OBSTRUCTION DATA SHEET

ODS 6151
NOGALES INTERNATIONAL AIRPORT
NOGALES, ARIZONA

DIGITIZED FROM

OC 6151
SURVEYED FEBRUARY 1988
2ND EDITION

PREPARED AND DISTRIBUTED BY
THE NATIONAL OCEAN SERVICE
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FOR THE FEDERAL AVIATION ADMINISTRATION

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).

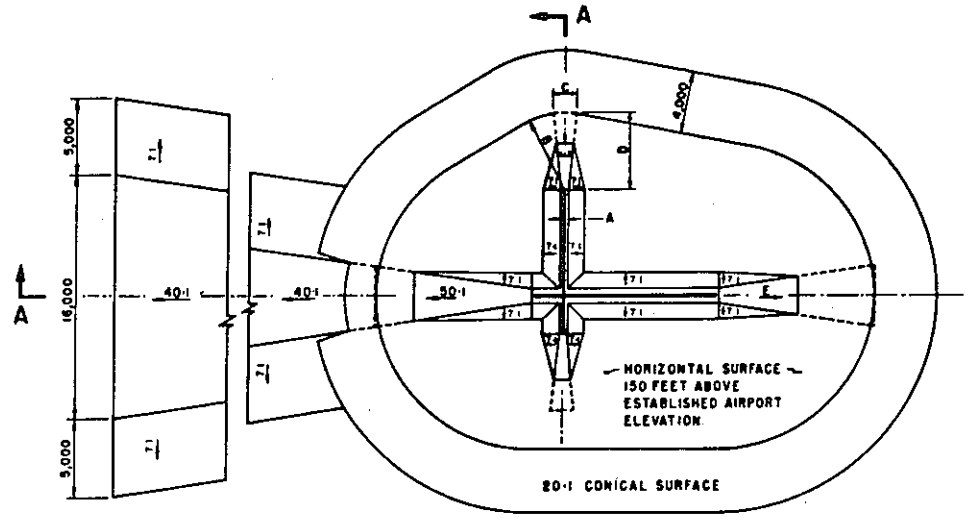
3. Runway configuration and runway lengths, widths, and elevations are presented on the ODS last page.

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)

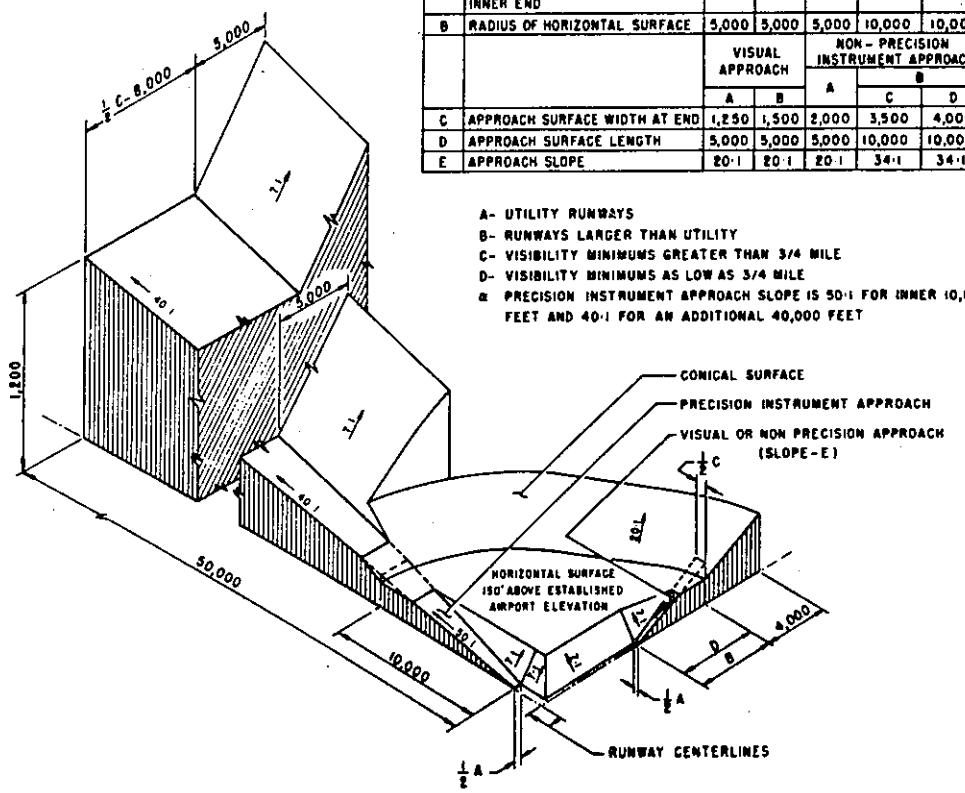
FAR-77 imaginary surface dimensions are defined on page 2 of this report.

