

AERODROME CHARTS

DCS A-10C Warthog Flight Simulation
Consistent with Version 1.1.1.0 & 1.1.1.1

virtuelles Jagdbombergeschwader 32
<http://www.virtual-jabog32.de>

rev 3.5.0
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		29	17 - URMN Mineralnye Vody
		30	18 - URMN Nalchik
		31	19 - URMO Beslan
		32	20 - URSS Sochi - Adler
		33	Intentionally Left Blank
		34	21 - XRMF Mozdok

GENERAL INFORMATION

General information	All included ground charts are based on Eagle Dynamics combat flight simulator DCS A-10C Warthog. In order to provide more realistic flight operations within the simulation the Virtual Fighter Bomber Wing 32 created the necessary documents and procedures themselves. Real life aviation procedures were adapted to fit the needs of a flight simulation. Certain rules differ from the real world. Therefore the following charts are intended for use within the simulation only. Approach and departure procedures can be found in a separate chart package.
Technical information	- The magnetic variation contained in the DCS A-10C module was taken on the maps with a tolerance of $\pm 1^\circ$. - All tracks are given to magnetic north. - All directions and positions correspond to the CDU of the aircraft. - The runway designations were also adjusted to meet the mentioned variation. The taxiway names have also been revised and do not match the in game TWY designations. This was done to achieve a greater realism.
Software source citation & version number	Lock On by Eagle Dynamics (GND Charts Version 0.5/1.x, 2005) Lock On Flaming Cliffs by Eagle Dynamics (GND Charts Version 2.x, 2007) Lock On Flaming Cliffs 2 & DCS BS by Eagle Dynamics (GND Charts Version 2.x, 2008/09) DCS A-10C Warthog by Eagle Dynamics (GND Charts Version 3.x, 2011/12)
Procedures and symbology source citation	Amt für Flugsicherung der Bundeswehr, CENOR, various civilian and military sources, vJaBoG32
Lead author	vJaBoG32 Schleudersitz
Contributors	vJaBoG32 Woodstock, vJaBoG32 Chrissi vJaBoG32 Balu, vJaBoG32 Prinz, vJaBoG32 Ghost, vJaBoG32 Tank, vJaBoG32 Herby, vJaBoG32 Kirin, vJaBoG32 Theoretic
Copyright	Virtual Fighter Bomber Wing 32 This project is non-commercial and therefore may not be used commercially by third parties. This document may be used and distributed free of charge. It may be offered for download without further consent of the owner. Any alterations of the document are subject to permission of the Virtual Fighter Bomber Wing 32.

AERODROME INDEX

Georgian Aerodromes

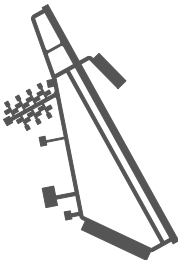
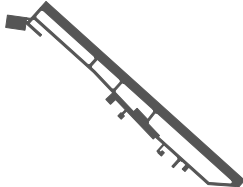
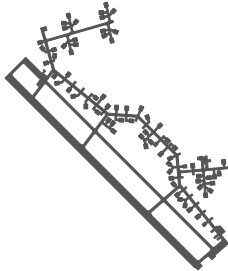
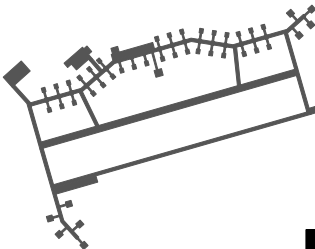
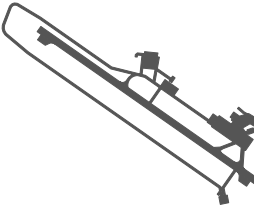
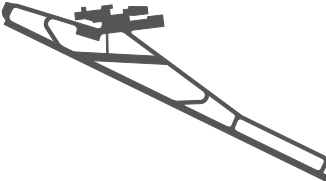
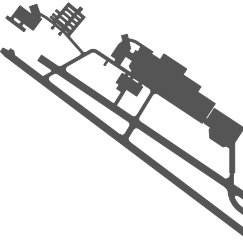
No.	Aerodrome	Location indicator	ARP	TWR	TACAN	RWY	ILS
01	Kobuleti	UG5X	41°55.797'N 041°51.809'E	133.000 MHz	67X "KBL" (134.00 MHz)	07	111.50 MHz
02	Gudauta	UG23	43°06.856'N 040°34.187'E	130.000 MHz			
03	Tbilisi - Soganlug	UG24	41°38.970'N 044°56.304'E	139.000 MHz			
04	Vaziani	UG27	41°37.743'N 045°01.632'E	140.000 MHz	22X "VAS" (108.50 MHz)	13 31	108.75 MHz 108.75 MHz
05	Kutaisi - Kopitnari	UGKO	42°10.657'N 042°28.874'E	134.000 MHz	44X "KTS" (110.70 MHz)	07	109.75 MHz
06	Senaki - Kolkhi	UGKS	42°14.454'N 042°02.861'E	132.000 MHz	31X "TSK" (109.40 MHz)	09	108.90 MHz
07	Batumi	UGSB	41°36.562'N 041°36.034'E	131.000 MHz	16X "BTM" (135.90 MHz)	12	110.30 MHz
08	Sukhumi - Babushara	UGSS	42°51.677'N 041°07.474'E	129.000 MHz			
09	Tbilisi - Lochini	UGTB	41°40.095'N 044°57.283'E	138.000 MHz		12R 30L	110.30 MHz 108.90 MHz

Russian Aerodromes

No.	Aerodrome	Location indicator	ARP	TWR	TACAN	RWY	ILS
10	Anapa - Vityazevo	URKA	45°00.298'N 037°20.870'E	121.000 MHz			
11	Gelendzhik	URKG	44°34.364'N 038°00.684'E	126.000 MHz			
12	Maykop - Khanskaya	URKH	44°40.874'N 040°02.112'E	125.000 MHz			
13	Krasnodar - Pashkovsky	URKK	45°02.276'N 039°11.282'E	128.000 MHz			
14	Krasnodar - Center	URKL	45°05.216'N 038°56.415'E	122.000 MHz			
15	Novorossiysk	URKN	44°40.084'N 037°46.694'E	123.000 MHz			
16	Krymsk	URKW	44°58.073'N 037°59.697'E	124.000 MHz			
17	Mineralnye Vody	URMM	44°13.672'N 043°04.870'E	135.000 MHz		11 29	111.70 MHz 109.30 MHz
18	Nalchik	URMN	43°30.842'N 043°38.193'E	136.000 MHz		23	110.50 MHz
19	Beslan	URMO	43°12.342'N 044°36.346'E	141.000 MHz		09	110.50 MHz
20	Sochi - Adler	URSS	43°26.669'N 039°56.489'E	127.000 MHz		06	111.10 MHz
21	Mozdok	XRMF	43°47.504'N 044°35.981'E	137.000 MHz			

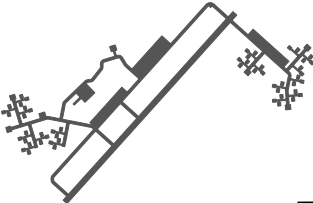
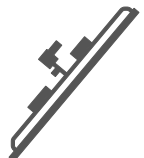
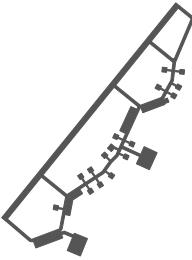
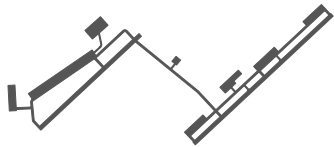
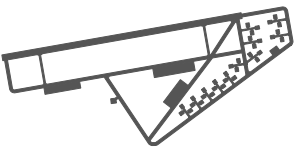
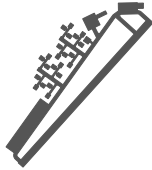
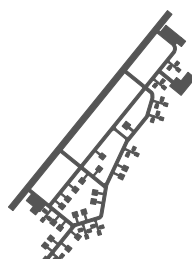
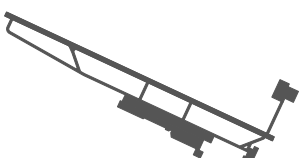
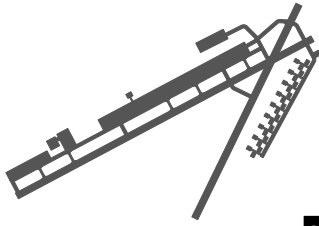
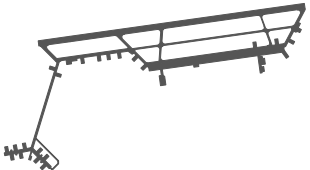
AERODROME GROUND CHARTS OVERVIEW

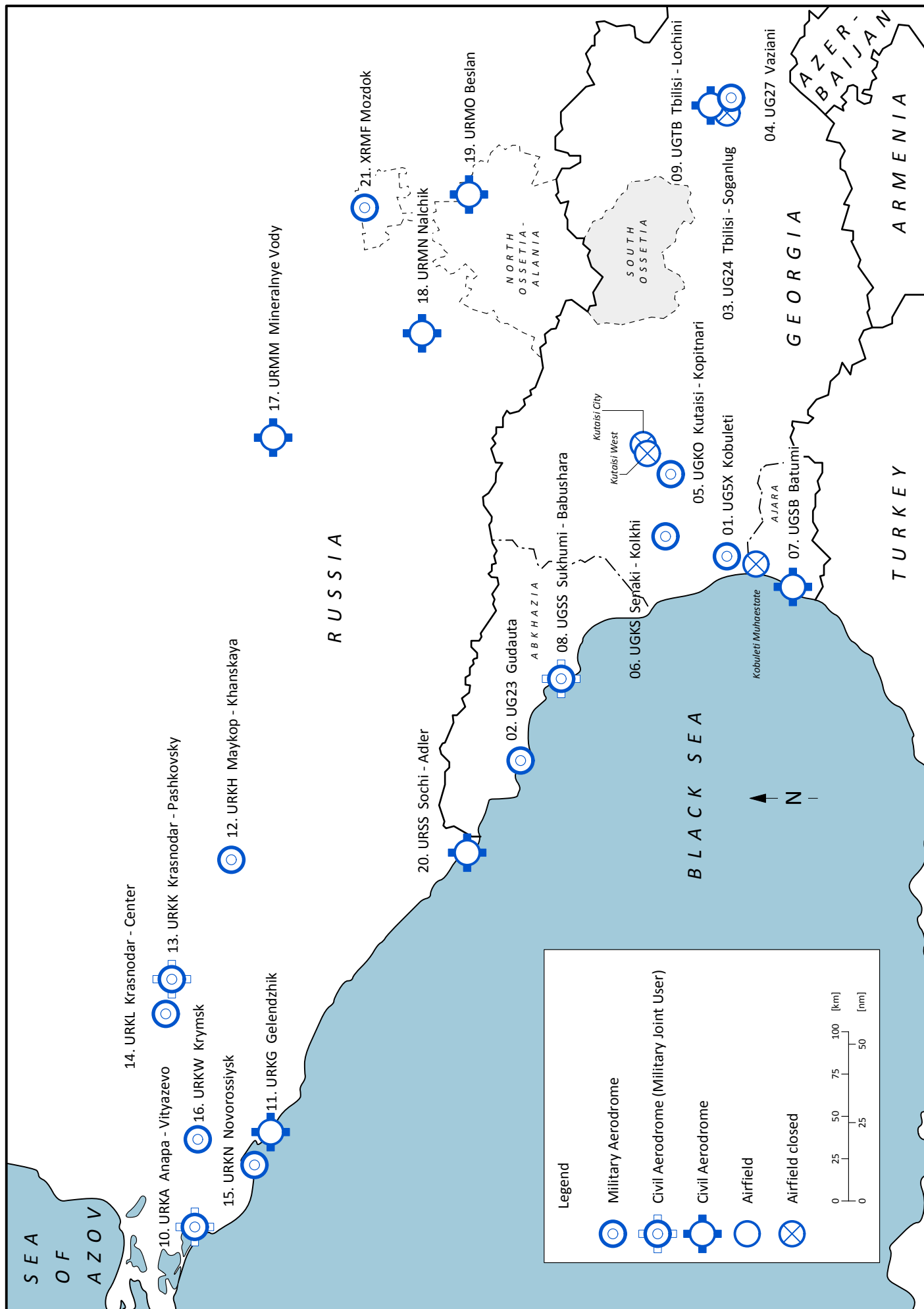
GEORGIA

KOBULETI (UG5X) RWY 07-25 : 2400x60[m] 7870x197[ft]  1	GUDAUTA (UG23) RWY 15-33 : 2500x60[m] 8200x197[ft]  2	TBILISI - SOGANLUG (UG24) RWY 13-31 : 2475x80[m] 8120x262[ft]  3	VAZIANI (UG27) RWY 13-31 : 2485x62[m] 8150x203[ft]  4
KUTAIISI - KOPITNARI (UGKO) RWY 07-25 : 2500x60[m] 8200x197[ft]  5	SENAKI - KOLKHI (UGKS) RWY 09-27 : 2375x50[m] 7790x164[ft]  6	BATUMI (UGSB) RWY 12-30 : 2455x60[m] 8050x197[ft]  7	SUKHUMI - BABUSHARA (UGSS) RWY 11-29 : 3540x60[m] 11610x197[ft]  8
TBILISI - LOCHINI (UGTB) RWY 12R-30L : 2920x45[m] 9580x150[ft]  9			

AERODROME GROUND CHARTS OVERVIEW

RUSSIA

ANAPA - VITYAZEVO (URKA) RWY 04-22 : 2900x60[m] 9510x197[ft]  10	GELENDZHIK (URKG) RWY 04-22 : 1800x60[m] 5905x197[ft]  11	MAYKOP - KHANSKAYA (URKH) RWY 04-22 : 3200x60[m] 10495x197[ft]  12	KRASNODAR - PASHKOVSKY (URKK) RWY 04L-22R : 2265x60[m] 7430x197[ft] RWY 04R-22R : 3100x60[m] 10170x197[ft]  13
KRASNODAR - CENTER (URKL) RWY 08-26 : 2500x60[m] 8200x197[ft]  14	NOVOROSIYSK (URKN) RWY 04-22 : 1800x60[m] 5905x197[ft]  15	KRYMSK (URKW) RWY 03-21 : 2600x60[m] 8530x197[ft]  16	MINERALNYE VODY (URMM) RWY 11-29 : 4070x60[m] 13350x197[ft]  17
NALCHIK (URMN) RWY 05-23 : 2300x60[m] 7545x197[ft]  18	BESLAN (URMO) RWY 09-27 : 3015x50[m] 9890x164[ft]  19	SOCHI - ADLER (URSS) RWY 06-24 : 3100x60[m] 10170x197[ft] RWY 02-20 : 2200x60[m] 7220x197[ft]  20	MOZDOK (XRMF) RWY 08-26 : 3120x70[m] 10235x230[ft]  21



AERODROME NAME

Built-up Area

Power transmission line

Runway Designator
(letter "L" for left "C" for center or "R" for right - are used for parallel runways)

Threshold Elevation, MSL

TWR Tower

Taxiway Letters & Numbers

APRON 1

APRON 2

APRON 3

APRON WEST

Fire Station A

Fire Station B

Fire Station W

Fuel Depot

Cargo Store

Maintenance Area

ASR Aerodrome Surveillance Radar

Runway dimensions in meters and feet.

