

Air Cargo - Landside Access

C-2 WEST I-57

4,000
5,200
1,000
5,200
16,400 = 3.1 mi.

C-2 EAST IL 1/394
13,500
5,250
21,200
3,000
1,000
5,200
49,150 = 9.3 mi

C-2 WEST IL 50
5,200
1,000
5,200
11,400 = 2.16 mi

C-2 EAST IL 1/394
25,500
13,500
5,250
1,600
5,200
1,000
5,200
59,250 = 10.84 mi

C-1 WEST I-57

4,000
5,200
3,000
21,200
3,750
1,200
300
38,650 = 7.32 mi

C-1 WEST IL-50

25,500
3,250
1,200
11,300
30,750 = 5.92 mi

C-1 EAST IL 1/394

13,500
1,500
300
15,300 = 2.89 mi

C-4 WEST I-57

4,000
5,200
1,000
6,500
10,500
5,200
10,300
5,200
2,250
500
51,600 = 9.78 mi

C-4 WEST IL 50

500
2,750
5,200
10,700
5,300
19,200
12,650 = 9.27 mi

C-4 EAST IL 1/394

13,500
2,750
500
16,750 = 3.13 mi

Will cargo access be by separate access road? or via main access road? If so, consider access distance from west

C-3 WEST I-57

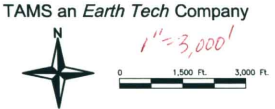
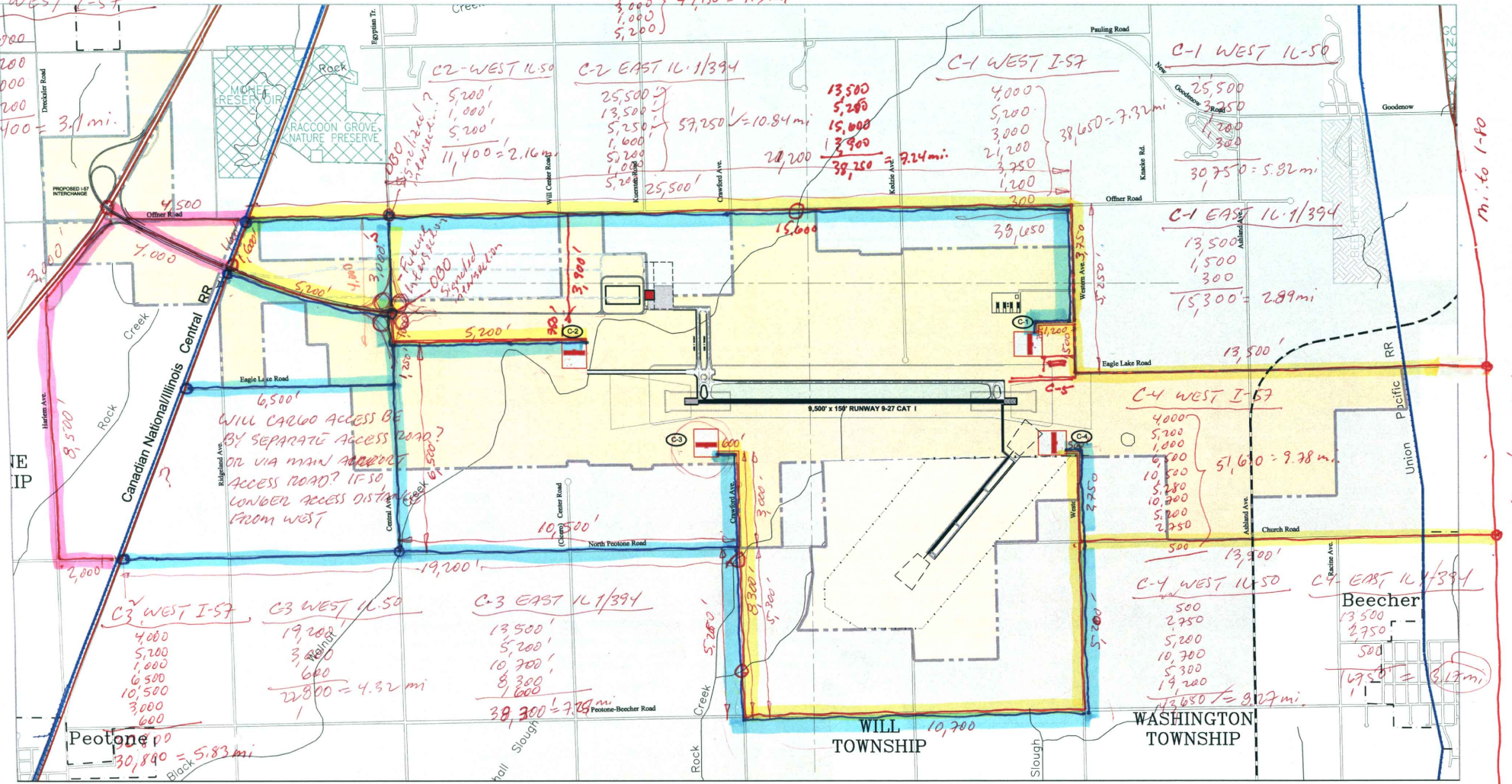
4,000
5,200
1,000
6,500
10,500
3,000
600
30,800 = 5.83 mi

C-3 WEST IL 50

19,200
3,000
600
22,800 = 4.32 mi

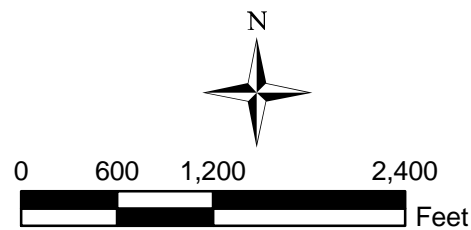
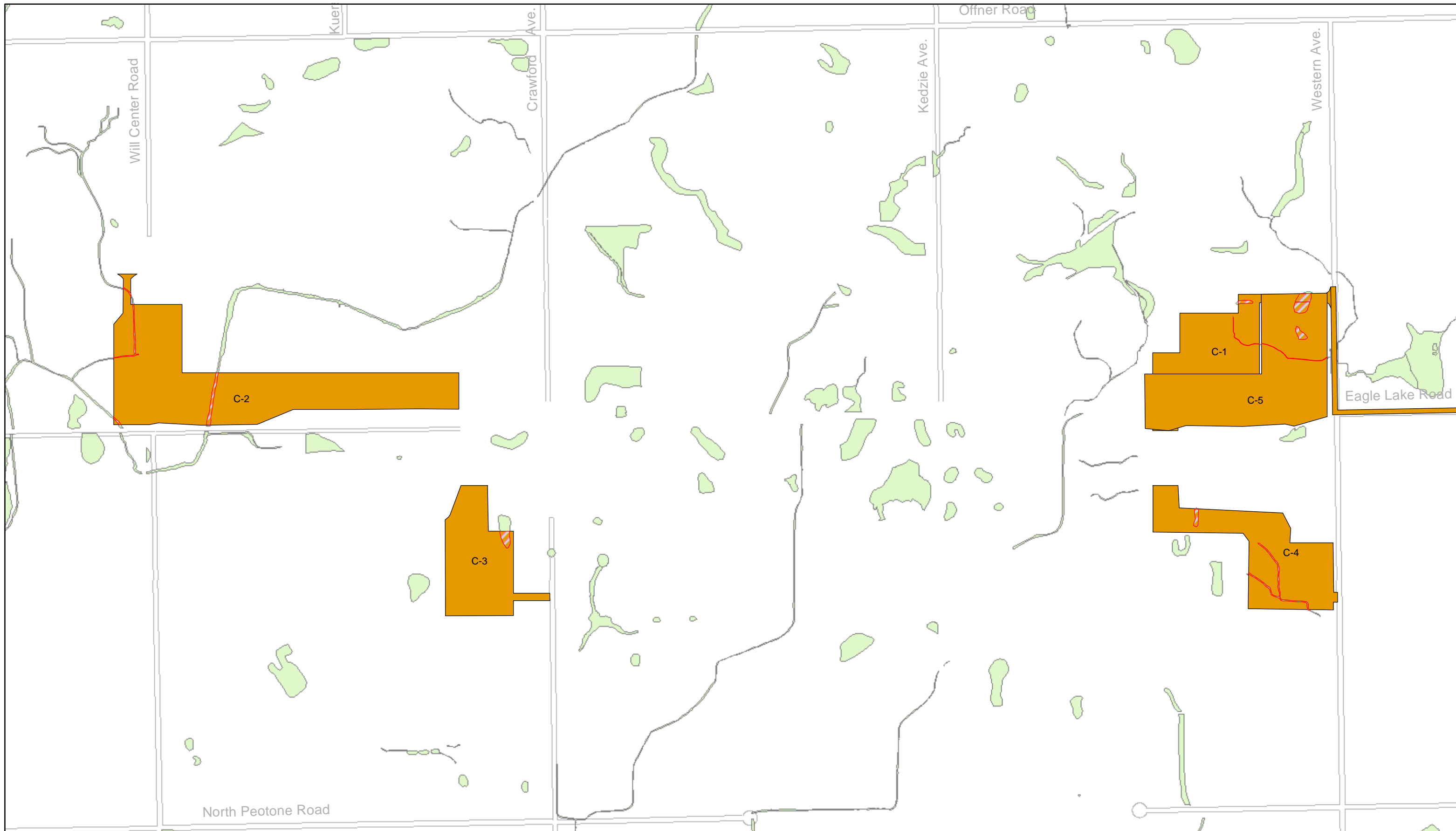
C-3 EAST IL 1/394

