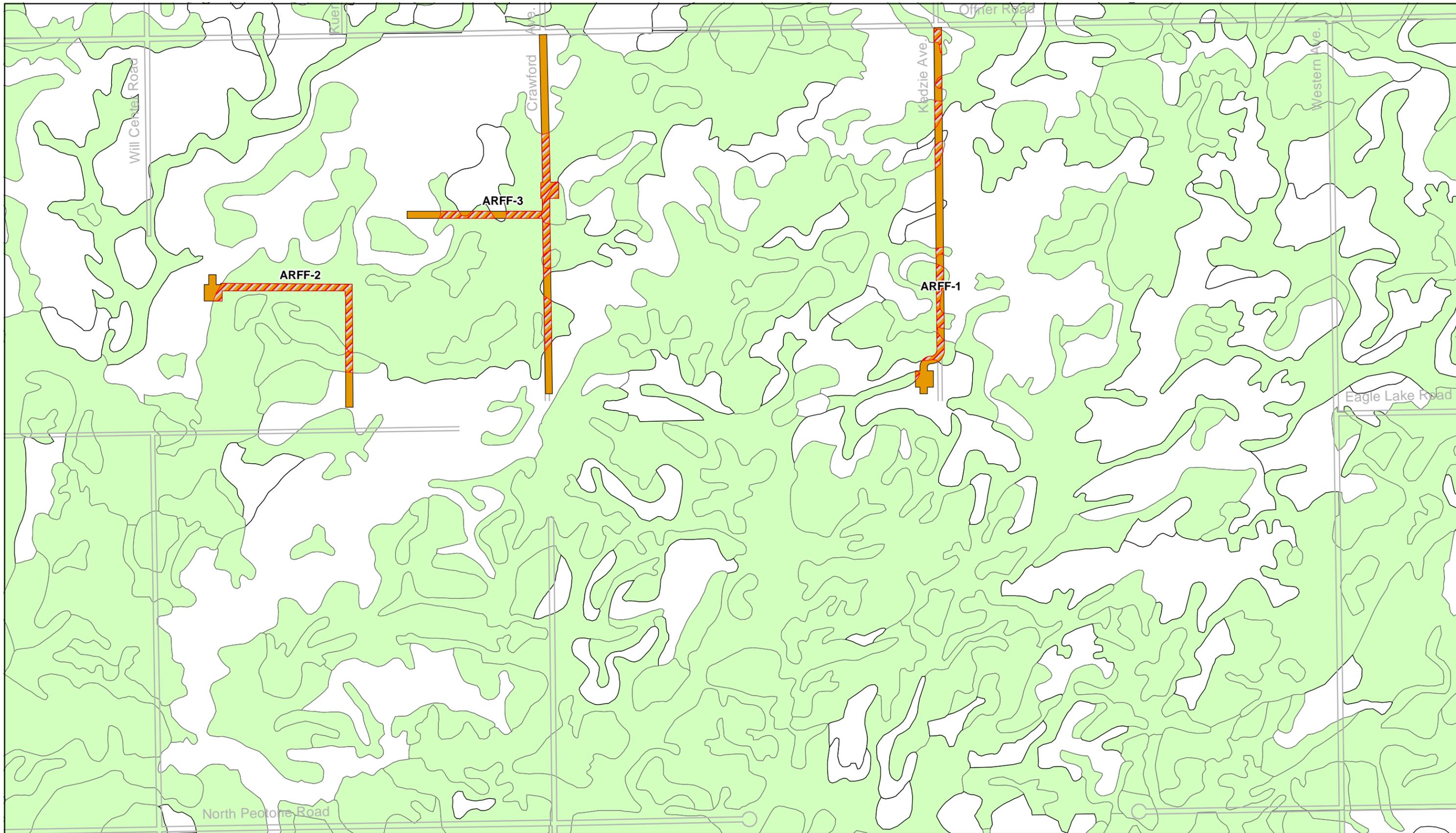
TAMS
AN EARTH TECH COMPANY



Legend

- Aircraft Rescue and Fire Fighting Facility Alternatives
- Areas of Stream Impact
- Streams

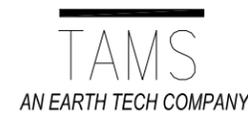
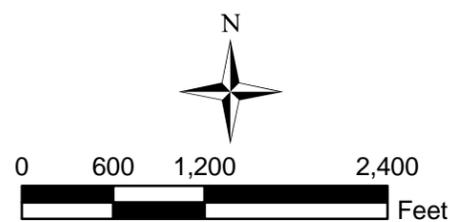
Inaugural Airport Program
Support Facilities Concept Alternatives
Aircraft Rescue and Fire Fighting Facility
Environmental Impacts - Water Resources (Streams)
Exhibit A-36

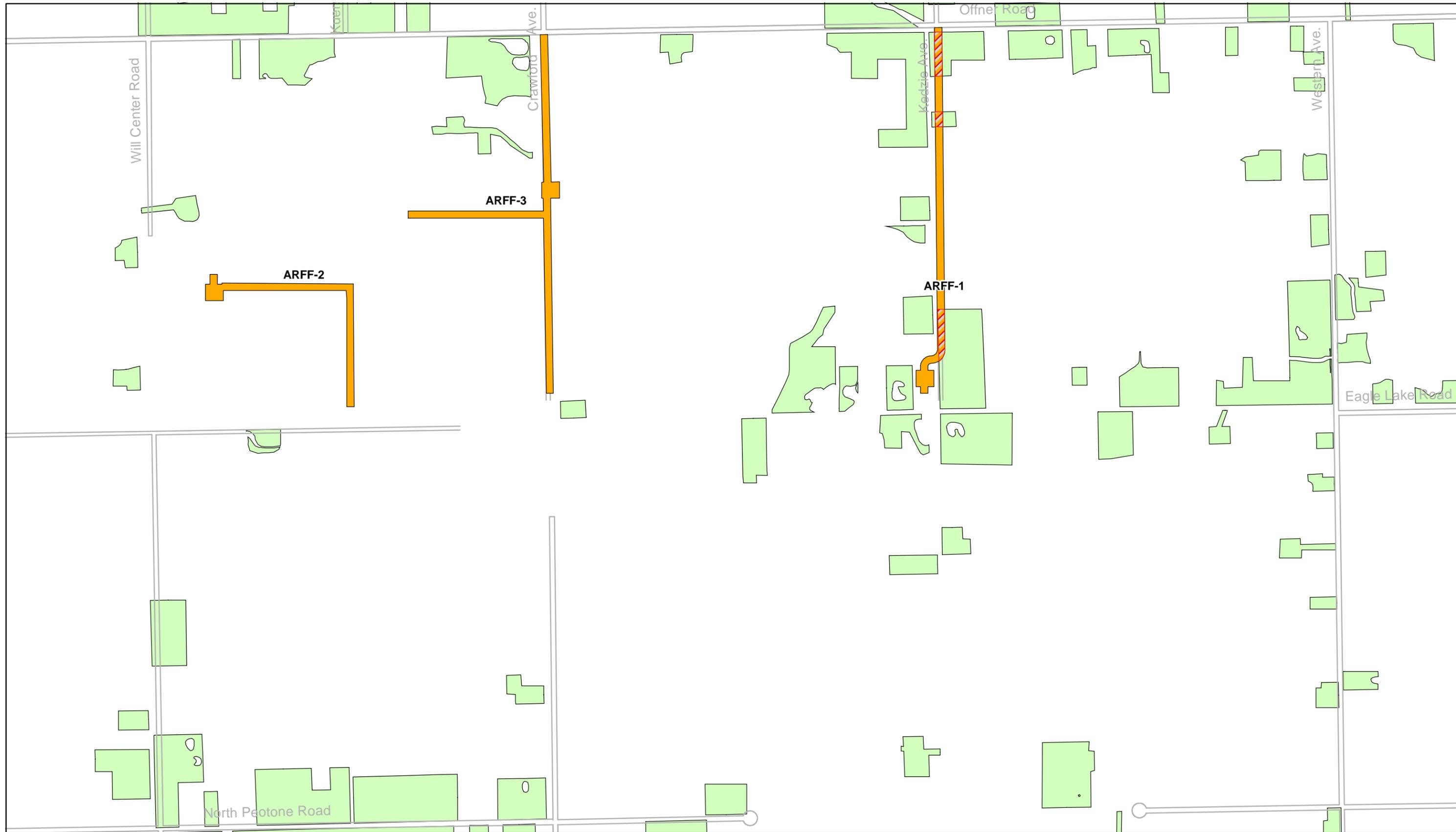


Legend

-  Aircraft Rescue and Fire Fighting Facility Alternatives
-  Areas of Prime Farmland Impact
-  Areas of Prime Farmland

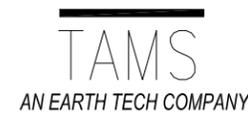
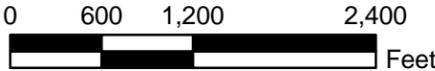
Inaugural Airport Program
 Support Facilities Concept Alternatives
 Aircraft Rescue and Fire Fighting Facility
 Environmental Impacts - Prime Farmland
 Exhibit A-37

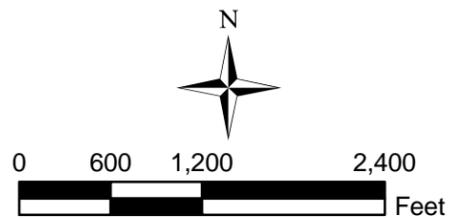
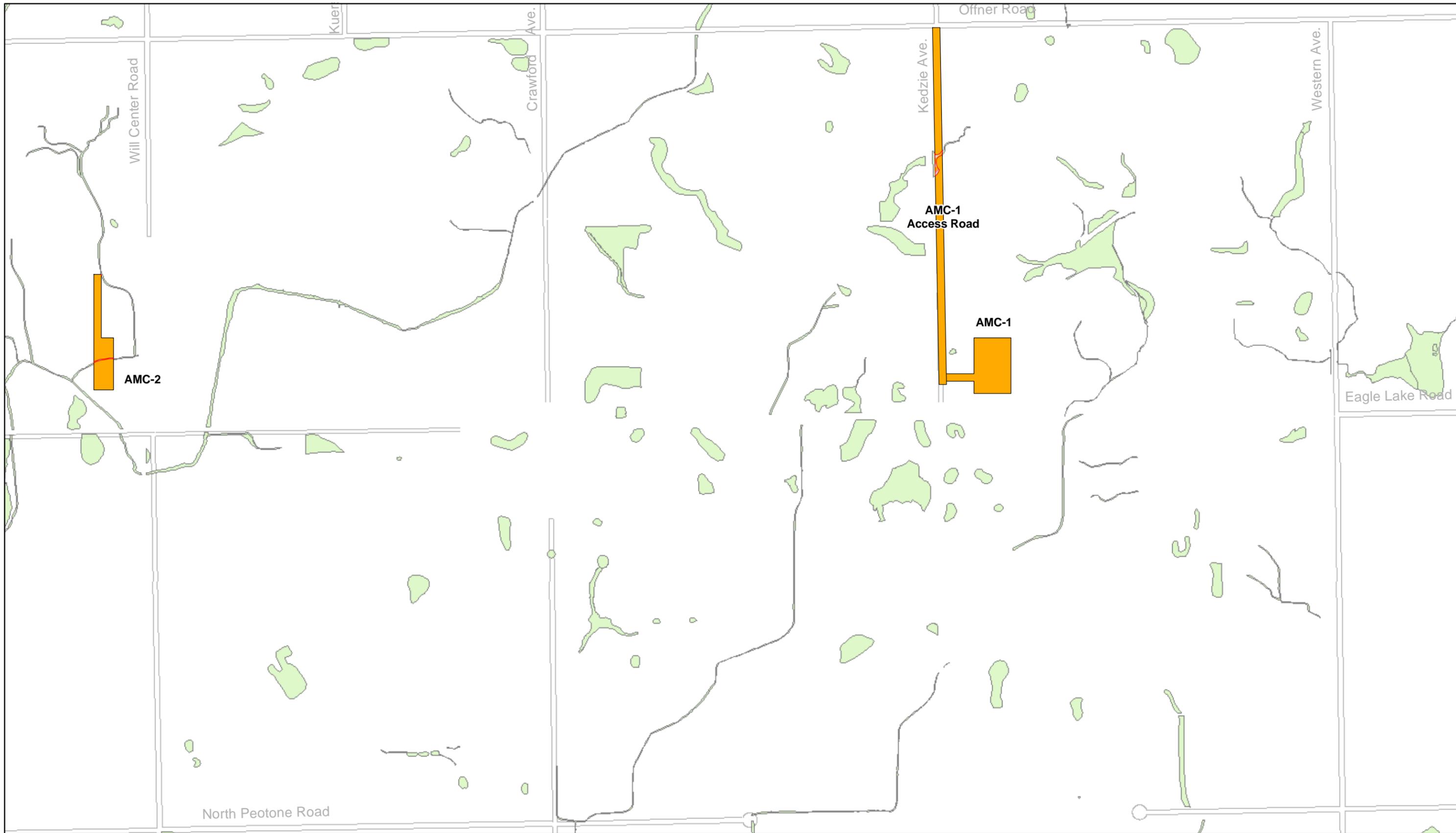