Runway Track (MAG)

CWY Clearway SWY Stopway

Geographic Grid in degrees and minutes

Water

Magnetic Variation or Declination

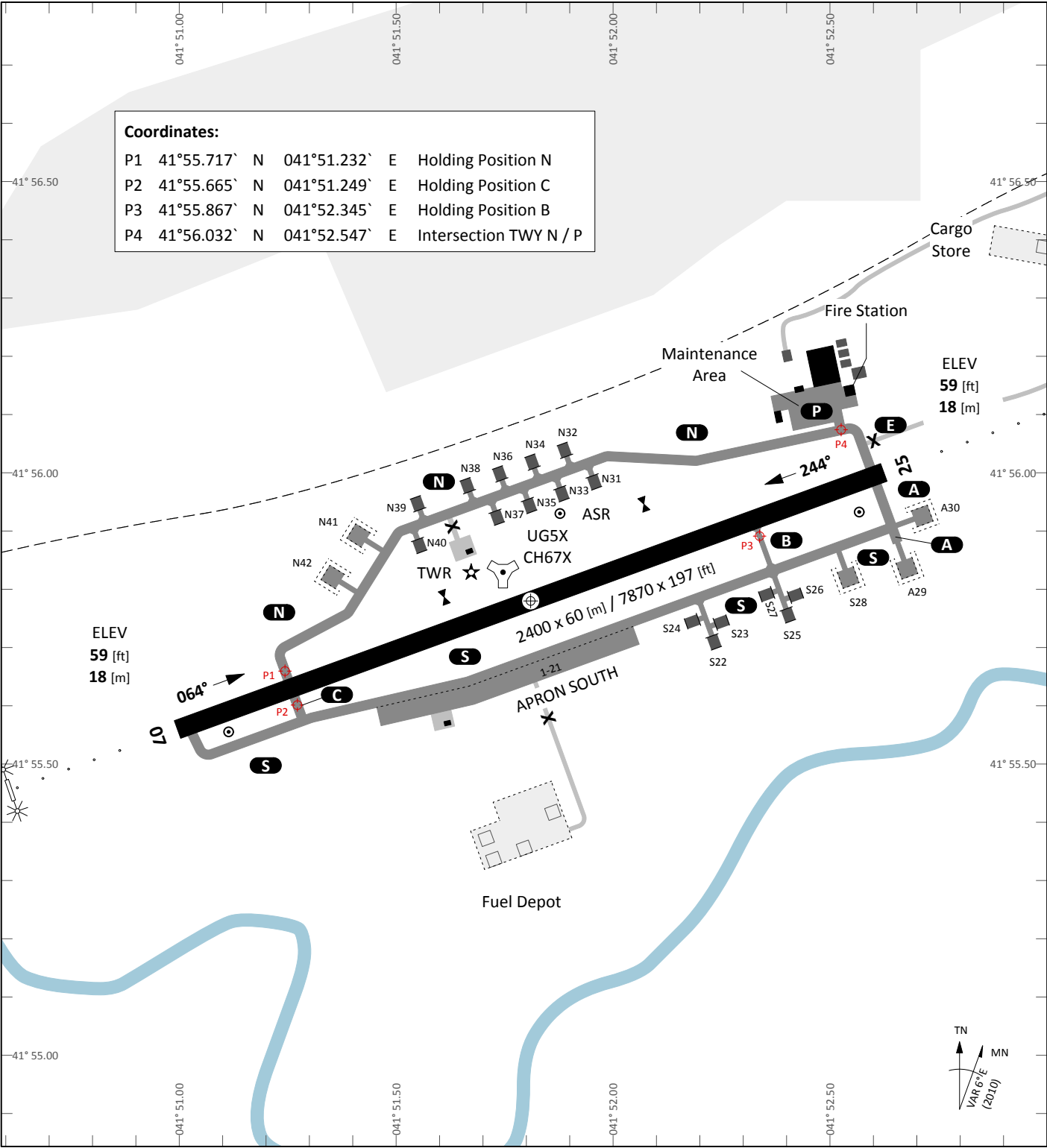
TN = True North
MN = Magnetic North

VAR 6°E (2010)

Runway
TORA
TODA
ASDA
LDA
PSN THR
ALS
CLG
DA
HAT
MDA
VIS/RVR

Runway
Take Off Run Available
Take Off Distance Available
Accelerate Stop Distance Available
Landing Distance Available
Position Threshold
Approach Lighting Systems
Ceiling
Decision Altitude
Height above Touchdown Zone Elevation
Minimum Descent Altitude
Visual Range/Runway Visual Range

	RWY	CAT	MINIMA	ARP	ELEV	Scale 1:33'000	
PAR	04L - 22R	A B C D E	312 - 0.8 200 (200-0.8/1.6) GS 3°	45° 02.153` N	112 [ft]		
SRA	04L - 22R	A B C D E	462 - 1.2 350 (350-1.2/1.6)	039° 11.481` E	34 [m]		
RWY	TORA	TODA	ASDA	LDA	PSN THR	ALS	
Precision Approach Radar (Precision Approach)		DA - VIS HAT (CLG-VIS/ALS VIS) Glide Slope					
Surveillance Radar Approach (Non-Precision Approach)							
Tower	Radar	Final - Precision	TACAN	ILS			

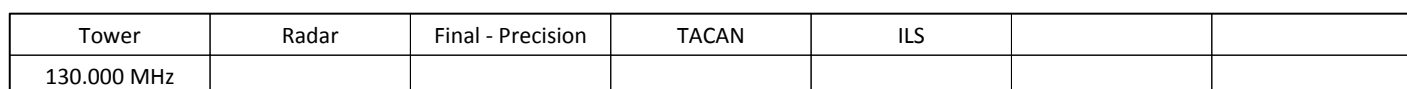


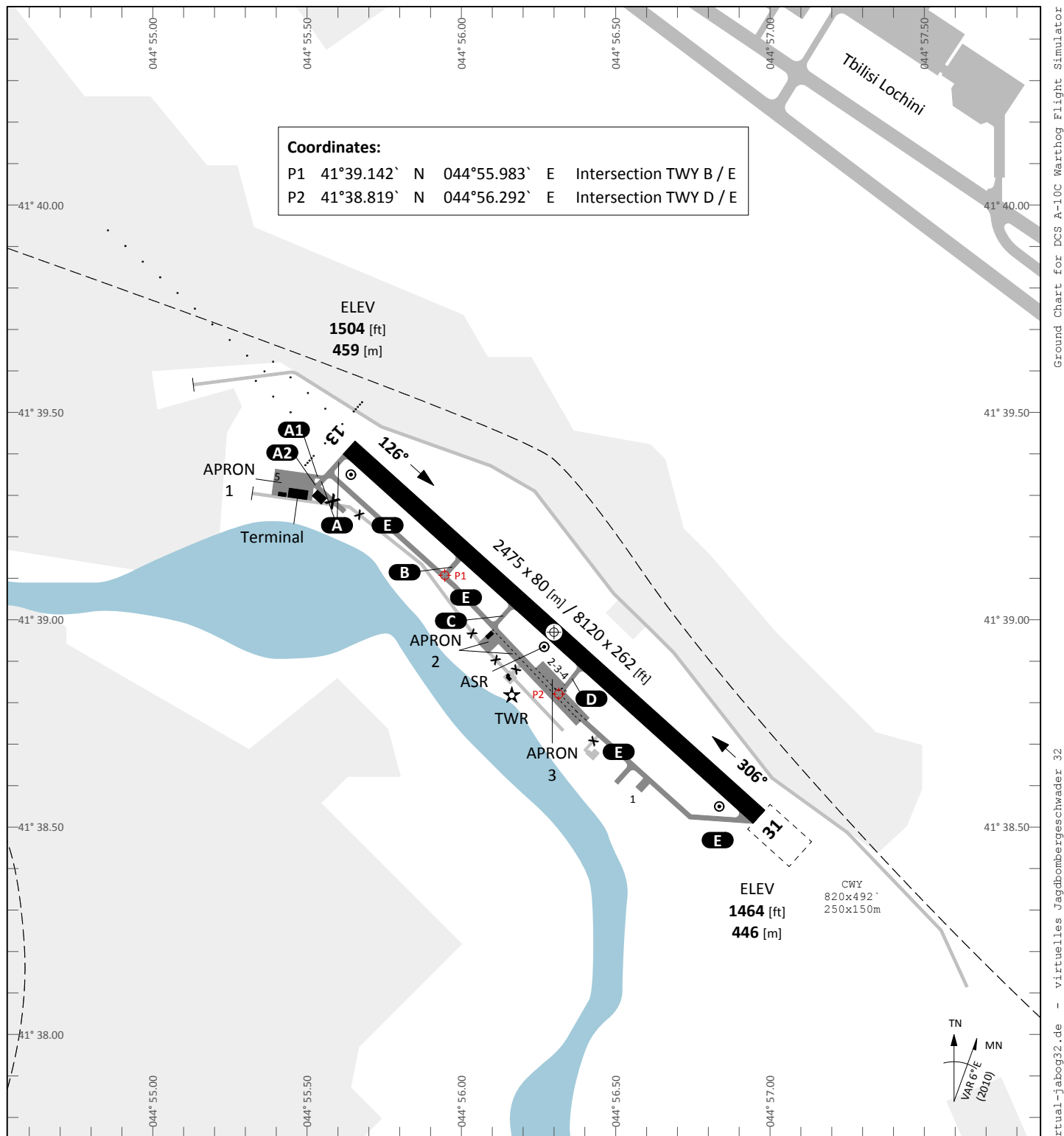
Coordinates:					
P1	41°55.717` N	041°51.232` E	Holding Position N		
P2	41°55.665` N	041°51.249` E	Holding Position C		
P3	41°55.867` N	041°52.345` E	Holding Position B		
P4	41°56.032` N	041°52.547` E	Intersection TWY N / P		

	RWY	CAT	MINIMA	ARP 41° 55.797` N 041° 51.809` E	ELEV 59 [ft] 18 [m]	Scale 1:18'000 0 200 400 600 [m] 0 500 1000 1500 2000 [ft]
	PAR	07 - 25	A B C D E 259 - 0.8 200 (200-0.8/1.6) GS 3°			
	SRA	07 - 25	A B C D E 409 - 1.2 350 (350-1.2/1.6)			

RWY	TORA	TODA	ASDA	LDA	PSN THR	ALS
07	7870 [ft] 2400 [m]	7870 [ft] 2400 [m]	7870 [ft] 2400 [m]	7870 [ft] 2400 [m]	41°55.640`N 041°50.975`E	
25	7870 [ft] 2400 [m]	7870 [ft] 2400 [m]	7870 [ft] 2400 [m]	7870 [ft] 2400 [m]	41°55.952`N 041°52.642`E	

Tower	Radar	Final - Precision	TACAN	ILS RWY 07		
133.000 MHz			67X "KBL"	111.50 MHz		

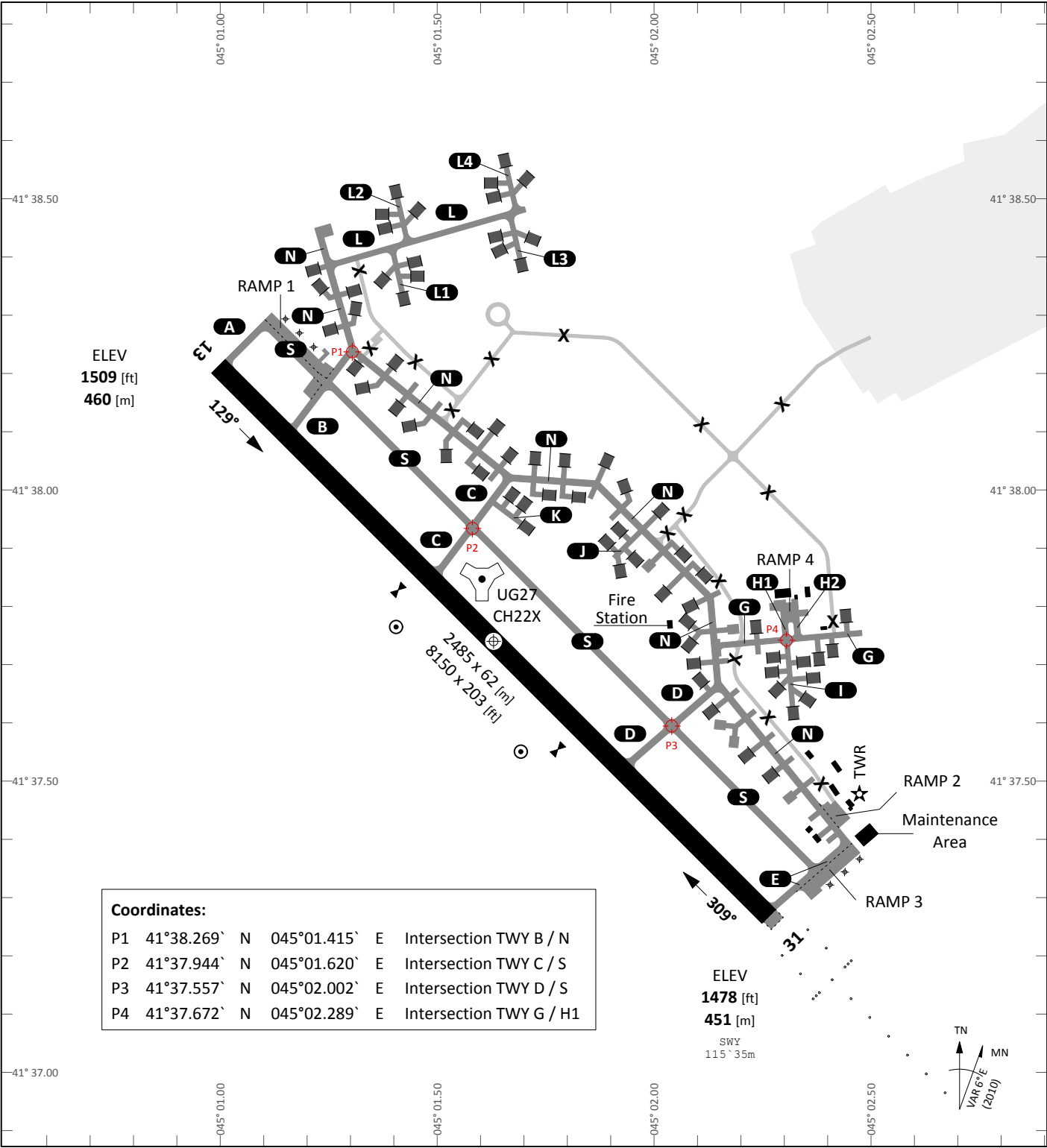




	RWY	CAT	MINIMA	ARP 41° 38.970` N  044° 56.304` E	ELEV 1473 [ft] 449 [m]	Scale 1:25'000 0200400600800 [m] 010002000 [ft]
PAR	13	A B C D E	1704 - 0.8 200 (200-0.8/1.6) GS 3°			
	31	A B C D E	1664 - 0.8 200 (200-0.8/1.6) GS 3°			
SRA	13	A B C D E	1854 - 1.2 350 (350-1.2/1.6)			
	31	A B C D E	1814 - 1.2 350 (350-1.2/1.6)			

RWY	TORA	TODA	ASDA	LDA	PSN THR	ALS
13	8120 [ft] 2475 [m]	8940 [ft] 2725 [m]	8120 [ft] 2475 [m]	8120 [ft] 2475 [m]	41°39.475`N 044°55.742`E	Ⓔ
31	8120 [ft] 2475 [m]	8120 [ft] 2475 [m]	8120 [ft] 2475 [m]	8120 [ft] 2475 [m]	41°38.464`N 044°56.866`E	