13,500
5,200
10,700
8,300
1,600
39,300 = 7.25 mi



- EAST ACCESS ROUTE FROM IL 1/394
- WEST ACCESS ROUTE FROM IL 50
- WEST ACCESS FROM I-57

Air Cargo Facility Alternatives



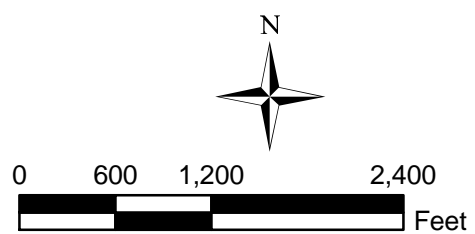
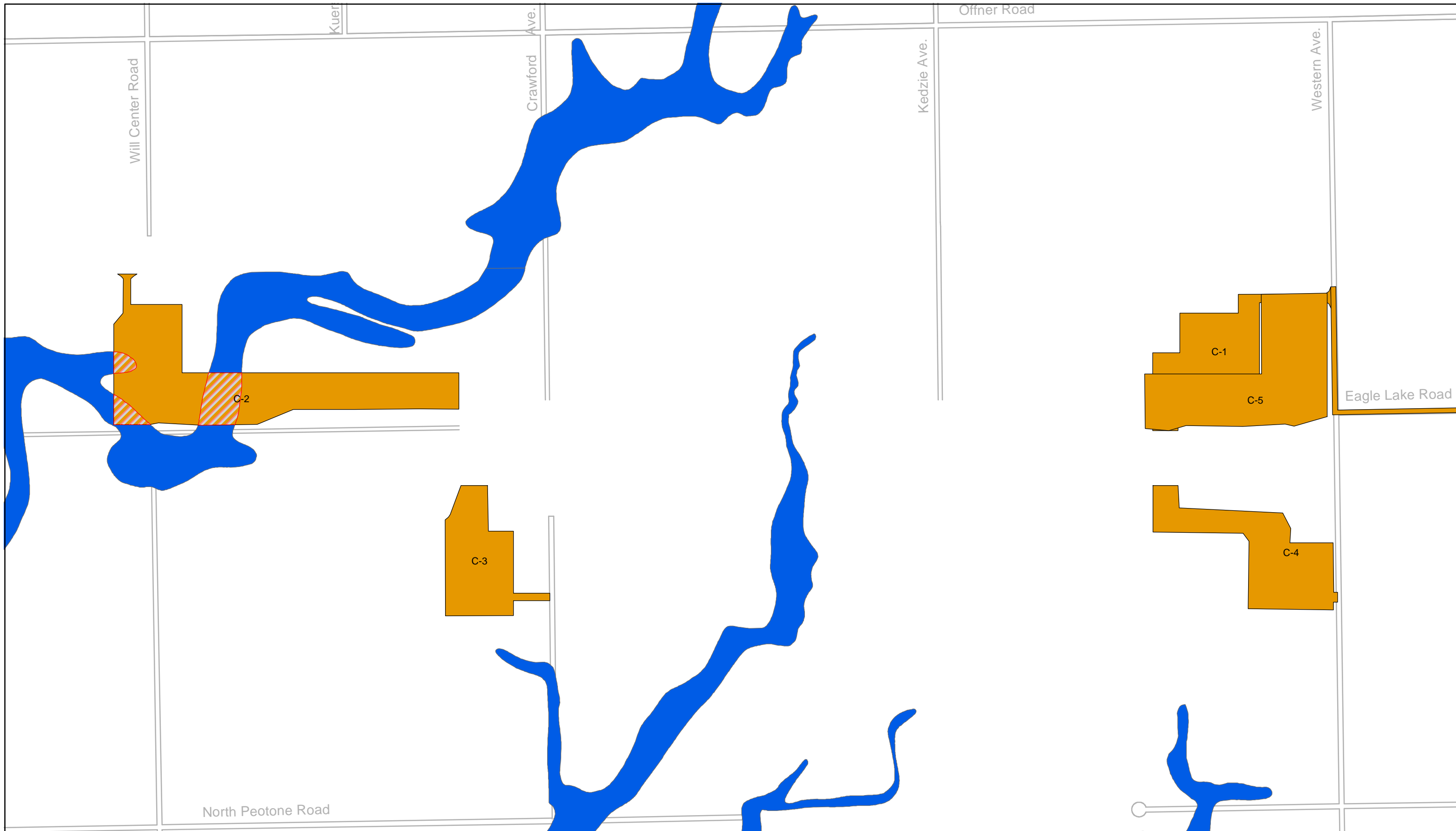
TAMS
AN EARTH TECH COMPANY



Legend

- Air Cargo Alternatives
- Areas of Wetland Impact
- Wetland Areas

Inaugural Airport Program
Support Facilities Concept Alternatives
Air Cargo Facilities
Environmental Impacts - Wetlands
Exhibit A-12



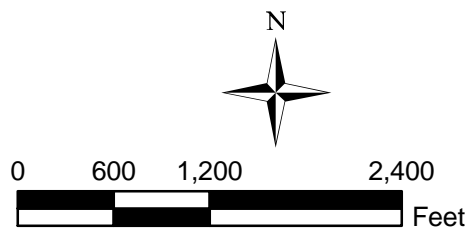
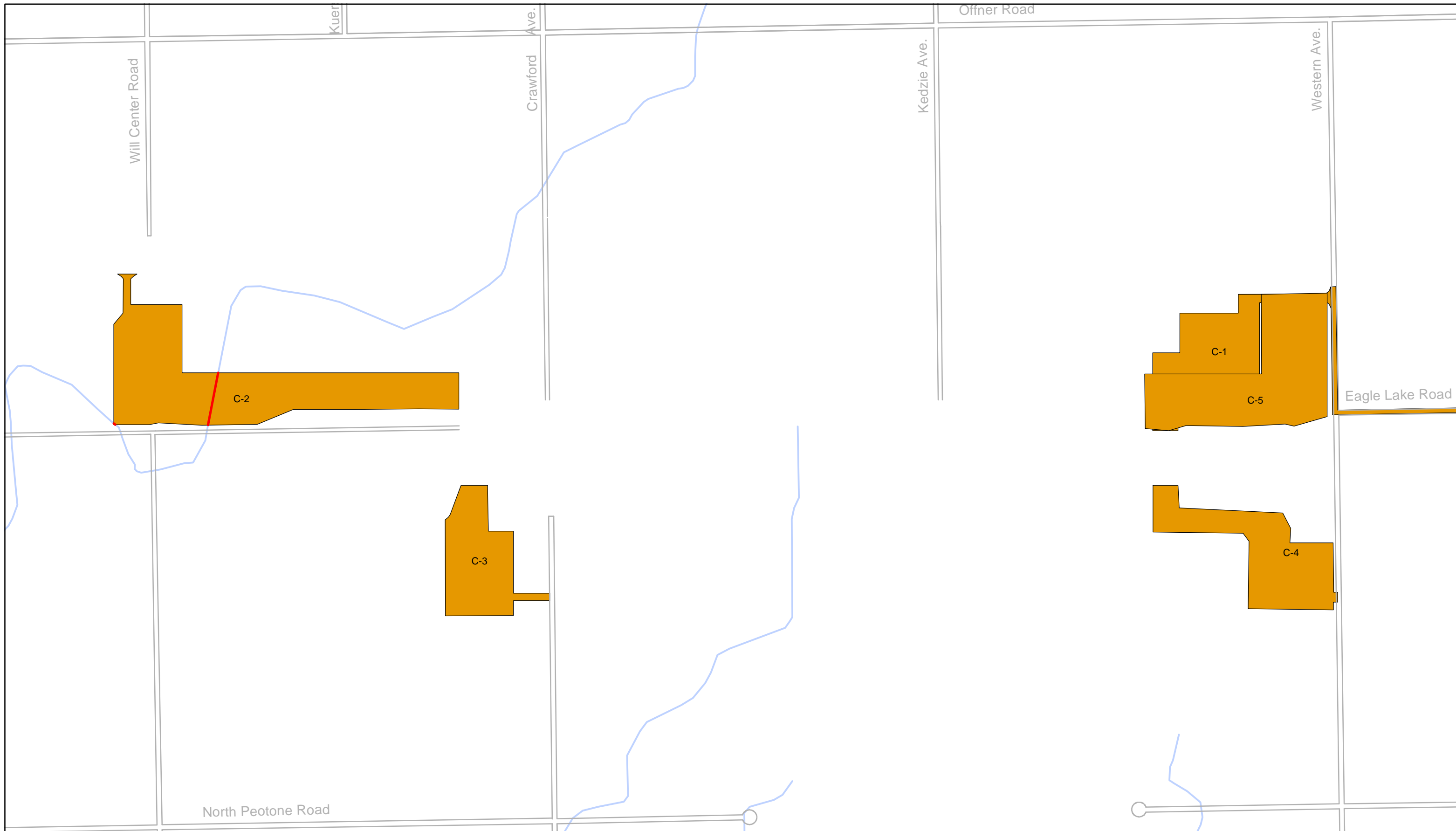
TAMS
AN EARTH TECH COMPANY



Legend

- Air Cargo Alternatives
- Areas of Floodplain Impact
- Floodplain Areas

Inaugural Airport Program
Support Facilities Concept Alternatives
Air Cargo Facilities
Environmental Impacts - Floodplain
Exhibit A-13



