

# TILLT RNAV

## Point Of Contact

Organization Name - Southern California Metroplex

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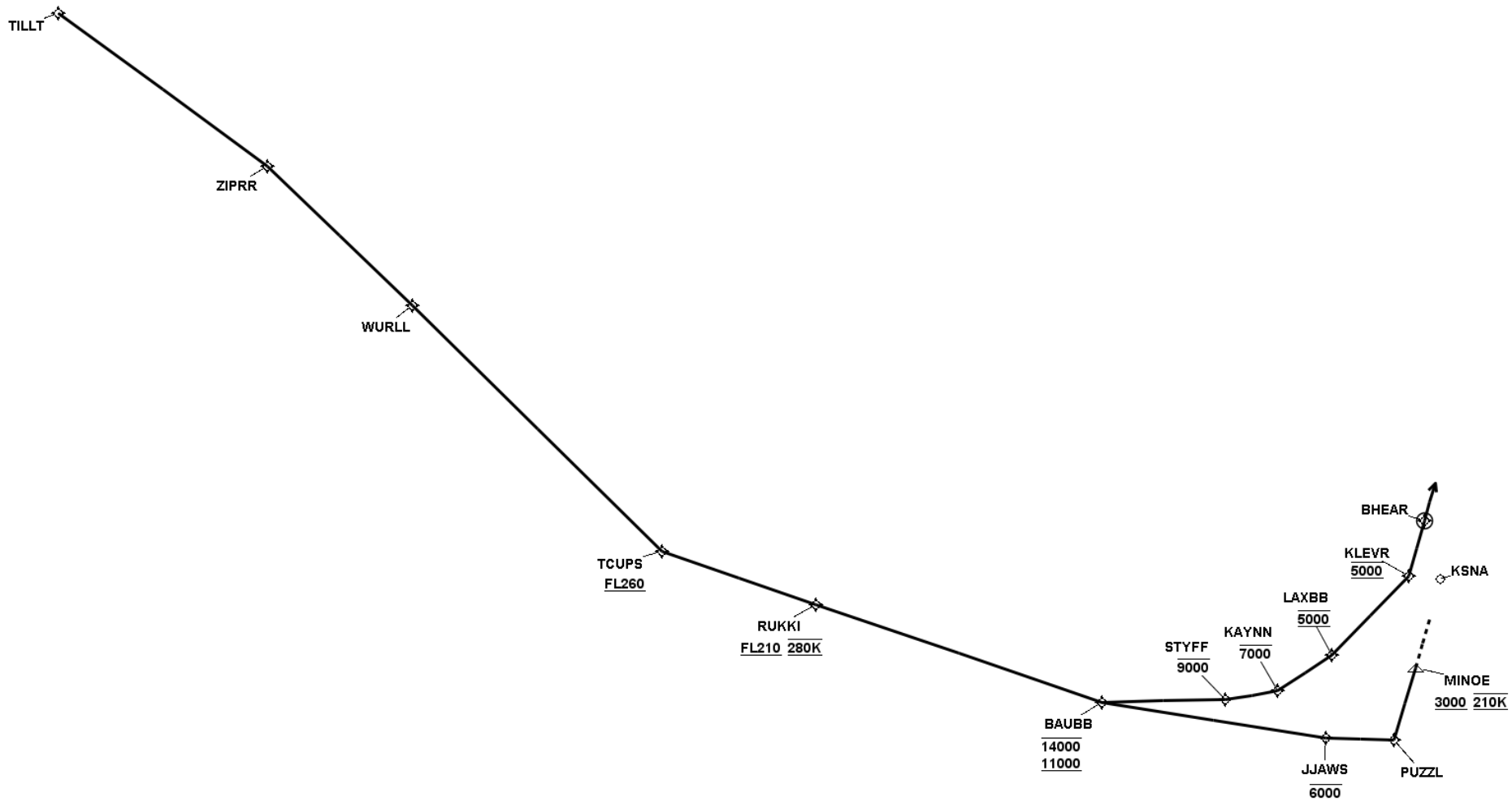
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## TARGETS Distribution Package

