

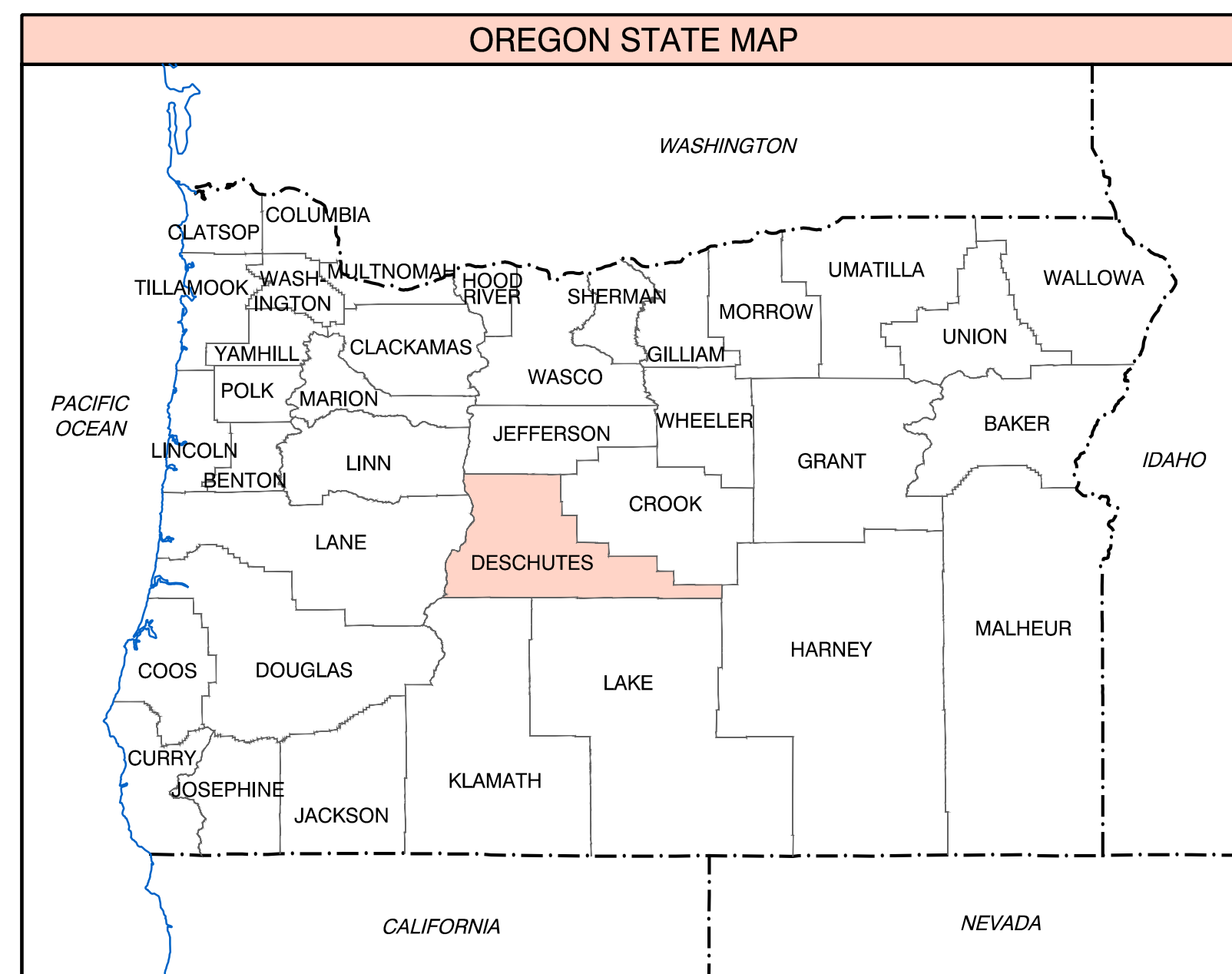
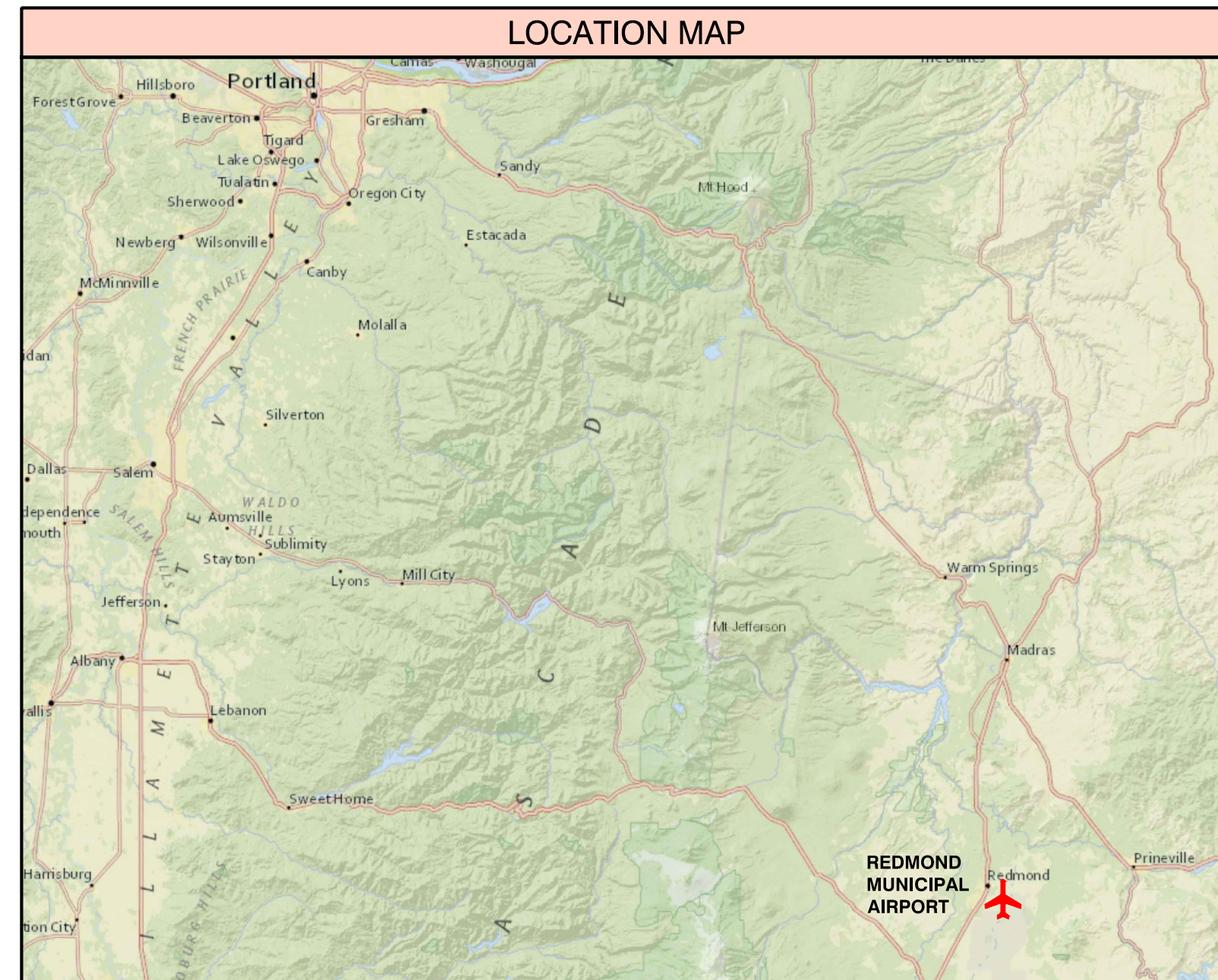
# Redmond Municipal Airport Airport Layout Plan