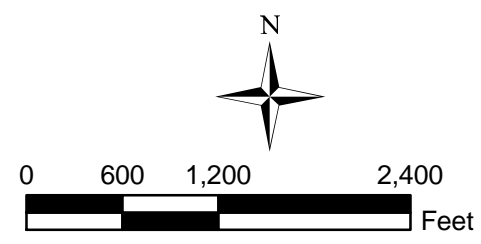
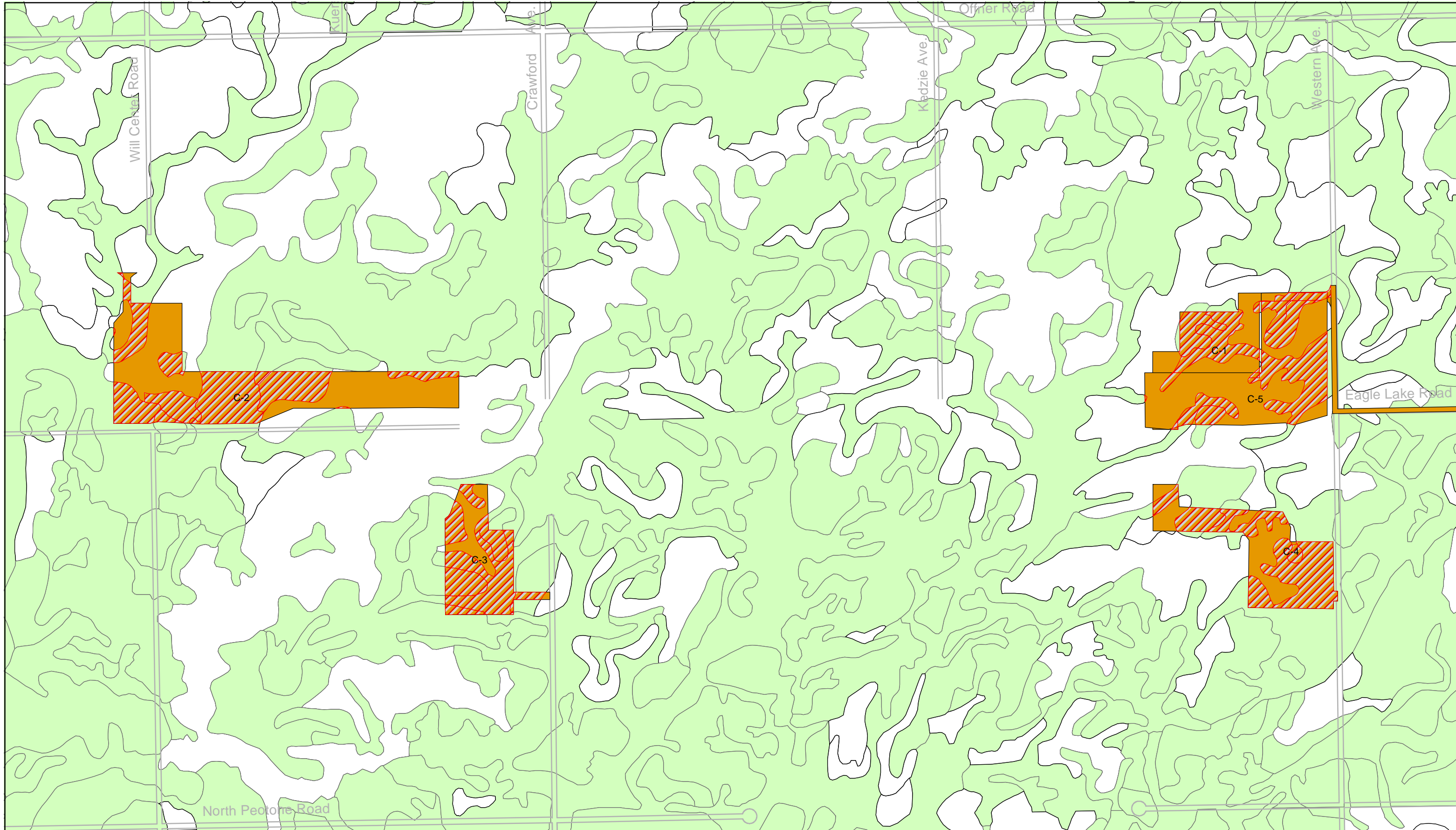
TAMS
AN EARTH TECH COMPANY



Legend

- Air Cargo Alternatives
- Areas of Stream Impact
- Streams

Inaugural Airport Program
Support Facilities Concept Alternatives
Air Cargo Facilities
Environmental Impacts - Water Resources (Streams)
Exhibit A-14



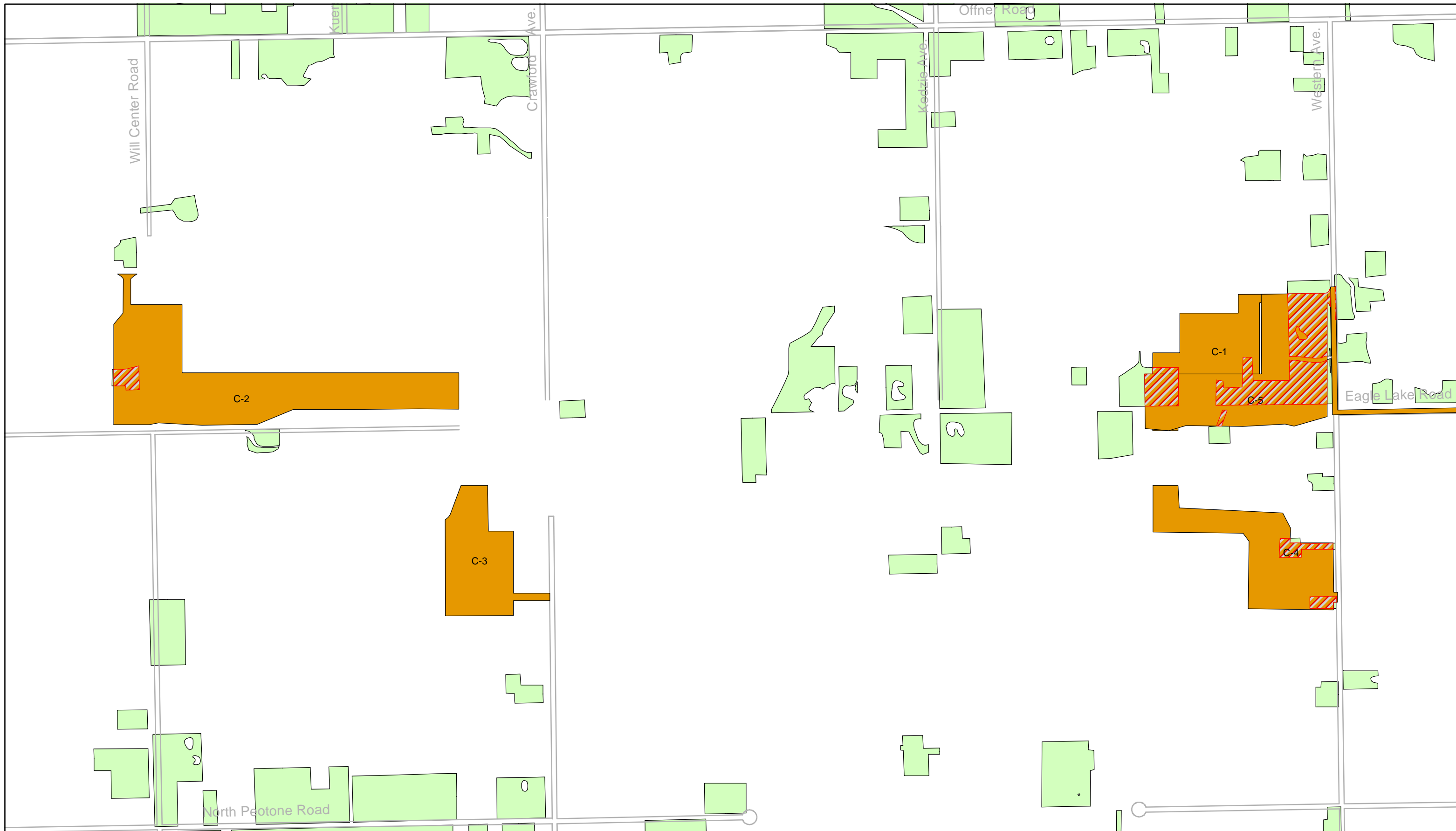
TAMS
AN EARTH TECH COMPANY



Legend

- Air Cargo Alternatives
- Areas of Prime Farmland Impact
- Prime Farmland Areas

Inaugural Airport Program
 Support Facilities Concept Alternatives
 Air Cargo Facilities
 Environmental Impacts - Prime Farmland
 Exhibit A-15



Legend

- Air Cargo Alternatives
- Areas of Population Displacement
- Existing Residences

Table A-29 Inaugural Airport – General Aviation Facility Concept Alternatives Evaluation Methodology		
No.	Criteria	Methodology
1	Ability to maximize airfield operational efficiency	This criterion estimated taxiing times based on the taxiing distances, runway crossings and taxiway crossings. Plan diagrams were prepared showing the taxiing route of the aircraft. Taxiing distances were calculated from the center of the GA apron to both runway 09 and 27. Taxiing times were calculated for both east and west air traffic flow, assuming a taxiing speed of 15 mph, 3 minutes waiting time at runway crossings and 1 minutes waiting time at taxiway crossings. The scores were weighted according to the estimated traffic flow configurations: 33% for the east and 67% for the west. (see "Facilities Requirement 3.1.6). These ratings were then combined into a final rating for each alternative. Alternatives with shorter taxiing time rated higher than those with longer taxiing time.
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	
a	Avoid/minimize conflicts with the comprehensive land-use plans of the neighboring communities.	<i>The Northeastern Illinois Planning Commission (NIPC) released the "Land Use Plan for the Eastern Will County Area" in August 1997, the most recently published land use plan for the area that specifically accounts for the airport. This document was used as the baseline to determine if conflicts with local plans would result from a concept alternative. Conflicts were defined as airport facilities being located outside of the previously defined airport boundary (as depicted on the land use map within the NIPC report), on land planned for other uses by the communities within the airport boundary.</i>

**Table A-29
Inaugural Airport – General Aviation Facility Concept Alternatives
Evaluation Methodology**

No.	Criteria	Methodology
b	Minimize population displacement	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 AOA for each concept alternative were counted, and then the appropriate ratio of people per residence was applied to determine potential population displacement.
c	Minimize local traffic disruption due to additional traffic being placed on local roads	The Average Daily Traffic volume that would be placed on local roadways was determined for each concept alternative. Each concept was evaluated based on the average daily volume of traffic that would be added to local roads. Concepts with a lower ADT volume were evaluated more favorably than concepts that would add a higher ADT volume to local roads.
5	Ability to minimize impacts on natural resources	
a	Wetlands	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 AOA 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).
b	Floodplains	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).
c	Water Resources	Potential impacts to water resources were calculated by determining the linear extent of existing stream channel that would be contained within the AOA 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.

