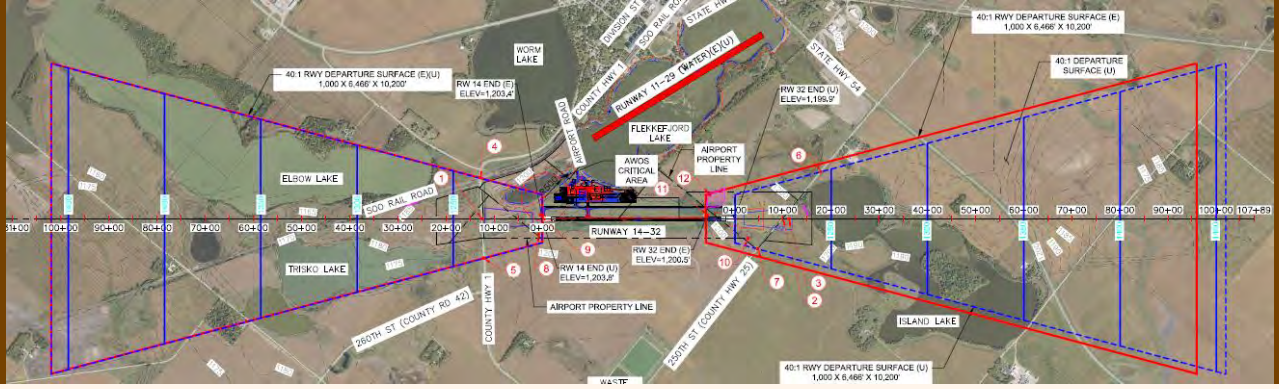


Chapter Six – Airport Layout Plans

Section 1 – Introduction
Section 2 – Airport Layout Plans Drawings

6 | Section 1 – Introduction

The purpose of the Airport Layout Plan (ALP) is to show the type and location of current and future airport development and to document that future development will be built according to FAA safety and design standards. These drawings include information about airfield surface, airspace, land use, land ownership, wind conditions, airport buildings, leaseholders, and other information. They also include data tables with key information about airport surfaces, dimensions, and airspace obstructions.

6 | Section 2 – Airport Layout Plans Drawings

By definition, the ALP is a plan for an airport that shows:

- Boundaries and proposed additions to all areas owned or controlled by the sponsor for airport purposes
- The location and nature of existing and proposed airport facilities and structures
- The location on the airport of existing and proposed non-aviation areas and improvements thereon.

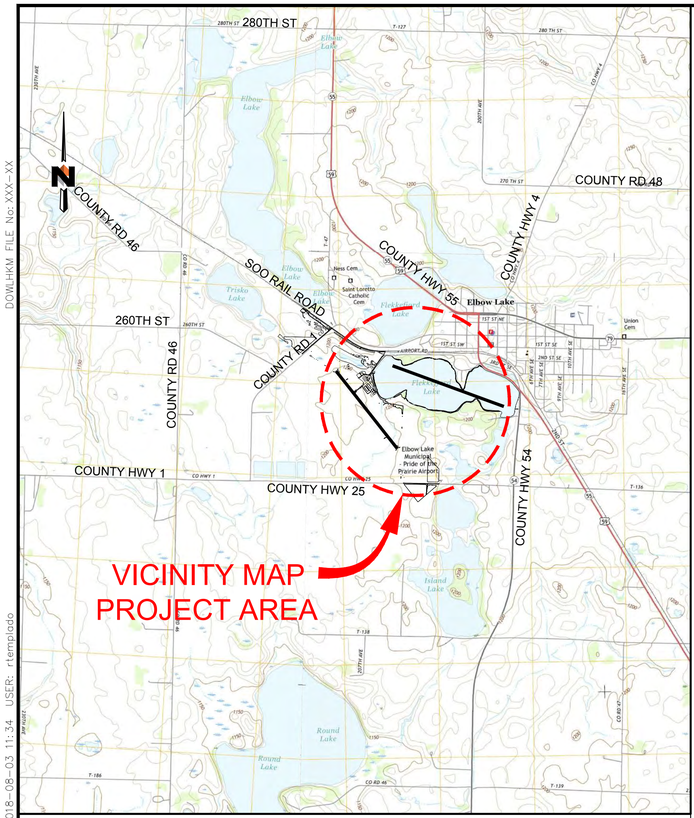
The complete FAA approved ALP can be found on the pages that follow in this section.

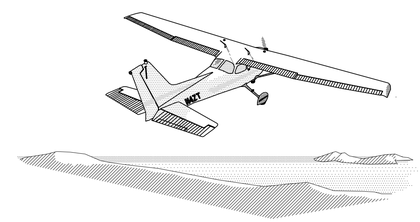
The ALP depicts the preferred alternatives, found in the preceding chapter, in a graphic format to describe the anticipated improvements to the Elbow Lake Airport within the 20-year planning period.

DRAFT

ELBOW LAKE MUNICIPAL PRIDE OF THE PRAIRIE AIRPORT (Y63)
ELBOW LAKE, MINNESOTA
AIRPORT LAYOUT PLAN

AUGUST 2018
AIP 3-27-0026-008-2016





PREPARED FOR:

ELBOW LAKE MUNICIPAL AIRPORT
P.O. BOX 1079
ELBOW LAKE, MN 56531

SHEET INDEX

SHEET NO.	TITLE	REVISION DATE
1	TITLE SHEET	
2	AIRPORT DATA SHEET	
3	AIRPORT LAYOUT PLAN	
4	AIRPORT AIRSPACE PLAN	
5	RWY 14–32 INNER APPROACH PLAN & PROFILE	
6	RWY 11–29 INNER APPROACH PLAN & PROFILE	
7	RWY 14–32 DEPARTURE SURFACE PLAN & PROFILE	
8	TERMINAL AREA PLAN	
9	AIRPORT LAND USE PLAN	
10	AIRPORT PROPERTY MAP–EXHIBIT A	
11	AIRPORT PROPERTY MAP–PROPERTY INFORMATION	

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Chairman, Elbow Lake Airport Commission DATE

MNDOT APPROVAL

DATE

FAA APPROVAL

REVISIONS

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SHEET 1 OF 11

DOWLHKM FILE No: XXX-XX
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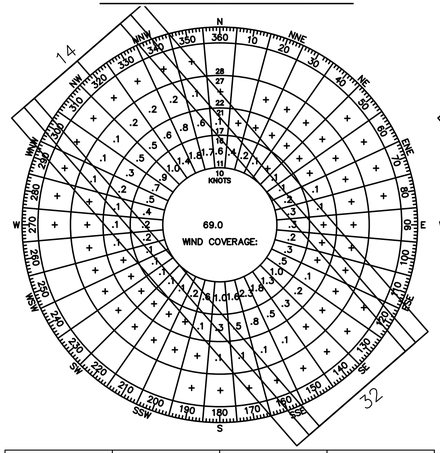
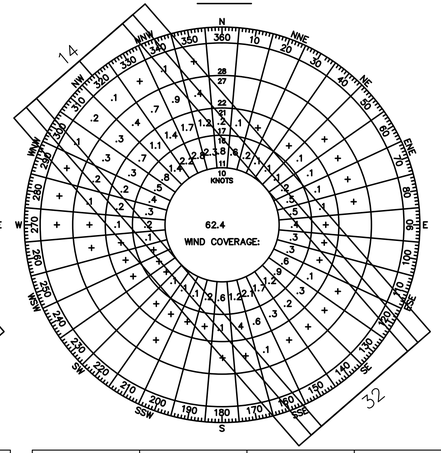
ALL WEATHER



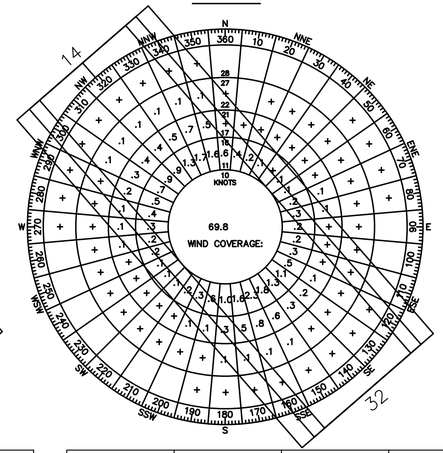
RUNWAY	10.5 KNOTS	13 KNOTS	16 KNOTS
14/32	95.17%	97.92%	99.38%

IFR



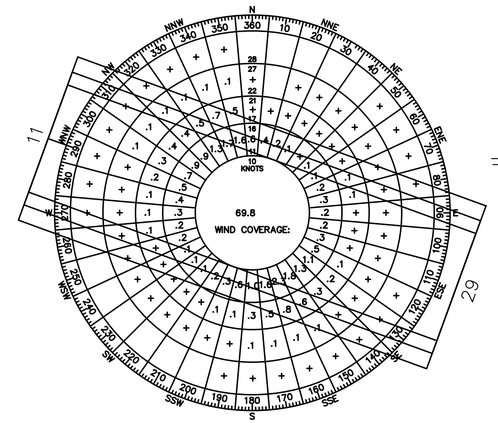
RUNWAY	10.5 KNOTS	13 KNOTS	16 KNOTS
14/32	94.78%	97.89%	99.39%

VFR



RUNWAY	10.5 KNOTS	13 KNOTS	16 KNOTS
14/32	95.24%	97.94%	99.39%

VFR



RUNWAY	10.5 KNOTS	13 KNOTS	16 KNOTS
11/29	86.28%	92.91%	97.84%

WIND ROSE

SOURCE: U.S. DEPARTMENT OF COMMERCE, NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION, NATIONAL CLIMATIC DATA CENTER (www.ncdc.noaa.gov/)
DATA FROM FERGUS FALLS (FFM) AWOS.
DATA TIME: 2010-2016 (FFM)

OBSTRUCTION SURVEY

SOURCE: AIRPORTS GIS DATA AERONAUTICAL SURVEY, Y63. WOOLPERT -2016.
OBSTRUCTION SURVEY PER AC 150/5300-18B AND AC 150/5300-13A, VERIFIED DATE OF NGS ACCEPTANCE: 11/17/17

RUNWAY 14–32

RUNWAY 11–29

AIRPORT DATA

ITEM	EXISTING (E)	ULTIMATE (U)
TAXIWAY WIDTH	25'	SAME
TAXIWAY SAFETY AREA WIDTH (TSA)	49'	79'
TAXIWAY OBJECT FREE AREA WIDTH (TOFA)	89'	131'
TAXILANE OBJECT FREE AREA WIDTH (TLOFA)	79'	115'

DECLARED DISTANCES

RUNWAY 14-32	EXISTING (E)	ULTIMATE (U)
TORA	3,401'	4,000'
TODA	3,401'	4,000'
ASDA	3,401'	4,000'
LDA	3,401'	4,000'

