Flight Procedure Tracking Form	Action: FLIGHT CHECK	Task Type: TEXTUAL DP	Date Open: 01/20/2012	Task #: 2011060626430301005	Request #: 20110606264303
Procedure: SEATTLE WA KBFI AMDT 7		Airport ID: KBFI	Airport: BOEING FIELD/KING COUNTY INTL		Reimbursable #:
City: SEATTLE	ST: WA	GPS #:		Estimated Chart Date: 05/31/2012	FICO #:
Fac ID:	Fac. Type: Proc T		Specialist: AISHAT NAUZO		

Procedure Review

	Rec'd	Rel'd	Full Name	Comments
Lead:	06/21/2011	01/19/2012	DEZ SILAGYI	
QA:	01/19/2012	01/20/2012	SCOTT BEARD	
Liaison:	01/20/2012		Terrell	

P3

Procedure Comments:

Remark Type: INFORMATION

Pg 3 of 3

SEATTLE, WA BOEING FIELD/KING COUNTY INTL (KBFI) TAKEOFF DEP/MINS, AMDT 7 ENROUTE-NO FC: 2.21.12 PUB: 4.5.12

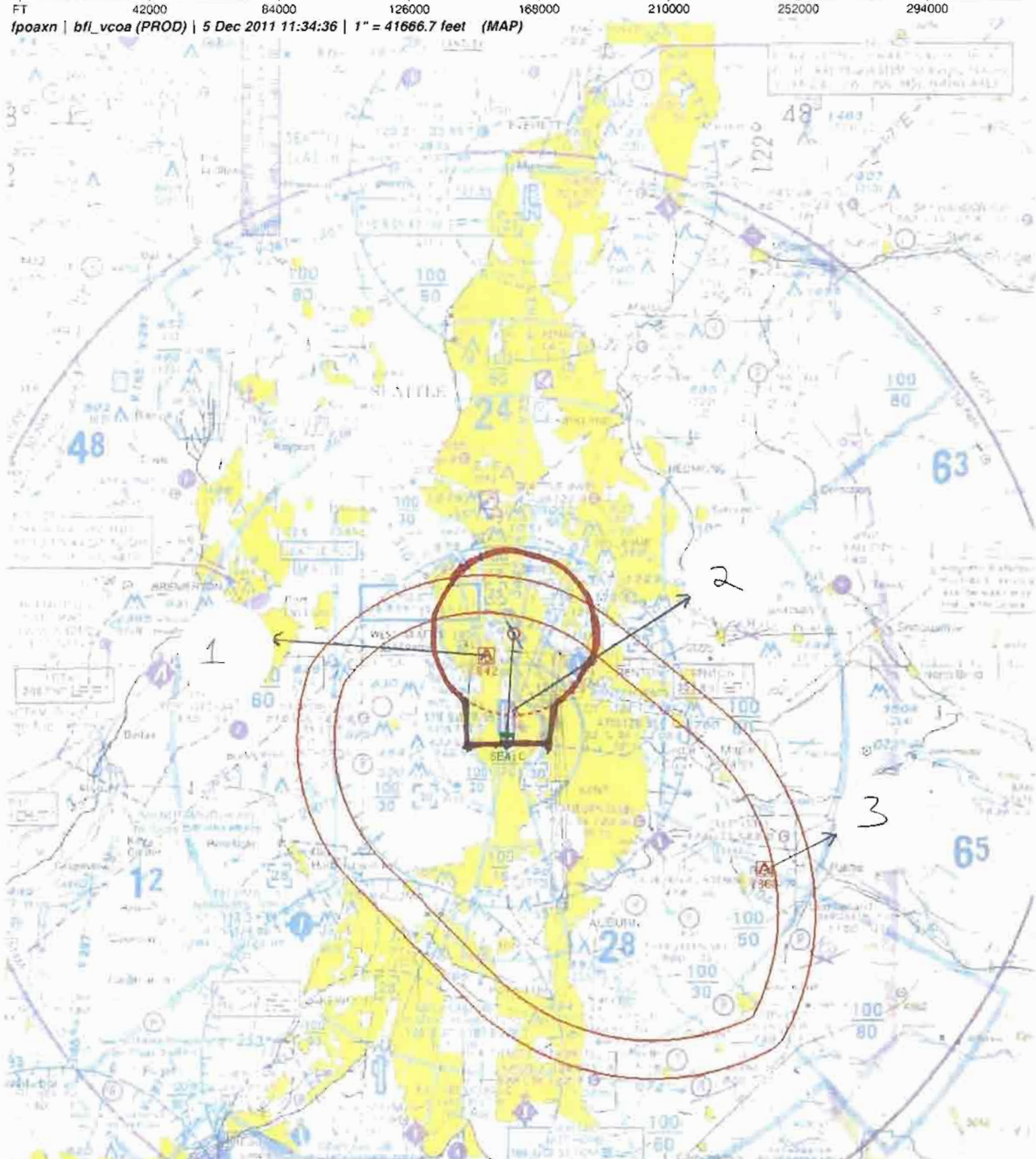
ATTACHED FORMS: 8260-15A; 8260-2(S): SEATTLE (SEA) VTAC, REV 16.

CONTACT: ADOLFO URRUTIA/PETE GETZ-AVN-130 LEADS, 405.954.2079/4919:

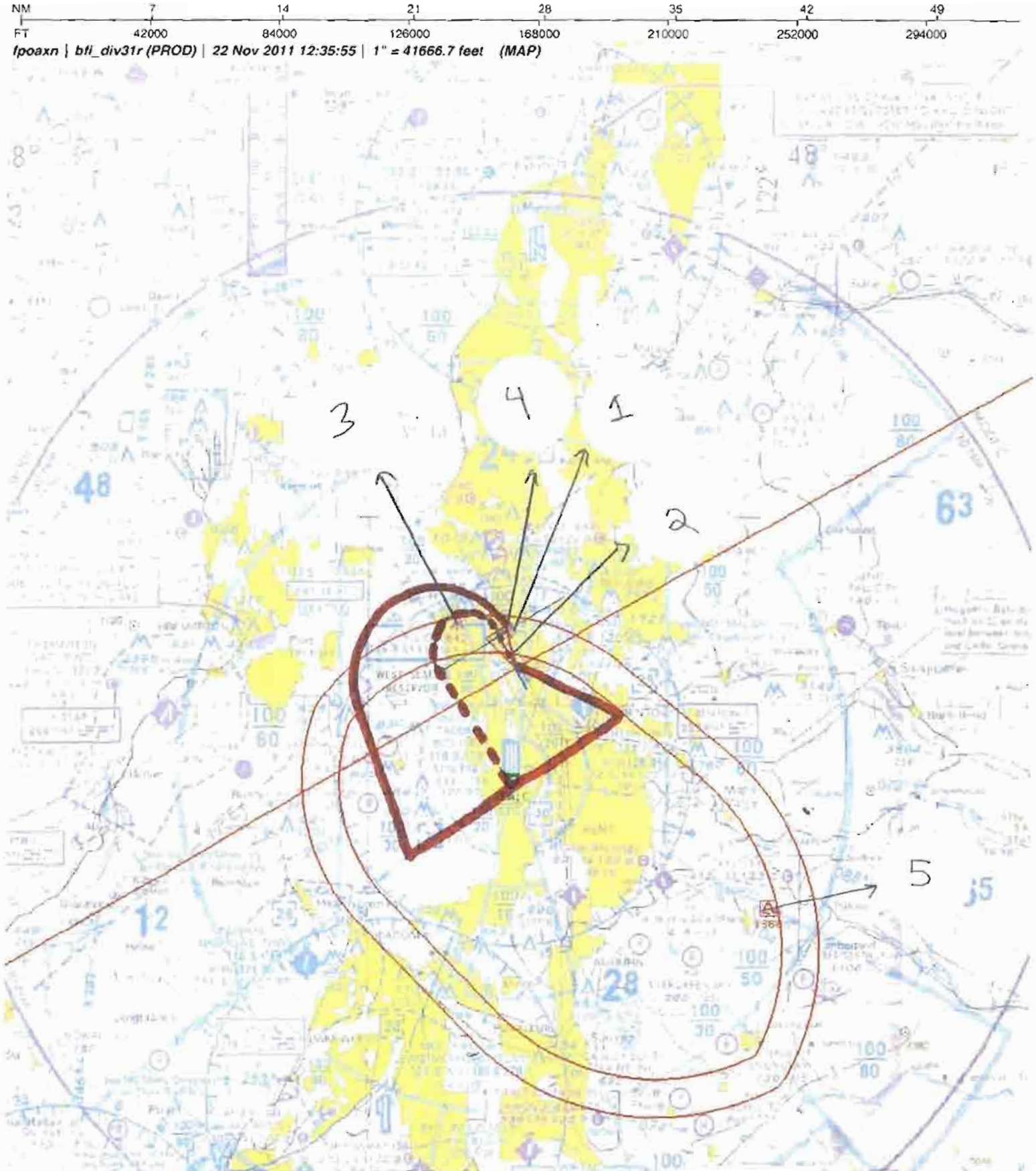
NM 7 14 21 28 35 42 49

FT 42000 84000 126000 168000 210000 252000 294000

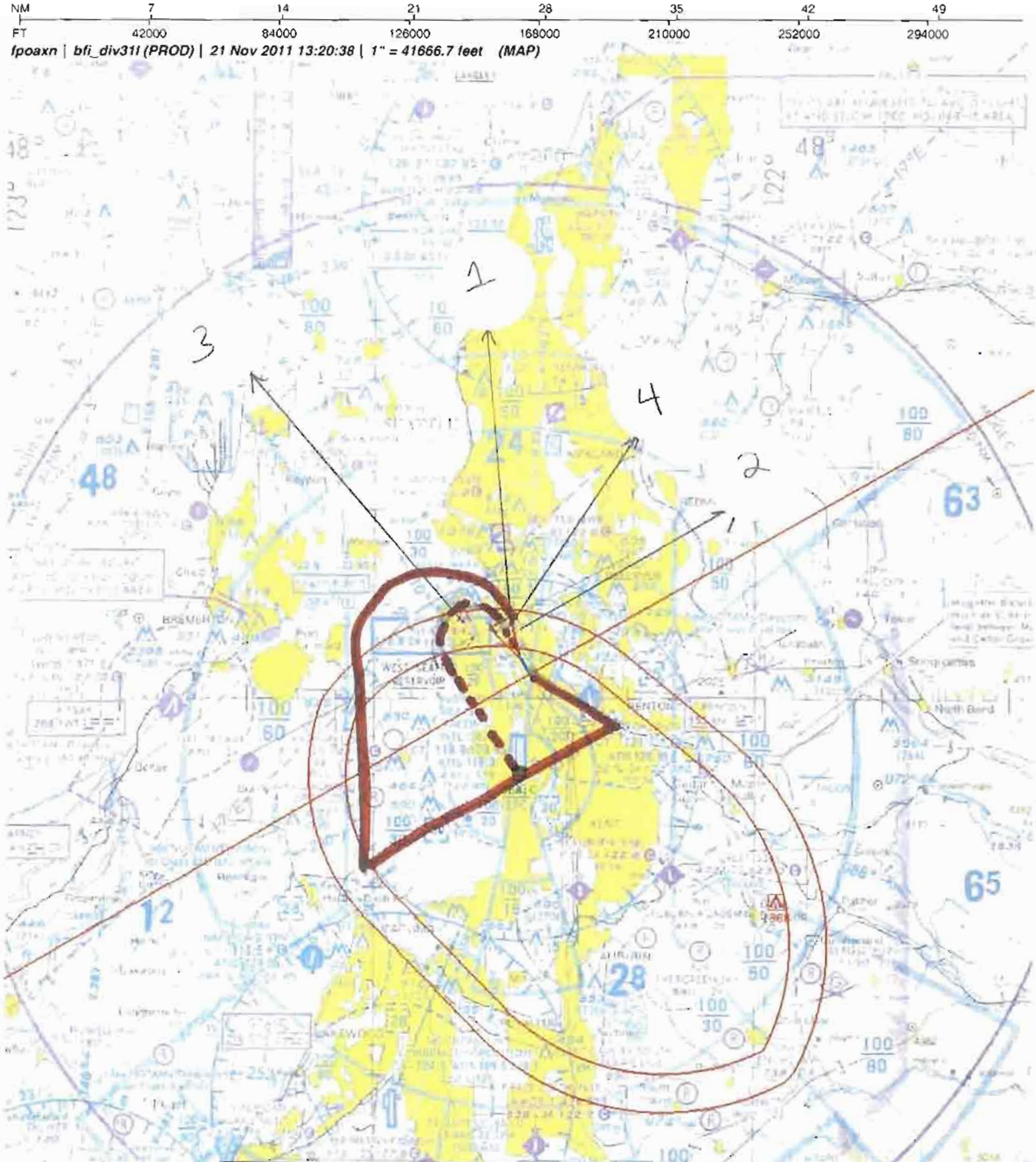
fpoaxn | bfl_vcoa (PROD) | 5 Dec 2011 11:34:36 | 1" = 41666.7 feet (MAP)



Airport ID:	KSLE	VCA			
Apt Name:	MCNARY FIELD	ID	SEGMENT	OBSTRUCTION	ELEV
City:	SALEM	1	PRELIMINARY SURFACE	TOWER	642
State:	OR	2	VCOA CTA	TOWER	696
Proc ID:	TEXTUAL DP 13L/R 31L/R	3	LEVEL SURFACE	AAO	1388
Number	7				
Scale:	1:500,000				



Airport ID:	KBFI	FM 9	RWY 31R ODP		
Apt Name:	BOEING FIELD	No	SEGMENT	OBSTRUCTION	ELEV
City:	SEATTLE	1	500 CGTA (371 CG), 400 CEILING,	TREE	362
State:	WA	2	371-CG	TREE	264
Proc ID:	TEXTUAL DP RWY 31R	3	240-CG & 800 CGTA	AAO	642
Number:	7	4	2 VISIBILITY	TREE	362
Scale:	1:500,000	5	LEVEL SURFACE	AAO	1368



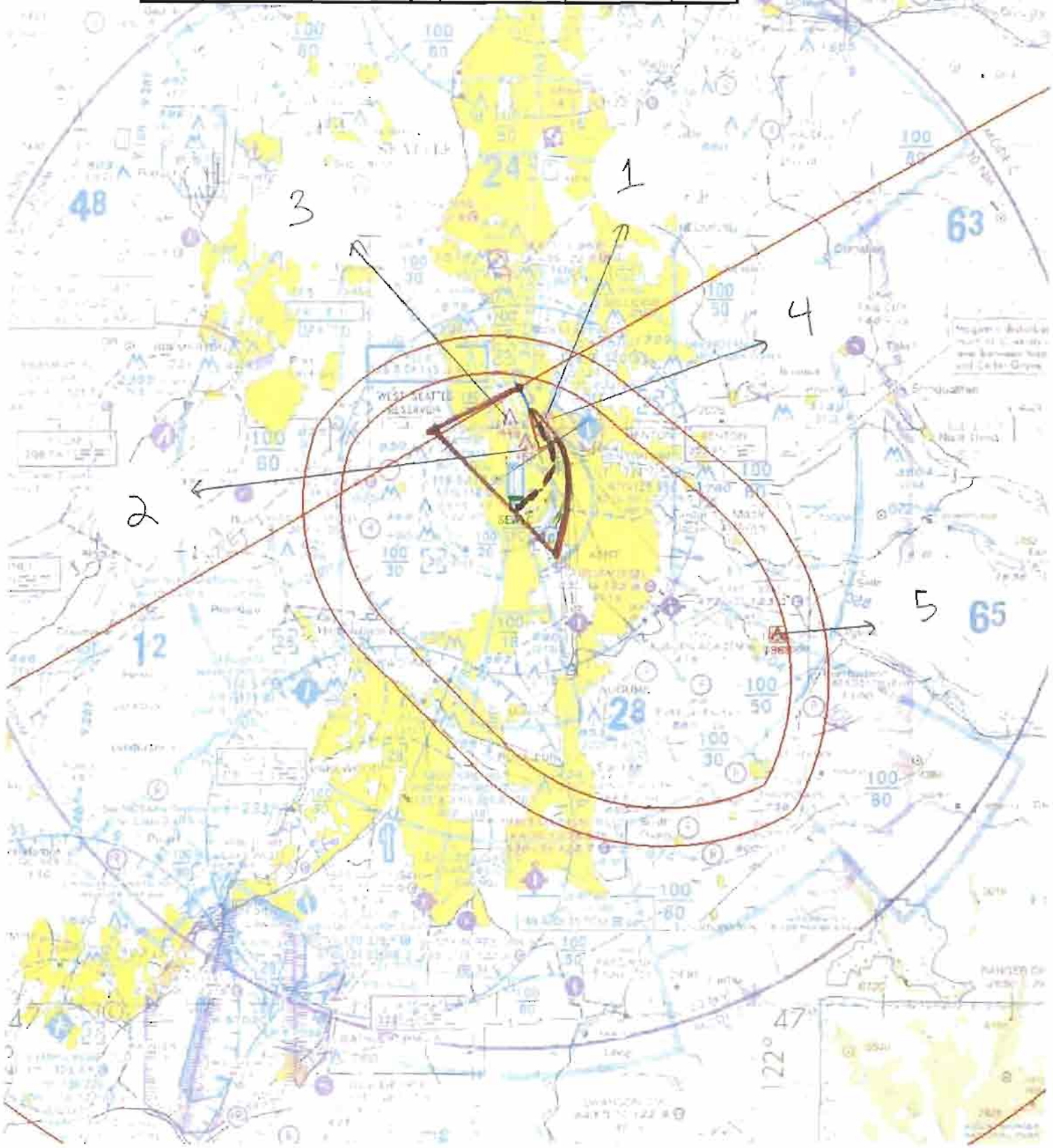
Airport ID:	KBFI	FM 9	RWY 31L ODP		
Apt Name:	BOEING FIELD	No	SEGMENT	OBSTRUCTION	ELEV
City:	SEATTLE	1	500 CGTA (480 CG)	TREE	313
State:	WA	2	480-CG	TREE	264
Proc ID:	TEXTUAL DP RWY 31L	3	265-CG & 900 CGTA	AAO	642
Number:	7	4	300 CLG, 1 1/4 VISI	TREE	280
Scale:	1:500,000	5	LEVEL SURFACE	AAO	1368

NM 7 14 21 28 35 42 49

FT 42000 84000 126000 168000 210000 252000 294000

fpoaxn | bfi div13r (PROD) | 23 Nov 2011 10:31:10 | 1" = 41666.7 feet (MAP)