Table A-29 Inaugural Airport – General Aviation Facility 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 AOA 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 FEIS² 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-34)

Source: TAMS, an Earth Tech Company, 2005

² *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-30 Inaugural Airport General Aviation Concept Alternatives Evaluation Matrix Data						
No.	Criteria	GA-1	GA-2	GA-3	GA-4	GA-5
1	Ability to maximize airfield operational efficiency <i>Aircraft taxiing distance and time</i>	Table A-32	Table A-32	Table A-32	Table A-32	Table A-32
2	Landside access <i>Average access distance (miles)</i>	5.7	4.7	4.8	5.1	4.7
3	Compatibility with future airport plan (refer to Table 9-6)	Yes - 4	Yes - 5	Yes - 4	Yes - 4	Yes - 5
4	Ability to minimize adverse land use impacts and community disruption					
a	<i>Avoid/minimize conflicts with comprehensive land use plans of the neighboring communities</i>	0 conflicts	0 conflicts	0 conflicts	0 conflicts	0 conflicts
b	<i>Minimize population displacement (population impacted)</i>	0 people	19 people	0 people	3 people	0 people
c	<i>Minimize traffic disruption on local roads (average number of vehicles added on local roads daily)</i>	45 ADT	45 ADT	45 ADT	45 ADT	0 ADT
5	Ability to minimize impacts on natural resources					
a	<i>Wetlands (acres impacted)</i>	0	0	.49	.37	0
b	<i>Floodplains (acres impacted)</i>	0	0	0	0	.23
c	<i>Water Resources (miles of stream impacted)</i>	0	0	0	0	0
d	<i>Prime Farmland (acres impacted)</i>	9.96	6.04	3.49	3.79	2.53
6	Relative Cost Comparison	Table A-34	Table A-34	Table A-34	Table A-34	Table A-34

Source: TAMS, an Earth Tech Company, 2005

Table A-31 Inaugural Airport – General Aviation Facility Concept Alternatives Evaluation Matrix Scoring Assignments																				
Alternative	Criterion 1		Criterion 2		Criterion 3		Criterion 4a		Criterion 4b		Criterion 4c		Criterion 5a		Criterion 5b		Criterion 5c		Criterion 5d	
	Taxiing Time (minutes)		Landside Access Distance		Compatibility with future airport plan		Compatibility with regional land use plans		Population Displacement		Traffic Disruption		Wetlands		Floodplains		Water resources (streams)		Prime Farmland	
	(min.)	Score	(miles)	Score	(conflicts)	Score	(conflicts)	Score	(people)	Score	Additional daily traffic	Score	(acres)	Score	(acres)	Score	(miles)	Score	(acres)	Score
GA 1	16.7	3	5.72	1	1	4	0	5	0	5	45	1	0	5	0	5	0	5	9.96	1
GA 2	14.2	5	4.73	5	0	5	0	5	19	1	45	1	0	5	0	5	0	5	7.04	2
GA 3	17.7	1	4.77	5	1	4	0	5	0	5	45	1	0.49	1	0	5	0	5	3.49	5
GA 4	15.3	4	4.9	5	0	5	0	5	3	5	45	1	0.37	2	0	5	0	5	3.79	5
GA 5	18.6	1	4.71	5	0	5	0	5	0	5	0	5	0	5	0.23	1	0	5	2.53	5
Max Value	18.6		5.72		1		0		19		45		0.49		0.23		0		9.96	
Min Value	14.2		4.71		0		0		0		0		0.00		0.00		0		2.53	
Range of Values	4.4		1.01		1		0		19		45		0.49		0.23		0		7.45	
20% of Range	0.88		0.20		.2		0		3.8		9		0.098		0.46		0		1.48	
SCORE	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
1	17.7	18.6	5.52	5.72	.8	1	0	0	15	19	36	45	0.392	0.490	0.18	0.23	0	0	8.47	9.96
2	16.9	17.69	5.32	5.51	.6	.79	0	0	11	15	27	35.55	0.294	0.387	0.14	0.18	0	0	6.99	8.40
3	16.0	16.89	5.11	5.31	.4	.59	0	0	8	11	18	26.55	0.196	0.289	0.09	0.14	0	0	5.50	6.91
4	15.1	15.99	4.91	5.10	.2	.39	0	0	4	7	9	17.55	0.098	0.191	0.05	0.09	0	0	4.02	5.43
5	14.2	15.09	4.71	4.90	0	.19	0	0	0	4	0	8.55	0.00	0.093	0.00	0.04	0	0	2.53	3.91

Source: TAMS, an Earth Tech Company, 2005

Table A-32 Inaugural Airport – General Aviation Facility Concept Alternatives Criterion 1 – Taxiing Distances Calculations										
Taxiing Times	GA 1		GA 2		GA 3		GA 4		GA 5	
	West Flow		West Flow		West Flow		West Flow		West Flow	
	Depart (min)	Arrive (min)	Depart (min)	Arrive (min)	Depart (min)	Arrive (min)	Depart (min)	Arrive (min)	Depart (min)	Arrive (min)
	2.15	14.18	2.37	11.52	4.12	13.24	2.93	12.05	14.38	4.24
	East Flow		East Flow		East Flow		East Flow		East Flow	
	Depart (min)	Arrive (min)	Depart (min)	Arrive (min)	Depart (min)	Arrive (min)	Depart (min)	Arrive (min)	Depart (min)	Arrive (min)
	15.18	2.15	12.52	2.37	14.24	4.12	13.05	2.93	5.24	13.38
	Total Weighted Taxiing Time									
16.7		14.2		17.7		15.3		18.6		
Taxiing Distances	West Flow		West Flow		West Flow		West Flow		West Flow	
	Arrive (feet)	Depart (feet)	Arrive (feet)	Depart (feet)	Arrive (feet)	Depart (feet)	Arrive (feet)	Depart (feet)	Arrive (feet)	Depart (feet)
	2,841	13,436	3,126	12,569	5,434	14,835	3,868	13,269	15,019	5,600
	Total Taxi Path Length West Flow									
	16,277		15,695		20,269		17,137		20,619	
	East Flow		East Flow		East Flow		East Flow		East Flow	
	Arrive (feet)	Depart (feet)	Arrive (feet)	Depart (feet)	Arrive (feet)	Depart (feet)	Arrive (feet)	Depart (feet)	Arrive (feet)	Depart (feet)
	13,436	2,841	12,569	3,126	14,835	5,434	13,269	3,868	5,600	15,019
Total Taxi Path Length East Flow										
16,277		15,695		20,269		17,137		20,619		

Source: TAMS, an Earth Tech Company, 2005

Assumptions :

1. All taxiing paths originate or end at the mid-point of the apron of the GA building.
2. Taxi Speed: 15 miles per hour or 1,320 feet per minute.
3. Waiting Time: Runway/Taxiway Crossing = 3 minutes; Taxiway/Taxiway Crossing = 1 minute
4. West flow configuration assumed to occur 67% of the time; East flow configuration assumed to occur 33% of the time;

Calculation Methodology: Departure and arrival times were summed for West and East Flow. Total taxi time was calculated by multiplying West flow total time by .67 and East Flow total time by .33 and adding weighted West total plus weighted East total. Scoring assignments for Criterion 1 are shown on Table A-31.

Table A-33 Inaugural Airport – General Aviation Concept Alternatives Criterion 2 – Landside Access Distance				
Alternative	East and West Access			
	East (IL 1/ IL 394) (miles)	West (I 57) (miles)	Total (miles)	Average (miles)
GA 1	3.3	8.2	11.4	5.7
GA 2	3.3	6.2	9.5	4.7
GA 3	5.1	4.4	9.5	4.8
GA 4	5.3	4.5	9.8	4.9
GA 5	7.1	2.3	9.4	4.7

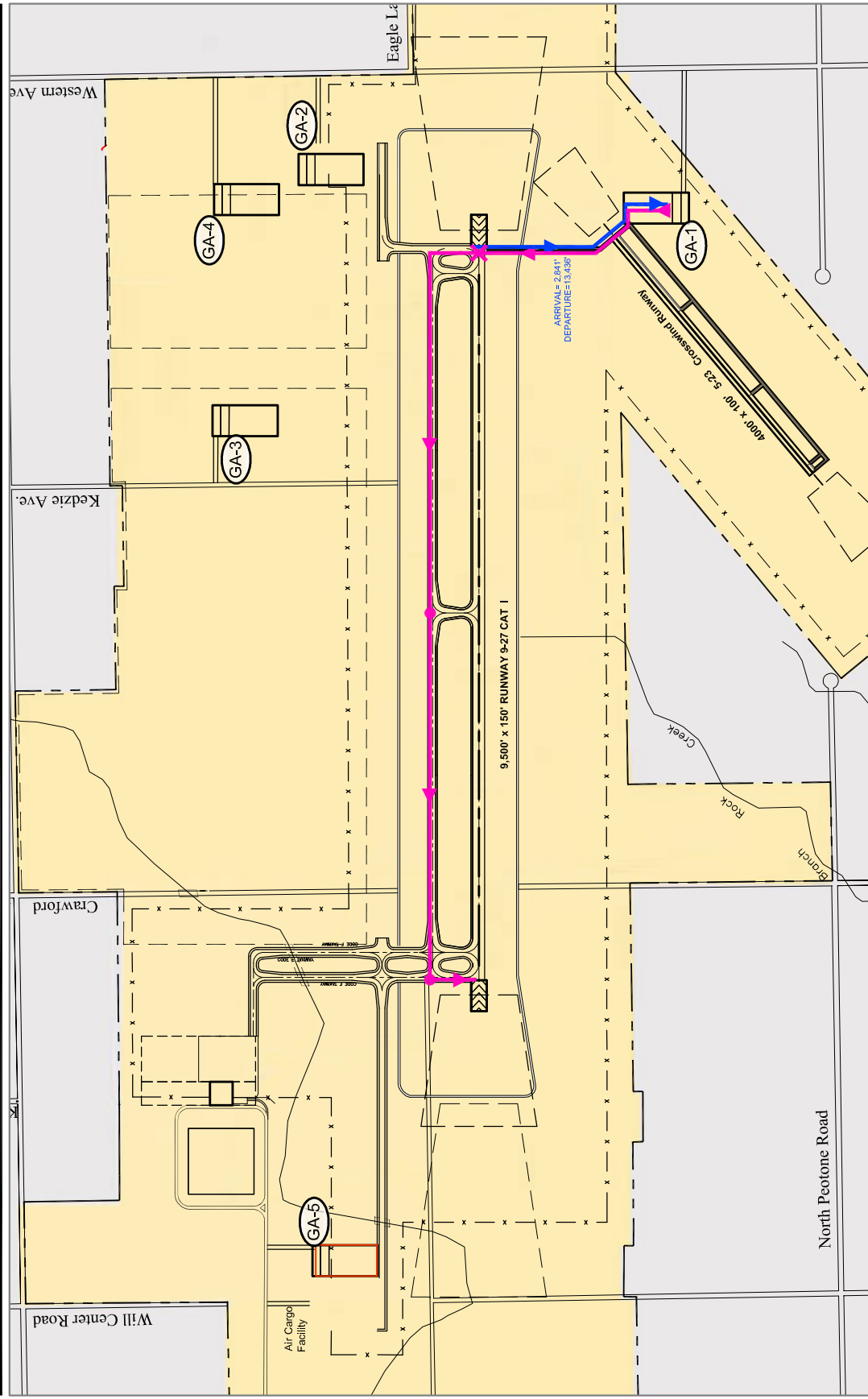
Source: TAMS, an Earth Tech Company, 2005

