



**INFORMATION PAPER**

RASG-PA ESC/36 — IP/02  
18/05/21

**Thirty Sixth Regional Aviation Safety Group — Pan America Executive Steering Committee Meeting  
(ESC/36)**

19 & 20 May 2021

**Agenda item 2: Safety management process within RASG-PA**

**Status of RASG-PA Projects – FDAP & Visual to PBN**  
(Presented by Secretariat)

<b>EXECUTIVE SUMMARY</b>	
This Information Paper presents information regarding the status of the FDAP and PBN RASG-PA Projects.	
<b>Suggested action:</b>	The Meeting is invited to take note of the information contained in this document.
<i>Strategic objective:</i>	<ul style="list-style-type: none"> <li>• Safety</li> </ul>
<i>References:</i>	

**1. Introduction**

***FDAP Project***

1.1 The proposed ammendment of Annex 6 regarding Flight Data Analysis Program (FDAP) had originated in the Pan-America Regional Aviation Safety Group (RASG-PA) 29th Executive Steering Committee meeting (Mexico, 20 to 30 November 2017) thanks to an initiative from ATR.

1.2 The original document: “COST-BENEFIT ANALYSIS FOR EXTENDING ICAO’S ANNEX 6, PART I, STANDARD 3.3.2” is available at the RASG-PA website: <https://www.icao.int/RASGPA/Pages/Library.aspx>

1.3 The proposal was accepted and discussed by the ICAO OPS Panel meetings FLTOPSP/4 (Montreal, 2017) and FLIRECSWG/12 (Washington, 2019). The initial proposal was modified by inputs received from these discussions and was presented as a performance-based requirement to provide a means with which to conduct an FDAP, with the lower limit of 10 000 Kgs which was selected based on comments from both FLTOPSP and FLIRECSWG.

1.4 While there was additional support for a further lowering of the threshold to 10 000 Kgs or even lower, the initial review of the proposals originating from the Pan-America Regional Aviation Safety Group had resulted in comments that there was a correlation between the maturity of the operator SMS and the

size and complexity of the operation and aircraft operated. In this regard it was agreed that the requirement to introduce an FDAP would only be beneficial for operators with a sufficiently robust SMS, and a further extension to smaller aircraft would likely not result in additional safety gains.

### ***Visual to PBN Project***

1.5 During the ESC/31 meeting held in Buenos Aires, ATR made reference to PBN approaches and its benefits for safety and efficiency. Reference was made to ICAO's mandate to implement PBN on all international IFR runways; however, it would be more beneficial to push forward the implementation of PBN on VFR runways. Converting VFR runways to IFR is much cheaper today with PBN availability, compared to conventional IFR. ATR made a proposal to work together with the RASG-PA Secretariat and present a project at ESC/32 meeting to demonstrate the benefits of converting VFR to IFR using PBN. If the case is strong enough, a proposal can be made to ICAO to expand the scope of PBN implementation. The meeting issued Decision ESC/31/D7 authorizing ATR and the Secretariat to develop the project.

1.6 At the ESC/32 meeting held in Mexico on March 19 and 20, 2019, Brazil, the United States, and CANSO expressed their interest in getting involved in the project and the possibility of contributing resources.

1.7 Finally, during the ESC/33 meeting held in Lima on September 11 and 12, 2019, it was reported that Colombia and Brazil confirmed their intention to start the implementation of PBN in visual tracks as part of the RASG-PA project, during 2019 and 2020 respectively.

## **2. Status of the projects**

### **FDAP**

2.1 The proposal has now cleared the Commission Group (CG) and Working Group on AN Work Programme Deliverables Production (WG/PDP) in charge to review proposed changes to Annexes and PANS contained in preliminary review, leaving just the formal ANC stage, which, usually, just confirms the edits made by the previous stages. So far, only minor editorial has been actioned.

Please refer to **Appendix A** for a copy of the Amendment proposal waiting for final approval.

### ***Visual to PBN***

2.1 Regarding the project "*Implementation of PBN approach on a visual runway*", the first pilot implementation exercise is being carried out for the Guapi Airport (SKGP) in Colombia. Since ESC/35 Meeting, the following activities were completed:

- a) the procedure was included into the ATR simulator database;
- b) the validation flight in the simulator took place with satisfactory results;
- c) some minor adjustments to the procedure were implemented;

2.2 As a result of this activities, the following PBN instrument procedures were developed, tested and published at the Colombian (Aeronautical Information Publication) AIP:

- SID RNAV (GNSS) RWY 02
- SID RNAV (GNSS) RWY 20
- STAR RNAV (GNSS) RWY 02
- STAR RNAV (GNSS) RWY 20

- RNP APCH RWY 20
- RNP APCH RWY 02

Please refer to **Appendix B** for a copy of these procedures.

2.3 The next activities to follow shortly are:

- a) Coding of the procedure into the SATENA database;
- b) On flight validation in the SATENA airplane;
- c) On June 7, 2021, the procedure will be openly available to the public;
- d) Starting in June, flight data will be collected for a period between 60 and 90 days, to determine the safety and accessibility benefits of the project;
- e) Finally, once that data is collected, a cost-benefit analysis will be produced and published.

2.4 The successful execution of this project is occurring thanks to the participation and collaboration of the following Organizations:

- Colombian Civil Aviation Authority (UAEAC)
- Colombian Air Force
- ATR
- Satena
- Thales
- Flight Safety Foundation
- IATA
- ICAO

-END-

**APPENDIX H**

**Proposed amendment to Annex 6 Part I related to flight data analysis programmes**

- 1. ~~Text to be deleted is shown with a line through it.~~ text to be deleted
- 2. New text to be inserted is highlighted with grey shading. new text to be inserted
- 3. ~~Text to be deleted is shown with a line through it~~ followed by the replacement text which is highlighted with grey shading. new text to replace existing text

**3.3 SAFETY MANAGEMENT**

*Note.— Annex 19 includes safety management provisions for air operators. Further guidance is contained in the Safety Management Manual (SMM) (Doc 9859).*

**3.3.1 Recommendation.**— *The operator of an aeroplane of a certificated take-off mass in excess of ~~20 000~~ 15 000 kg should establish and maintain a flight data analysis programme as part of its safety management system.*

**3.3.2** All aeroplanes of a certificated take-off mass in excess of 15 000 kg and more than 30 seats, with a certificate of airworthiness first issued on or after 1 Jan 2026 shall be equipped with a means to support a flight data analysis programme.

**3.3.3** With effect from 1 Jan 2026, the operator of an aeroplane equipped as described in 3.3.2 shall establish and maintain a flight data analysis programme as part of its safety management system.

**3.3.4~~2~~** The operator of an aeroplane of a maximum certificated take-off mass in excess of 27 000 kg shall establish and maintain a flight data analysis programme as part of its safety management system.

<p><i>Origin:</i></p> <p>FLTOPSP/7</p>	<p><i>Rationale:</i></p> <p>Following a review of aircraft MCTOM, passenger numbers and of accident data obtained from the Flight Safety Foundation’s Aviation Safety Network database, it is apparent that a value of 15 000 Kgs would include the majority of the aircraft identified in the range between 5 700 Kgs (the definition of large aeroplanes) and 27 000 Kgs (the current lower threshold for FDAP). Additionally, a value of 15 000 Kgs would include larger aircraft such as the ATR-24 and Dash-8 (100-300). Accident data since the introduction of the operator SMS requirements (1 Jan 2009) showed a significant number of hull loss and fatal accidents for these aircraft types, and it was agreed that there would be significant benefit in including them in the category of aircraft covered by a requirement for FDAP.</p>
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**1. INDICADOR DE LUGAR /  
NOMBRE DEL AERÓDROMO**

**SKGP – GUAPI  
Juan Casiano**

**2. DATOS GEOGRÁFICOS Y DE ADMINISTRACIÓN DEL AD**

**Coordenadas ARP:** 02 34 12.11 N 077 53 52.76 W  
**Distancia y dirección a la ciudad:** NIL  
**Elevación:** 9.75 m / 32 FT  
**Temperatura de referencia:** NIL  
**Declinación magnética:** 03° 42' W / 2013  
**Administración:** Unidad Administrativa Especial de Aeronáutica Civil  
**Dirección:** Aeropuerto de Guapi – Juan Casiano  
**Teléfono:** DDN 0X2 - 8400188 - TWR +57 (1) 317 538 7832  
**Fax:** 8401167  
**AFS:** SKGPYDYX  
**Tránsito autorizado:** IFR / VFR  
**Observaciones:** Departamento Cauca

**3. SERVICIOS. HORAS DE OPERACIÓN**

**Aeropuerto:** 1100 – 2300  
**Aduana e Inmigración:** No  
**Médicos y sanidad:** No  
**AIS/ARO:** No  
**MET:** 1100 – 2300  
**ATS:** 1100 – 2300  
**Abastecimiento de combustible:** No  
**Seguridad:** No  
**Observaciones:** No

**4. SERVICIOS INSTALACIONES DE ASISTENCIA EN TIERRA**

**Instalaciones para el manejo de carga:** A cargo de las empresas aéreas  
**Tipos de combustible:** No  
**Tipos de lubricantes:** No  
**Capacidad de reabastecimiento:** No  
**Espacio disponible en hangar:** No  
**Instalaciones para reparaciones:** No  
**Observaciones:** NIL

**5. INSTALACIONES PARA PASAJEROS**

**Hoteles:** En la ciudad  
**Restaurantes:** No  
**Transporte:** No  
**Instalaciones médicas:** No  
**Banco:** No  
**Oficina postal:** No  
**Información turística:** No  
**Observaciones:** NIL

**6. SERVICIO DE EXTINCIÓN DE INCENDIO SALVAMENTO**

**Categoría:** 4  
**Equipo de salvamento:** Herramienta de estricción  
**Capacidad para retirar aeronaves inutilizadas:** A cargo de las empresas aéreas  
**Observaciones:** Capacidad total de descarga 3.024 Lt/min

**7. REMOCIÓN DE OBSTÁCULOS**

**Equipos:** No  
**Prioridad de limpieza:** No  
**Observaciones:** NIL

**8. DETALLES DEL ÁREA DE MOVIMIENTO**

**Plataforma:** **Superficie:** Pavimento  
**Resistencia:** 39.600 kg  
**Calles de rodaje:** **Anchura:** 18 m  
**Superficie:** Pavimento  
**Resistencia:** 39.600 kg  
**Posiciones de comprobación:**  
**VOR:** No  
**INS:** No  
**Altímetro:** Plataforma.

**Observaciones:** NIL

**9. SISTEMAS Y SEÑALES DE GUÍA DE RODAJE**

**Sistema de guía de rodaje:** No  
**Señalización de RWY:** No  
**Señalización de TWY:** No  
**Observaciones:** NIL

**10. OBSTÁCULOS**

**En áreas de aproximación y despegue:** Si  
**RWY:** 02/20  
**Obstáculo:** Árboles de 20 m de altura aproximadamente / Árboles altos  
**Localización:** 100 m aproximadamente del THR 02/NIL  
**Señalización:** No  
**Observaciones:** NIL

**11. SERVICIO METEOROLÓGICO PROPORCIONADO**

**Oficina MET:** No  
**Horario:** 1100-2300  
**TAF/ Periodo de validez:** No  
**Pronóstico de aterrizaje:** No  
**Información:** METAR, SPECI  
**Documento de vuelo:** No  
**Idioma:** Español, Ingles  
**Cartas:** No  
**Equipo suplementario:** No  
**Dependencias ATS atendidas:** TWR  
**Información adicional:** No  
**Observaciones:** Información suministrada por el ATC

## 12. CARACTERÍSTICAS FÍSICAS DE LA PISTA

RWY	Orientación DEG	DIM (m)	Localización THR	Elevación THR (m/FT)	Dimensiones (m)			Superficie Resistencia AUW
					SWY	CWY	Franja	
02	021	1.300 x 16	02 33 52,04 N 077 53 59,28 W	9.75 m 32 ft	No	No	1.420 x 130	Asfalto PCN 12,10/F/C/X/T
20	201	1.300 x 16	02 34 32,17 N 077 53 46,23 W	4.57 m 15 ft	No	No	1.420 x 130	

**Observaciones:** Pendiente 0.36%

Perfil: No

## 13. DISTANCIAS DECLARADAS

RWY	TORA (m)	TODA (m)	ASDA (m)	LDA (m)
02	1.300	1.300	1.300	1.297
20	1.300	1.300	1.300	1.297

**Observaciones:** NIL

## 14. LUCES DE APROXIMACIÓN Y DE PISTA

RWY	APCH	PAPI APAPI <sup>(1)</sup> <sup>(2)</sup>	REIL Identificadoras de fin de pista	RTHL Umbral de pista	RTZL Zona toma de contacto	RCLL Eje de pista	REDL Borde pista	RENL Extremo pista	STWL Zona de parada
02	No	No	No	Verdes	No	No	Blancas y Amarillas	Rojas	No
20	No	(2) 3° MEHT 40 ft (2) 5,24 %	No	Verdes	No	No	Blancas y Amarillas	Rojas	No

**Observaciones:** NIL

## 15. OTRAS LUCES, FUENTE SECUNDARIA DE ENERGÍA

ABN	WDI LDI <sup>(1)</sup> <sup>(2)</sup>	TWY	Plataforma	Fuente secundaria	Observaciones
Si	(1) cerca THR 02 (1) cerca THR 20	Azules	No	Planta eléctrica	NIL

## 16. ZONA PARA ATERRIZAJE DE HELICÓPTEROS

Localización	Elevación	Dimensiones SFC/Resistencia Señales TLOF y De FATO	BRG Geográfica y MAG de FATO	Distancia declarada Disponible	Luces APCH y FATO	Observaciones
No	No	No	No	No	No	NIL

**17. ESPACIO AÉREO ATS**

DENOMINACIÓN Y LÍMITES LATERALES	LÍMITES VERTICALES	CLASE DE ESPACIO AÉREO	UNIDAD RESPONSABLE IDIOMA	ALTITUD DE TRANSICIÓN
<b>GUAPI ATZ:</b> Círculo de 3 NM de radio centrado en el ARP : 02 34 12.11 N 077 53 52.76 W	2.500 ft AMSL GND	D	GUAPI TWR ES	18.000 FT

**18. INSTALACIONES DE COMUNICACIONES ATS**

Servicio	Distintivo llamada	Frecuencia	HR	Observaciones
TWR	Juan Casiano	118,6 MHz 118,850 MHz 121,5 MHz	1100-2300	Frecuencia Alterna Emergencia
MET		127,65 MHz	1100-2300	Emisión de radio meteorológica de superficie

**19. RADIOAYUDAS PARA LA NAVEGACIÓN Y EL ATERRIZAJE**

Instalación (VAR)	ID	FREQ	HR	Localización	Elevación	Observaciones
← NDB	GPI					

**20. REGLAMENTACIÓN LOCAL**

NIL

**21. PROCEDIMIENTOS DE ATENUACIÓN DE RUIDO**

NIL

**22. PROCEDIMIENTOS DE VUELO**

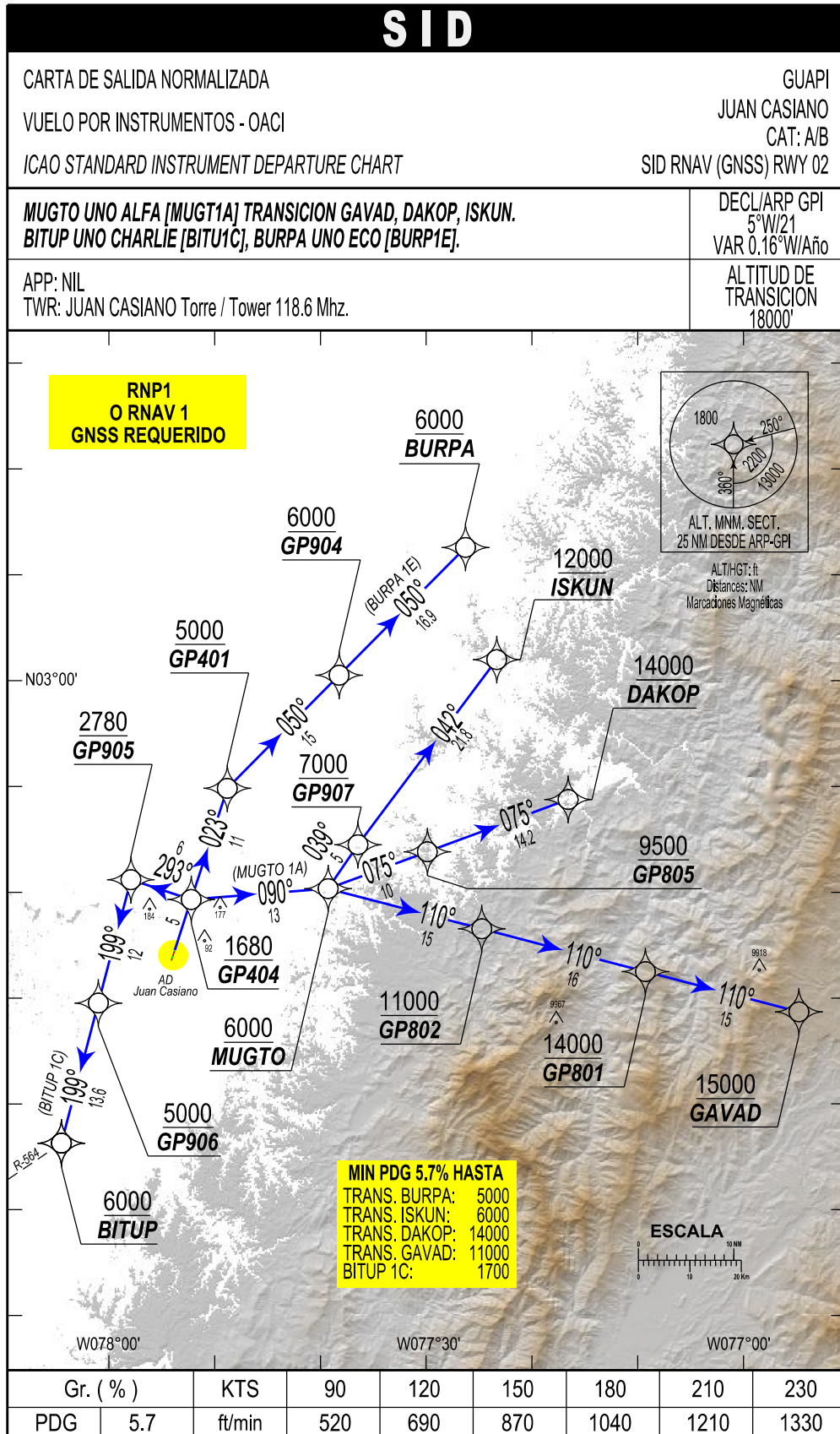
NIL

**23. INFORMACIÓN SUPLEMENTARIA**

- Presencia de personas, semovientes y vehículos en la Pista 02/20, ejercer precaución.
- Presencia de aves en inmediaciones del aeródromo, ejercer precaución.

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SKGP  
COORDENADAS WPT PROCEDIMIENTOS PBN

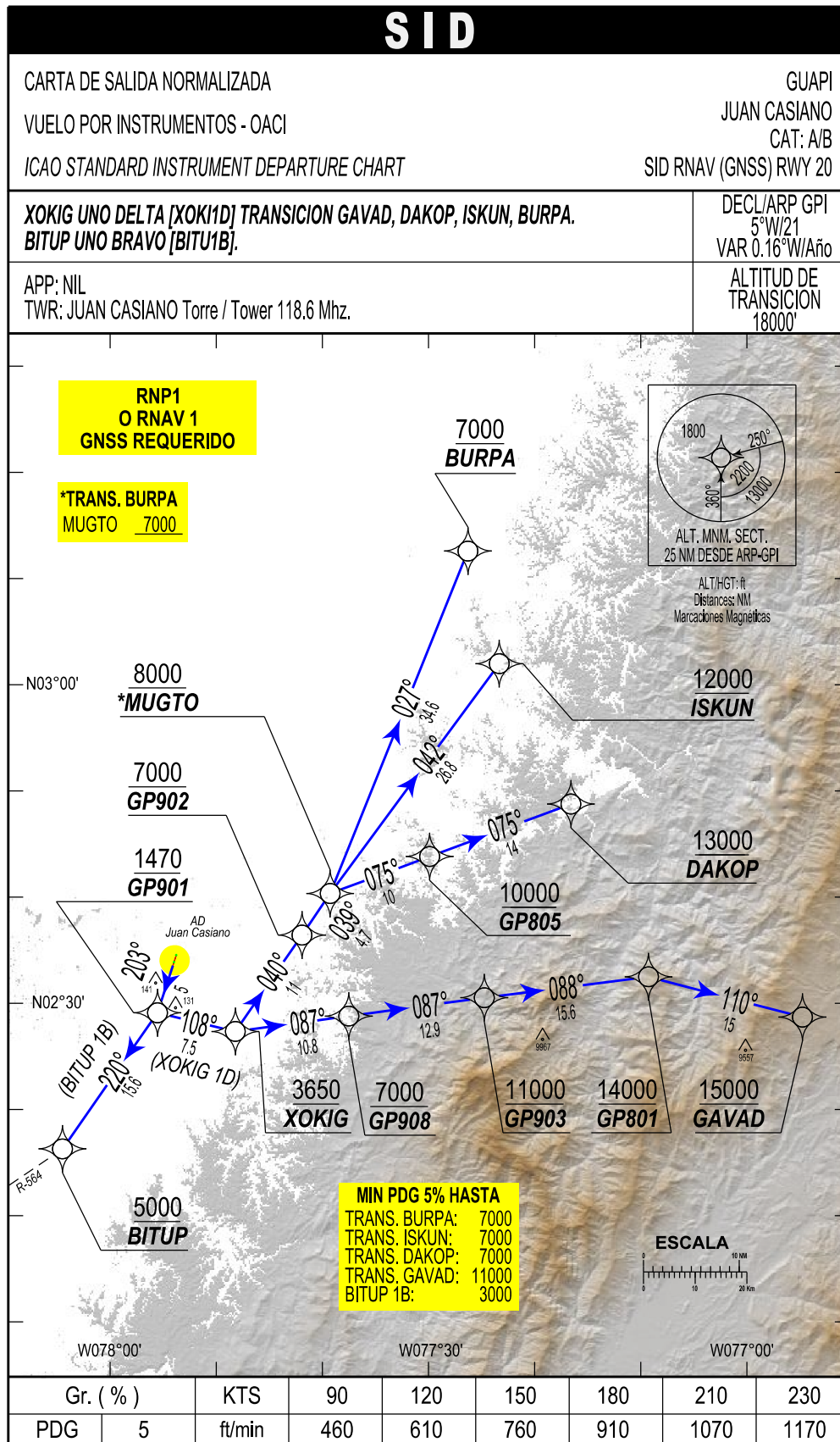
<b>WPT</b>	<b>Latitude/Longitude (WGS84) (Minimum resolution - DD MM SS.SS )</b>	
<b>RWY 02</b>	N 02 33 52.98	W 077 53 58.96
<b>RWY 20</b>	N 02 34 32.15	W 077 53 46.24
<b>BURPA</b>	N 03 12 35.00	W 077 26 17.00
<b>BITUP</b>	N 02 16 17.59	W 078 04 29.16
<b>DAKOP</b>	N 02 48 46.00	W 077 16 35.00
<b>GAVAD</b>	N 02 28 42.00	W 076 54 46.00
<b>GP401</b>	N 02 49 49.17	W 077 48 48.27
<b>GP402</b>	N 02 42 12.88	W 077 44 57.88
<b>GP403</b>	N 02 44 05.24	W 077 50 39.84
<b>GP404</b>	N 02 39 18.71	W 077 52 13.04
<b>GP405</b>	N 02 31 40.21	W 077 54 42.09
<b>GP406</b>	N 02 18 35.95	W 077 58 56.81
<b>GP407</b>	N 02 22 27.48	W 077 51 23.25
<b>GP408</b>	N 02 24 19.84	W 077 57 05.12
<b>GP409</b>	N 02 36 44.92	W 077 53 03.11
<b>GP801</b>	N 02 32 29.86	W 077 09 16.26
<b>GP802</b>	N 02 36 32.73	W 077 24 44.60
<b>GP803</b>	N 03 05 36.29	W 076 51 42.63
<b>GP804</b>	N 02 59 40.52	W 077 00 28.34
<b>GP805</b>	N 02 43 49.46	W 077 29 53.51
<b>GP806</b>	N 03 22 05.40	W 077 00 59.14
<b>GP807</b>	N 03 10 36.29	W 077 13 45.23
<b>GP808</b>	N 02 28 34.67	W 077 30 28.05
<b>GP809</b>	N 02 26 11.58	W 077 38 36.26
<b>GP901</b>	N 02 29 06.41	W 077 55 32.05
<b>GP902</b>	N 02 36 25.40	W 077 41 55.32
<b>GP903</b>	N 02 30 31.61	W 077 24 44.71
<b>GP904</b>	N 03 00 30.48	W 077 38 13.97
<b>GP905</b>	N 02 41 11.04	W 077 57 55.00
<b>GP906</b>	N 02 29 31.73	W 078 00 59.60
<b>GP907</b>	N 02 44 29.57	W 077 36 27.04
<b>GP908</b>	N 02 28 47.95	W 077 37 30.47
<b>ISKUN</b>	N 03 01 59.00	W 077 23 20.00
<b>MUGTO</b>	N 02 40 20.49	W 077 39 15.93
<b>XOKIG</b>	N 02 27 21.00	W 077 48 12.00



GUAPI / JUAN CASIANO  
SKGP / SID RNAV (GNSS) RWY 02

PATH TERM	NOMBRE PUNTO DE RECORRIDO	FB / FO	RUMBO M° (T°)	DISTANCIA ENTRE PUNTOS (NM)	DIRECCION DEL VIRAJE	ALTITUD 1	ALTITUD 2	LIMITE DE VELOCIDAD (KTs)	PDG (%)
<b>SID BURPA 1E</b>									
CF	GP404	FB	023°(18.06°)	5	X	1680 +	X	X	5,7%
TF	GP401	FB	023°(17.99°)	11	X	5000 +	X	X	5,7%
TF	GP904	FB	050°(44.79°)	15	X	6000 +	X	X	X
TF	BURPA	FB	050°(44.86°)	16,95	X	6000 +	X	X	X
<b>SID BITUP 1C</b>									
CF	GP404	FB	023°(18.06°)	5	X	1680 +	X	X	5,7%
TF	GP905	FB	293°(288.09)	6	X	2780 +	X	X	X
TF	GP906	FB	199°(194.86°)	12	X	5000 +	X	X	X
TF	BITUP	FB	199°(194.86°)	13,63	X	6000 +	X	X	X
<b>SID MUGTO 1A</b>									
CF	GP404	FB	023°(18.06°)	5	X	1680 +	X	X	5,7%
TF	MUGTO	FB	090°(85.48°)	13	X	6000 +	X	X	5,7%
<b>TRANSICION ISKUN</b>									
IF	MUGTO	FB	X	X	X	6000 +	X	X	X
TF	GP907	FB	039°(034.29°)	5	X	7000 +	X	X	X
TF	ISKUN	FB	042°(037.02°)	21,8	X	12000 +	X	X	X
<b>TRANSICION DAKOP</b>									
IF	MUGTO	FB	X	X	X	6000 +	X	X	X
TF	GP805	FB	075°(069.72°)	10	X	9500 +	X	X	5,7%
TF	DAKOP	FB	075°(069.74°)	14,2	X	14000 +	X	X	5,7%
<b>TRANSICION GAVAD</b>									
IF	MUGTO	FB	X	X	X	6000 +	X	X	X
TF	GP802	FB	110°(104.58°)	15	X	11000 +	X	X	5,7%
TF	GP801	FB	110°(104.59°)	16	X	14000 +	X	X	X
TF	GAVAD	FB	110°(104.60°)	15	X	15000 +	X	X	X

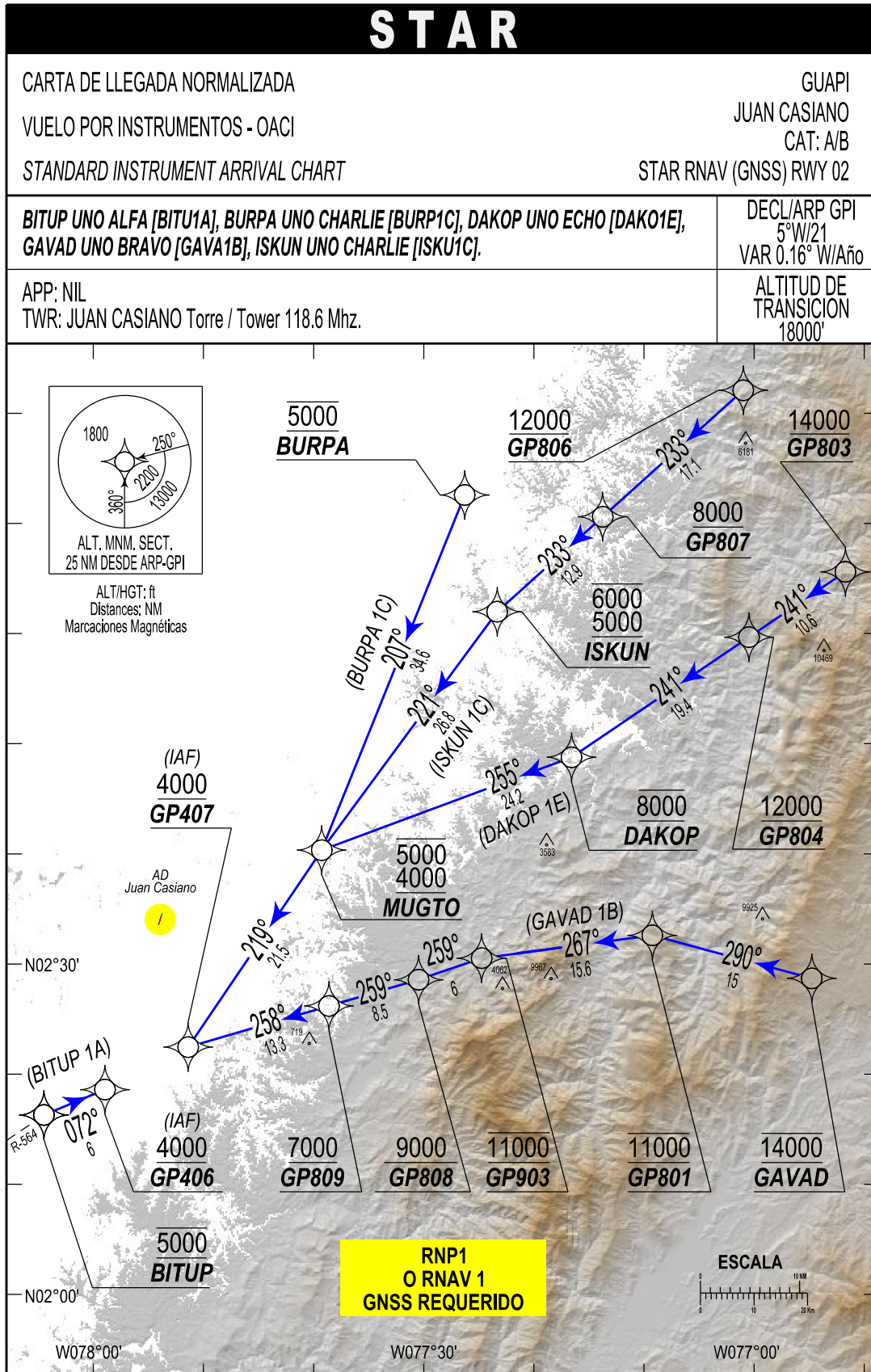
NOTA: \* PARA COORDENADAS DE WPT, VER CARTA COORDENADAS PROCEDIMIENTOS PBN SKGP



GUAPI / JUAN CASIANO  
SKGP / SID RNAV (GNSS) RWY 20

PATH TERM	NOMBRE PUNTO DE RECORRIDO	FB / FO	RUMBO M° (T°)	DISTANCIA ENTRE PUNTOS (NM)	DIRECCION DEL VIRAJE	ALTITUD 1	ALTITUD 2	LIMITE DE VELOCIDAD (KTs)	PDG (%)
<b>SID BITUP 1B</b>									
CF	GP901	FB	203°(198.05°)	5	X	1470 +	X	X	5,0%
TF	BITUP	FB	220°(215.09°)	15,58	X	5000 +	X	X	X
<b>SID XOKIG 1D</b>									
CF	GP901	FB	203°(198.05°)	5	X	1470 +	X	X	5,0%
TF	XOKIG	FB	108°(103.20°)	7,55	X	3650 +	X	X	5,0%
<b>TRANSICION BURPA</b>									
IF	XOKIG	FB	X	X	X	3650 +	X	X	X
TF	GP902	FB	040°(034.84°)	11	X	7000 +	X	X	X
TF	MUGTO	FB	039°(034.29°)	4,72	X	7000 +	X	X	X
TF	BURPA	FB	027°(022.04°)	34,61	X	7000 +	X	X	X
<b>TRANSICION GAVAD</b>									
IF	XOKIG	FB	X	X	X	3650 +	X	X	X
TF	GP908	FB	087°(082.32°)	10,8	X	7000 +	X	X	5,0%
TF	GP903	FB	087°(082.33°)	12,89	X	11000 +	X	X	5,0%
TF	GP801	FB	088°(082.79°)	15,61	X	14000 +	X	X	X
TF	GAVAD	FB	110°(104.60°)	15	X	15000 +	X	X	X
<b>TRANSICION DAKOP</b>									
IF	XOKIG	FB	X	X	X	3650 +	X	X	X
TF	GP902	FB	040°(034.84°)	11	X	7000 +	X	X	5,0%
TF	MUGTO	FB	039°(034.29°)	4,72	X	8000 +	X	X	X
TF	GP805	FB	075°(069.72°)	10	X	10000 +	X	X	X
TF	DAKOP	FB	075°(069.74°)	14,2	X	13000 +	X	X	X
<b>TRANSICION ISKUN</b>									
IF	XOKIG	FB	X	X	X	3650 +	X	X	X
TF	GP902	FB	040°(034.84°)	11	X	7000 +	X	X	5,0%
TF	MUGTO	FB	039°(034.29°)	4,72	X	8000 +	X	X	X
TF	ISKUN	FB	042°(036.52°)	26,79	X	12000 +	X	X	X

NOTA: \* PARA COORDENADAS DE WPT, VER CARTA COORDENADAS PROCEDIMIENTOS PBN SKGP

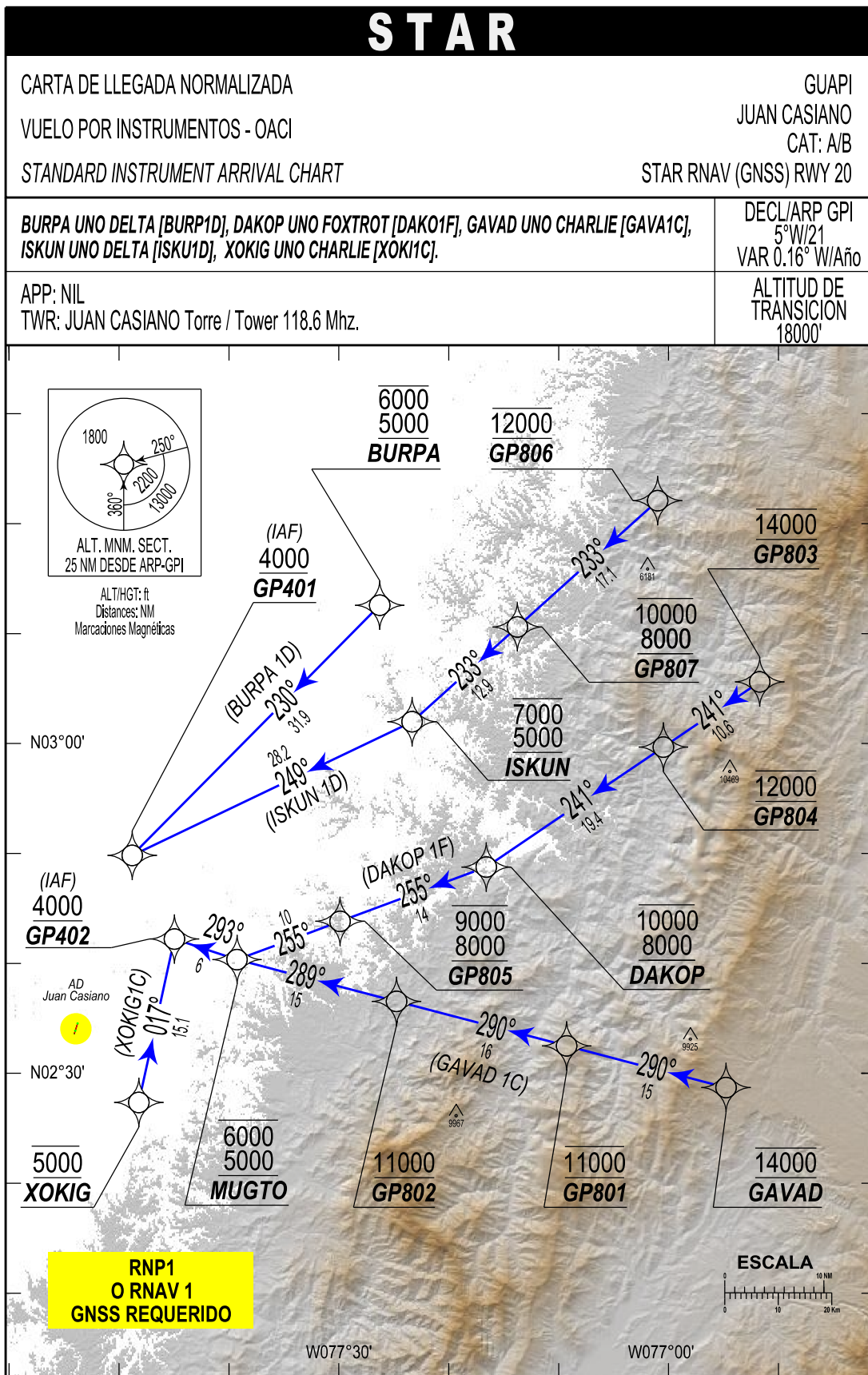


GUAPI / JUAN CASIANO

SKGP / STAR RNAV (GNSS) RWY 02

PATH TERM	NOMBRE PUNTO DE RECORRIDO	FB / FO	RUMBO M° (T°)	DISTANCIA ENTRE PUNTOS (NM)	DIRECCION DEL VIRAJE	ALTITUD 1	ALTITUD 2	LIMITE DE VELOCIDAD (Kts)
<b>BURPA 1C</b>								
IF	BURPA	FB	X	X	X	5000 AT	X	X
TF	MUGTO	FB	207°(202.03°)	34,61	X	4000 +	5000 -	X
TF	GP407(IAF)	FB	219°(214.28°)	21,54	X	4000 +	X	X
<b>ISKUN 1C</b>								
IF	GP806	FB	X	X	X	12000 +	X	X
TF	GP807	FB	233°(228.17°)	17,14	X	8000 +	X	X
TF	ISKUN	FB	233°(228.16°)	12,86	X	5000 +	6000 -	X
TF	MUGTO	FB	221°(216.50°)	26,79	X	4000 +	5000 -	X
TF	GP407(IAF)	FB	219°(214.28°)	21,54	X	4000 +	X	X
<b>DAKOP 1E</b>								
IF	GP803	FB	X	X	X	14000 +	X	X
TF	GP804	FB	241°(236.05°)	10,57	X	12000 +	X	X
TF	DAKOP	FB	241°(236.04°)	19,43	X	8000 AT	X	X
TF	MUGTO	FB	255°(249.72°)	24,2	X	4000 +	5000 -	X
TF	GP407(IAF)	FB	219°(214.19°)	21,54	X	4000 +	X	X
<b>GAVAD 1B</b>								
IF	GAVAD	FB	X	X	X	14000 AT	X	X
TF	GP801	FB	290°(284.59°)	15	X	11000 AT	X	X
TF	GP903	FB	267°(262.44°)	15,61	X	11000 AT	X	X
TF	GP808	FB	259°(253.68°)	6	X	9000 +	X	X
TF	GP809	FB	259°(253.75°)	8,48	X	7000 +	X	X
TF	GP407(IAF)	FB	258°(253.80°)	13,32	X	4000 +	X	X
<b>BITUP 1A</b>								
IF	BITUP	FB	X	X	X	5000 AT	X	X
TF	GP406(IAF)	FB	072°(67.52°)	6	X	4000 +	X	X

NOTA: \* PARA COORDENADAS DE WPT, VER CARTA COORDENADAS PROCEDIMIENTOS PBN SKGP

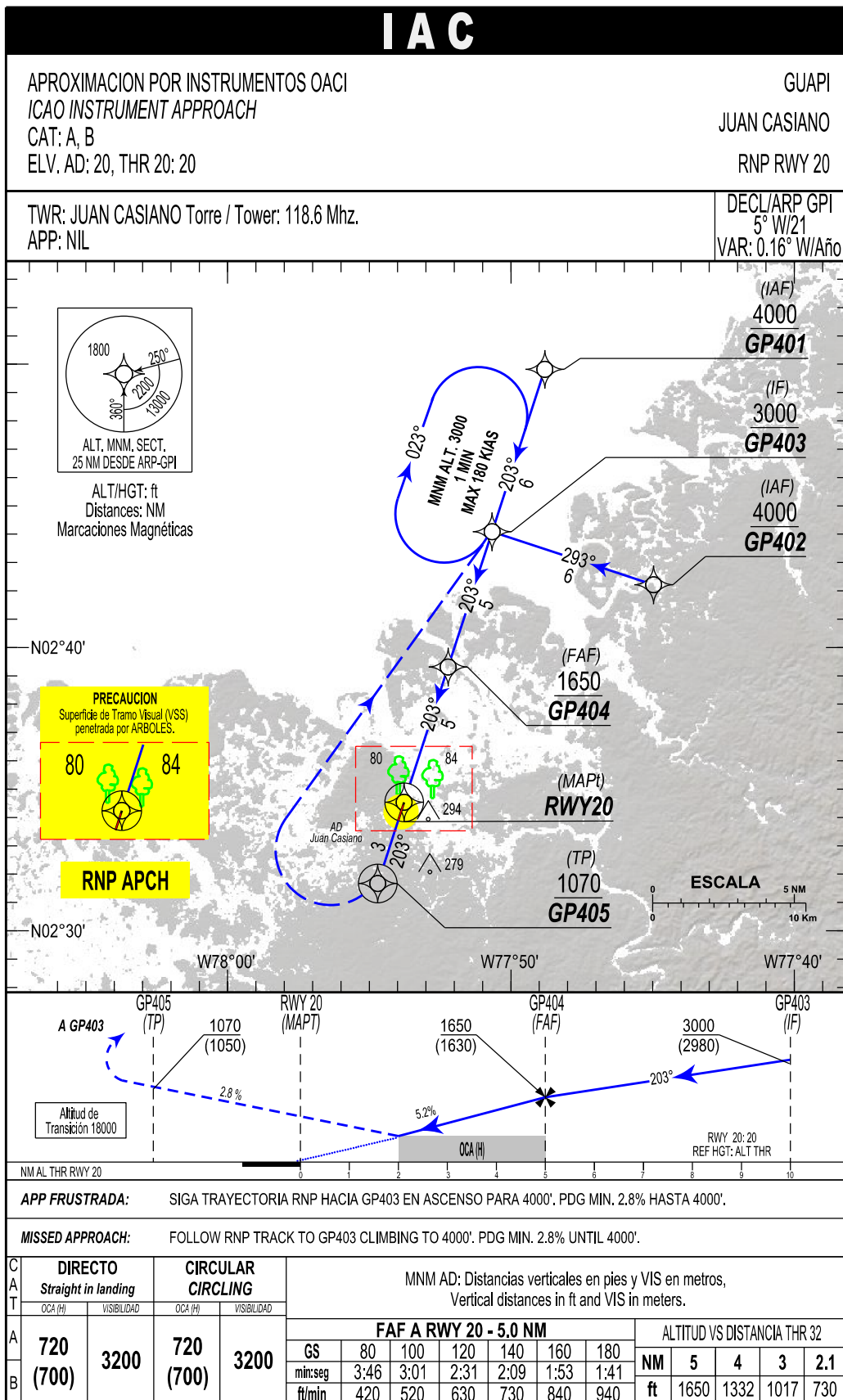


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SKGP / STAR RNAV (GNSS) RWY 20

PATH TERM	NOMBRE PUNTO DE RECORRIDO	FB / FO	RUMBO M° (T°)	DISTANCIA ENTRE PUNTOS (NM)	DIRECCION DEL VIRAJE	ALTITUD + / AT / -	ALTITUD + / AT / -	LIMITE DE VELOCIDAD (Kts)
<b>BURPA 1D</b>								
IF	BURPA	FB	X	X	X	5000 +	6000 -	X
TF	GP401 (IAF)	FB	230°(224.84°)	31,95	X	4000 +	X	X
<b>ISKUN 1D</b>								
IF	GP806	FB	X	X	X	12000 AT	X	X
TF	GP807	FB	233°(228.09°)	17,14	X	8000 +	10000 -	X
TF	ISKUN	FB	233°(228.08°)	12,86	X	5000 +	7000 -	X
TF	GP401 (IAF)	FB	249°(244.50°)	28,21	X	4000 +	X	X
<b>DAKOP 1F</b>								
IF	GP803	FB	X	X	X	14000 AT	X	X
TF	GP804	FB	241°(236.05°)	10,57	X	12000 AT	X	X
TF	DAKOP	FB	241°(236.04°)	19,43	X	8000 +	10000 -	X
TF	GP805	FB	255°(249.72°)	14,2	X	8000 +	9000 -	X
TF	MUGTO	FB	255°(249.72°)	10	X	5000 +	6000 -	X
TF	GP402 (IAF)	FB	293°(288.10°)	6	X	4000 +	X	X
<b>GAVAD 1C</b>								
IF	GAVAD	FB	X	X	X	14000 AT	X	X
TF	GP801	FB	290°(284.59°)	15	X	11000 AT	X	X
TF	GP802	FB	290°(284.58°)	16	X	11000 +	X	X
TF	MUGTO	FB	289°(284.56°)	15	X	5000 +	6000 -	X
TF	GP402 (IAF)	FB	293°(288.10°)	6	X	4000 +	X	X
<b>XOKIG 1C</b>								
IF	XOKIG	FB	X	X	X	5000 +	X	X
TF	GP402 (IAF)	FB	017°(012.27°)	15,14	X	4000 +	X	X

NOTA: \* PARA COORDENADAS DE WPT, VER CARTA COORDENADAS PROCEDIMIENTOS PBN SKGP

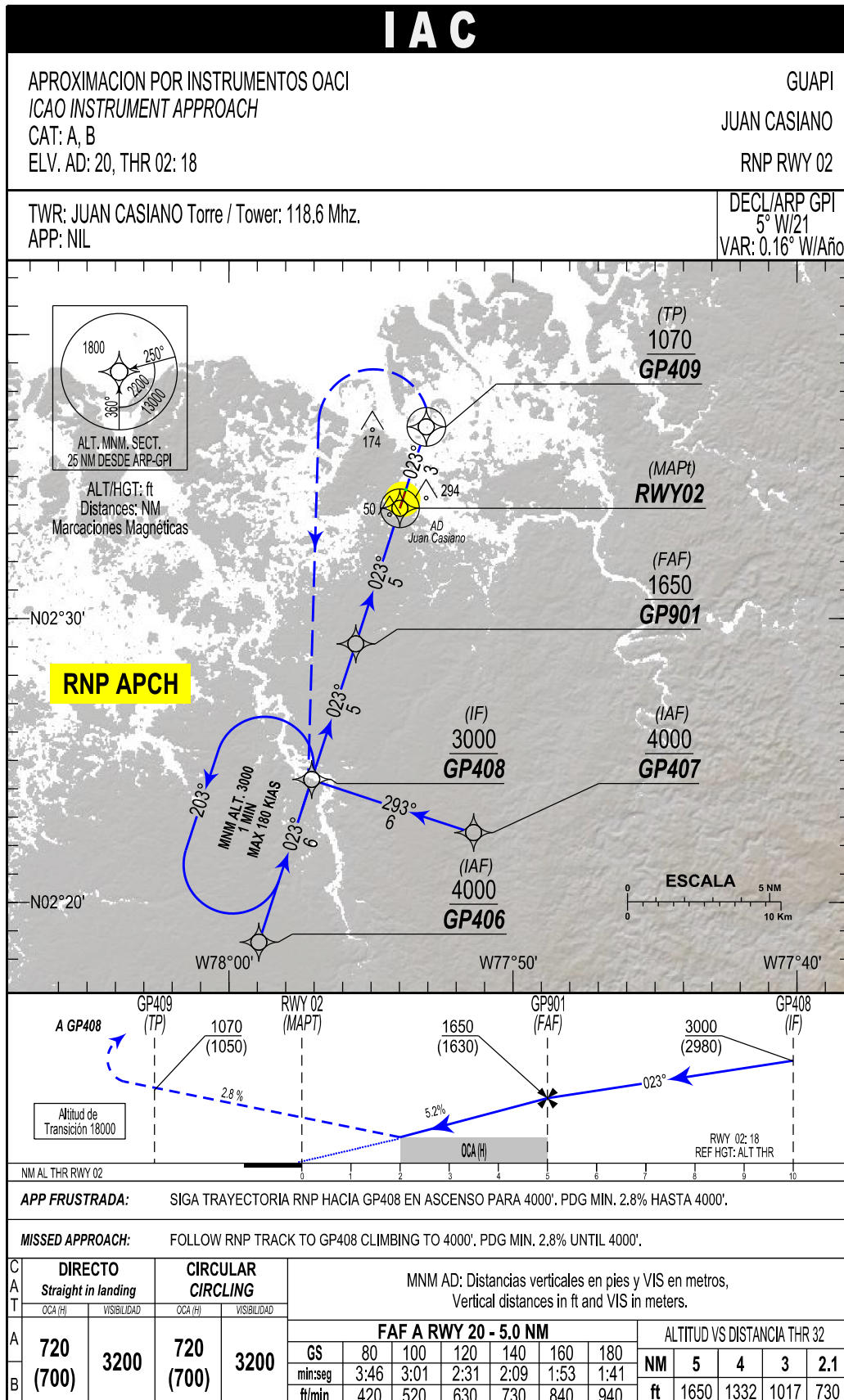


GUAPI / JUAN CASIANO  
SKIB / IAC RNP RWY 20

PATH TERM	NOMBRE PUNTO DE RECORRIDO	FB / FO	RUMBO / HEADING M° (T°)	DISTANCIA ENTRE PUNTOS (NM)	DIRECCIÓN DEL VIRAJE	ALTITUD + / AT / -	LIMITE DE VELOCIDAD (KTs)	PDG %
<b>BARRA EN T TRAMO INICIAL LATERAL IZQUIERDO</b>								
IF	GP402	FB	X	X	X	4000+	X	X
TF	GP403	FB	293°(288.09°)	6	X	3000+	X	X
TF	GP404	FB	203°(198.11°)	5	X	1650+	X	X
TF	RWY20(MAPT)	FO	203°(198.11°)	5	X	69+	X	-5,2%
TF	GP405	FO	203°(198.09°)	3	X	1070+	X	2,8%
DF	GP403	FO	X	13	R	4000+	X	2,8%
<b>BARRA EN T TRAMO INICIAL CENTRAL</b>								
IF	GP401	FB	X	X	X	4000+	X	X
TF	GP403	FB	203°(198.07°)	6	X	3000+	X	X
TF	GP404	FB	203°(198.11°)	5	X	1650+	X	X
TF	RWY20(MAPT)	FO	203°(198.11°)	5	X	69+	X	-5,2%
TF	GP405	FO	203°(198.09°)	3	X	1070+	X	2,8%
DF	GP403	FO	X	13	R	4000+	X	2,8%

PATH TERM	NOMBRE PUNTO DE RECORRIDO	FB / FO	RUMBO / ALEJAMIENTO M° (T°)	RUMBO / ACERCAMIENTO M° (T°)	DIRECCIÓN DEL VIRAJE	ALTITUD + / AT / -	LIMITE DE VELOCIDAD (KTs)	OUTBOUND / LEG MINUTOS
HM	GP403	FO	023°(18.09°)	203°(198.09°)	R	3000+	180	1 min

NOTA: \* PARA COORDENADAS DE WPT, VER CARTA COORDENADAS PROCEDIMIENTOS PBN SKGP



GUAPI / JUAN CASIANO  
SKIB / IAC RNP RWY 02

PATH TERM	NOMBRE PUNTO DE RECORRIDO	FB / FO	RUMBO / HEADING M° (T°)	DISTANCIA ENTRE PUNTOS (NM)	DIRECCIÓN DEL VIRAJE	ALTITUD + / AT / -	LIMITE DE VELOCIDAD (KTs)	PDG %
<b>BARRA EN T TRAMO INICIAL LATERAL IZQUIERDO</b>								
IF	GP407	FB	X	X	X	4000+	X	X
TF	GP408	FB	293°(288.09°)	6	X	3000+	X	X
TF	GP901	FB	023°(18.09°)	5	R	1650+	X	X
TF	RWY 02(MAPT)	FO	023°(18.09°)	5	X	66+	X	-5,2%
TF	GP409	FO	023°(18.09°)	3	X	1070+	X	2,8%
DF	GP408	FO	X	13	L	4000+	X	2,8%
<b>BARRA EN T TRAMO INICIAL CENTRAL</b>								
IF	GP406	FB	X	X	X	4000+	X	X
TF	GP408	FB	023°(18.09°)	6	X	3000+	X	X
TF	GP901	FB	023°(18.09°)	5	X	1650+	X	X
TF	RWY 02(MAPT)	FO	023°(18.09°)	5	X	66+	X	-5,2%
TF	GP409	FO	023°(18.09°)	3	X	1070+	X	2,8%
DF	GP408	FO	X	13	L	4000+	X	2,8%

PATH TERM	NOMBRE PUNTO DE RECORRIDO	FB / FO	RUMBO / ALEJAMIENTO M° (T°)	RUMBO / ACERCAMIENTO M° (T°)	DIRECCIÓN DEL VIRAJE	ALTITUD + / AT / -	LIMITE DE VELOCIDAD (KTs)	OUTBOUND / LEG MINUTOS
HM	GP408	FO	203°(198.10°)	023°(18.10°)	L	3000+	180	1 min

NOTA: \* PARA COORDENADAS DE WPT, VER CARTA COORDENADAS PROCEDIMIENTOS PBN SKGP