RUNWAY DATA

ITEM	14-32 EXISTING (E)	14-32 ULTIMATE (U)	11-29 EXISTING (E)(U)
RUNWAY DIMENSIONS (LENGTH x WIDTH)	3,401' x 60'	4,000' x 75'	4,125' x 130'
RUNWAY DESIGN TYPE	UTILITY /<12,500	SAME	UTILITY
EFFECTIVE GRADIENT	0.09%	SAME	0%
MAXIMUM GRADE	0.09%	SAME	0%
LINE OF SIGHT REQUIREMENTS	YES	YES	YES
RUNWAY END ELEVATION	14 - 1203.4' 32 - 1200.5'	14 - 1203.8' 32 - 1199.9'	11 - 1185.0' 29 - 1185.0'
TOUCHDOWN ZONE ELEVATION	14 - 1200.8' 32 - 1203.3'	14 - 1200.9' 32 - 1202.8'	11 - 1185.0' 29 - 1185.0'
HIGH POINT ELEVATION	1205.8'	1205.8'	1185.0'
LOW POINT ELEVATION	1199.1'	1199.1'	1185.0'
RUNWAY INTERSECTION ELEVATION	N/A	SAME	N/A
RUNWAY GRID BEARING (TRUE)	N 38° 17' 25" W	SAME	N 69° 52' 08" W
PAVEMENT STRENGTH BY PCN	44/F/C/Y/T	SAME	N/A
AIRPLANE GEAR CONFIG/PAVE STRENGTH (x1000lbs)	12,500 SWG	SAME	N/A
APPROACH SURFACE SLOPE	20:1 / 20:1	SAME	20:1 / 20:1
DEPARTURE SURFACE SLOPE	40:1 / 40:1	SAME	N/A
14 CFR PART 77 APPROACH CATEGORY	20:1	SAME	20:1
RUNWAY LIGHTING	MIRL	SAME	N/A
RUNWAY MARKING	NPI	SAME	N/A
LANDING SURFACE / TREATMENT	ASPHALT / N/A	SAME	WATER / N/A
APPROACH AIDS	RW 14-PAPI, REIL AND RW 32-PAPI, REIL	SAME	N/A
WIND COVERAGE - ALL WEATHER	10.5 KTS 95.17 %	13.0 KTS 97.92%	N/A
RUNWAY DESIGN CODE (RDC)	A/B-I SMALL - 1 MILE	B-II SMALL - 1 MILE	A/B-I SMALL - VIS
APPROACH REFERENCE CODE (APRC)	A/B-I SMALL - 1 MILE	B-II SMALL - 1 MILE	A/B-I SMALL - VIS
DEPARTURE REFERENCE CODE (DPRC)	A/B-I SMALL	B-II SMALL	A/B-I SMALL
RUNWAY SAFETY AREA (RSA) LENGTH x WIDTH BEYOND RUNWAY END	240' x 120'	300' x 150'	N/A
RUNWAY OBJECT FREE AREA (ROFA) LENGTH x WIDTH BEYOND RUNWAY END	240' x 250'	300' x 500'	N/A
OBSTACLE FREE ZONE (OFZ) LENGTH x WIDTH BEYOND RUNWAY END	200' x 250'	SAME	N/A
RUNWAY PROTECTION ZONE (RPZ)	14 - 250' x 450' x 1000' 32 - 250' x 450' x 1000'	SAME	N/A
APPROACH MINIMUMS /APPROACH TYPE	1 MILE/NPI	SAME	VISUAL
CRITICAL AIRCRAFT DATA	BEECHCRAFT KING AIR E90	BEECHCRAFT KING AIR E90	DE HAVILLAND DHC-2 BEAVER
A. GROSS WEIGHT (LBS)	10,100	10,100	5,100
B. WINGSPAN	50'-3"	50'-3"	48'-0"
C. APPROACH SPEED	101 KNOTS	101 KNOTS	67 KNOTS
D. TAIL HEIGHT	14'-3"	14'-3"	10'-5"
E. MAIN GEAR WIDTH	13'-0"	13'-0"	9'-7"
DISPLACED THRESHOLD	N/A	N/A	N/A

MODIFICATIONS TO STANDARDS

	EXISTING (E)	ULTIMATE (U)
RUNWAY 14-32	NON-COMPLIANT ADG 1 TLOFA WIDTH	NON-COMPLIANT ADG 1 TLOFA WIDTH

RUNWAY END COORDINATES

RUNWAY END	EXISTING (E)	ULTIMATE (U)
14	LAT 45° 59' 18.35" N	LAT 45° 59' 18.30" N
	LONG 095° 59' 45.99" W	LONG 095° 59' 46.07" W
32	LAT 45° 58' 52.44" N	LAT 45° 58' 47.85" N
	LONG 095° 59' 15.35" W	LONG 095° 59' 09.99" W
11	LAT 45° 59' 20.76" N	SAME
	LONG 095° 59' 18.20" W	SAME
29	LAT 45° 59' 07.58" N	SAME
	LONG 095° 58' 22.91" W	SAME

AIRPORT DATA

ITEM	EXISTING (E)	ULTIMATE (U)
AIRPORT ELEVATION (NAVD 88)	1,205.8'	1,205.8'
AIRPORT REFERENCE POINT (ARP) COORDINATES (NAD 83)	LAT 45°59'05.41" N LONG 095°59'30.65" W	LAT 45°59'03.07" N LONG 095°59'28.03" W
MEAN MAX. TEMP. HOTTEST MONTH (JULY)	81°	81°
COMBINED WIND COVERAGE 14/32	95.17%	97.92%
AIRPORT REFERENCE CODE	A/B-I SMALL	B-II SMALL
NPIAS ROLE	GA-Local	SAME
STATE ROLE	INTERMEDIATE	SAME
MAGNETIC VARIATION (JULY 2017) http://www.ngdc.noaa.gov/geomag-web	2° 24' E	SAME
TAXIWAY LIGHTING	MITL	SAME
TAXIWAY MARKING	CENTERLINE	SAME
TAXIWAY SURFACE TYPE	ASPHALT	SAME
AIRPORT & TERMINAL NAVAIDS (ALL AIRPORT OWNED)	BEACON, GPS, WINDSOCK, PAPI, REIL	SAME

12/15/2014 DRAFT — DRAFT AC 150/5300-13A Consolidated Change 2

Table 3-2. Approach/departure standards table

	Runway Type	DIMENSIONAL STANDARDS* Feet (Meters) A	B	C	D	E	Slope/ OCS
1	Approach end of runways expected to serve small airplanes with approach speeds less than 50 knots. (Visual runways only, day/night)	0 (0)	120 (37)	300 (91)	500 (152)	2,500 (762)	15:1
2	Approach end of runways expected to serve small airplanes with approach speeds of 50 knots or more. Circling approaches not allowed. (Visual runways only, day/night)	0 (0)	250 (76)	700 (213)	2,250 (686)	2,750 (838)	20:1
3	Approach end of runways expected to accommodate instrument approaches having visibility greater than or equal to 3/4 statute mile, or expected to serve large airplanes (day or night). Includes circling approaches. [1]	200 (61)	400 (122)	3,800 (1158)	10,000 [2] (3048)	0 (0)	20:1
4	Approach end of runways expected to accommodate instrument approaches having visibility minimums < 3/4 statute mile (1.2 km).	200 (61)	800 (244)	3,800 (1158)	10,000 [2] (3048)	0 (0)	34:1
5[3,5,6,7]	Approach end of runways expected to accommodate approaches with vertical guidance (Glide Path Qualification Surface [GQS]).	0 (0)	Runway width + 200 (61)	1520 (463)	10,000 [2] (3048)	0 (0)	30:1
6	Departure runway ends for all instrument operations.	0 [4] (0)	See Figure 3-4.				40:1

* The letters are keyed to those shown in Figure 3-2.

Notes:

1. Marking and lighting of obstacle penetrations to this surface or the use of a Visual Guidance Slope Indicator (VGSI), as defined by Order 8260.3, may avoid displacing the threshold. However, marking and lighting vegetation should only be used as a temporary mitigation.
2. 10,000 feet (3048 m) is a nominal value for planning purposes. The actual length is dependent on the TERPS visual descent point or DA point.
3. When objects exceed the height of the GQS, an approach with vertical guidance is not authorized. Refer to Table 3-4 and its footnote 4 for further information on GQS.
4. Dimension A is measured relative to TODA (to include clearway).
5. Surface dimensions / OCS slope represent a nominal approach with 3 degree Glide Path Angle (GPA), 50 feet (15 m) TCH, < 500 feet (152 m) HATh. For specific cases, refer to Order 8260.3. The OCS slope (30:1) supports a nominal approach of 3 degrees (also known as the GPA). This assumes a TCH of 50 feet (15 m). Three degrees is commonly used for ILS systems and VGSI aiming angles. This approximates a 30:1 approach slope that is between the 34:1 and the 20:1 approach surfaces of Part 77. Surfaces cleared to 34:1 should accommodate a 30:1 approach without any obstacle clearance problems.
6. For runways with vertically guided approaches the criteria in row 8 is in addition to the basic criteria established within the table, to ensure the protection of the GQS.
7. For planning purposes, determine a tentative DA based on a 3 degree GPA and a 50-foot (15 m) TCH.

TABLE 3–2

REVISIONS

REV	DATE	DESCRIPTION	BY

SHEET INFO	MB
DESIGNED	RT
DRAWN	JG
CHECKED	AH
APPROVED	6/26/18
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ELBOW LAKE MUNICIPAL AIRPORT
ELBOW LAKE, MINNESOTA
AIRPORT LAYOUT PLAN
AIRPORT DATA SHEET

PROJECT 11778.01
DATE 8/3/18

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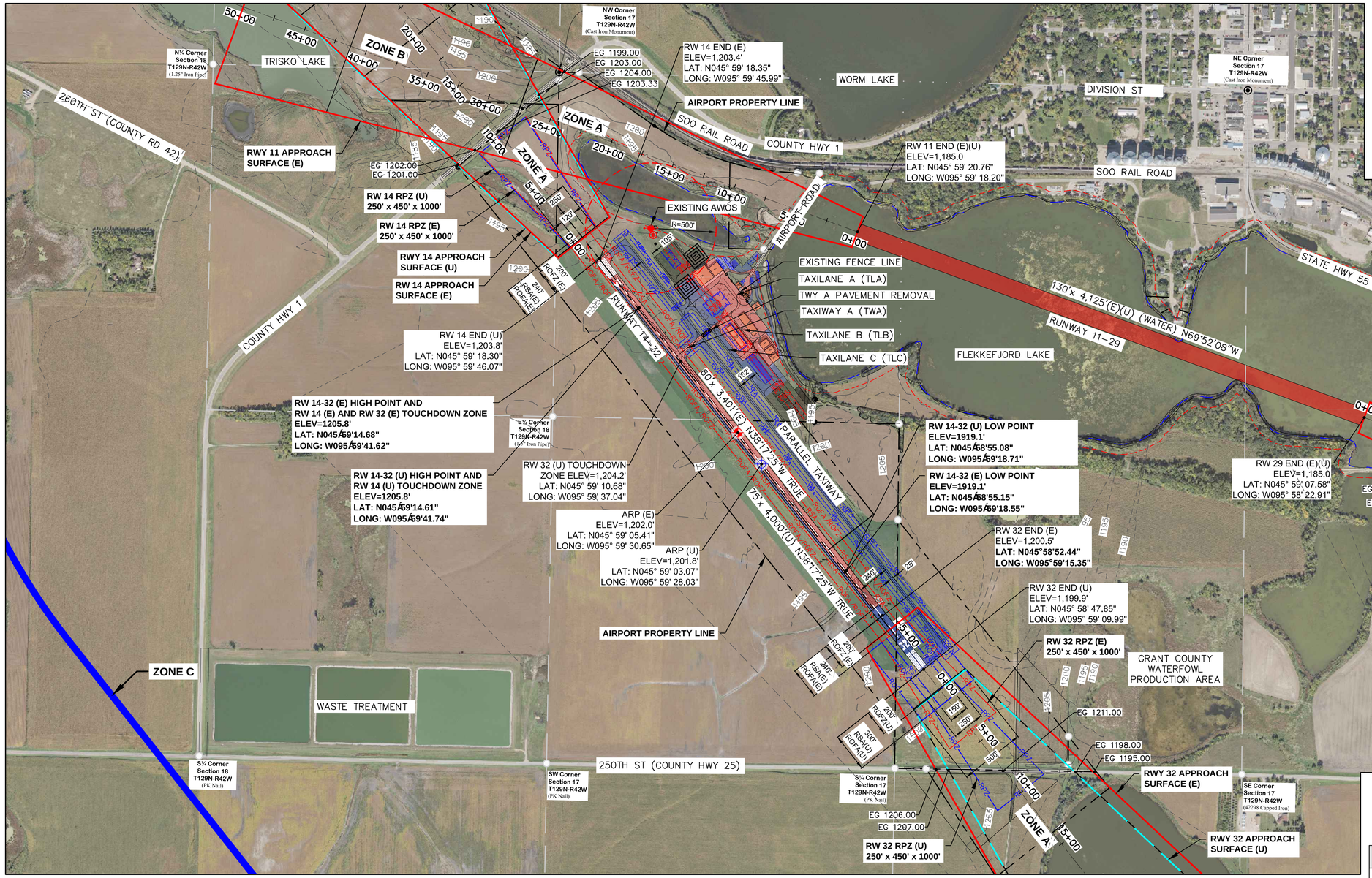