Table A-34 Inaugural Airport – General Aviation Facility Concept Alternatives Criterion 6 - Relative Cost Comparison Scoring Assignments																		
Alternative	Earth-work (cubic yards)	Score	Constructi on Site Area (acres)	Score	Access Road Length (miles)	Score	Estimated Cost – Creek Crossings (dollars)	Score	Taxiway length (feet)	Score	Wetlands (acres)	Score	Flood plains (acres)	Score	Streams (miles)	Score	Combined Score	Average Score
GA 1	130,134	3	15.87	3	3.28	4	0	5	1,800	3	0.0	5	0.0	5	0	5	33	4.1
GA 2	120,048	3	14.64	3	3.31	4	0	5	600	5	0.0	5	0.0	5	0	5	35	4.4
GA 3	167,936	1	20.48	1	5.13	1	0	5	1,950	3	0.49	1	0.0	5	0	5	22	2.8
GA 4	131,450	3	13.80	4	3.32	4	0	5	1,600	4	0.37	2	0.0	5	0	5	30.5	3.8
GA 5	78,146	5	9.53	5	2.33	5	0	5	3,300	1	0.0	5	0.23	1	0	5	32	4.0
Max Value	167,936		20.48		5.13		0		3,300		0.49		0.23		0			
Min Value	78,146		9.53		2.33		0		600		0		0		0			
Range of Values	89,790		10.95		2.8		0		2,700		0.49		0.23		0			
20% of Range	17,958		2.19		0.56		0		540		0.098		0.046		0			
Score	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		
1	148,978	167,936	18.29	20.48	4.57	5.13	0	0	2,760	3,300	0.392	0.490	0.184	0.230	0	0		
2	132,020	145,080	16.1	18.18	4.01	4.54	0	0	2,220	2,733	0.294	0.387	0.138	0.182	0	0		
3	114,062	131,122	13.91	15.99	3.45	3.98	0	0	1,680	2,193	0.196	0.289	0.092	0.136	0	0		
4	96,104	113,164	11.92	13.80	2.89	3.42	0	0	1,140	1,653	0.098	0.191	0.046	0.089	0	0		
5	78,146	95,206	9.53	11.68	2.33	2.71	0	0	600	1,113	0	0.093	0	0.044	0	0		

Source: TAMS, an Earth Tech Company, 2005.

Note:

1) Creek Crossings refer to the costs associated with structures required where roadways or other site elements cross creeks. Costs associated with Streams refers to costs related to work on stream bed, embankment and mitigation.



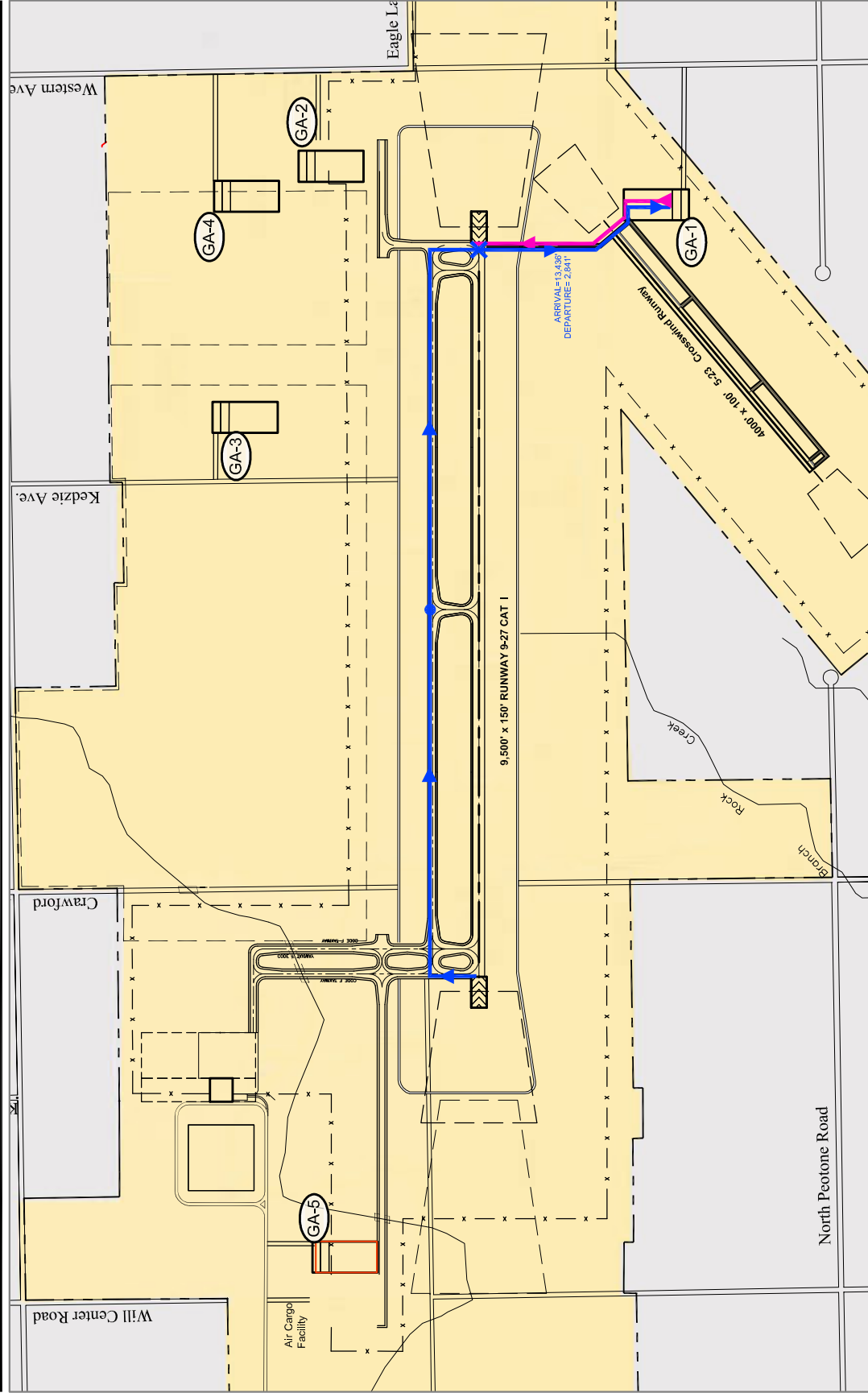
Inaugural Airport Program
Aircraft Taxiing Analysis
General Aviation GA-1 East Flow

TAMS an Earth Tech Company

Legend

- ARRIVAL FLOW
- DEPARTURE FLOW
- RUNWAY CROSSING
- AIRPORT FOOTPRINT
- PROPOSED AIRPORT RUNWAY
- TAXIWAY CROSSING

0 1000 2000 ft



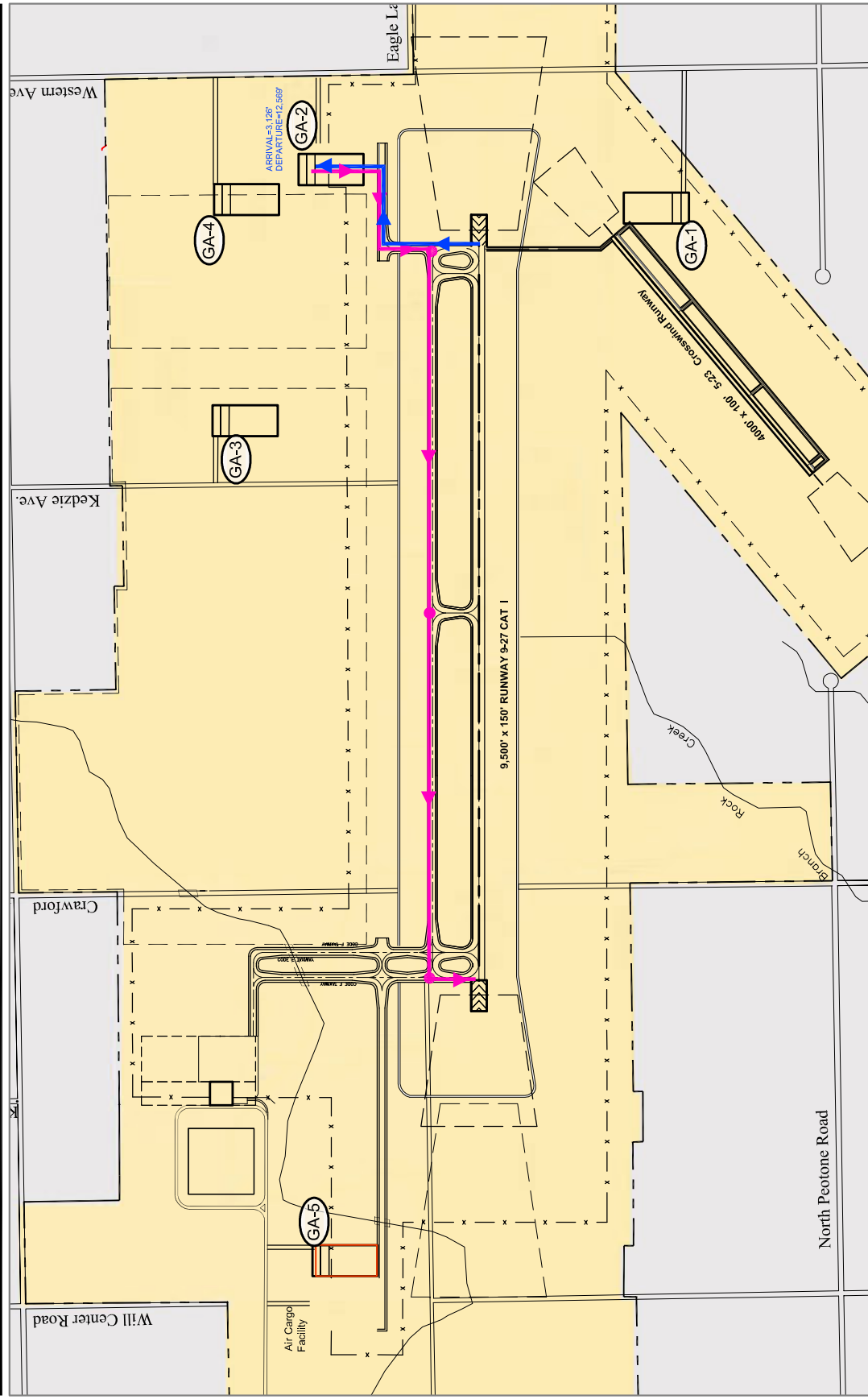
**Inaugural Airport Program
Aircraft Taxiing Analysis
General Aviation GA-1 West Flow**