Airport ID:	KBFI	FM 9	RWY 13R ODP		
Apt Name:	BOEING FIELD	No	SEGMENT	OBSTRUCTION	ELEV
City:	SEATTLE	1	504 CG & 500 CEILING	TREE	493
State:	WA	2	386 CG	TREE	460
Proc ID:	TEXTUAL DP RWY 13R	3	900 CGTA	TOWER	443
Number:	7	4	1 3/4 VISIBILITY	TREE	479
Scale:	1:500,000	5	LEVEL SURFACE	AAO	1368

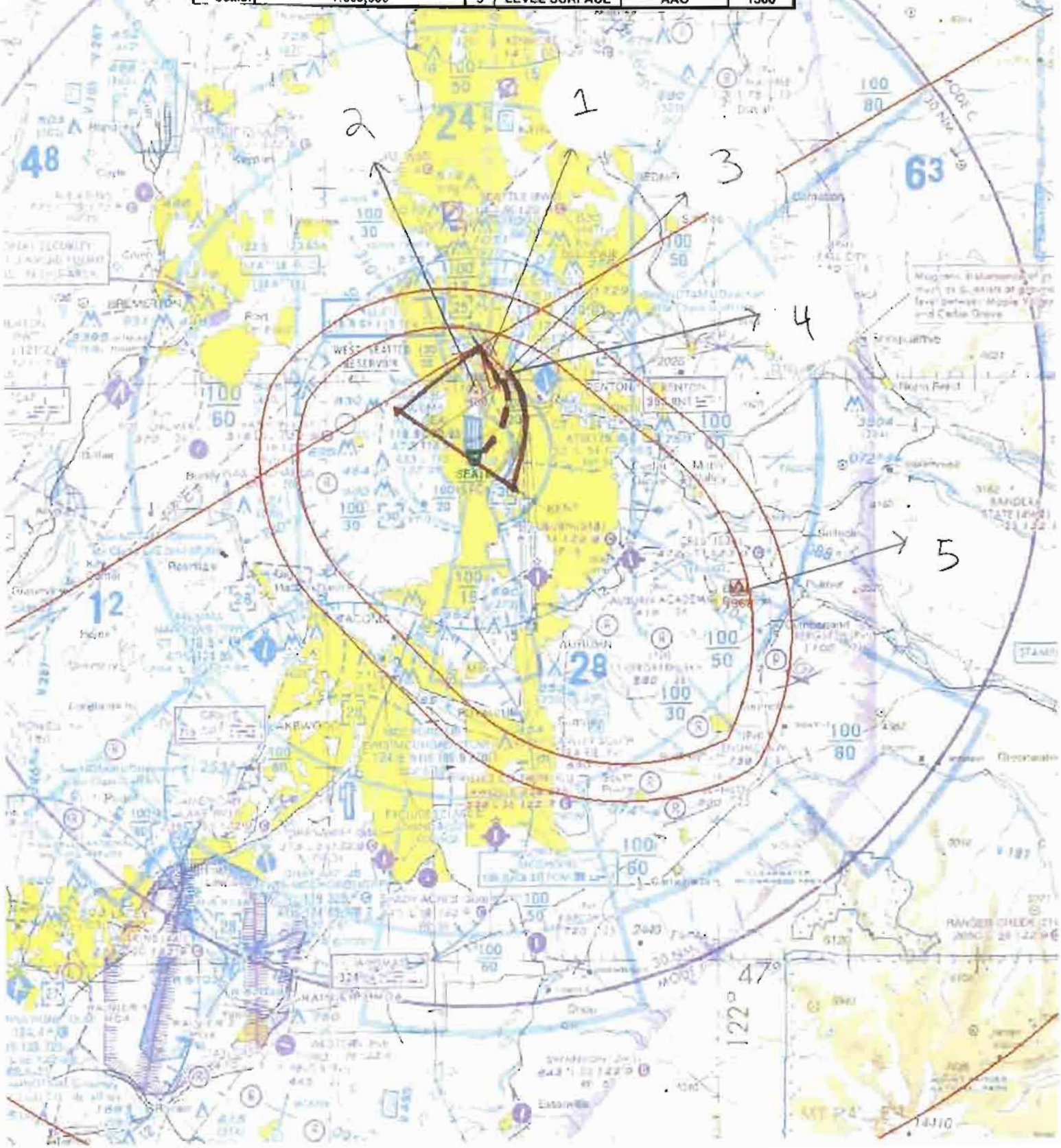


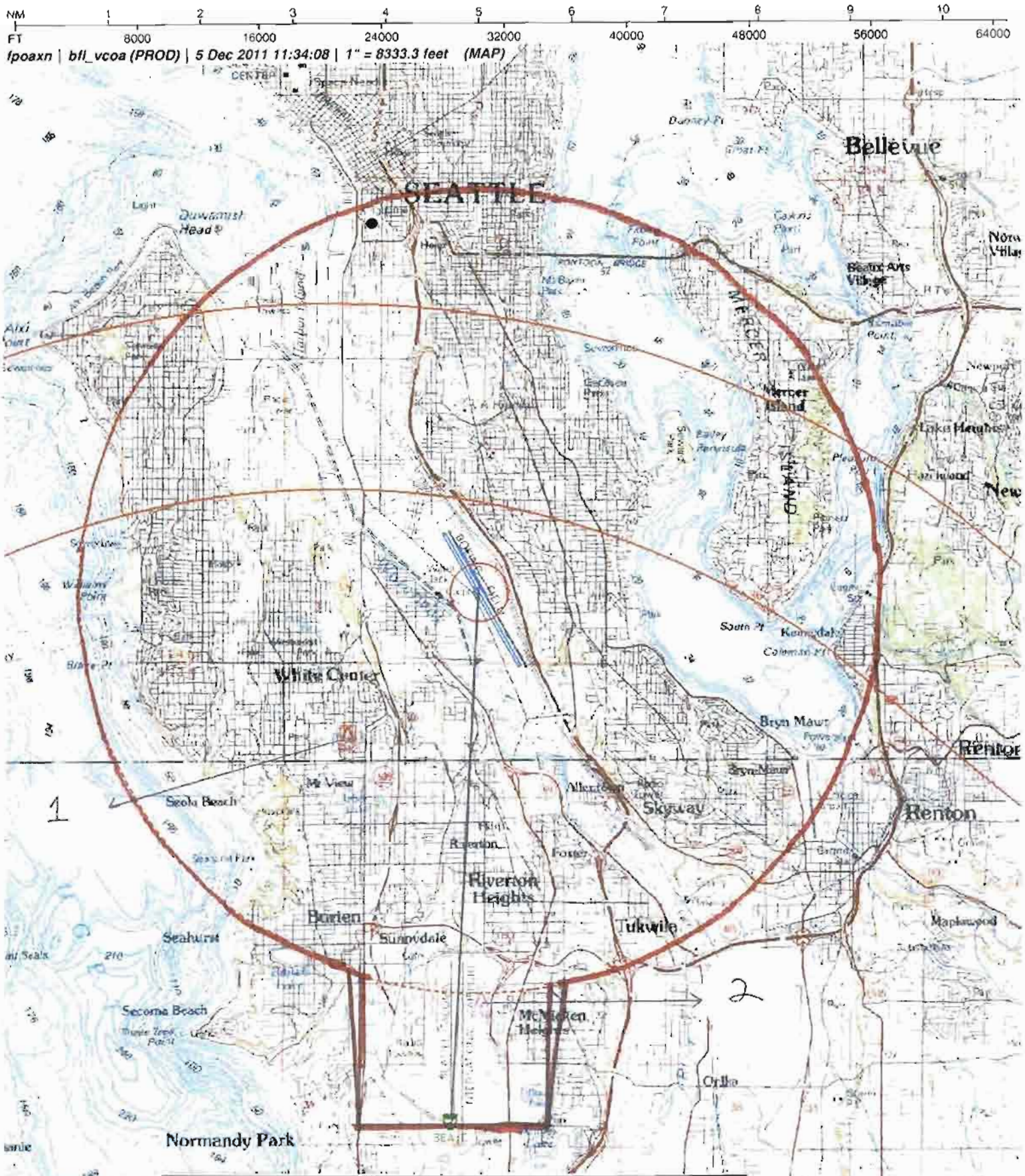
NM 7 14 21 28 35 42 49

FT 42000 84000 126000 168000 210000 252000 294000

fpoaxn | bfi_div13l (PROD) | 22 Nov 2011 16:08:06 | 1" = 41666.7 feet (MAP)

Airport ID:	KBFI	FM 9	RWY 13L ODP		
Apt Name:	BOEING FIELD	No	SEGMENT	OBSTRUCTION	ELEV
City:	SEATTLE	1	663 CG & 500 CGTA	TREE	330
State:	WA	2	250 CG & 800 CGTA	TREE	480
Proc ID:	TEXTUAL DP RWY 13L	3	500-CEILING	TREE	493
Number:	7	4	2 3/4 VISIBILITY	TREE	479
Scale:	1:500,000	5	LEVEL SURFACE	AAO	1368