Legend

-  Aircraft Rescue and Fire Fighting Facility Alternatives
-  Areas of Population Displacement
-  Existing Residences



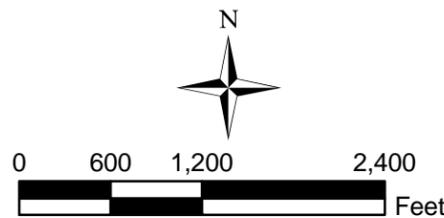
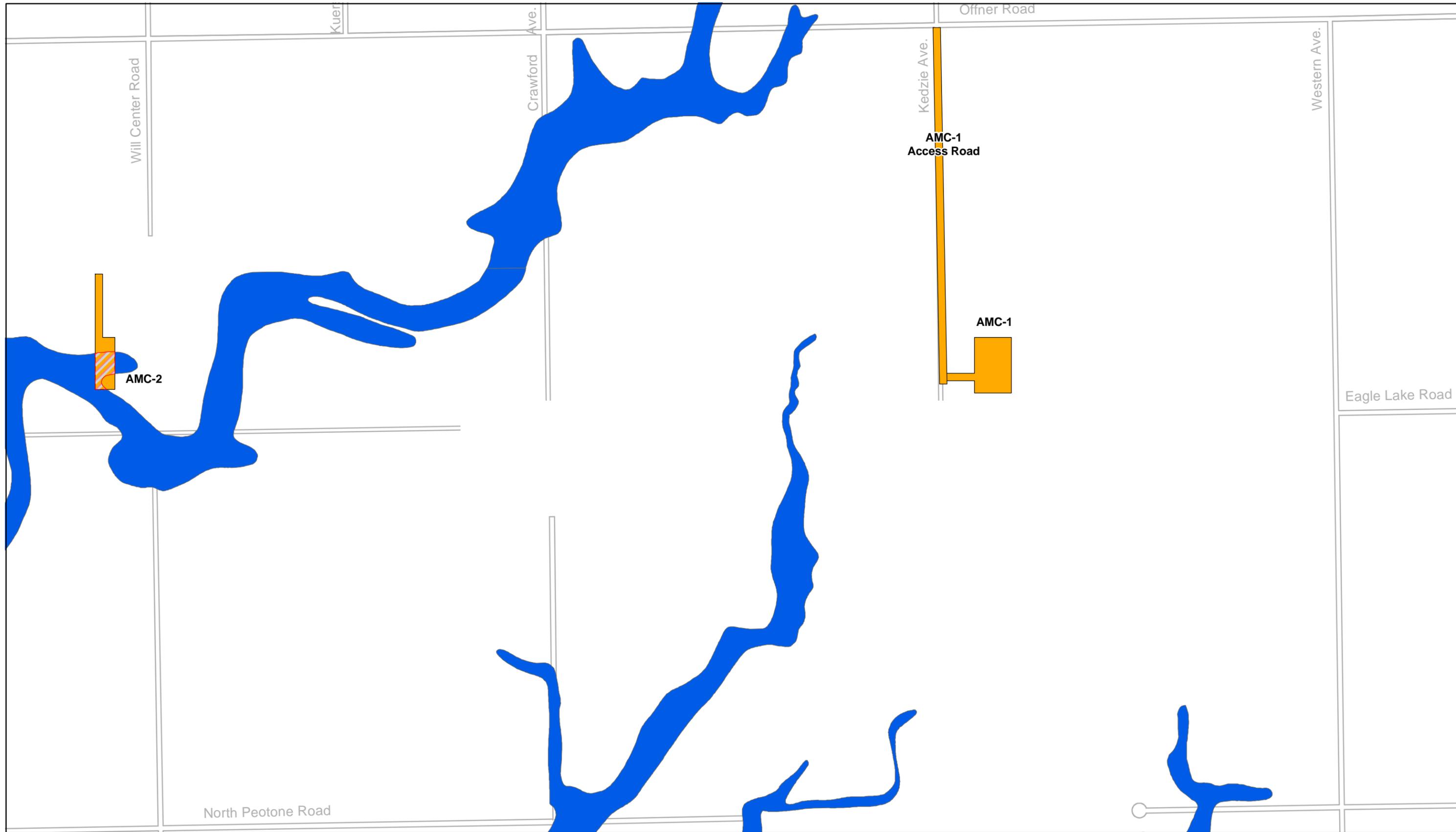


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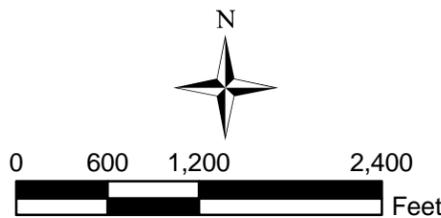
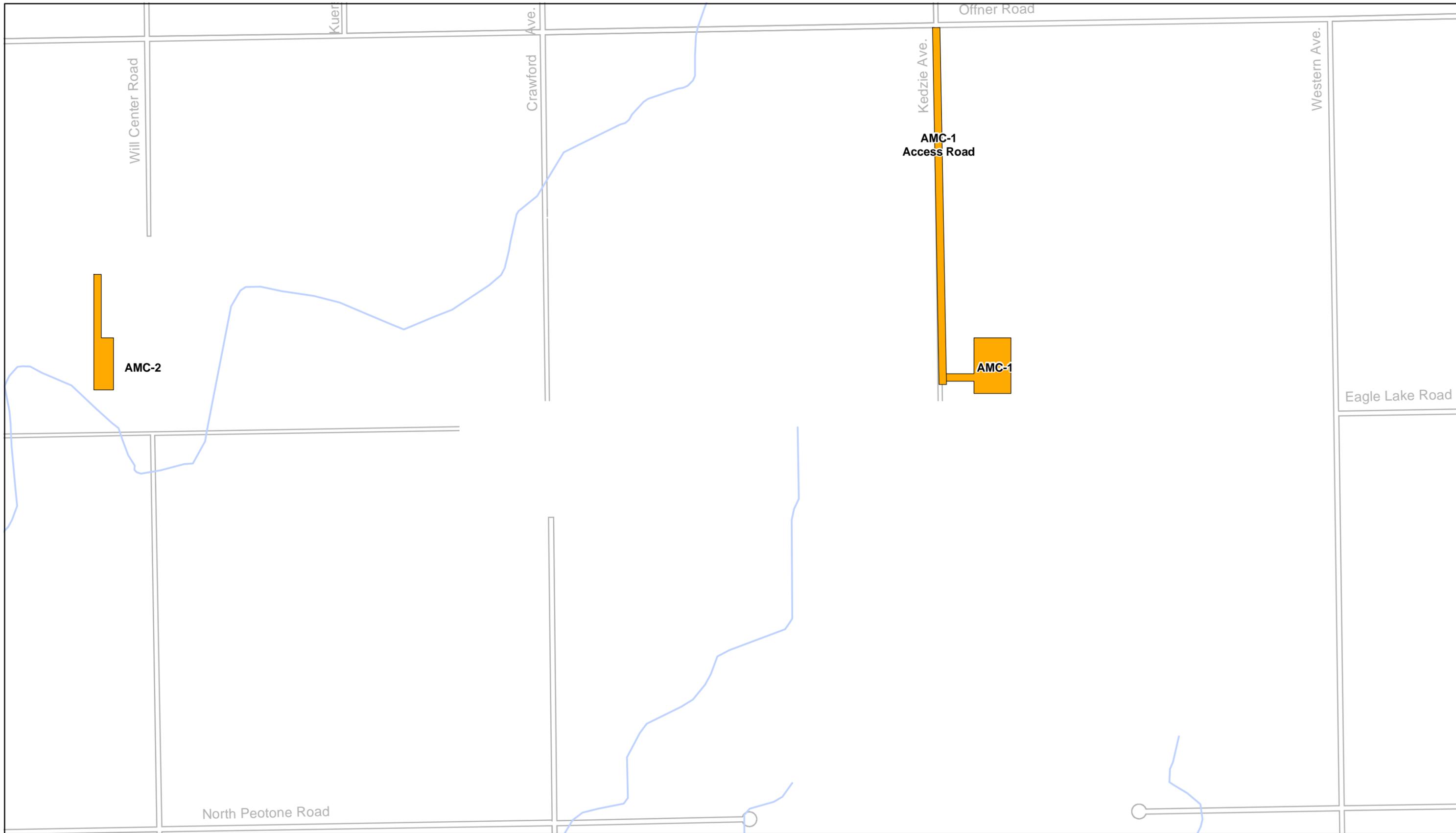
Legend

-  Airport Maintenance Facility Alternatives
-  Areas of Wetland Impact
-  Wetland Areas



Legend

-  Airport Maintenance Facility Alternatives
-  Areas of Floodplain Impact
-  Floodplain