Tower	Radar	Final - Precision	TACAN	ILS		
139.000 MHz						



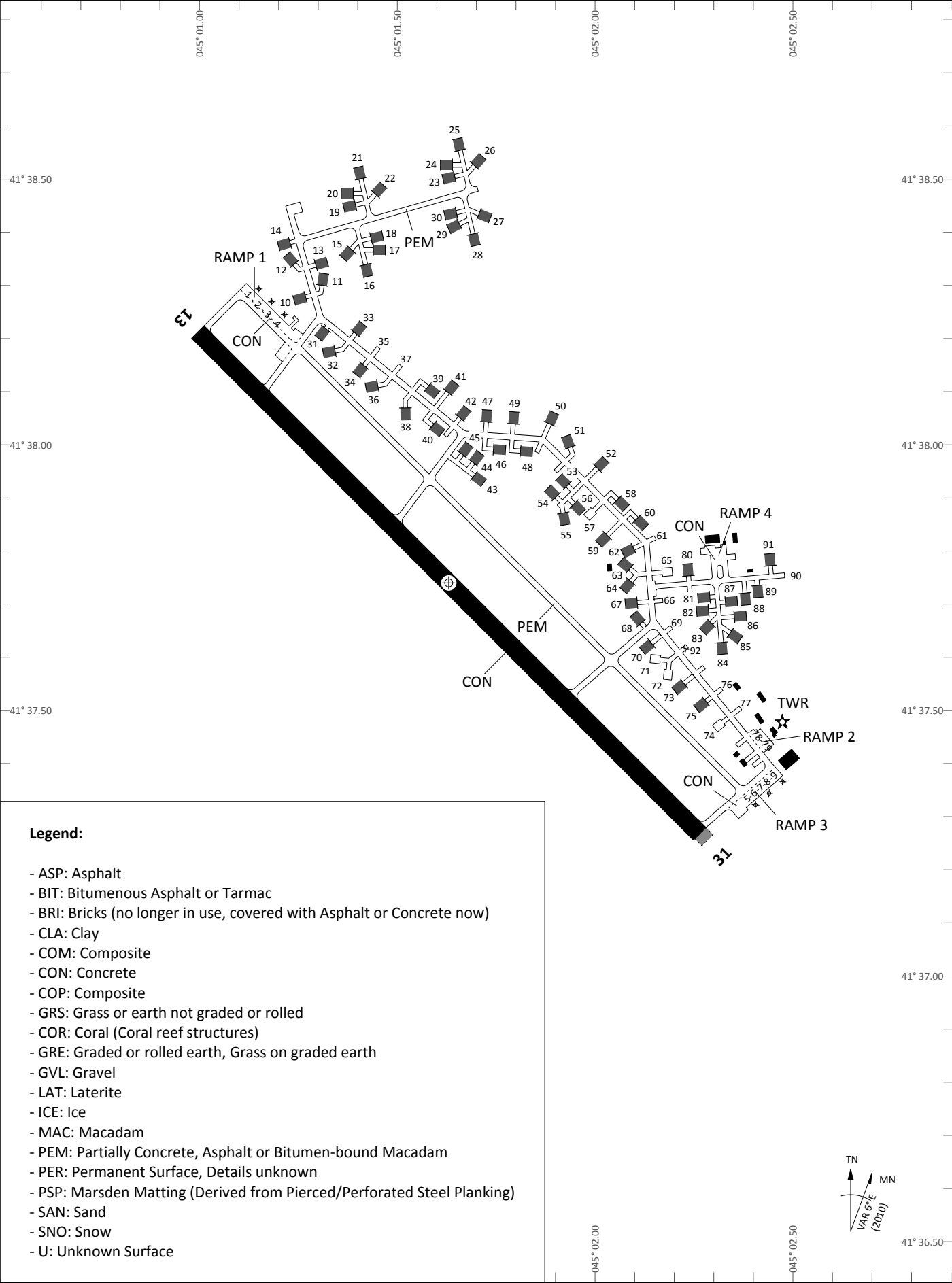
	RWY	CAT	MINIMA	ARP	ELEV	Scale 1:18'000
PAR	13	A B C D E	1709 - 0.8 200 (200-0.8/1.6) GS 3°	41° 37.743' N 045° 01.632' E	1492 [ft] 455 [m]	0200400600 0500100015002000 0200400600 0500100015002000
	31	A B C D E	1678 - 0.8 200 (200-0.8/1.6) GS 3°			
SRA	13	A B C D E	1859 - 1.2 350 (350-1.2/1.6)			
	31	A B C D E	1828 - 1.2 350 (350-1.2/1.6)			

RWY	TORA	TODA	ASDA	LDA	PSN THR	ALS
13	8150 [ft] 2485 [m]	8150 [ft] 2485 [m]	8265 [ft] 2520 [m]	8150 [ft] 2485 [m]	41°38.275'N 045°01.108'E	
31	8150 [ft] 2485 [m]	8150 [ft] 2485 [m]	8150 [ft] 2485 [m]	8150 [ft] 2485 [m]	41°37.215'N 045°02.153'E	(E)

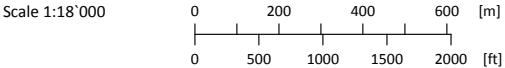
Tower	Radar	Final - Precision	TACAN	ILS RWY 13	ILS RWY 31	
140.000 MHz			22X "VAS"	108.75 MHz	108.75 MHz	

AIRCRAFT PARKING POSITIONS

VAZIANI (UG27)

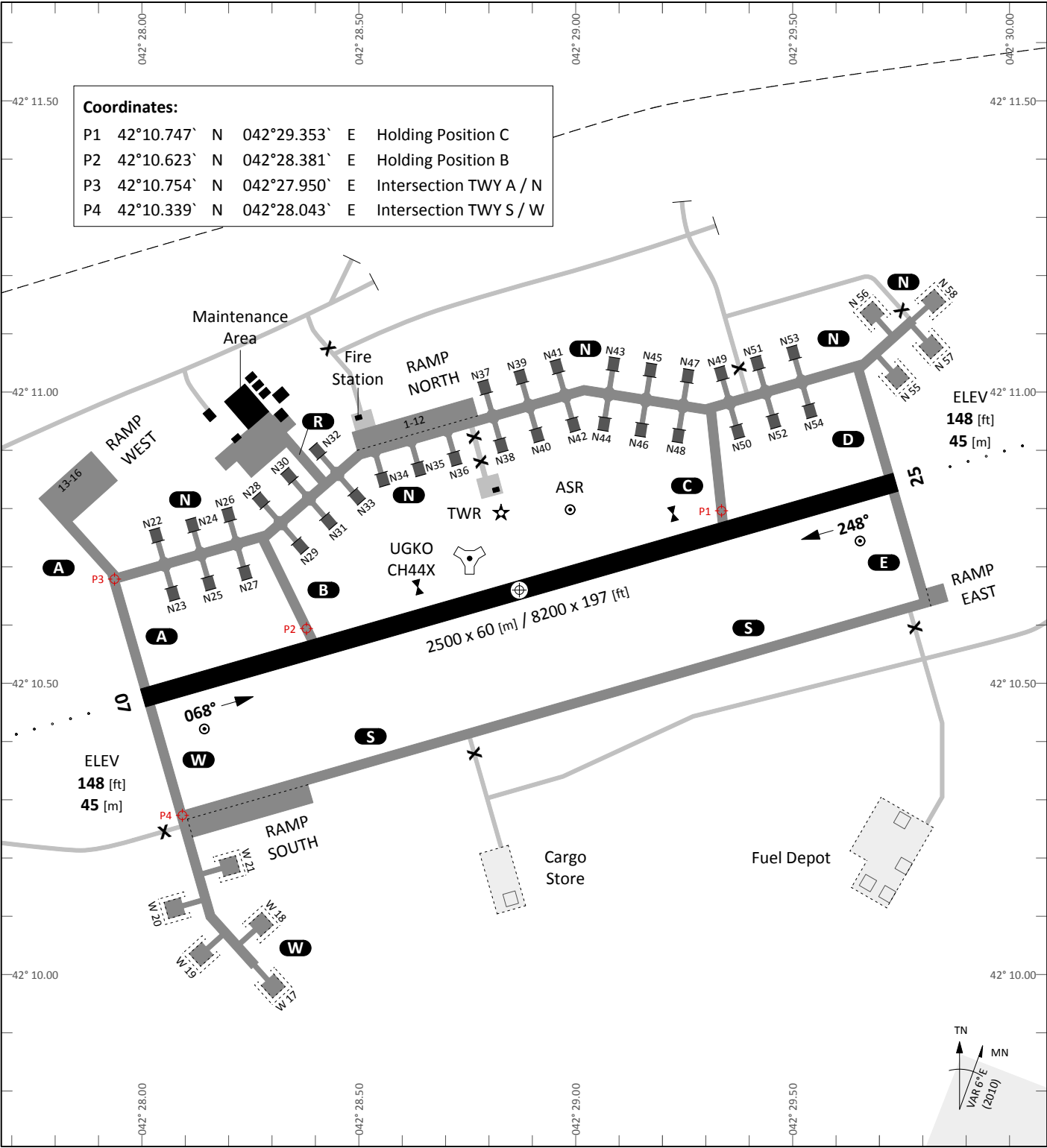


Tower			
140.000 MHz			



AIRCRAFT PARKING POSITIONS

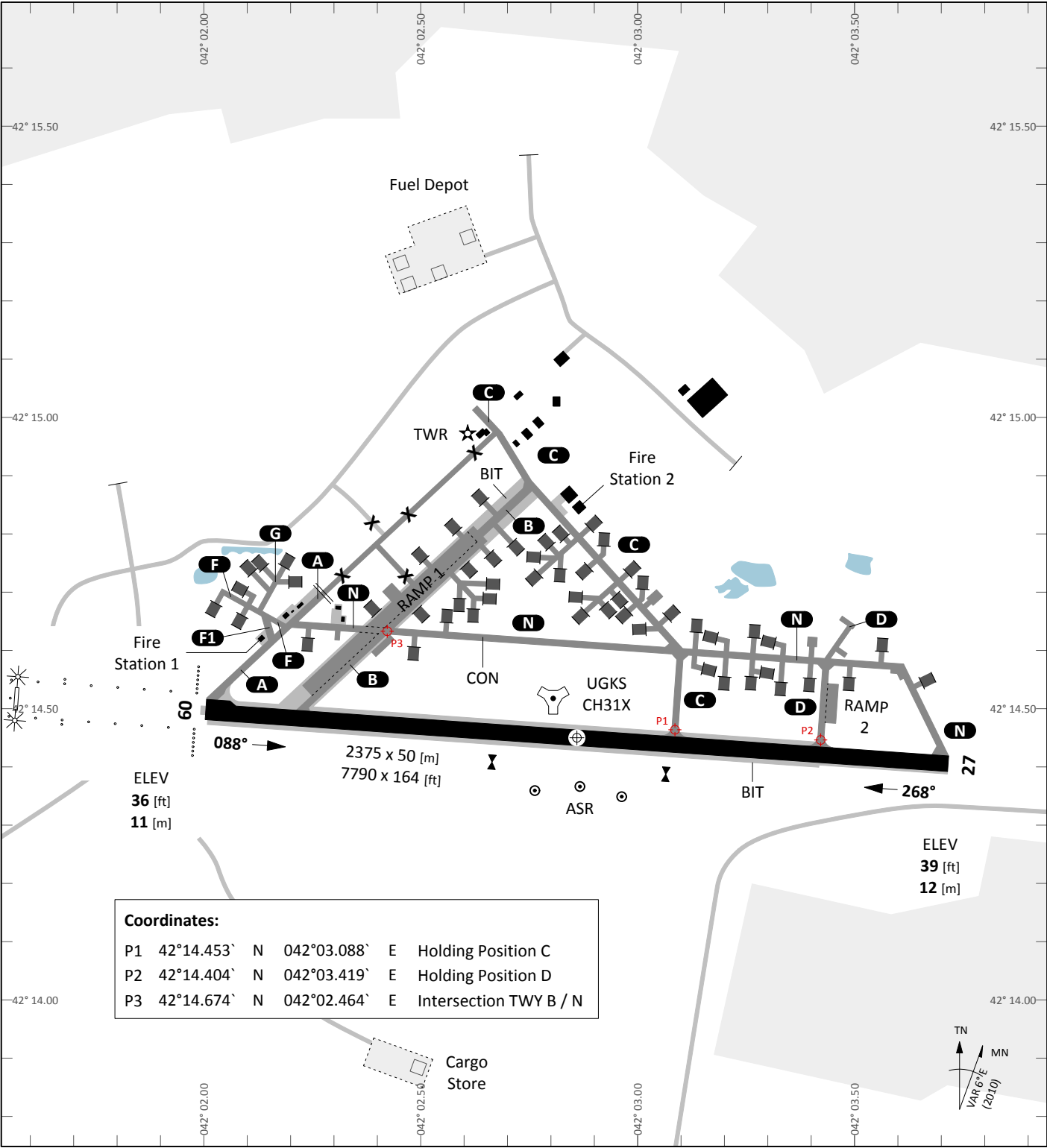
VAZIANI (UG27)



	RWY	CAT	MINIMA	ARP	ELEV	Scale 1:18'000
	07 - 25	A B C D E	348 - 0.8 200 (200-0.8/1.6) GS 3°			
PAR	07 - 25	A B C D E	498 - 1.2 350 (350-1.2/1.6)	42° 10.657' N 042° 28.874' E	148 [ft] 45 [m]	0 200 400 600 [m] 0 500 1000 1500 2000 [ft]

RWY	TORA	TODA	ASDA	LDA	PSN THR	ALS
07	8200 [ft] 2500 [m]	8200 [ft] 2500 [ft]	8200 [ft] 2500 [m]	8200 [ft] 2500 [m]	42°10.544'N 042°27.988'E	
25	8200 [ft] 2500 [m]	8200 [ft] 2500 [ft]	8200 [ft] 2500 [m]	8200 [ft] 2500 [m]	42°10.768'N 042°29.759'E	

Tower	Radar	Final - Precision	TACAN	ILS RWY 07		
134.000 MHz			44X "KTS"	109.75 MHz		



Coordinates:					
P1	42°14.453` N	042°03.088` E	Holding Position C		
P2	42°14.404` N	042°03.419` E	Holding Position D		
P3	42°14.674` N	042°02.464` E	Intersection TWY B / N		

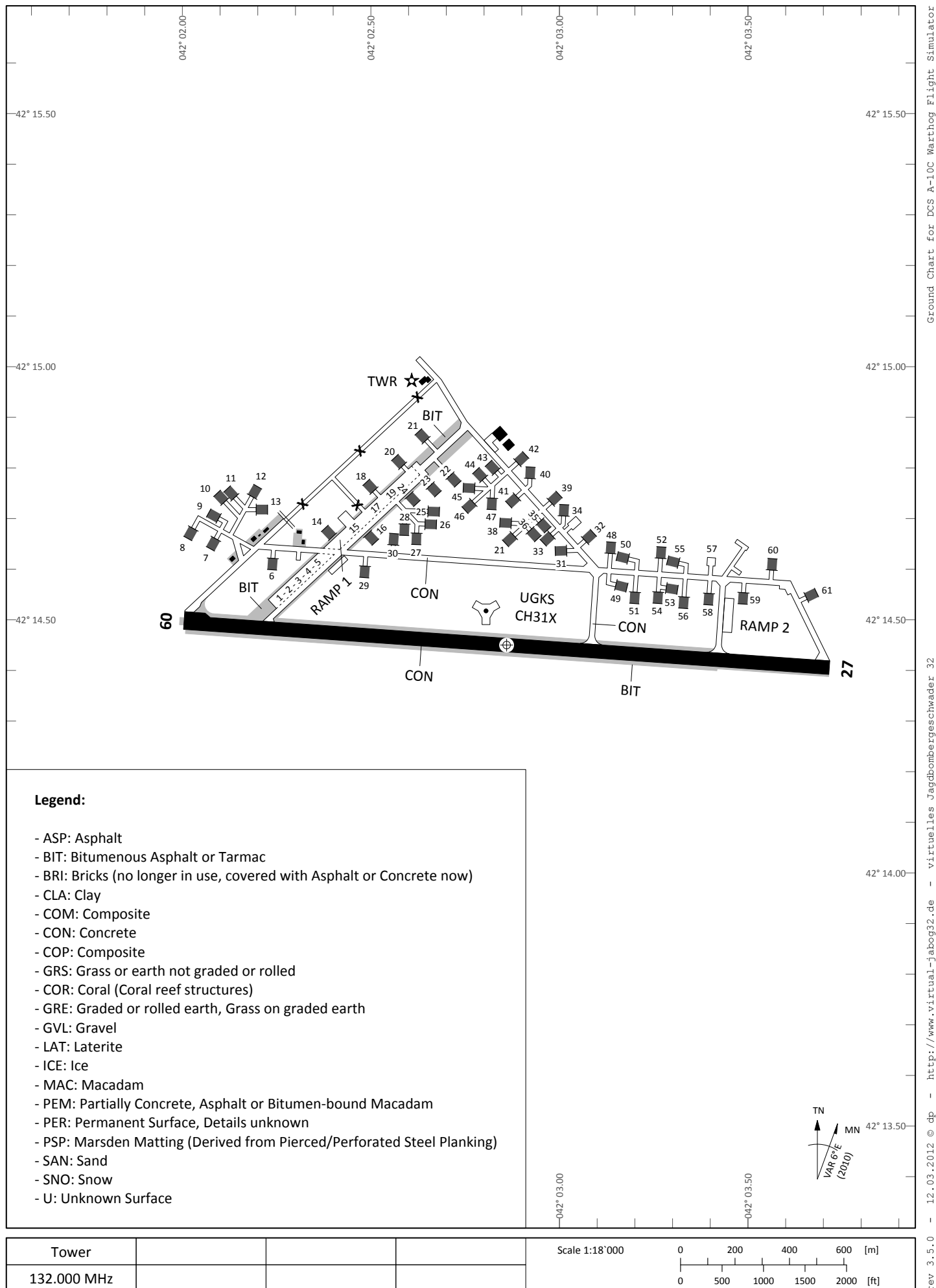
PAR	RWY	CAT	MINIMA	ARP	ELEV	Scale 1:18'000
SRA	09	A B C D E	236 - 0.8 200 (200-0.8/1.6) GS 3°	42° 14.454` N 042° 02.861` E	43 [ft] 13 [m]	0 200 400 600 [m] 0 500 1000 1500 2000 [ft]
	27	A B C D E	239 - 0.8 200 (200-0.8/1.6) GS 3°			
SRA	09	A B C D E	386 - 1.2 350 (350-1.2/1.6)			
	27	A B C D E	389 - 1.2 350 (350-1.2/1.6)			