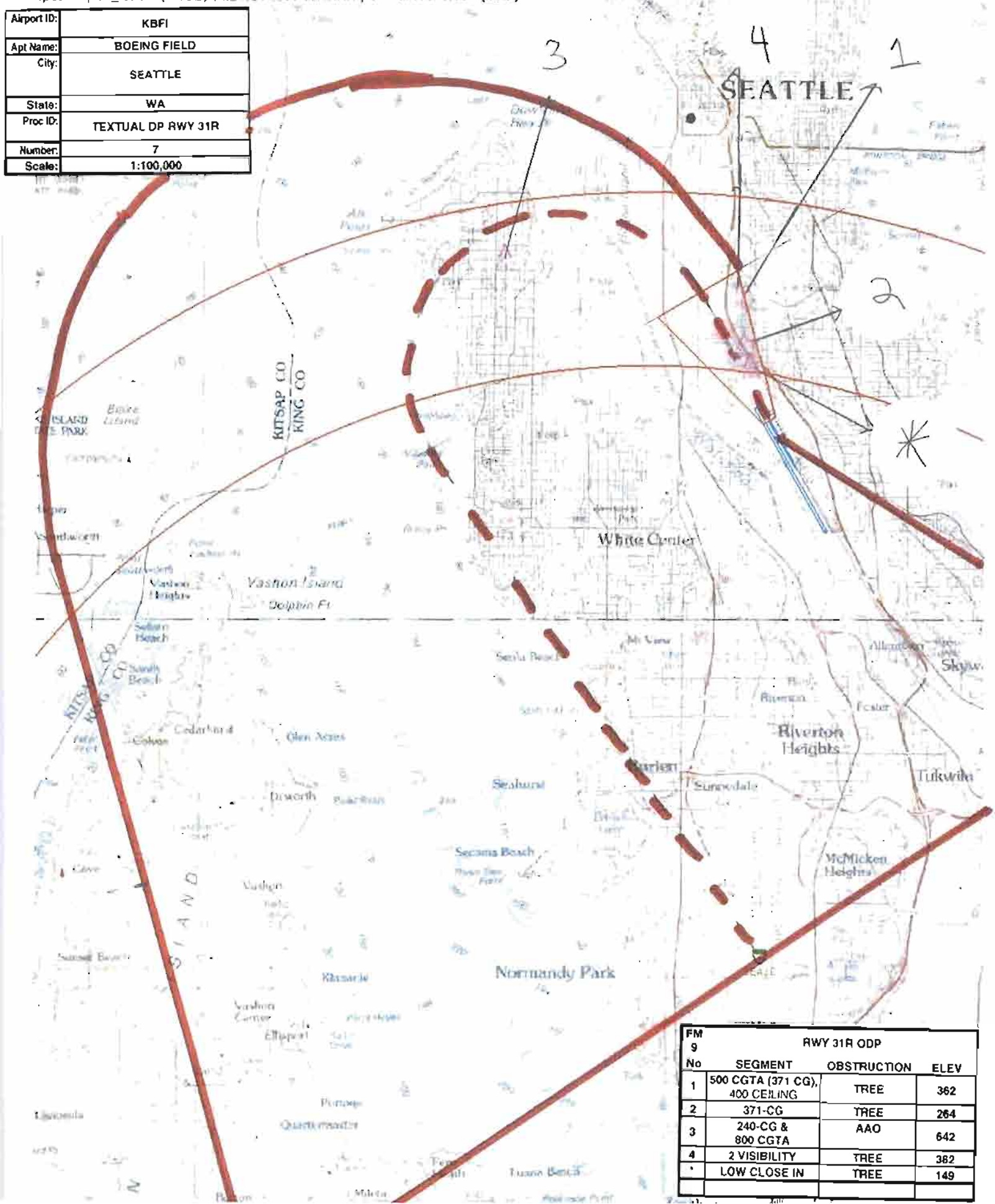
Airport ID:	KBFI	VCA			
Apt Name:	BOEING FIELD	ID	SEGMENT	OBSTRUCTION	ELEV
City:	SEATTLE	1	PRELIMINARY SURFACE	TOWER	642
State:	WA	2	VCOA CTA	TOWER	696
Proc ID:	TEXTUAL DP 13L/R 31L/R				
Number:	7				
Scale:	1:100,000				

NM 1 2 3 4 5 6 7 8 9 10

FT 8000 16000 24000 32000 40000 48000 56000 64000

fpoaxn | bfi_lca31r (PROD) | 22 Nov 2011 12:32:42 | 1" = 8333.3 feet (MAP)

Airport ID:	KBFI
Apt Name:	BOEING FIELD
City:	SEATTLE
State:	WA
Proc ID:	TEXTUAL DP RWY 31R
Number:	7
Scale:	1:100,000



FM 9

RWY 31R ODP

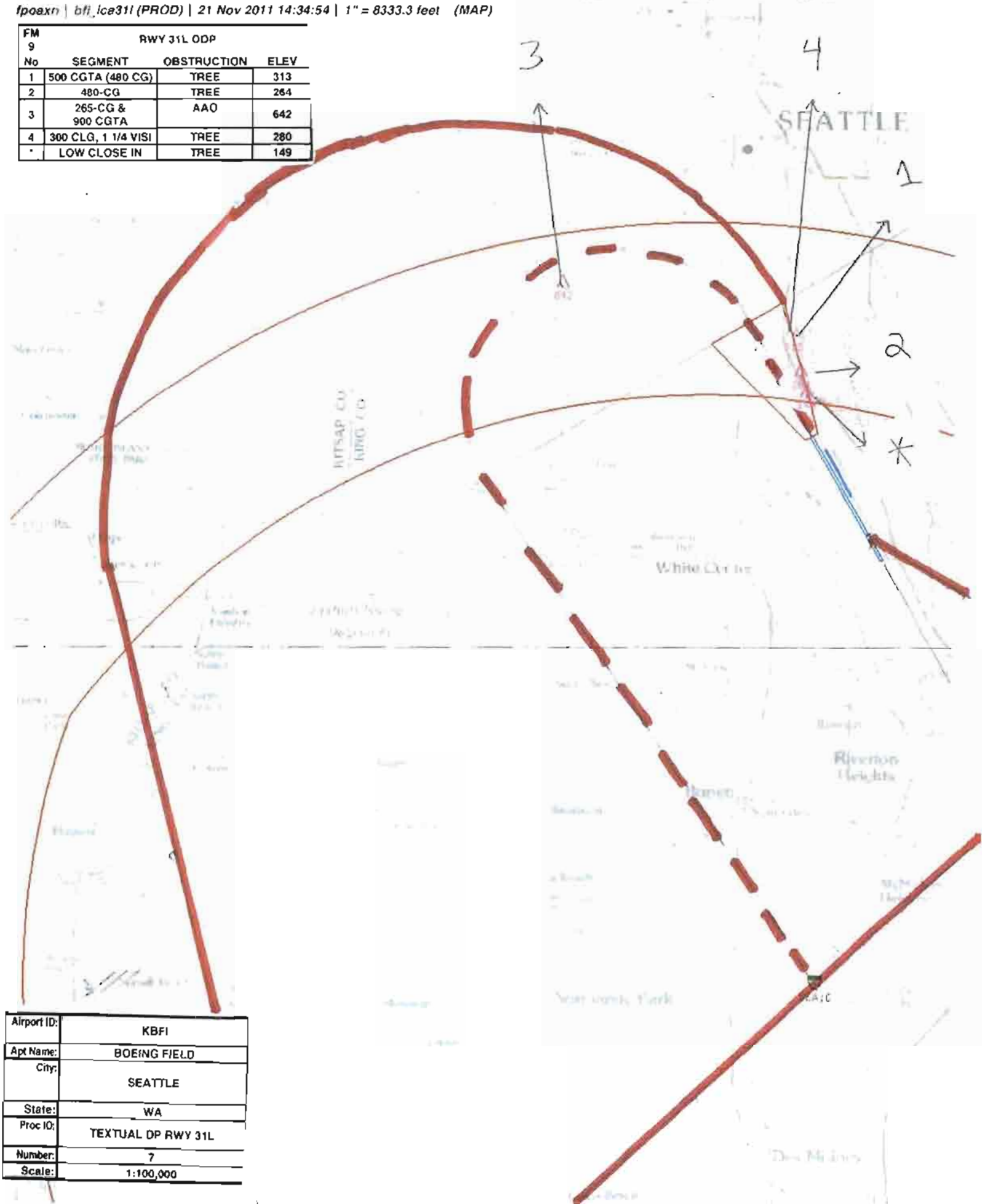
No	SEGMENT	OBSTRUCTION	ELEV
1	500 CGTA (371 CG), 400 CEILING	TREE	362
2	371-CG	TREE	264
3	240-CG & 800 CGTA	AAO	642
4	2 VISIBILITY	TREE	382
*	LOW CLOSE IN	TREE	149

NM 1 2 3 4 5 6 7 8 9 10

FT 8000 16000 24000 32000 40000 48000 56000 64000

fpoaxn | bfl_lca31l (PROD) | 21 Nov 2011 14:34:54 | 1" = 8333.3 feet (MAP)

FM 9	RWY 31L ODP		
No	SEGMENT	OBSTRUCTION	ELEV
1	500 CGTA (480 CG)	TREE	313
2	480-CG	TREE	264
3	265-CG & 900 CGTA	AAO	642
4	300 CLG, 1 1/4 VISI	TREE	280
*	LOW CLOSE IN	TREE	149



Airport ID:	KBFI
Apt Name:	BOEING FIELD
City:	SEATTLE
State:	WA
Proc ID:	TEXTUAL DP RWY 31L
Number:	7
Scale:	1:100,000

