

OBSTRUCTION DATA SHEET

ODS 6667
RAMONA AIRPORT
RAMONA, CALIFORNIA

DIGITIZED FROM

OC 6667
SURVEYED FEBRUARY 1989
1ST EDITION



PREPARED AND DISTRIBUTED BY
THE NATIONAL OCEAN SERVICE
U.S. DEPARTMENT OF COMMERCE
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:

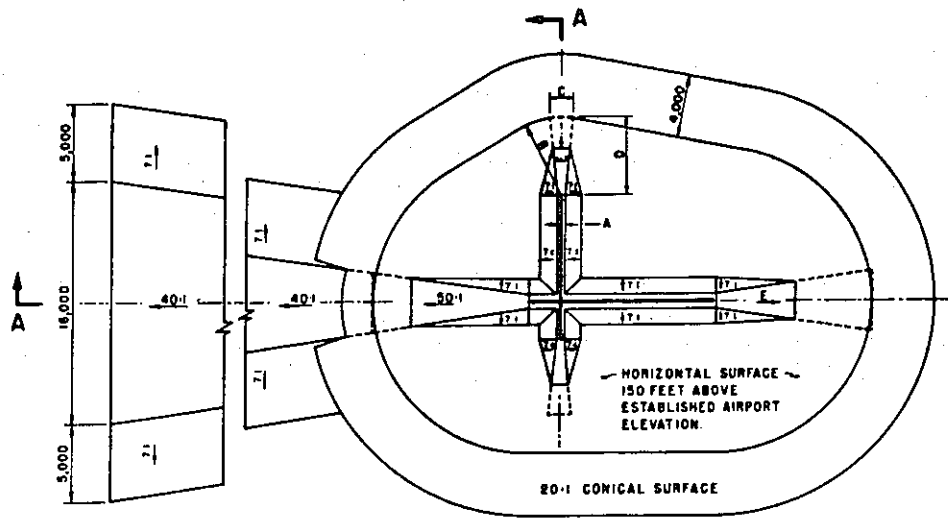
1. Objects located in FAR-77 approach (including supplemental approaches if present) or primary areas are listed with the associated runway (reference runway). For example, all objects in the Runway 9R approach or primary are listed with Runway 9R. Distances to these objects are computed from both the 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)

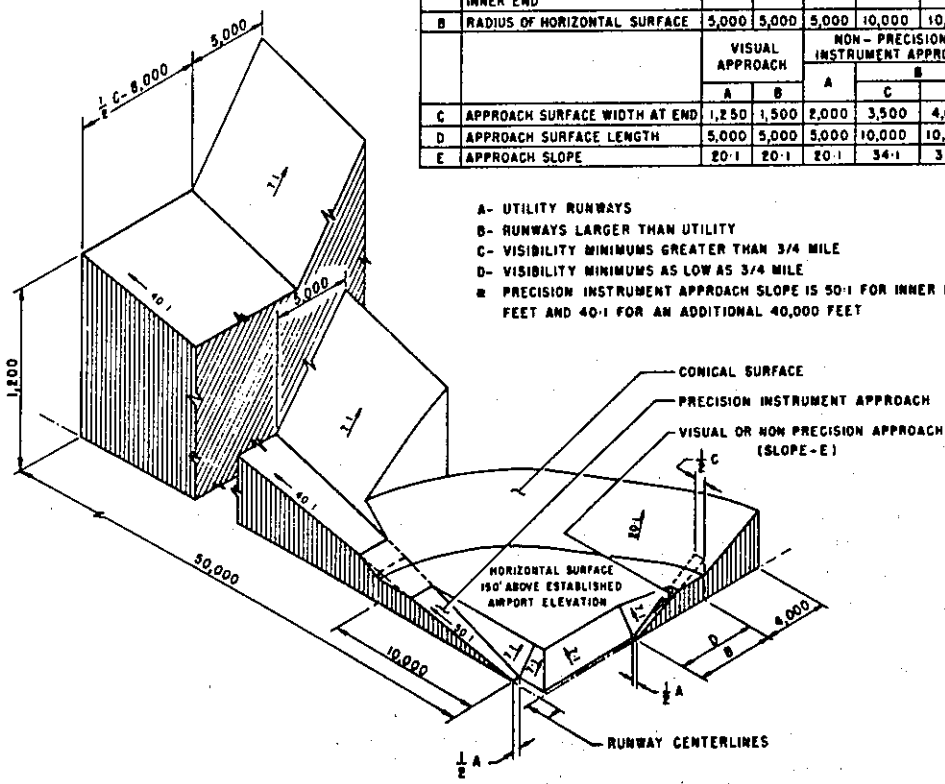
FAR-77 imaginary surface dimensions are defined on page 2 of this report.