RWY	TORA	TODA	ASDA	LDA	PSN THR	ALS
09	7790 [ft] 2375 [m]	7790 [ft] 2375 [m]	7790 [ft] 2375 [m]	7790 [ft] 2375 [m]	42°14.573`N 042°02.024`E	(E)
27	7790 [ft] 2375 [m]	7790 [ft] 2375 [m]	7790 [ft] 2375 [m]	7790 [ft] 2375 [m]	42°14.336`N 042°03.695`E	

Tower	Radar	Final - Precision	TACAN	ILS RWY 09		
132.000 MHz			31X "TSK"	108.90 MHz		

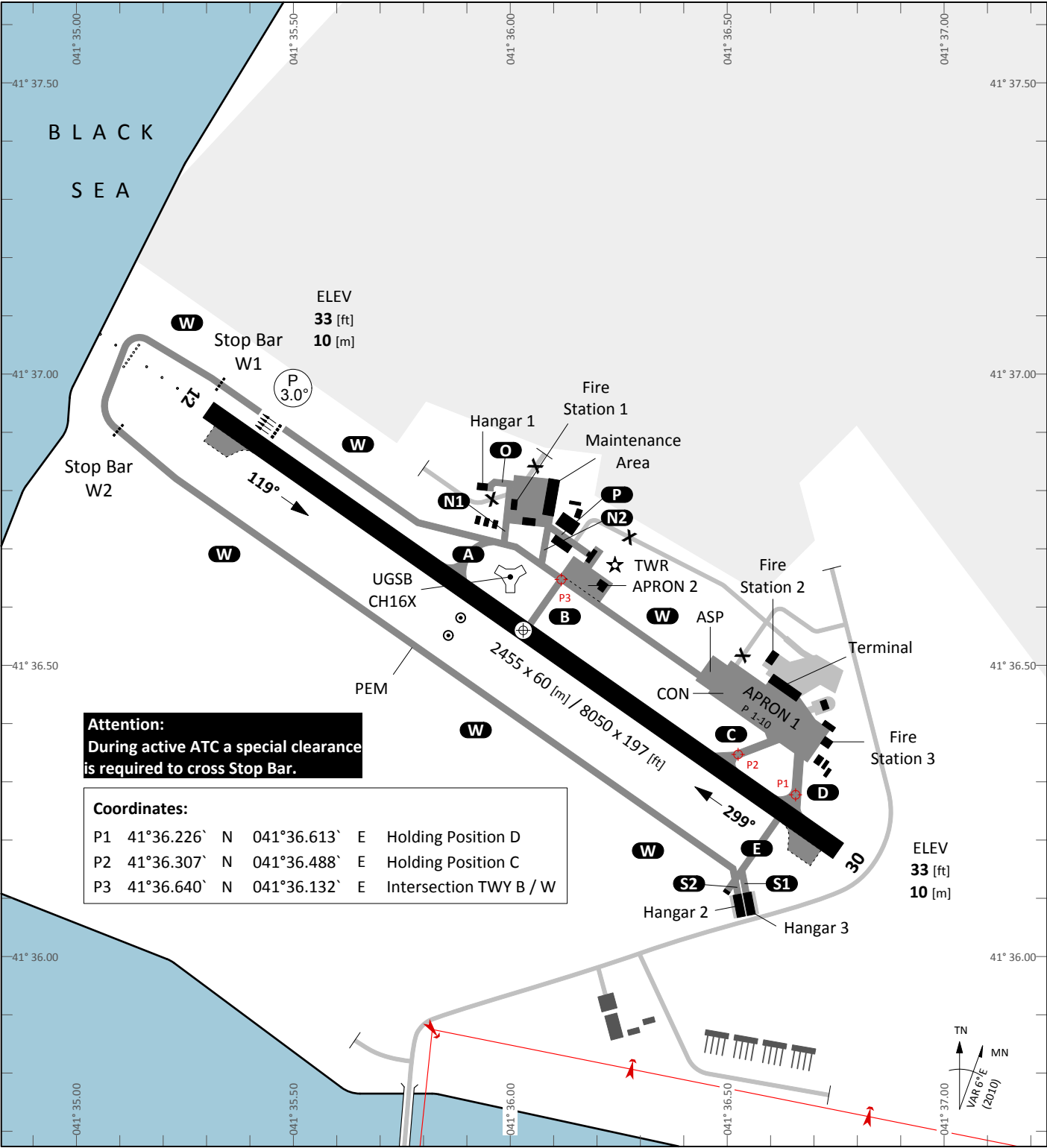
AIRCRAFT PARKING POSITIONS

SENAKI - KOLKHI (UGKS)



AIRCRAFT PARKING POSITIONS

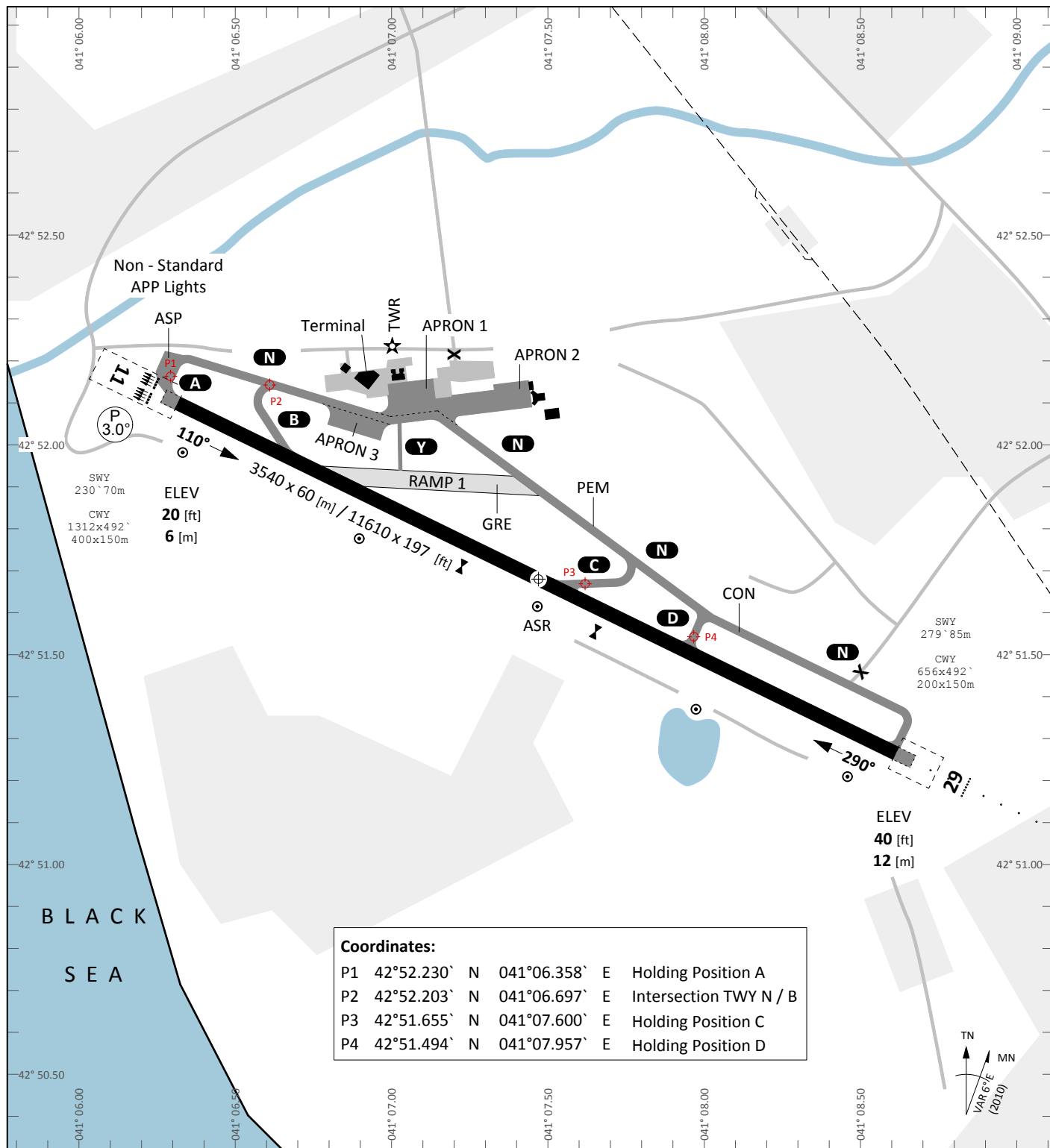
SENAKI - KOLKHI (UGKS)



	RWY	CAT	MINIMA	ARP	ELEV	Scale 1:18'000
PAR	12	A B C D E	233 - 0.8 200 (200-0.8/1.6) GS 3°	41° 36.562' N	33 [ft]	0 200 400 600 [m]
SRA	12 - 30	A B C D E	383 - 1.2 350 (350-1.2/1.6)	041° 36.034' E	10 [m]	0 500 1000 1500 2000 [ft]

RWY	TORA	TODA	ASDA	LDA	PSN THR	ALS
12	8050 [ft] 2455 [m]	8050 [ft] 2455 [m]	8050 [ft] 2455 [m]	8050 [ft] 2455 [m]	41°36.995'N 041°35.378'E	(X)
30	8050 [ft] 2455 [m]	8050 [ft] 2455 [m]	8050 [ft] 2455 [m]	8050 [ft] 2455 [m]	41°36.127'N 041°36.694'E	

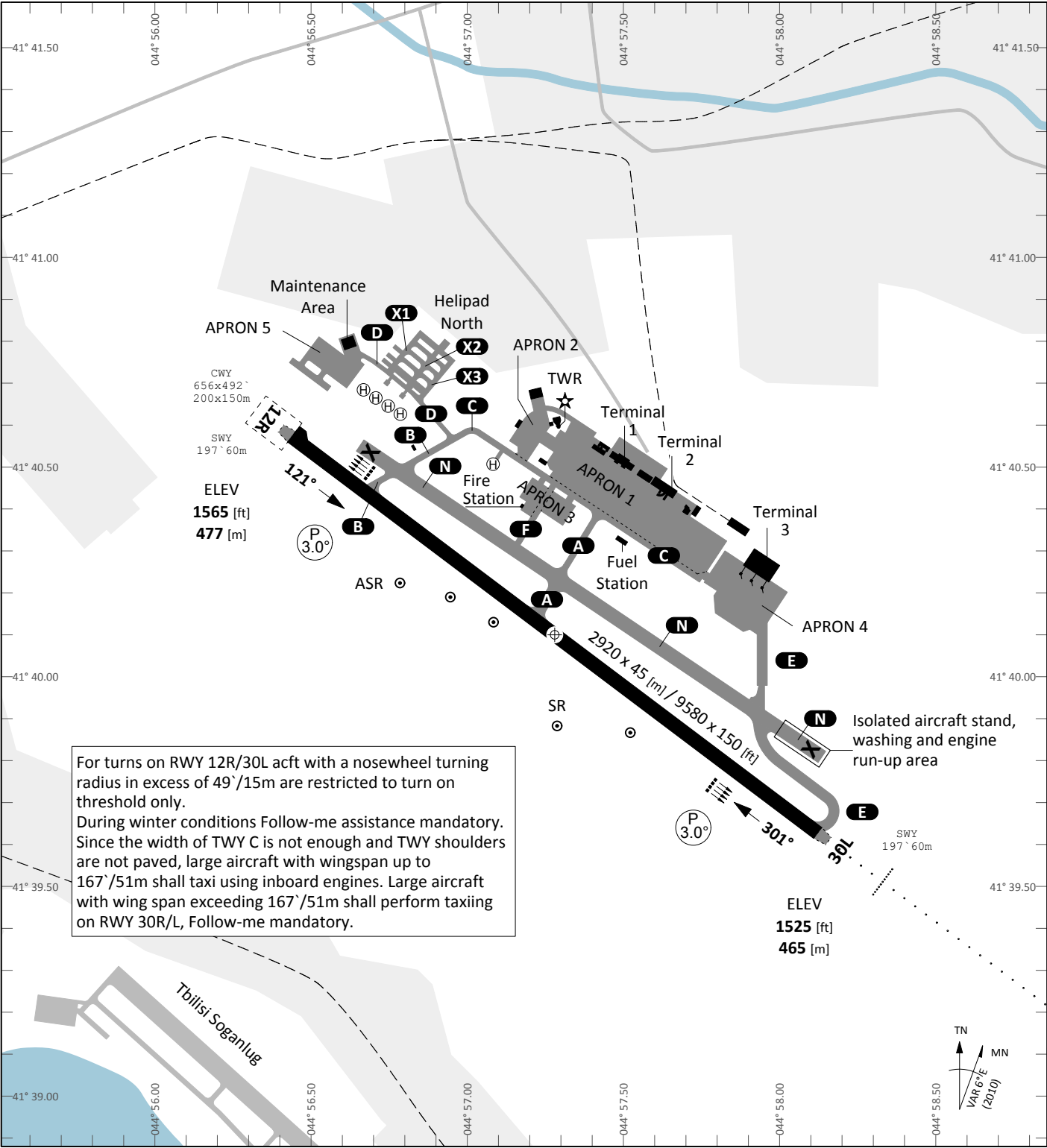
Tower	Radar	Final - Precision	TACAN	ILS RWY 12		
131.000 MHz			16X "BTM"	110.30 MHz		



PAR	RWY	CAT	MINIMA	ARP	ELEV	Scale 1:25'000
	11	A B C D E	220 - 0.8 200 (200-0.8/1.6) GS 3°	42° 51.677' N	30 [ft]	0 200 400 600 800 [m]
	29	A B C D E	240 - 0.8 200 (200-0.8/1.6) GS 3°	041° 07.474' E	9 [m]	0 1000 2000 [ft]
SRA	11	A B C D E	370 - 1.2 350 (350-1.2/1.6)			
	29	A B C D E	390 - 1.2 350 (350-1.2/1.6)			

RWY	TORA	TODA	ASDA	LDA	PSN THR	ALS
11	11610 [ft] 3540 [m]	12270 [ft] 3740 [m]	11890 [ft] 3625 [m]	11610 [ft] 3540 [m]	42°52.179'N 041°06.383'E	
29	11610 [ft] 3540 [m]	12920 [ft] 3940 [m]	11840 [ft] 3610 [m]	11610 [ft] 3540 [m]	42°51.172'N 041°08.570'E	(X)

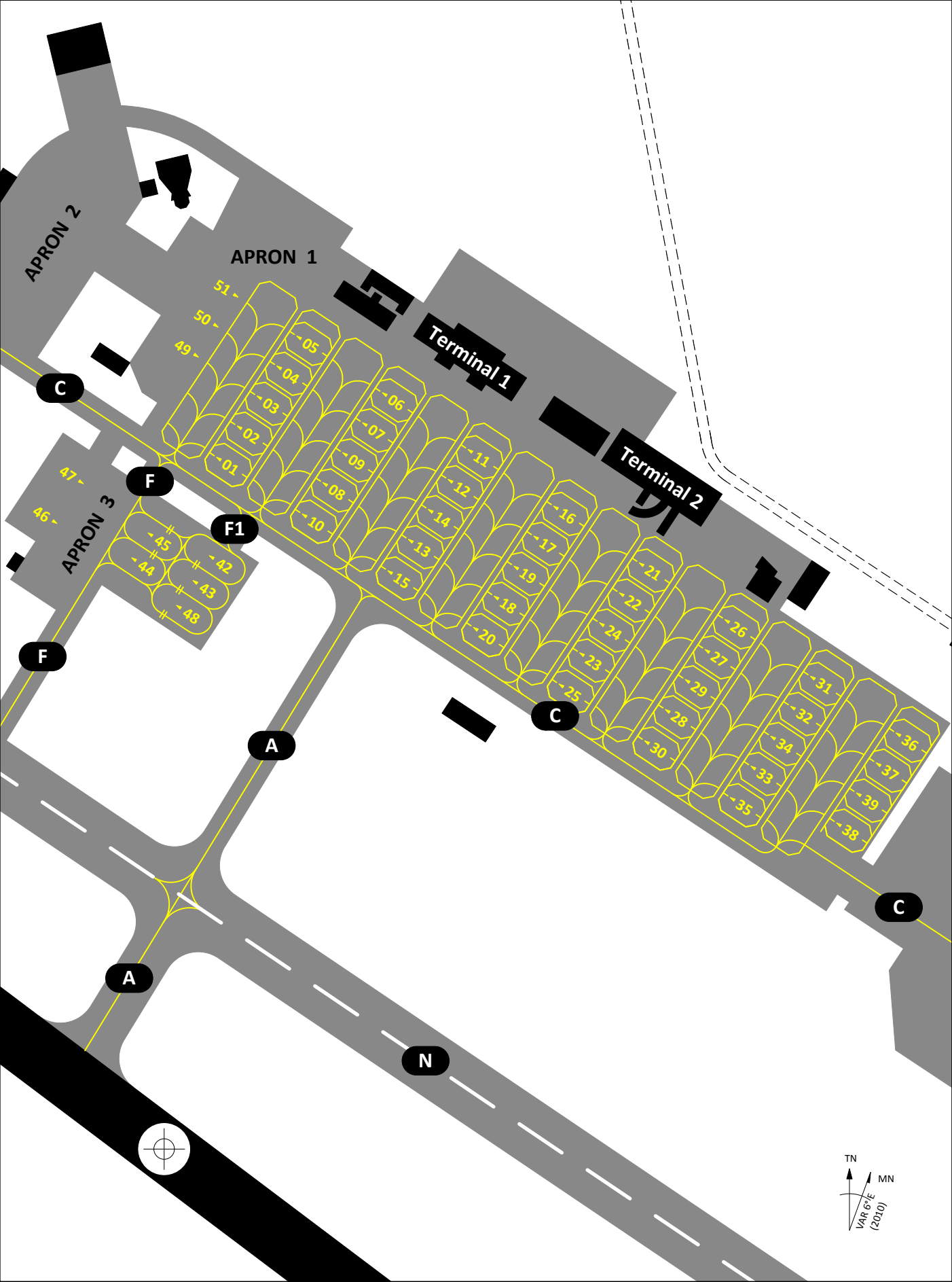
Tower	Radar	Final - Precision	TACAN	ILS		
129.000 MHz						



