OBSTRUCTION DATA SHEET

ODS 238
BOWMAN FIELD
LOUISVILLE, KENTUCKY

DIGITIZED FROM

OC 238
SURVEYED AUGUST 1993
8TH EDITION

HORIZONTAL DATUM NAD 83
VERTICAL DATUM NGVD 29

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THE NATIONAL OCEAN SERVICE
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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 No. 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 the 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 an FAR-77 approach or primary and listed with the associated runway (reference runway).

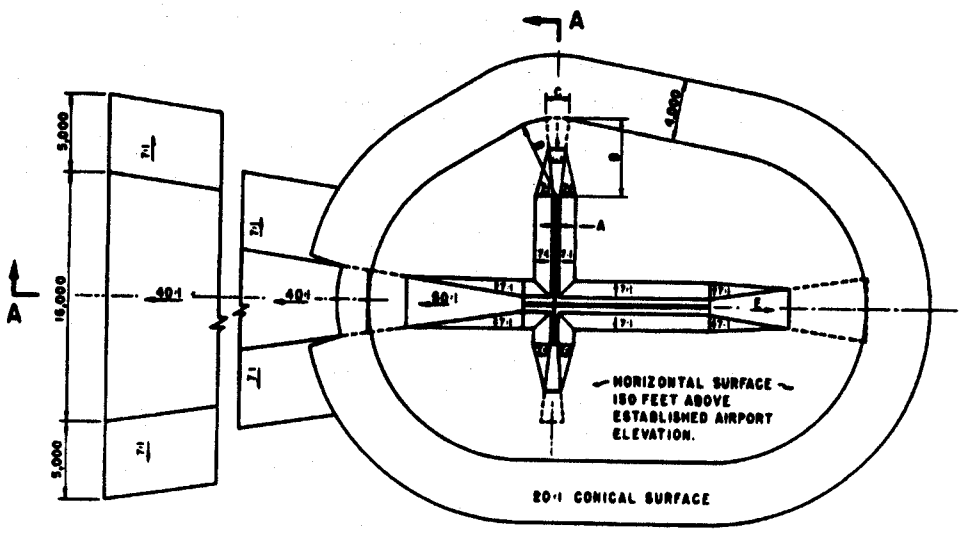
2. All objects not included in "1" above are listed with the Airport Reference Point (ARP).

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:

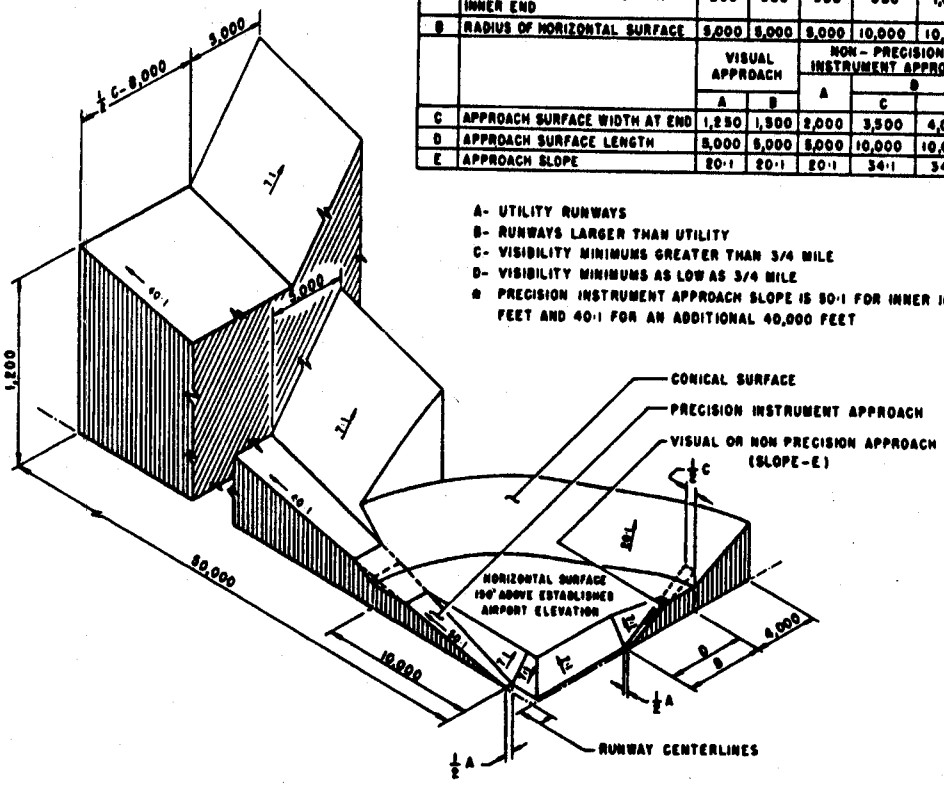
A(V) ..... Utility runway - visual approach only
A(NP) .... Utility runway - nonprecision instrument approach
B(V) ..... Nonutility runway - visual approach only
C ..... Nonutility runway - nonprecision instrument approach with visibility minimums greater than 3/4 mile
D ..... Nonutility runway- nonprecision 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.