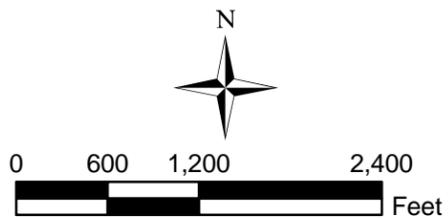
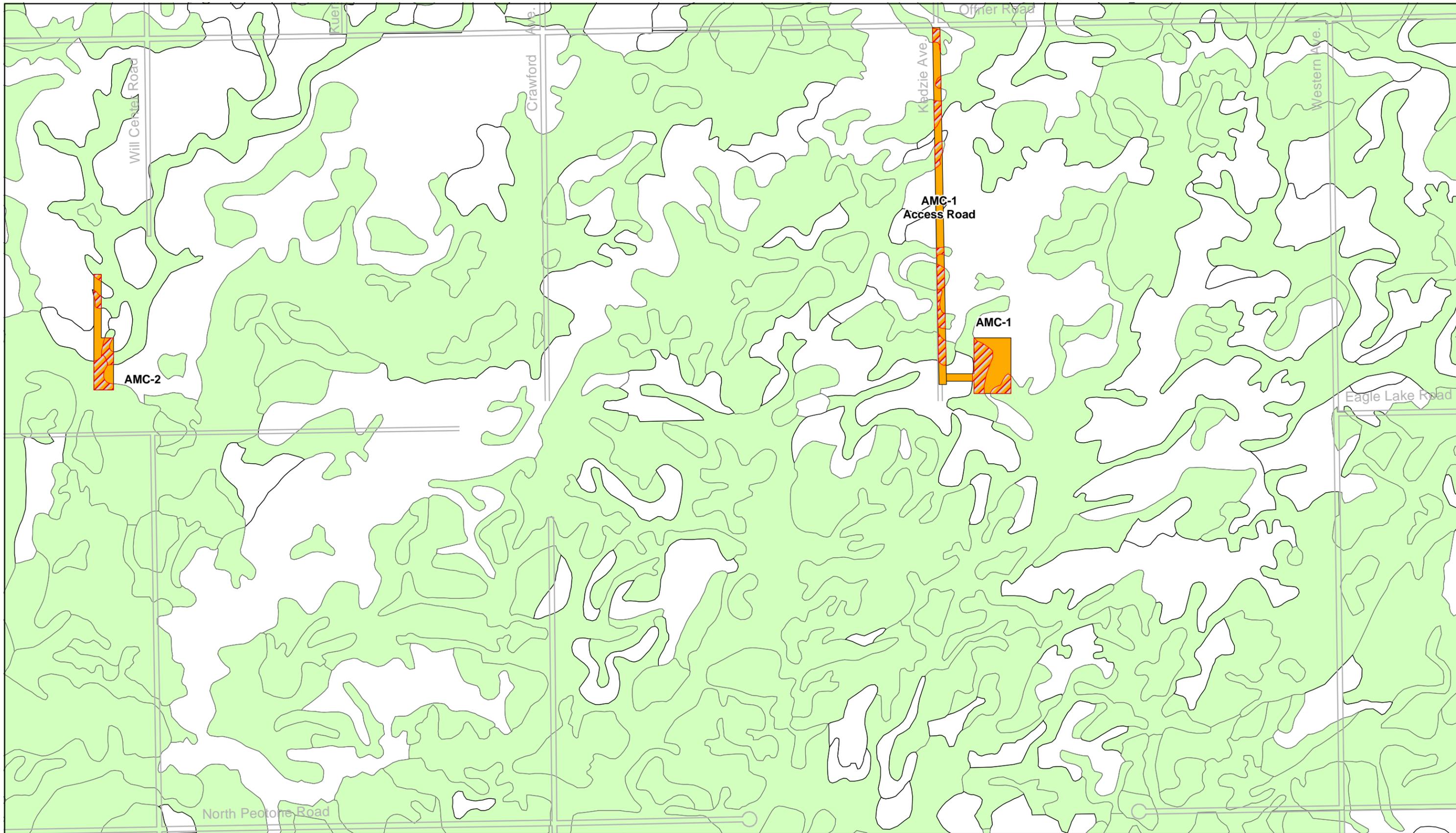
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Legend

- Airport Maintenance Facility Alternatives
- Areas of Stream Impact
- Streams

Inaugural Airport Program
 Support Facilities Concept Alternatives
 Snow Removal Equipment/Airport Maintenance Facility
 Environmental Impacts - Water Resources (Streams)
 Exhibit A-41



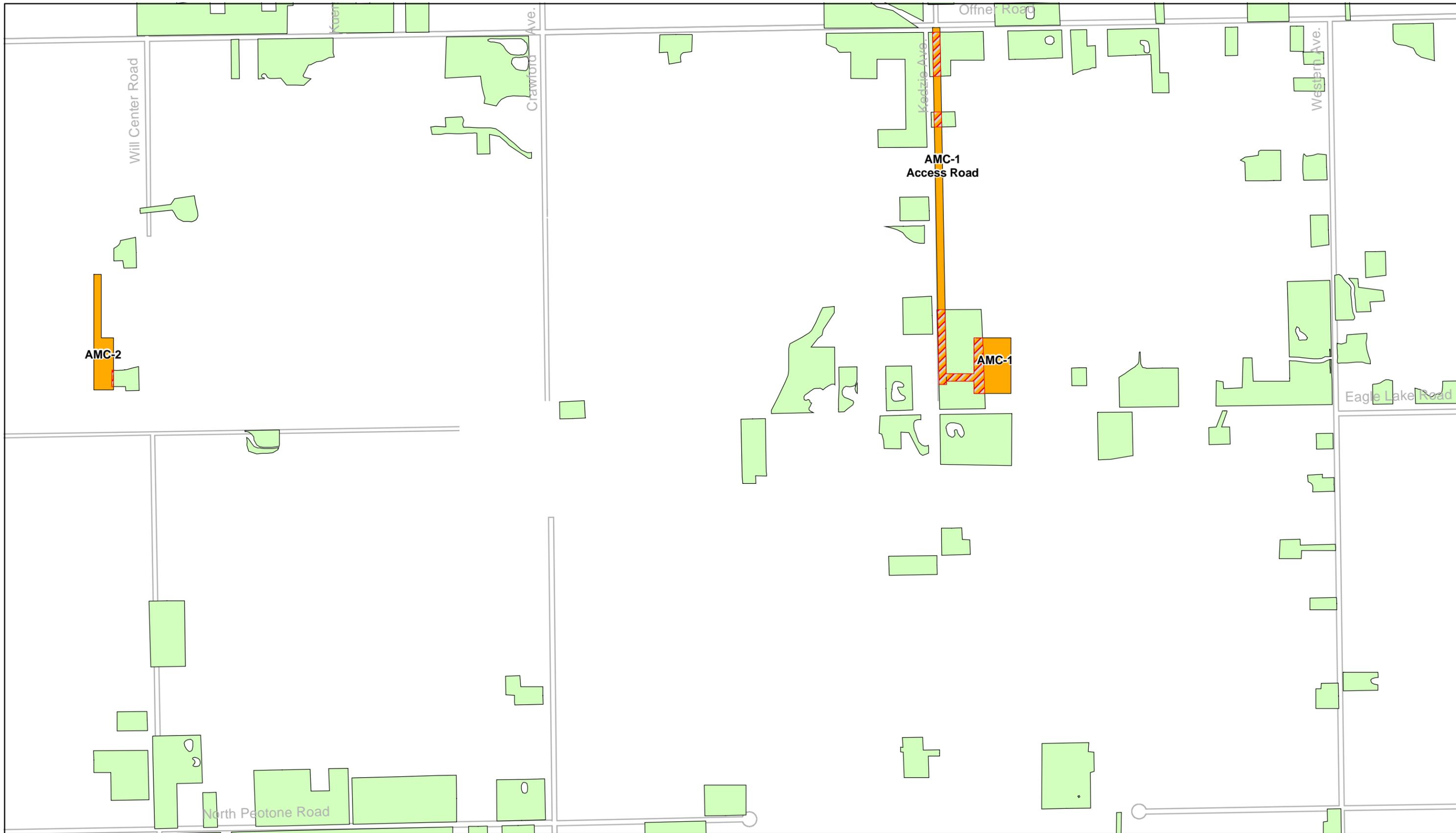
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Legend

-  Airport Maintenance Facility Alternatives
-  Areas of Prime Farmland Impact
-  Areas of Prime Farmland

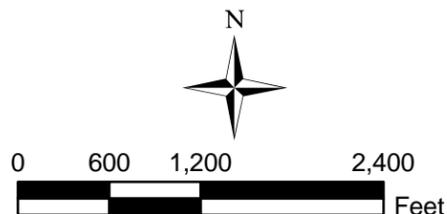
Inaugural Airport Program
Support Facilities Concept Alternatives
Snow Removal Equipment/Airport Maintenance Facility
Environmental Impacts - Prime Farmland
Exhibit A-42

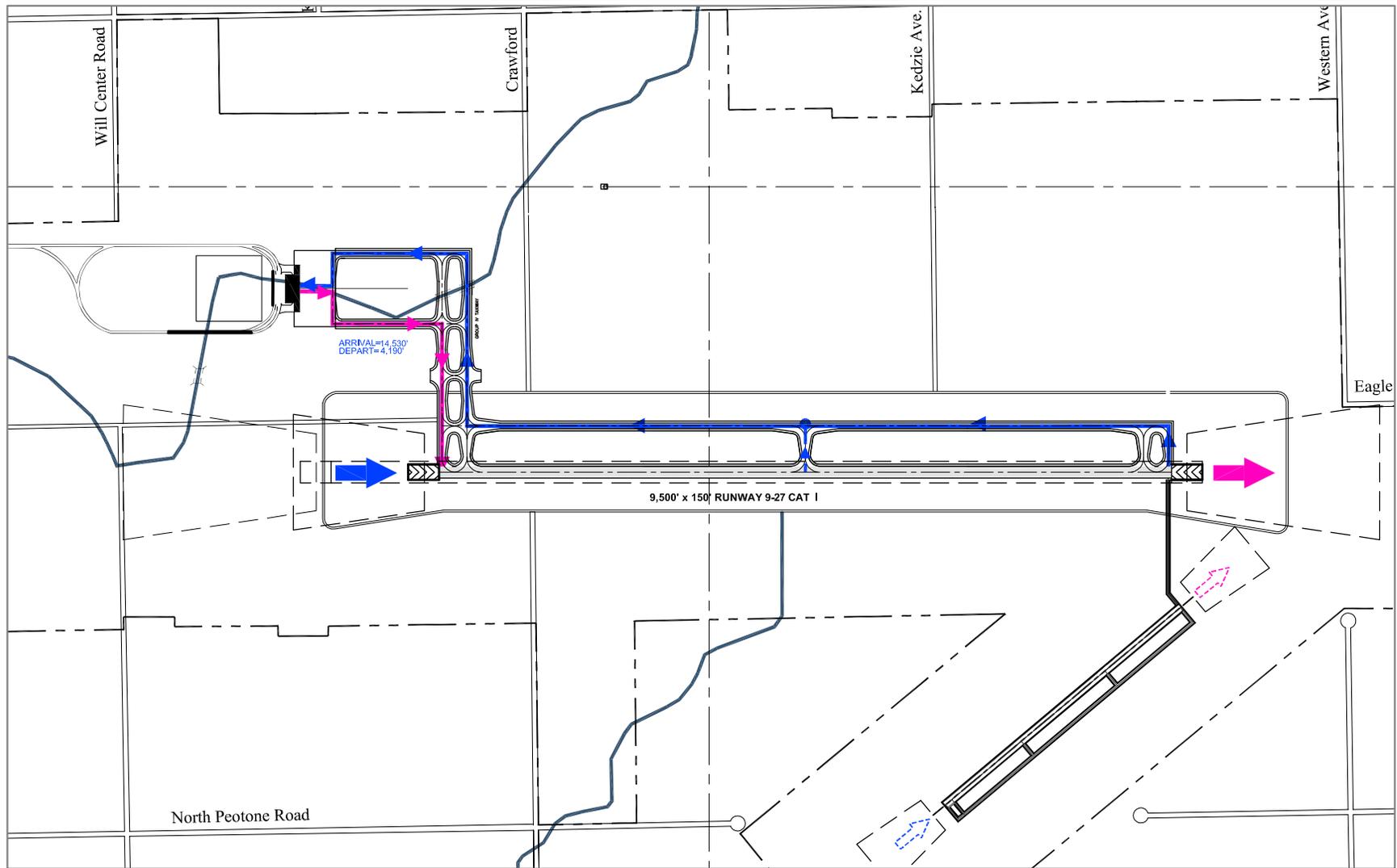


Legend

- Snow Removal Equipment/Airport Maintenance Facility Alternatives
- Areas of Population Displacement
- Existing Residences

Inaugural Airport Program
 Support Facilities Concept Alternatives
 Snow Removal Equipment/Airport Maintenance Facility
 Land Use Impacts - Population Displacement