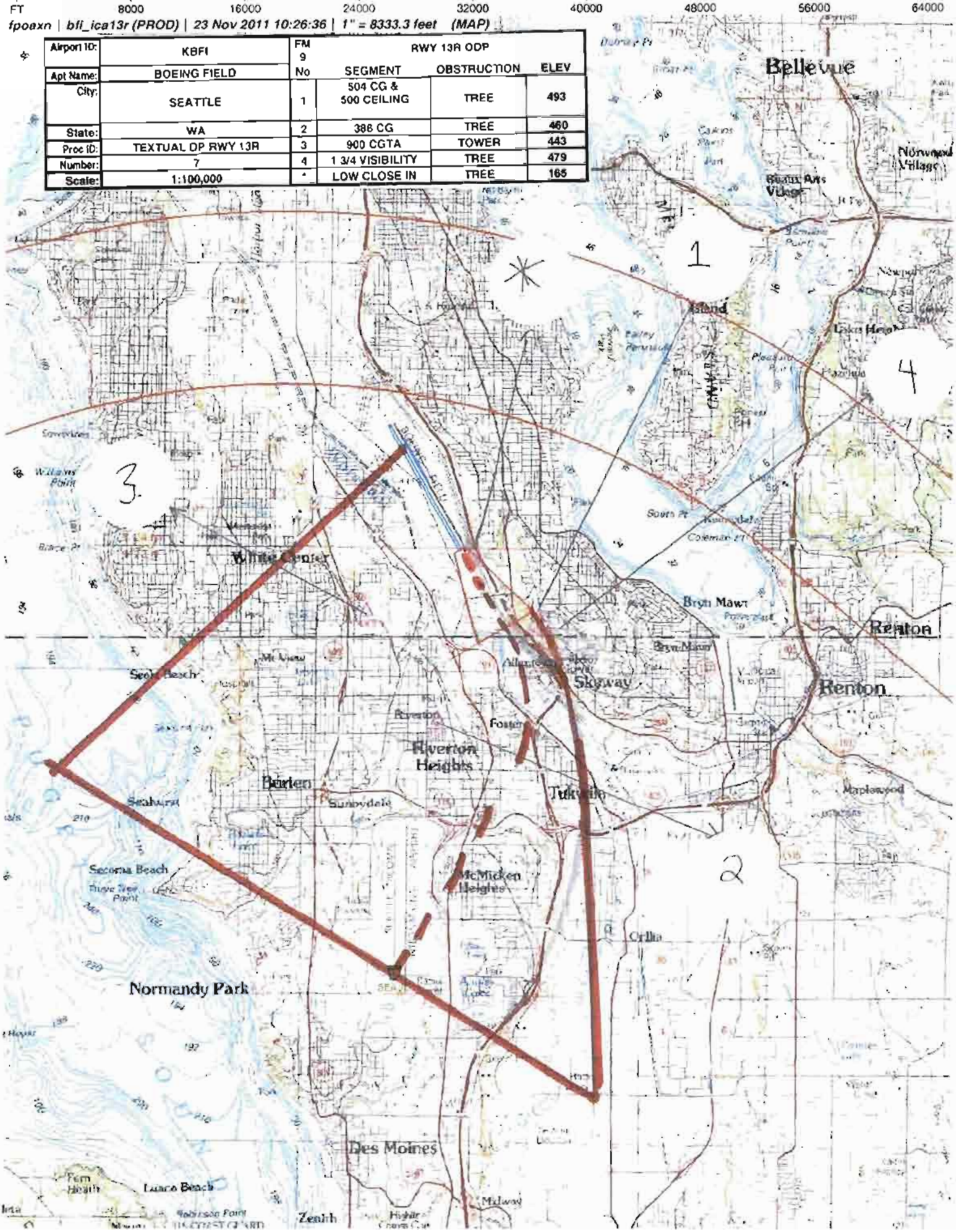
NM 1 2 3 4 5 6 7 8 9 10

FT 8000 16000 24000 32000 40000 48000 56000 64000

fpoaxn | bfi_ica13r (PROD) | 23 Nov 2011 10:26:36 | 1" = 8333.3 feet (MAP)

Airport ID:	KBFI
Apt Name:	BOEING FIELD
City:	SEATTLE
State:	WA
Proc ID:	TEXTUAL DP RWY 13R
Number:	7
Scale:	1:100,000

FM 9	RWY 13R ODP		
No	SEGMENT	OBSTRUCTION	ELEV
1	504 CG & 500 CEILING	TREE	493
2	386 CG	TREE	460
3	900 CGTA	TOWER	443
4	1 3/4 VISIBILITY	TREE	479
*	LOW CLOSE IN	TREE	165



NM 1 2 3 4 5 6 7 8 9 10

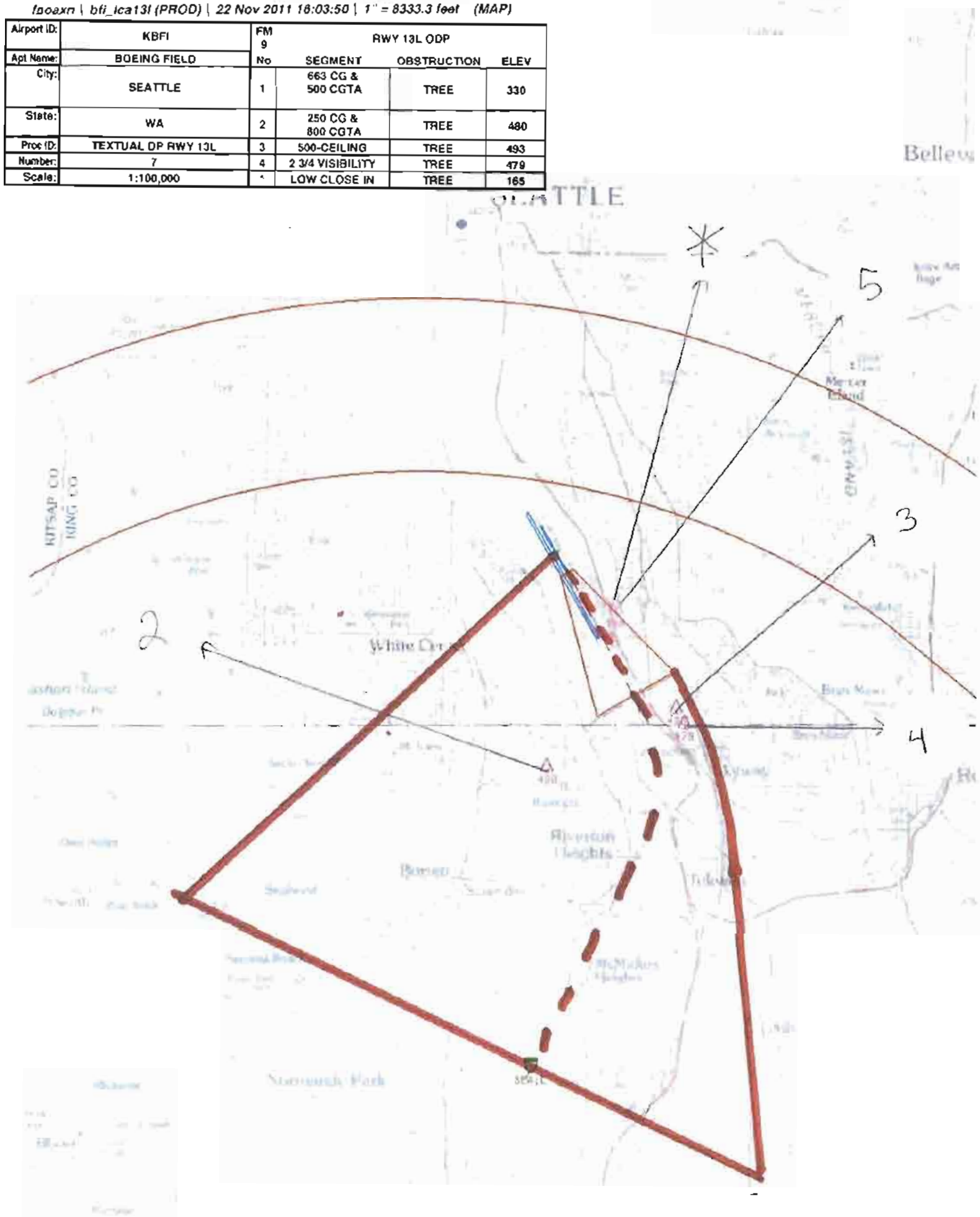
FT 8000 16000 24000 32000 40000 48000 56000 64000

fboaxn \ bfi_ica13l (PROD) \ 22 Nov 2011 16:03:50 \ 1" = 8333.3 feet (MAP)

Airport ID:	KBFI
Apt Name:	BOEING FIELD
City:	SEATTLE
State:	WA
Proc ID:	TEXTUAL DP RWY 13L
Number:	7
Scale:	1:100,000

FM 9 RWY 13L ODP

No	SEGMENT	OBSTRUCTION	ELEV
1	663 CG & 500 CGTA	TREE	330
2	250 CG & 800 CGTA	TREE	480
3	500-CEILING	TREE	493
4	2 3/4 VISIBILITY	TREE	479
*	LOW CLOSE IN	TREE	165



U.S. DEPARTMENT OF TRANSPORTATION – FEDERAL AVIATION ADMINISTRATION

TAKEOFF MINIMUMS AND OBSTACLE DEPARTURE PROCEDURES (ODP)

Bearings, headings, courses, tracks and radials are magnetic. Elevation and altitudes are in feet MSL. Altitudes are minimum altitudes unless otherwise indicated. Ceilings are in feet above airport elevation. Distances are in nautical miles. Visibilities are in statute miles or feet RVR unless otherwise indicated.

