OBSTRUCTION DATA SHEET

ODS 5094
FLYING CLOUD AIRPORT
MINNEAPOLIS, MINNESOTA

DIGITIZED FROM

OC 5094
SURVEYED JUNE 1990
7TH 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).

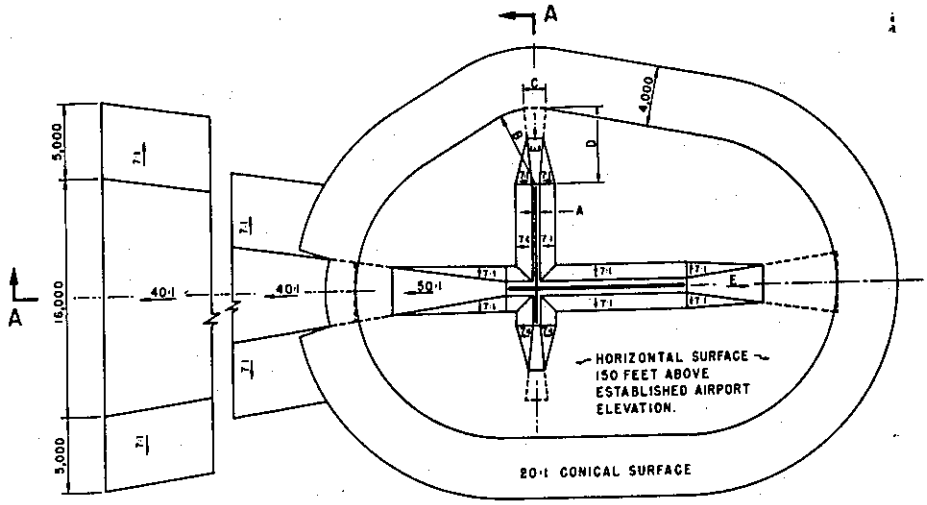
3. Runway configuration and runway lengths, widths, and elevations are presented on the ODS last page.

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)

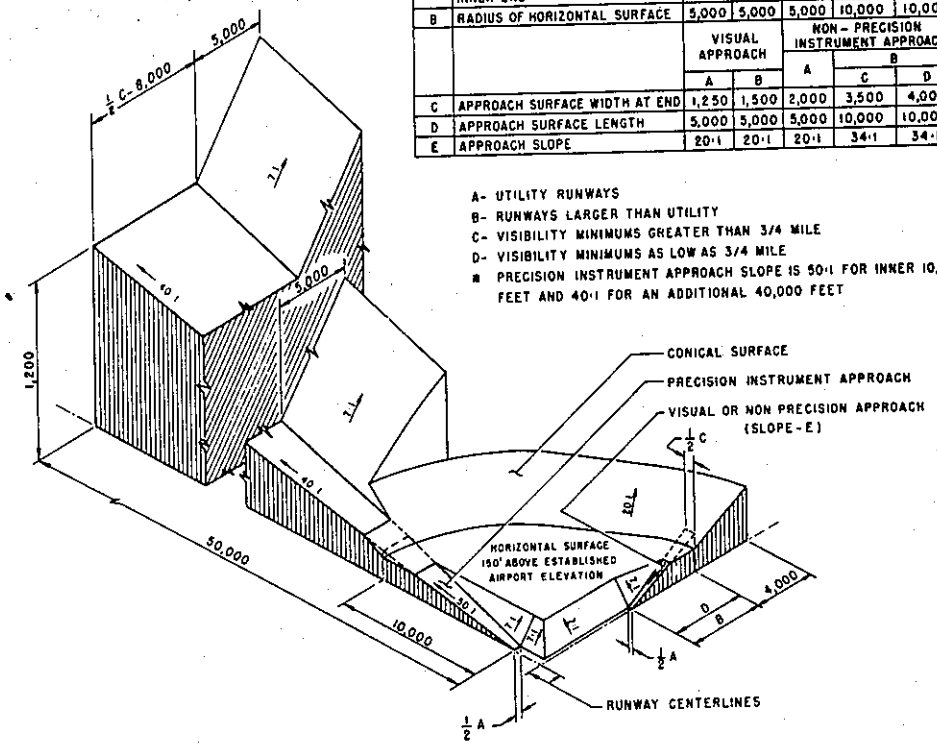
FAR-77 imaginary surface dimensions are defined on page 2 of this report.