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	B 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	B 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]
XXXXXXXXXX	XXXXXX.XXX	XXXXXXX.XXX	XX	XXXX	XXXX	XXX	XXX	XXX	XXXXX	XXXXX	XXXX	XXXX
XXXXXXXXXX	XXXXXX.XXX	XXXXXXX.XXX	XX	XXXX	XXXX	XXX	XXX	XXX	XXXXX	XXXXX	XXXX	XXXX

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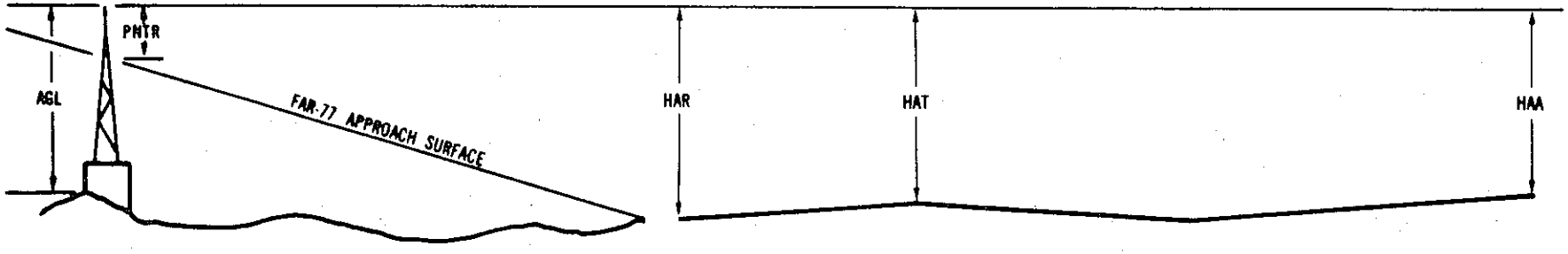