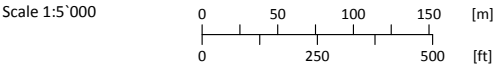
	RWY	CAT	MINIMA	ARP	ELEV	Scale 1:25'000
PAR	12R	A B C D E	1765 - 0.8 200 (200-0.8/1.6) GS 3°	41° 40.095` N 044° 57.283` E	1539 [ft] 469 [m]	0200400600800 [m] 010002000 [ft]
SRA	30L	A B C D E	1725 - 0.8 200 (200-0.8/1.6) GS 3°			
	12R	A B C D E	1915 - 1.2 350 (350-1.2/1.6)			
	30L	A B C D E	1875 - 1.2 350 (350-1.2/1.6)			

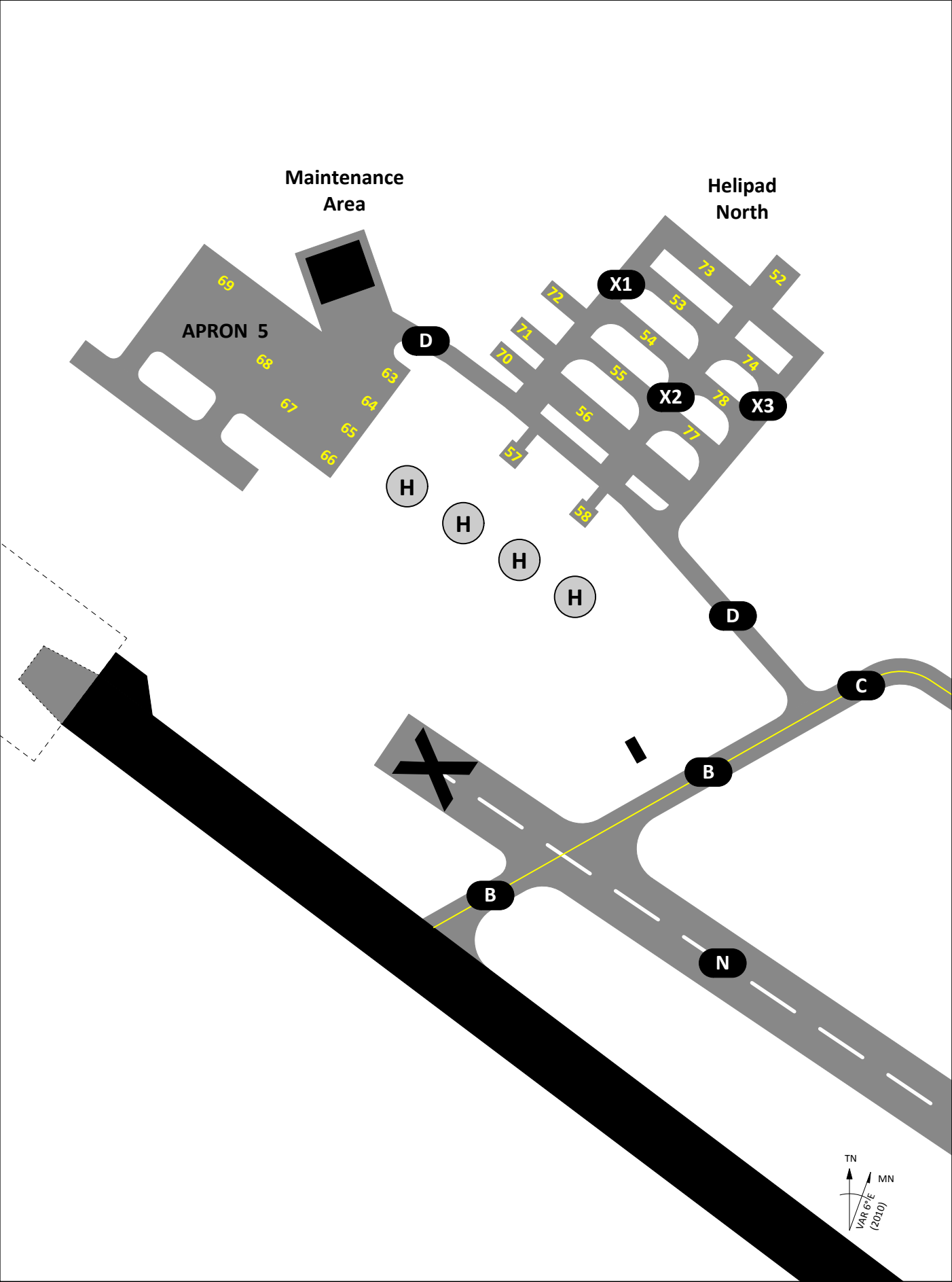
RWY	TORA	TODA	ASDA	LDA	PSN THR	ALS
12R	9580 [ft] 2920 [m]	9580 [ft] 2920 [m]	9775 [ft] 2980 [m]	9580 [ft] 2920 [m]	41°40.654`N 044°56.565`E	
30L	9580 [ft] 2920 [m]	10230 [ft] 3120 [m]	9775 [ft] 2980 [m]	9580 [ft] 2920 [m]	41°39.537`N 044°58.003`E	(X)

Tower	Radar	Final - Precision	TACAN	ILS RWY 12R	ILS RWY 30L	
138.000 MHz				110.30 MHz	108.90 MHz	

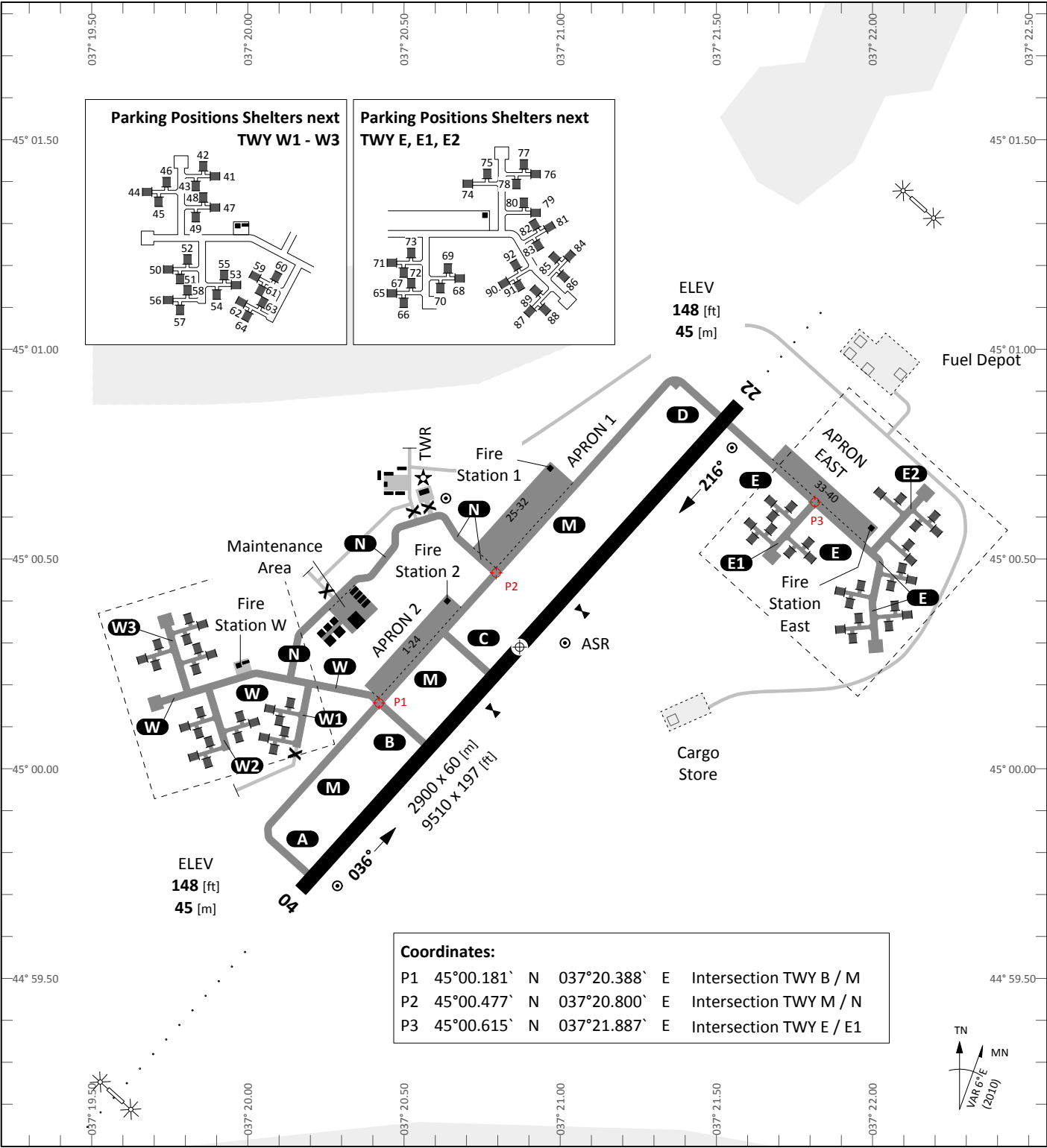


Tower			
138.000 MHz			





Tower				Scale 1:5'000	0	50	100	150	[m]
138.000 MHz					0	250	500		[ft]



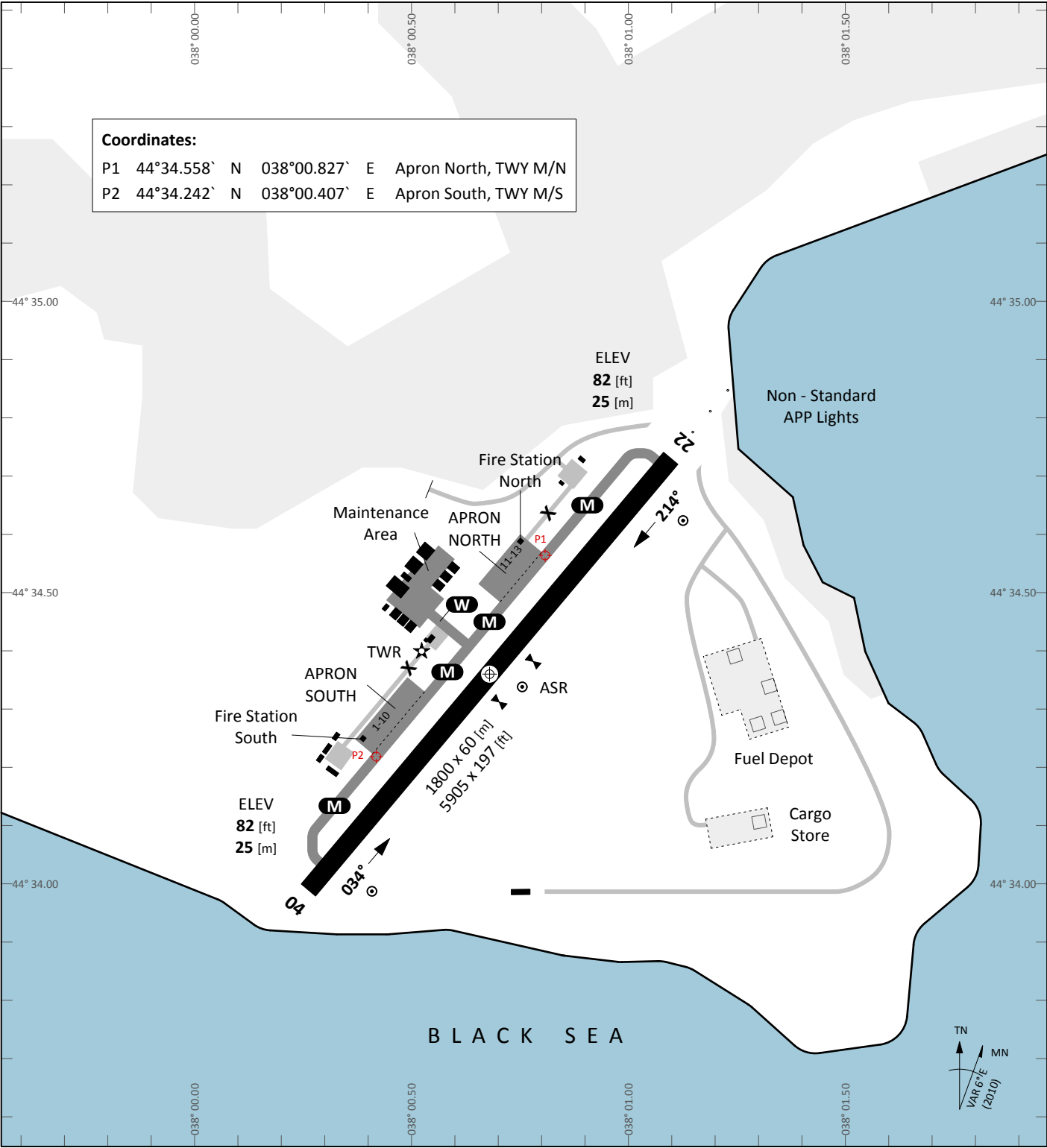
	RWY	CAT	MINIMA	ARP	ELEV	Scale 1:25'000
PAR	04 - 22	A B C D E	348 - 0.8 200 (200-0.8/1.6) GS 3°	45° 00.298` N	148 [ft]	0 200 400 600 800 [m]
SRA	04 - 22	A B C D E	498 - 1.2 350 (350-1.2/1.6)	037° 20.870` E	45 [m]	0 1000 2000 [ft]

RWY	TORA	TODA	ASDA	LDA	PSN THR	ALS
04	9510 [ft] 2900 [m]	9510 [ft] 2900 [m]	9510 [ft] 2900 [m]	9510 [ft] 2900 [m]	44°59.741`N 037°20.099`E	
22	9510 [ft] 2900 [m]	9510 [ft] 2900 [m]	9510 [ft] 2900 [m]	9510 [ft] 2900 [m]	45°00.853`N 037°21.642`E	