Version:5.0.5

Date: Tue Apr 12 12:35:05 PDT 2016



TILLT RNAV

### Common Route Data - TILLT

DB	End Point	Latitude (D° M' S.ss")	Longitude (D° M' S.ss")	FO/FB	Leg	TC	MC	Distance	Altitude	Speed	MEA	MOCA	Arc Center Lat (D° M' S.ss")	Arc Center Lon (D° M' S.ss")	Arc Radius (NM)
	TILLT WP	N35 27 13.22	W121 00 03.51		IF										
	ZIPRR WP	N35 02 44.53	W120 33 42.86	FB	TF	138.43	126.43	32.60			17000	4100			
	WURLL WP	N34 41 33.87	W120 16 36.17	FB	TF	146.26	134.26	25.40			17000	4200			
	TCUPS WP	N34 04 31.05	W119 47 09.64	FB	TF	146.48	134.48	44.29	+26000		17000	5100			
	RUKKI WP	N33 53 53.00	W119 25 59.00	FB	TF	120.98	108.98	20.56	+21000	280	17000	4700			
	BAUBB WP	N33 34 18.00	W118 46 29.11	FB	TF	120.50	108.50	38.30	+11000 -14000		11000	2300			

### Runway Transition Data - KSNA:RW02L

DB	End Point	Latitude (D° M' S.ss")	Longitude (D° M' S.ss")	FO/FB	Leg	TC	MC	Distance	Altitude	Speed	MEA	MOCA	Arc Center Lat (D° M' S.ss")	Arc Center Lon (D° M' S.ss")	Arc Radius (NM)
	BAUBB WP	N33 34 18.00	W118 46 29.11		IF				+11000 -14000						
	JJAWS WP	N33 23 55.53	W118 14 11.85	FB	TF	110.83	98.83	28.92	-6000		4100	4100			
	PUZZL WP	N33 21 52.78	W118 04 06.49	FB	TF	103.54	91.54	8.69			3000	2300			
AVNIS	MINOE WP	N33 30 15.37	W117 58 38.10	FB	TF	28.69	16.69	9.53	+3000	210	3000	2300			

### Runway Transition Data - KSNA:RW20R

DB	End Point	Latitude (D° M' S.ss")	Longitude (D° M' S.ss")	FO/FB	Leg	TC	MC	Distance	Altitude	Speed	MEA	MOCA	Arc Center Lat (D° M' S.ss")	Arc Center Lon (D° M' S.ss")	Arc Radius (NM)
	BAUBB WP	N33 34 18.00	W118 46 29.11		IF				+11000 -14000						
	STYFF WP	N33 31 18.00	W118 27 56.40	FB	TF	100.85	88.85	15.79	-9000		5000	3400			
	KAYNN WP	N33 31 05.60	W118 19 55.30	FB	TF	91.73	79.73	6.71	-7000		5000	2600			
	LAXBB WP	N33 34 03.00	W118 10 40.80	FB	TF	69.05	57.05	8.27	5000		5000	2300			
	KLEVR WP	N33 41 47.70	W117 56 45.74	FB	TF	56.30	44.30	13.96	5000		5000	2400			
	BHEAR WP	N33 48 13.55	W117 52 41.17	FO	TF	27.88	15.88	7.26			5000	2700			
	BHEAR WP	N33 48 13.55	W117 52 41.17		FM	27.88	15.88								