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	C	D	
A	WIDTH OF PRIMARY SURFACE AND APPROACH SURFACE WIDTH AT INNER END	250	300	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	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

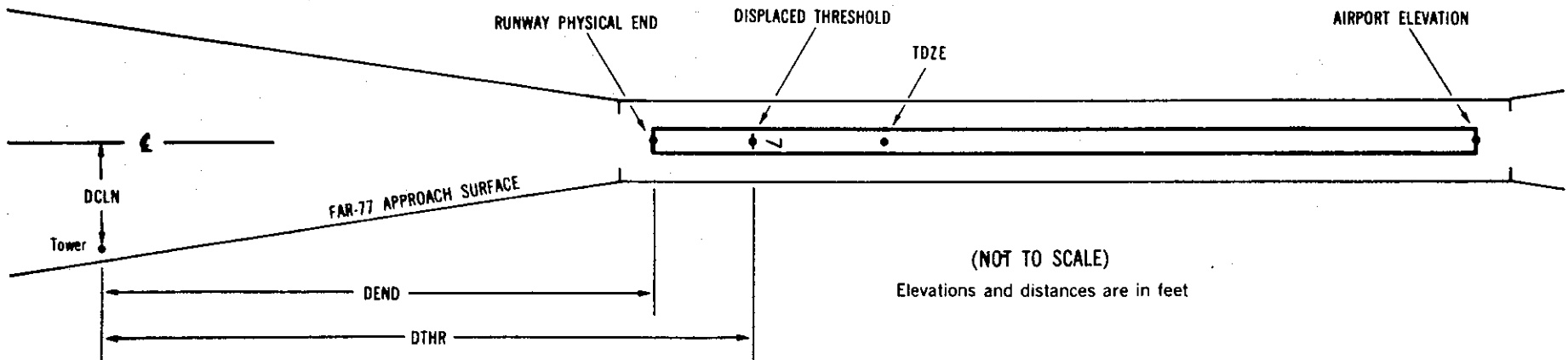
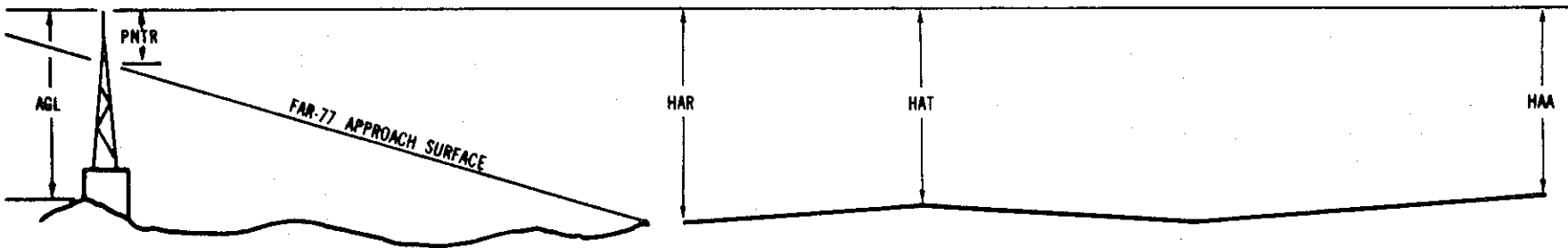
FAR-77 CIVIL AIRPORT
IMAGINARY SURFACES

ANNOTATION OF ODS DATA FORMAT

OC XXXX

AIRPORT ELEVATION XXXX

	X ¹	X ²	XXXX/XXXX ³	XXXXXX.XXX ⁴	XXXXXXXX.XXX ⁴	XXXXXXXX ⁵	XXXX/XXXX ⁶	XXXXXX.XXX ⁷	XXXXXXXX.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
XXXXXXXXXXXXX		XXXXXX.XXX		XXXXXXXX.XXX	XX	XXXX	XXXX	XXX	XXX	XXX	XXXXX	XXXXX	XXXX	XXXX
XXXXXXXXXXXXX		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).