Redmond, Oregon  
**AUGUST 2018**  
AIP Grant 3-41-0052-041-2016

**Mead & Hunt**  
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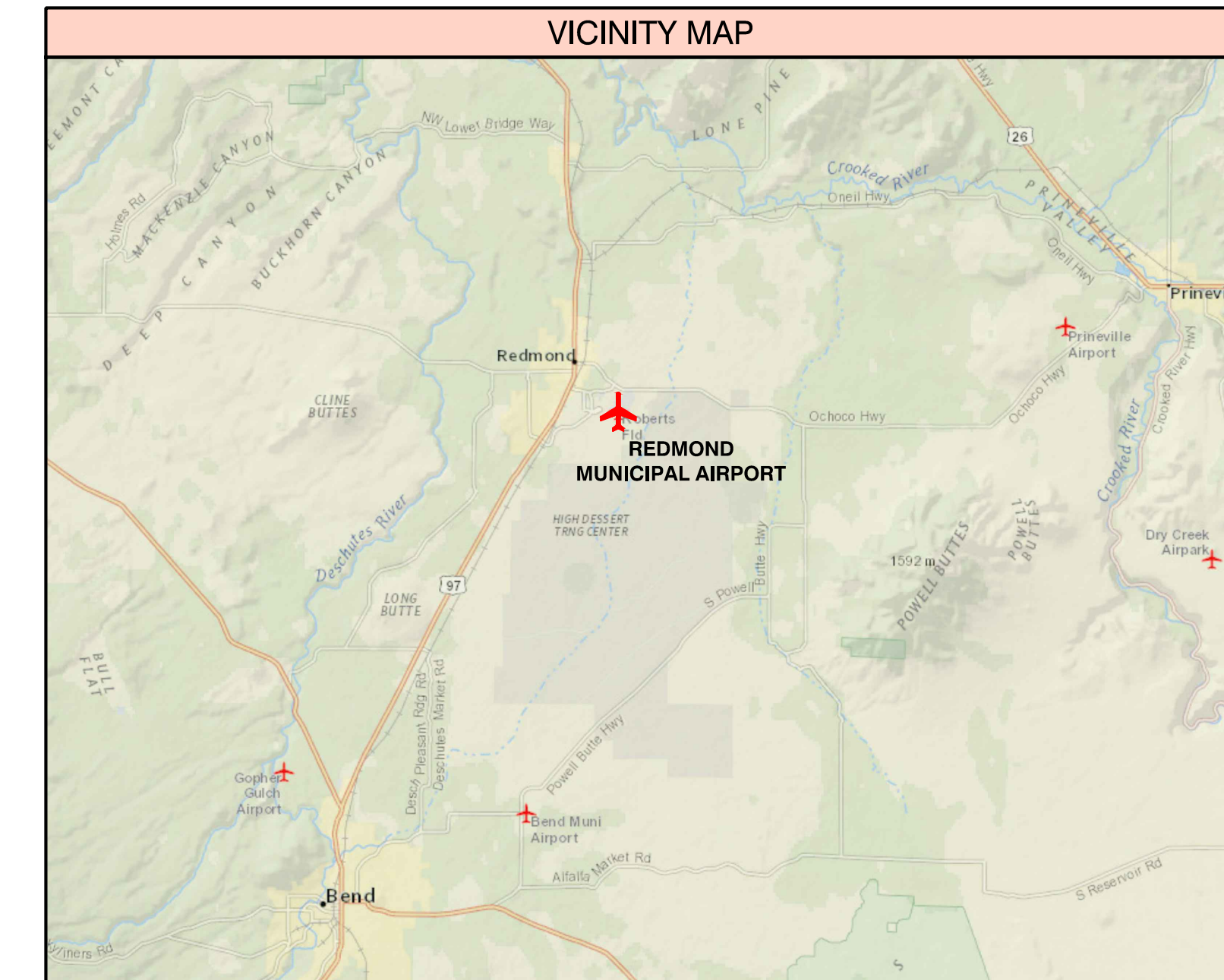


The preparation of this document may have been supported, in part, through the Airport Improvement Program financial assistance from the Federal Aviation Administration (AIP #3-41-0052-041-2016) as provided under Title 49 U.S.C., Section 47104. The contents do not in any way constitute a commitment on the part of the United States to participate in any development depicted therein nor does it indicate that the proposed development is environmentally acceptable or would have justification in accordance with appropriate public laws.



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REVISIONS					
Δ	DATE	BY	DESCRIPTION	APPD	DATE
1.	2011	JNR	Updated Nov. 2011 - Century West Eng.		1/12
2.	2013	JNR	Updated AIP-035		7/13
3.	2018	MH	2016 Master Plan - ALP Update		8/18

SUBMITTED BY:  
**CITY OF REDMOND**

By \_\_\_\_\_  
Title \_\_\_\_\_ Date \_\_\_\_\_

**REDMOND MUNICIPAL AIRPORT /  
ROBERTS FIELD  
AIRPORT LAYOUT PLAN**  
 City of Redmond  
 411 SW 9th Street  
 Redmond, Oregon 97756

ISSUED  
**DRAFT**  
Work in Progress

NOT FOR CONSTRUCTION

M&H NO.: 1817700-121032.01  
 DATE: August 2018  
 DESIGNED BY: BM  
 DRAWN BY: DL, TE  
 CHECKED BY: BM  
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SHEET CONTENTS

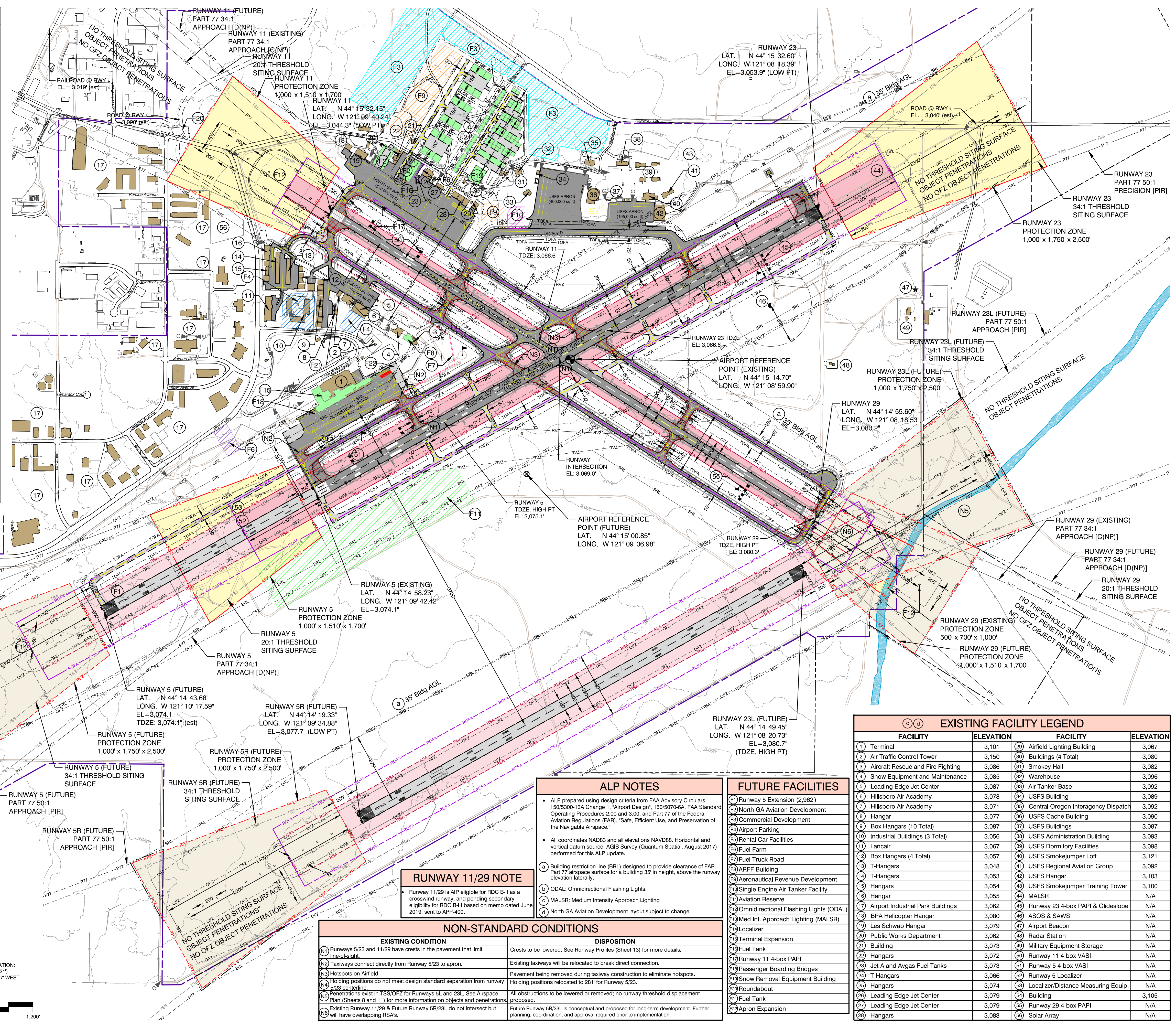
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DRAWING LEGEND		
	EXISTING	FUTURE
ACTIVE AIRFIELD PAVEMENT		
PAVEMENT TO BE REMOVED	N/A	
PAVEMENT SHOULDER		N/A
AIRPORT PROPERTY		N/A
AVIGATION EASEMENT		
AIRPORT REFERENCE POINT		
RUNWAY SAFETY AREA (RSA)		
RUNWAY PROTECTION ZONE (RPZ)		
RUNWAY OBJECT FREE AREA (ROFA)		
RUNWAY VISIBILITY ZONE (RVZ)		
OBSTACLE FREE ZONE (OFZ)		
FAR PART 77 APPROACH SURFACE		
THRESHOLD SITING SURFACE (TSS)		
GLIDESLOPE CRITICAL AREA (GCA)		
LOCALIZER CRITICAL AREA (LCA)		
BUILDING - ON AIRPORT		
BUILDING - OFF AIRPORT	N/A	
BUILDING RESTRICTION LINE (BRL)		
TAXIWAY / LANE MARKING		
TAXIWAY OBJECT FREE AREA (TOFA)		
RUNWAY LIGHTS (EDGE/THRESHOLD/TAXIWAY)		N/A
RUNWAY END IDENTIFIER LIGHT / ODAL		N/A
MALS / LOCALIZER		
GLIDESLOPE		
ROTATING BEACON		N/A
PRECISION APPROACH PATH INDICATOR (PAPI)		
VISUAL APPROACH SLOPE INDICATOR (VASI)		
RUNWAY / TAXIWAY SIGN		
WIND CONE		N/A
ASOS & SAWS		N/A
ASOS CRITICAL AREA (ACA)		N/A
RAILROAD		N/A
ROAD		
GRAVEL ROAD		N/A
FENCE (6 Feet)		N/A
GATE (VEHICLE / PEDESTRIAN)		N/A
CANAL		N/A
TERRAIN CONTOURS		
FUTURE AERO REVENUE DEVELOPMENT	N/A	
FUTURE AIRPORT PARKING	N/A	
FUTURE APRON RECONSTRUCTION	N/A	
FUTURE AVIATION RESERVE	N/A	
FUTURE COMMERCIAL DEVELOPMENT	N/A	
FUTURE FUEL FARM	N/A	
FUTURE FUEL TRUCK ROAD	N/A	
FUTURE RENTAL CAR FACILITIES	N/A	
FUTURE SEAT BASE	N/A	