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		
					C	D	
A	WIDTH OF PRIMARY SURFACE AND APPROACH SURFACE WIDTH AT INNER END	250	500	500	500	1,000	1,000
B	RADIUS OF HORIZONTAL SURFACE	5,000	5,000	5,000	10,000	10,000	10,000
		VISUAL APPROACH		NON-PRECISION INSTRUMENT APPROACH			PRECISION INSTRUMENT APPROACH
		A	B	A	B		
					C	D	
C	APPROACH SURFACE WIDTH AT END	1,250	1,500	2,000	3,500	4,000	16,000
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}
XXXXXXXXXXX		XXXXXX.XXX	XXXXXXX.XXX	XX	XXXX	XXXX	XXX	XXX	XXX	XXXXX	XXXXX	XXXX	XXXX
XXXXXXXXXXX		XXXXXX.XXX	XXXXXXX.XXX	XX	XXXX	XXXX	XXX	XXX	XXX	XXXXX	XXXXX	XXXX	XXXX

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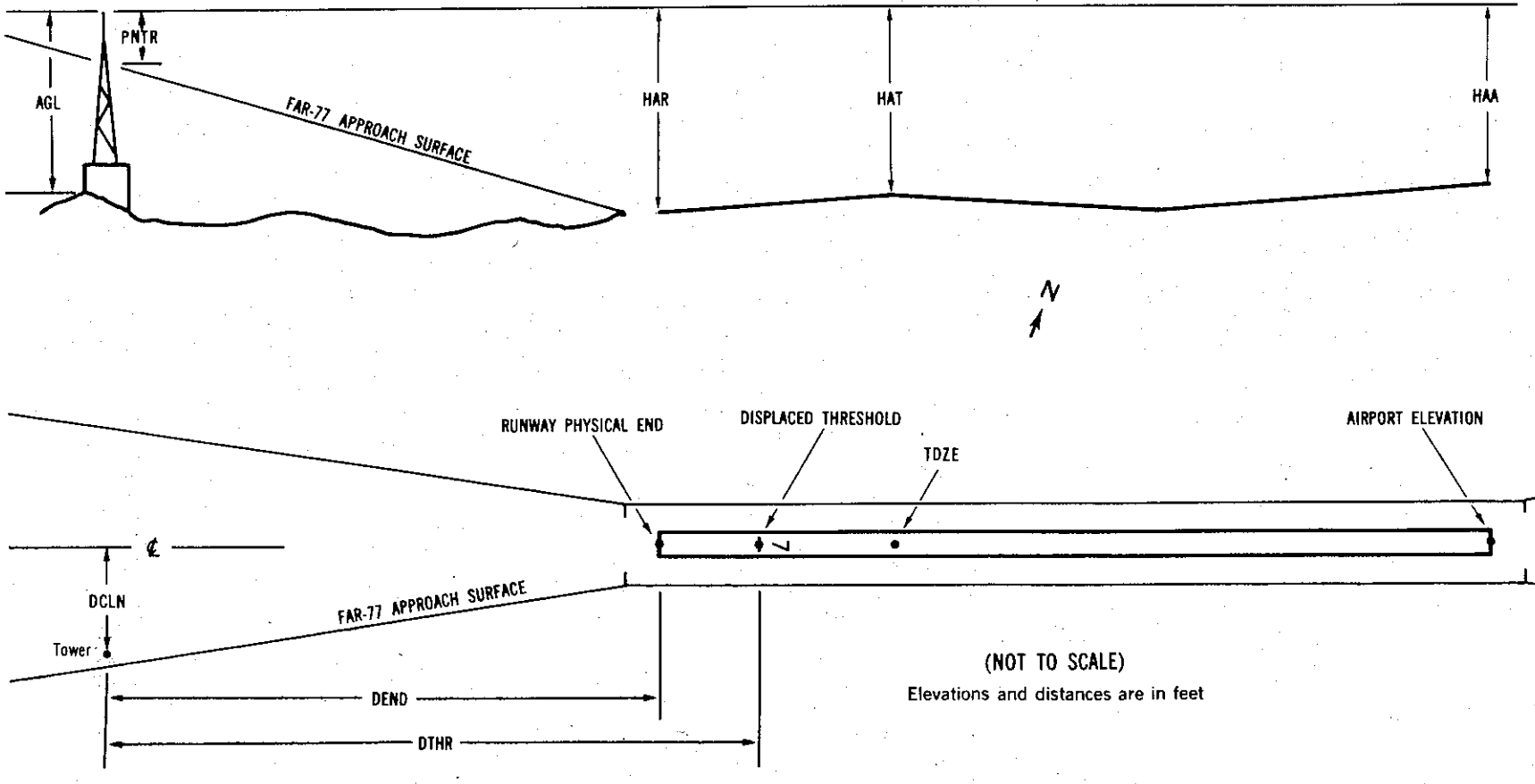