TAMS an Earth Tech Company

Legend

- ARRIVAL FLOW
- DEPARTURE FLOW
- TAXIWAY CROSSING
- RUNWAY CROSSING
- AIRPORT FOOTPRINT
- PROPOSED AIRPORT RUNWAY

0 1000 2000 ft



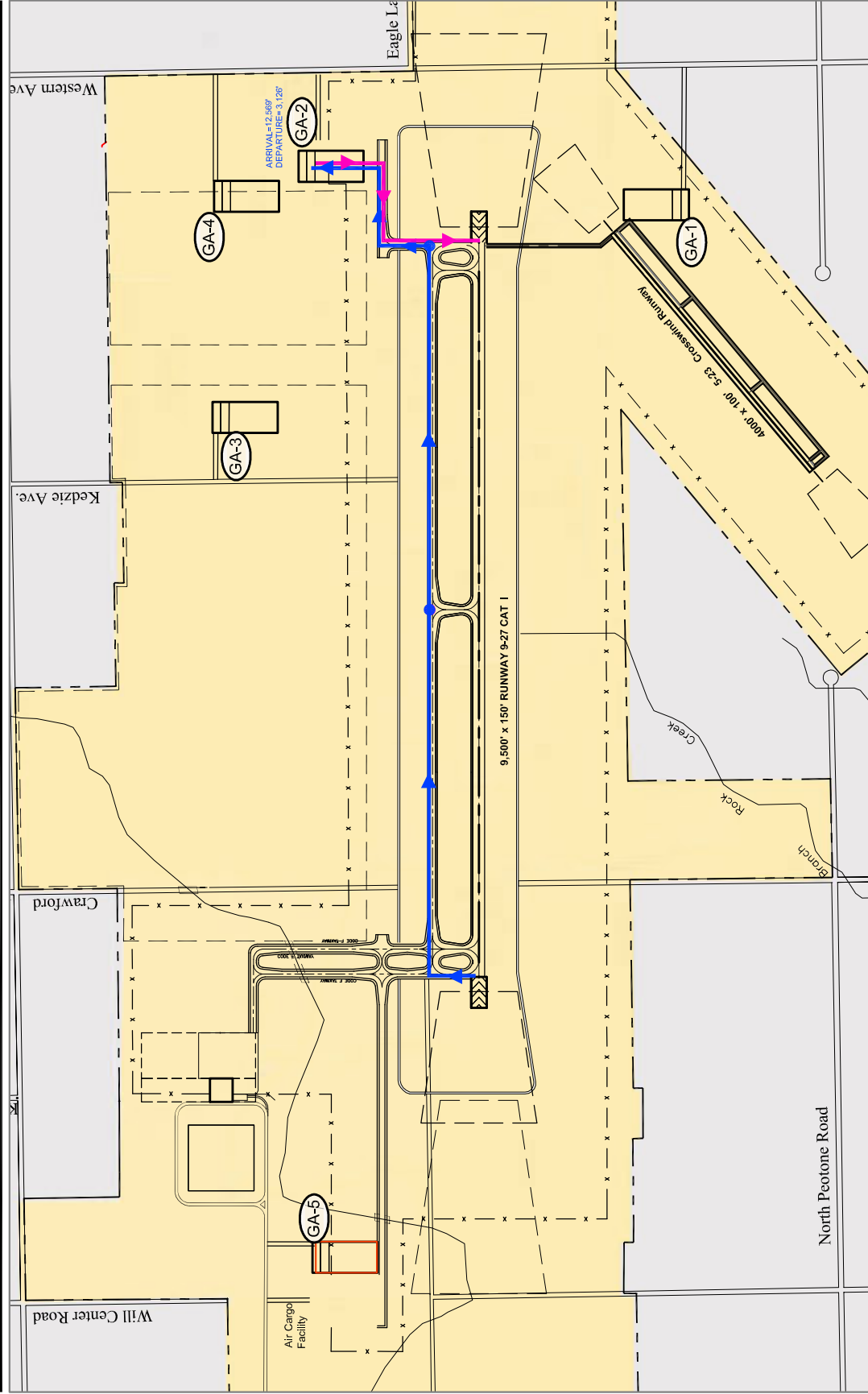
Inaugural Airport Program
Aircraft Taxiing Analysis
General Aviation GA-2 East Flow

TAMS an Earth Tech Company

Legend

- ARRIVAL FLOW
- DEPARTURE FLOW
- RUNWAY CROSSING
- AIRPORT FOOTPRINT
- PROPOSED AIRPORT RUNWAY
- TAXIWAY CROSSING

0 1000 2000 ft



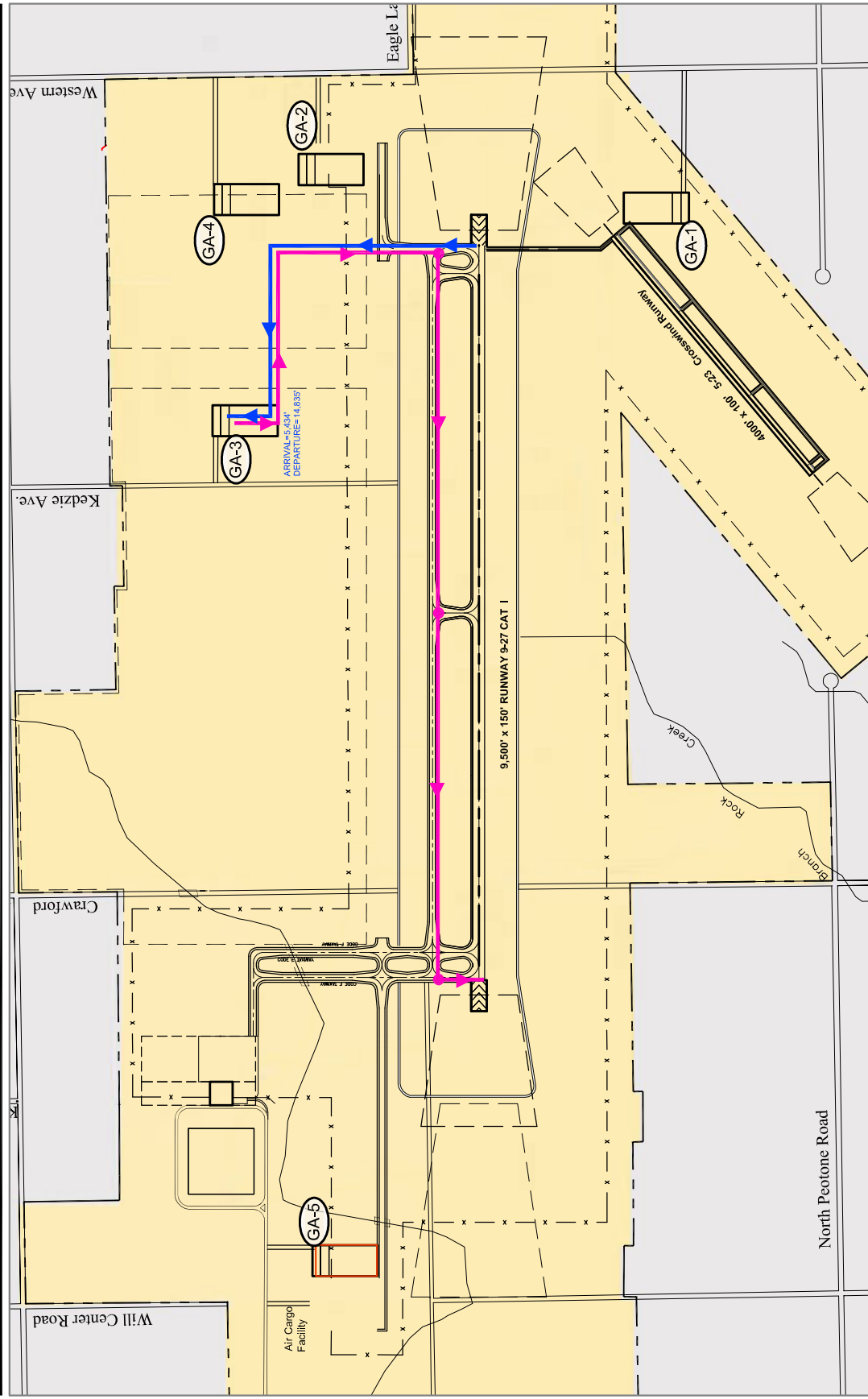
**Inaugural Airport Program
Aircraft Taxiing Analysis
General Aviation GA-2 West Flow**