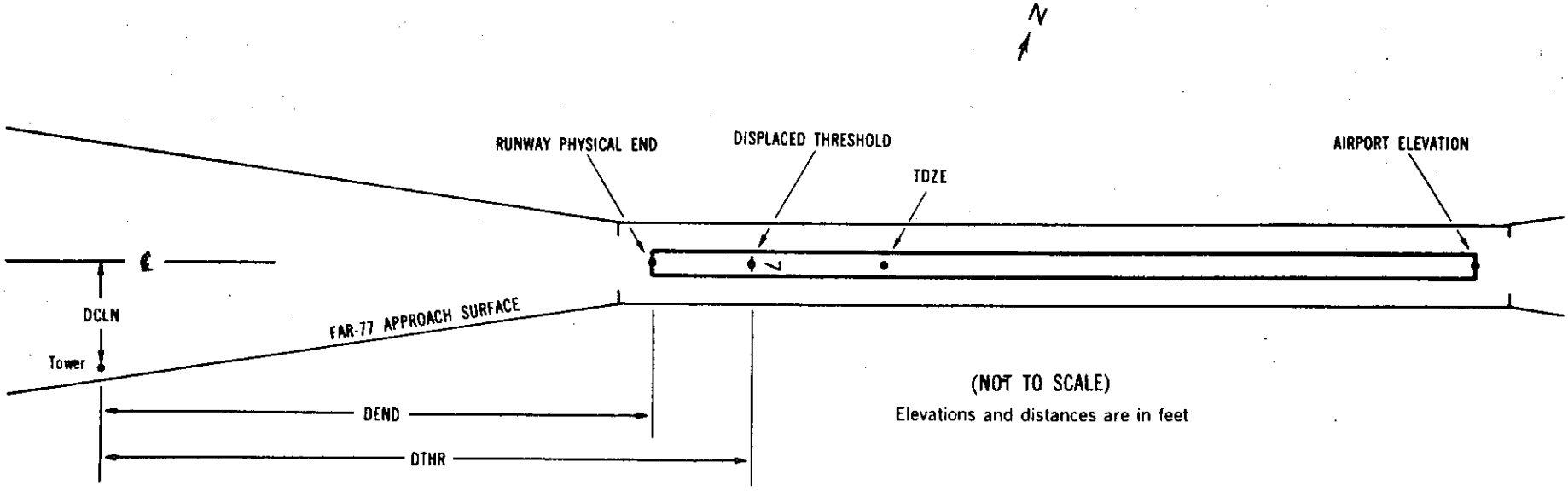

(NOT TO SCALE)

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 3932

3 C 3836/3880 312438.831N 1105120.136W 2261849

OBJECT	LAT	LONG	A	ELEV	AGL	HAR	HAT	HAA	DEND	DTHR	DCLN	PNTR
TREE	312522.41	1105030.53	1A	3948		112	68	16	-6150		215L	16
FENCE	312521.39	1105031.01	1A	3936		100	56	4	-6049		170L	4
BUSH	312438.39	1105121.52	1A	3842		6	-38	-90	117		51L	6
BUSH	312436.59	1105119.53	1A	3844		8	-36	-88	119		200R	8

21 C 3932/ 312519.825N 1105030.088W 0461915 3920/3920 312514.861N 1105036.149W

OBJECT	LAT	LONG	A	ELEV	AGL	HAR	HAT	HAA	DEND	DTHR	DCLN	PNTR
BUSH	312436.59	1105119.53	1A	3844		-88	-76	-88	-6116	-5390	200L	8
BUSH	312438.39	1105121.52	1A	3842		-90	-78	-90	-6114	-5388	51R	6
FENCE	312521.39	1105031.01	1A	3936		4	16	4	51	778	170R	4
TREE	312522.41	1105030.53	1A	3948		16	28	16	153	879	215R	16
TREE	312521.61	1105027.57	1A	3952		20	32	20	282	1008	20L	18
TREE	312521.71	1105025.54	1A	3963		31	43	31	417	1143	134L	25
TREE	312525.11	1105022.47	1A	3974		42	54	42	847	1573	70L	23
TREE	312528.24	1105018.34	1A	3986		54	66	54	1323	2049	88L	21
TREE	312531.30	1105018.37	1A	3987		55	67	55	1535	2261	138R	16
TREE	312532.64	1105014.68	1A	3995		63	75	63	1860	2586	14R	14
TREE	312535.87	1105016.00	1A	3990		58	70	58	2003	2729	330R	5
TREE	312537.00	1105010.25	1A	4018		86	98	86	2441	3167	68R	20
TREE	312539.90	1105006.35	1A	4035		103	115	103	2889	3615	47R	24
TREE	312545.20	1105002.75	1A	4070		138	150	138	3484	4210	219R	41
TREE	312545.36	1104959.91	1A	4087		155	167	155	3673	4399	60R	53
TREE	312550.09	1105001.08	1A	4066		134	146	134	3929	4656	476R	24
TREE	312543.19	1104951.19	1A	4135		203	215	203	4068	4794	620L	89
BUSH	312552.54	1104948.47	1A	4139		207	219	207	4891	5617	100L	69
TREE	312603.20	1104924.27	1A	4253		321	333	321	7151	7877	768L	117
TREE	312630.11	1104911.63	1A	4265		333	345	333	9821	10548	442R	50

