

OBSTRUCTION DATA SHEET

ODS 5380
FERGUS FALLS MUNICIPAL AIRPORT - EINAR MICKELSON FIELD
FERGUS FALLS, MINNESOTA

DIGITIZED FROM

OC 5380
SURVEYED AUGUST 1991
1ST EDITION



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OBSTRUCTION DATA SHEET

The Obstruction Data Sheet (ODS) provides digital obstruction and runway data for use in aircraft arrival and departure planning. This information has been obtained using field survey and photogrammetric methods by the Photogrammetry Branch of the National Ocean Service in accordance with Federal Aviation Regulations Part 77 (FAR-77), "Objects Affecting Navigable Airspace" and FAA Nr. 405, "Specifications - Airport Obstruction Chart and Related Products."

The ODS is a derivative of the Airport Obstruction Chart (OC). The source OC is indicated on the ODS cover. All objects, both obstructing and nonobstructing, that carry an elevation on the OC are listed in the ODS. The ODS (and OC) depict a representation of objects that existed at the time of the OC field survey.

ODS information is arranged as follows:

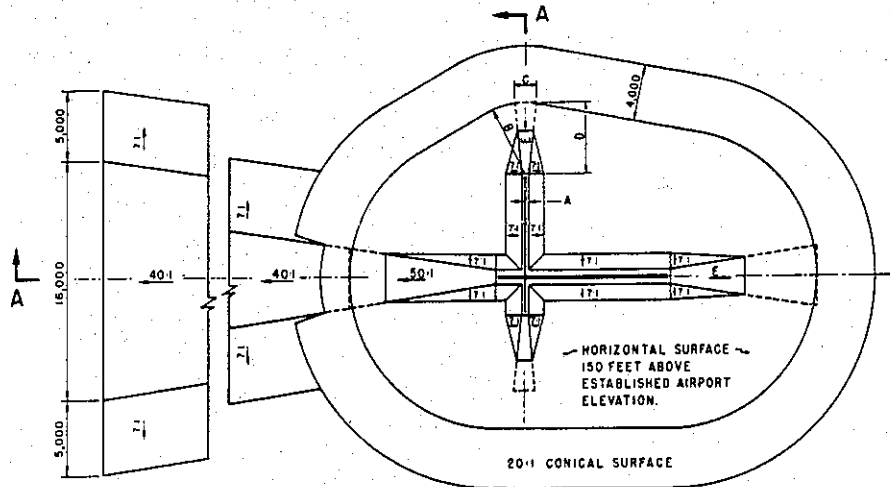
1. Objects located in FAR-77 approach (including supplemental approaches if present) or primary areas are listed with the associated runway (reference runway). For example, all objects in the Runway 9R approach or primary are listed with Runway 9R. Distances to these objects are computed from both the physical end and threshold of Runway 9R. Objects in the Runway 27L approach or primary are listed with Runway 27L. (Objects in the common 9R/27L primary area are listed with both runways.)
2. All objects not included in "1" above are listed with the Airport Reference Point (ARP).
3. Runway configuration and runway lengths, widths, and elevations are presented on the ODS last page.

The FAR-77 imaginary approach surfaces for which the obstruction surveys were performed are coded in the ODS as follows (see footnote 2 on page 3):

- A(V) Utility runway - visual approach only
- A(NP) Utility runway - nonprecision instrument approach
- B(V) Nonutility runway - visual approach only
- C Nonutility runway - nonprecision instrument approach with visibility minimums greater than 3/4 mile
- D Nonutility runway - nonprecision instrument approach with visibility minimums as low as 3/4 mile
- PIR Precision instrument runway
- SUPLC ... Supplemental C underlying a B(V)