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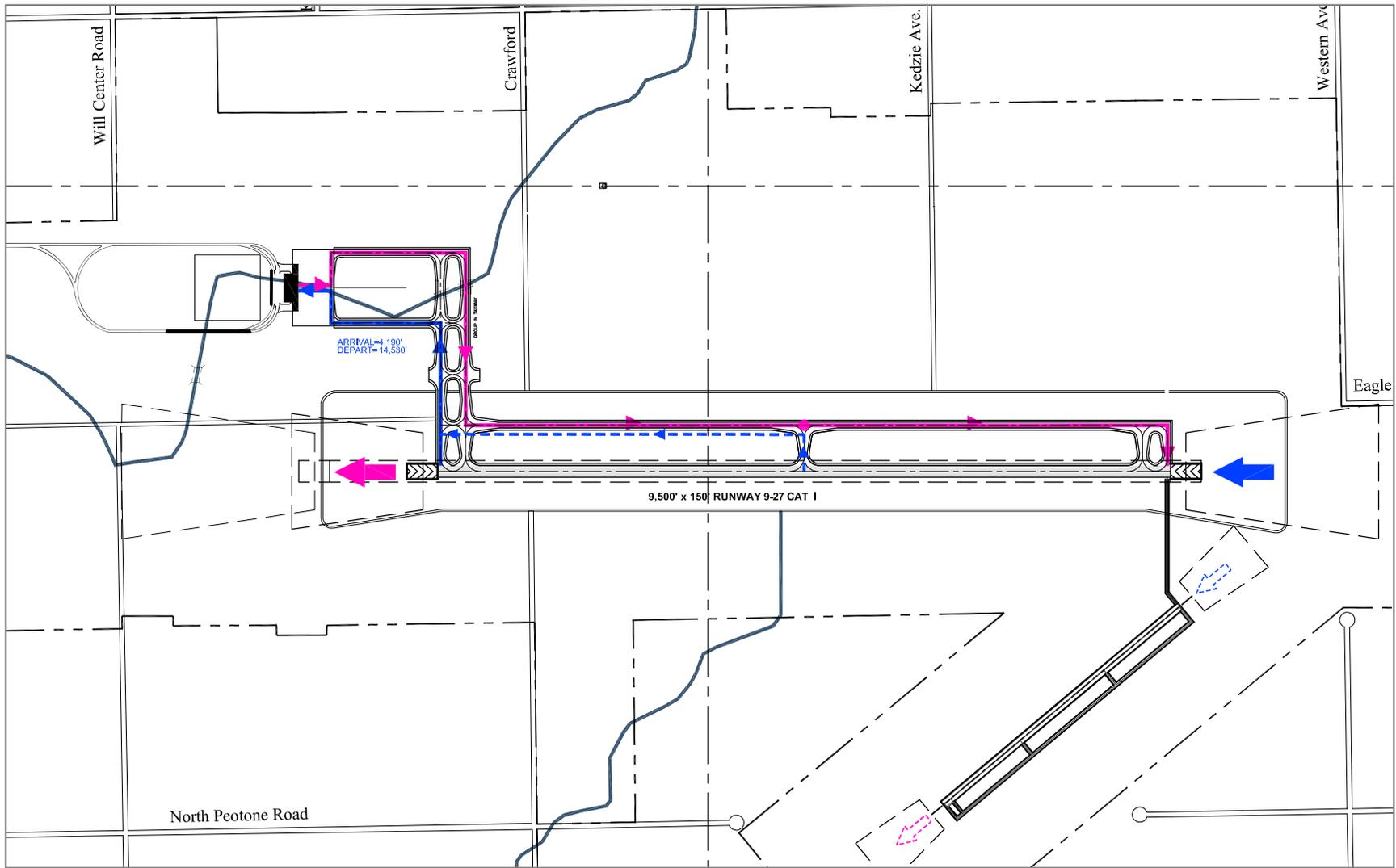
0 1000 2000 ft

Legend

- ARRIVAL FLOW
- DEPARTURE FLOW
- TAXIWAY CROSSING
- ✕ RUNWAY CROSSING
- - - AIRPORT FOOTPRINT
- ▭ PROPOSED AIRPORT RUNWAY
- PRIMARY ARRIVAL RUNWAY
- CROSSWIND ARRIVAL RUNWAY
- PRIMARY DEPARTURE RUNWAY
- CROSSWIND DEPARTURE RUNWAY

**Inaugural Airport Program
Aircraft Taxiing Analysis
Terminal Facility A-1 East Flow**

Exhibit: A-44.1



TAMS an Earth Tech Company



0 1000 2000 ft

Legend

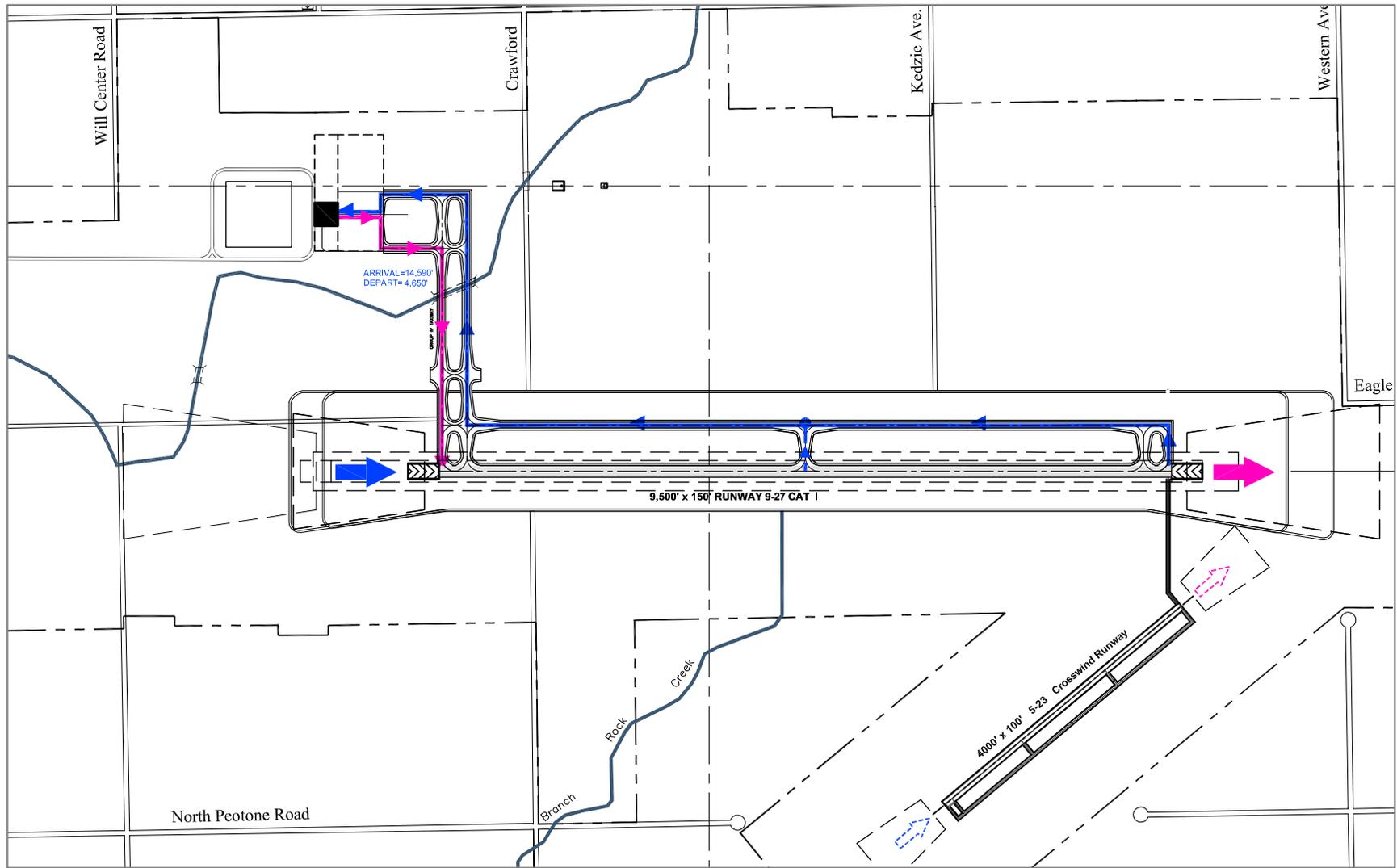
- ARRIVAL FLOW
- DEPARTURE FLOW
- TAXIWAY CROSSING

- RUNWAY CROSSING
- AIRPORT FOOTPRINT
- PROPOSED AIRPORT RUNWAY

- PRIMARY ARRIVAL RUNWAY
- CROSSWIND ARRIVAL RUNWAY
- PRIMARY DEPARTURE RUNWAY
- CROSSWIND DEPARTURE RUNWAY

**Inaugural Airport Program
Aircraft Taxiing Analysis
Terminal Facility A-1 West Flow**

Exhibit: A-44.2



TAMS an Earth Tech Company



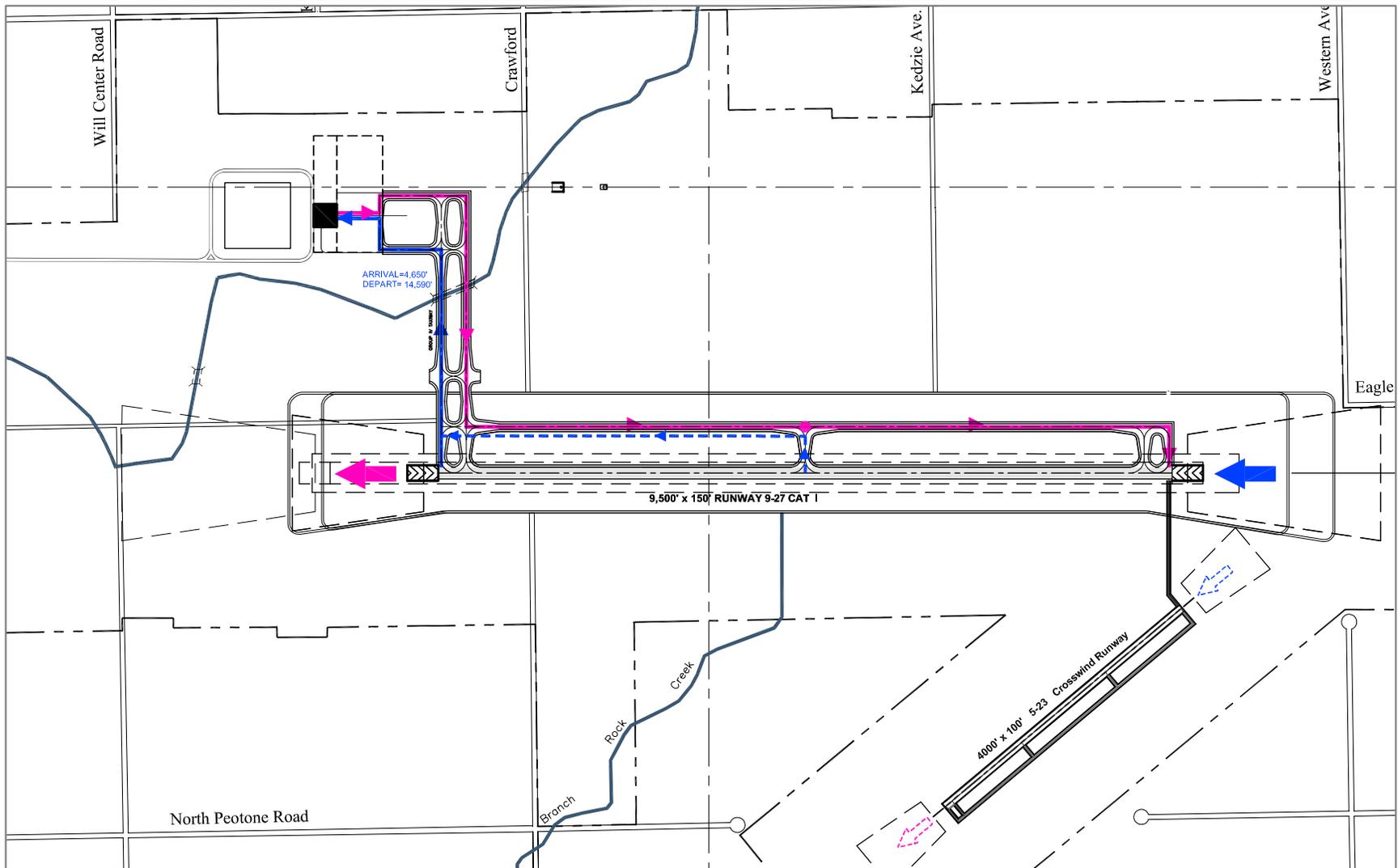
0 1000 2000 ft

Legend

- ARRIVAL FLOW
- DEPARTURE FLOW
- TAXIWAY CROSSING
- ✕ RUNWAY CROSSING
- AIRPORT FOOTPRINT
- ▭ PROPOSED AIRPORT RUNWAY
- PRIMARY ARRIVAL RUNWAY
- CROSSWIND ARRIVAL RUNWAY
- PRIMARY DEPARTURE RUNWAY
- CROSSWIND DEPARTURE RUNWAY