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AIRPORT ELEVATION 3932

ARP 312459.328N 1105055.114W

OBJECT	LAT	LONG	A	ELEV	AGL	HAA	MAG BEARING	DISTANCE
VOR/DME	312453.48	1105053.72	1A	3901		-31	156 43	603
ROD ON OL AIRPORT BEACON	312504.22	1105105.34	1A	3931		-1	287 27	1014
LIGHT POLE	312457.26	1105107.60	1A	3895		-37	247 22	1102
ANTENNA ON BUILDING	312513.82	1105047.95	1A	3954		22	11 16	1590
TREE	312508.70	1105038.72	1A	3925		-7	44 37	1708
NDB	312516.56	1105044.85	1A	3965		33	15 21	1955
TREE	312523.18	1105032.08	1A	3946		14	27 55	3129
TREE	312519.55	1105025.55	1A	3950		18	39 43	3277
TREE	312508.13	1105013.53	1B	4081		149	64 26	3712
POLE	312546.18	1105010.70	1A	4043		111	27 24	6101
TREE	312420.24	1104956.50	1B	4062		130	116 10	6435
BUSH	312435.10	1104945.65	1B	4278		346	100 26	6498
BUSH	312452.33	1104937.35	1B	4259		327	84 17	6776
TREE	312426.26	1104947.10	1B	4233		301	107 50	6776
POLE	312552.26	1105006.25	1A	4068		136	26 40	6822
TREE	312551.42	1105005.02	1A	4074		142	27 49	6823
BUSH	312435.03	1104937.37	1B	4299		367	98 19	7171
BUSH	312538.96	1104942.21	1B	4181		249	45 55	7480
BUSH	312436.62	1104927.07	1B	4341		409	95 2	7967
BUSH	312457.96	1104918.56	1B	4320		388	79 14	8368
BUSH	312500.15	1104905.22	1B	4406		474	77 48	9524
BUSH	312537.28	1104914.20	1B	4250		318	54 37	9548
BUSH	312547.03	1104915.04	1B	4283		351	49 14	9921
POLE	312638.77	1105118.58	1B	4107		175	336 52	10252
TREE	312356.34	1104915.84	2C	4246		314	114 47	10702
GROUND	312342.05	1104922.80	2C	4132		200	122 36	11180
TANK	312643.51	1105011.42	1B	4107		175	8 5	11187
POLE	312645.46	1105011.68	1B	4135		203	7 38	11365
GROUND	312513.37	1104844.28	1B	4335		403	71 9	11426
TREE	312633.80	1104942.22	1B	4158		226	21 47	11446
POLE	312652.46	1105019.23	1B	4119		187	3 31	11847
BUSH	312344.97	1104909.12	2C	4233		301	117 34	11867
GROUND	312457.40	1104837.59	1B	4480		548	79 14	11919