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AIRPORT ELEVATION 1393

9 C 1381/1389 330223.357N 11655 9.158W 2795743

OBJECT	LAT	LONG	A	ELEV	AGL	HAR	HAT	HAA	DEND	DTHR	DCLN	PNTR
FENCE	330214.76	1165420.88	1A	1396		15	7	3	-4198		144R	3
FENCE	330214.89	1165422.36	1A	1396		15	7	3	-4072		153R	3
FENCE	330214.03	1165422.81	1A	1395		14	6	2	-4050		246R	2
SIGN	330218.22	1165422.26	1A	1399		18	10	6	-4022		180L	6
FENCE	330214.83	1165428.94	1A	1398		17	9	5	-3522		256R	7
GROUND	330215.99	1165431.68	1A	1392		11	3	-1	-3271		181R	2
FENCE	330218.61	1165447.88	1A	1392		11	3	-1	-1867		159R	6
GROUND	330219.05	1165455.34	1A	1394		13	5	1	-1234		225R	11
FENCE	330220.49	1165500.49	1A	1386		5	-3	-7	-776		157R	4
SIGN	330224.61	1165507.98	1A	1385		4	-4	-8	-77		142L	4
GROUND	330225.96	1165510.19	1A	1397		16	8	4	132		244L	16
FENCE	330222.18	1165511.82	1A	1382		1	-7	-11	203		156R	1
BUSH	330226.21	1165511.69	1A	1401		20	12	8	262		247L	18
GROUND	330222.13	1165515.64	1A	1387		6	-2	-6	522		217R	-3
GROUND	330221.57	1165520.16	1A	1391		10	2	-2	891		340R	-10

OC6667

AIRPORT ELEVATION 1393

27 C 1393/1393 330216.509N 1165422.887W 0995808

OBJECT	LAT	LONG	A	ELEV	AGL	HAR	HAT	HAA	DEND	DTHR	DCLN	PNTR
FENCE	330222.18	1165511.82	1A	1382		-11	-11	-11	-4202		156L	1
GROUND	330225.96	1165510.19	1A	1397		4	4	4	-4131		244R	16
SIGN	330224.61	1165507.98	1A	1385		-8	-8	-8	-3922		142R	4
FENCE	330220.49	1165500.49	1A	1386		-7	-7	-7	-3223		157L	4
GROUND	330219.05	1165455.34	1A	1394		1	1	1	-2766		225L	11
FENCE	330218.61	1165447.88	1A	1392		-1	-1	-1	-2132		159L	6
GROUND	330215.99	1165431.68	1A	1392		-1	-1	-1	-728		181L	2
FENCE	330214.83	1165428.94	1A	1398		5	5	5	-478		256L	7
SIGN	330218.22	1165422.26	1A	1399		6	6	6	23		180R	6
FENCE	330214.03	1165422.81	1A	1395		2	2	2	50		246L	2
FENCE	330214.89	1165422.36	1A	1396		3	3	3	73		153L	3
FENCE	330214.76	1165420.88	1A	1396		3	3	3	199		144L	3
TREE	330210.29	1165354.85	1A	1449		56	56	56	2460		206L	-10
TREE	330217.33	1165350.80	1A	1464		71	71	71	2676		555R	-2

OC6667

AIRPORT ELEVATION 1393

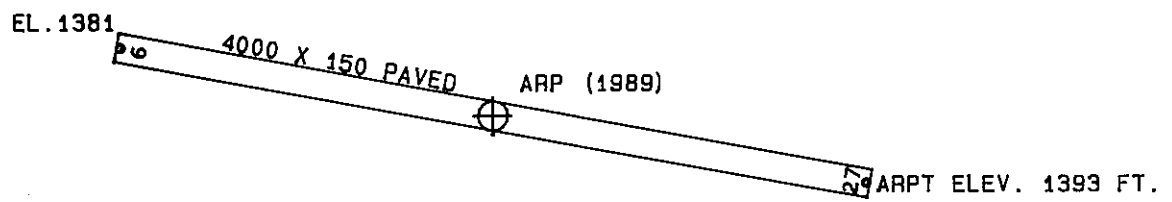
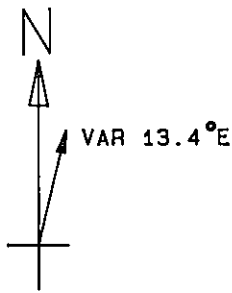
ARP 330219.934N 1165446.022W