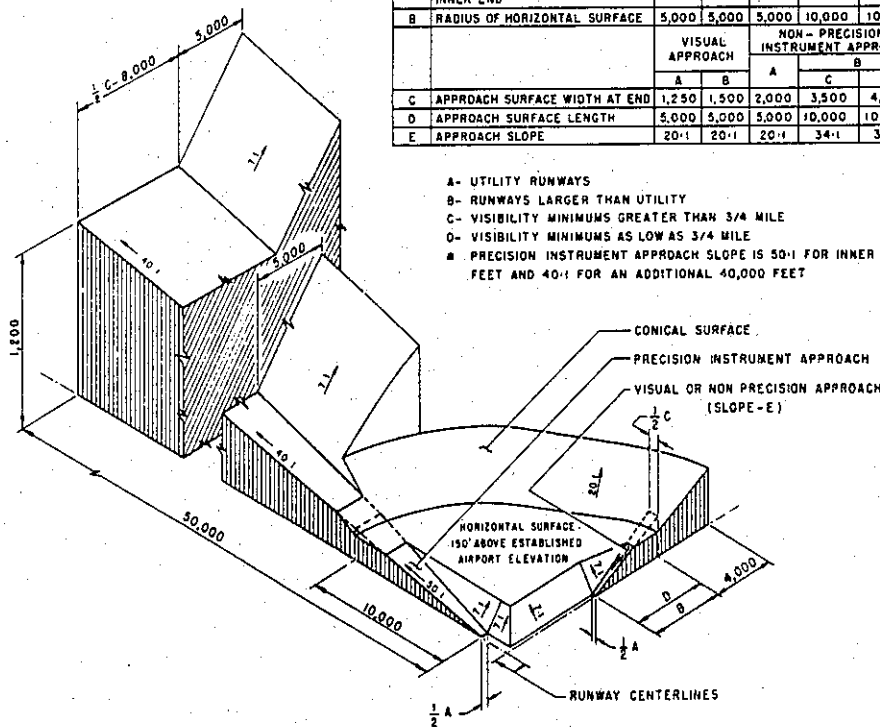
FAR-77 imaginary surface dimensions are defined on page 2 of this report.

Primary surface width is determined by the widest approach at the two approach/primary interfaces for that runway.



DIM	ITEM	DIMENSIONAL STANDARDS (FEET)					
		VISUAL RUNWAY		NON-PRECISION INSTRUMENT RUNWAY		PRECISION INSTRUMENT RUNWAY	
		A	B	A	B		D
A	WIDTH OF PRIMARY SURFACE AND APPROACH SURFACE WIDTH AT INNER END	250	300	300	500	1,000	1,000
B	RADIUS OF HORIZONTAL SURFACE	5,000	5,000	5,000	10,000	10,000	10,000
C	APPROACH SURFACE WIDTH AT END	VISUAL APPROACH		NON-PRECISION INSTRUMENT APPROACH		PRECISION INSTRUMENT APPROACH	
		A	B	A	B		D
D	APPROACH SURFACE LENGTH	5,000	5,000	5,000	10,000	10,000	*
E	APPROACH SLOPE	20:1	20:1	20:1	34:1	34:1	*

- A- UTILITY RUNWAYS
- B- RUNWAYS LARGER THAN UTILITY
- C- VISIBILITY MINIMUMS GREATER THAN 3/4 MILE
- D- VISIBILITY MINIMUMS AS LOW AS 3/4 MILE
- * PRECISION INSTRUMENT APPROACH SLOPE IS 50:1 FOR INNER 10,000 FEET AND 40:1 FOR AN ADDITIONAL 40,000 FEET