NOTE: ELEVATIONS SHOWN ON PLAN ARE THE ACTUAL EXISTING GROUND (EG) ELEVATIONS.

LEGEND

DESCRIPTION	EXISTING (E)	ULTIMATE (U)
TAXIWAY/AIRFIELD DEVELOPMENT		
STRUCTURAL / FACILITIES (BUILDING)		
RUNWAY DEVELOPMENT		
AIRPORT PROPERTY LINE (APL)		
RUNWAY PROTECTION ZONE (RPZ)	RPZ	RPZ
RUNWAY SAFETY AREA (RSA)	RSA	RSA
OBSTACLE FREE ZONE (OFZ)	ROFZ	ROFZ
RUNWAY OBJECT FREE AREA (ROFA)	ROFA	ROFA
TAXIWAY SAFETY AREA	TSA	TSA

LEGEND

DESCRIPTION	EXISTING (E)	ULTIMATE (U)
RUNWAY VISIBILITY ZONE (RVZ)	RVZ	RVZ
FUTURE REMOVAL		
THRESHOLD LIGHTS		
REIL		
TAXIWAY OBJECT FREE AREA (TOFA)	TOFA	TOFA
BUILDING RESTRICTION LINE (BRL)	BRL	BRL
BARBWIRE FENCING / WILDLIFE FENCING	X X X	X X X
CHAIN LINK FENCING		

LEGEND

DESCRIPTION	EXISTING (E)	ULTIMATE (U)
AIRPORT REFERENCE POINT (ARP)		
AIRPORT BEACON		
WIND CONE AND SEGMENTED CIRCLE		
AIRCRAFT TIEDOWN		
SECTION CORNER		
AWOS		
DRAINAGE /CULVERT		
CONTOURS	4125	4125

FAA APPROVAL

SPONSOR APPROVAL

Chairman, Elbow Lake Airport Commission DATE

MNDOT APPROVAL

DATE

REVISIONS

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ELBOW LAKE, MINNESOTA
AIRPORT LAYOUT PLAN
AIRPORT LAYOUT PLAN

PROJECT 11778.01
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MAGNETIC

MAG. DECL.: 2° 24' E
RATE OF CHANGE: 0° 5' W PER YEAR
DATE: JUL 2017

1200 0 1200
SCALE IN FEET

RW 29 END (E)(U)
ELEV=1,185.0

RW 11 END (E)(U)
ELEV=1,185.0

RW 14 END (E)
ELEV=1,203.4'

RW 32 END (E)
ELEV=1,200.5'

RW 14 END (U)
ELEV=1,203.8'

RW 32 END (U)
ELEV=1,199.9'

RUNWAY 11-29 (E)(U) (4,125'X130')

RUNWAY 14-32 E (60'X3,401')

RUNWAY 14-32 U (75'X4,000')

PRIMARY SURFACE

CONICAL SURFACE

20:1

4,000'

5,000'

20:1 APPROACH SURFACE

ZONE A

ZONE B

ZONE C

7:1 TRANSITIONAL SURFACE

HORIZONTAL SURFACE
ELEV=1355.8

1355.8

1400

1450

1500

1550

1555.8

STATE HWY 55

STATE HWY 54

COUNTY HWY 1

COUNTY HWY 25/250TH ST

260TH ST

270 TH ST

280 TH ST

CO RD 46

CO RD 48

CO HWY 1

CO HWY 23

Elbow Lake

ELBOW LAKE

WORM LAKE

FLEKKEFJORD LAKE

TRISKO LAKE

WASTE TREATMENT

Union Cem

SOO RAIL ROAD

T-127

T-136

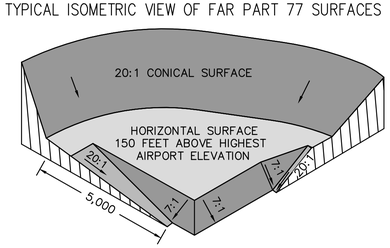
T-25

T-47

LEGEND

- OBSTRUCTIONS
- POSSIBLE GROUP AND MULTIPLE OBSTRUCTIONS
- APPROACH SURFACE

TYPICAL ISOMETRIC VIEW OF FAR PART 77 SURFACES



NOTES:

1. ESTABLISHED ELBOW LAKE MUNICIPAL AIRPORT ELEVATION IS 1205.8' (NAVD88).
2. THERE ARE NO KNOWN OBSTRUCTIONS TO HORIZONTAL AND CONICAL SURFACES.
3. SEE SHEETS 5-6 FOR OBSTRUCTION TABLES AND PENETRATIONS TO THE INNER PORTION OF THE APPROACH SURFACES.
4. CLOSE IN OBSTRUCTIONS ARE SHOWN ON INNER APPROACH SURFACE SHEETS 5-6.
5. SEE SHEET 7 FOR RUNWAY 14-32 DEPARTURE SURFACE OBSTRUCTIONS.

OBJECT PENETRATIONS INTO PART 77 SURFACES

NO.	OBJECT	TOP ELEV	HORIZINTAL/CONICAL SURFACE ELEV	AMOUNT OF PENETRATION	PROPOSED DISPOSITION
NO OBSTRUCTIONS					

REVISIONS

REV	DATE	DESCRIPTION	BY

SHEET INFO	
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DRAWN	RT
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APPROVED	AH
LAST EDIT	8/3/18
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ELBOW LAKE, MINNESOTA
AIRPORT LAYOUT PLAN

AIRPORT AIRSPACE PLAN

PROJECT 11778.01
DATE 8/3/18

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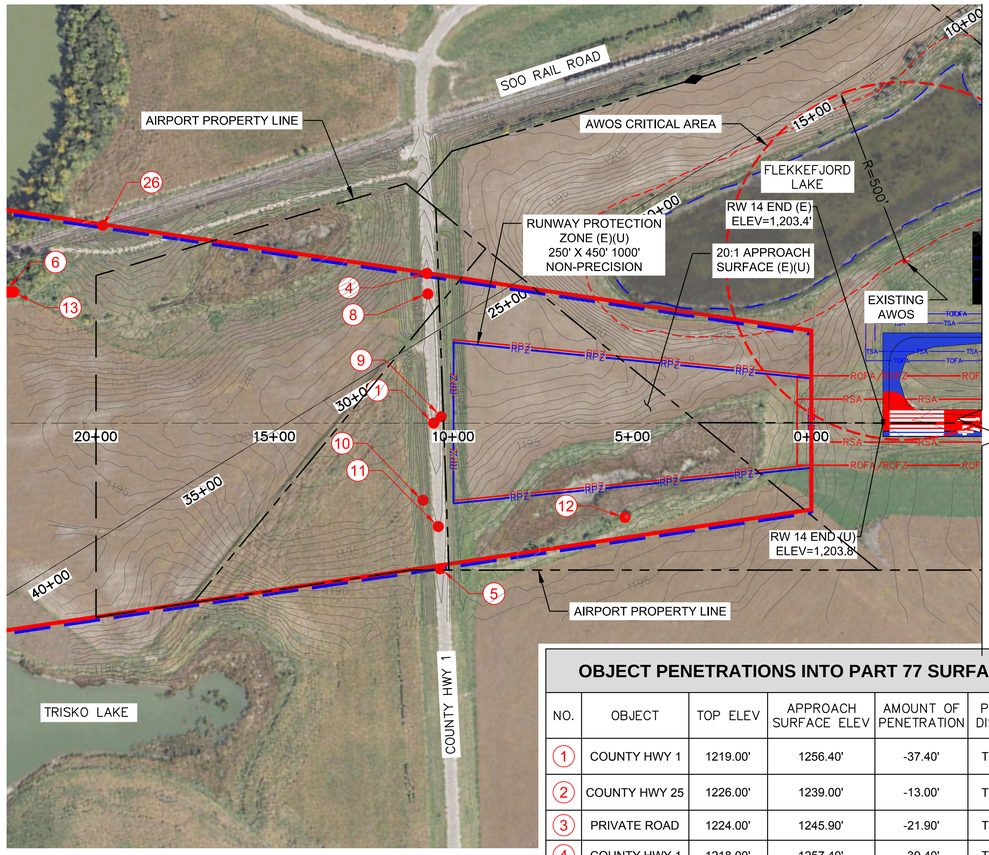
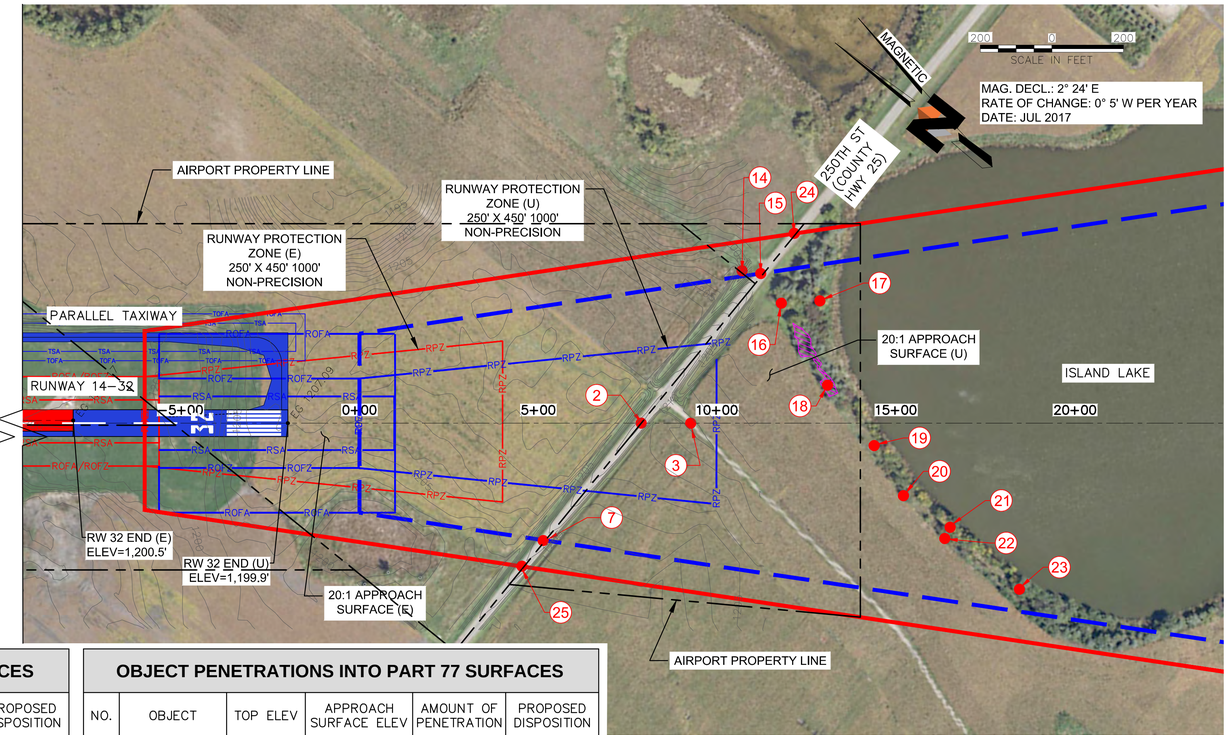