REVISIONS					
Δ	DATE	BY	DESCRIPTION	APPD	DATE
1.	2011	JNR	Updated Nov. 2011 - Century West Eng.		1/12
2.	2013	JNR	Updated AIP-035		7/13
3.	2018	MH	2016 Master Plan - ALP Update		8/18

**FAA APPROVAL SPACE**

MAGNETIC DECLINATION:  
14° 42' East (± 0' 21")  
ANNUAL CHANGE: 0" WEST  
January 2018

**ALP NOTES**

- ALP prepared using design criteria from FAA Advisory Circulars 150/5300-13A Change 1, "Airport Design"; 150/5070-6A, FAA Standard Operating Procedures 2.00 and 3.00, and Part 77 of the Federal Aviation Regulations (FAR), "Safe, Efficient Use, and Preservation of the Navigable Airspace."
- All coordinates NAD83 and all elevations NAVD83. Horizontal and vertical datum source: AGIS Survey (Quantum Spatial, August 2017) performed for this ALP update.
- (a) Building restriction line (BRL) designed to provide clearance of FAR Part 77 airspace surface for a building 35' in height, above the runway elevation laterally.
- (b) ODAL: Omnidirectional Flashing Lights.
- (c) MALS/R: Medium Intensity Approach Lighting
- (d) North GA Aviation Development layout subject to change.

**FUTURE FACILITIES**

- (1) Runway 5 Extension (2,962')
- (2) North GA Aviation Development
- (3) Commercial Development
- (4) Airport Parking
- (5) Rental Car Facilities
- (6) Fuel Farm
- (7) Fuel Truck Road
- (8) ARFF Building
- (9) Aeronautical Revenue Development
- (10) Single Engine Air Tanker Facility
- (11) Aviation Reserve
- (12) Omnidirectional Flashing Lights (ODAL)
- (13) Med Int. Approach Lighting (MALS/R)
- (14) Localizer
- (15) Terminal Expansion
- (16) Fuel Tank
- (17) Runway 11 4-box PAPI
- (18) Passenger Boarding Bridges
- (19) Snow Removal Equipment Building
- (20) Roundabout
- (21) Fuel Tank
- (22) Apron Expansion

**NON-STANDARD CONDITIONS**

EXISTING CONDITION	DISPOSITION
(11) Runways 5/23 and 11/29 have crests in the pavement that limit line-of-sight.	Crests to be lowered. See Runway Profiles (Sheet 13) for more details.
(12) Taxiways connect directly from Runway 5/23 to apron.	Existing taxiways will be relocated to break direct connection.
(13) Hotspots on Airfield.	Pavement being removed during taxiway construction to eliminate hotspots.
(14) Holding positions do not meet design standard separation from Runway 5/23 centerline.	Holding positions relocated to 281' for Runway 5/23.
(15) Penetrations exist in TSS/OFZ for Runways 5L and 23L. See Airspace Plan (Sheets 8 and 11) for more information on objects and penetrations.	All obstructions to be lowered or removed; no runway threshold displacement proposed.
(16) Existing Runway 11/29 & Future Runway 5R/23L do not intersect but will have overlapping RSAs.	Future Runway 5R/23L is conceptual and proposed for long-term development. Further planning, coordination, and approval required prior to implementation.

**RUNWAY 11/29 NOTE**

Runway 11/29 is AIP eligible for RDC B-II as a crosswind runway, and pending secondary eligibility for RDC B-III based on memo dated June 2019, sent to APP-400.

EXISTING FACILITY LEGEND			
FACILITY	ELEVATION	FACILITY	ELEVATION
(1) Terminal	3,101'	(29) Airfield Lighting Building	3,067'
(2) Air Traffic Control Tower	3,150'	(30) Buildings (4 Total)	3,080'
(3) Aircraft Rescue and Fire Fighting	3,086'	(31) Smokey Hall	3,082'
(4) Snow Equipment and Maintenance	3,085'	(32) Warehouse	3,096'
(5) Leading Edge Jet Center	3,087'	(33) Air Tanker Base	3,092'
(6) Hillsboro Air Academy	3,078'	(34) USFS Building	3,089'
(7) Hillsboro Air Academy	3,071'	(35) Central Oregon Interagency Dispatch	3,092'
(8) Hangar	3,077'	(36) USFS Cache Building	3,090'
(9) Box Hangars (10 Total)	3,087'	(37) USFS Buildings	3,087'
(10) Industrial Buildings (3 Total)	3,058'	(38) USFS Administration Building	3,093'
(11) Lanciair	3,067'	(39) USFS Dormitory Facilities	3,098'
(12) Box Hangars (4 Total)	3,057'	(40) USFS Smokejumper Loft	3,121'
(13) T-Hangers	3,048'	(41) USFS Regional Aviation Group	3,092'
(14) T-Hangers	3,053'	(42) USFS Hangar	3,103'
(15) Hangars	3,054'	(43) USFS Smokejumper Training Tower	3,100'
(16) Hangar	3,055'	(44) MALS/R	N/A
(17) Airport Industrial Park Buildings	3,062'	(45) Runway 23 4-box PAPI & Glideslope	N/A
(18) BPA Helicopter Hangar	3,080'	(46) ASOS & SAWS	N/A
(19) Les Schwab Hangar	3,079'	(47) Airport Beacon	N/A
(20) Public Works Department	3,062'	(48) Radar Station	N/A
(21) Building	3,073'	(49) Military Equipment Storage	N/A
(22) Hangars	3,072'	(50) Runway 11 4-box VASI	N/A
(23) Jet A and Avgas Fuel Tanks	3,073'	(51) Runway 5 4-box VASI	N/A
(24) T-Hangers	3,066'	(52) Runway 5 Localizer	N/A
(25) Hangars	3,074'	(53) Localizer/Distance Measuring Equip.	N/A
(26) Leading Edge Jet Center	3,079'	(54) Building	3,105'
(27) Leading Edge Jet Center	3,079'	(55) Runway 29 4-box PAPI	N/A
(28) Hangars	3,083'	(56) Solar Array	N/A

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**REDMOND MUNICIPAL AIRPORT /  
ROBERTS FIELD  
AIRPORT LAYOUT PLAN**

City of Redmond  
411 SW 9th Street  
Redmond, Oregon 97756

ISSUED

NOT FOR CONSTRUCTION

M&H NO.: 1817700-121032.01  
DATE: June 2019  
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DRAWN BY: DL, TE  
CHECKED BY: BM  
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SHEET CONTENTS

**AIRPORT LAYOUT PLAN**

SHEET NO.