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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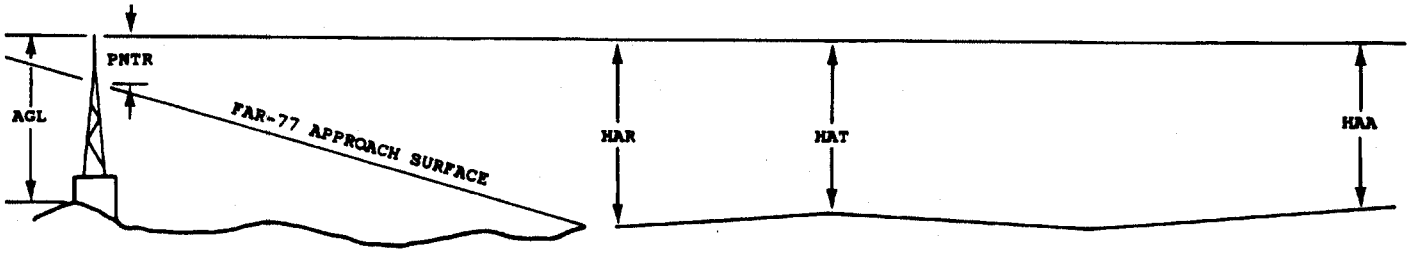
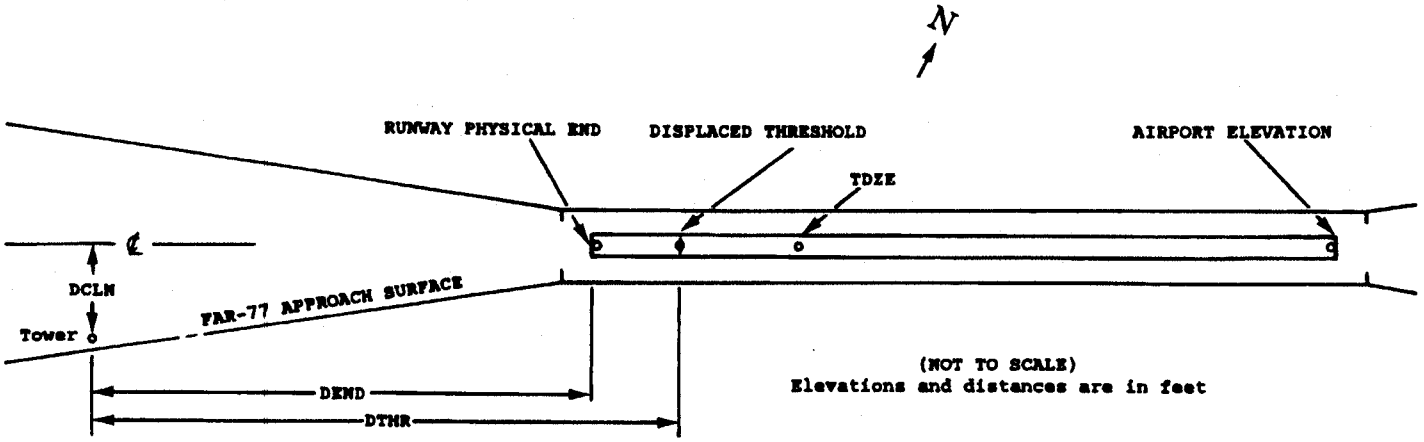




(NOT TO SCALE)
Elevations and distances are in feet

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 areas 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 Elevation at approach end of reference runway/touchdown zone elevation

4 Latitude and longitude at approach end of reference runway

5 Geodetic azimuth of reference runway reckoned from north

6 Elevation at reference runway displaced threshold/touchdown zone elevation

7 Latitude and longitude at reference runway displaced threshold

8 Accuracy codes:

Horizontal(Ft.)	Vertical(Ft.)
1 = 20	A = 2
2 = 40	B = 5
	C = 20

9 Elevation above mean sea level (MSL) 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). AGL's are provided only for manmade objects <u>appearing on the OC</u> and equal to or greater than 200 feet AGL. AGL accuracy is 10 feet.