OBJECT PENETRATIONS INTO PART 77 SURFACES

NO.	OBJECT	TOP ELEV	APPROACH SURFACE ELEV	AMOUNT OF PENETRATION	PROPOSED DISPOSITION
1	COUNTY HWY 1	1219.00'	1256.40'	-37.40'	TO REMAIN
2	COUNTY HWY 25	1226.00'	1239.00'	-13.00'	TO REMAIN
3	PRIVATE ROAD	1224.00'	1245.90'	-21.90'	TO REMAIN
4	COUNTY HWY 1	1218.00'	1257.40'	-39.40'	TO REMAIN
5	COUNTY HWY 1	1216.00'	1255.6'	-39.60'	TO REMAIN
6	TREE	1261.07'	1315.58'	-54.51'	TO REMAIN
7	COUNTY HWY 25	1222.00'	1225.60'	-3.60'	TO REMAIN
8	COUNTY HWY 1	1219.19'	1257.00'	-37.81'	TO REMAIN
9	SIGN	1211.27'	1255.11'	-43.84'	TO REMAIN
10	SIGN	1210.24'	1257.65'	-47.41'	TO REMAIN
11	COUNTY HWY 1	1217.17'	1255.52'	-38.35'	TO REMAIN
12	TREE	1212.40'	1229.44'	-17.04'	TO REMAIN
13	TREE	1259.15'	1314.86'	-55.71'	TO REMAIN

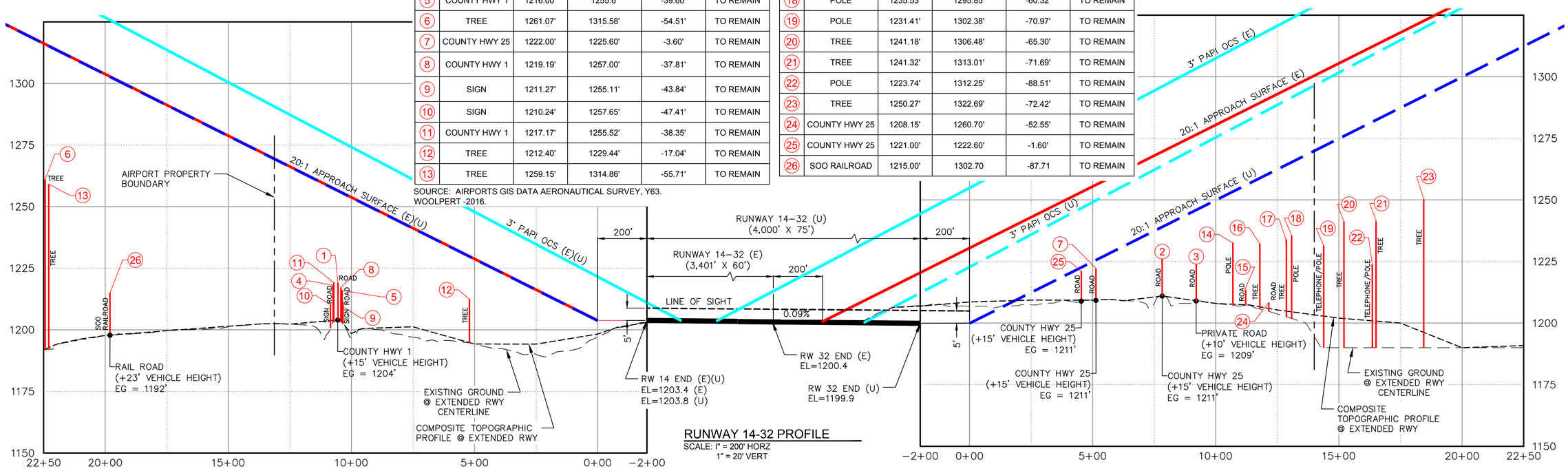
OBJECT PENETRATIONS INTO PART 77 SURFACES

NO.	OBJECT	TOP ELEV	APPROACH SURFACE ELEV	AMOUNT OF PENETRATION	PROPOSED DISPOSITION
14	POLE	1232.59'	1283.90'	-51.31'	TO REMAIN
15	COUNTY HWY 25	1213.47'	1255.90'	-42.43'	TO REMAIN
16	TREE	1232.22'	1289.39'	-57.17'	TO REMAIN
17	TREE	1233.95'	1294.78'	-60.83'	TO REMAIN
18	POLE	1235.53'	1295.85'	-60.32'	TO REMAIN
19	POLE	1231.41'	1302.38'	-70.97'	TO REMAIN
20	TREE	1241.18'	1306.48'	-65.30'	TO REMAIN
21	TREE	1241.32'	1313.01'	-71.69'	TO REMAIN
22	POLE	1223.74'	1312.25'	-88.51'	TO REMAIN
23	TREE	1250.27'	1322.69'	-72.42'	TO REMAIN
24	COUNTY HWY 25	1208.15'	1260.70'	-52.55'	TO REMAIN
25	COUNTY HWY 25	1221.00'	1222.60'	-1.60'	TO REMAIN
26	SOO RAILROAD	1215.00'	1302.70	-87.71	TO REMAIN

SOURCE: AIRPORTS GIS DATA AERONAUTICAL SURVEY, Y63. WOOLPERT -2016.

LEGEND

- OBSTRUCTIONS
- POSSIBLE GROUP AND MULTIPLE OBSTRUCTIONS
- APPROACH SURFACE (E)
- APPROACH SURFACE (U)



RUNWAY 14-32 PROFILE

SCALE: 1" = 200' HORZ
1" = 20' VERT

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REV	DATE	DESCRIPTION	BY

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ELBOW LAKE, MINNESOTA
AIRPORT LAYOUT PLAN

RWY 14-32 INNER APPROACH
PLAN & PROFILE

PROJECT	11778.01
DATE	8/3/18

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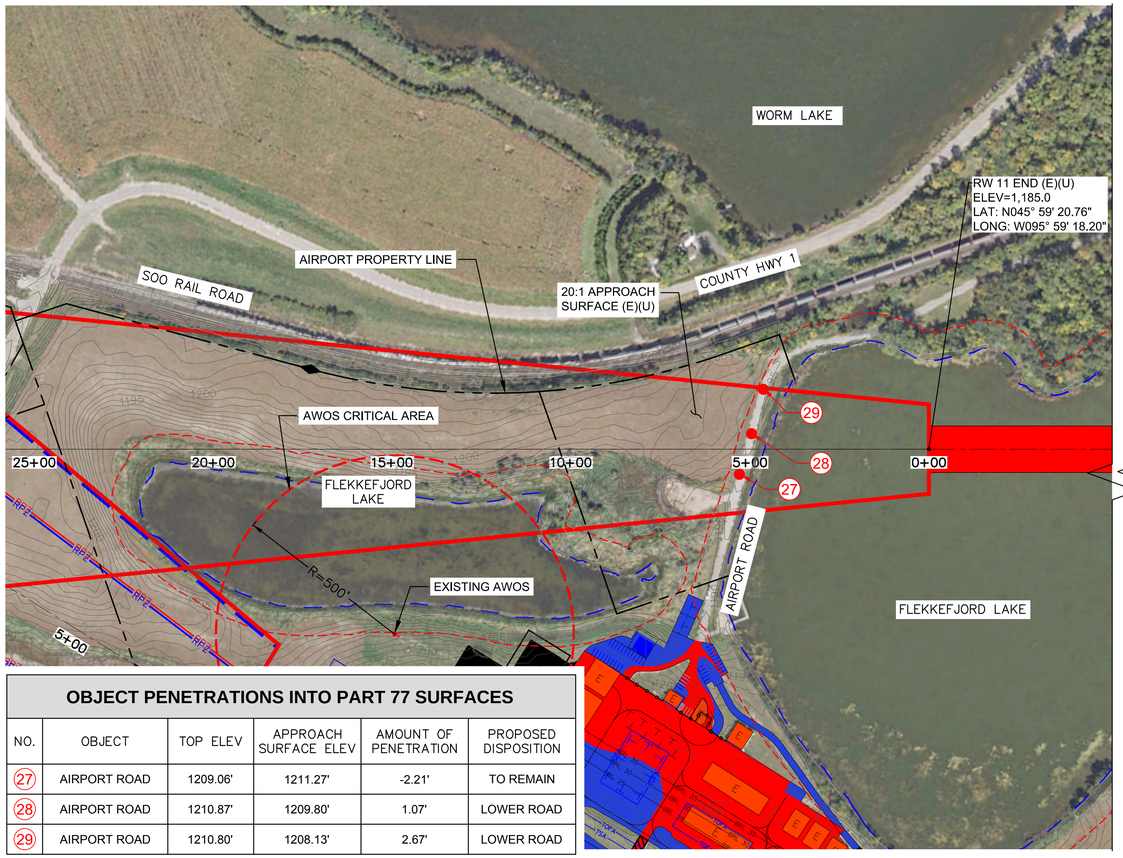
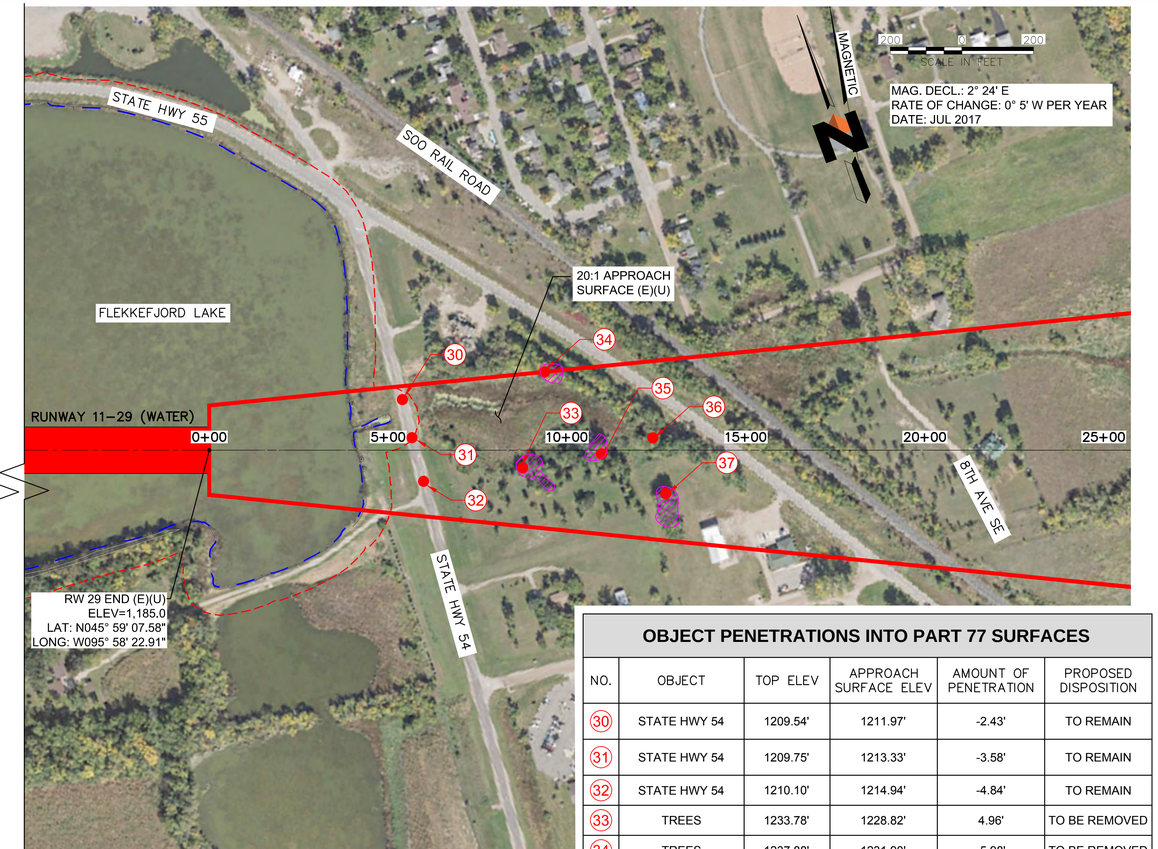