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RUNWAY DATA							
	RUNWAY 5L-23R		RUNWAY 11-29 (h)		RUNWAY 5R-23L		
	EXISTING	FUTURE	EXISTING	FUTURE	EXISTING	FUTURE	
UTILITY / GREATER THAN UTILITY	Greater than Utility		Greater than Utility		Greater than Utility		
RUNWAY DESIGN CODE	C-III-2400		B-III-4000		C-III-2400		
APPROACH REFERENCE CODE	D/IV/2400		D/IV/4000		D/IV/2400		
CRITICAL AIRCRAFT (d)	AIRCRAFT	Embraer E175	Airbus A319	Bombardier Q400	No Change	Airbus A319	
	WINGSPAN	85.3'	111.9'	93.3'	No Change	111.9'	
	APPROACH SPEED (kts)	124 knots	126 knots	120 knots	No Change	126 knots	
	MAX. TAKEOFF WT. (lbs.)	82,673 lbs	168,653 lbs	64,500 lbs	No Change	168,653 lbs	
	COCKPIT TO MAIN GEAR	41.33'	44.90'	45.75'	No Change	44.90'	
	MAIN GEAR WIDTH	20.50'	29.36'	31.36'	No Change	29.36'	
PAVEMENT STRENGTH AND MATERIAL TYPE (c)	TAXIWAY DESIGN GROUP	3	No Change	5	No Change	3	
	SURFACE MATERIAL	Asphalt	No Change	Asphalt	No Change	Asphalt	
	DESIGN STRENGTH (1,000#) - S/D/DI	120 / 216 / 399	No Change	109 / 178 / -	No Change	68 / 110 / 200	
	STRENGTH BY PCN	52/F/A/X/T	No Change	42/F/A/X/T	No Change	44/F/A/X/U	
SURFACE TREATMENT	Grooved	No Change	Grooved	No Change	Grooved		
EFFECTIVE GRADIENT (%)	0.29%	0.20%	0.51%	No Change	N/A	0.05%	
VERTICAL LINE OF SIGHT PROVIDED	No	Yes	No	Yes	N/A	Yes	
RUNWAY LENGTH	7,038'	10,000'	7,006'	No Change	N/A	6,200'	
RUNWAY WIDTH	150'	No Change	100'	No Change	N/A	150'	
RUNWAY END ELEVATIONS (a)	5 3,074.1'	5 No Change	11 3,044.3'	11 No Change	5 N/A	5 3,077.7'	
DISPLACED THRESHOLD	23 3,053.9'	23 No Change	29 3,080.2'	29 No Change	23 N/A	23 3,080.7'	
	5 N/A	5 No Change	11 N/A	11 No Change	5 N/A	5 No Change	
DISPLACED THRESHOLD ELEVATIONS	23 N/A	23 No Change	29 N/A	29 No Change	23 N/A	23 No Change	
	5 N/A	5 No Change	11 N/A	11 No Change	5 N/A	5 No Change	
RUNWAY TOUCHDOWN ZONE ELEVATIONS	5 3,075.1'	5 3,074.1'	11 3,067.9'	11 3,067.9'	5 N/A	5 3,079.0'	
	23 3,066.6'	23 No Change	29 3,080.3'	29 No Change	23 N/A	23 3,080.7'	
RUNWAY HIGH POINT	5 3,075.1'	5 3,074.1'	11 3,080.3'	11 No Change	N/A	5 3,080.7'	
	23 3,053.9'	23 No Change	29 3,044.3'	29 No Change	N/A	23 3,077.7'	
RUNWAY SAFETY AREA (RSA) LENGTH BEYOND RUNWAY END	REQUIRED	1,000'	No Change	600'	No Change	5 N/A	5 1,000'
	ACTUAL	1,000'	No Change	600'	No Change	5 N/A	5 1,000'
RUNWAY SAFETY AREA WIDTH	REQUIRED	500'	No Change	300'	No Change	N/A	500'
	ACTUAL	500'	No Change	300'	No Change	N/A	500'
RUNWAY EDGE LIGHTING	High Intensity		Medium Intensity		High Intensity		
RUNWAY PROTECTION ZONE (RPZ) APPROACH (Inner Width x Outer Width x Length)	5 1,000x1,510x1,700'	5 1,000x1,750x2,500'	11 1,000x1,510x1,700'	11 No Change	5 N/A	5 1,000x1,750x2,500'	
RUNWAY PROTECTION ZONE (RPZ) DEPARTURE (Inner Width x Outer Width x Length)	23 500x1,010x1,700'	23 No Change	29 500x700x1,000'	29 No Change	23 N/A	23 500x1,010x1,700'	
RUNWAY MARKING	5 Precision	5 No Change	11 Nonprecision	11 No Change	5 N/A	5 Precision	
	23 Precision	23 No Change	29 Nonprecision	29 No Change	23 N/A	23 Precision	
PART 77 APPROACH CATEGORY	5 Nonprecision [D(NP)]	5 Precision [PIR]	11 Nonprecision [C(NP)]	11 Nonprecision [D(NP)]	5 N/A	5 Precision [PIR]	
PART 77 APPROACH SLOPE	23 Precision [PIR]	23 No Change	29 Nonprecision [C(NP)]	29 Nonprecision [D(NP)]	23 N/A	23 Precision [PIR]	
APPROACH VISIBILITY MINIMUMS	5 3/4 - Mile	5 1/2 - Mile	11 7/8 - Mile	11 3/4 - Mile	5 N/A	5 1/2 - Mile	
	23 1/2 - Mile	23 No Change	29 1 - Mile	29 3/4 - Mile	23 N/A	23 1/2 - Mile	
AERONAUTICAL SURVEY REQUIRED (VERTICALLY GUIDED OR NOT)	5 Yes	5 No Change	11 Yes	11 No Change	5 N/A	5 Yes	
	23 Yes	23 No Change	29 Yes	29 No Change	23 N/A	23 Yes	
RUNWAY DEPARTURE SURFACE	5 Yes	5 No Change	11 Yes	11 No Change	5 N/A	5 Yes	
RUNWAY OBJECT FREE AREA (ROFA) (Length Beyond Runway End)	5 1,000'	5 No Change	11 600'	11 No Change	5 N/A	5 1,000'	
RUNWAY OBJECT FREE AREA WIDTH (OFZ)	23 1,000'	23 No Change	29 600'	29 No Change	23 N/A	23 1,000'	
OBSTACLE FREE ZONE (OFZ) (Length Beyond Runway End)	5 200'	5 No Change	11 200'	11 No Change	5 N/A	5 200'	
	23 200'	23 No Change	29 200'	29 No Change	23 N/A	23 200'	
INNER-APPROACH OFZ LENGTH (For Runways w/ Approach Lighting System, Begins 200' from Rwy end @ 50')	5 N/A	5 2,400'	11 N/A	11 1,500'	5 N/A	5 2,400'	
INNER-APPROACH OFZ WIDTH	23 2,500'	23 No Change	29 N/A	29 1,500'	23 N/A	23 2,400'	
INNER-TRANSITIONAL OFZ WIDTH (For Runways w/ <3/4-mile Approach Visibility Minimums)	5 400'	5 No Change	N/A	400'	N/A	5 400'	
PRECISION OBSTACLE FREE ZONE (Length x Width) (For Runways w/ vert. guided approach and <250' ceiling/<3/4 mile visibility)	5 N/A	5 1,784.1'	11 N/A	11 No Change	5 N/A	5 1,741.0'	
THRESHOLD SITING SURFACE (Per AC 150/5300-13A, Table 3-2 - Change 1. See Airspace Plan for more information.)	23 1,991.0'	23 2,025.8'	29 N/A	29 No Change	23 N/A	23 1,705.1'	
	5 200' x 800'	5 200' x 800'	11 N/A	11 No Change	5 N/A	5 200' x 800'	
NAVIGATION AIDS	23 200' x 800'	23 No Change	29 N/A	29 No Change	23 N/A	23 200' x 800'	
VISUAL AIDS	5 GPS, LOCALIZER	5 Same + RNAV	11 VOR, GPS	11 No Change	5 N/A	5 GPS, LOCALIZER, ILS, RNAV	
	23 GPS, VOR, NDB, ILS	23 No Change	29 GPS	29 No Change	23 N/A	23 GPS, LOCALIZER, ILS, RNAV	
RUNWAY C.L. TO:	5 VASI-4L, REIL	5 Same + MALS	11 VASI-4L, REIL	11 PAPI-4L, REIL, ODALS	5 N/A	5 PAPI-4L, MALS	
	23 MALS, PAPI-4L	23 No Change	29 PAPI-4L, REIL	29 Same + ODALS	23 N/A	23 PAPI-4L, MALS	
	N/A	3,700'	N/A	No Change	N/A	3,700'	
	HOLDING POSITION	No Change	200'	No Change	N/A	281'	
	PARALLEL TAXIWAY C.L.	No Change	300'	No Change	N/A	400'	
	AIRCRAFT PARKING AREA	No Change	400'	No Change	N/A	N/A	
	HELICOPTER TOUCHDOWN PAD	No Change	N/A	No Change	N/A	N/A	

TAXIWAY DATA																						
	A, B, C		D		A CONNECTORS		B1, C3(T)		B2(T)		B3, B4(T)		C1, C2(T)		C4(T)		TAXIWAYS		TAXILANE F(3)		TAXILANE G(3)	
	EXISTING	FUTURE	EXISTING	FUTURE	EXISTING	FUTURE	EXISTING	FUTURE	EXISTING	FUTURE	EXISTING	FUTURE	EXISTING	FUTURE	EXISTING	FUTURE	EXISTING	FUTURE	EXISTING	FUTURE	EXISTING	FUTURE
TAXIWAY DESIGN GROUP	3	No Change	5	No Change	5	No Change	5	No Change	5	No Change	5	No Change	5	No Change	5	No Change	N/A	3	N/A	2	N/A	1B
AIRCRAFT DESIGN GROUP	III	No Change	III	IV	III	No Change	III	No Change	III	No Change	III	No Change	III	No Change	III	No Change	N/A	III	N/A	III	N/A	I
WIDTH	50'	No Change	75'	No Change	75'	50'	80'	50'	55'	50'	70'	50'	75'	50'	65'	50'	N/A	50'	N/A	35'	N/A	25'
TAXIWAY SAFETY AREA WIDTH	118'	No Change	118'	171'	118'	No Change	118'	No Change	118'	No Change	118'	No Change	118'	No Change	118'	No Change	N/A	118'	N/A	118'	N/A	49'
TAXIWAY EDGE SAFETY MARGIN	10'	No Change	15'	No Change	15'	10'	15'	10'	15'	10'	15'	10'	15'	10'	15'	10'	N/A	10'	N/A	7.5'	N/A	5'
TAXIWAY OBJECT FREE AREA WIDTH	186'	No Change	186'	259'	186'	No Change	186'	No Change	186'	No Change	186'	No Change	186'	No Change	186'	No Change	N/A	186'	N/A	162'	N/A	79'
DISTANCE FROM TWY @ TO FIXED/MOVABLE OBJECT	81'	No Change	81'	No Change	81'	No Change	81'	No Change	81'	No Change	81'	No Change	81'	No Change	81'	No Change	N/A	81'	N/A	81'	N/A	39.5'
TAXIWAY WING TIP CLEARANCE	34'	No Change	34'	44'	34'	No Change	34'	No Change	34'	No Change	34'	No Change	34'	No Change	34'	No Change	N/A	34'	N/A	27'	N/A	15'
DISTANCE FROM RUNWAY @ TO TAXIWAY	400'	No Change	N/A	No Change	N/A	No Change	N/A	No Change	N/A	No Change	N/A	No Change	N/A	No Change	N/A	No Change	N/A	400'	N/A	N/A	N/A	N/A
TAXIWAY LIGHTING	Medium	No Change	Medium	No Change	Medium	No Change	Medium	No Change	Medium	No Change	Medium	No Change	Medium	No Change	Medium	No Change	N/A	Medium	N/A	N/A	N/A	N/A
DISTANCE FROM RUNWAY @ TO HOLD BARS	N/A	No Change	N/A	No Change	250'	281'	200'	No Change	200'	No Change	200'	No Change	200'	No Change	200'	No Change	N/A	281'	N/A	N/A	N/A	N/A