**Inaugural Airport Program
Aircraft Taxiing Analysis
Terminal Facility A-2 East Flow**

Exhibit: A-45.1



TAMS an Earth Tech Company



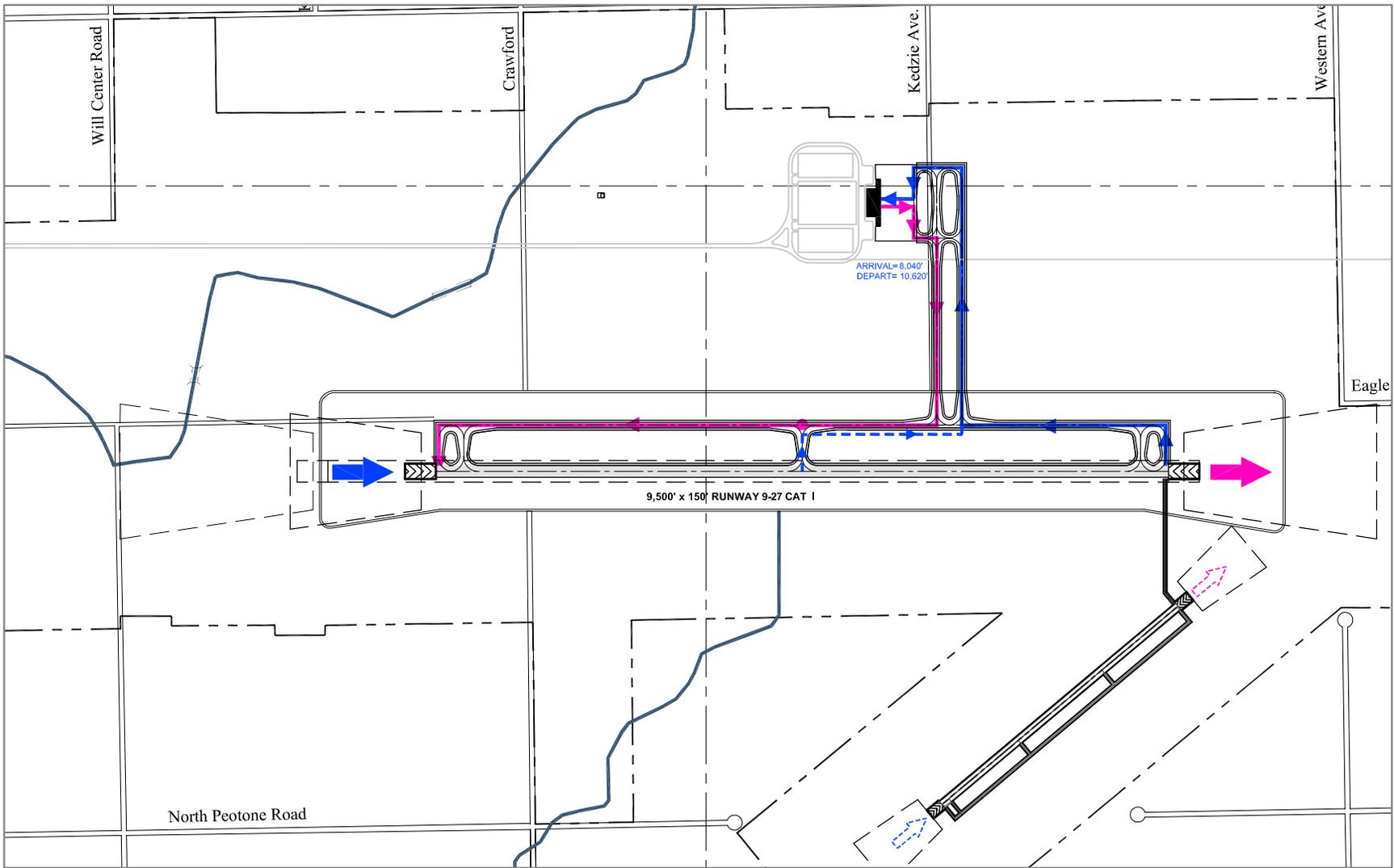
0 1000 2000 ft

Legend

- ARRIVAL FLOW
- DEPARTURE FLOW
- TAXIWAY CROSSING
- ✕ RUNWAY CROSSING
- AIRPORT FOOTPRINT
- ▭ PROPOSED AIRPORT RUNWAY
- PRIMARY ARRIVAL RUNWAY
- CROSSWIND ARRIVAL RUNWAY
- PRIMARY DEPARTURE RUNWAY
- CROSSWIND DEPARTURE RUNWAY

**Inaugural Airport Program
Aircraft Taxiing Analysis
Terminal Facility A-2 West Flow**

Exhibit: A-45.2



TAMS an Earth Tech Company



0 1000 2000 ft

Legend

ARRIVAL FLOW

DEPARTURE FLOW

TAXIWAY CROSSING

RUNWAY CROSSING

AIRPORT FOOTPRINT

PROPOSED AIRPORT RUNWAY

PRIMARY ARRIVAL RUNWAY

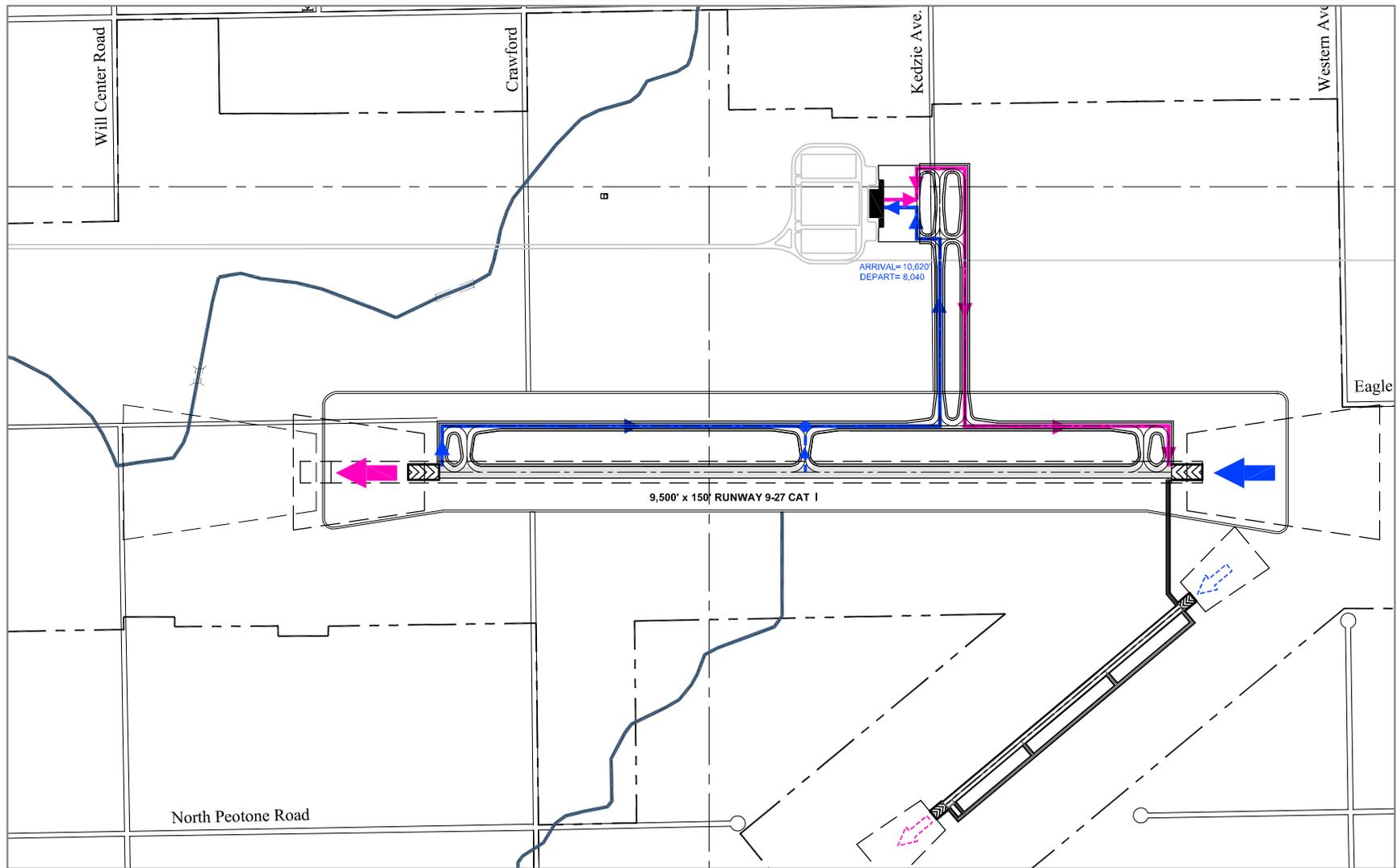
CROSSWIND ARRIVAL RUNWAY

PRIMARY DEPARTURE RUNWAY

CROSSWIND DEPARTURE RUNWAY

**Inaugural Airport Program
Aircraft Taxiing Analysis
Terminal Facility C-1 East Flow**

Exhibit: A-46.1



TAMS an Earth Tech Company



0 1000 2000 ft

Legend

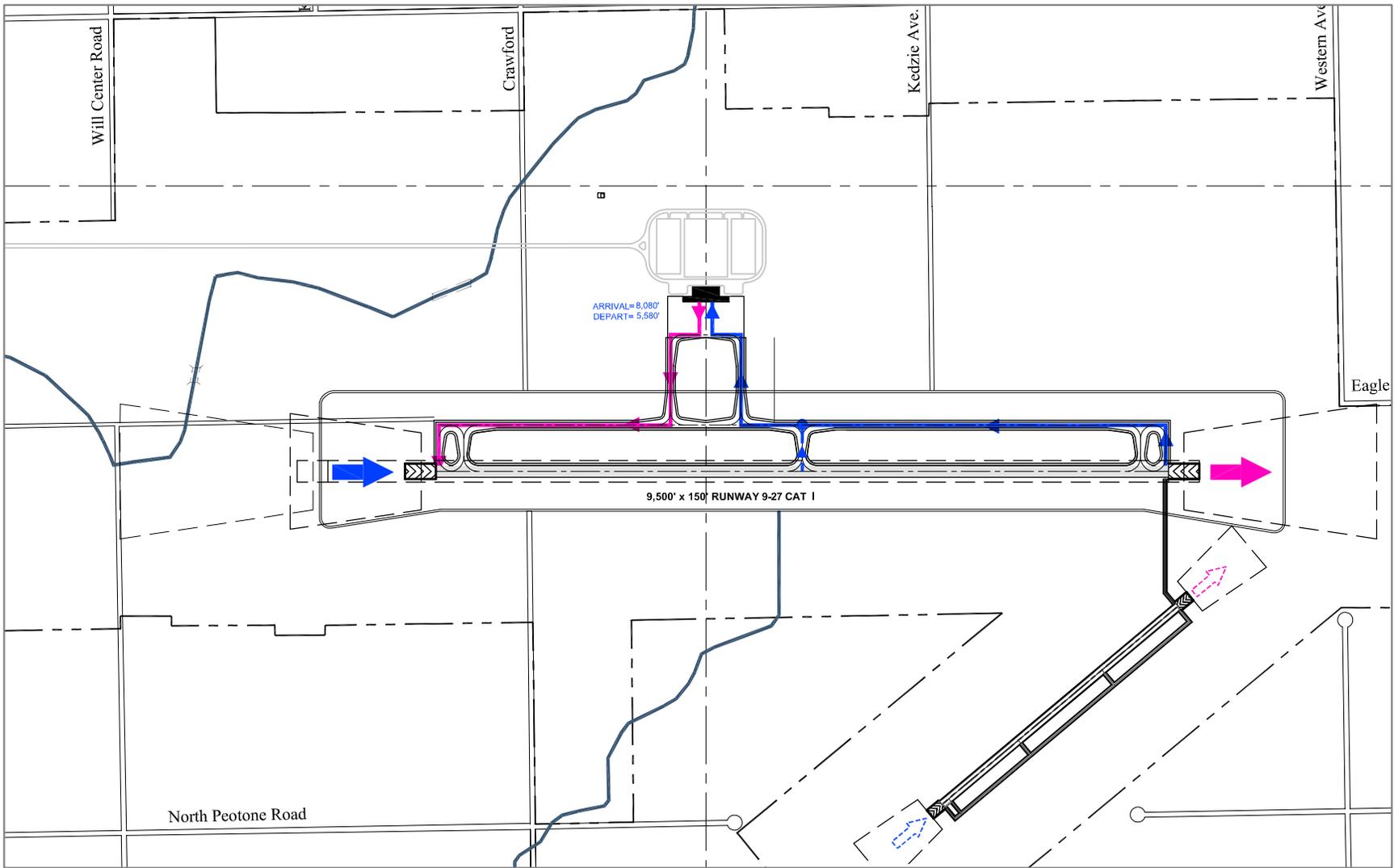
- ARRIVAL FLOW
- DEPARTURE FLOW
- TAXIWAY CROSSING