OBJECT PENETRATIONS INTO PART 77 SURFACES

NO.	OBJECT	TOP ELEV	APPROACH SURFACE ELEV	AMOUNT OF PENETRATION	PROPOSED DISPOSITION
27	AIRPORT ROAD	1209.06'	1211.27'	-2.21'	TO REMAIN
28	AIRPORT ROAD	1210.87'	1209.80'	1.07'	LOWER ROAD
29	AIRPORT ROAD	1210.80'	1208.13'	2.67'	LOWER ROAD

SOURCE: AIRPORTS GIS DATA AERONAUTICAL SURVEY, Y63.
WOOLPERT -2016.

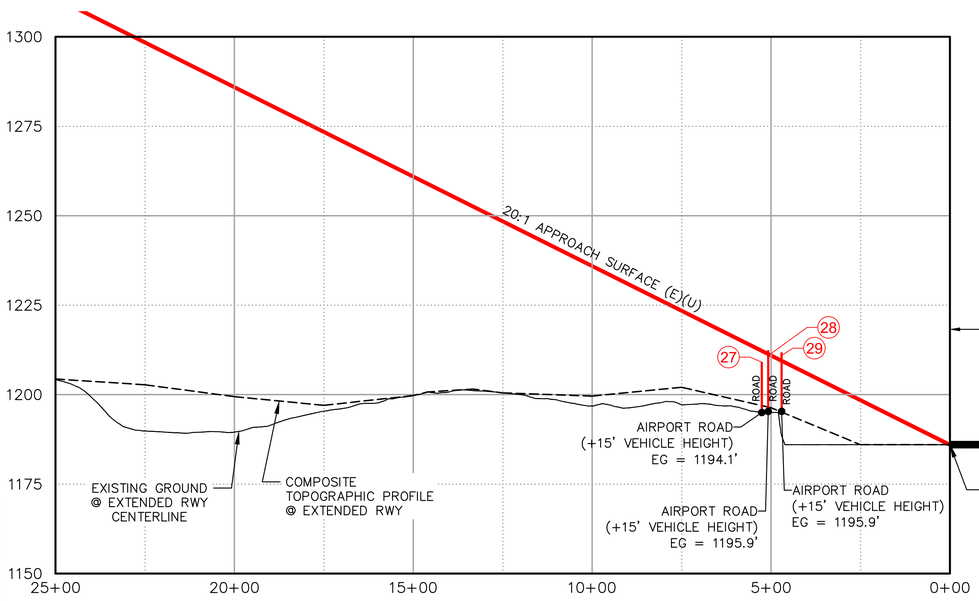
LEGEND

- OBSTRUCTIONS
- POSSIBLE GROUP AND MULTIPLE OBSTRUCTIONS
- APPROACH SURFACE (E)
- APPROACH SURFACE (U)

OBJECT PENETRATIONS INTO PART 77 SURFACES

NO.	OBJECT	TOP ELEV	APPROACH SURFACE ELEV	AMOUNT OF PENETRATION	PROPOSED DISPOSITION
30	STATE HWY 54	1209.54'	1211.97'	-2.43'	TO REMAIN
31	STATE HWY 54	1209.75'	1213.33'	-3.58'	TO REMAIN
32	STATE HWY 54	1210.10'	1214.94'	-4.84'	TO REMAIN
33	TREES	1233.78'	1228.82'	4.96'	TO BE REMOVED
34	TREES	1237.88'	1231.90'	5.98'	TO BE REMOVED
35	TREES	1263.67'	1239.86'	23.81'	TO BE REMOVED
36	TREE	1247.84'	1247.06'	0.78'	TO BE REMOVED
37	TREES	1256.86'	1248.70'	8.16'	TO BE REMOVED

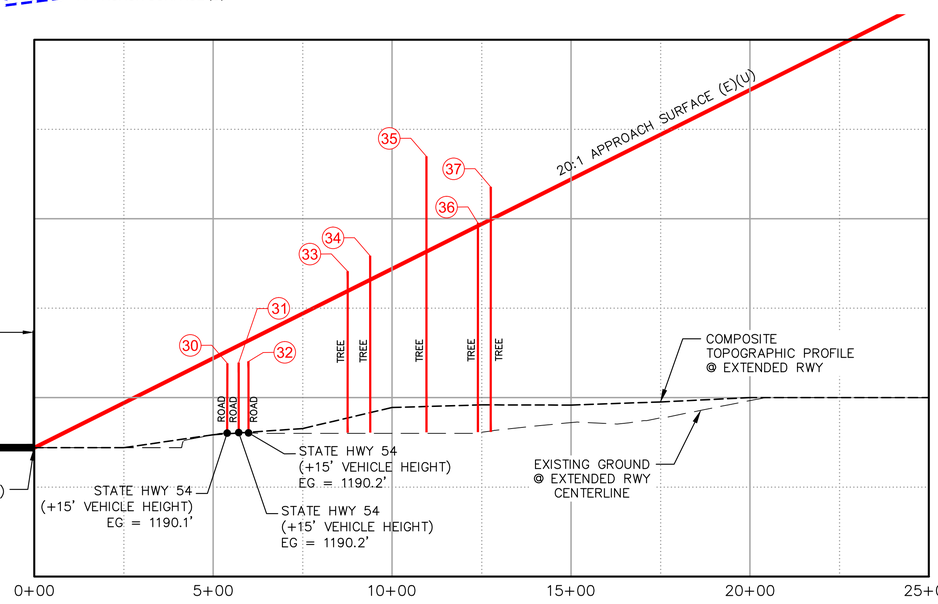
SOURCE: AIRPORTS GIS DATA AERONAUTICAL SURVEY, Y63.
WOOLPERT -2016.



RUNWAY 11–29 (E)(U)
(4,125' X 130')

0.0%

RW 29 END (E)(U)
EL=1185



RUNWAY 11-29 PROFILE
SCALE: 1" = 200' HORZ
1" = 20' VERT

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RWY 11-29 INNER APPROACH
PLAN & PROFILE

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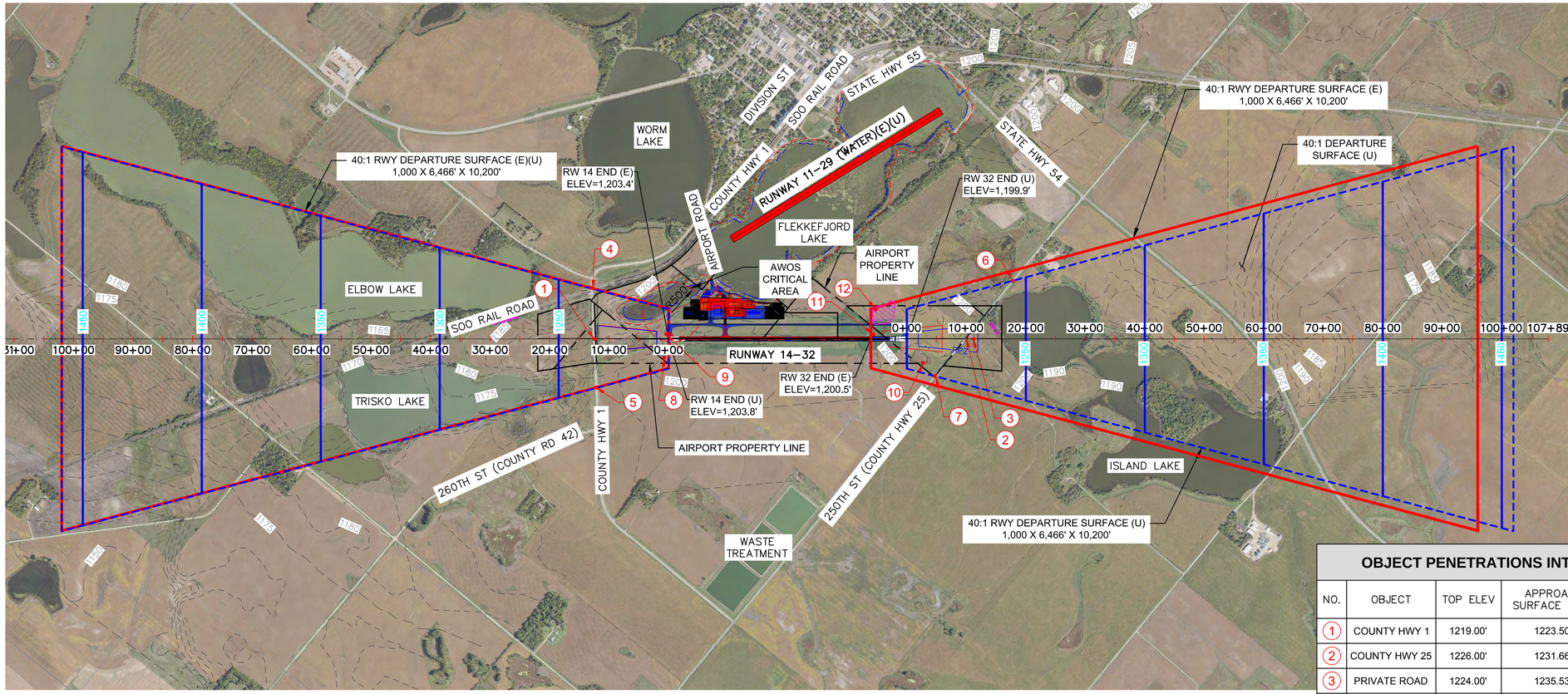
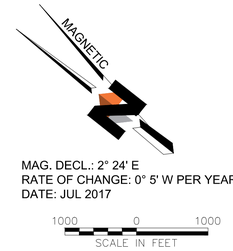