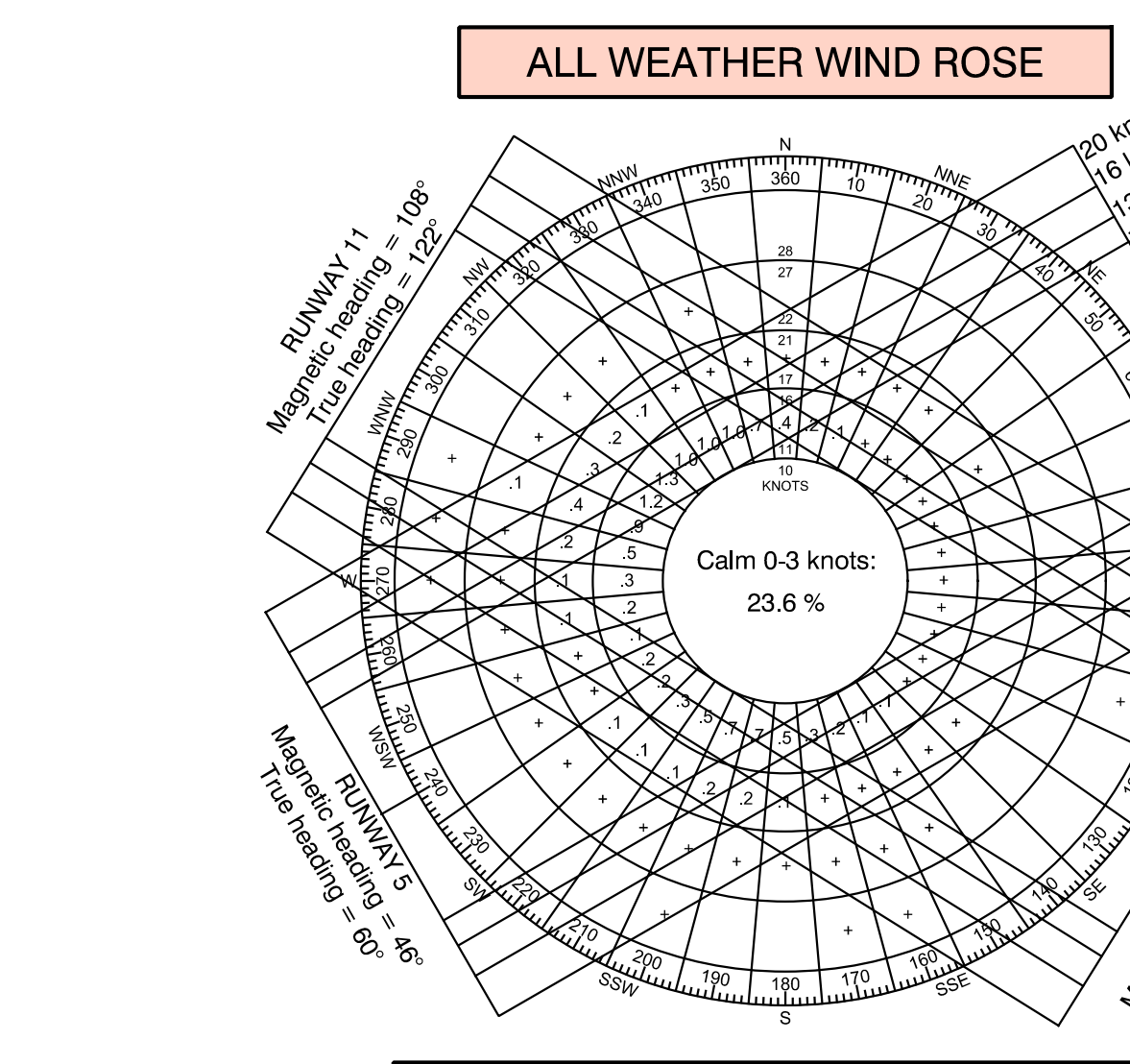
NOTES:  
(1) Taxiway B and Taxiway C connectors will change to Taxiway Design Group (TDG) 4 design in a Fiscal Year 2018 construction project. TDG 4 allows for the Q400 to continue operating at the airport. Connectors will change to TDG 3 to match the future critical aircraft once service of the Q400 ends.  
(2) E Taxiways include future parallel Taxiway E and connectors.  
(3) Taxilanes F and G are subject to change with North GA development layout.

AIRPORT DATA		
	EXISTING	FUTURE
AIRPORT IDENTIFIER	ROM	No Change
AIRPORT REFERENCE CODE	C-III	No Change
MEAN MAX. TEMP. (Hottest Month)	85.5° F (July)	No Change
AIRPORT ELEVATION (Above Mean Sea Level)	3,080.3'	3,080.7'
AIRPORT NAVIGATIONAL AIDS	VOR, GPS, LOCALIZER	Same + RNAV
AIRPORT REFERENCE POINT (a)	LATITUDE: 44° 15' 14.7" N LONGITUDE: 121° 08' 59.9" W	44° 15' 00.9" N 121° 09' 07.0" W
MISCELLANEOUS FACILITIES	100L Jet A, Tie-downs, Wind Cones, Control Tower	No Change
CRITICAL AIRCRAFT	Embraer E175	Airbus A319
MAGNETIC DECLINATION (e)	14° 42' E (+0° 21') January 2018	Moving 0° 7' West / Year
NPIAS SERVICE LEVEL	Nonhub	No Change
STATE SERVICE LEVEL	Commercial	No Change
AIRPORT ACREAGE (f)	Fee Simple: 2,780 ± acres Avigation Easement: 350 ± acres	390 ± acres

RUNWAY END COORDINATES		
	EXISTING (a)	FUTURE
5	LAT. 44° 14' 58.23" N LONG. 121° 09' 42.42" W	44° 14' 43.68" N 121° 10' 17.59" W
23	LAT. 44° 15' 32.60" N LONG. 121° 08' 18.39" W	No Change No Change
11	LAT. 44° 15' 32.15" N LONG. 121° 09' 40.24" W	No Change No Change
29	LAT. 44° 14' 55.60" N LONG. 121° 08' 18.53" W	No Change No Change
5R	LAT. N/A LONG. N/A	44° 14' 19.33" N 121° 09' 34.88" W
23L	LAT. N/A LONG. N/A	44° 14' 49.45" N 121° 08' 20.73" W

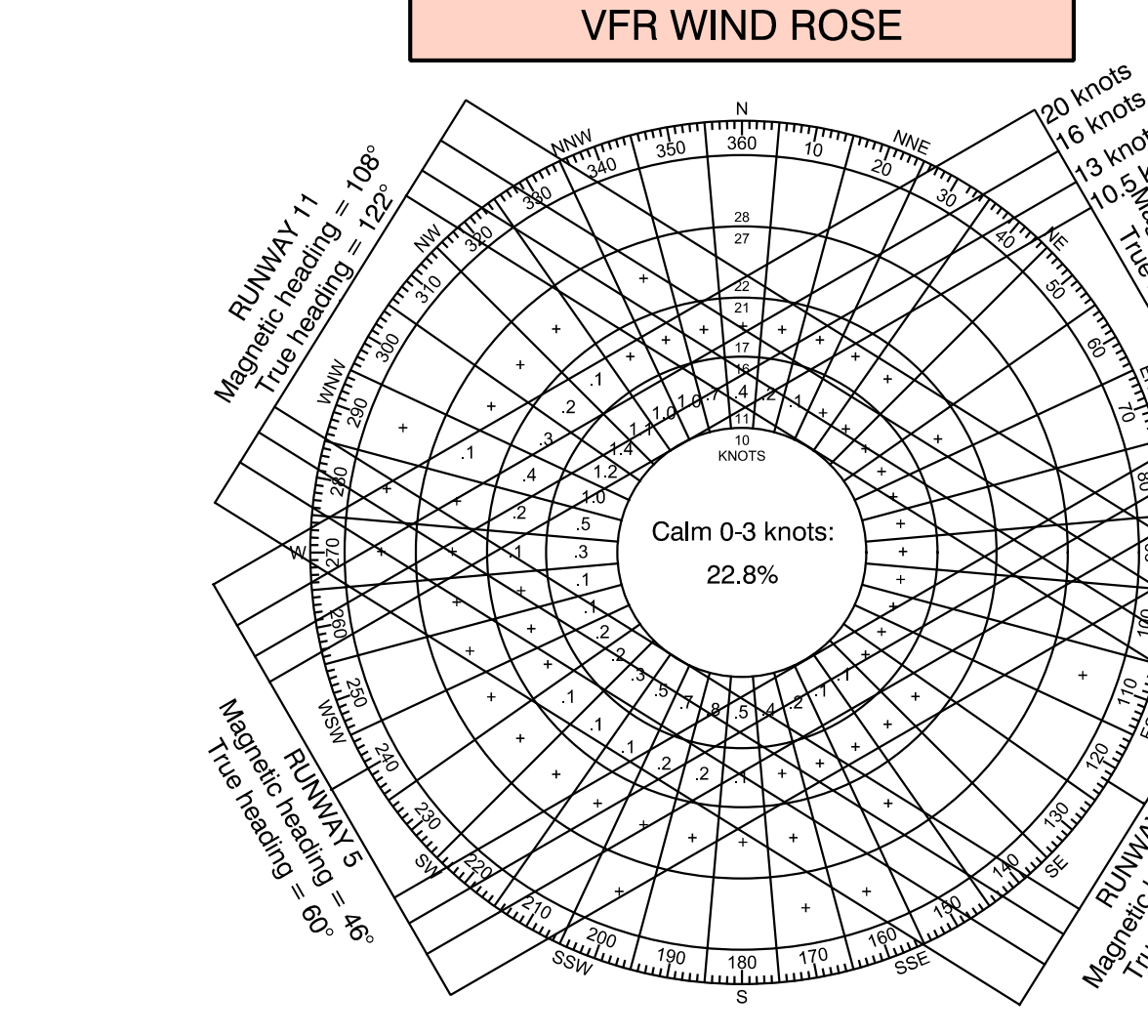
MODIFICATIONS TO STANDARDS  
NONE REQUIRED