11 HAA - Height above airport
HAR - Height above approach end of reference runway
HAT - Height above reference runway touchdown zone elevation

12 DEND - Distance along reference runway centerline from point nearest to object (perpendicular) to approach end of runway
DTHR - Distance along reference runway centerline from point nearest to object (perpendicular) to displaced 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 that object is in primary on roll-out side of zero distance point.

13 PNTR - Penetration of indicated FAR-77 approach or primary surface (See footnote 2).

OC0238

AIRPORT ELEVATION 547

1 ANP 531/ 381324.804 -853948.479 91106. 538/ 547 381330.707 -853947.269

OBJECT	LAT	LONG	A	EL	AGL	HAR	HAT	HAA	DEND	DTHR	DCLN	PNTR
TREE	381322.16	-853952.23	1A	550		19	3	3	312	917	253L	13
TREE	381320.84	-853951.70	1A	578		47	31	31	437	1042	190L	35
TREE	381319.67	-853953.23	1A	601		70	54	54	573	1178	292L	51
TREE	381318.38	-853950.23	1A	597		66	50	50	664	1269	34L	42
TREE	381316.17	-853946.72	1A	583		52	36	36	840	1445	278R	20
TREE	381314.98	-853948.69	1A	590		59	43	43	983	1588	142R	19
TREE	381314.85	-853954.27	1A	599		68	52	52	1068	1673	295L	24

19 ANP 540/ 547 381400.690 -853941.122 1891111.

OBJECT	LAT	LONG	A	EL	AGL	HAR	HAT	HAA	DEND	DTHR	DCLN	PNTR
TREE	381403.56	-853942.69	1A	560		20	13	13	267		170R	17
TREE	381404.58	-853938.84	1A	555		15	8	8	418		117L	5
TREE	381406.86	-853936.34	1A	575		35	28	28	677		277L	12
TREE	381415.42	-853934.84	1A	621		81	74	74	1551		257L	14
TREE	381418.02	-853941.93	1A	617		77	70	70	1721		343R	1

14 ANP 539/ 381352.783 -854006.370 1433520. 538/ 546 381351.290 -854004.974

OBJECT	LAT	LONG	A	EL	AGL	HAR	HAT	HAA	DEND	DTHR	DCLN	PNTR
ROAD (N)	381321.81	-853941.16	1A	533		-6	-13	-14	-3716	-3528	241R	14
GROUND	381354.17	-854006.11	1A	540		1	-6	-7	100	288	100L	1
TREE	381353.41	-854009.85	1A	559		20	13	12	216	403	185R	20
TREE	381358.05	-854006.96	1A	568		29	22	21	457	645	278L	17
TREE	381356.38	-854010.63	1A	565		26	19	18	494	682	58R	12
TREE	381358.65	-854012.98	1A	586		47	40	39	790	978	72R	18
TREE	381359.66	-854017.31	1A	588		49	42	41	1078	1265	290R	6
TREE	381402.83	-854015.79	1A	592		53	46	45	1264	1452	1R	0

OC0238

AIRPORT ELEVATION 547

32 ANP 519/ 381324.630 -853940.049 3233537. 527/ 546 381327.158 -853942.412

OBJECT	LAT	LONG	A	EL	AGL	HAR	HAT	HAA	DEND	DTHR	DCLN	PNTR
GROUND	381354.17	-854006.11	1A	540		21	-6	-7	-3639	-3321	100R	1
ROAD (N)	381321.81	-853941.16	1A	533		14	-13	-14	178	495	241L	14
TREE	381318.47	-853935.96	1A	575		56	29	28	696	1013	107L	31
TREE	381316.13	-853934.37	1A	579		60	33	32	961	1279	145L	22
TREE	381318.51	-853929.26	1A	561		42	15	14	1009	1327	326R	1
TREE	381315.81	-853930.04	1A	582		63	36	35	1192	1510	114R	13
TREE	381309.65	-853929.61	1A	594		75	48	47	1714	2032	229L	-1

