

RNAV - STANDARD INSTRUMENT APPROACH PROCEDURE TITLE 14 CFR PART 97.33							Bearings, headings, courses, 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 in feet RVR.														
US DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION																					
TERMINAL ROUTES										MISSED APPROACH											
FROM		TO			COURSE AND DISTANCE			ALTITUDE		LPV: DA LNAV/VNAV: DA LNAV: RW17 CLIMB TO 6600 DIRECT GUDSE AND HOLD. ADDITIONAL FLIGHT DATA: HOLD S, RT, 351.83 INBOUND. CHART FAS OBST: 3784 WATER TOWER 400613N/1021355W. CHART 4056 VEGETATION 400845N/1021507W 4373 AAO 401007N/10213144W DISTANCE TO THLD FROM 200 HAT: 0.49 NM. CHART VDP AT 1.00 NM TO RW17* *LNAV ONLY. WAAS CHANNEL # 70641 REFERENCE PATH ID: W17A CHART CIRCLING ICON. LTP HAE: 1098.8 M											
BLEDS (IAF)		COLOD (NOPT) (TF) (FB) (RNP 1.00)			261.96 / 10.00			6200													
LUCII (IAF)		COLOD (NOPT) (TF) (FB) (RNP 1.00)			081.68 / 10.00			6200													
COLOD (IF/IAF)		TECOB (TF) (FB) (RNP 1.00)			171.82 / 8.00			5000													
TECOB (FAF)		STARP/2.00 NM TO RW17 (TF) (FB) (RNP 0.30)			171.82 / 2.01																
STARP/2.00 NM TO RW17		RW17 (MAP) (TF) (FO) (RNP 0.30)			171.82 / 2.00																
(SEE FORM 8260-10)																					
1. PT _____ SIDE OF COURSE _____ OUTBOUND _____ FT WITHIN _____ MILES OF _____ (IAF) 2. HOLD N COLOD, RT, 171.82 INBOUND, 6200 FT. IN LIEU OF PT (IAF) 3. FAC: 171.82 FAF: TECOB DIST FAF TO MAP: 4.01 THLD: 4.01 4. MIN. ALT: COLOD 6200, TECOB 5000, STARP/2.00 NM TO RW17 4340* 5. DIST TO THLD FROM OM: _____ MM: _____ IM: _____ 150 HAT: _____ 100 HAT: _____ GS ANT: _____ 6. MIN GS INCPT: 5000 GS ALT AT: TECOB 5000 OM: _____ MM: _____ IM: _____ 7. GS ANGLE: 3.00 TCH: 44.6 34:1 IS CLEAR 8. MSA FROM: _____																	MAG VAR: 8E		EPOCH YEAR: 2005		
MINIMUMS																					
TAKEOFF: SEE FAA FORM 8260-15A FOR THIS AIRPORT							ALTERNATE: N A		STANDARD @												
CATEGORY =====>		A			B			C			D			E							
	DH/MDA	VIS	HAT/HAA	DH/MDA	VIS	HAT/HAA	DH/MDA	VIS	HAT/HAA	DH/MDA	VIS	HAT/HAA	DH/MDA	VIS	HAT/HAA						
LPV DA	3877	1	200	3877	1	200	3877	1	200	3877	1	200									
LNAV/VNAV DA	3945	1	268	3945	1	268	3945	1	268	3945	1	268									
LNAV MDA	4040	1	363	4040	1	363	4040	1	363	4040	1	363									
CIRCLING	4100	1	423	4140	1	463	4540	2 1/2	863	4540	2 3/4	863									
NOTES: CHART NOTE: FOR UNCOMPENSATED BARO-VNAV SYSTEMS, LNAV/VNAV NA BELOW -22C (-7F) OR ABOVE 53C (127F). @ NA WHEN LOCAL WEATHER NOT AVAILABLE. CHART NOTE: BARO-VNAV AND VDP NA WHEN USING IMPERIAL ALTIMETER SETTING. @ CAT C 900-2 1/2, CAT D 900-2 3/4 CHART NOTE: DME/DME RNP-0.3 NA. CHART NOTE: WHEN LOCAL ALTIMETER SETTING IS NOT RECEIVED USE IMPERIAL ALTIMETER SETTING: (CONTINUED ON PAGE 2)																					
CITY AND STATE		ELEVATION: 3677 TDZE: 3677			FACILITY IDENTIFIER: RNAV		PROCEDURE NO./AMDT NO./EFFECTIVE DATE:					SUP:									
WRAY, CO		AIRPORT NAME:			WRAY MUNI		RNAV (GPS) RWY 17, AMDT 2					AMDT: 1B									
												DATED 08/17/2017									