TAMS an Earth Tech Company

Legend

- ARRIVAL FLOW
- DEPARTURE FLOW
- TAXIWAY CROSSING
- RUNWAY CROSSING
- AIRPORT FOOTPRINT
- PROPOSED AIRPORT RUNWAY

0 1000 2000 ft



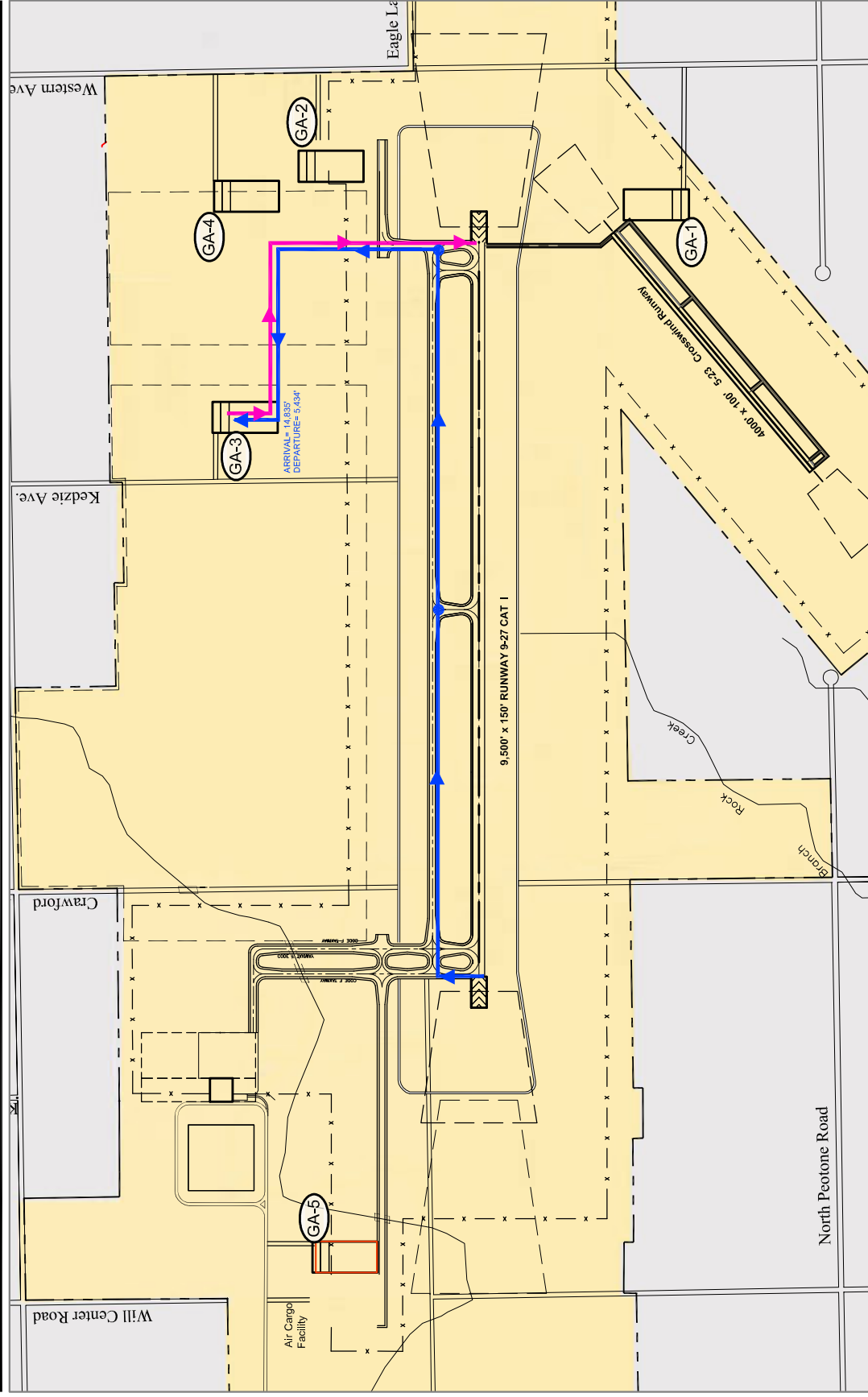
**Inaugural Airport Program
Aircraft Taxiing Analysis
General Aviation GA-3 East Flow**

TAMS an Earth Tech Company

Legend

- ARRIVAL FLOW
- DEPARTURE FLOW
- RUNWAY CROSSING
- AIRPORT FOOTPRINT
- PROPOSED AIRPORT RUNWAY
- TAXIWAY CROSSING

0 1000 2000 ft



**Inaugural Airport Program
Aircraft Taxiing Analysis
General Aviation GA-3 West Flow**

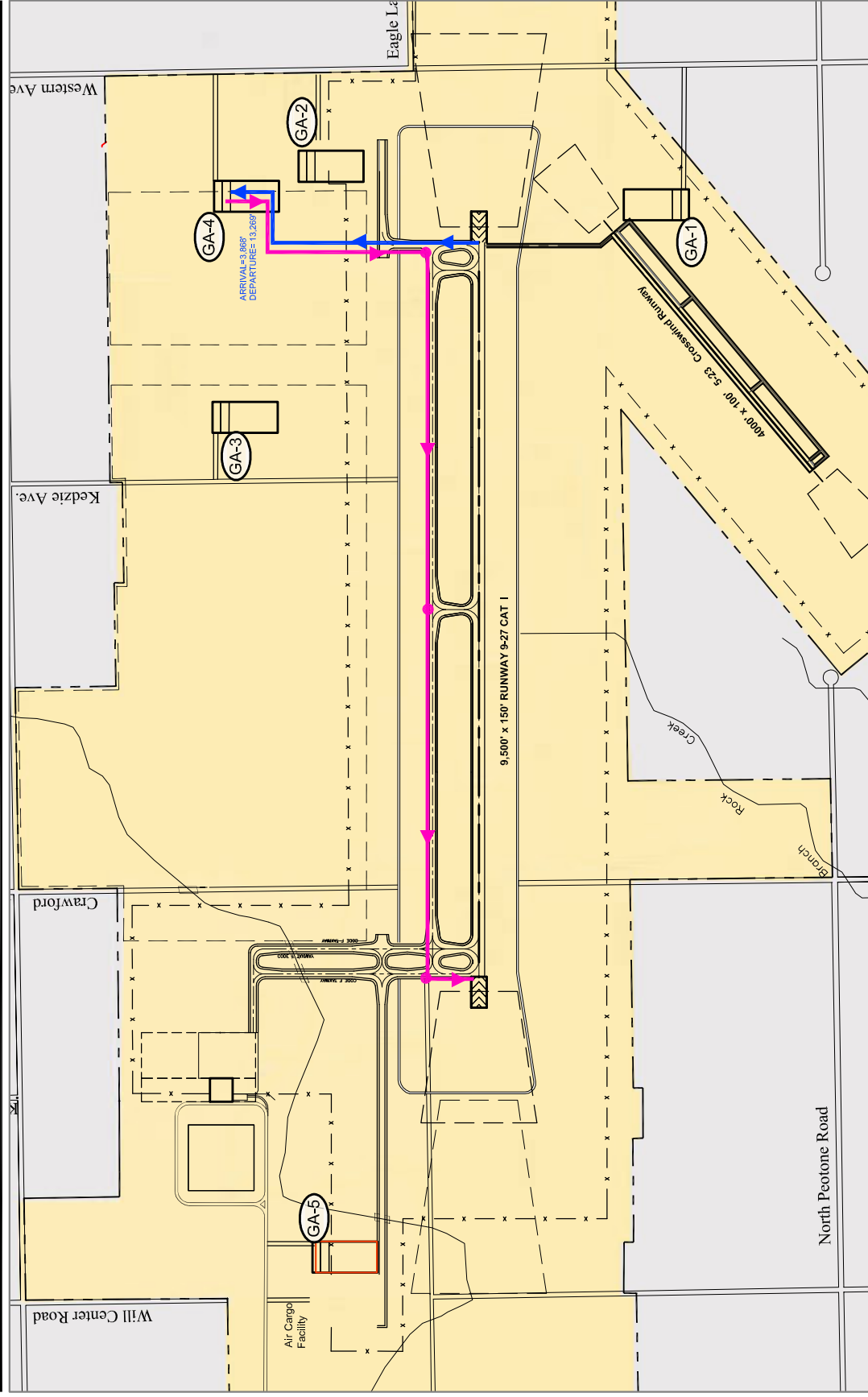
Exhibit: A-17.6

TAMS an Earth Tech Company

Legend

- ARRIVAL FLOW
- DEPARTURE FLOW
- TAWIWAY CROSSING
- RUNWAY CROSSING
- AIRPORT FOOTPRINT
- PROPOSED AIRPORT RUNWAY





Inaugural Airport Program
Aircraft Taxiing Analysis
General Aviation GA-4 East Flow