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## Waypoint Data

DB	Waypoint	Arc Center	Lat-Long (DMS.S)	Latitude (Deg)	Longitude (Deg)	Latitude (D°, M.mm')	Longitude (D°, M.mm')	Latitude (D° M' S.ss")	Longitude (D° M' S.ss")
	BAUBB WP		333418.00N-1184629.11W	N 33.5716667	W 118.7747517	N33 34.300	W118 46.485	N33 34 18.00	W118 46 29.11
	BHEAR WP		334813.55N-1175241.17W	N 33.8037647	W 117.8781037	N33 48.226	W117 52.686	N33 48 13.55	W117 52 41.17
	JJAWS WP		332355.53N-1181411.85W	N 33.3987582	W 118.2366247	N33 23.925	W118 14.197	N33 23 55.53	W118 14 11.85
	KAYNN WP		333105.60N-1181955.30W	N 33.5182222	W 118.3320278	N33 31.093	W118 19.922	N33 31 05.60	W118 19 55.30
	KLEVR WP		334147.70N-1175645.74W	N 33.6965825	W 117.9460383	N33 41.795	W117 56.762	N33 41 47.70	W117 56 45.74
	LAXBB WP		333403.00N-1181040.80W	N 33.5675000	W 118.1780000	N33 34.050	W118 10.680	N33 34 03.00	W118 10 40.80
AVNIS	MINOE WP		333015.37N-1175838.10W	N 33.5042694	W 117.9772500	N33 30.256	W117 58.635	N33 30 15.37	W117 58 38.10
	PUZZL WP		332152.78N-1180406.49W	N 33.3646614	W 118.0684701	N33 21.880	W118 04.108	N33 21 52.78	W118 04 06.49
	RUKKI WP		335353.00N-1192559.00W	N 33.8980556	W 119.4330556	N33 53.883	W119 25.983	N33 53 53.00	W119 25 59.00
	STYFF WP		333118.00N-1182756.40W	N 33.5216667	W 118.4656667	N33 31.300	W118 27.940	N33 31 18.00	W118 27 56.40
	TCUPS WP		340431.05N-1194709.64W	N 34.0752914	W 119.7860122	N34 04.517	W119 47.161	N34 04 31.05	W119 47 09.64
	TILLT WP		352713.22N-1210003.51W	N 35.4536736	W 121.0009738	N35 27.220	W121 00.058	N35 27 13.22	W121 00 03.51
NFDC	UTI VOR/DME		370103.43N-1133104.44W	N 37.0176194	W 113.5179000	N37 01.057	W113 31.074	N37 01 03.43	W113 31 04.44
	WURLL WP		344133.87N-1201636.17W	N 34.6927403	W 120.2767132	N34 41.564	W120 16.603	N34 41 33.87	W120 16 36.17
	ZIPRR WP		350244.53N-1203342.86W	N 35.0457021	W 120.5619054	N35 02.742	W120 33.714	N35 02 44.53	W120 33 42.86

## RS Results TILLT

Last Evaluation: 12-Apr-2016 12:33:18  
Reference Software Version: 1.5.3

### Route Evaluation for TILLT:KSNA:RW02L

#### TILLT:KSNA:RW02L Evaluation Results Part 1/2

Leg Tp	End Pt	Turn Tp	Alt Restr	Alt Restr 2	Spd Restr	Turn Ang	Leg Length	Min Seg Length
IF	TILLT						0.0	0.0
TF	ZIPRR	FLY_BY				7.57	32.6	1.0
TF	WURLL	FLY_BY				0.06	25.4	1.0
TF	TCUPS	FLY_BY	+26000.0			25.78	44.29	12.17
TF	RUKKI	FLY_BY	+21000.0		280.0	0.68	20.56	12.17
TF	BAUBB	FLY_BY	+11000.0	-14000.0		10.04	38.3	2.64
TF	JJAWS	FLY_BY	-6000.0			7.59	28.92	2.64
TF	PUZZL	FLY_BY				74.94	8.69	2.71
TF	MINOE	FLY_BY	+3000.0		210.0	0.88	9.53	2.71

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## TILLT:KSNA:RW02L Evaluation Results Part 2/2