(NOT TO SCALE)

Elevations and distances are in feet

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).

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AIRPORT ELEVATION 906

9L A(V) 905/905 444946.363N 0932749.280W 2810115

OBJECT	LAT	LONG	A	ELEV	AGL	HAR	HAT	HAA	DEND	DTHR	DCLN	PNTR
ANTENNA ON BUILDING	444948.32	0932809.32	1A	911		6	6	5	1456		81R	-57
TREE	444949.75	0932821.77	1A	927		22	22	21	2364		110R	-86

27R A(V) 899/903 444939.567N 09327 0.273W 1010150

OBJECT	LAT	LONG	A	ELEV	AGL	HAR	HAT	HAA	DEND	DTHR	DCLN	PNTR
ROAD (N)	444937.77	0932647.34	1A	916		17	13	10	950		0L	-20

9R PIR 905/906 444942.430N 0932757.225W 2810049

OBJECT	LAT	LONG	A	ELEV	AGL	HAR	HAT	HAA	DEND	DTHR	DCLN	PNTR
HANGAR	444930.68	0932703.07	1A	920		15	14	14	-4058		422R	22
OL ON WINDSOCK	444938.46	0932712.66	1A	926		21	20	20	-3230		220L	26
OL ON VOR/DME	444932.69	0932723.54	1A	931		26	25	25	-2571		504R	30
CEILOMETER	444935.90	0932739.37	1A	907		2	1	1	-1389		404R	3
ANTENNA ON BUILDING	444943.02	0932744.77	1A	914		9	8	8	-870		230L	8
CEILOMETER	444937.47	0932749.97	1A	911		6	5	5	-609		393R	5
OL ANEMOMETER	444937.48	0932750.59	1A	927		22	21	21	-565		401R	21
GROUND	444938.05	0932805.47	1A	909		4	3	3	499		549R	-2
ANTENNA ON BUILDING	444948.32	0932809.32	1A	911		6	5	5	970		419L	-9
TREE	444949.75	0932821.77	1A	927		22	21	21	1878		390L	-12
TREE	444945.60	0932849.31	1A	943		38	37	37	3746		402R	-33