ALL AFFECTED PROCEDURES REVIEWED? <div><input type="checkbox"/> YES</div> <div><input type="checkbox"/> NO</div>		COORDINATES OF FACILITIES		REQUIRED EFFECTIVE DATE <div>CONCURRENT</div>	
COORDINATED WITH: <div><div>ATA<div></div></div><div>AAT<div></div></div><div>ALPA<div></div></div><div>APA<div></div></div><div>AOPA<div><input checked="" type="checkbox"/></div></div><div>NBAA<div><input checked="" type="checkbox"/></div></div><div>OTHER (specify)<div><input checked="" type="checkbox"/> ZDV, DEN ATCT, DEN APP CON, CO AERO, AMGR</div></div></div>					
FLIGHT CHECKED BY					
NAME:				FIFO	DATE:
DEVELOPED BY					
NAME: <div>WARDELL HENNING</div>				FIFO AJV-5433	DATE: 11/03/2017
APPROVED BY					
NAME: <div>PATRICK MULQUEEN</div> <div>MANAGER</div>				FIFO AJV-5430	DATE:
CHANGES: 1. REMOVED ALL PROCEDURE NA PLANVIEW NOTES. 2. REMOVED CHART PROFILE NOTE: VGSI AND DESCENT ANGLES NOT COINCIDENT (VGSI ANGLE {ANGLE}/TCH {FEET}). 3. FIX COLOD MOVED 2.03NM NORTH COORDINATES CHANGED FROM 401627.57N-1021430.66W TO 401829.41N-1021431.20W. 4. ADDED TAA 5. CREATED FIXES: LUCII, BLEDS, AND STARPS. 6. REMOVED FIXES: HOLYO, LINVE, ETUDE, MCJEF, AND WODUG. 7. FIX TECOB MOVED .03NM NORTH COORDINATES CHNAGED FROM 401027.31N-1021428.26W TO 401029.06N-1021429.29. 8. FAS DATA BLOCK ADDED. 9. ADDED LPV AND LNAV/VNAV LINES OF MINIMA AND ASSOCIATED NOTES. 10. AMENDED CIRCLING FROM CAT A-C/4320-1 CAT D/4360-2 1/4 TO CAT A/4100-1, CAT B/4140-1, CAT C 4540-2 1/2, AND CAT D/4540-2 3/4. 11. CHARTED CIRCLING ALTITUDE. 12. REVISED MISSED APPROACH FROM CLIMB TO 7000 DIRECT WODDUG AND HOLD, CONTINUE C-I-H TO 7000 TO CLIMB TO 6600 DIRECT GUDSE AND HOLD. 13. LOWERED LNAV MINIMA FROM 4160 TO 4040.					
REASONS: 1, 2. NO LONGER VALID FOR PROCEDURE. 4, 5, 6, 9, 12. FPT REQUEST. 3, 7, 8,10, 11, 13. IPDS DERIVED DATA. CONCURRENT WITH AIRSPACE DOCKET 17-AMN-6					



US DEPARTMENT OF TRANSPORTATION - FEDERAL AVIATION ADMINISTRATION
RNAV - STANDARD
INSTRUMENT APPROACH PROCEDURE - TITLE 14 CFR PART 97.33

Bearings, headings, courses, 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 in feet RVR.

TERMINAL ROUTES, (CONT.):

FROM	TO	COURSE AND DISTANCE	ALTITUDE
RW17 (MAP)	3877 MSL (CA)	171.82	
3877 MSL	GUDSE (DF) (FO) (RNP 1.00)		6600

NOTES, (CONT.):

INCREASE LPV DA TO 4020, AND LNAV/VNAV DA TO 4088 AND VISIBILITY ALL CATS 3/8 SM, INCREASE ALL MDA 160 FT AND LNAV CAT C/D VISIBILITY 5/8 SM AND CIRCLING CAT C 1/2 SM, CAT D 1/4 SM.