Leg Tp	End Pt	Turn Tp	DTA1	DTA1 Turn Rad	DTA1 Turn Alt	DTA1 Turn Spd	DTA1 Bank Ang	DTA1 Tailwind	DTA1 True Airspd	DTA1 vGround	DTA2	DTA2 Turn Rad	DTA2 Turn Alt	DTA2 Turn Spd	DTA2 Bank Ang	DTA2 Tailwind	DTA2 True Airspd	DTA2 vGround
IF	TILLT				0.0	0.0							0.0	0.0				
TF	ZIPRR	FLY_BY	0.0		41000.0	300.0	0.0	128.0	629.0	570.0	3.58	54.11	41000.0	300.0	5.0	128.0	629.0	570.0
TF	WURLL	FLY_BY	3.58	54.11	41000.0	300.0	5.0	128.0	629.0	570.0	0.03	54.11	39019.06	300.0	5.0	124.0	604.0	570.0
TF	TCUPS	FLY_BY	0.03	54.11	39019.06	300.0	5.0	124.0	604.0	570.0	12.17	53.17	27946.79	300.0	5.0	102.0	487.0	565.0
TF	RUKKI	FLY_BY	12.17	53.17	27946.79	300.0	5.0	102.0	487.0	565.0	0.26	44.0	22806.4	280.0	5.0	92.0	415.0	514.0
TF	BAUBB	FLY_BY	0.26	44.0	22806.4	280.0	5.0	92.0	415.0	514.0	2.64	30.11	13230.49	280.0	5.02	73.0	353.0	426.0
TF	JJAWS	FLY_BY	2.64	30.11	13230.49	280.0	5.02	73.0	353.0	426.0	1.68	25.41	6000.0	250.0	3.79	59.0	281.0	340.0
TF	PUZZL	FLY_BY	1.68	25.41	6000.0	250.0	3.79	59.0	281.0	340.0	2.71	3.53	5383.31	250.0	25.0	58.0	278.0	336.0
TF	MINOE	FLY_BY	2.71	3.53	5383.31	250.0	25.0	58.0	278.0	336.0	0.49	64.52	3000.0	210.0	1.0	53.0	225.0	278.0

## TILLT:KSNA:RW02L Obstacle Evaluation

Start Pt	End Pt	Name	Source	AC (H/V) (ft) AMSL	Lat	Long	Height (ft) AMSL	Mnts Area	Pri/Sec Area	ROC (ft)	WCVH (ft)	MOCA (ft)	Min OCS Alt (ft)	Date
TILLT	ZIPRR	TerrainPt_13_TILLT:KSNA:RW02L_TILLT:ZIPRR		4E (+-250/+125)	N35° 13' 18.00"	W120° 47' 36.00"	1820.87	true	P	2000.0		4021	4020.87	12-Apr-2016 12:34:33
ZIPRR	WURLL	TerrainPt_9_TILLT:KSNA:RW02L_ZIPRR:WURLL		4E (+-250/+125)	N34° 41' 27.00"	W120° 16' 03.00"	1975.07	true	P	2000.0		4176	4175.07	12-Apr-2016 12:34:33
WURLL	TCUPS	TerrainPt_36_TILLT:KSNA:RW02L_R_WURLL:TCUPS		4E (+-250/+125)	N34° 31' 45.00"	W120° 00' 18.00"	3854.99	true	S	1042.73		5098	5097.72	12-Apr-2016 12:34:33
TCUPS	RUKKI	TerrainPt_0_TILLT:KSNA:RW02L_TCUPS:RUKKI		4E (+-250/+125)	N34° 01' 42.00"	W119° 47' 06.00"	2427.82	true	P	2000.0		4628	4627.82	12-Apr-2016 12:34:33
RUKKI	BAUBB	NONE					-1.0	false	S					N/A
BAUBB	JJAWS	TerrainPt_4_TILLT:KSNA:RW02L_BAUBB:JJAWS		4E (+-250/+125)	N33° 27' 33.00"	W118° 34' 09.00"	1817.59	true	P	2000.0		4018	4017.59	12-Apr-2016 12:34:33
JJAWS	PUZZL	NONE					-1.0	false	S					N/A
PUZZL	MINOE	NONE					-1.0	false	S					N/A

## TILLT:KSNA:RW02L Criteria Failures

No failures.