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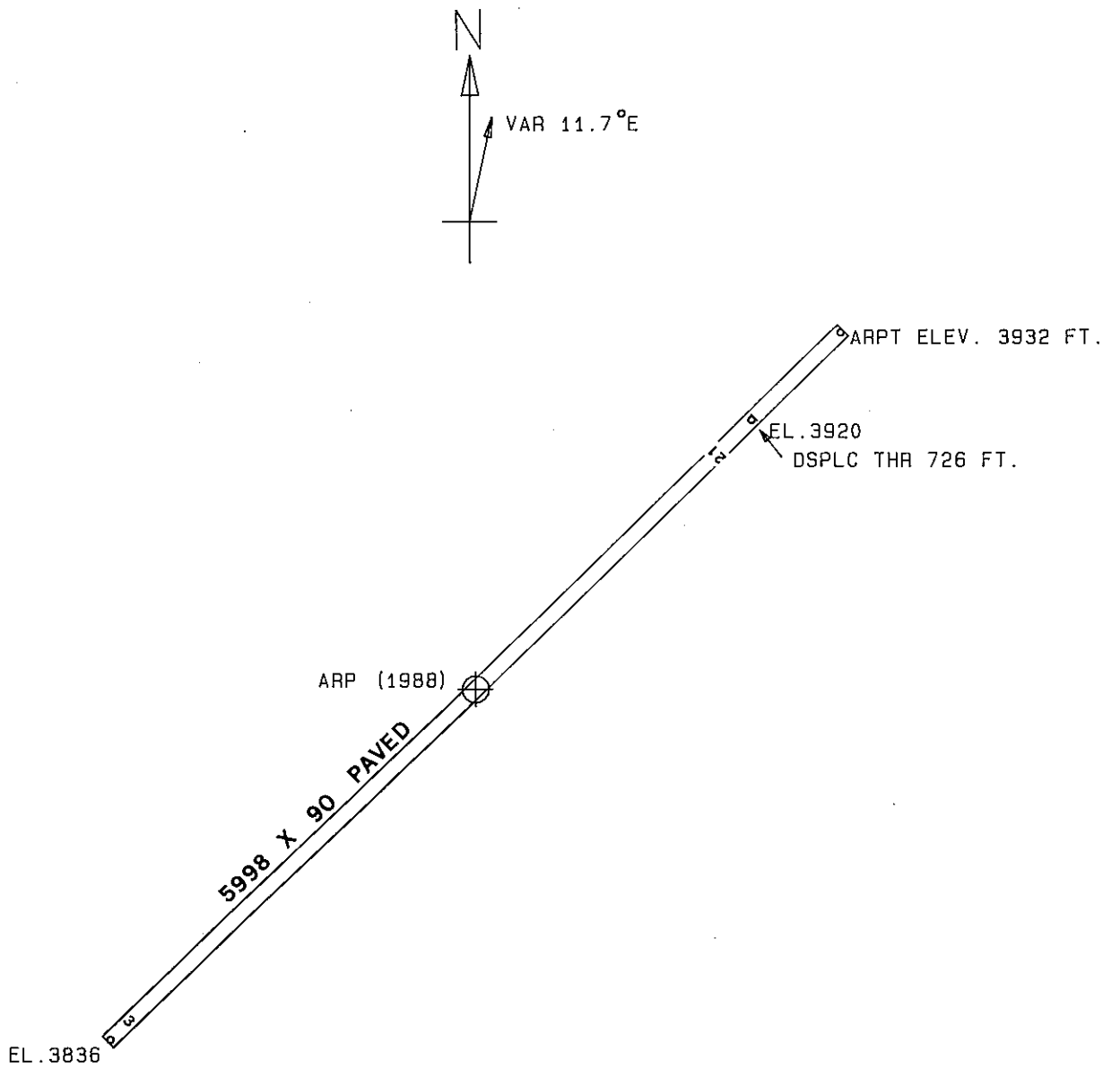
AIRPORT ELEVATION 3932

ARP 312459.328N 1105055.114W

OBJECT	LAT	LONG	A	ELEV	AGL	HAA	MAG BEARING	DISTANCE
POLE	312638.00	1104932.63	1B	4218		286	23 56	12267
BUSH	312635.63	1104926.73	1B	4238		306	26 30	12383
POLE	312704.59	1105009.67	2C	4158		226	5 35	13256
TREE	312631.88	1104905.89	2C	4279		347	33 38	13305
TREE	312619.49	1104852.02	2C	4326		394	41 5	13392
GROUND	312535.47	1104820.98	2C	4368		436	63 0	13846
GROUND	312403.51	1104817.80	2C	4382		450	100 46	14754
GROUND	312433.47	1104807.24	2C	4600		668	88 28	14781
GROUND	312652.87	1104854.31	2C	4260		328	30 40	15530
GROUND	312529.39	1104756.22	2C	4476		544	67 12	15797
GROUND	312623.72	1104821.52	2C	4360		428	45 38	15806
GROUND	312502.64	1104752.66	2C	4579		647	77 4	15815
GROUND	312543.79	1104750.00	2C	4475		543	62 38	16658
GROUND	312559.62	1104754.58	2C	4441		509	57 0	16788



TOUCHDOWN ZONE RUNWAY	ELEVATION
3	3880
21	3920

NOGALES INTERNATIONAL AIRPORT

NOGALES, ARIZONA

(NOT TO SCALE)