TAA

	FROM	TO	ALT
1.	082/30 CW 262/30 (NOPT)	COLOD (IF/IAF) (FO)	6200
2.	262/30 CW 352/30	BLEDS (IAF) (FB)	6600
3.	352/30 CW 082/30	LUCII (IAF) (FB)	6600

QUALITY
16
CHECKED

CITY AND STATE

WRAY, CO

ELEVATION: 3677

TDZE: 3677

AIRPORT NAME:

WRAY MUNI

FACILITY
IDENTIFIER:
RNAV

PROCEDURE NO./AMDT NO./EFFECTIVE DATE:

RNAV (GPS) RWY 17, AMDT 2

SUP:

AMDT: **1B**

DATED: **08/17/2017**

ALL AFFECTED PROCEDURES REVIEWED? <div><input type="checkbox"/> YES</div> <div><input type="checkbox"/> NO</div>		COORDINATES OF FACILITIES		REQUIRED EFFECTIVE DATE	
COORDINATED WITH:					
ATA <div><input type="checkbox"/></div>		AAT <div><input type="checkbox"/></div>	ALPA <div><input type="checkbox"/></div>	APA <div><input type="checkbox"/></div>	AOPA <div><input type="checkbox"/></div>
NBAA <div><input type="checkbox"/></div>		OTHER (specify) <div><input type="checkbox"/></div>			
FLIGHT CHECKED BY					
NAME:				FIFO	DATE:
DEVELOPED BY					
NAME:				FIFO	DATE:
APPROVED BY					
NAME:				FIFO	DATE:
CHANGES:					
REASONS:					

**RNAV STANDARD INSTRUMENT APPROACH PROCEDURE
FLIGHT STANDARDS SERVICE - FAR PART 97.33**

Bearings, headings, courses, 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 in feet RVR.

FAS DATA BLOCK INFORMATION

<u>DATA FIELD</u>	<u>DATA</u>
OPERATION TYPE	0
SBAS SERVICE PROVIDER IDENTIFIER	0
AIRPORT IDENTIFIER	2V5
RUNWAY	RW17
APPROACH PERFORMANCE DESIGNATOR	0
ROUTE INDICATOR	
REFERENCE PATH DATA SELECTOR	0
REFERENCE PATH IDENTIFIER (APPROACH ID)	W17A
LTP/FTP LATITUDE	400628.0950N
LTP/FTP LONGITUDE	1021428.3255W
LTP/FTP ELLIPSOIDAL HEIGHT	+10988
FPAP LATITUDE	400458.9290N
FPAP LONGITUDE	1021427.9690W
THRESHOLD CROSSING HEIGHT (TCH)	00044.6
TCH UNITS SELECTOR (METERS OR FEET USED)	F
GLIDEPATH ANGLE (GPA)	03.00
COURSE WIDTH AT THRESHOLD	106.75
LENGTH OFFSET	1104
HORIZONTAL ALERT LIMIT (HAL)	40.0
VERTICAL ALERT LIMIT (VAL)	35.0
 <u>CRC REMAINDER</u>	 448220A3

ADDITIONAL PATH POINT RECORD INFORMATION

ICAO CODE	K2
LTP ORTHOMETRIC HEIGHT	+11208
FPAP ORTHOMETRIC HEIGHT	+11208

QUALITY
16
CHECKED

CITY AND STATE WRAY, CO	ELEVATION: 3677 AIRPORT NAME: WRAY MUNI	TDZE: 3677 WRAY MUNI	FACILITY IDENTIFIER: RNAV	PROCEDURE NO./AMDT NO./EFFECTIVE DATE: RNAV (GPS) RWY 17, AMDT 2	SUP:
					AMDT: 1B
					DATED: 08/17/2017

ALL AFFECTED PROCEDURES REVIEWED? <input type="checkbox"/> YES <input type="checkbox"/> NO		COORDINATES OF FACILITIES		REQUIRED EFFECTIVE DATE	
COORDINATED WITH:					
ATA <input type="checkbox"/>	AAT <input type="checkbox"/>	ALPA <input type="checkbox"/>	APA <input type="checkbox"/>	AOPA <input type="checkbox"/>	NBAA <input type="checkbox"/>
OTHER (specify) <input type="checkbox"/> _____					
FLIGHT CHECKED BY					
NAME:				FIFO	DATE:
DEVELOPED BY					
NAME:				FIFO	DATE:
APPROVED BY					
NAME:				FIFO	DATE:
CHANGES:					
REASONS:					