- RUNWAY CROSSING
- AIRPORT FOOTPRINT
- PROPOSED AIRPORT RUNWAY

- PRIMARY ARRIVAL RUNWAY
- CROSSWIND ARRIVAL RUNWAY
- PRIMARY DEPARTURE RUNWAY
- CROSSWIND DEPARTURE RUNWAY

**Inaugural Airport Program
Aircraft Taxiing Analysis
Terminal Facility C-1 West Flow**

Exhibit: A-46.2



TAMS an Earth Tech Company



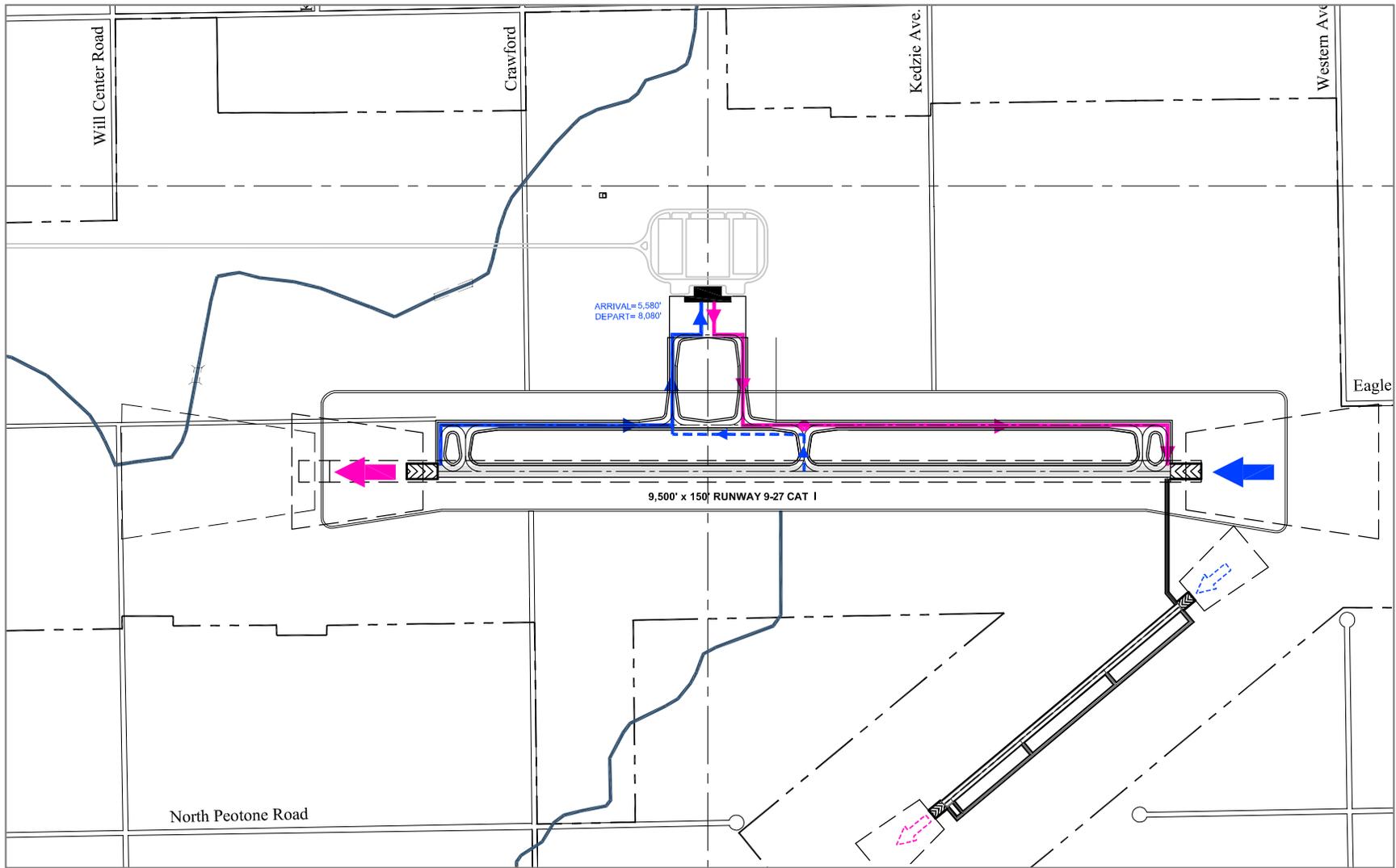
0 1000 2000 ft

Legend

- ARRIVAL FLOW
- DEPARTURE FLOW
- TAXIWAY CROSSING
- ✕ RUNWAY CROSSING
- AIRPORT FOOTPRINT
- - - PROPOSED AIRPORT RUNWAY
- PRIMARY ARRIVAL RUNWAY
- - - CROSSWIND ARRIVAL RUNWAY
- PRIMARY DEPARTURE RUNWAY
- - - CROSSWIND DEPARTURE RUNWAY

**Inaugural Airport Program
Aircraft Taxiing Analysis
Terminal Facility C-2 East Flow**

Exhibit: A-47.1



TAMS an Earth Tech Company



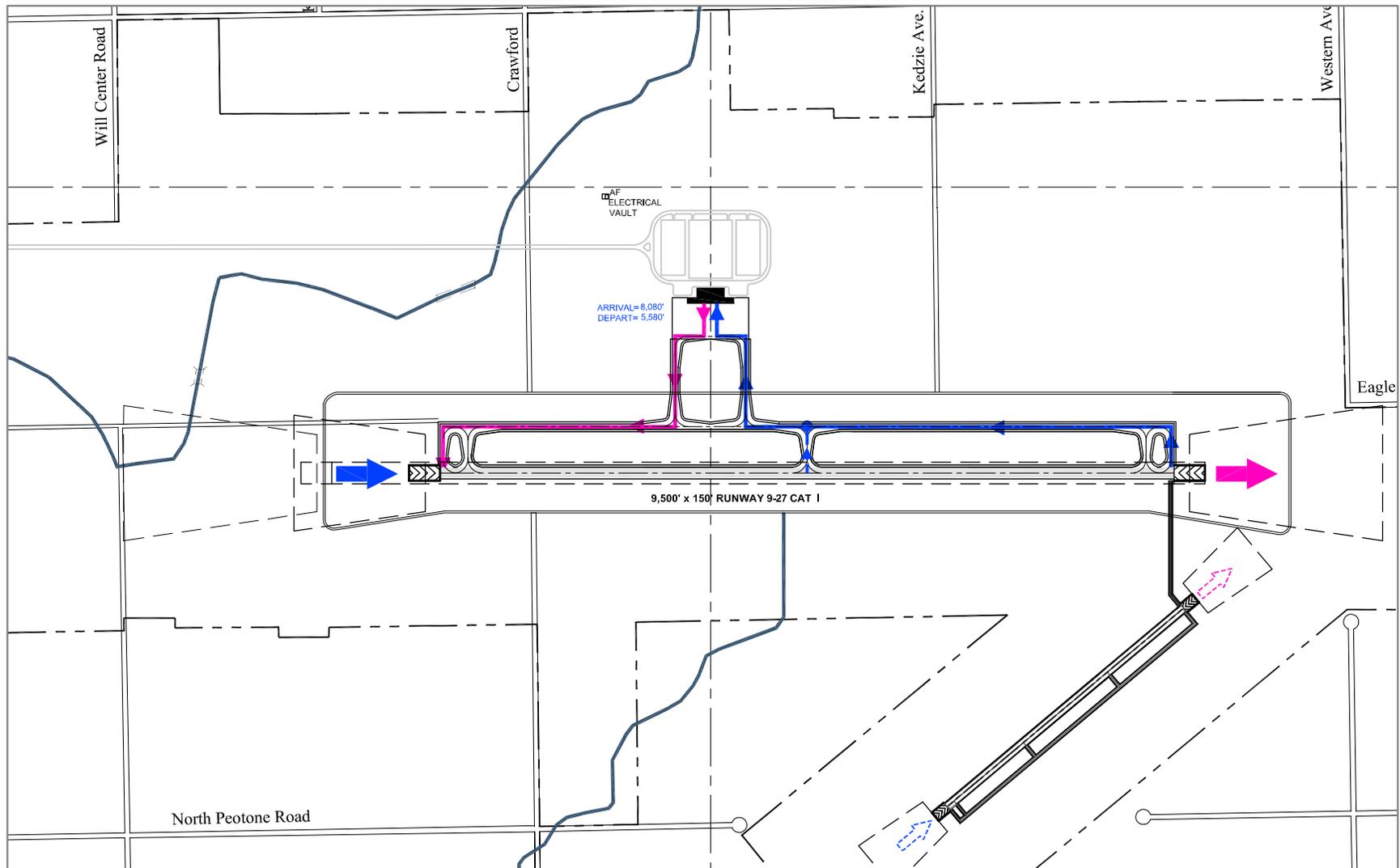
0 1000 2000 ft

Legend

- ARRIVAL FLOW
- DEPARTURE FLOW
- TAXIWAY CROSSING
- ✕ RUNWAY CROSSING
- AIRPORT FOOTPRINT
- ▭ PROPOSED AIRPORT RUNWAY
- PRIMARY ARRIVAL RUNWAY
- CROSSWIND ARRIVAL RUNWAY
- PRIMARY DEPARTURE RUNWAY
- CROSSWIND DEPARTURE RUNWAY