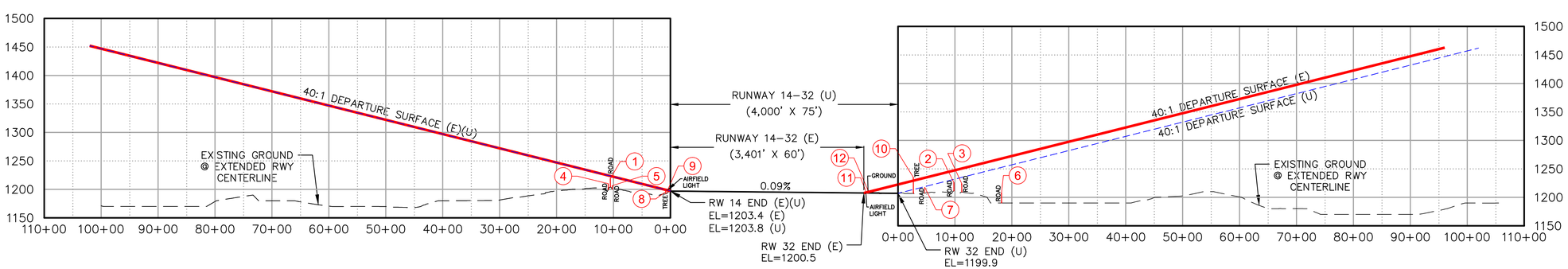
OBJECT PENETRATIONS INTO DEPARTURE SURFACE

NO.	OBJECT	TOP ELEV	APPROACH SURFACE ELEV	AMOUNT OF PENETRATION	PROPOSED DISPOSITION
1	COUNTY HWY 1	1219.00'	1223.50'	-4.50'	TO REMAIN
2	COUNTY HWY 25	1226.00'	1231.66'	-5.66'	TO REMAIN
3	PRIVATE ROAD	1224.00'	1235.53'	-11.53'	TO REMAIN
4	COUNTY HWY 1	1210.00'	1224.40'	-14.40'	TO REMAIN
5	COUNTY HWY 1	1206.50'	1222.60'	-16'.10'	TO REMAIN
6	COUNTY HWY 25	1207.70'	1252.56'	-44.86'	TO REMAIN
7	COUNTY HWY 25	1217.70'	1218.84'	-1.14'	TO REMAIN
8	TREE	1209.30'	1205.18'	4.12'	TRIM
9	AIRFIELD LIGHT	1204.57'	1204.35'	0.22'	LIGHTED, TO REMAIN
10	TREE	1235.10'	1222.33'	12.77'	TRIM/REMOVE
11	AIRFIELD LIGHT	1203.77'	1201.43'	2.34'	LIGHTED, TO REMAIN
12	GROUND	1207.98'	1202.37'	5.61'	REGRADE

SOURCE: AIRPORTS GIS DATA AERONAUTICAL SURVEY, Y63.
WOOLPERT -2016.

LEGEND

- OBSTRUCTIONS
- POSSIBLE GROUP AND MULTIPLE OBSTRUCTIONS
- DEPARTURE SURFACE (E)
- DEPARTURE SURFACE (U)



RUNWAY 14-32 PROFILE
SCALE: 1" = 1000' HORZ
1" = 100' VERT

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AIRPORT LAYOUT PLAN
RWY 14-32 DEPARTURE SURFACE
PLAN & PROFILE

PROJECT 11778.01
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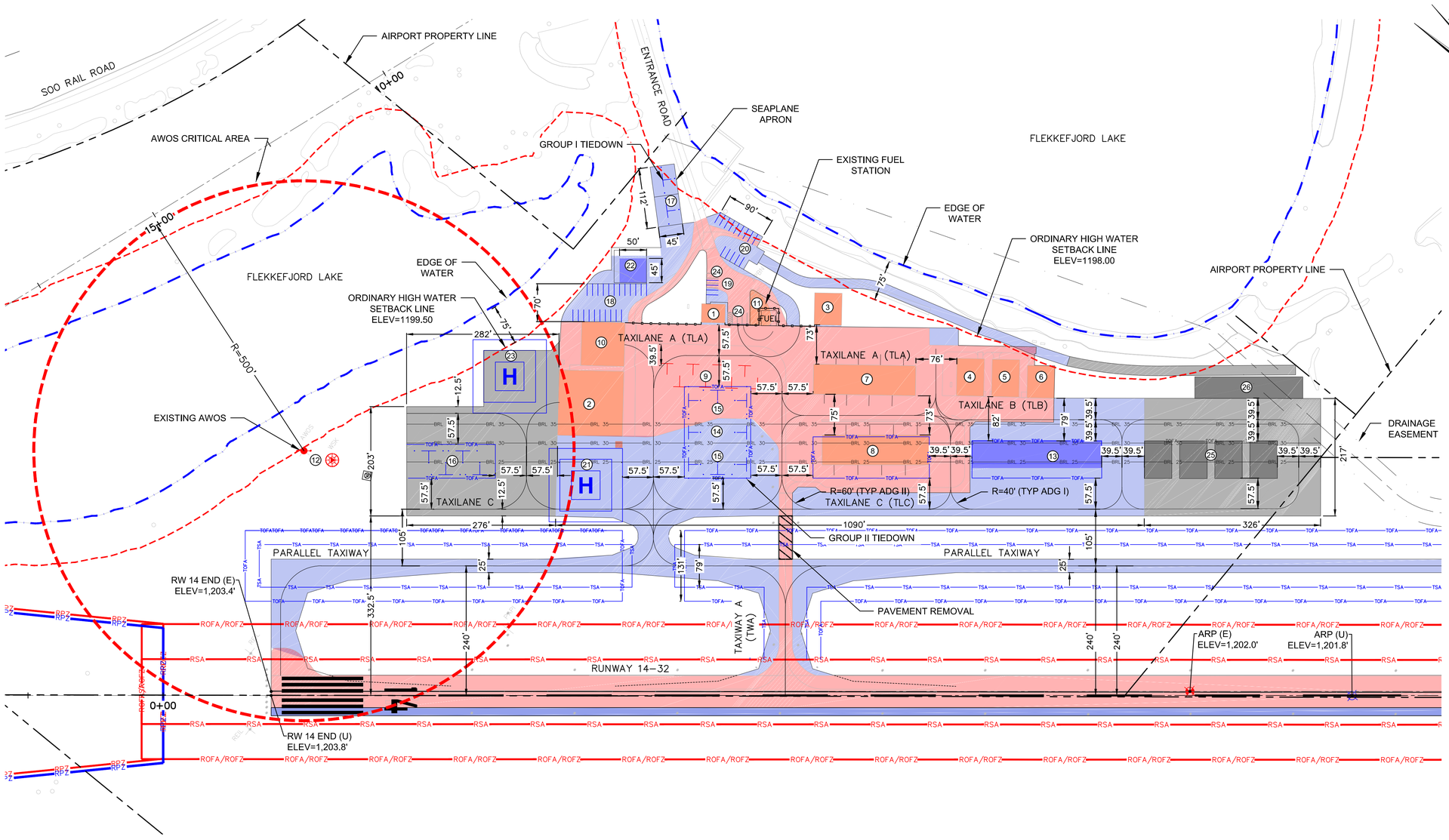

LEGEND

DESCRIPTION	EXISTING (E)	ULTIMATE (U)
AIRFIELD DEVELOPMENT		
STRUCTURAL/FACILITIES (BUILDING)		
AIRPORT PROPERTY LINE (APL)		
RUNWAY PROTECTION ZONE (RPZ)	RPZ	RPZ
RUNWAY SAFETY AREA (RSA)	RSA	RSA
OBSTACLE FREE ZONE (OFZ)	ROFZ	ROFZ
RUNWAY OBJECT FREE AREA (ROFA)	ROFA	ROFA
TAXIWAY SAFETY AREA	TSA	TSA
TAXIWAY OBJECT FREE AREA (TOFA)	TOFA	TOFA
BUILDING RESTRICTION LINE (BRL)	BRL	BRL
BARB FENCING/WILDLIFE FENCING	X X X	X X X
CHAIN FENCING		

LEGEND

DESCRIPTION	EXISTING (E)	ULTIMATE (U)
FUTURE REMOVAL		
THRESHOLD LIGHTS		0000 0000
REIL		
AIRPORT REFERENCE POINT (ARP)		
AIRPORT BEACON		
WIND CONE AND SEGMENTED CIRCLE		
AIRCRAFT TIEDOWN		
SECTION CORNER		
AWOS		
DRAINAGE / CULVERT		
PROPERTY LINE		

AIRPORT FACILITIES LIST (E)

NO.	STRUCTURE	TOP ELEVATION
1	ARRIVAL/DEPARTURE BLDG	1222.2'
2	PUBLIC STORAGE HANGAR	1220.0'
3	PRIVATE HANGAR	1217.3'
4	PRIVATE HANGAR	1220.0'
5	PRIVATE HANGAR	1220.0'
6	PRIVATE HANGAR	1220.0'
7	T-HANGAR	1218.7'
8	T-HANGAR	1220.0'
9	TIEDOWNS (8)	1201.5'
10	FBO	1220.0'
11	FUEL STATION	1200.2'
12	AWOS, WINDSOCK	1196.6'
24	PARKING LOT (6 STALLS)	1198.0'

AIRPORT FACILITIES LIST (U)

NO.	STRUCTURE	TOP ELEVATION
13	GROUP II HANGAR	1220.0'
14	GROUP I TIEDOWNS (6)	1201.5'
15	GROUP II TIEDOWNS (2)	1201.5'
16	GROUP II TIEDOWNS (4)	1203.4'
17	SEAPLANE APRON/GROUP I TIEDOWNS (2)	1189.5'
18	PARKING LOT (20 STALLS)	1200.1'
19	PARKING LOT (3 STALLS)	1198.0'
20	PARKING LOT (14 STALLS)	1194.4'
21	HELIPAD	1202.5'
22	SRE BUILDING	1200.1'
23	HELIPAD	1201.2'
25	GROUP II PRIVATE HANGARS (4)	1224.0'
26	GROUP I HANGAR	1220.0'

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ELBOW LAKE MUNICIPAL AIRPORT
ELBOW LAKE, MINNESOTA
AIRPORT LAYOUT PLAN
TERMINAL AREA PLAN