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AIRPORT ELEVATION 906

27L SUPLC 898/ 444935.054N 09327 3.994W 1010126 898/906 444935.431N 09327 6.716W

OBJECT	LAT	LONG	A	ELEV	AGL	HAR	HAT	HAA	DEND	DTHR	DCLN	PNTR
OL ANEMOMETER	444937.48	0932750.59	1A	927		29	21	21	-3344	-3144	401L	21
CEILOMETER	444937.47	0932749.97	1A	911		13	5	5	-3299	-3099	393L	5
ANTENNA ON BUILDING	444943.02	0932744.77	1A	914		16	8	8	-3039	-2839	230R	8
CEILOMETER	444935.90	0932739.37	1A	907		9	1	1	-2519	-2319	404L	3
OL ON VOR/DME	444932.69	0932723.54	1A	931		33	25	25	-1337	-1137	504L	30
OL ON WINDSOCK	444938.46	0932712.66	1A	926		28	20	20	-679	-479	220R	26
HANGAR	444930.68	0932703.07	1A	920		22	14	14	150	350	422L	22
OL ON POLE	444930.57	0932701.16	1A	924		26	18	18	287	487	407L	23
OL ON LOCALIZER	444934.07	0932656.85	1A	906		8	0	0	525	725	0R	-2
ANTENNA ON BUILDING	444931.49	0932657.39	1A	913		15	7	7	536	736	263L	5
POLE	444928.63	0932657.70	1A	935		37	29	29	570	770	552L	26
POLE	444929.44	0932656.60	1A	939		41	33	33	632	832	456L	28
POLE	444930.39	0932655.43	1A	934		36	28	28	696	896	345L	21
TREE	444931.81	0932652.75	1A	932		34	26	26	858	1058	167L	15
ROAD (N)	444937.77	0932647.34	1A	916		18	10	10	1125	1325	500R	-9

36 A(NP) 905/ 444917.853N 0932718.772W 1860040

OBJECT	LAT	LONG	A	ELEV	AGL	HAR	HAT	HAA	DEND	DTHR	DCLN	PNTR
OL ON WINDSOCK	444938.46	0932712.66	1A	926		21		20	-2122		220R	26
OL ON FENCE	444915.99	0932717.27	1A	910		5		4	177		127R	5
ROAD (N)	444915.70	0932716.35	1A	918		13		12	198		196R	13
TREE	444913.73	0932716.08	1A	941		36		35	395		237R	26
TREE	444911.94	0932715.91	1A	938		33		32	574		268R	14
TREE	444911.83	0932717.34	1A	930		25		24	596		167R	5

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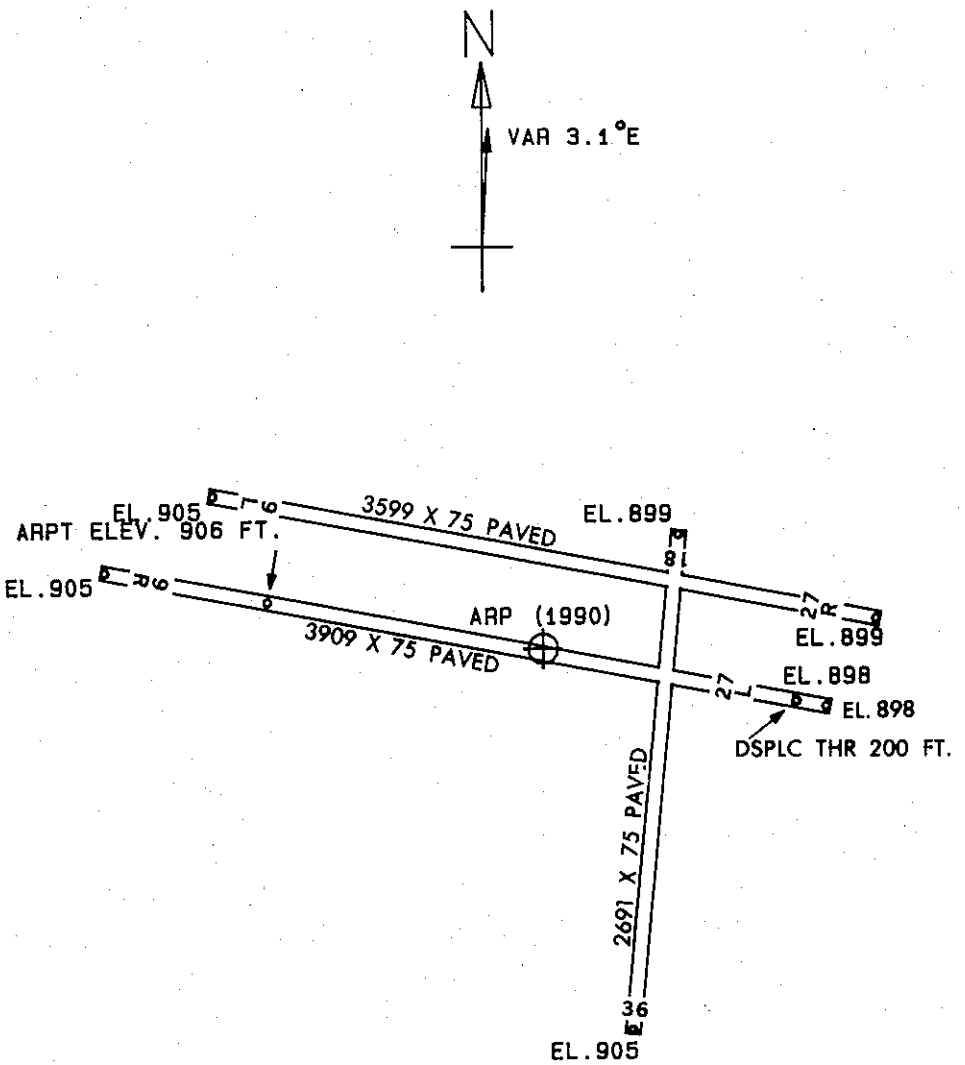
AIRPORT ELEVATION 906