**Inaugural Airport Program
Aircraft Taxiing Analysis
Terminal Facility C-2 West Flow**

Exhibit: A-47.2



TAMS an Earth Tech Company



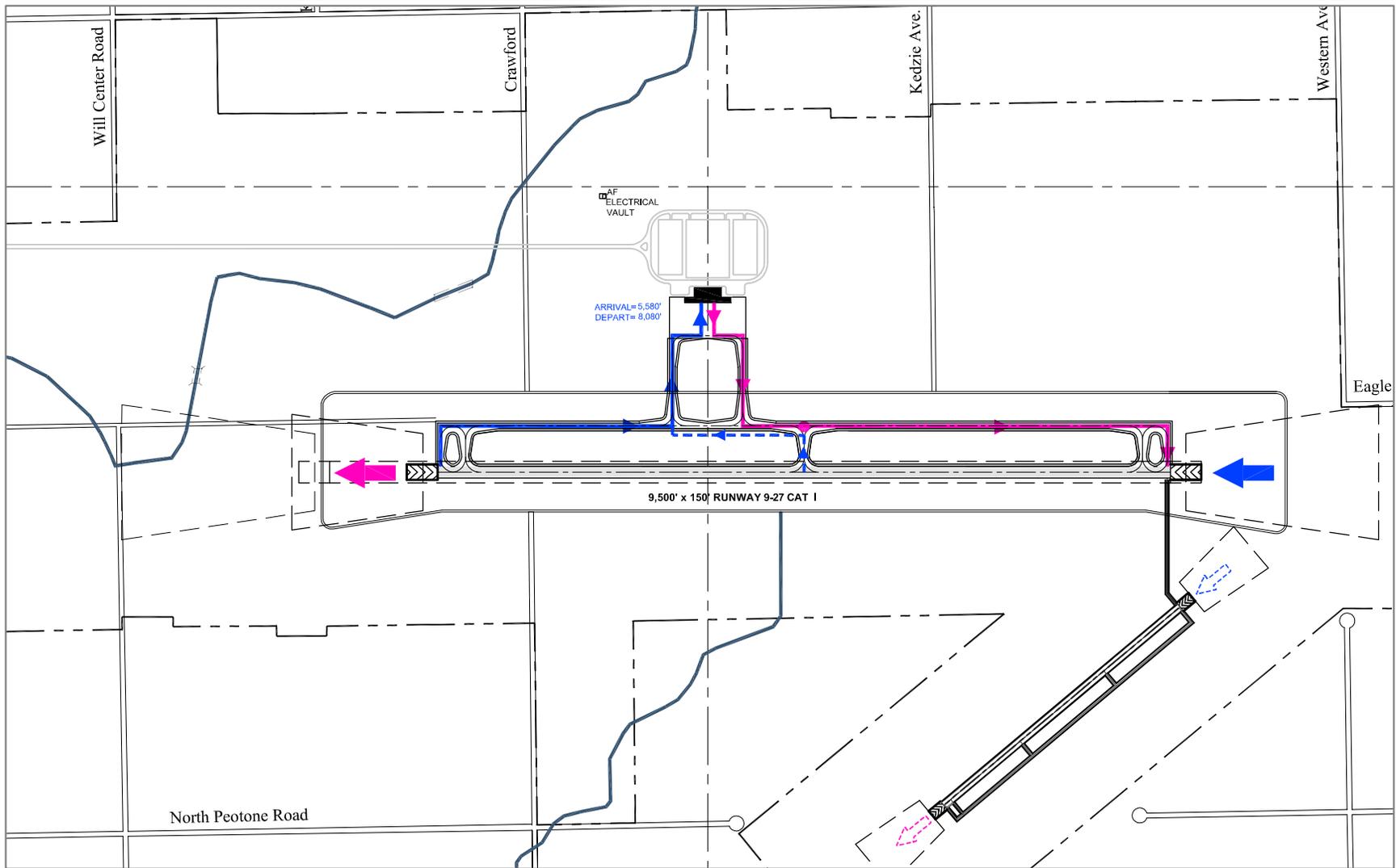
0 1000 2000 ft

Legend

- ARRIVAL FLOW
- DEPARTURE FLOW
- TAXIWAY CROSSING
- ✕ RUNWAY CROSSING
- AIRPORT FOOTPRINT
- ▭ PROPOSED AIRPORT RUNWAY
- PRIMARY ARRIVAL RUNWAY
- CROSSWIND ARRIVAL RUNWAY
- PRIMARY DEPARTURE RUNWAY
- CROSSWIND DEPARTURE RUNWAY

**Inaugural Airport Program
Aircraft Taxiing Analysis
Terminal Facility D-1 East Flow**

Exhibit: A-48.1



TAMS an Earth Tech Company



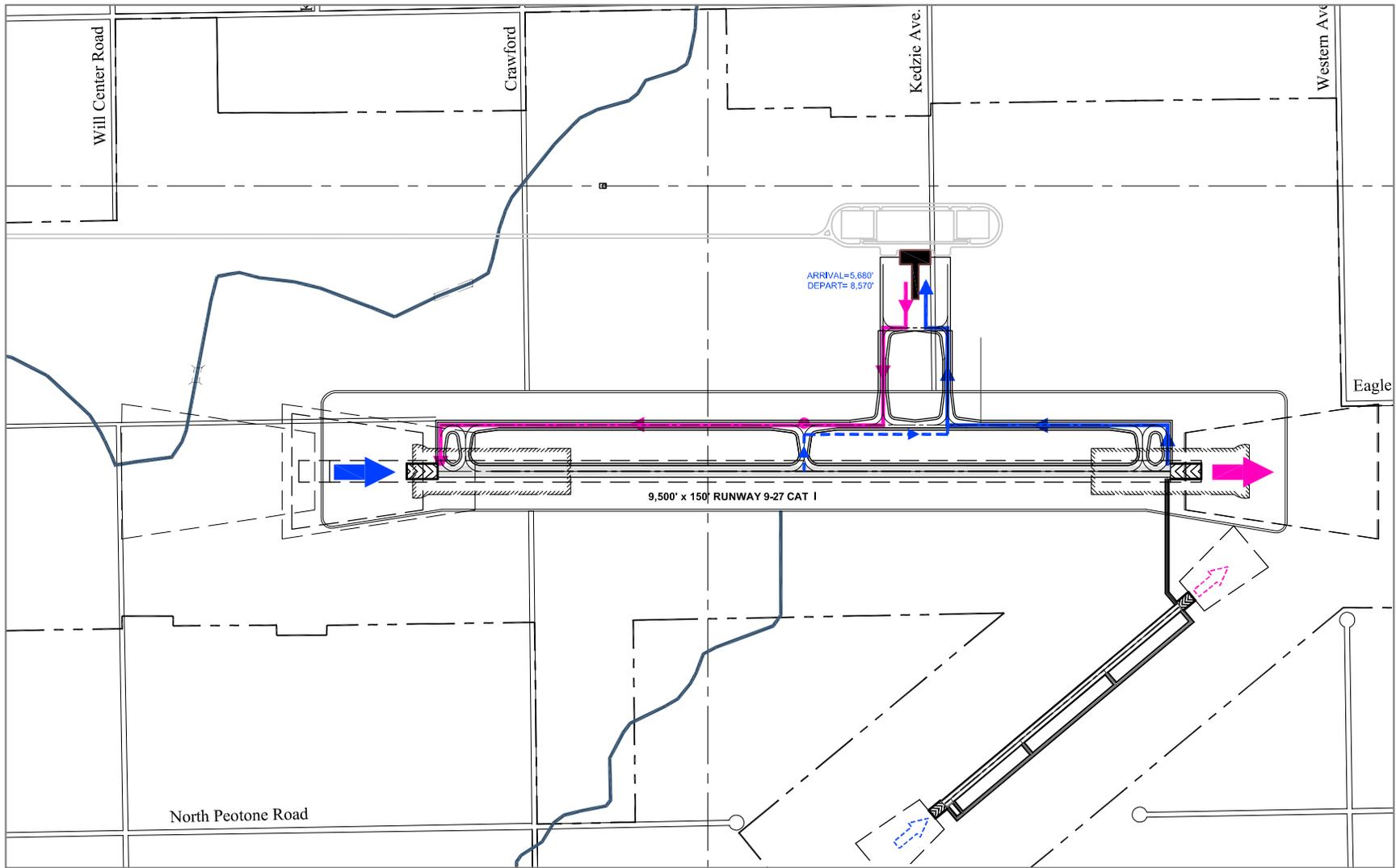
0 1000 2000 ft

Legend

- ARRIVAL FLOW
- DEPARTURE FLOW
- TAXIWAY CROSSING
- ✕ RUNWAY CROSSING
- AIRPORT FOOTPRINT
- ▭ PROPOSED AIRPORT RUNWAY
- PRIMARY ARRIVAL RUNWAY
- - - CROSSWIND ARRIVAL RUNWAY
- PRIMARY DEPARTURE RUNWAY
- - - CROSSWIND DEPARTURE RUNWAY

**Inaugural Airport Program
Aircraft Taxiing Analysis
Terminal Facility D-1 West Flow**

Exhibit: A-48.2



TAMS an Earth Tech Company

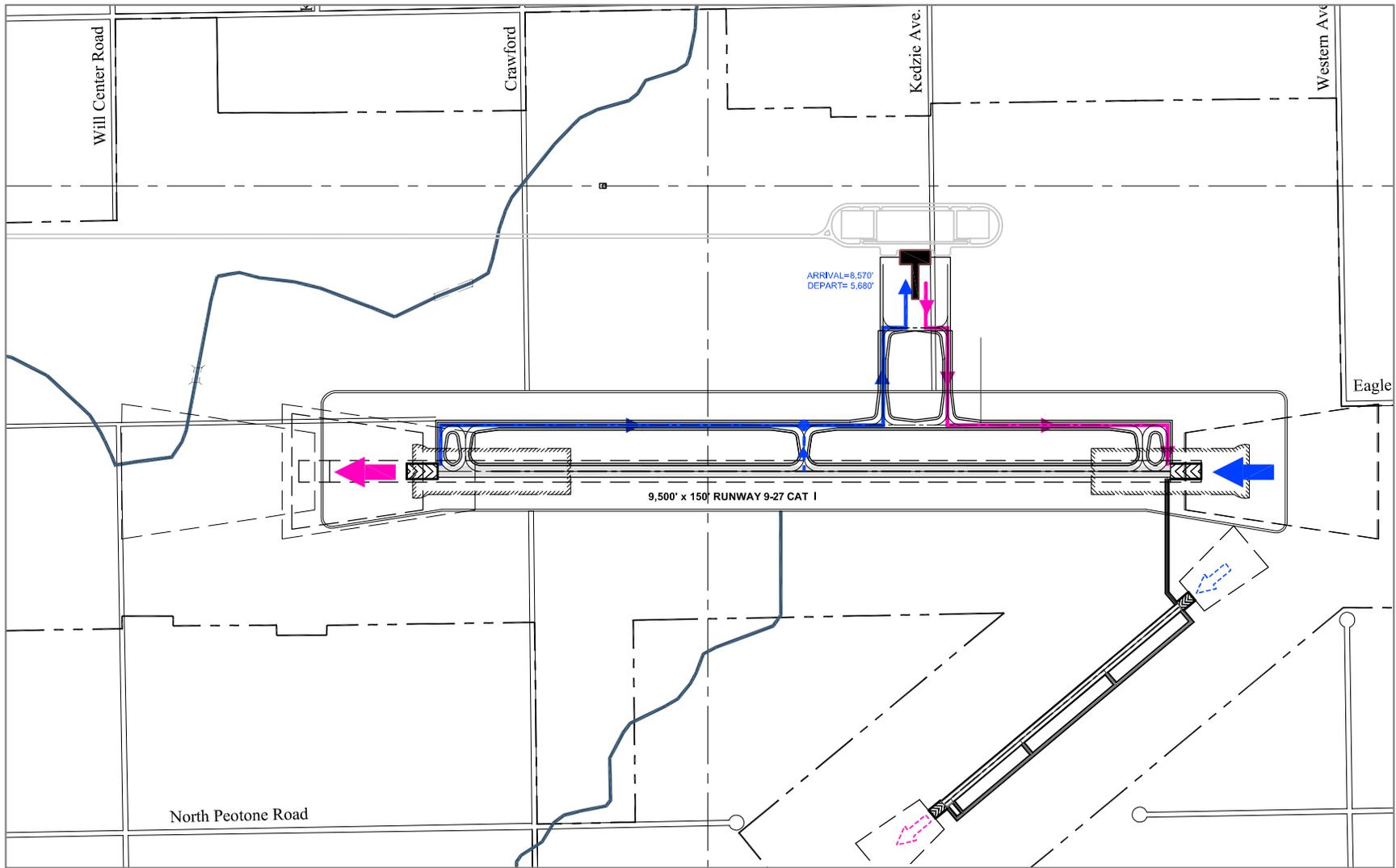


0 1000 2000 ft

Legend

- ARRIVAL FLOW
- DEPARTURE FLOW
- TAXIWAY CROSSING
- ✕ RUNWAY CROSSING
- AIRPORT FOOTPRINT
- ▬ PROPOSED AIRPORT RUNWAY
- PRIMARY ARRIVAL RUNWAY
- - - CROSSWIND ARRIVAL RUNWAY
- PRIMARY DEPARTURE RUNWAY
- - - CROSSWIND DEPARTURE RUNWAY

**Inaugural Airport Program
Aircraft Taxiing Analysis
Terminal Facility D-2 East Flow**



TAMS an Earth Tech Company



0 1000 2000 ft

Legend

- ARRIVAL FLOW
- DEPARTURE FLOW
- TAXIWAY CROSSING
- ✕ RUNWAY CROSSING
- AIRPORT FOOTPRINT
- ▭ PROPOSED AIRPORT RUNWAY
- PRIMARY ARRIVAL RUNWAY
- CROSSWIND ARRIVAL RUNWAY
- PRIMARY DEPARTURE RUNWAY
- CROSSWIND DEPARTURE RUNWAY

**Inaugural Airport Program
Aircraft Taxiing Analysis
Terminal Facility D-2 West Flow**

**Table A-40
Evaluation of Test Configurations**

The three test configurations were evaluated under the same criterion used throughout this report. The variable elements to be evaluated within each test configuration were limited to the east/west locations of the inaugural runway (primary and crosswind); and, the east/center locations of the passenger terminal complex (terminal, aircraft parking apron, landside roadway and parking). The evaluation follows with discussion of each test configuration within each Criterion. The results of this analysis are summarized in **Table 10-2, Section 10.0**.