Wind Data Source: FAA AGIS National Climate Data Center (Station # 726920)  
Period of Time: 2006 - 2015  
Note: Windrose compass headings are true north.

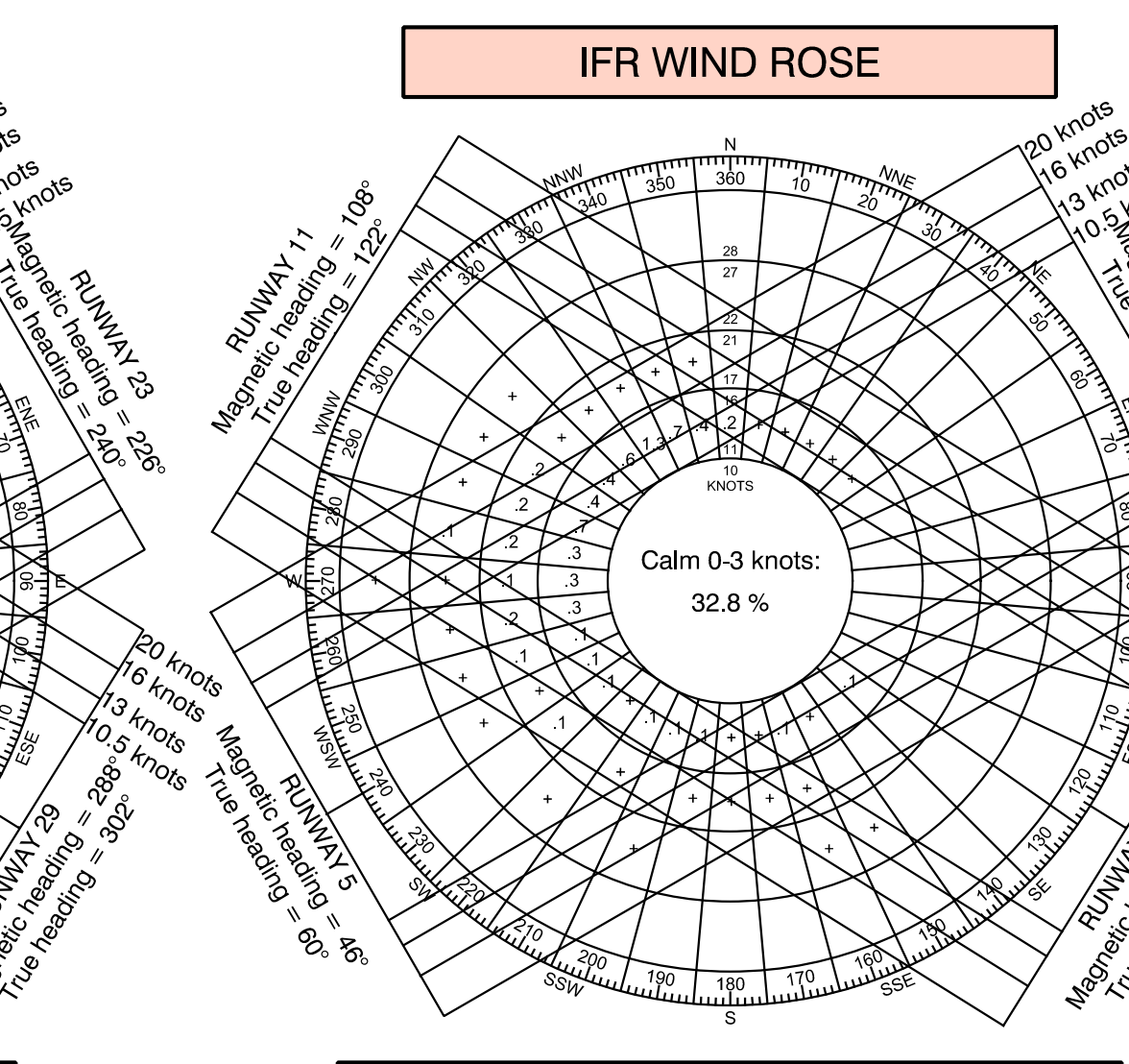


ALL WEATHER WIND COVERAGE				
RUNWAY	10.5 KNOTS (12 M.P.H.)	13 KNOTS (15 M.P.H.)	16 KNOTS (18.5 M.P.H.)	20 KNOTS (23 M.P.H.)
11-29	94.85%	97.17%	99.06%	99.79%
5-23	89.63%	94.34%	98.83%	99.87%
Combined	97.65%	99.39%	99.88%	99.99%
Number of Observations: 86,755				

DECLARED DISTANCES				
	RUNWAY 5L/23R	RUNWAY 11/29	RUNWAY 5R/23L	
	EXISTING/FUTURE	EXISTING/FUTURE	EXISTING/FUTURE	EXISTING/FUTURE
TAKEOFF RUN AVAILABLE (TORA)	7,038' / 10,000'	7,006' / No Change	N/A / 6,200'	6,200'
TAKEOFF DISTANCE AVAILABLE (TODA)	7,038' / 10,000'	7,006' / No Change	N/A / 6,200'	6,200'
ACCELERATE-STOP DISTANCE AVAILABLE (ASDA)	7,038' / 10,000'	7,006' / No Change	N/A / 6,200'	6,200'
LANDING DISTANCE AVAILABLE (LDA)	7,038' / 10,000'	7,006' / No Change	N/A / 6,200'	6,200'



VFR WIND COVERAGE				
RUNWAY	10.5 KNOTS (12 M.P.H.)	13 KNOTS (15 M.P.H.)	16 KNOTS (18.5 M.P.H.)	20 KNOTS (23 M.P.H.)
11-29	94.55%	96.99%	99.0%	99.78%
5-23	89.17%	94.1%	98.78%	99.87%
Combined	97.49%	99.35%	99.88%	99.99%
Number of Observations: 79,413				



IFR WIND COVERAGE				
RUNWAY	10.5 KNOTS (12 M.P.H.)	13 KNOTS (15 M.P.H.)	16 KNOTS (18.5 M.P.H.)	20 KNOTS (23 M.P.H.)
11-29	98.18%	99.12%	99.77%	99.95%
5-23	94.67%	96.94%	99.36%	99.91%
Combined	99.32%	99.83%	99.97%	100.0%
Number of Observations: 7,457				

ALP NOTES:  
• ALP prepared using design criteria from FAA Advisory Circulars 150/5300-13A Change 1, "Airport Design", 150/5070-6A, FAA Standard Operating Procedures 2.00 and 3.00, and Part 77 of the Federal Aviation Regulations (FAR), "Safe, Efficient Use, and Preservation of the Navigable Airspace."  
(a) All coordinates NAD83 and all elevations NAVD88. Horizontal and vertical datum source: AGIS Survey, Quantum Spatial, August 2017, performed for this ALP update.  
(b) Temperature data source: Western Regional Climate Center, Station ID: Redmond, Oregon (357062).  
(c) Existing pavement design strength source: 5010 Master Record and Airport AVN Data Sheet and comments from Airport.  
(d) Design aircraft based on Chapter 2 - Aviation Activity Forecasts (Page #61), of the Master Plan update. Forecasts approved in September 2017.  
(e) Magnetic Declination source: National Geophysical Data Center.  
(f) Airport Property Boundary Source: Approved 2013 Exhibit A and quit claim deed #91-01120. Property lines retained from 2013 Exhibit A and quit claim deed. Airport acreage based on digital line work. For more information on property, see Exhibit A Airport Property Map, Sheet 16.  
(g) No timeline set for construction of Runway 5R/23L. Runway 5R/23L was brought from previous ALP update to continue protecting the airspace if Runway 5R/23L is built in the future.  
(h) Runway 11/29 is ALP eligible for RDC B-II as a crosswind runway, and pending secondary eligibility for RDC B-III based on memo dated June 2019, sent to APP-400.