TAMS an Earth Tech Company

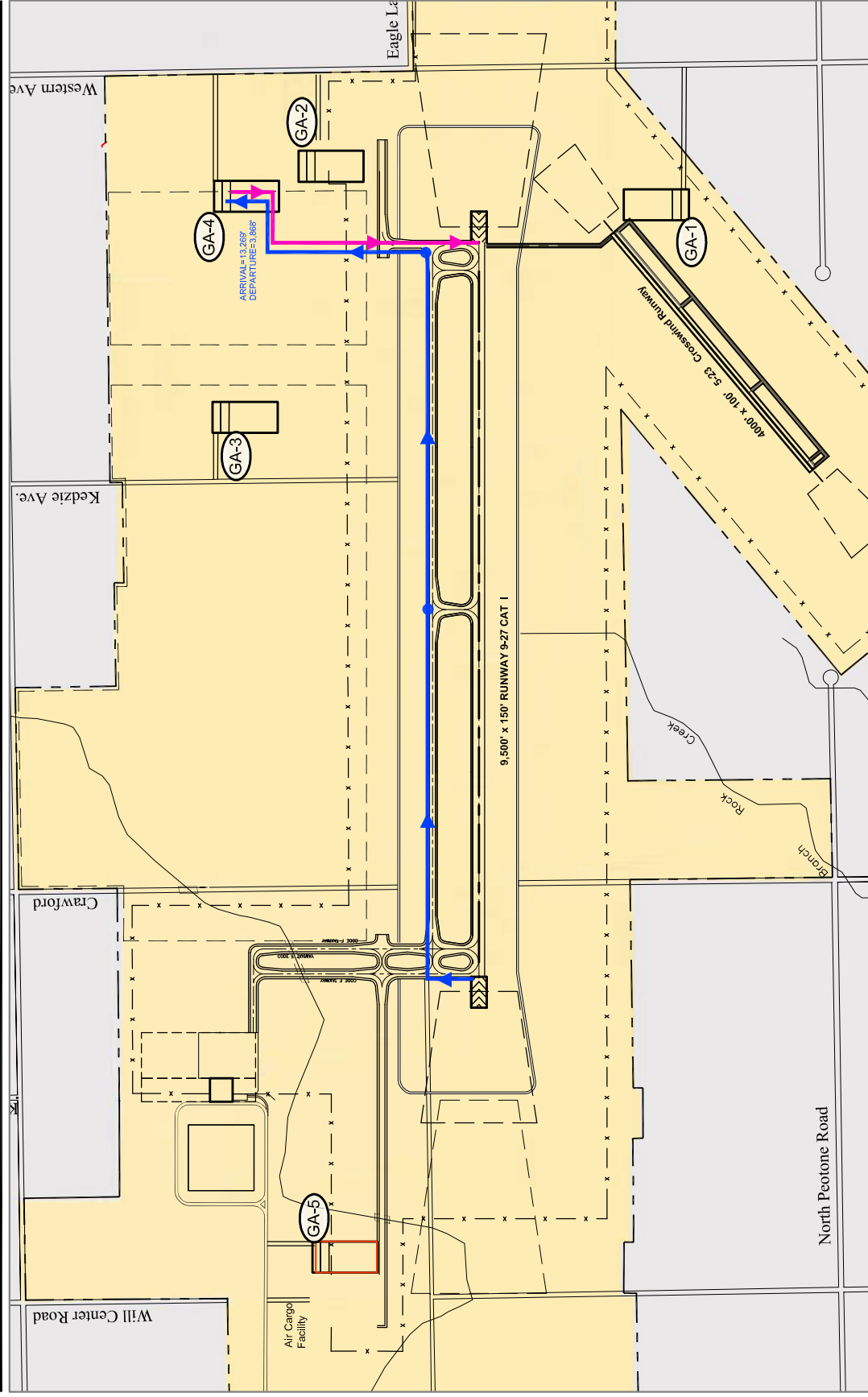
Legend

- ARRIVAL FLOW
- DEPARTURE FLOW
- TAXIWAY CROSSING
- RUNWAY CROSSING
- AIRPORT FOOTPRINT
- PROPOSED AIRPORT RUNWAY

0 1000 2000 ft

N

Exhibit: A-17.7



**Inaugural Airport Program
Aircraft Taxiing Analysis
General Aviation GA-4 West Flow**

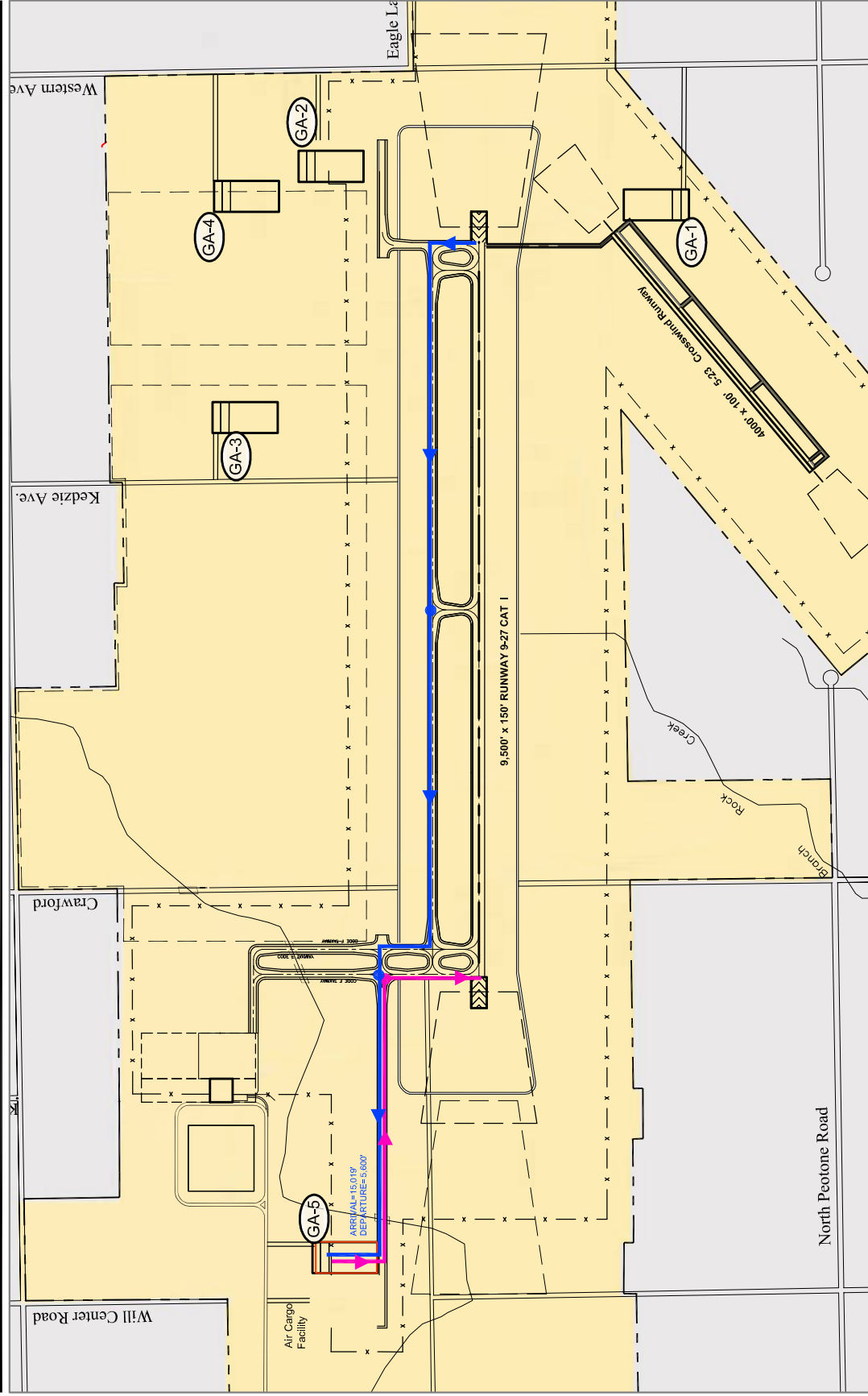
TAMS an Earth Tech Company

Legend

- ARRIVAL FLOW
- DEPARTURE FLOW
- RUNWAY CROSSING
- AIRPORT FOOTPRINT
- PROPOSED AIRPORT RUNWAY
- TAXIWAY CROSSING

0 1000 2000 ft

North Arrow



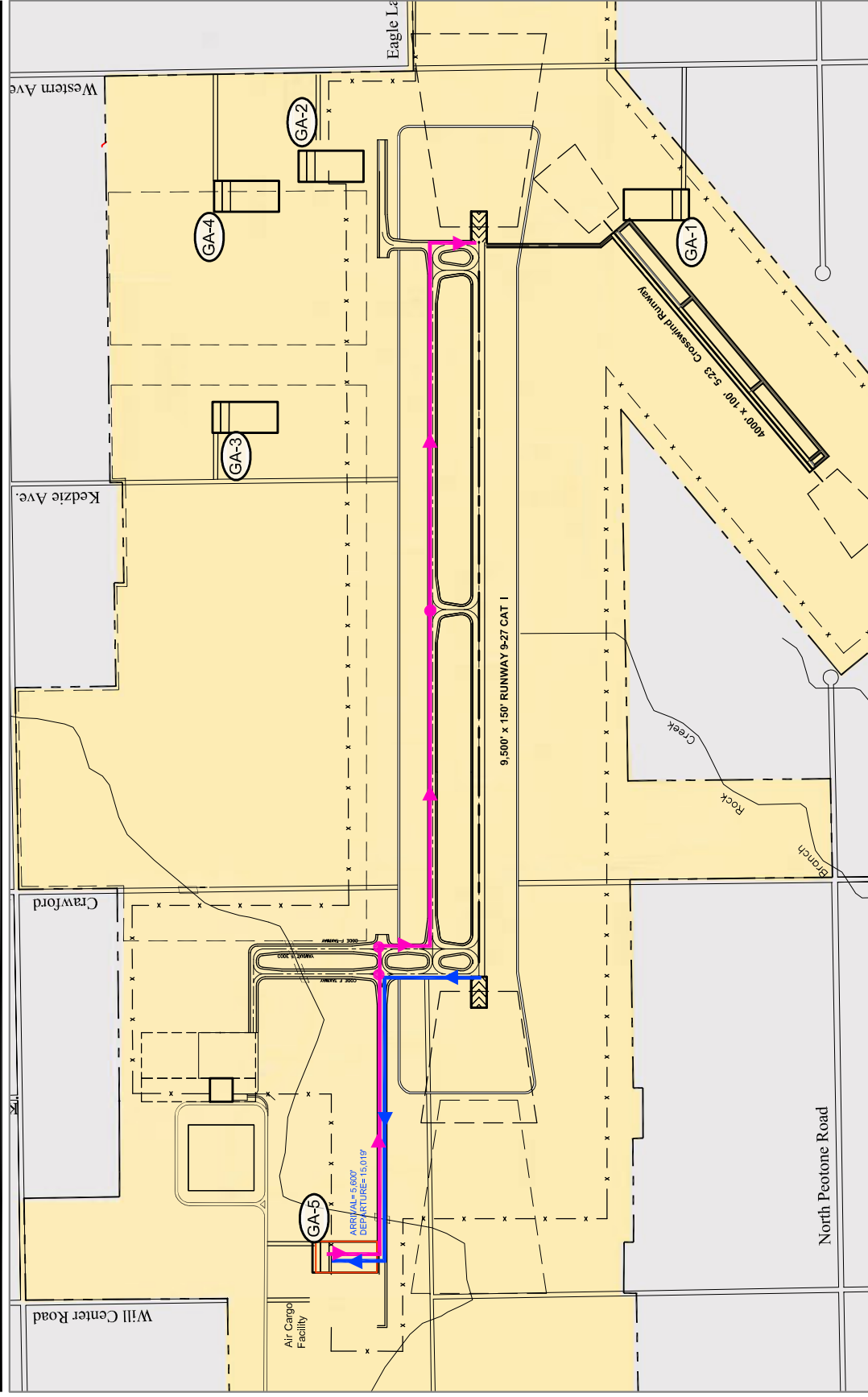
**Inaugural Airport Program
Aircraft Taxiing Analysis
General Aviation GA-5 East Flow**

TAMS an Earth Tech Company

Legend

- ARRIVAL FLOW
- DEPARTURE FLOW
- RUNWAY CROSSING
- AIRPORT FOOTPRINT
- PROPOSED AIRPORT RUNWAY
- TAXIWAY CROSSING

0 1000 2000 ft



**Inaugural Airport Program
Aircraft Taxiing Analysis
General Aviation GA-5 West Flow**

TAMS an Earth Tech Company

Legend

- ARRIVAL FLOW
- DEPARTURE FLOW
- TAXIWAY CROSSING
- RUNWAY CROSSING
- AIRPORT FOOTPRINT
- PROPOSED AIRPORT RUNWAY

0 1000 2000 ft

North

Exhibit: A-17.10