STANDARD INSTRUMENT APPROACH PROCEDURE DATA RECORD																			
PART - A OBSTRUCTION DATA																			
1. APP SEGMENT		FROM		TO		OBSTRUCTION		COORDINATES		ELEV. MSL	ROC	ALT. ADJUSTMENTS	MIN. ALT.						
STRAIGHT-IN AREA		082/30 CW 262/30		COLOD		1. AAO		402424.00N/1025539.00W		4619 (2C)	1000	AT500	6200						
						2. TERRAIN		402424.00N/1025539.00W		4419 (4400)		AS1500	5900						
LEFT BASE AREA		262/30 CW 352/30		BLEDS		3. TOWER (08-000769)		400042.70N/1021932.60W		4434 (5E)	1000	AT1100	6600						
						4. TERRAIN		400018.00N/1021939.00W		3979 (4000)		AS1500	5500						
RIGHT BASE AREA		352/30 CW 082/30		LUCII		5. TOWER (08-000463)		401651.73N/1030556.67W		4803 (3C)	1000	AT700	6600						
						6. TERRAIN		401215.00N/1030833.00W		4579 (4600)		AS1500	6100						
INITIAL		BLEDS		COLOD		7. AAO		401921.00N/1021651.00W		4105 (4E)	1000	AT1000	6200						
						8. TERRAIN		401921.00N/1021651.00W		3905 (3900)		AS1500	5400						
INITIAL		LUCII		COLOD		9. AAO		402024.00N/1022730.00W		4236 (4E)	1000	AT900	6200						
						10. TERRAIN		402024.00N/1022730.00W		4036 (4000)		AS1500	5500						
INTERMEDIATE		COLOD (IF/IAF)		TECOB		11. AAO		401909.00N/1021712.00W		4138 (2C)	500	AT362	5000						
						12. TERRAIN		401909.00N/1021712.00W		3938 (3900)		AS1000	4900						
FINAL: LPV		TECOB		RW17							ASC		3877/200						
2. HOLD-IN-LIEU-OF-PT		COLOD		P-4		16. AAO		402828.00N/1022237.00W		4229 (2C)	1000		5300						
						17. TERRAIN		402828.00N/1022237.00W		4029 (4000)		AS1500	5500						
3. MISSED APPROACH		MAP: DA / DA / RW17		GUDSE							ASC		6600						
		ELEV: 3712/3784/3940				18. WNDML (08-020550)		400302.37N/1021321.70W		4173 (5D)	1000		5200						
						19. TERRAIN		400242.66N/1021426.61W		3855 (3900)		AS1500	5400						
4. CIRCLING AREA		DISTANCE		HT. ABV. ARPT.															
CATEGORY A		1.3 NM		REQUIRED	350	ACTUAL	423	20. TOWER (08-057037)		400503.90N/1021332.20W	3793 (1B)	300		4100					
CATEGORY B		1.5 NM			450		463	20. TOWER (08-057037)		400503.90N/1021332.20W	3793 (1B)	300		HAA	4140				
CATEGORY C		1.7 NM			450		863	21. WNDML (08-020550)		400302.37N/1021321.70W	4173 (5D)	300		AC50	4540				
CATEGORY D		2.3 NM			550		863	21. WNDML (08-020550)		400302.37N/1021321.70W	4173 (5D)	300		AC50	4540				
CATEGORY E		4.5 NM			550														
5. MINIMUM SAFE ALTITUDES																			
PRIMARY NAVAID:																			
SECTOR		OBSTRUCTION		BRG/DIST		ELEVATION (MSL)		M S A		SECTOR		OBSTRUCTION		BRG/DIST		ELEVATION (MSL)		M S A	
																		QUALITY	
																		16	
																		CHECKED	
CITY AND STATE				ELEVATION: 3677				FACILITY				PROCEDURE AND AMENDMENT NO:				REGION			
WRAY, CO				AIRPORT NAME: WRAY MUNI				RNAV				RNAV (GPS) RWY 17, AMDT 2				ANM			