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AIRPORT LAYOUT PLAN  
City of Redmond  
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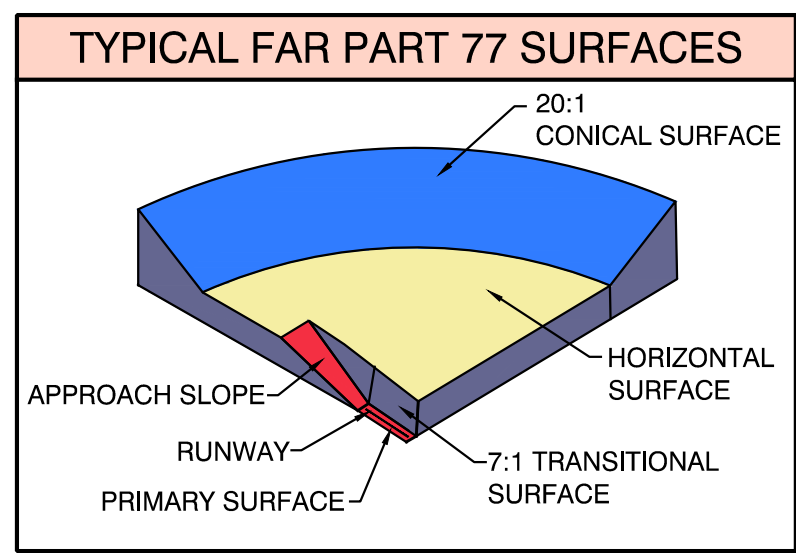
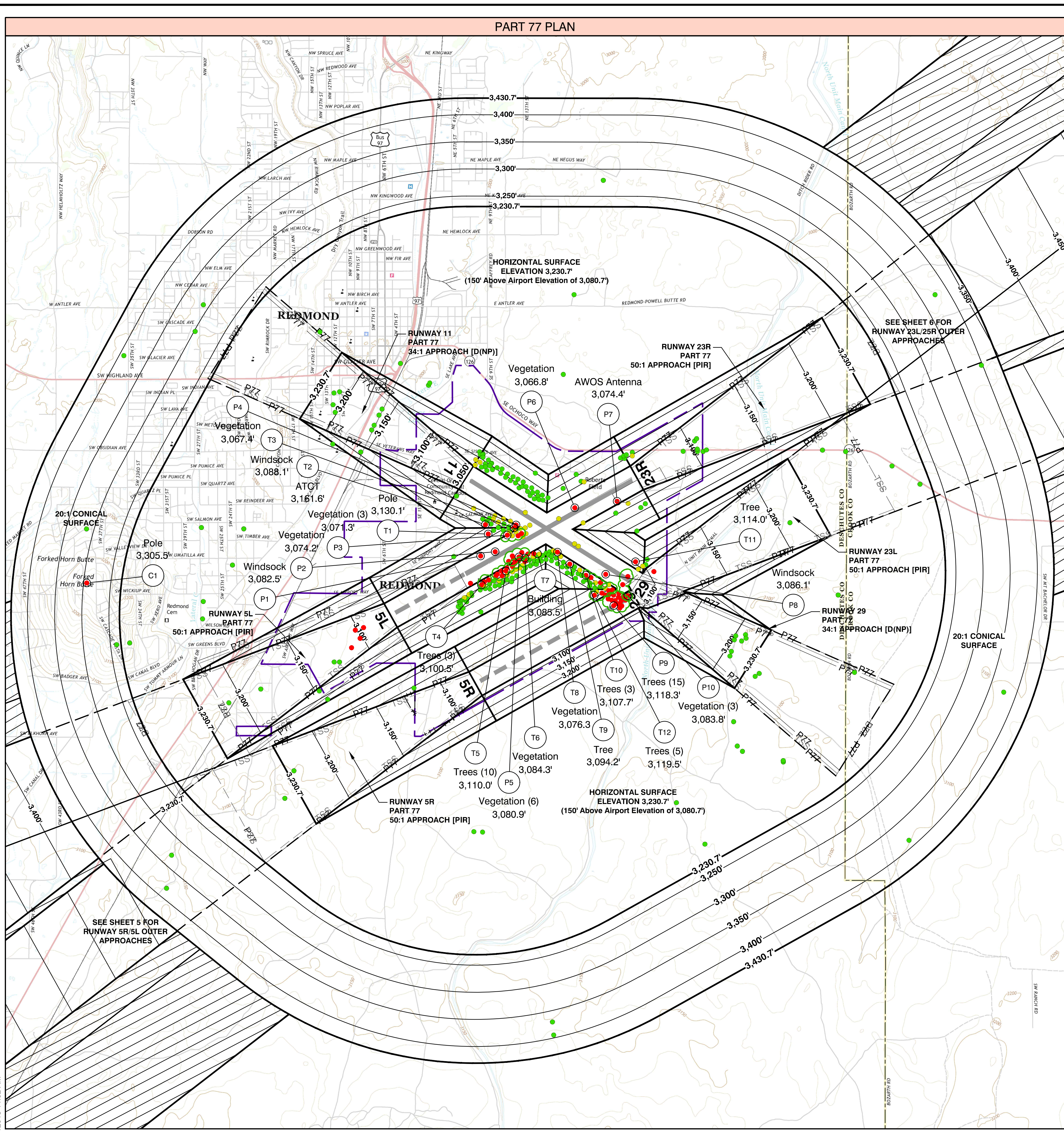
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DATE: June 2019  
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DRAWN BY: DL, TE  
CHECKED BY: BM  
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AIRPORT DATA  
SHEET NO.



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- NOTES:**
- Runway ends, Part 77 surface contours and obstruction elevations are shown in NAD83 and NAVD83. All elevations in feet above mean sea level (MSL).
  - Object and runway end elevation source: AGIS Survey, Quantum Spatial, August 2017.
  - Base map source: USGS Topographic maps.
  - See Departure Surfaces (Sheet 12) for 40:1 departure surfaces for each runway.
  - For the Data Tables, a negative penetration value indicates the object is clear of the airspace surface.

- LEGEND: PLAN VIEW**
- Existing Runway
  - Future Runway/Extension
  - Airport Property Boundary
  - Existing Avigation Easement
  - Future Avigation Easement
  - Part 77 Surfaces
  - Part 77 Existing Approach Surface
  - Part 77 Future Approach Surface
  - Part 77 Surface Contour
  - Existing Threshold Siting Surface
  - Future Threshold Siting Surface
  - Terrain Contours
  - Object Penetrates Part 77 Surface
  - Object Within 10ft. Part 77 Surface
  - Object Clear >10ft. Part 77 Surface
  - Vegetation / Trees

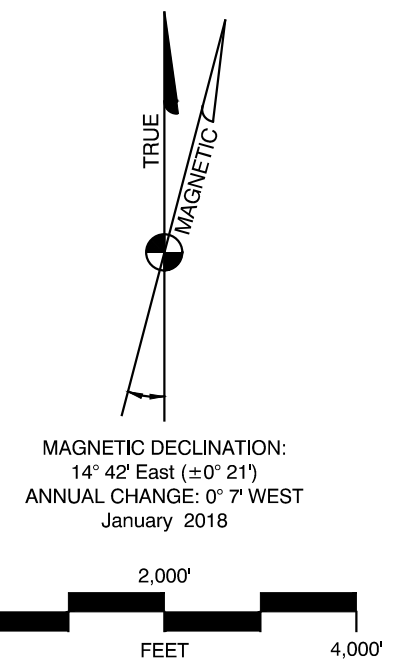
**COMPREHENSIVE PART 77 AGIS OBJECTS**

	APPROACHES					PRIMARY	TRANSITION	HORIZONTAL	CONICAL	
	5L 23R	11	29	5R	23L					
● # OBJECTS THAT PENETRATE PART 77 SURFACE	4	0	0	0	0	1	34	29	0	1
● # OBJECTS WITHIN 10 FEET OF PART 77 SURFACE	0	0	0	0	0	0	13	32	0	0
● # OBJECTS > 10 FEET CLEAR OF PART 77 SURFACE	4	7	8	7	1	1	0	130	31	14

All objects captured in the 2017 AGIS survey are represented on this table. For detail on close-in obstructions in RPZ areas and lateral transitional surface, see Inner-Approach Plans (Sheets 8.9,10, and 11).