Tower	Radar	Final - Precision	TACAN	ILS		
121.000 MHz						

Ground Chart for DCS A-10C Warthog Flight Simulator

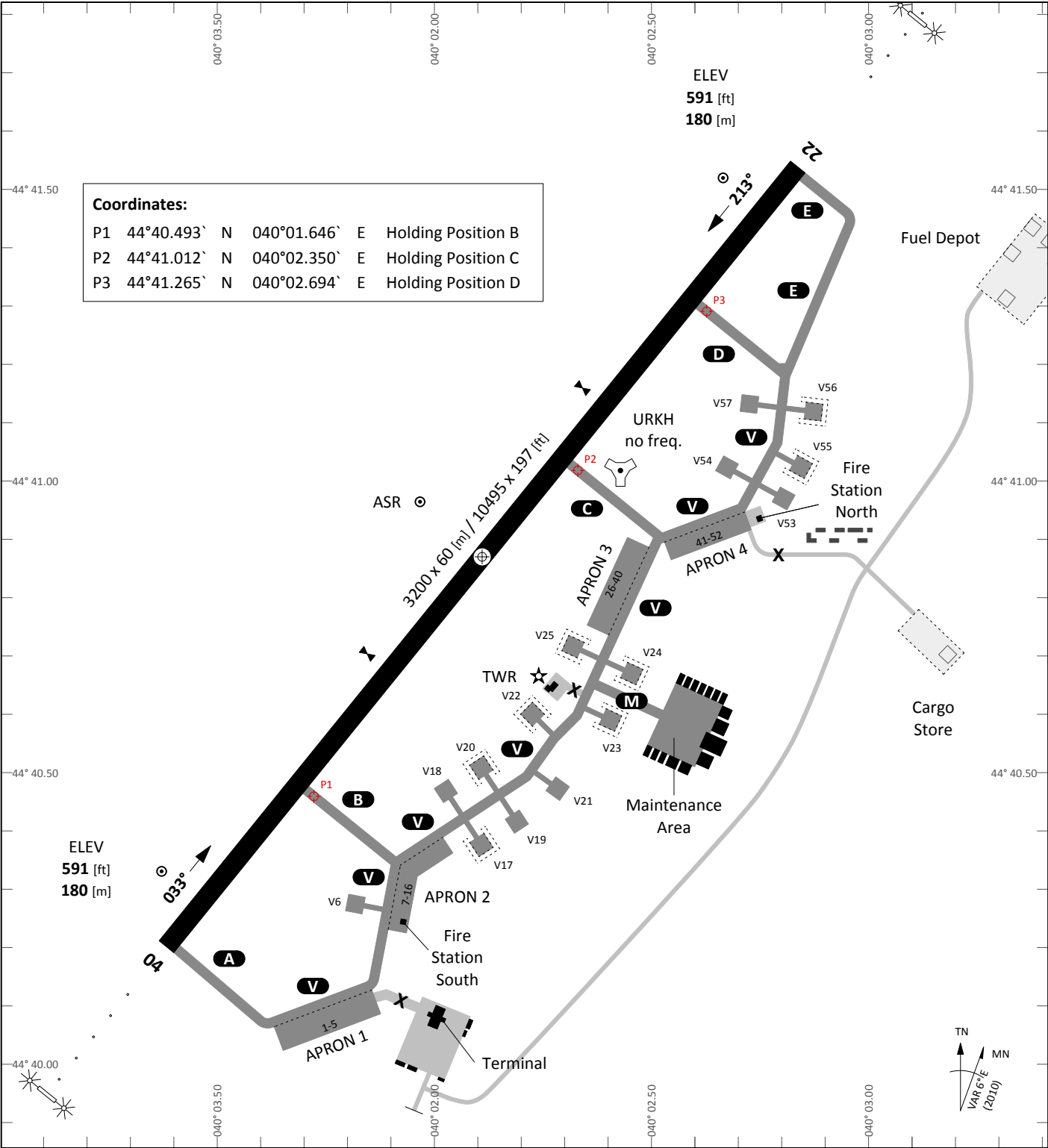
rev 3.5.0 - 12.03.2012 © dp - <http://www.virtual-jabog32.de> - virtuelles Jagdbombergeschwader 32



	RWY	CAT	MINIMA	ARP	ELEV	Scale 1:18'000
PAR	04	A B C D E	282 - 0.8 200 (200-0.8/1.6) GS 3°	44° 34.364' N	82 [ft]	0 200 400 600 [m]
SRA	04 - 22	A B C D E	432 - 1.2 350 (350-1.2/1.6)	038° 00.684' E	25 [m]	0 500 1000 1500 2000 [ft]

RWY	TORA	TODA	ASDA	LDA	PSN THR	ALS
04	5905 [ft] 1800 [m]	5905 [ft] 1800 [m]	5905 [ft] 1800 [m]	5905 [ft] 1800 [m]	44°34.014'N 038°00.219'E	
22	5905 [ft] 1800 [m]	5905 [ft] 1800 [m]	5905 [ft] 1800 [m]	5905 [ft] 1800 [m]	44°34.715'N 038°01.149'E	

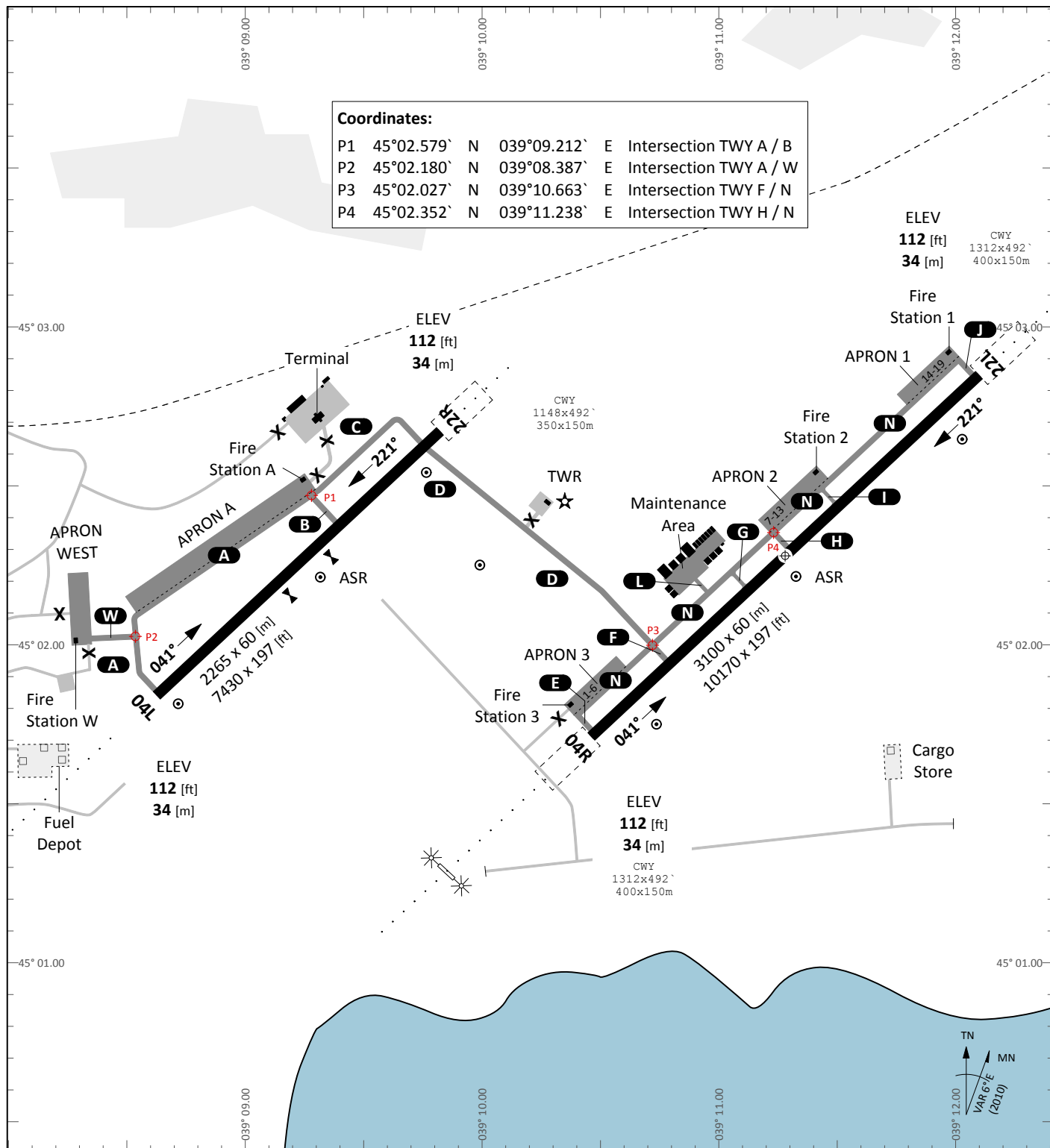
Tower	Radar	Final - Precision	TACAN	ILS		
126.000 MHz						



	RWY	CAT	MINIMA	ARP	ELEV	Scale 1:18'000
	04 - 22	A B C D E	791 - 0.8 200 (200-0.8/1.6) GS 3°			
PAR	04 - 22	A B C D E	941 - 1.2 350 (350-1.2/1.6)	44° 40.874` N 040° 02.112` E	591 [ft] 180 [m]	0 200 400 600 [m] 0 500 1000 1500 2000 [ft]

RWY	TORA	TODA	ASDA	LDA	PSN THR	ALS
04	10495 [ft] 3200 [m]	10495 [ft] 3200 [m]	10495 [ft] 3200 [m]	10495 [ft] 3200 [m]	44°40.257`N 040°01.276`E	
22	10495 [ft] 3200 [m]	10495 [ft] 3200 [m]	10495 [ft] 3200 [m]	10495 [ft] 3200 [m]	44°41.494`N 040°02.946`E	

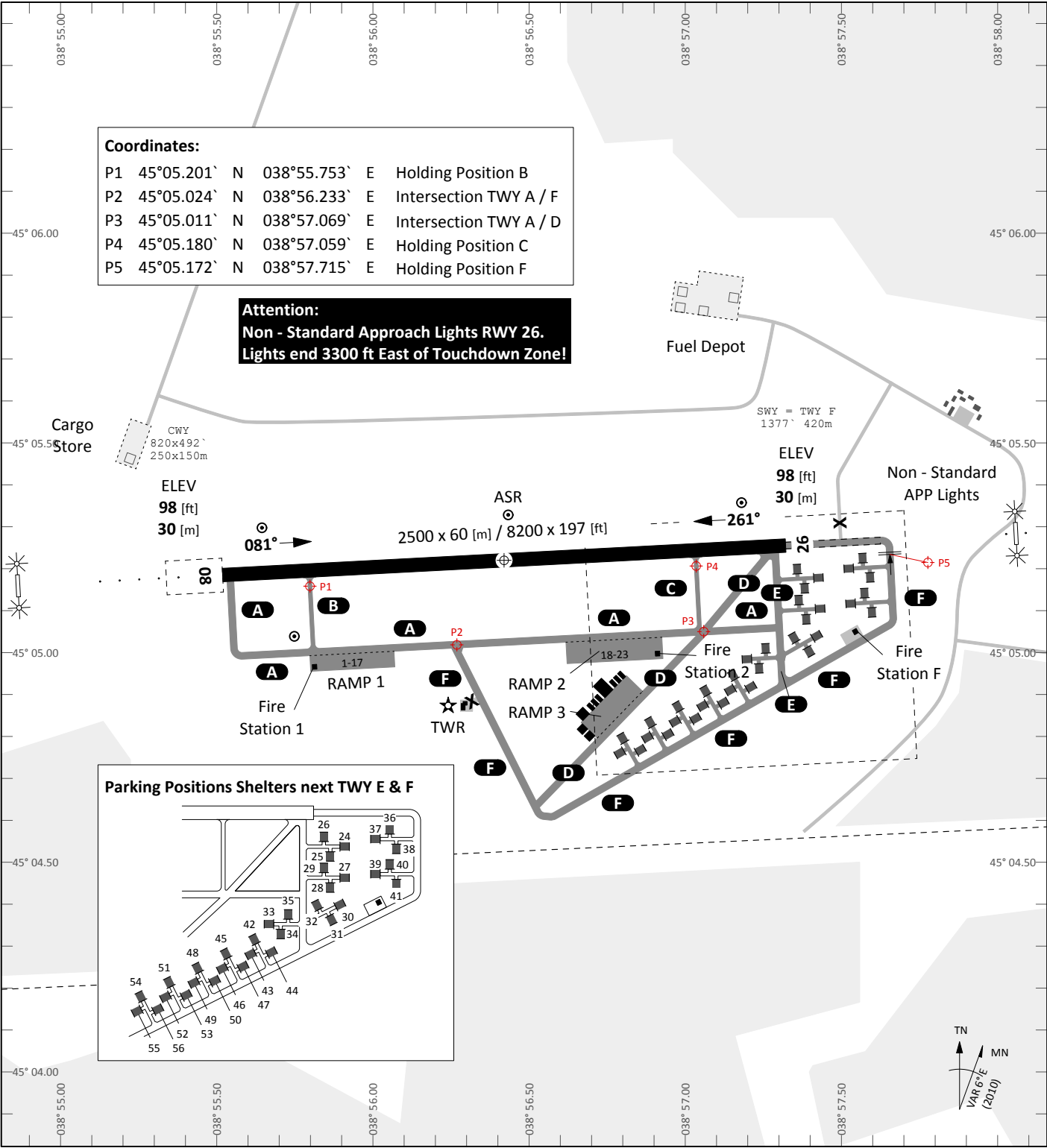
Tower	Radar	Final - Precision	TACAN	ILS		
125.000 MHz						



PAR	RWY	CAT	MINIMA	ARP	ELEV	Scale 1:33'000
SRA	04L - 22R	A B C D E	312 - 0.8 200 (200-0.8/1.6) GS 3°	45° 02.276' N 039° 11.282' E	112 [ft] 34 [m]	02004006008001000 0100020003000 [m][ft]
	04R - 22L	A B C D E	312 - 0.8 200 (200-0.8/1.6) GS 3°			
	04L - 22R	A B C D E	462 - 1.2 350 (350-1.2/1.6)			
	04R - 22L	A B C D E	462 - 1.2 350 (350-1.2/1.6)			

RWY	TORA	TODA	ASDA	LDA	PSN THR	ALS
04L	7430 [ft] 2265 [m]	8580 [ft] 2615 [m]	7430 [ft] 2265 [m]	7430 [ft] 2265 [m]	45°01.991' N 039°08.464' E	
22R	7430 [ft] 2265 [m]	7430 [ft] 2265 [m]	7430 [ft] 2265 [m]	7430 [ft] 2265 [m]	45°02.749' N 039°09.800' E	
04R	10170 [ft] 3100 [m]	11480 [ft] 3500 [m]	10170 [ft] 3100 [m]	10170 [ft] 3100 [m]	45°01.757' N 039°10.367' E	
22L	10170 [ft] 3100 [m]	11480 [ft] 3500 [m]	10170 [ft] 3100 [m]	10170 [ft] 3100 [m]	45°02.794' N 039°12.198' E	

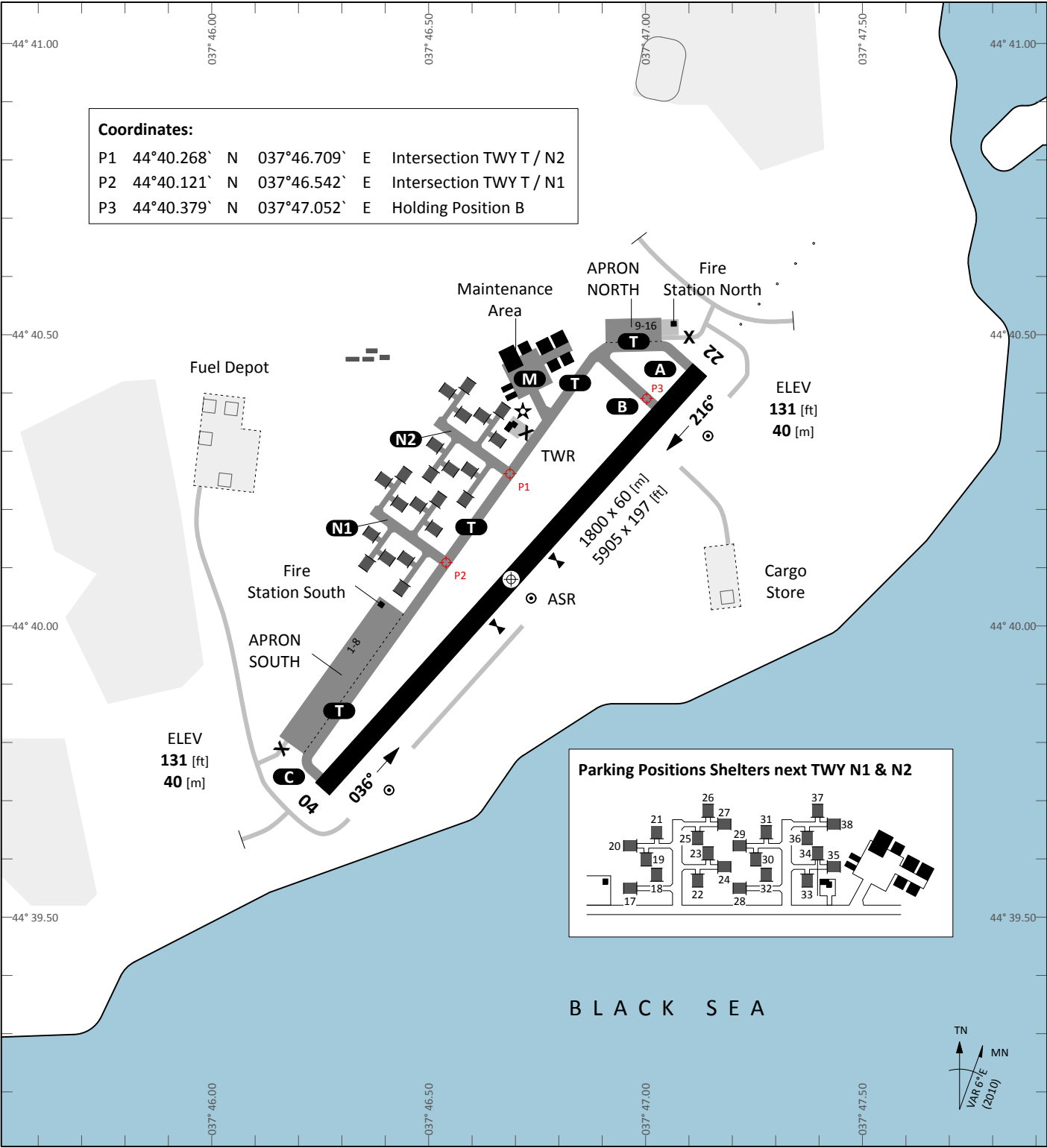
Tower	Radar	Final - Precision	TACAN	ILS		
128.000 MHz						