PROJECT 11778.01
DATE 8/3/18

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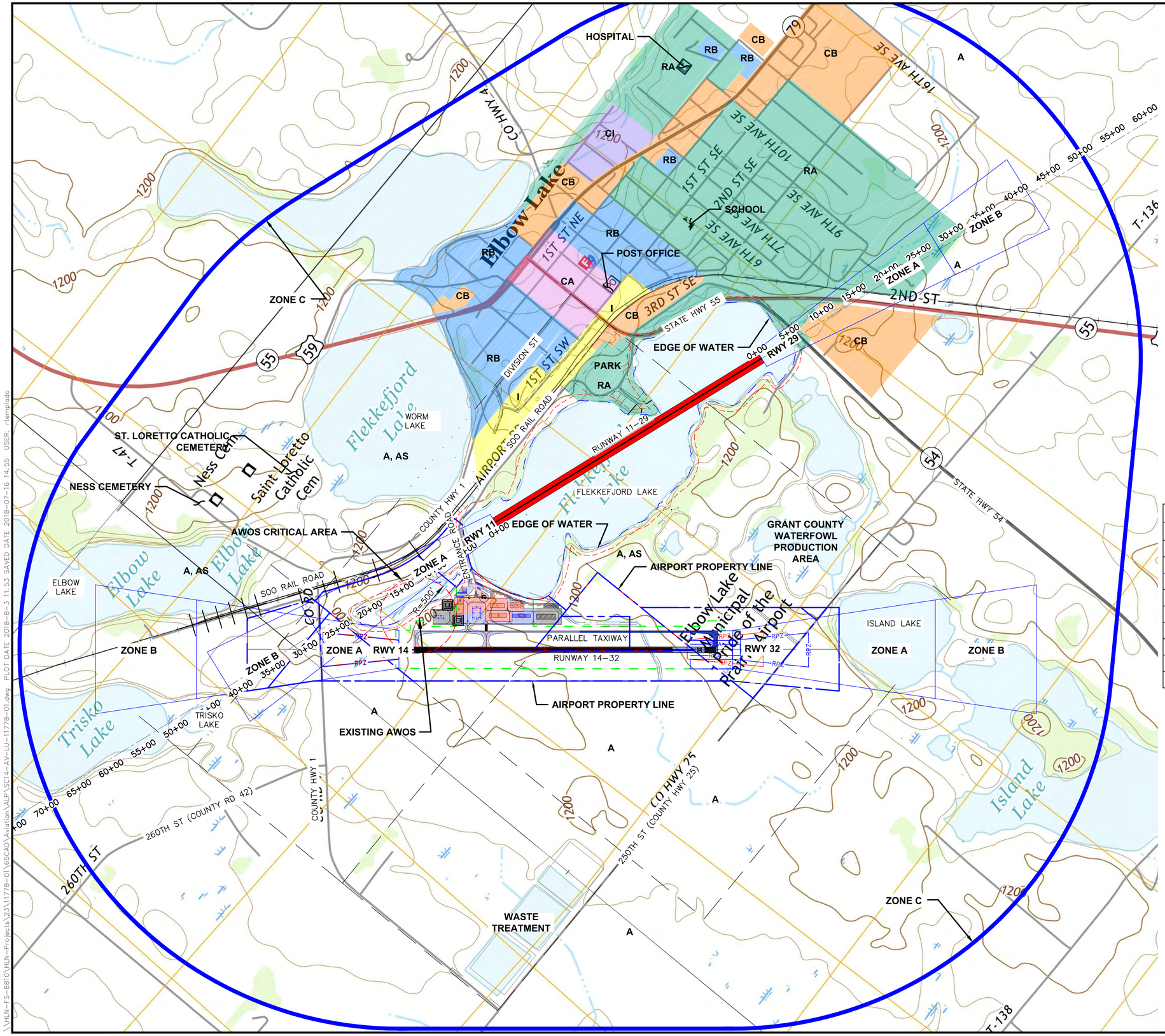

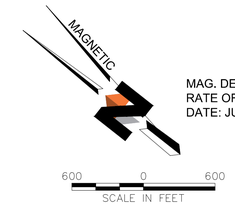

MAG. DECL.: 2° 24' E
RATE OF CHANGE: 0° 5' W PER YEAR
DATE: JUL 2017

LEGEND

DESIGNATION		OUTSIDE SHORELAND MANAGEMENT AREA	WITHIN SHORELAND MANAGEMENT AREA
AGRICULTURAL		A	AS
RESIDENTIAL A		RA	RAS
RESIDENTIAL B		RB	RBS
COMMERCIAL A		CA	CAS
COMMERCIAL B		CB	CBS
INDUSTRIAL		I	IS
COMMERCIAL-INDUSTRIAL		CI	CIS

SOURCE: CITY OF ELBOW LAKE ORDINANCES - TITLE XV, LAND USAGE, CHAPTER 152: AIRPORT ZONING

LEGEND

DESCRIPTION	EXISTING (E)	ULTIMATE (U)
TAXIWAY/AIRFIELD DEVELOPMENT		
STRUCTURAL / FACILITIES (BUILDING)		
RUNWAY DEVELOPMENT		
AIRPORT PROPERTY LINE (APL)		
PARCEL BOUNDARY		
HIGH CROP RESTRICTION		
LOW CROP RESTRICTION		
ZONING BOUNDARY		
SECTION LINE		

FAA APPROVAL

SPONSOR APPROVAL

Chairman, Elbow Lake Airport Commission DATE

MNDOT APPROVAL

DATE

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ELBOW LAKE, MINNESOTA
AIRPORT LAYOUT PLAN
AIRPORT LAND USE PLAN

PROJECT 11778.01
DATE 8/3/18

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SHEET 9 OF 11

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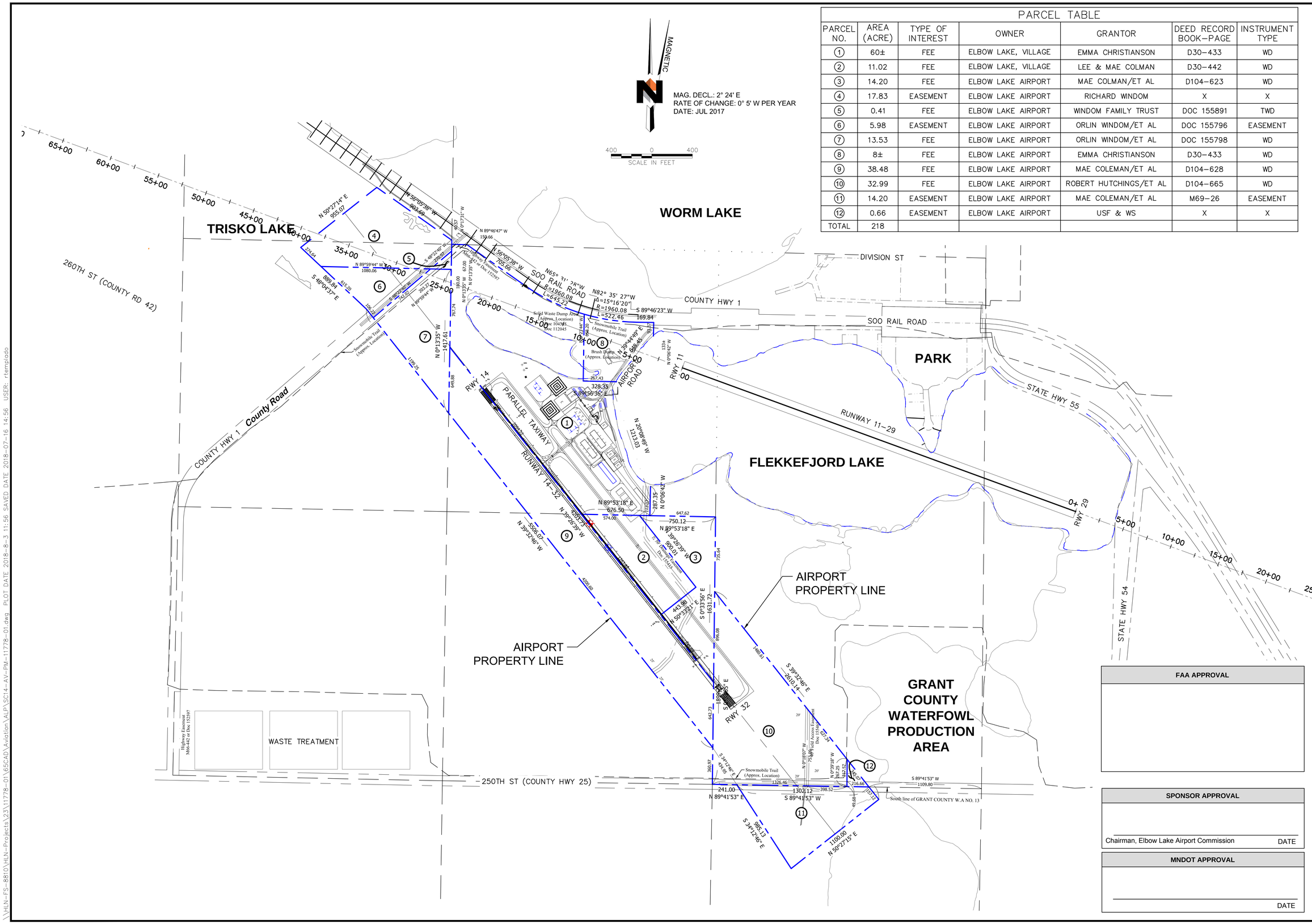

PARCEL TABLE

PARCEL NO.	AREA (ACRE)	TYPE OF INTEREST	OWNER	GRANTOR	DEED RECORD BOOK-PAGE	INSTRUMENT TYPE
1	60±	FEE	ELBOW LAKE, VILLAGE	EMMA CHRISTIANSON	D30-433	WD
2	11.02	FEE	ELBOW LAKE, VILLAGE	LEE & MAE COLMAN	D30-442	WD
3	14.20	FEE	ELBOW LAKE AIRPORT	MAE COLMAN/ET AL	D104-623	WD
4	17.83	EASEMENT	ELBOW LAKE AIRPORT	RICHARD WINDOM	X	X
5	0.41	FEE	ELBOW LAKE AIRPORT	WINDOM FAMILY TRUST	DOC 155891	TWD
6	5.98	EASEMENT	ELBOW LAKE AIRPORT	ORLIN WINDOM/ET AL	DOC 155796	EASEMENT
7	13.53	FEE	ELBOW LAKE AIRPORT	ORLIN WINDOM/ET AL	DOC 155798	WD
8	8±	FEE	ELBOW LAKE AIRPORT	EMMA CHRISTIANSON	D30-433	WD
9	38.48	FEE	ELBOW LAKE AIRPORT	MAE COLEMAN/ET AL	D104-628	WD
10	32.99	FEE	ELBOW LAKE AIRPORT	ROBERT HUTCHINGS/ET AL	D104-665	WD
11	14.20	EASEMENT	ELBOW LAKE AIRPORT	MAE COLEMAN/ET AL	M69-26	EASEMENT
12	0.66	EASEMENT	ELBOW LAKE AIRPORT	USF & WS	X	X
TOTAL	218					

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ELBOW LAKE, MINNESOTA
AIRPORT LAYOUT PLAN
AIRPORT PROPERTY MAP-EXHIBIT A