City, State	Airport	Effective Date	Amdt. No.
SEATTLE, WA	BOEING FIELD/KING COUNTY INTL		7

TAKEOFF MINIMUMS:

RWY 13L STANDARD WITH MINIMUM CLIMB OF 663 FT PER NM TO 500 OR 500-2 3/4 WITH MINIMUM CLIMB OF 250 FT PER NM TO 800, OR 1100-3 FOR CLIMB IN VISUAL CONDITIONS.
RWY 13R STANDARD WITH MINIMUM CLIMB OF 504 FT PER NM TO 900 OR 500-1 3/4 WITH MINIMUM CLIMB OF 386 FT PER NM TO 900, OR 1100-3 FOR CLIMB IN VISUAL CONDITIONS.
RWY 31L STANDARD WITH MINIMUM CLIMB OF 480 FT PER NM TO 500 OR 300-1 1/4 WITH MINIMUM CLIMB OF 265 FT PER NM TO 900, OR 1100-3 FOR CLIMB IN VISUAL CONDITIONS.
RWY 31R STANDARD WITH MINIMUM CLIMB OF 371 FT PER NM TO 500 OR 400-2 WITH MINIMUM CLIMB OF 240 FT PER NM TO 800, OR 1100-3 FOR CLIMB IN VISUAL CONDITIONS.

TEXTUAL DEPARTURE PROCEDURES:

RWY 13L: CLIMBING RIGHT TURN THENCE...
RWY 13R: CLIMBING RIGHT TURN THENCE...
RWY 31L: CLIMBING LEFT TURN THENCE...
RWY 31R: CLIMBING LEFT TURN THENCE...
.....ALL AIRCRAFT CLIMB DIRECT TO SEA VORTAC, CONTINUE CLIMB IN SEA VORTAC HOLDING PATTERN (HOLD E, LEFT TURNS, 290.00 INBOUND) TO CROSS SEA VORTAC AT OR ABOVE 3000. FOR CLIMB IN VISUAL CONDITIONS CROSS BOEING FIELD/ KING COUNTY INTL AIRPORT AT OR ABOVE 1000, THEN CLIMB TO 3000 VIA SEA R-344 TO SEA VORTAC, CONTINUE CLIMB IN SEA VORTAC HOLDING PATTERN (HOLD E, LEFT TURNS, 290.00 INBOUND) TO CROSS SEA VORTAC AT OR ABOVE 3000. WHEN EXECUTING VCOA, NOTIFY ATC PRIOR TO DEPARTURE.

TAKEOFF OBSTACLE NOTES:

NOTE: RWY13L, HANGAR 402 FT FROM DER, 411 FT LEFT OF CENTERLINE 16 FT AGL/ 32 FT MSL. BUILDING 621 FT FROM DER, 526 FT LEFT OF CENTERLINE 16 FT AGL/ 51 FT MSL. TREES BEGINNING 2475 FT FROM DER, 353 FT LEFT OF CENTERLINE, UP TO 100 FT AGL/ 362 FT MSL.

NOTE: RWY 13R, TRAIN ON TRACKS 197 FT FROM DER, 379 FT LEFT OF CENTERLINE, 23 FT AGL/ 48 FT MSL. OBSTRUCTION LIGHT ON DME 552 FT FROM DER, 304 FT RIGHT OF CENTERLINE, 16 FT AGL/ 38 FT MSL. AIRCRAFT 521 FT FROM DER, 576 FT RIGHT OF CENTERLINE, UP TO 64 FT AGL/ 96 FT MSL. TREES BEGINNING 602 FT FROM DER, LEFT AND RIGHT OF CENTERLINE, UP TO 100 FT AGL/ 411 FT MSL. VEHICLES ON ROAD, 621 FT FROM DER, 657 FT LEFT OF CENTERLINE, UP TO 15 FT AGL/ 64 FT MSL. OBSTRUCTION LIGHT ON FLOODLIGHT 837 FT FROM DER, 607 FT RIGHT OF CENTERLINE, 16 FT AGL/ 61 FT MSL. OBSTRUCTION LIGHT ON POLES, 1277 FT FROM DER, LEFT AND RIGHT OF CENTERLINE, UP TO 16 FT AGL/ 55 FT MSL. POLES 1333 FT FROM DER, 251 FT LEFT OF CENTERLINE, UP TO 16 FT AGL/ 64 FT MSL. POWERLINE, 1338 FT FROM DER, 294 FT LEFT OF CENTERLINE, 16 FT AGL/ 82 FT MSL. POWER POLE, 4014 FT FROM DER, 910 FT RIGHT OF CENTERLINE, UP TO 82 FT AGL/ 134 FT MSL.

NOTE: RWY 31L, AIRPLANE ON TAXIWAY 28 FT FROM DER, 327 FT LEFT OF CENTERLINE, UP TO 64 FT AGL/ 96 FT MSL. OBSTRUCTION LIGHT ON BLAST FENCE, 249 FT FROM DER, 452 FT LEFT OF CENTERLINE, 16 FT AGL/ 26 FT MSL. OBSTRUCTION LIGHT ON BUILDING 1217 FT FROM DER, 626 FT LEFT OF CENTERLINE, UP TO 16 FT AGL/ 101 FT MSL. VENT ON BUILDING 1244 FT FROM DER, 446 FT RIGHT OF CENTERLINE, 16 FT AGL/ 59 FT MSL. TREES BEGINNING 1456 FT FROM DER, LEFT AND RIGHT OF CENTERLINE, UP TO 100 FT AGL/ 313 FT MSL. POWERLINE 2507 FT FROM DER, 439 FT RIGHT OF CENTERLINE, 100 FT AGL/ 132 FT MSL. LIGHT STANDARD 2980 FT FROM DER, 876 FT RIGHT OF CENTERLINE, 16 FT AGL/ 99 FT MSL. FLOODLIGHTS, 3499 FT FROM DER, 1023 FT RIGHT OF CENTERLINE, UP TO 164 FT AGL/ 199 FT MSL. FLAGPOLE 3763 FT FROM DER, 1278 FT RIGHT OF CENTERLINE, UP TO 131 FT AGL/ 196 FT MSL. STACK, 3792 FT FROM DER, 543 FT RIGHT OF CENTERLINE, UP TO 16 FT AGL/ 120 FT MSL.

NOTE: RWY 31R, AIRPLANE ON TAXIWAY 5 FT FROM DER, LEFT AND RIGHT OF CENTERLINE, UP TO 64 FT AGL/ 96 FT MSL. WEATHER ROD ON OBSTRUCTION LIGHTS, 214 FT FROM DER, 99 FT LEFT OF CENTERLINE, UP TO 16 FT AGL/ 51 FT MSL. OBSTRUCTION LIGHT ON GLIDESLOPE, 527 FT FROM DER, 101 FT LEFT OF CENTERLINE, UP T0 16 FT AGL /44 FT MSL. HANGARS 854 FT FROM DER, 405 FT RIGHT OF CENTERLINE, UP TO 16 FT AGL/ 57 FT MSL. ANTENNA ON BUILDING 1425 FT FROM DER, 516 FT RIGHT OF CENTERLINE, 32 FT AGL/ 81 FT MSL. OBSTRUCTION LIGHT ON BUILDING, 2495 FT FROM DER, 1002 FT LEFT OF CENTERLINE, UP TO 16 FT AGL/ 101 FT MSL. TREES BEGINNING 2734 FT FROM DER, LEFT AND RIGHT OF CENTERLINE, UP TO 100 FT AGL/ 362 FT MSL. VEHICLES ON ROAD BEGINNING 469 FT FROM DER, 252 FT RIGHT OF CENTERLINE, 15 FT AGL/ 208 FT MSL. TREES BEGINNING 1691 FT FROM DER, 229 FT RIGHT OF CENTERLINE, UP TO 98 FT AGL/ 282 FT MSL. TREE 3238 FT FROM DER, 330 FT LEFT OF CENTERLINE, 98 FT AGL/ 288 FT MSL. FLAGPOLE 5040 FT FROM DER, 902 FT RIGHT OF CENTERLINE, 131 FT AGL/ 196 FT MSL. TRANSMISSION TOWER 1.5 NM FROM DER, 2390 FT RIGHT OF CENTERLINE, 229 FT AGL/ 350 FT MSL.

CONTROLLING OBSTACLES:

RWY 13L: 330 FT MSL TREE 473120.03N/1221716.56W, 493 FT MSL TREE 473008.69N/1221607.63W, 479 FT MSL TREE 472957.80N/1221559.24W, 480 FT MSL TREE 472928.68N/1221819.43W.
RWY 13R: 493 FT MSL TREE 473008.69N/1221607.63W, 479 FT MSL TREE 472957.80N/1221559.24W, 460 FT MSL TREE 472858.75N/1221750.96W, 443 FT MSL TOWER 473014.20N/1221903.50W.
RWY 31L: 264 FT MSL TREE 473307.25N/1221852.21W, 313 FT MSL TREE 473332.72N/1221859.82W, 280 FT MSL TREE 473326.84N/1221910.43W, 642 FT AAO 473408.02N/1222256.78W.
RWY 31R: 264 FT MSL TREE 473307.25N/1221852.21W, 362 FT MSL TREE 473342.30N/1221854.04W, 362 FT MSL TREE 473348.20N/1221859.79W, 642 FT AAO 473408.02N/1222256.78W.
VCOA: 642 FT MSL TOWER 473013.00N/1222012.00W, 696 FT MSL CONTROL TOWER 472720.55N/1221805.18W.