## Route Evaluation for TILLT:KSNA:RW20R

### TILLT:KSNA:RW20R Evaluation Results Part 1/2

Leg Tp	End Pt	Turn Tp	Alt Restr	Alt Restr 2	Spd Restr	Turn Ang	Leg Length	Min Seg Length
IF	TILLT						0.0	0.0
TF	ZIPRR	FLY_BY				7.57	32.6	1.0
TF	WURLL	FLY_BY				0.06	25.4	1.0
TF	TCUPS	FLY_BY	+26000.0			25.78	44.29	11.91
TF	RUKKI	FLY_BY	+21000.0		280.0	0.68	20.56	11.91
TF	BAUBB	FLY_BY	+11000.0	-14000.0		20.02	38.3	2.58
TF	STYFF	FLY_BY	-9000.0			9.29	15.79	2.58
TF	KAYNN	FLY_BY	-7000.0			22.75	6.71	1.74
TF	LAXBB	FLY_BY	5000.0			12.83	8.27	3.36
TF	KLEVR	FLY_BY	5000.0			28.55	13.96	3.23
TF	BHEAR	FLY_OVER					7.26	1.62
FM							0.0	0.0

### TILLT:KSNA:RW20R Evaluation Results Part 2/2

Leg Tp	End Pt	Turn Tp	DTA1	DTA1 Turn Rad	DTA1 Turn Alt	DTA1 Turn Spd	DTA1 Bank Ang	DTA1 Tailwind	DTA1 True Airspd	DTA1 vGround	DTA2	DTA2 Turn Rad	DTA2 Turn Alt	DTA2 Turn Spd	DTA2 Bank Ang	DTA2 Tailwind	DTA2 True Airspd	DTA2 vGround
IF	TILLT				0.0	0.0							0.0	0.0				
TF	ZIPRR	FLY_BY	0.0		41000.0	300.0	0.0	128.0	629.0	570.0	3.58	54.11	41000.0	300.0	5.0	128.0	629.0	570.0
TF	WURLL	FLY_BY	3.58	54.11	41000.0	300.0	5.0	128.0	629.0	570.0	0.03	54.11	38411.87	300.0	5.0	123.0	596.0	570.0
TF	TCUPS	FLY_BY	0.03	54.11	38411.87	300.0	5.0	123.0	596.0	570.0	11.91	52.05	27339.61	300.0	5.0	101.0	482.0	559.0
TF	RUKKI	FLY_BY	11.91	52.05	27339.61	300.0	5.0	101.0	482.0	559.0	0.25	42.98	22199.21	280.0	5.0	91.0	410.0	508.0
TF	BAUBB	FLY_BY	0.25	42.98	22199.21	280.0	5.0	91.0	410.0	508.0	2.58	14.63	12623.3	280.0	10.01	72.0	349.0	421.0
TF	STYFF	FLY_BY	2.58	14.63	12623.3	280.0	10.01	72.0	349.0	421.0	1.86	22.85	8676.71	250.0	4.65	64.0	293.0	357.0
TF	KAYNN	FLY_BY	1.86	22.85	8676.71	250.0	4.65	64.0	293.0	357.0	1.74	8.67	7000.0	250.0	11.38	61.0	285.0	346.0
TF	LAXBB	FLY_BY	1.74	8.67	7000.0	250.0	11.38	61.0	285.0	346.0	1.62	14.37	5000.0	250.0	6.42	57.0	276.0	333.0
TF	KLEVR	FLY_BY	1.62	14.37	5000.0	250.0	6.42	57.0	276.0	333.0	1.62	6.35	5000.0	250.0	14.27	57.0	276.0	333.0
TF	BHEAR	FLY_OVER	1.62	6.35	5000.0	250.0	14.27	57.0	276.0	333.0	0.0		5000.0	250.0	0.0	57.0	276.0	333.0
FM			0.0		5000.0	250.0	0.0	57.0	276.0	333.0			0.0	0.0				

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## TILLT:KSNA:RW20R Obstacle Evaluation