PART B - SUPPLEMENTAL DATA										
1. COMMUNICATIONS WITH:				2. WEATHER SERVICE			3. ALTIMETER SETTING			
ZDV ARTCC DEN FSS						N W S	OTHER: CTAF		SOURCE:K2V5 / KIML	
						F A A			DISTANCE: 0 / 37.60	
						A / C			HOURS REMOTE OPERATION: 0/YES / 24/YES	
SATISFACTORY ON:										
X	V H F	X	U H F		H F	LOCATION: K2V5			ADJUSTMENT: 0 / 143	
4. MONITOR STATUS		PRIMARY NAVAID:								
		MONITOR POINT:								
		HRS OPTN:	CAT 1							
			CAT 3							
5. APPROACH & RUNWAY LIGHTING		ALS								
		(S) SALS								
		MALS								
		HIRL								
		X	MIRL 17 (PCL), 35 (PCL)							
		X	REIL 17 (PCL), 35 (PCL)							
		TDZ								
		C/LINE								
		X	OTHER (SPECIFY) PAPI-2L 17 (PCL), 35 (PCL)							
6. RUNWAY MARKINGS		BASIC								
		ALL WEATHER								
		INSTRUMENT NPI-G 17, 35								
7. RUNWAY VISUAL RANGE		APPROACH								
		MIDFIELD								
		ROLL OUT								
8. GLIDE PATH		GP ANGLE: 3.00				ELEV RWY THRESHOLD:3677.2				
		DISTANCE FROM RWY:				ELEV GP ANTENNA:				
						THRESHOLD CROSSING HEIGHT:44.6				
9. FINAL APPROACH COURSE AIMING			X	RUNWAY THRESHOLD					FT. FROM THRESHOLD	
			X	ON CENTERLINE					FT. FROM CENTERLINE	
10. WAIVERS: NONE										
PART D - PREPARED BY: WARDELL HENNING						DATE: 11/03/2017				
TITLE: AERONAUTICAL INFORMATION SPECIALIST						OFFICE: AJV-5433				

PART C - REMARKS:	
PRECIPITOUS TERRAIN EVALUATION COMPLETED.	
100 FT VEGETATION USED PER FPT. VGSI DATA: 3.00/TCH 40	
5 YEAR WEATHER HISTORY NOT AVAILABLE	
CRITICAL TEMPERATURES: CRITICAL LOW :-22C (-7F) CRITICAL HIGH :+53C (+127F) ACT :-22C APT ISA :-7.72C	
CRITICAL TEMPERATURE REMARKS AVERAGE COLD TEMPERATURE DERIVED FROM STANDARD -30C ISA DEVIATION CRITICAL LOW TEMPERATURE BASED ON ACT. DESCENT RATE (FPM): STANDARD TEMP 1005 HIGH TEMP 1173.	
ORDER 8260.3, CHAPTER 2, NEW CIRCLING CRITERIA APPLIED. CAT A: 1.36NM CAT B: 1.94NM CAT C: 3.07NM CAT D: 4.02NM	
SEE ATTACHED AIRSPACE LETTER. RASS PRESSURE PATTERNS THE SAME K2V5 3677, KIML 3276 RA = 142.7.	
ORDER 8260.3 CHAPTER 2 APPLIED TO : 4056 VEGETATION 400845N/1021507W AND 4373 AAO 401007N//10213144W	
WEATHER ON WMSCR	
QUALITY 16 CHECKED	

STANDARD INSTRUMENT APPROACH PROCEDURE DATA RECORD		
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PART - A OBSTRUCTION DATA

[illegible]

PART B - SUPPLEMENTAL DATA										PART C - REMARKS:	
1. COMMUNICATIONS WITH:				2. WEATHER SERVICE			3. ALTIMETER SETTING				
SATISFACTORY ON:					N W S	OTHER:		SOURCE:			
					F A A			DISTANCE:			
					A / C			HOURS REMOTE OPERATION:			
	V H F		U H F		H F	LOCATION:			ADJUSTMENT:		
4. MONITOR STATUS		PRIMARY NAVAID:									
		MONITOR POINT:									
		HRS	CAT 1								
		OPTN:	CAT 3								
5. APPROACH & RUNWAY LIGHTING			ALS								
			(S) SALS								
			MALS								
			HIRL								
			MIRL								
			REIL								
			TDZ								
			C/LINE								
6. RUNWAY MARKINGS		BASIC									
		ALL WEATHER									
		INSTRUMENT									
7. RUNWAY VISUAL RANGE		APPROACH									
		MIDFIELD									
		ROLL OUT									
8. GLIDE PATH		GP ANGLE:				ELEV RWY THRESHOLD:					
		DISTANCE FROM RWY:				ELEV GP ANTENNA:					
						THRESHOLD CROSSING HEIGHT:					
9. FINAL APPROACH COURSE AIMING				RUNWAY THRESHOLD					FT. FROM THRESHOLD		
				ON CENTERLINE					FT. FROM CENTERLINE		
10. WAIVERS:											
PART D - PREPARED BY:										DATE:	
TITLE:										OFFICE:	