OBJECT	LAT	LONG	A	ELEV	AGL	HAA	MAG	BEARING	DISTANCE
SIGN ON HANGAR	330223.81	1165446.28	1A	1405		12	343	26	392
TREE	330224.32	1165440.49	1A	1439		46	33	20	646
OL ON LIGHTED WINDSOCK	330215.53	1165437.38	1A	1415		22	107	47	860
WINDSOCK ON LIGHT POLE	330221.49	1165427.56	1A	1424		31	70	52	1579
FENCE	330226.07	1165505.32	1A	1389		-4	277	17	1756
TREE	330213.02	1165422.49	1A	1403		10	95	51	2122
GROUND	330229.49	1165513.60	1A	1419		26	278	57	2538
TREE	330259.61	1165446.89	1B	1594		201	345	33	4011
TREE	330258.17	1165519.01	1B	1573		180	310	36	4777
TREE	330122.54	1165447.77	1B	1582		189	168	4	5802
TREE	330301.96	1165359.05	1B	1580		187	29	52	5834
BUSH	330317.53	1165521.15	1B	1773		380	319	25	6545
BUSH	330325.84	1165447.72	1B	1813		420	345	22	6663
BUSH	330325.74	1165510.41	1B	1955		562	329	16	6967
GROUND	330331.69	1165457.29	1B	1906		513	339	4	7316
BUSH	330250.72	1165324.78	1B	1587		194	52	22	7583
BUSH	330338.87	1165457.11	1B	1913		520	339	51	8034
POLE	330325.52	1165344.90	1B	1788		395	24	43	8427
POLE	330331.91	1165542.29	1B	1781		388	313	15	8710
TREE	330346.39	1165453.87	1B	1889		496	342	14	8764
BUSH	330340.32	1165407.00	1B	1740		347	8	50	8777
ANTENNA	330058.01	1165526.20	1B	1590		197	189	3	8959
BUSH	330353.93	1165445.56	1B	1845		452	346	50	9501
ANTENNA	330324.05	1165321.24	1B	1740		347	34	40	9699
TREE	330311.38	1165308.96	1B	1766		373	44	25	9762
GROUND	330053.39	1165540.46	1B	1565		172	194	31	9899
GROUND	330049.32	1165536.65	1B	1570		177	191	49	10122
GROUND	330403.92	1165454.02	2C	1888		495	342	54	10532
TREE	330326.34	1165309.34	1B	1779		386	37	24	10619
BUSH	330359.15	1165527.11	1B	1887		494	327	23	10620
TREE	330055.86	1165602.93	1B	1673		280	204	14	10728
GROUND	330108.56	1165620.34	1B	1666		273	214	41	10794
TREE	330311.26	1165252.81	1B	1759		366	48	18	10945

AIRPORT ELEVATION 1393

ARP 330219.934N 1165446.022W

OBJECT	LAT	LONG	A	ELEV	AGL	HAA	MAG BEARING	DISTANCE
TREE	330102.08	1165616.44	1B	1677		284	210 59	11008
TREE	330104.66	1165624.32	2C	1690		297	214 20	11310
TREE	330053.17	1165613.16	2C	1708		315	206 50	11486
BUSH	330020.70	1165435.31	2C	1631		238	162 16	12086
BUSH	330407.29	1165557.16	2C	1854		461	317 27	12426
BUILDING	330424.73	1165433.24	2C	1725		332	351 32	12660
TREE	330114.84	1165233.85	2C	1634		241	106 54	13035
BUSH	330117.47	1165700.60	2C	1683		290	227 45	13082
BUSH	330010.72	1165432.88	2C	1788		395	161 42	13108
BUSH	330022.57	1165601.07	2C	1939		546	194 55	13474
GROUND	330434.12	1165438.79	2C	1755		362	349 12	13576
BUSH	330357.18	1165639.70	2C	1680		287	302 3	13792
GROUND	330108.24	1165705.19	2C	1695		302	225 10	13889
GROUND	330021.18	1165610.42	2C	1936		543	197 31	13989
BUSH	330414.15	1165622.01	2C	1833		440	311 19	14142
BUILDING	330032.91	1165649.79	2C	1800		407	210 52	15102
POLE	330121.22	1165735.68	2C	1764		371	234 17	15616



TOUCHDOWN ZONE	
RUNWAY ELEVATION	
9	1389
27	1393

RAMONA AIRPORT
RAMONA, CALIFORNIA
(NOT TO SCALE)