18 A(V) 899/ 444944.277N 0932714.862W 0060042

OBJECT	LAT	LONG	A	ELEV	AGL	HAR	HAT	HAA	DEND	DTHR	DCLN	PNTR
ROAD (N)	444915.70	0932716.35	1A	918		19		12	-2889		196L	13
OL ON FENCE	444915.99	0932717.27	1A	910		11		4	-2868		127L	5
OL ON WINDSOCK	444938.46	0932712.66	1A	926		27		20	-569		220L	26
TREE	444953.14	0932717.76	1A	938		39		32	871		301R	5
VENT ON BUILDING	444953.84	0932717.56	1A	943		44		37	943		295R	7

ARP 444938.207N 0932724.912W

OBJECT	LAT	LONG	A	ELEV	AGL	HAA	MAG BEARING	DISTANCE
POLE	444946.44	0932724.17	1A	933		27	0 35	836
HANGAR	444947.85	0932738.30	1A	928		22	312 14	1373
POLE	444951.65	0932718.67	1A	932		26	15 11	1434
TREE	444952.20	0932718.93	1A	957		51	13 49	1482
FLOODLIGHT ON HANGAR	444945.26	0932705.53	1A	941		35	59 49	1569
TREE	444949.82	0932709.52	1A	931		25	40 14	1616
WIND VANE	444953.76	0932719.10	1A	960		54	11 47	1630
TREE	444948.58	0932705.50	1A	966		60	50 0	1749
TREE	444953.37	0932708.53	1A	951		45	34 27	1937
OL ON POLE	444928.59	0932700.49	1A	935		29	115 52	2012
ANTENNA & APBN ON OL ATCT	444918.34	0932729.17	1A	988		82	185 34	2035
HANGAR	444919.02	0932713.09	1A	931		25	153 13	2121
ANTENNA ON HANGAR	444942.26	0932655.72	1A	923		17	75 51	2144
FLOODLIGHT ON OL HANGAR	444916.78	0932724.14	1A	938		32	175 26	2170
HANGAR	444950.29	0932751.87	1A	931		25	299 6	2296
OL ON HANGAR	444915.41	0932723.55	1A	937		31	174 28	2311
ANTENNA ON HANGAR	444941.84	0932650.92	1A	932		26	78 21	2477
TREE	444914.17	0932714.43	1A	961		55	159 40	2548
TREE	444936.90	0932803.95	1A	918		12	264 12	2817
TREE	444929.68	0932907.63	1B	961		55	260 15	7454



TOUCHDOWN ZONE RUNWAY	ELEVATION
9L	905
27R	903
9R	906
27L	906

FLYING CLOUD AIRPORT

MINNEAPOLIS, MINNESOTA

(NOT TO SCALE)