FAA APPROVAL

SPONSOR APPROVAL

Chairman, Elbow Lake Airport Commission DATE

MNDOT APPROVAL

DATE

PROJECT	11778.01
DATE	8/3/18

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EXISTING AIRPORT PROPERTY

Federal Parcel Designation	Federal Grant &/or PFC Number	State Parcel Designation	State Grant Number	Previously Known as Parcel Designation	Acreage	Purpose of Acquisition	Grantor (Seller)	Grantee (Buyer)	Type of Conveyance Instrument	Date of Conveyance Document	Type of Interest Acquired	Recorded Document Number	Map Sheet Number	County Tax ID Number	Date of Ownership & Encumbrance Report	Encumbrance Designation(s)	Notes
1	City of Elbow Lake	N/A	N/A	N/A	60±	N/A	Emma Christianson	Elbow Lake, Village	Warranty Deed	4/8/1960	Fee	Doc 85730, aka Deed Bk 30, Pg 433	1-1	19-0798-000	10/4/2016	ROW-RE-001 OTH-RE-001 OTH-RE-002 TRL-UN-001	
2	City of Elbow Lake	N/A	N/A	N/A	11.02	N/A	Lee & Mae Coleman	Elbow Lake, Village	Warranty Deed	12/14/1960	Fee	Doc 86403, aka Deed Bk 30, Pg 442	1-1	19-0798-000	10/4/2016	FLO-RE-001	
3	FAA AIP 03-27-0026-03-05	N/A	2601-16	N/A	14.2	Runway 32 RPZ and BRL	Lee & Mae Coleman	Elbow Lake, Village or City or Elbow Lake	Warranty Deed	12/14/1960 & 12/23/2005	Fee	Doc 86403, aka Deed Bk 30, Pg 442 Doc 155413 aka Deed Bk 104, Pg 623-627	1-1	19-0802-000	10/4/2016 (Both)	FLO-RE-001	
4	FAA AIP 03-27-0026-03-05	N/A	2601-16	N/A	17.83	Runway 14 Approach			Easement		Easement			15-0111-000, 15-0046-000	10/4/2016		Don't See A Recorded Easement; ROW Plat States Aviation Safety Easement
5	FAA AIP 03-27-0026-03-05	N/A	2601-16	N/A	0.41	Runway 14 Clear Zone	Windom Family Trust	City of Elbow Lake	Trustees Warranty Deed	3/28/2006	Fee	Doc 155891	1-1	15-0110-500	10/4/2016	ROW-UN-003	
6	FAA AIP 03-27-0026-03-05	N/A	2601-16	N/A	5.98	Runway 14 Approach	Orlin Windom, ETAL	City of Elbow Lake	Easement	3/16/2006	Easement	Doc 155796	1-1	15-0110-000	10/4/2016		
7	FAA AIP 03-27-0026-03-05	N/A	2601-16	N/A	13.53	Runway 14 Clear Zone and BRL	Orlin Windom, ETAL	City of Elbow Lake	Warranty Deed	3/16/2006	Fee	Doc 155798	1-1	15-0110-500	10/4/2016	ROW-UN-002 TRL-UN-001	
8	FAA AIP 03-27-0026-03-05	N/A		N/A	8±		Emma Christianson	Elbow Lake, Village	Warranty Deed	4/8/1960	Fee	Doc 85730, aka Deed Bk 30, Pg 433	1-1	19-0798-000	10/4/2016	TRL-UN-001 OTH-UN-001	
9	FAA AIP 03-27-0026-03-05	N/A	2601-16	N/A	38.48	Runway 14/32 BRL and ROFA	Mae Colman, ETAL	City of Elbow Lake	Warranty Deed	12/23/2005	Fee	Doc 155416, aka Deed Bk 104, Pg 628-632	1-1	19-0802-000	10/4/2016		
10	FAA AIP 03-27-0026-03-05	N/A	2601-16	N/A	32.99	Runway 32 Clear Zone and RPZ	Robert, Dona & Timothy Hutchings	City of Elbow Lake	Warranty Deed	12/30/2005	Fee	Doc155464, aka Deed Bk 104, PG 665-667	1-1	15-0104-500	10/4/2016	FLO-RE-001 ROW-RE-002 ROW-UN-001 TRL-UN-001	
11	FAA AIP 03-27-0026-03-05	N/A	2601-16	N/A	14.2	Runway 32 Approach	Mae Coleman, ETAL	City of Elbow Lake	Easement	12/23/2005	Easement	Doc 155411, aka Misc 69, Pg 26-34	1-1	15-0123-000	10/4/2016	ROW-UN-001	
12	FAA AIP 03-27-0026-03-05	N/A	N/A	N/A	0.66	Runway 32 Approach			Easement		Easement		1-1	15-0109-000	10/4/2016	ROW-UN-001	Don't See A Recorded Easement; ROW Plat States Aviation Safety Easement

RECORDED ENCUMBRANCES

Encumbrance Designation	Airport Parcel(s) Impacted	Description of Use & Dimensions	FAA Approval Date	FAA Approval Type	Subordinate to Airport (Yes/No)	Grantor (Authorizer of Use)	Grantee (Encumbrance Holder)	Type of Conveyance Instrument	Date of Conveyance Document	Recorded Document Number	Map Sheet Number	County Tax ID Number	Notes
OTH-RE-001	1	Record Location of Abondoned Solid Waste Dump, Approx Location	Not Approved	Not Approved	No	City of Elbow Lake	Public	Record of Location	12/18/1975	104305, aka Misc 25. Pg 449-450	1-1	19-0798-000	Recording the Location of an abondoned solid waste disposal site for Household and Demolition Materials at the Village of Elbow Lake Dump. The site is estimated to be 3 arces in size and 3 feet deep. The Document states the site was Closed on November 1973.
OTH-RE-002	1	Record Location of Abondoned Solid Waste Dump, Approx Location	Not Approved	Not Approved	No	City of Elbow Lake	Public	Affidavit	8/19/1981	112045, aka Misc 28, Pg 409-410	1-1	19-0798-000	Recording the Location of an abondoned solid waste disposal site for Household and Demolition Materials at the Village of Elbow Lake Dump. The site is estimated to be 3 arces in size and 3 feet deep. The Document states the site was closed on March 1981.
ROW-RE-001	1	120' ROW Easement for County Road	Not Approved	Not Approved	No	City of Elbow Lake	Grant County	4	9/29/2004	152597, aka Misc 66, Pg 442-443	1-1	19-0798-000	A right of Way (ROW) easement for Co Rd 1, approximately 85 feet wide at the widest point, northwesterly of Parcel 1. Co Rd 1 appears to cross over the northwesterly line of the airport property.
ROW-RE-002	10	40' Access Easement	Not Approved	Not Approved	No	City of Elbow Lake	Owner of Government Lot 4 of Section 17	Grant	12/30/2005	155465, aka Misc Bk 69, Pg 74-75	1-1	15-0104-500	40' permanent easement for farm field access purposes, for the benefit of the owner of Government Lot 4 in the Southwest Quarter of the Southeast Quarter of Section 17, Township 129 North, Range 42 West. Said access perpetual for the purpose of ingress and egress only in and to the property designated above and for agricultural purposes only. City of Elbow Lake shall have no obligation to maintenance of said access.
FLO-RE-001	1, 2, 3, 9	50' Drainage Easement	Not Approved	Not Approved	No	City of Elbow Lake	Owner of SW¼ of Section 17	Covenant	12/23/2005	155415, aka Misc 69, Pg 39-41	1-1	19-0798-000 (1), 19-0798-000 (2), 19-0802-000 (3), 19-0802-000 (9)	50' permanent easement for drainage purposes, for the benefit of the owner of the Southwest Quarter of Section 17, Township 129 North, Range 42 West. A permanent drainage way will be constructed and maintained by City. City Covenants that it will construct a covered drainage way (tile line or culvert approximately 30") with at least the capacity at the existing open drainage way all in a good and workman like manner and in accordance with hydrological enigineering specifications. Said drainage way will be continuously maintained by City at its own cost & expense. Until such time as said drainge way is constructed, the existing open drainage way will not be obstructed or another action taken which will impede the flow of surface waters or at least the existing capacity.

UNRECORDED ENCUMBRANCES

Encumbrance Designation	Airport Parcel(s) Impacted	Description of Use & Dimensions	FAA Approval Date	FAA Approval Type	Subordinate to Airport (Yes/No)	Encumbrance Holder	Authorizer of Use	Type of Authorization	Date of Authorization	Map Sheet Number	County Tax ID Number	Notes
ROW-UN-001	10	Assumed 100' ROW for County Road No. 25	Not Approved	Not Approved	No	Grant County	City of Elbow Lake	Unknown	Unknown	1-1	15-0104-500	A right of Way (ROW) easement for Co Rd 25, south of Parcel 10 Did not show in O&E Report. Co Rd 25 appears to cross over the southerly line of the airport property a distance of approximately 50 feet. It is likeley a ROW easement exisits by prescription for Co Rd 25.
ROW-UN-002	7	Assumed 120' ROW for County Road No. 1	Not Approved	Not Approved	No	Grant County	City of Elbow Lake	Unknown	Unknown	1-1	15-0110-500	A right of Way (ROW) easement for Co Rd 1, northwestery of Parcel 7 did not show in O&E Report. Co Rd 1 appears to cross over the northwesterly line of the airport property a distance of approximately 60 feet. It is likely a ROW easement exisits by prescription for Co Rd 1.
ROW-UN-003	5	Assumed 120' ROW for County Road No. 1	Not Approved	Not Approved	NA	Grant County	City of Elbow Lake	Unknown	Unknown	1-1	15-0110-500	A right of Way (ROW) easement for Co Rd 1, northwestery of Parcel 5 did not show in O&E Report. Co Rd 1 appears to cross over the northwesterly line of the airport property a distance of approximately 60 feet. It is likely a ROW easement exisits by prescription for Co Rd 1.
TRL-UN-001	1, 7, 8, 10	Snowmobile Trail	Not Approved	Not Approved	No	MNDNR?	City of Elbow Lake	Unknown	Unknown	1-1	19-0798-000 (1), 15-0110-500 (7), 19-0798-000 (8), 15-0104-500 (10)	Per MnDNR Interactive Snowmobile Trails: Snowmobile Trail - 94, Low Plains Drifter Snowmobile Trails, Contact Drew Mossberg, Phone: 218-770-1544
OTH-UN-001	8	Brush Dump	Not Approved	Not Approved	No	City of Elbow Lake	City of Elbow Lake	Unknown	Unknown	1-1	19-0798-000	

REVISIONS

REV	DATE	DESCRIPTION	BY

SHEET INFO	
DESIGNED	MB
DRAWN	RT
CHECKED	JG
APPROVED	AH
LAST EDIT	8/3/18
PLOT DATE	8/3/18

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ELBOW LAKE MUNICIPAL AIRPORT
ELBOW LAKE, MINNESOTA
AIRPORT LAYOUT PLAN

AIRPORT PROPERTY MAP - PROPERTY INFORMATION

PROJECT	11778.01
DATE	8/3/18

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SHEET 11 OF 11

\\HLN-FS-8810\HLN-Projects\23\11778-01\65CAD\Aviation\ALP\Bollig - Sheet 11 - encumbrances.dwg PLOT DATE 2018-8-3 12:03 SAVED DATE 2018-08-03 11:28 USER: rtemplodo