TAKEOFF MINIMUMS AND OBSTACLE DEPARTURE PROCEDURES (ODP)

Bearings, headings, courses, tracks and radials are magnetic. Elevation and altitudes are in feet MSL. Altitudes are minimum altitudes unless otherwise indicated. Ceilings are in feet above airport elevation. Distances are in nautical miles. Visibilities are in statute miles or feet RVR unless otherwise indicated.

City, State	Airport	Effective Date	Amdt. No.
SEATTLE, WA	BOEING FIELD/KING COUNTY INTL		7

HOLDING: RWY 13L/R, RWY 31L/R, VCOA 1368 FT AAO 471854.00N/1215815.00W.

OBSTACLE MANDATING ODP ROUTE DEVELOPMENT: RWY 13L, 13R, 31L, 31R 13,934 FT MSL AAO 465157.00N/1214621.00W.

REMARKS:

U.S. DEPARTMENT OF TRANSPORTATION – FEDERAL AVIATION ADMINISTRATION

TAKEOFF MINIMUMS AND OBSTACLE DEPARTURE PROCEDURES (ODP)

Bearings, headings, courses, tracks and radials are magnetic. Elevation and altitudes are in feet MSL. Altitudes are minimum altitudes unless otherwise indicated. Ceilings are in feet above airport elevation. Distances are in nautical miles. Visibilities are in statute miles or feet RVR unless otherwise indicated.

City, State	Airport	Effective Date	Amdt. No.
SEATTLE, WA	BOEING FIELD/KING COUNTY INTL		7

FLIGHT INSPECTED BY:

Scott A. Thompson AVN 2/28/12

REQUIRED EFFECTIVE DATE:

ROUTINE

DEVELOPED BY:

ADOLFO URRUTIA (AISHAT NAUZO) AJV-354 11/28/2011

APPROVED BY:

DEZ SILAGYI AJV-354

COORDINATED WITH:

ATA, ALPA, AOPA, NBAA, ARPT MGR, SEA ATCT, SEA ARTCC

CHANGES:

1. CHANGED RWY 13L FROM 500-3 WITH MINIMUM CLIMB OF 232 FT PER NM TO 800 , OR 1000-2 1/2 FOR CLIMB IN VISUAL CONDITIONS TO 13L STANDARD WITH MINIMUM CLIMB OF 663 FT PER NM TO 500 OR 500-2 3/4 WITH MINIMUM CLIMB OF 250 FT PER NM TO 800, OR 1100-3 FOR CLIMB IN VISUAL CONDITIONS.
2. CHANGED RWY 13R FROM STANDARD WITH A MINIMUM CLIMB OF 476 FT PER NM TO 900, OR 500-3 WITH A MINIMUM CLIMB OF 386 FT PER NM TO 900, OR 1000-2 1/2 FOR CLIMB IN VISUAL CONDITIONS TO STANDARD WITH MINIMUM CLIMB OF 504 FT PER NM TO 900 OR 500-1 3/4 WITH MINIMUM CLIMB OF 386 FT PER NM TO 900, OR 1100-3 FOR CLIMB IN VISUAL CONDITIONS.
3. CHANGED RWY 31L FROM STANDARD WITH A MINIMUM CLIMB OF 386 FT PER NM TO 800, OR 300-1 1/2 WITH MINIMUM CLIMB OF 235 FT PER NM TO 800, OR 1000-2 1/2 FOR CLIMB IN VISUAL CONDITIONS TO STANDARD WITH MINIMUM CLIMB OF 480 FT PER NM TO 500 OR 300-1 1/4 WITH MINIMUM CLIMB OF 265 FT PER NM TO 900, OR 1100-3 FOR CLIMB IN VISUAL CONDITIONS.
4. CHANGED RWY 31R FROM STANDARD WITH A MINIMUM CLIMB OF 334 FT PER NM TO 900, OR 400-1 3/4 WITH MINIMUM CLIMB OF 216 FT PER NM TO 900, OR 1000-2 1/2 FOR CLIMB IN VISUAL CONDITIONS TO STANDARD WITH MINIMUM CLIMB OF 371 FT PER NM TO 500 OR 400-2 WITH MINIMUM CLIMB OF 240 FT PER NM TO 800, OR 1100-3 FOR CLIMB IN VISUAL CONDITIONS.
5. CHANGED DEPARTURE PROCEDURE FOR CLIMB IN VISUAL CONDITIONS CROSS BOEING FIELD/ KING COUNTY INTL AIRPORT AT OR ABOVE 900 TO 1000,
6. UPDATED TAKEOFF OBSTACLE NOTES.
7. UPDATED CONTROLLING OBSTACLES.
8. EVALUATED FOR VCOA.

REASONS:

1,2,3,4, 5 8260.3B, VOLUME 4, PAR 1.4.1 AND PAR 1.4.2 TO COMPLY WITH OBSTACLE CLEARANCE REQUIREMENTS.
6 IAPA/ MAP STUDY AND PER 8260.46D APPENDIX D SECTION 1, PAR 8.
7 IAPA/ MAP STUDY AND PER 8260.46D APPENDIX D SECTION 1, PAR 9.
8 8260.3B, VOLUME 4, CHAPTER 4.

03/22/12: THIS IS A CORRECTED COPY OF THE FORM APPROVED ON 11/28/2011.
1. CHANGED AIRPORT NAME FROM BOEING TO BOEING FIELD/KING COUNTY INTL

INFO ONLY

RADIO FIX AND HOLDING DATA RECORD

NAME: SEATTLE VORTAC **STATE:** WA **COUNTRY:** US

LATITUDE/LONGITUDE: 472607.34N/1221834.62W **TYPE:**

AIRSPACE DOCKET: **FIX TYPE OF ACTION:** NO CHANGE

FIX MAKE-UP FACILITIES:

FAC	NAME	IDENT	TYPE	CLASS	MAG BRG	TRUE BRG	DME	DIST FROM FAC NM	FEET	MRA	MAA
1	SEATTLE	SEA	VORTAC	H							45000

FIX RESTRICTIONS:
MCA V120 6300 EASTBOUND
MCA V4 5200 EASTBOUND
MCA V2-298 4300 EASTBOUND

HOLDING: **HOLDING TYPE OF ACTION:** MODIFY

PATTERNS:

PAT	DIR	IDENT	TYPE	RAD/CRS/BRG	CRS INBOUND	TURN (L OR R)	LEG LENGTH TIME	DME	HOLDING ALTITUDES MIN	MAX	TEMPLATES MIN	MAX
1	E	SEA	VORTAC	104.00	284.00	R	1-1 1/2		4000	28000	4	21
2	E	SEA	VORTAC	110.00	290.00	L	1-1 1/2		3000	18000	4	16
3	SE	SEA	VORTAC	130.00	310.00	L	1-1 1/2		3000	18000	4	16
4	E	SEA	VORTAC	104.00	284.00	R	1		3000	3000	4	4

CONTROLLING OBSTRUCTIONS:

PAT	AIRSPEED	OBSTRUCTION	COORDINATES	ELEVATION	ACCURACY CODE
1	200	AAO	472706.00N/1220703.00W	837	4E
1	310	AAO	471933.00N/1215042.00W	3626	4E
2	200	AAO	472357.00N/1220809.00W	765	4E
2	310	AAO	471854.00N/1215815.00W	1368	4E
3	200	AAO	472712.00N/1221709.00W	725	4E
3	310	AAO	470754.00N/1221003.00W	1073	4E
4	200	AAO	472706.00N/1220703.00W	837	4E

REASON FOR NONSTANDARD HOLDING:
PAT 3 ATC REQUEST
PAT 2 ATC REQUEST

HOLDING RESTRICTIONS:
HOLDING LIMITED TO ESTABLISHED PATTERNS

PROCEDURES REQUIRING CLIMB-IN-HOLD:

PAT	PROCEDURE TITLE	AIRPORT IDENT	CITY	STATE
1	AUBURN	KS50	AUBURN	WA (US)
2	RENTN	KRNT	RENTON	WA (US)
2	TAKEOFF MINIMUMS	KRNT	RENTON	WA (US)
2	TAKEOFF MINIMUMS	KBFI	SEATTLE	WA (US)
2	KENT	KBFI	SEATTLE	WA (US)
2	NEEDLE	KBFI	SEATTLE	WA (US)
3	TAKEOFF MINIMUMS	KSEA	SEATTLE	WA (US)

REMARKS:
PRECIPITOUS TERRAIN EVALUATION COMPLETED.
HOLDING PAT 1 (310 KNOT) CTRL OBST IS IN SECONDARY AREA AND HAS A PRIMARY EQUIVALENT HEIGHT OF 2932.
PAT 1 MAX ALTITUDE AT ATC REQUEST.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
DP	PORTLAND			KPDX	PORTLAND	OR (US)
DP	RIVER			KPDX	PORTLAND	OR (US)
DP	AUBURN		1, 4	KS50	AUBURN	WA (US)
DP	PAINE			KPAE	EVERETT	WA (US)
DP	YELM			KOLM	OLYMPIA	WA (US)
DP	WATTR			KCLM	PORT ANGELES	WA (US)
DP	TAKEOFF MINIMUMS			KPLU	PUYALLUP	WA (US)
DP	RENTN		2	KRNT	RENTON	WA (US)
DP	TAKEOFF MINIMUMS		2	KRNT	RENTON	WA (US)
DP	KENT		2	KBFI	SEATTLE	WA (US)
DP	NEEDLE		2	KBFI	SEATTLE	WA (US)
DP	TAKEOFF MINIMUMS		2	KBFI	SEATTLE	WA (US)
DP	BANGR (RNAV)			KSEA	SEATTLE	WA (US)
DP	ELMAA			KSEA	SEATTLE	WA (US)
DP	HAROB (RNAV)			KSEA	SEATTLE	WA (US)
DP	KMORE (RNAV)			KSEA	SEATTLE	WA (US)
DP	KTSAP (RNAV)			KSEA	SEATTLE	WA (US)
DP	MOUNTAIN			KSEA	SEATTLE	WA (US)
DP	SEATTLE			KSEA	SEATTLE	WA (US)
DP	SUMMA			KSEA	SEATTLE	WA (US)