ISOMETRIC VIEW OF SECTION A-A

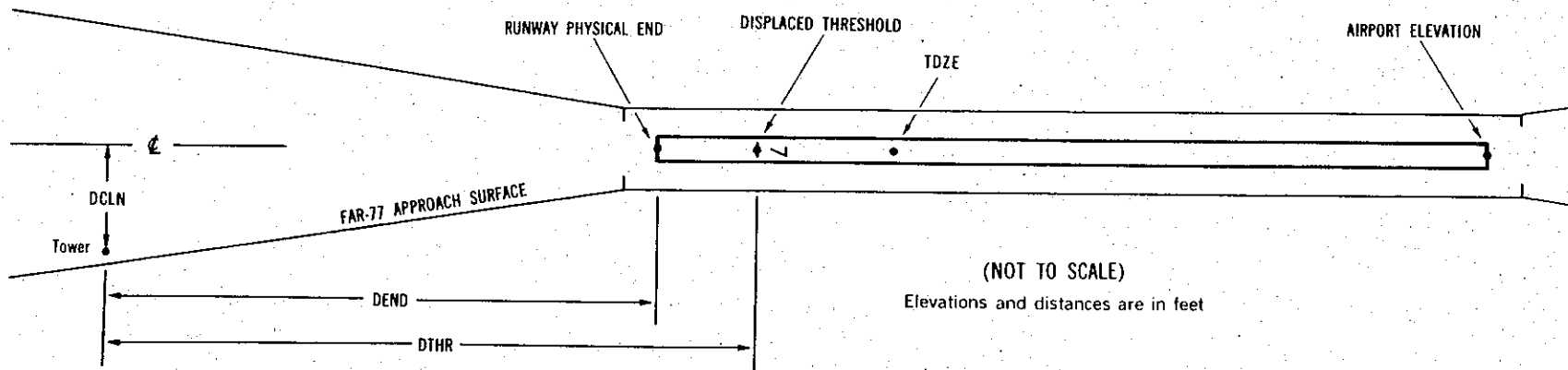
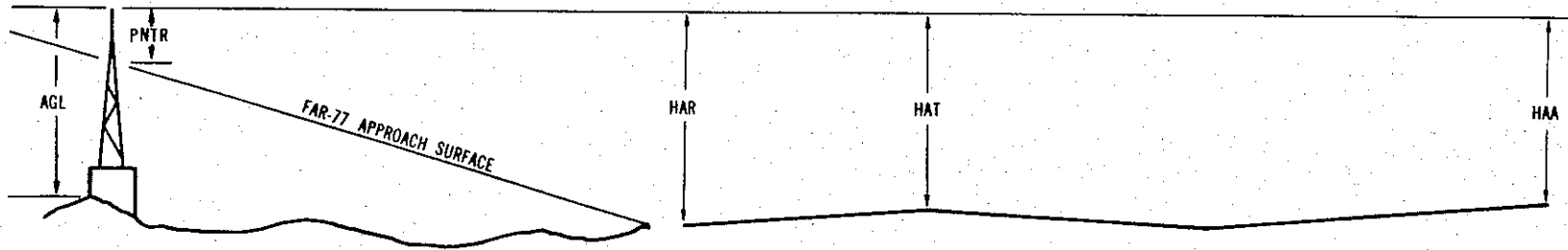
FAR-77 CIVIL AIRPORT
IMAGINARY SURFACES

ANNOTATION OF ODS DATA FORMAT

OC XXXX

AIRPORT ELEVATION XXXX

x ¹	x ²	XXXX/XXXX ³	XXXXXX.XXX ⁴	XXXXXXX.XXX ⁴	XXXXXXX ⁵	XXXX/XXXX ⁶	XXXXXX.XXX ⁷	XXXXXXX.XXX ⁷				
OBJECT	LAT	LONG	A ⁸	ELEV ⁹	AGL ¹⁰	HAR ¹¹	HAT ¹¹	HAA ¹¹	DEND ¹²	DTHR ¹²	DCLN ¹²	PNTR ¹³
XXXXXXXXXXXX	XXXXXX.XXX	XXXXXXXX.XXX	XX	XXXX	XXXX	XXX	XXX	XXX	XXXXX	XXXXX	XXXX	XXXX
XXXXXXXXXXXX	XXXXXX.XXX	XXXXXXXX.XXX	XX	XXXX	XXXX	XXX	XXX	XXX	XXXXX	XXXXX	XXXX	XXXX