6 AV 543/ 381331.713 -854009.634 593433. 545/ 546 381335.744 -854000.932

OBJECT	LAT	LONG	A	EL	AGL	HAR	HAT	HAA	DEND	DTHR	DCLN	PNTR
GROUND	381351.47	-853932.41	1A	538		-5	-8	-9	-3573	-2768	220L	3
TREE	381329.68	-854010.23	1A	572		29	26	25	145	951	153R	29
ROAD (N)	381330.76	-854011.79	1A	554		11	8	7	198	1003	4L	11
TREE	381329.38	-854012.75	1A	601		58	55	54	334	1140	78R	52
TREE	381331.61	-854014.45	1A	597		54	51	50	336	1142	185L	48
TREE	381326.90	-854015.65	1A	601		58	55	54	660	1466	177R	35
TREE	381329.78	-854020.70	1A	619		76	73	72	860	1666	279L	43
TREE	381327.21	-854026.21	1A	622		79	76	75	1371	2177	277L	21
TREE	381325.03	-854025.76	1A	618		75	72	71	1452	2257	69L	13
TREE	381324.94	-854029.36	1A	643		100	97	96	1704	2509	206L	25
TREE	381321.24	-854028.41	1A	643		100	97	96	1829	2634	155R	19

24 ANP 529/ 381353.294 -853923.040 2393502. 531/ 546 381351.792 -853926.283

OBJECT	LAT	LONG	A	EL	AGL	HAR	HAT	HAA	DEND	DTHR	DCLN	PNTR
ROAD (N)	381330.76	-854011.79	1A	554		25	8	7	-4509	-4209	4R	11
TREE	381329.68	-854010.23	1A	572		43	26	25	-4457	-4157	153L	29
GROUND	381351.47	-853932.41	1A	538		9	-8	-9	-738	-438	220R	3
TREE	381353.64	-853917.79	1A	555		26	9	8	379	679	182L	17
TREE	381357.17	-853920.17	1A	562		33	16	15	396	696	222R	24
TREE	381356.29	-853915.75	1A	578		49	32	31	655	955	33L	27
TREE	381353.98	-853913.56	1A	615		86	69	68	687	987	323L	62
TREE	381359.11	-853916.24	1A	582		53	36	35	766	1066	232R	25
TREE	381356.50	-853911.90	1A	595		66	49	48	931	1231	170L	30