Criterion 1 – Operational Efficiency – This criterion estimated taxiing distances/times from the passenger terminal facility to the end of the inaugural primary runway. Those alternatives with shorter taxiing distances/times rated higher than those with longer taxiing distances/times. Criterion also included rating of potential aircraft circulation conflicts. See **Table A-21** in the Appendix.

Test	Quantitative Analysis	Score
#1	The west runway location reduced the weighted distance to 9,951' and had 1 conflict between taxiing aircraft	3
#2	The center terminal location reduced the weighted distance to 7,912' and had 0 conflicts between taxiing aircraft.	4
#3	The base configuration had a weighted distance of 10,551' and had 1 conflict between taxiing aircraft.	2.5

Criterion 2 – Proximity to Interstate Highway I-57 – This criterion rated each alternative on distance from I-57 to the terminal. Since the main vehicle access will be from the west during the inaugural phase, locations that were closest to I-57 were rated higher than locations farther from I-57. See **Table A-19** in the Appendix.

Test	Quantitative Analysis	Score
#1	Western Terminal A-2 is 4.5 miles from I-57	5
#2	Center Terminal C-1 is 5.8 miles from I-57	2
#3	Western Terminal A-2 is 4.5 miles from I-57	5

Criterion 3 – Compatibility with Future Airport Plan – This criterion assessed the extent to which the proposed inaugural airport fits into the development of the future Airport Master Plan by assessing potential conflict with the development of future planned facilities. All configurations are compatible with the future airfield. See **Table A-19** in appendix for terminal evaluation. See **Table A-16** for access evaluation.

Test	Quantitative Analysis	Score
#1	All primary components are fully compatible	5
#2	Terminal partially compatible. Access roadway partially compatible	2
#3	All primary components are fully compatible	5

Criterion 4 – Ability to Avoid and/or Minimize Adverse Land Use Impacts and Community Disruption. See **Tables A-9, A-16, & A-19** in the Appendix.

Sub-criterion 4a - Compatibility with Regional Land Use Development Plans – This criterion analyzes the location of the terminal within the regional land use development plan and analyzes the most efficient relationship of the terminal to associated off airport facilities to be constructed within the region.

Test	Quantitative Analysis	Score
#1	All primary components are equal	5
#2	All primary components are equal	5
#3	All primary components are equal	5

Sub-criterion 4b - Social Impacts (Population displacement) – Alternatives that minimize impacts to homes and displacement of residents were rated higher than those that had greater impacts.

Test	Quantitative Analysis	Score
#1	210 people	4
#2	210 people	4
#3	205 people	5

Sub-criterion 4c - Traffic Disruption on Local Roads – Alternatives that minimize traffic disruption on local roads were rated higher than those that had greater impacts.

Test	Quantitative Analysis	Score
#1	3,275 ADT runway, >.75 miles, crosswind, 0 access road, 0 terminal	3
#2	3,275 ADT runway, >.75 miles, crosswind, 0 access road, 0 terminal	3
#3	3,275 ADT runway, >.75 miles, crosswind, 0 access road, 0 terminal	3

Criterion 5 –Ability to Avoid and/or Minimize Impacts on Natural Resources – This criterion was divided into four sub-criteria to rate different impacts that are of primary concern to the Federal and state natural resource agencies, special interest groups and the general public. See **Tables A-9, A-16, & A-19** in appendix.

Sub-criterion 5a –Impacts to Wetlands – Alternatives that would result in fewer impacts to wetlands rated higher than alternatives with greater impacts.

Test	Quantitative Analysis	Score
#1	42.1 acres impacted	4
#2	40.7 acres impacted	5
#3	39.5 acres impacted	5

Sub-criterion 5b –Impacts to Floodplains – Alternatives that would result in fewer impacts to floodplains rated higher than alternatives with greater impacts.

Test	Quantitative Analysis	Score
#1	169.1 acres impacted	1
#2	121.2 acres impacted	4
#3	117.5 acres impacted	5

Sub-criterion 5c –Impacts to Water Resources – Alternatives that would result in fewer impacts to water resources (streams, lakes, etc.) rated higher than alternatives with greater impacts to water resources.

Test	Quantitative Analysis	Score
#1	2.6 miles of stream impacted	2
#2	2.1 miles of stream impacted	3
#3	1.5 miles of stream impacted	5

Sub-criterion 5d –Impacts to Prime Farmland – Alternatives that would result in fewer impacts to prime farmland rated higher than alternatives with greater impacts to prime farmland.

Test	Quantitative Analysis	Score
#1	1,290 acres of farmland impacted	4
#2	1,199 acres of farmland impacted	5
#3	1,183 acres of farmland impacted	5

Criterion 6 – Comparison of Relative Costs – Compares relative costs of each alternative. Alternatives that have higher overall costs ranked lower than alternatives that have lower costs. Items considered are taxiway length, bridge structure, new access road length, crossings of natural waterways, and environmental impact areas such as wetlands, floodplains, and water resources. See **Tables 7-2, 7-3, and Tables A-11, A-16, & A-22** in the Appendix.

Test	Quantitative Analysis*	Score
#1	14.7 total (3.8 runway, 5 crosswind, 2 access road, 3.9 terminal)	3.7
#2	15.1 total (4.8 runway, 5 crosswind, 2 access road, 3.3 terminal)	3.8
#3	15.1 total (4.8 runway, 5 crosswind, 2 access road, 3.3 terminal)	3.8

*Each item was evaluated previously on a 1-5 scale

Table A-41 Test Configuration No. 1 – Summary of Specific Environmental Impacts												
No.	Impacts	Preferred Master Plan										
		Runway	Access Road	Terminal	Parking	GA T/W	GA Site	Cargo	ATCT	ARFF	SRE	Total
1	Wetlands (acres impacted)	31.1	6.3	0.9	0	2.2	0	1.04	0	0.26	0.26	42
2	Floodplains (acres impacted)	62.4	53.9	12.8	0	25.1	0	12.05	0.55	0	2.34	169
3	Water Resources (miles of stream impacted)	1.1	0.7	0.2	0	0.5	0	0.14	0	0	0	2.64
4	Prime Farmland (acres impacted)	623.5	234.5	70.1	4.62	292.5	6.04	41.37	1.06	4.93	8.46	1,290
5	Population Displacement (population impacted)	83	29	0	0	21	19	3	0	27	28	205

Table A-42
Test Configuration No. 2 – Summary of Specific Environmental Impacts

No.	Impacts	Preferred Master Plan										
		Runway	Access Road	Terminal	Parking	GA T/W	GA Site	Cargo	ATCT	ARFF	SRE	Total
1	Wetlands (acres impacted)	26.1	7.5	2.0	0	4.6	0	1.04	0	0.26	0.26	40.7
2	Floodplains (acres impacted)	30	57.6	0.3	0	5.9	0	12.05	0.55	0	2.34	121.2
3	Water Resources (miles of stream impacted)	0.5	1.3	0	0	0	0	0.14	0	0	0	2.1
4	Prime Farmland (acres impacted)	572.6	250.6	79.3	38.3	239.7	6.04	41.37	1.06	4.93	8.46	1,199
5	Population Displacement (population impacted)	88	35	5.0	0	11	19	3	0	27	28	210

Table A-43
Test Configuration No. 3 (Base) – Summary of Specific Environmental Impacts

No.	Impacts	Preferred Master Plan										
		Runway	Access Road	Terminal	Parking	GA T/W	GA Site	Cargo	ATCT	ARFF	SRE	Total
1	Wetlands (acres impacted)	26.1	6.3	0.9	0	4.6	0	1.04	0	0.26	0.26	39.5
2	Floodplains (acres impacted)	30	53.9	12.8	0	5.9	0	12.05	0.55	0	2.34	117.5
3	Water Resources (miles of stream impacted)	0.5	0.7	0.2	0	0	0	0.14	0	0	0	1.5
4	Prime Farmland (acres impacted)	572.6	234.5	70.1	4.62	239.7	6.04	41.37	1.06	4.93	8.46	1,183
5	Population Displacement (population impacted)	88	29	0	0	11	19	3	0	27	28	205

Table A-44 Inaugural Airport Test Configurations Evaluation Worksheet													
Score	Rating	Criterion 1a Taxiing Distances	Criterion 1b Aircraft Circulation Conflicts	Criterion 2 Proximity to I-57	Criterion 3 Compatibility with Future Plans	Criterion 4a Compatibility with Regional Land Use Development Plan	Criterion 4b Minimize Population Displacement	Criterion 4c Traffic disruption on local roads	Criterion 5a Wetlands Impacts	Criterion 5b Floodplain Impacts	Criterion 5c Minimize Water Resource Impacts	Criterion 5d Minimize Prime Farmland Impacts	Criterion 6 Relative Cost Comparison
5	Excellent	Shortest average taxiing distance to both ends of Runway 9-27	No Conflicts	Closest to I-57/IL-50	Terminal location is within ultimate terminal area and would provide maximum operational efficiency	No conflicts	Lowest population impacted	Lowest existing traffic volume impacted	Lowest acreage impacted	Lowest acreage impacted	Lowest stream length impacted	Lowest acreage impacted	Lowest relative cost (all things being equal)
4	Good	20 - 39% longer	1 Conflict	20 - 39% farther	Terminal location is within ultimate terminal area, and provides good operational efficiency	One conflict	20 - 39% greater impact	20 - 39% greater impact	20 - 39% greater impact	20 - 39% greater impact	20 - 39% greater impact	20 - 39% greater impact	20 - 39% greater cost
3	Average	40 - 59% longer	2 Conflicts	40 - 59% farther	Terminal location is within ultimate terminal area, and provides average operational efficiency	Two conflicts	40 - 59% greater impact	40 - 59% greater impact	40 - 59% greater impact	40 - 59% greater impact	40 - 59% greater impact	40 - 59% greater impact	40 - 59% greater cost
2	Fair	60 - 79% longer	3 Conflicts	60 - 79% farther	Terminal location is within ultimate terminal area, and provides fair operational efficiency	Three conflicts	60 - 79% greater impact	60 - 79% greater impact	60 - 79% greater impact	60 - 79% greater impact	60 - 79% greater impact	60 - 79% greater impact	60 - 79% greater cost
1	Poor	Longest taxiing distance to both ends of Runway 9-27	4 Conflicts	Farthest terminal location from I-57/IL-50	Terminal location conflicts with ultimate terminal area	More than three conflicts	Greatest population impacted	Lowest existing traffic volume impacted	Highest acreage impacted	Highest acreage impacted	Highest stream length impacted	Highest acreage impacted	Highest relative cost

Source: TAMS, an Earth Tech Company, 2004.