EXPLANATION OF FOOTNOTES

- 1 Data block identifier. If a runway number is entered (reference runway), this data block will contain data pertinent to the reference runway and to objects in the FAR-77 approach and primary area of the reference runway. If ARP is entered, this data block will contain the ARP position and data relative to all objects not in an FAR-77 approach or primary area.
- 2 For the reference runway, the lowest FAR-77 approach surface for which an obstruction survey was performed. (More than one surface may be surveyed.)
- 3 Reference runway approach physical end elevation/touchdown zone elevation
- 4 Latitude and longitude of reference runway approach physical end
- 5 Reference runway geodetic azimuth reckoned clockwise from south
- 6 Reference runway displaced threshold elevation/touchdown zone elevation
- 7 Latitude and longitude of reference runway displaced threshold
- 8 Accuracy Code: Horizontal Vertical
 1 = 20 A = 2
 2 = 40 B = 5
 C = 20
- 9 Mean Sea Level (MSL) elevation at top of object. This value includes 15 feet added to noninterstate roads, 17 feet added to interstate roads, and 23 feet added to railroad tracks.
- 10 Height above ground level (AGL). AGLs are provided only for those objects appearing on the OC that are equal to, or greater than, 200 feet AGL. AGL accuracy is ± 10 feet.
- 11 HAA - Height above airport
 HAR - Height above reference runway approach physical end
 HAT - Height above reference runway touchdown zone elevation
- 12 DEND - Distance along reference runway centerline from point perpendicular to object to reference runway approach physical end
 DTHR - Distance along reference runway centerline from point perpendicular to object to reference runway threshold
 DCLN - Distance left (L) or right (R) of reference runway centerline as observed facing forward in a landing aircraft.
- A negative value for DEND or DTHR indicates object is in primary area on roll-out side of zero distance point.
- 13 PNTR - Penetration of indicated FAR-77 approach or primary surface (see footnote 2).

OC5380

AIRPORT ELEVATION 1182

13 C 1181/1181 461721.582N 0960942.926W 3131150

OBJECT	LAT	LONG	A	ELEV	AGL	HAR	HAT	HAA	DEND	DTHR	DCLN	PNTR
BUSH	461641.13	0960847.90	1A	1180		-1	-1	-2	-5622		341R	6
TREE	461702.84	0960920.74	1A	1195		14	14	13	-2436		318R	14
TREE	461707.07	0960926.88	1A	1197		16	16	15	-1828		300R	16
GROUND	461724.72	0960938.88	1A	1182		1	1	0	10		426L	1
RAILROAD	461731.72	0960947.18	1A	1200		19	19	18	921		544L	-2
POLE	461730.76	0960958.13	1A	1206		25	25	24	1415		53R	-11
POLE	461728.91	0961005.71	1A	1201		20	20	19	1674		554R	-23

31 PIR 1174/1181 461643.477N 0960844.408W 1331232

OBJECT	LAT	LONG	A	ELEV	AGL	HAR	HAT	HAA	DEND	DTHR	DCLN	PNTR
GROUND	461724.72	0960938.88	1A	1182		8	1	0	-5649		426R	1
TREE	461707.07	0960926.88	1A	1197		23	16	15	-3811		300L	16
TREE	461702.84	0960920.74	1A	1195		21	14	13	-3203		318L	14
BUSH	461641.13	0960847.90	1A	1180		6	-1	-2	-16		341L	6
GROUND	461635.55	0960835.46	1A	1177		3	-4	-5	1008		155L	-13
TREE	461609.56	0960759.85	1A	1251		77	70	69	4634		361L	-12

35 A(NP) 1157/1181 461650.122N 0960938.234W 1791457

OBJECT	LAT	LONG	A	ELEV	AGL	HAR	HAT	HAA	DEND	DTHR	DCLN	PNTR
GROUND	461724.72	0960938.88	1A	1182		25	1	0	-3505		1R	1
POLE	461631.13	0960940.28	1A	1183		26	2	1	1922		169L	-60