	RWY	CAT	MINIMA	ARP	ELEV	Scale 1:25'000
PAR	08 - 26	A B C D E	298 - 0.8 200 (200-0.8/1.6) GS 3°	45° 05.216` N	98 [ft]	0 200 400 600 800 [m]
SRA	08 - 26	A B C D E	448 - 1.2 350 (350-1.2/1.6)	038° 56.415` E	30 [m]	0 1000 2000 [ft]

RWY	TORA	TODA	ASDA	LDA	PSN THR	ALS
08	8200 [ft] 2500 [m]	8200 [ft] 2500 [m]	9580 [ft] 2920 [m]	8200 [ft] 2500 [m]	45°05.231`N 038°55.467`E	
26	8200 [ft] 2500 [m]	9020 [ft] 2750 [m]	8200 [ft] 2500 [m]	8200 [ft] 2500 [m]	45°05.202`N 038°57.362`E	
26 (via TWY F)	9580 [ft] 2920 [m]	10400 [ft] 3170 [m]	9580 [ft] 2920 [m]	8200 [ft] 2500 [m]		

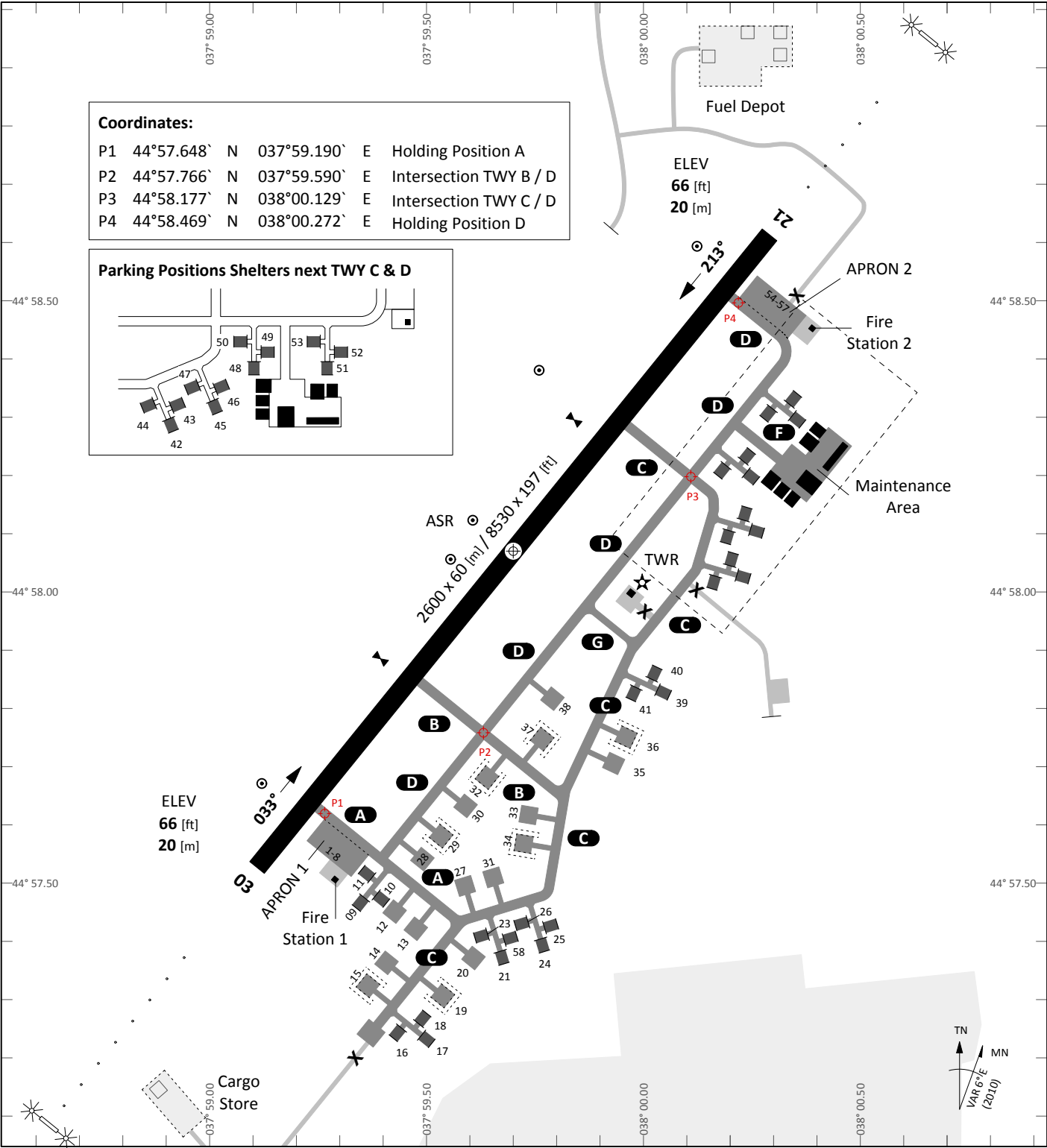
Tower	Radar	Final - Precision	TACAN	ILS		
122.000 MHz						



PAR	RWY	CAT	MINIMA	ARP	ELEV	Scale 1:18'000
	04	A B C D E	331 - 0.8 200 (200-0.8/1.6) GS 3°			
SRA	04 - 22	A B C D E	481 - 1.2 350 (350-1.2/1.6)	44° 40.084` N 037° 46.694` E	131 [ft] 40 [m]	0 200 400 600 [m] 0 500 1000 1500 2000 [ft]

RWY	TORA	TODA	ASDA	LDA	PSN THR	ALS
04	5905 [ft] 1800 [m]	5905 [ft] 1800 [m]	5905 [ft] 1800 [m]	5905 [ft] 1800 [m]	44°39.744`N 037°46.213`E	
22	5905 [ft] 1800 [m]	5905 [ft] 1800 [m]	5905 [ft] 1800 [m]	5905 [ft] 1800 [m]	44°40.424`N 037°47.176`E	

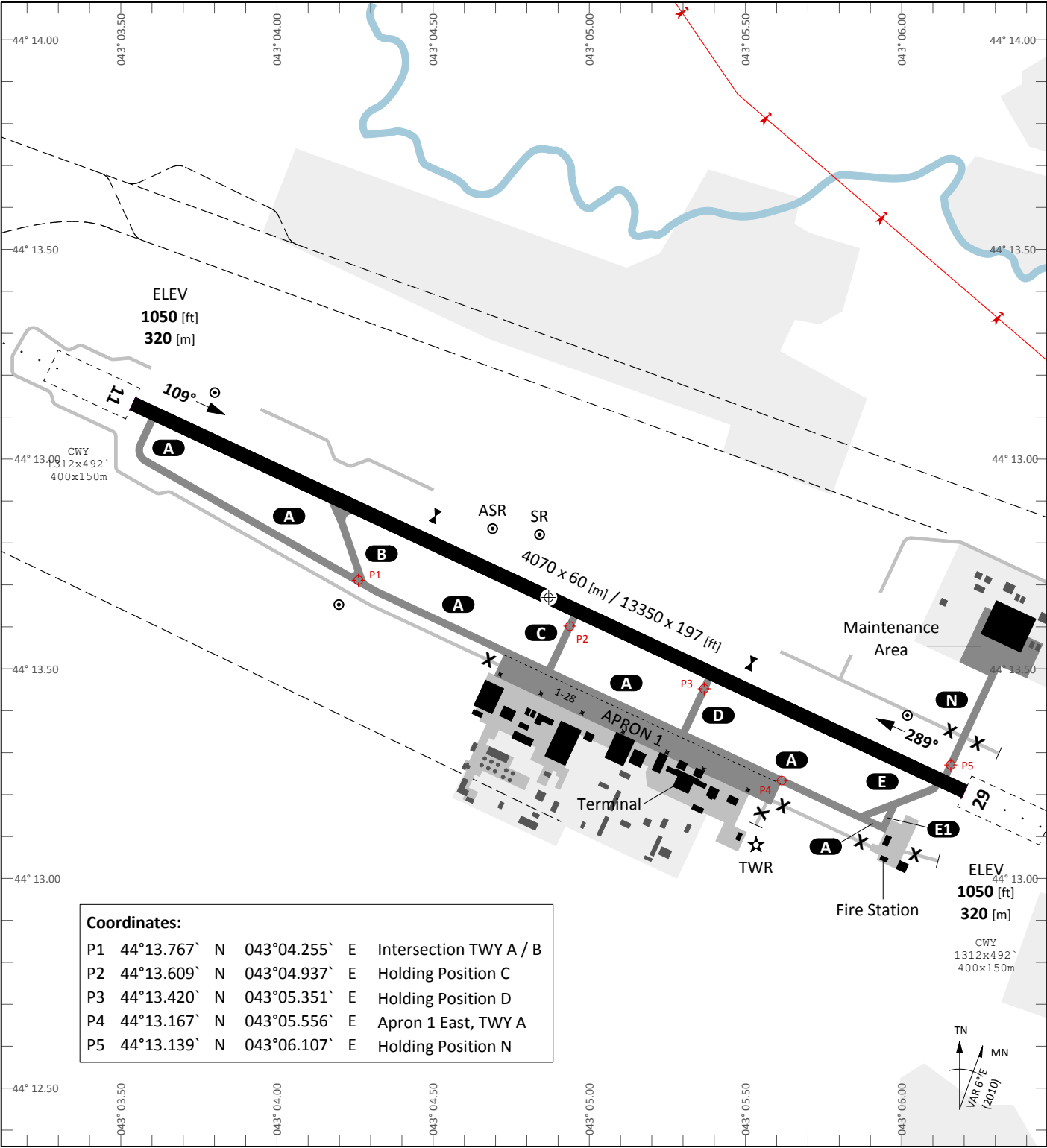
Tower	Radar	Final - Precision	TACAN	ILS		
123.000 MHz						



	RWY	CAT	MINIMA	ARP	ELEV	Scale 1:18'000
	03 - 21	A B C D E	266 - 0.8 200 (200-0.8/1.6) GS 3°			
PAR	03 - 21	A B C D E	266 - 0.8 200 (200-0.8/1.6) GS 3°	44° 58.073` N 037° 59.697` E	66 [ft] 20 [m]	0 200 400 600 [m] 0 500 1000 1500 2000 [ft]
SRA	03 - 21	A B C D E	416 - 1.2 350 (350-1.2/1.6)			

RWY	TORA	TODA	ASDA	LDA	PSN THR	ALS
03	8530 [ft] 2600 [m]	8530 [ft] 2600 [m]	8530 [ft] 2600 [m]	8530 [ft] 2600 [m]	44°57.562`N 037°59.026`E	
21	8530 [ft] 2600 [m]	8530 [ft] 2600 [m]	8530 [ft] 2600 [m]	8530 [ft] 2600 [m]	44°58.584`N 038°00.369`E	

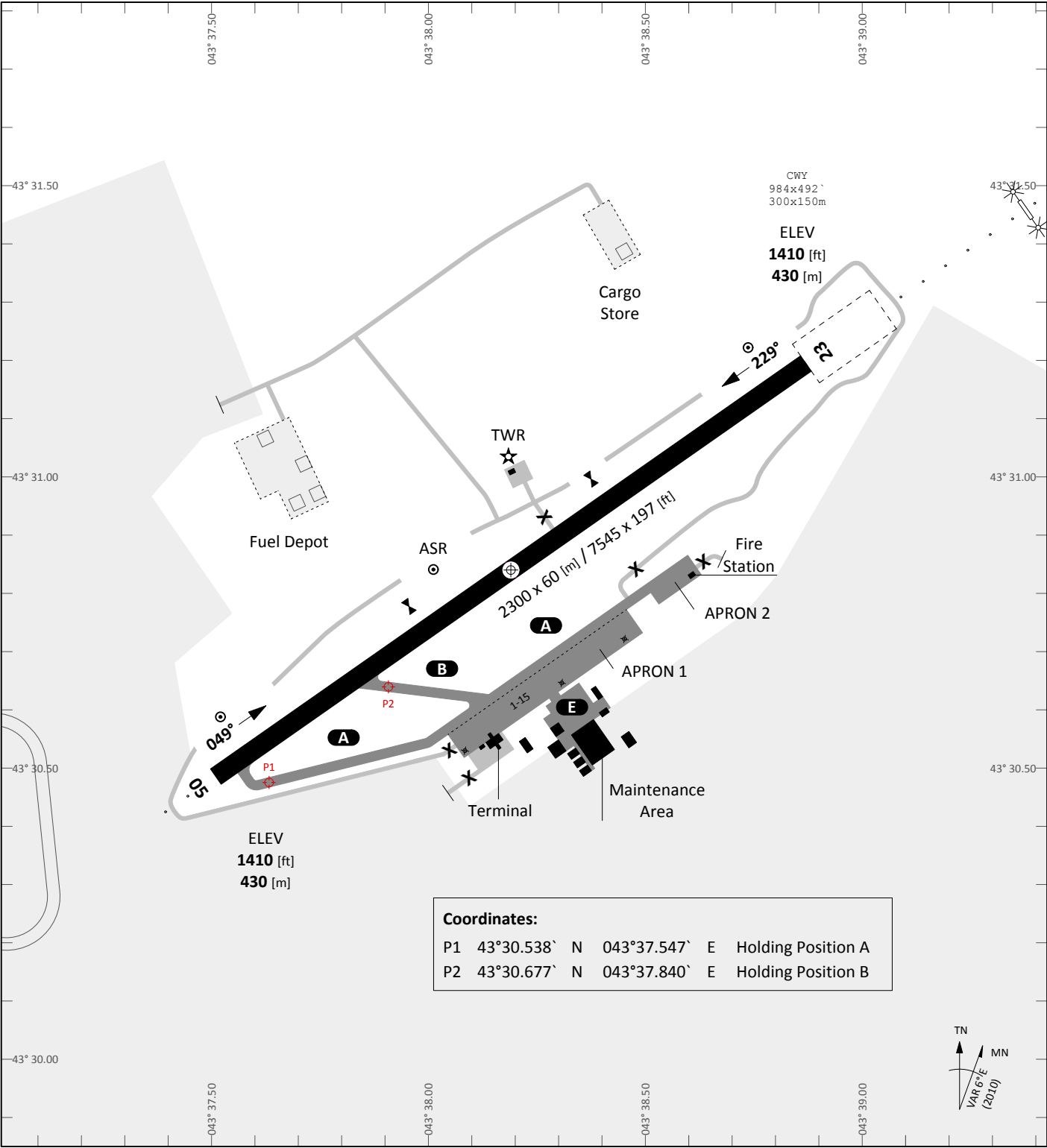
Tower	Radar	Final - Precision	TACAN	ILS		
124.000 MHz						



	RWY	CAT	MINIMA	ARP 44° 13.672` N 043° 04.870` E	ELEV 1050 [ft] 320 [m]	Scale 1:25'000 0 200 400 600 800 [m] 0 1000 2000 [ft]
	11 - 29	A B C D E	1250 - 0.8 200 (200-0.8/1.6) GS 3°			
SRA	11 - 29	A B C D E	1400 - 1.2 350 (350-1.2/1.6)			

RWY	TORA	TODA	ASDA	LDA	PSN THR	ALS
11	13350 [ft] 4070 [m]	14660 [ft] 4470 [m]	13350 [ft] 4070 [m]	13350 [ft] 4070 [m]	44°14.254`N 043°03.591`E	
29	13350 [ft] 4070 [m]	14660 [ft] 4470 [m]	13350 [ft] 4070 [m]	13350 [ft] 4070 [m]	44°13.089`N 043°06.148`E	

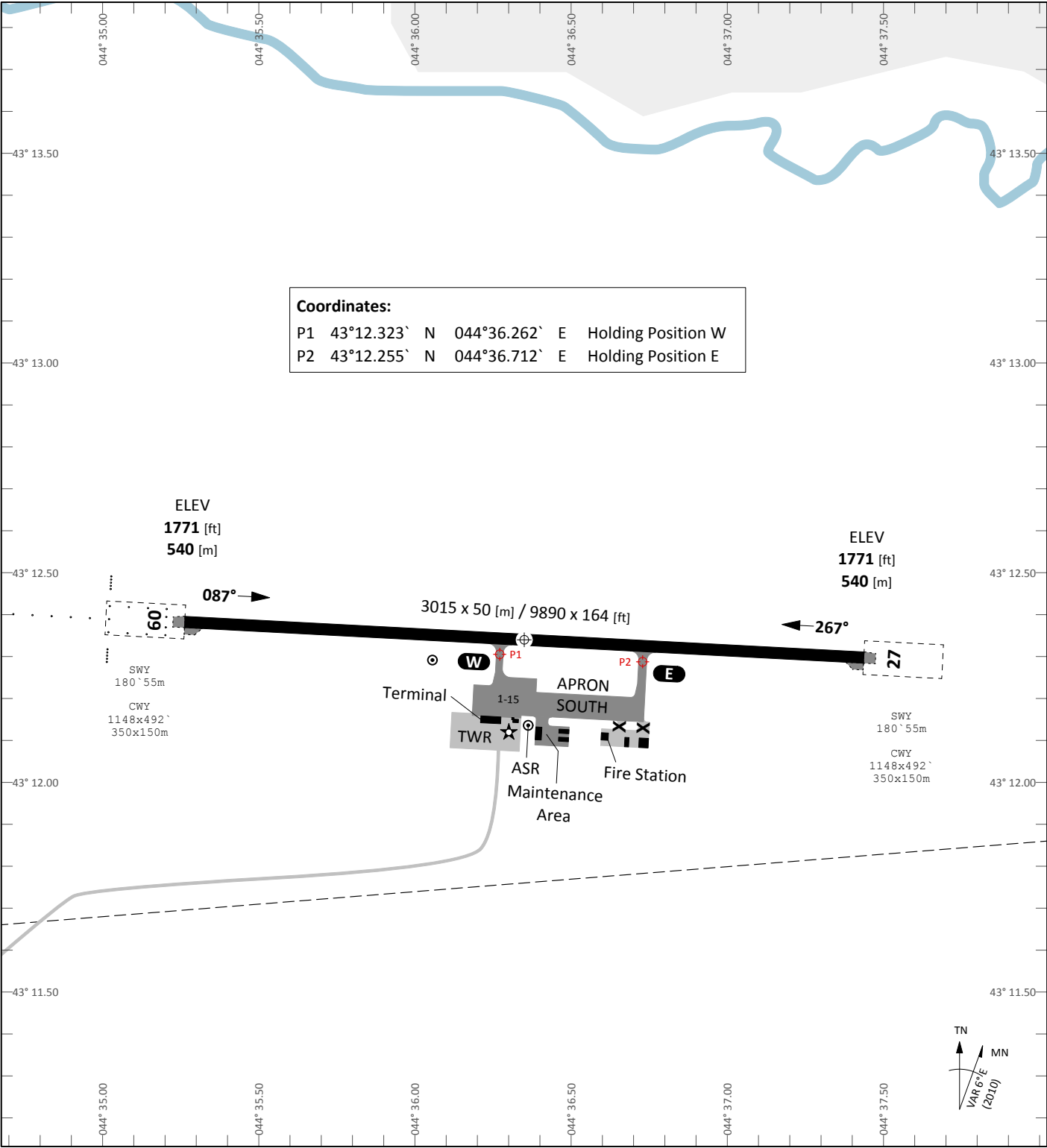
Tower	Radar	Final - Precision	TACAN	ILS RWY 11	ILS RWY 29	
135.000 MHz				111.70 MHz	109.30 MHz	



	RWY	CAT	MINIMA	ARP	ELEV	Scale 1:18'000
	05 - 23	A B C D E	1610 - 0.8 200 (200-0.8/1.6) GS 3°			
PAR	05 - 23	A B C D E	1760 - 1.2 350 (350-1.2/1.6)	43° 30.842' N 043° 38.193' E	1410 [ft] 430 [m]	0 200 400 600 [m] 0 500 1000 1500 2000 [ft]

RWY	TORA	TODA	ASDA	LDA	PSN THR	ALS
05	7545 [ft] 2300 [m]	8530 [ft] 2600 [m]	7545 [ft] 2300 [m]	7545 [ft] 2300 [m]	43°30.562'N 043°37.443'E	
23	7545 [ft] 2300 [m]	7545 [ft] 2300 [m]	7545 [ft] 2300 [m]	7545 [ft] 2300 [m]	43°31.122'N 043°38.943'E	

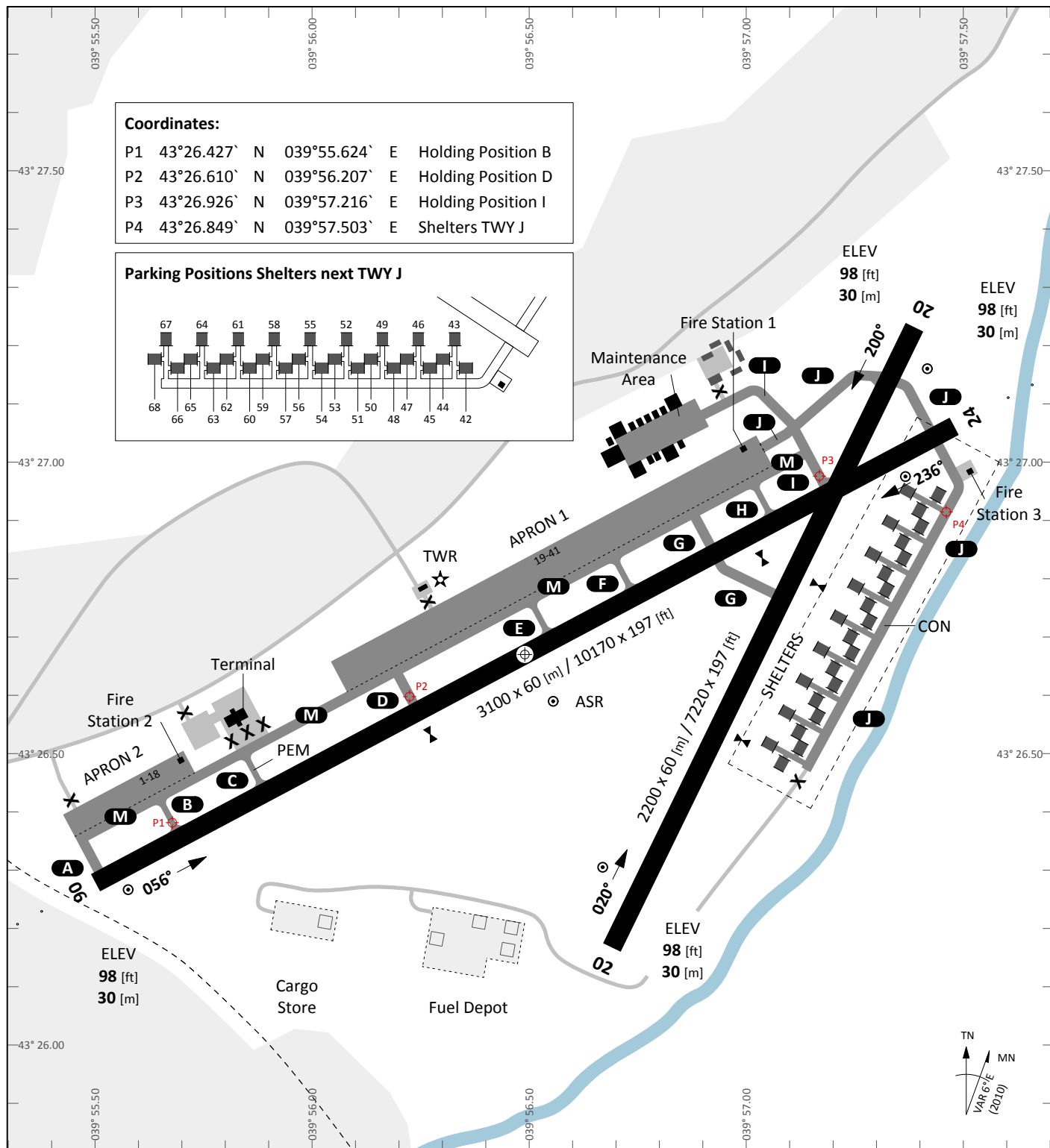
Tower	Radar	Final - Precision	TACAN	ILS RWY 23		
136.000 MHz				110.50 MHz		



PAR	RWY	CAT	MINIMA	ARP	ELEV	Scale 1:25'000
	09 - 27	A B C D E	1971 - 0.8 200 (200-0.8/1.6) GS 3°			
SRA	09 - 27	A B C D E	2121 - 1.2 350 (350-1.2/1.6)	43° 12.342` N 044° 36.346` E	1771 [ft] 540 [m]	0 200 400 600 800 [m] 0 1000 2000 [ft]

RWY	TORA	TODA	ASDA	LDA	PSN THR	ALS
09	9890 [ft] 3015 [m]	11040 [ft] 3365 [m]	10070 [ft] 3070 [m]	9890 [ft] 3015 [m]	43°12.501`N 044°35.275`E	(E)
27	9890 [ft] 3015 [m]	11040 [ft] 3365 [m]	10070 [ft] 3070 [m]	9890 [ft] 3015 [m]	43°12.182`N 044°37.416`E	

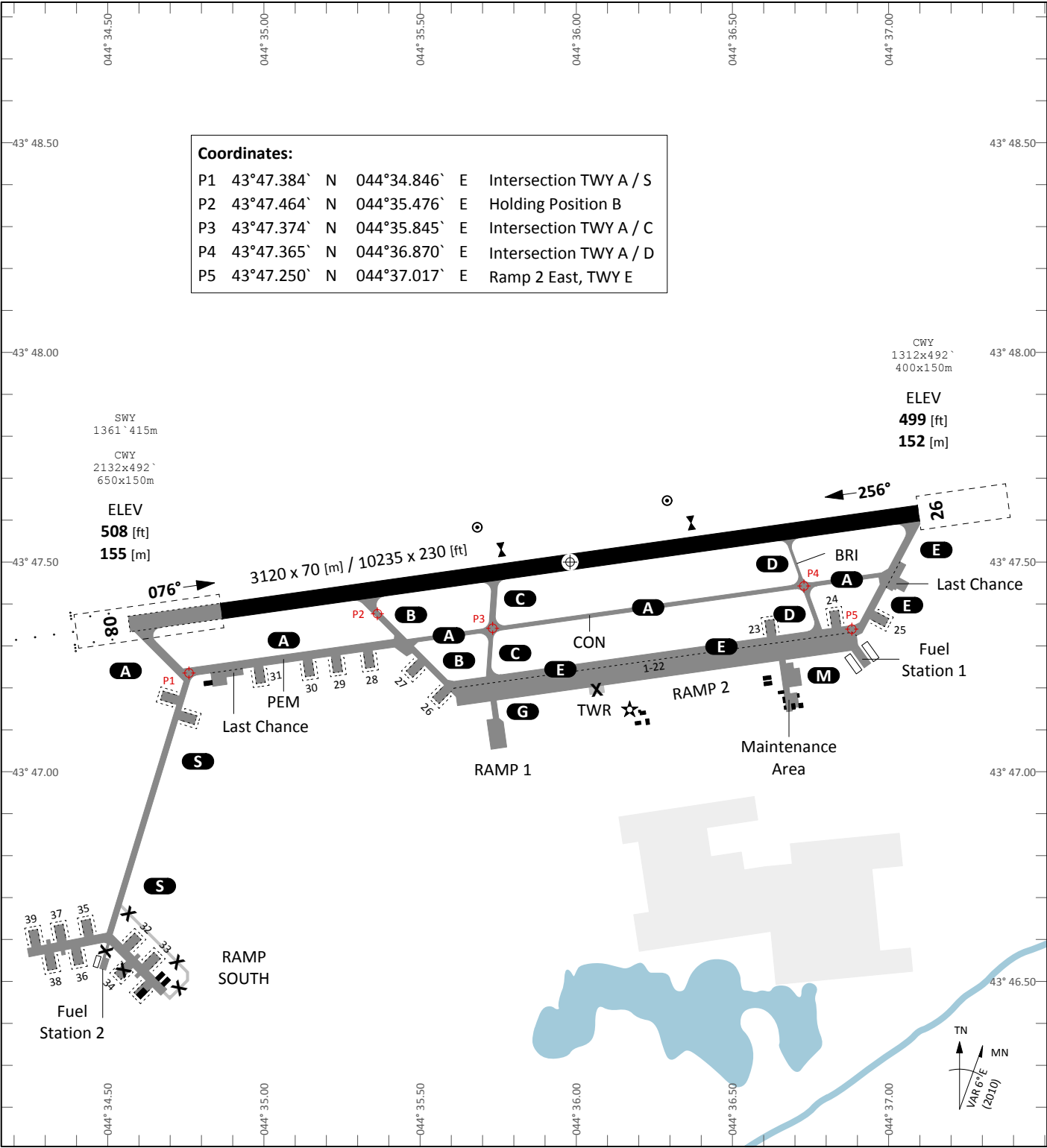
Tower	Radar	Final - Precision	TACAN	ILS RWY 09		
141.000 MHz				110.50 MHz		



RWY	CAT	MINIMA		ARP	ELEV	Scale 1:18'000
		06	24			
PAR	06	A B C D E	298 - 0.8 200 (200-0.8/1.6) GS 3°	43° 26.669' N 039° 56.489' E	98 [ft] 30 [m]	0 200 400 600 [m] 0 500 1000 1500 2000 [ft]
SRA	02	A B C D E	298 - 0.8 200 (200-0.8/1.6) GS 3°			
	06 - 24	A B C D E	448 - 1.2 350 (350-1.2/1.6)			
	02 - 20	A B C D E	448 - 1.2 350 (350-1.2/1.6)			

RWY	TORA	TODA	ASDA	LDA	PSN THR	ALS
06	10170 [ft] 3100 [m]	10170 [ft] 3100 [m]	10170 [ft] 3100 [m]	10170 [ft] 3100 [m]	43°26.337'N 039°55.432'E	⊕
24	10170 [ft] 3100 [m]	10170 [ft] 3100 [m]	10170 [ft] 3100 [m]	10170 [ft] 3100 [m]	43°26.997'N 039°57.540'E	⊕
02	7220 [ft] 2200 [m]	7220 [ft] 2200 [m]	7220 [ft] 2200 [m]	7220 [ft] 2200 [m]	43°26.149'N 039°56.642'E	
20	7220 [ft] 2200 [m]	7220 [ft] 2200 [m]	7220 [ft] 2200 [m]	7220 [ft] 2200 [m]	43°27.167'N 039°57.459'E	

Tower	Radar	Final - Precision	TACAN	ILS RWY 06		
127.000 MHz				111.10 MHz		



	RWY	CAT	MINIMA	ARP	ELEV	Scale 1:25'000
	08 - 26	A B C D E	708 - 0.8 200 (200-0.8/1.6) GS 3°			
PAR	08 - 26	A B C D E	708 - 0.8 200 (200-0.8/1.6) GS 3°	43° 47.504' N	508 [ft]	0 1000 2000 [ft]
SRA	08 - 26	A B C D E	858 - 1.2 350 (350-1.2/1.6)	044° 35.981' E	155 [m]	

RWY	TORA	TODA	ASDA	LDA	PSN THR	ALS
08	10235 [ft] 3120 [m]	11545 [ft] 3520 [m]	10235 [ft] 3120 [m]	10235 [ft] 3120 [m]	43°47.514'N 044°34.984'E	(E)
26	10235 [ft] 3120 [m]	12365 [ft] 3770 [m]	11595 [ft] 3535 [m]	10235 [ft] 3120 [m]	43°47.495'N 044°37.279'E	

Tower	Radar	Final - Precision	TACAN	ILS		
137.000 MHz						