Start Pt	End Pt	Name	Source	AC (H/V) (ft) AMSL)	Lat	Long	Height (ft) AMSL	Mnts Area	Pri/Sec Area	ROC (ft)	WCVH (ft)	MOCA (ft)	Min OCS Alt (ft)	Date
TILLT	ZIPRR	TerrainPt_13_TILLT:KSNA:RW02L_TILLT:ZIPRR		4E (+-250/+125)	N35° 13' 18.00"	W120° 47' 36.00"	1820.87	true	P	2000.0		4021	4020.87	12-Apr-2016 12:34:33
ZIPRR	WURLL	TerrainPt_9_TILLT:KSNA:RW02L_ZIPRR:WURLL		4E (+-250/+125)	N34° 41' 27.00"	W120° 16' 03.00"	1975.07	true	P	2000.0		4176	4175.07	12-Apr-2016 12:34:33
WURLL	TCUPS	TerrainPt_36_TILLT:KSNA:RW20R_WURLL:TCUPS		4E (+-250/+125)	N34° 31' 45.00"	W120° 00' 18.00"	3854.99	true	S	1042.73		5098	5097.72	12-Apr-2016 12:34:33
TCUPS	RUKKI	TerrainPt_0_TILLT:KSNA:RW02L_TCUPS:RUKKI		4E (+-250/+125)	N34° 01' 42.00"	W119° 47' 06.00"	2427.82	true	P	2000.0		4628	4627.82	12-Apr-2016 12:34:33
RUKKI	BAUBB	NONE					-1.0	false	S					N/A
BAUBB	STYFF	TerrainPt_15_TILLT:KSNA:RW20R_BAUBB:STYFF		4E (+-250/+125)	N33° 27' 36.00"	W118° 34' 09.00"	1807.74	true	S	1346.11		3354	3353.85	12-Apr-2016 12:34:33
STYFF	KAYNN	TerrainPt_38_TILLT:KSNA:RW20R_STYFF:KAYNN		4E (+-250/+125)	N33° 25' 45.00"	W118° 28' 42.00"	1227.03	true	S	1106.0		2534	2533.03	12-Apr-2016 12:34:33
KAYNN	LAXBB	NONE					-1.0	false	S					N/A
LAXBB	KLEVR	TerrainPt_36_TILLT:KSNA:RW20R_LAXBB:KLEVR		4E (+-250/+125)	N33° 40' 57.00"	W118° 00' 21.00"	131.23	true	P	2000.0		2332	2331.23	12-Apr-2016 12:34:33
KLEVR	BHEAR	TerrainPt_48_TILLT:KSNA:RW20R_KLEVR:BHEAR		4E (+-250/+125)	N33° 49' 54.00"	W117° 49' 57.00"	410.1	true	P	2000.0		2611	2610.1	12-Apr-2016 12:34:33

## TILLT:KSNA:RW20R Criteria Failures

No failures.

## Evaluation Input

Name:	RS Results TILLT
Project:	SNA TILLT STAR paperwork_20151027 (210 MINOE)
Last evaluated:	12-Apr-2016 12:33:18
Evaluated obstacles?:	true
Obstacle Database:	AIRNAV2
Evaluated terrain?:	true
Worst Case Vegetation Height (ft) AGL:	0

## Terrain Information

Terrain Extractor Name	Extractor Location	Extractor Type	Resolution
DTED 3 Sec	C:\Program Files (x86)\TARGETS\data\DTED-3Sec	org.mitre.caasd.terrain.DTEExtractor	3.0

## Procedure Criteria Failures

No failures.

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## Evaluation Notes and Warnings

No failures.

### Obstacles Requiring Accuracy Code Verification

None.

### Database Effective Dates

Database	Date
UddfObstacle	03/09/2015
Tiled AIRNAV2	N/A
OEAAA	N/A
NFDC	03/31/2016
IFP_OFFLINE	N/A
AVNIS	04/12/2016
DOF	03/31/2016
AVNII_OFFLINE	N/A
AIRNAV2	04/12/2016
CIFP	03/31/2016



**Notes:**

Point obstacles with an elevation of 219 FT were added beneath segments of the procedure over the ocean per FPT.