OC5380

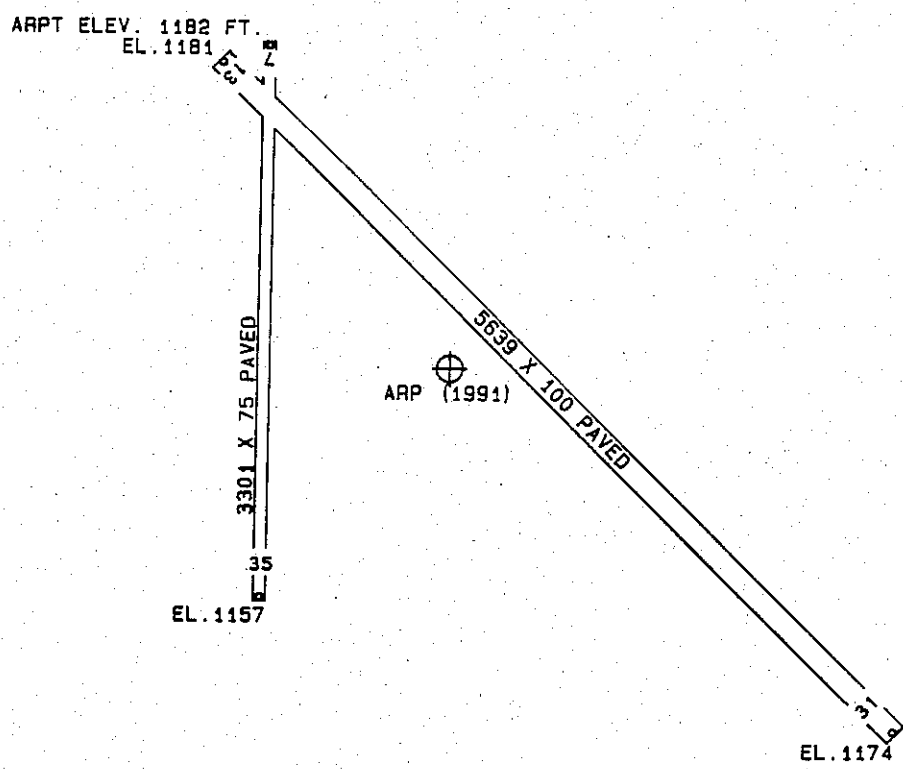
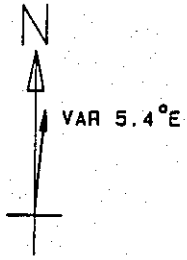
AIRPORT ELEVATION 1182

17 A(NP) 1182/1182 461722.705N 0960938.850W 3591457

OBJECT	LAT	LONG	A	ELEV	AGL	HAR	HAT	HAA	DEND	DTHR	DCLN	PNTR
GROUND	461724.72	0960938.88	1A	1182		0	0	0	204		1L	1
TREE	461731.35	0960936.15	1A	1201		19	19	19	873		201L	-15
TREE	461744.13	0960934.26	1A	1221		39	39	39	2166		351L	-59
TREE	461745.18	0960936.65	1A	1235		53	53	53	2275		184L	-51

ARP 461703.964N 0960922.850W

OBJECT	LAT	LONG	A	ELEV	AGL	HAA	MAG	BEARING	DISTANCE
OL ON WINDSOCK	461658.37	0960918.97	1A	1201		19	148	53	629
ROD ON OL ANEMOMETER	461711.61	0960910.92	1A	1214		32	41	51	1141
FLOODLIGHT	461712.17	0960908.18	1A	1246		64	45	43	1324
ROD ON AIRPORT BEACON	461712.01	0960903.56	1A	1241		59	53	34	1581
FLOODLIGHT	461706.93	0960859.64	1A	1248		66	74	10	1658
ROAD(N)	461647.87	0960944.88	1A	1173		-9	218	6	2248
ANTENNA ON HANGAR	461730.71	0960928.48	1A	1235		53	346	18	2738
HANGAR	461731.29	0960933.37	1A	1199		17	339	39	2865
TREE	461633.97	0960947.39	1A	1200		18	204	10	3493
OL ON RADIO MAST	461716.24	0960612.47	2A	1505	256	323	79	16	13429



TOUCHDOWN ZONE RUNWAY ELEVATION	
13	1181
31	1181
17	1182
35	1181

FERGUS FALLS MUNICIPAL - EINAR MICKELSON FIELD
 FERGUS FALLS, MINNESOTA
 (NOT TO SCALE)