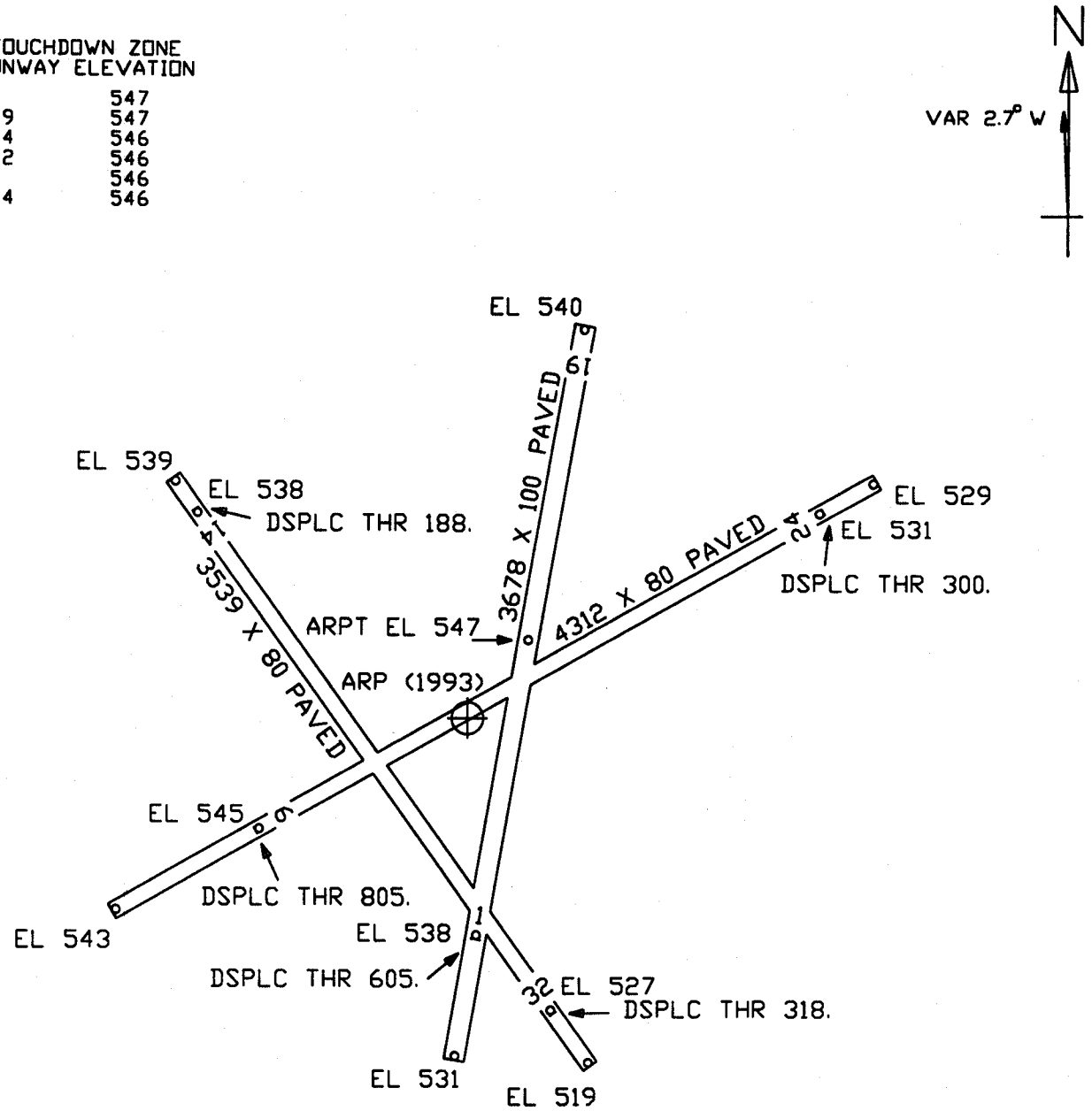
OC0238

AIRPORT ELEVATION 547

ARP 381341.416 -853947.957

OBJECT	LAT	LONG	A	EL	AGL	HAA	MAG BEARING	DISTANCE
ANT ON ATCT	381338.39	-853938.14	1A	615		68	11402	841
VOR/DME	381348.80	-853953.09	1A	570		23	33356	852
TREE	381354.32	-853947.40	1A	578		31	438	1306
OL WTET	381329.89	-853957.87	1A	559		12	21651	1409
TREE	381358.34	-853945.21	1A	604		57	959	1725
BLDG	381330.47	-854005.83	1A	567		20	23453	1806
OL ON HANGAR	381329.84	-854005.35	1A	591		44	23232	1816
ANT ON BLDG	381324.17	-853955.02	1A	593		46	20036	1833
OL HANGAR	381323.43	-853953.73	1A	573		26	19654	1877
TREE	381400.02	-853949.54	1A	628		81	35851	1887
TREE	381356.85	-854001.91	1A	593		46	32713	1918
TREE	381355.94	-854005.20	1A	578		31	31935	2013
TREE	381401.99	-853945.17	1A	595		48	847	2093
TREE	381350.80	-854012.87	1A	592		45	29813	2203
TREE	381319.98	-853940.56	1A	579		32	16728	2248
TREE	381403.87	-853944.65	1A	616		69	919	2286
TREE	381318.83	-853945.81	1A	592		45	17824	2292
TREE	381325.21	-854008.96	1A	623		76	22820	2345
TREE	381333.21	-854015.66	1A	615		68	25207	2361
TREE	381400.15	-854006.48	1A	605		58	32445	2403
TREE	381354.05	-854013.96	1A	602		55	30420	2437
TREE	381405.85	-853944.70	1A	603		56	841	2485
TREE	381320.54	-853928.00	1A	588		41	14540	2645
TREE	381324.52	-854013.92	1A	643		96	23310	2686
TREE	381358.39	-853921.38	1A	581		34	5341	2728
TREE	381406.76	-853934.86	1A	576		29	2452	2768
TREE	381352.06	-853915.64	1A	595		48	7002	2795
TREE	381404.17	-854009.96	1A	621		74	32521	2895
TREE	381316.23	-853924.89	1A	587		40	14650	3143
TREE	381320.45	-854018.60	1A	643		96	23146	3236
TREE	381354.61	-853911.01	1A	612		65	6819	3236
ANT ON OL BLDG	381341.50	-853822.57	1A	742	217	195	9237	6814
CROSS ON SPIRE	381451.53	-854104.62	1A	703		156	32155	9366
ANT ON OL STACK	381513.01	-854059.27	1A	770		223	33109	10873

TOUCHDOWN ZONE RUNWAY	ELEVATION
1	547
19	547
14	546
32	546
6	546
24	546



BOWMAN FIELD

LOUISVILLE, KENTUCKY

(NOT TO SCALE)

(ELEVATIONS AND DISTANCES IN FEET)