QUALITY CHECKED

DP	TAKEOFF MINIMUMS	3	KSEA	SEATTLE	WA (US)
DP	NARROWS		KTIW	TACOMA	WA (US)
DP	TAKEOFF MINIMUMS		KTIW	TACOMA	WA (US)
DP	NACHES		KYKM	YAKIMA	WA (US)
EN ROUTE	J1				(US)
EN ROUTE	J12				(US)
EN ROUTE	J12-70-90				(US)
EN ROUTE	J189				(US)
EN ROUTE	J20				(US)
EN ROUTE	J5				(US)
EN ROUTE	J502				(US)
EN ROUTE	J503				(US)
EN ROUTE	J505				(US)
EN ROUTE	J523				(US)
EN ROUTE	J65				(US)
EN ROUTE	J70				(US)
EN ROUTE	V120				(US)
EN ROUTE	V2-298				(US)
EN ROUTE	V23				(US)
EN ROUTE	V27				(US)
EN ROUTE	V4				(US)
EN ROUTE	V4-495				(US)
EN ROUTE	V495				(US)
IAP	ILS OR LOC RWY 19		KPWT	BREMERTON	WA (US)
IAP	RNAV (GPS) RWY 34L		KPAE	EVERETT	WA (US)
IAP	ILS OR LOC RWY 15		KGRF	FORT LEWIS	WA (US)
IAP	NDB RWY 15		KGRF	FORT LEWIS	WA (US)
IAP	NDB RWY 33		KGRF	FORT LEWIS	WA (US)
IAP	RNAV (GPS) RWY 15		KGRF	FORT LEWIS	WA (US)
IAP	RNAV (GPS) RWY 17		KOLM	OLYMPIA	WA (US)
IAP	ILS OR LOC RWY 8		KCLM	PORT ANGELES	WA (US)
IAP	NDB RWY 16		KRNT	RENTON	WA (US)
IAP	HARBOR VISUAL RWY 13R		KBFI	SEATTLE	WA (US)
IAP	ILS RWY 13R		KBFI	SEATTLE	WA (US)
IAP	ILS RWY 31L		KBFI	SEATTLE	WA (US)
IAP	LOC/DME RWY 13R		KBFI	SEATTLE	WA (US)
IAP	ALKI VISUAL RWY 16R		KSEA	SEATTLE	WA (US)
IAP	BAY VISUAL RWY 16C		KSEA	SEATTLE	WA (US)
IAP	COMMONS VISUAL RWY 34R		KSEA	SEATTLE	WA (US)
IAP	DAWG VISUAL RWY 16R		KSEA	SEATTLE	WA (US)
IAP	ELLIOTT VISUAL RWY 16L		KSEA	SEATTLE	WA (US)
IAP	HUSKY VISUAL RWY 16C		KSEA	SEATTLE	WA (US)
IAP	ILS OR LOC RWY 16C		KSEA	SEATTLE	WA (US)
IAP	ILS OR LOC RWY 16L		KSEA	SEATTLE	WA (US)
IAP	ILS OR LOC RWY 16R		KSEA	SEATTLE	WA (US)
IAP	ILS OR LOC/DME RWY 34C		KSEA	SEATTLE	WA (US)
IAP	ILS OR LOC/DME RWY 34R		KSEA	SEATTLE	WA (US)
IAP	ILS RWY 16C (CAT II)		KSEA	SEATTLE	WA (US)
IAP	ILS RWY 16C (CAT III)		KSEA	SEATTLE	WA (US)
IAP	ILS RWY 16L (CAT II)		KSEA	SEATTLE	WA (US)
IAP	ILS RWY 16L (CAT III)		KSEA	SEATTLE	WA (US)
IAP	ILS RWY 16R (CAT II)		KSEA	SEATTLE	WA (US)
IAP	ILS RWY 16R (CAT III)		KSEA	SEATTLE	WA (US)
IAP	ILS RWY 34C (CAT II)		KSEA	SEATTLE	WA (US)
IAP	ILS RWY 34R (CAT II)		KSEA	SEATTLE	WA (US)
IAP	MALL VISUAL RWY 34C		KSEA	SEATTLE	WA (US)
IAP	SALTY VISUAL RWY 34L		KSEA	SEATTLE	WA (US)
IAP	STADIUM VISUAL RWY 16L		KSEA	SEATTLE	WA (US)
IAP	VOR/DME RWY 16L/C		KSEA	SEATTLE	WA (US)
IAP	VOR/DME RWY 34C		KSEA	SEATTLE	WA (US)
IAP	ILS RWY17		KTIW	TACOMA	WA (US)
IAP	NDB RWY 35		KTIW	TACOMA	WA (US)
STAR	HELNS		KPDX	PORTLAND	OR (US)
STAR	JAWBN		KBFI	SEATTLE	WA (US)
STAR	CHINS		KSEA	SEATTLE	WA (US)
STAR	EPHRATA		KSEA	SEATTLE	WA (US)
STAR	GLASR		KSEA	SEATTLE	WA (US)
STAR	JAWBN		KSEA	SEATTLE	WA (US)
STAR	OLYMPIA		KSEA	SEATTLE	WA (US)
STAR	ARRIE		KTCM	TACOMA	WA (US)
STAR	WHYTE		KTCM	TACOMA	WA (US)

REQUIRED CHARTING: DP, STAR, MILITARY IAP, IAP, CONTROLLER, EN ROUTE LOW, EN ROUTE HIGH

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 16 **DATE OF REVISION:**

QUALITY CHECKED

REASON FOR REVISION:
UPDATED PAT 1/4 200 KNOT OBSTACLES FROM 870 AAO TO 837 AAO.

DEVELOPED BY: **DATE:** 01/31/2011 **OFFICE:** AVN-130 **NAME:** ADOLFO URRUTIA (RODNEY TEMPLETON)

APPROVED BY: **DATE:** **OFFICE:** AVN-130 **NAME:** DEZ SILAGYI

INFO ONLY

SIGNATURE:

DISTRIBUTION:

NFDC
FPO: WST
ARTCC: ZSE
ATC FACILITY: SEA APP CON
OTHER:

QUALITY CHECKED

Federal Aviation Administration

Memorandum

Date:

To: Leslie H. Smith, Manager, Flight Technologies and Procedures Division
THRU: Stacey L. Zinke-McKee, Manager, Flight Procedure Implementation & Oversight Branch

From: Wade EK Terrell Lead, Production Integration Coordination Team, AJV-34

Reply To Attn Of: Wade EK Terrell
(405) 954-7370
FAX (405) 954-1301

Subject: **ACTION:** Approval Request

TAKEOFF MINIMUMS AND OBSTACLE DEPARTURE PROCEDURES RWY 13R Boeing Field/ King County Intl, Seattle, WA (KBFI)

Climb gradient exceeds 500 feet per NM, 8260.46c, Para. 10e(2).

The computed climb gradient with standard takeoff minima is 504 feet per NM to an altitude 879 feet above airport elevation. The obstacle driving this climb gradient is a 493 FT MSL TREE (100' worst case vegetation obstacle), located 7625 ft from RWY 13R DER. Alternatively, aircraft may depart with a climb gradient of 386 feet per NM with a 500 foot ceiling and 1 3/4 miles visibility.

Request approval to publish a minimum climb gradient of 504 feet per NM to 900.

Adverse assumption obstacles and rising terrain with vegetation make it impossible to design a departure procedure that avoids all possible penetrations.

Please respond as soon as possible.

Calculations see attached calculations and dep 99 pg:

Federal Aviation Administration

Memorandum

Date:

To: Leslie H. Smith, Manager, Flight Technologies and Procedures Division
THRU: Stacey L. Zinke-McKee, Manager, Flight Procedure Implementation & Oversight Branch

From: Wade EK Terrell Lead, Production Integration Coordination Team, AJV-34

Reply To Attn Of: Wade EK Terrell
(405) 954-7370
FAX (405) 954-1301

Subject: **ACTION:** Approval Request

TAKEOFF MINIMUMS AND OBSTACLE DEPARTURE PROCEDURES RWY 13L Boeing Field/ King County Intl, Seattle, WA (KBFI)

Climb gradient exceeds 500 feet per NM, 8260.46c, Para. 10e(2).

The computed climb gradient with standard takeoff minima is 663 feet per NM to an altitude 479 feet above airport elevation. The obstacle driving this climb gradient is a 330 FT MSL TREE (100' worst case vegetation obstacle), located 3916 ft from RWY 13L DER. Alternatively, aircraft may depart with a climb gradient of 250 feet per NM with a 500 foot ceiling and when visibility is at least 2 3/4 miles.

Request approval to publish a minimum climb gradient of 663 feet per NM to 500.

Adverse assumption obstacles and rising terrain with vegetation make it impossible to design a departure procedure that avoids all possible penetrations.

Please respond as soon as possible.

Attachments:
Calculations see attached calculations and dep 99 pg: