

**FEDERAL AVIATION ADMINISTRATION
FLIGHT STANDARDS SERVICE
RNAV (GPS) STANDARD INSTRUMENT APPROACH PROCEDURE**

TITLE 14 CFR PART 97.33

Bearings, headings, courses, tracks and radials are magnetic. Elevations and altitudes are in feet, MSL, except HAT, HAA, TCH, and RA. Altitudes are minimum altitudes unless otherwise indicated.
Ceilings are in feet above airport elevation. Distances are in nautical miles unless otherwise indicated, except visibilities which are in statute miles or feet RVR.

<u>AIRPORT ID</u> KRNO	<u>PROCEDURE NAME</u> RNAV (GPS) Y RWY 35R	<u>ORIGINAL/AMENDMENT</u> 1	<u>CITY</u> RENO	<u>STATE</u> NV	
<u>AIRPORT ELEVATION</u> 4415	<u>TDZE</u> 4408	<u>SUPERSEDED</u> RNAV (GPS) Y RWY 34R	<u>ORIGINAL/AMENDMENT</u> ORIG-B	<u>DATED</u> 02/01/2018	<u>MAG VAR</u> 13E
<u>FACILITY</u> RNAV	<u>COORDINATES OF FACILITIES</u>	<u>ACTUAL EFFECTIVE DATE</u> 3 NOVEMBER 2022	<u>REQUIRED EFFECTIVE DATE</u> 11/03/2022	<u>CANCEL/SUSPEND</u>	<u>EPOCH YEAR</u> 2020

TERMINAL ROUTES

FROM	FIX TYPE	TO	FIX TYPE	LEG TYPE	FO/FB	RNP	COURSE	DISTANCE	ALTITUDE
SWR VOR/DME		ZAPTU		TF	FB	1.00	091.21	16.79	11800
ZAPTU		PIDIC		TF	FB	1.00	077.02	7.04	11500
RICHY		PIDIC		TF	FB	1.00	046.70	13.46	11500
VIKES		NIPME		TF	FB	1.00	179.30	6.76	11000
PIDIC	IAF	ROYDO		TF	FB	1.00	348.68	4.37	9900
NIPME	IAF	ROYDO		TF	FB	1.00	258.60	6.88	9900
RAMRE	IAF	ROYDO		TF	FB	1.00	324.10	9.92	9900
TARVR	IAF	SPOON		TF	FB	1.00	347.09	17.49	12000
SPOON	IAF	ROYDO		TF	FB	1.00	348.61	4.58	9900
ROYDO	IF	PUNTE		TF	FB	1.00	347.11	5.63	8600
PUNTE		SUTEE	PFAF	TF	FB	1.00	347.11	2.74	8100
SUTEE	PFAF	RW35R	MAP	TF	FO	0.30	347.11	9.94	
RW35R	MAP	4780 MSL		CA			347.11		
4780 MSL		FOBAX		DF	FB	1.00			
FOBAX		TAKLE		TF	FO	1.00	345.97	5.68	11000



MISSED APPROACH

MAP:

LPV: DA

MISSED APPROACH INSTRUCTIONS:

CLIMB TO 11000 DIRECT FOBAX AND ON TRACK 345.97 TO TAKLE AND HOLD, CONTINUE CLIMB-IN-HOLD TO 11000.

**MISSED APPROACH REQUIRES MINIMUM CLIMB OF 250 FEET PER NM TO 6100.

ALTERNATE MISSED APPROACH INSTRUCTIONS:

PROFILE:

1. PT	SIDE OF COURSE	OUTBOUND	FT WITHIN	MILES OF	(IAF)
2. PROFILE STARTS AT ROYDO					
3. FAC:	347.11	PFAF:	SUTEE	DIST PFAF TO MAP:	9.94
DIST PFAF TO THLD:					
4. MIN ALT:	ROYDO 9900, PUNTE 8600, SUTEE 8100				
5. DIST TO THLD FROM PFAF:	9.94	MM:	IM:	150 HAT:	372 HAT: 0.87
GS ANT:					
6. MIN GP INCPT:	8100	GP ALT AT PFAF :	SUTEE 8100	OM:	MM:
IM:					
7. GP ANGLE:	3.44	34:1:	IS NOT CLEAR	20:1:	IS CLEAR
TCH: 55.0					
8. MSA FROM:	RW35R 12000				

PBN REQUIREMENTS NOTE:

RNP APCH - GPS.

NOTES:

CHART NOTE: RWY 35R HELICOPTER VISIBILITY REDUCTION BELOW 3/4 SM NOT AUTHORIZED.

CHART PROFILE NOTE: VGSI AND DESCENT ANGLES NOT COINCIDENT (VGSI ANGLE {ANGLE}/TCH {FEET}).

CHART PLANVIEW NOTE: PROCEDURE NA FOR ARRIVALS AT RICHY ON V28-113 SOUTHWEST BOUND, ARRIVALS AT RAMRE ON V165 SOUTHBOUND, AND ARRIVALS AT SWR VOR/DME ON AIRWAY RADIALS 005 CW 062.

CHART SPEED ICON IN PLANVIEW AT PIDIC: MAX 250 KIAS.

CHART SPEED ICON IN PLANVIEW AT NIPME: MAX 250 KIAS.

CHART SPEED ICON IN PLANVIEW AT ROYDO: MAX 210 KIAS.

ADDITIONAL FLIGHT DATA:

CHART MANDATORY 14000 AT TARVR.

HOLD N, RT, 167.12 INBOUND.

CHART 4466 TREE 392902N/1194559W.

WAAS CHANNEL # 40409

REFERENCE PATH ID: W35B

LTP HAE: 1319.5 M



MINIMUMS:
TAKEOFF: SEE FAA FORM 8260-15A FOR THIS AIRPORT

ALTERNATE: NA

<u>CATEGORY:</u>	<u>A</u>			<u>B</u>			<u>C</u>			<u>D</u>			<u>E</u>		
<u>FINAL TYPE</u>	<u>DA/MDA</u>	<u>VIS</u>	<u>HAT/HAA</u>	<u>DA/MDA</u>	<u>VIS</u>	<u>HAT/HAA</u>	<u>DA/MDA</u>	<u>VIS</u>	<u>HAT/HAA</u>	<u>DA/MDA</u>	<u>VIS</u>	<u>HAT/HAA</u>	<u>DA/MDA</u>	<u>VIS</u>	<u>HAT/HAA</u>
LPV DA**	4780	1	372	4780	1	372	4780	1	372	4780	1	372			
LPV DA	5379	3	971	5379	3	971	5379	3	971	5379	3	971			



CHANGES - REASONS

1. INCORPORATED CHANGES FROM PREVIOUS P-NOTAMS INTO AMDT 1.
2. MAGVAR WAS UPDATED FROM 16E/1985 TO 13E/2020 AND RUNWAY RENUMBERED FROM 34R TO 35R AND ALL MAGNETIC COURSES UPDATED - MAGVAR OUT OF TOLERANCE.
3. FEEDER FROM SWA VOR/DME SDF ORUKE REPLACED WITH FIX ZAPTU - LEG LENGTH OUT OF CRITERIA/CHANGED PER FPT.
4. ADDED SDF PUNTE IN INTERMEDIATE FROM ROYDO TO SUTEE - OBSTACLE CLEARANCE IN INTERMEDIATE FOR LOWERING FAF ALTITUDE FROM 8300 TO 8100 PER FPT/ATC REQUEST.
5. ADDED NEW IAF FROM TARVR TO SPOON - FPT/ATC REQUEST.
6. CA LEG CHANGED FROM 4815 TO 4780 - LOWEST DA IAW 8260.58B 3-5-2B.
7. ALTITUDE AT FIX ROYDO CHANGED FROM 9600 TO 9900 - PRECIPITOUS TERRAIN EVALUATION AND OBSTACLE CLEARANCE IN LEG FROM PIDIC TO ROYDO.
8. MISSED APPROACH INSTRUCTIONS CHANGED FROM "CLIMB TO 10000 DIRECT FOBAX AND VIA 343.01 TRACK TO TAKLE AND HOLD, CONTINUE CLIMB-IN-HOLD TO 10000" TO "CLIMB TO 11000 DIRECT FOBAX AND ON TRACK 345.97 TO TAKLE AND HOLD, CONTINUE CLIMB-IN-HOLD TO 11000" - NEW CONTROLLING OBSTACLE, MIN ALT DUE TO CIH CONTROLLING OBS IS 10300, ATC REQUESTED TO RAISE TO 11000.
9. ADDED LPV WITH NON-STANDARD CLIMB GRADIENT MINIMUMS AND ADDED "MISSED APPROACH REQUIRES MINIMUM CLIMB OF 250 FEET PER NM TO 6100" NOTE - MITIGATING OCS START ALTITUDE ISSUES, ACHIEVE LOWER MINIMUMS.
10. PROFILE LINE 3: FAC CHANGED FROM 344.11 TO 347.11 AND ADDED DIST PFAF TO MAP: 9.94 - MAGVAR UPDATE/DIST IAW 8260.19I 8-6-7C(3).
11. PROFILE LINE 4: MIN ALT: CHANGED FROM "ROYDO 9600, SUTEE 8300" TO "ROYDO 9900, PUNTE 8600, SUTEE 8100" - ALTITUDES CHANGED PER OBSTACLE CLEARANCE AND FPT/ATC REQUEST/IAW 8260.19I 8-6-7D.
12. PROFILE LINE 5: CHANGED DIST TO THLD FROM OM TO DIST TO THLD FROM PFAF, AND HAT CHANGED FROM "635 HAT: 1.54" TO "372 HAT: 0.87" - LPV ONLY/HAT LOWERED DUE TO NEW OBSTACLE EVALUATION.
13. PROFILE LINE 6: MIN GP INCPT: AND GP ALT AT PFAF CHANGED FROM 8300 TO 8100 - ATC REQUEST TO MIRROR OTHER PROCEDURES AT AIRPORT.
14. PROFILE LINE 7: GP ANGLE CHANGED FROM 3.55 TO 3.44 AND ADDED 20:1: IS CLEAR - GP ANGLE CHANGED WITH LOWER FAF ALTITUDE PER ATC/FPT REQUEST/20:1 IS CLEAR IN OBSTACLE EVALUATION DOCUMENTED IAW 8260.19I 8-6-7G(3).
15. PROFILE LINE 8: MSA FROM: CHANGED FROM "RW34R" TO "RW35R" - RUNWAY RENUMBERED DUE TO MAGVAR UPDATE.
16. REMOVED "CHART NOTE: DME/DME RNP-0.3 NA" AND ADDED PBN REQUIREMENTS NOTE "RNP APCH - GPS" - IAW 8260.19H 8-6-8B(2).
17. ADDED "CHART NOTE: RWY 35R HELICOPTER VISIBILITY REDUCTION BELOW 3/4 SM NOT AUTHORIZED" - 34:1 PENETRATIONS IDENTIFIED IN OBSTACLE EVALUATION IAW 8260.19I 8-6-11K(3).
18. CHANGED "CHART PLANVIEW NOTE: PROCEDURE NA FOR ARRIVALS AT RICHY ON V28-113 SOUTHWEST BOUND, AT RAMRE ON V165 SOUTHBOUND, AND AT SWR VOR/DME ON V6 AND T331 SOUTHWEST BOUND" TO "CHART PLANVIEW NOTE: PROCEDURE NA FOR ARRIVALS AT RICHY ON V28-113 SOUTHWEST BOUND, ARRIVALS AT RAMRE ON V165 SOUTHBOUND, AND ARRIVALS AT SWR VOR/DME ON AIRWAY RADIALS 005 CW 062" - 8260.19H 8-2-5.E, DISALLOW TURNS GREATER THAN 90 DEGREES.
19. ADDED SPEED RESTRICTIONS TO NOTES; CHART SPEED ICON IN PLANVIEW AT: MAX 250 KIAS AT NIPME AND PIDIC: MAX 210 KIAS AT ROYDO - MITIGATE LEG LENGTH CRITERIA ISSUES.
20. ADDITIONAL FLIGHT DATA: REMOVED TDZE AND AIRPORT ELEVATION - NO LONGER REQUIREMENT IAW 8260.19I 8-6-10.
21. CHART OBST CHANGED FROM "4478 TREE 392840N/1194601W" TO "4466 TREE 392902N/1194559W" - NEW OBSTACLE EVALUATION RESULTS IAW 8260.19I 8-6-10D.
22. ADDITIONAL FLIGHT DATA: HOLDING CHANGED FROM 164.12 TO 167.12 INBOUND - MAGVAR UPDATED.
23. ADDED CAT D TO LINES OF MINIMA - PER FPT REQUEST, GP NOW BELOW 3.5.
24. LPV DA/HAT ALL CATS CHANGED FROM 5043/635 TO 5379/971, VISIBILITY ALL CATS CHANGED FROM 2 SM TO 3 SM - NEW CONTROLLING OBSTACLE IDENTIFIED IN EVALUATION 4466 TREE (32-056341) 392902.32N/1194558.93W AND MISSED APPROACH ADJUSTMENT OBSTACLE 5030 ANTENNA (32-056230) 392820.56N/1194529.71W, IAW 8260.3E TABLE 3-3-1, CANCELS NOTAM 1/2305.
25. ADDED **LPV MISSED APPROACH CLIMB GRADIENT LINE OF MINIMA: ALL CATS DA/HAT 4780/372, VISIBILITY ALL CATS 1 SM - PER FPT REQUEST TO GET A LOWER MINIMA WITH MISSED APPROACH ADJUSTMENT OBSTACLE 4466 TREE (32-056341) 392902.32N/1194558.93W/IAW 8260.3E TABLE 3-3-1.
26. ADDED ALTERNATE MINS N/A - LPV ONLY PROCEDURE.
27. FAS DATA BLOCK: RUNWAY CHANGED FROM RW34R TO RW35R - RUNWAY RENUMBER DUE TO MAGVAR UPDATE.
28. FAS DATA BLOCK: REFERENCE PATH IDENTIFIER CHANGED FROM W34B TO W35B - MAGVAR UPDATE, RUNWAY RENUMBERED IAW 8260.19I APPENDIX K PARA I.
29. FAS DATA BLOCK: LTP/FTP LAT/LONG CHANGED FROM 392920.8900N/1194600.4900W TO 392920.8945N/1194600.4970W - UPDATED DATA IN SIAP.
30. FAS DATA BLOCK: FPAP LAT/LONG CHANGED FROM 393050.0700N/1194600.2700W TO 393050.0705N/1194600.2650W - UPDATED DATA IN SIAP.
31. FAS DATA BLOCK: GPA CHANGED FROM 3.55 TO 3.44 - FAF SUTEE LOWERED ALTITUDE.
32. FAS DATA BLOCK: CRC REMAINDER CHANGED FROM 5B230ED9 TO 8C96C814 - GPA CHANGED AND UPDATED DATA TOLERANCE IN SIAP FOR LAT/LONGS.
33. ADDITIONAL FLIGHT DATA: ADDED CHART MANDATORY 14000 AT TARVR - ATC REQUEST TO TIE INTO THE TARVR STAR.

COORDINATED WITH:

A4A ALPA AOPA APA HAI NBAA OTHER: ZOA, RNO APCH, RNO ATCT, AMGR, NV AERO.

FLIGHT CHECKED BY

PENDING

OFFICE

DATE

Digitally signed by
DAVID TEFFETELLER
Aug 18, 2022

DEVELOPED BY

RICHARD CHRISTENSEN

Digitally signed by
RICHARD E CHRISTENSEN

OFFICE

AJV-A431

DATE

07/06/2022

APPROVED BY

JOHNNIE BAKER

Aug 11, 2022
Digitally signed by
ERIC N SUSKI

OFFICE

AJV-A430

DATE

TITLE
MANAGER



Aug 17, 2022

FAS DATA BLOCK INFORMATION

<u>DATA FIELD</u>	<u>DATA</u>
OPERATION TYPE	0
SBAS SERVICE PROVIDER IDENTIFIER	0
AIRPORT IDENTIFIER	KRNO
RUNWAY	RW35R
APPROACH PERFORMANCE DESIGNATOR	0
ROUTE INDICATOR	Y
REFERENCE PATH DATA SELECTOR	0
REFERENCE PATH IDENTIFIER (APPROACH ID)	W35B
LTP/FTP LATITUDE	392920.8945N
LTP/FTP LONGITUDE	1194600.4970W
LTP/FTP ELLIPSOIDAL HEIGHT	+13195
FPAP LATITUDE	393050.0705N
FPAP LONGITUDE	1194600.2650W
THRESHOLD CROSSING HEIGHT (TCH)	00055.0
TCH UNITS SELECTOR (METERS OR FEET USED)	F
GLIDEPATH ANGLE (GPA)	03.44
COURSE WIDTH AT THRESHOLD	106.75
LENGTH OFFSET	0008
HORIZONTAL ALERT LIMIT (HAL)	40.0
VERTICAL ALERT LIMIT (VAL)	50.0
CRC REMAINDER	8C96C814

ADDITIONAL PATH POINT RECORD INFORMATION

ICAO CODE	K2
LTP ORTHOMETRIC HEIGHT	+13436
FPAP ORTHOMETRIC HEIGHT	+13436