**PART 77 OBJECTS**

POINT #	OBJECT DESCRIPTION	OBJECT ELEVATION	PART 77 SURFACE	PART 77 SURFACE ELEVATION	PART 77 PENETRATION	20:1 TSS SURFACE ELEVATION	TSS PENETRATION	DISPOSITION
P1	Windsock	3082.5	Primary	3,070.8'	11.7'	Object Not Under Surface		No Action
P2	Vegetation	3074.2	Primary	3,070.3'	3.9'	Object Not Under Surface		Remove
P3	Vegetation (3)	3071.3	Primary	3,069.7'	1.6'	Object Not Under Surface		Remove
P4	Vegetation	3067.4	Primary	3,066.8'	0.6'	Object Not Under Surface		Remove
P5	Vegetation (6)	3080.9	Primary	3,069.9'	11.0'	Object Not Under Surface		Remove
P6	Vegetation	3066.8	Primary	3,064.9'	2.0'	Object Not Under Surface		Remove
P7	AWOS Antenna	3074.4	Primary	3,068.2'	16.2'	Object Not Under Surface		No Action
P8	Windsock	3086.1	Primary	3,077.9'	8.2'	Object Not Under Surface		No Action
P9	Trees (15)	3118.3	Primary	3,080.4'	37.9'	Object Not Under Surface		Remove
P10	Vegetation (3)	3083.8	Primary	3,060.6'	3.2'	Object Not Under Surface		Remove
T1	Pole	3130.1	Transitional	3,119.7'	10.4'	Object Not Under Surface		Obstruction Light
T2	ATCT	3161.6	Transitional	3,143.0'	18.6'	Object Not Under Surface		No Action
T3	Windsock	3088.1	Transitional	3,080.8'	7.3'	Object Not Under Surface		No Action
T4	Trees (3)	3100.5	Transitional	3,093.9'	6.6'	Object Not Under Surface		Trim
T5	Trees (10)	3110	Transitional	3,091.5'	18.5'	Object Not Under Surface		Trim
T6	Vegetation	3084.3	Transitional	3,079.9'	4.4'	Object Not Under Surface		Trim
T7	Building	3085.5	Transitional	3,083.3'	2.2'	Object Not Under Surface		No Action
T8	Vegetation	3076.3	Transitional	3,074.6'	1.7'	Object Not Under Surface		Trim
T9	Tree	3094.2	Transitional	3,093.7'	0.5'	Object Not Under Surface		Trim
T10	Trees (3)	3087.2	Transitional	3,102.7'	5.0'	Object Not Under Surface		Trim
T11	Tree	3114	Transitional	3,108.1'	5.9'	Object Not Under Surface		Trim
T12	Trees (6)	3119.5	Transitional	3,109.2'	10.3'	Object Not Under Surface		Trim
C1	Pole	3305.5	Conical	3,294.3'	11.2'	Object Not Under Surface		Obstruction Light



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ROBERTS FIELD  
AIRPORT LAYOUT PLAN**  
City of Redmond  
411 SW 9th Street  
Redmond, Oregon 97756

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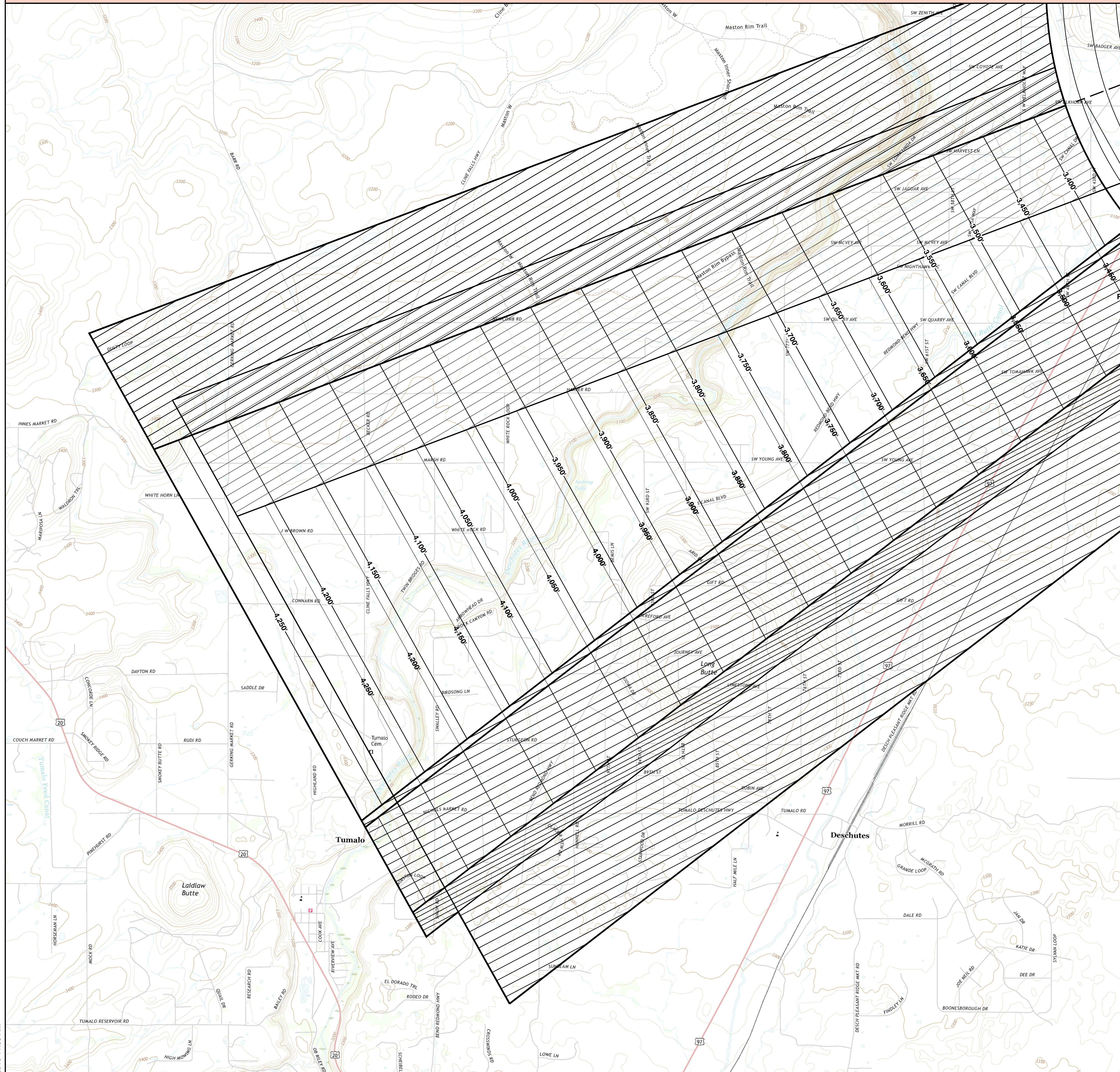
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DRAWN BY: DL, TE  
CHECKED BY: BM  
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SHEET CONTENTS  
**PART 77  
AIRSPACE PLAN**

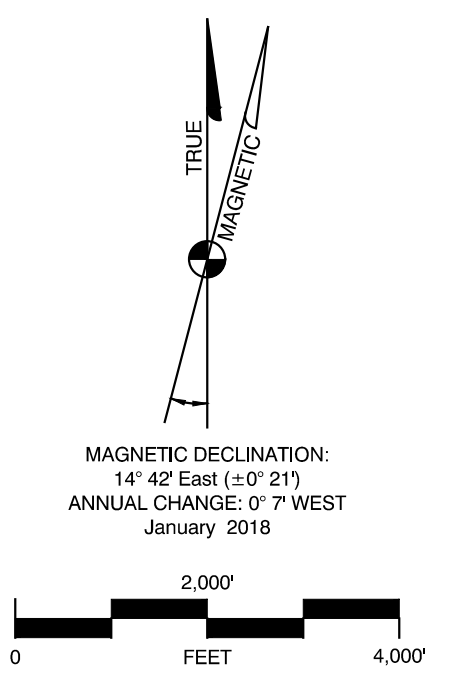
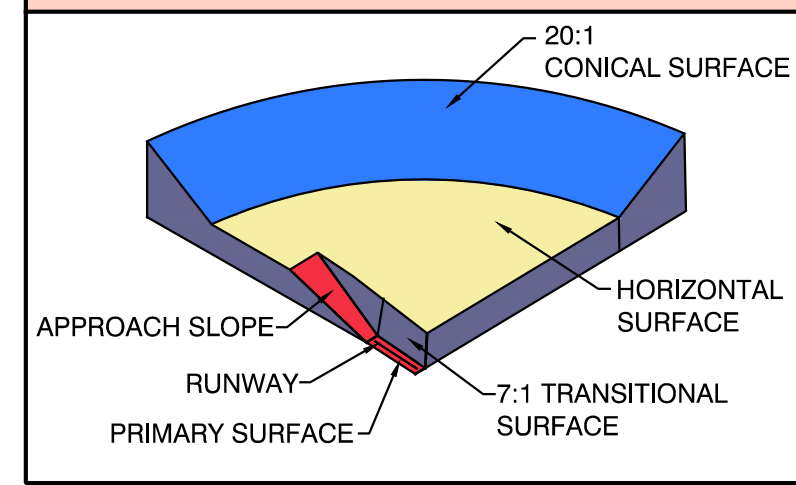
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RUNWAYS 5L/5R OUTER APPROACH PLAN



TYPICAL FAR PART 77 SURFACES



- LEGEND: PLAN VIEW
- Part 77 Surfaces
  - Part 77 Approach Surface
  - Part 77 Surface Contour
  - Terrain Contours

- NOTES:
- Runway ends, Part 77 surface contours and obstruction elevations are shown in NAD83 and NAVD83. All elevations in feet above mean sea level (MSL).
  - Object and runway end elevation source: AGIS Survey, Quantum Spatial, August 2017.
  - Basemap source: USGS Topographic maps.
  - See Departure Surfaces (Sheet 12) for 40:1 departure surfaces for each runway.
  - For the Data Tables, a negative penetration value indicates the object is clear of the airspace surface.

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SHEET CONTENTS

RUNWAYS 5L/5R  
OUTER  
APPROACHES

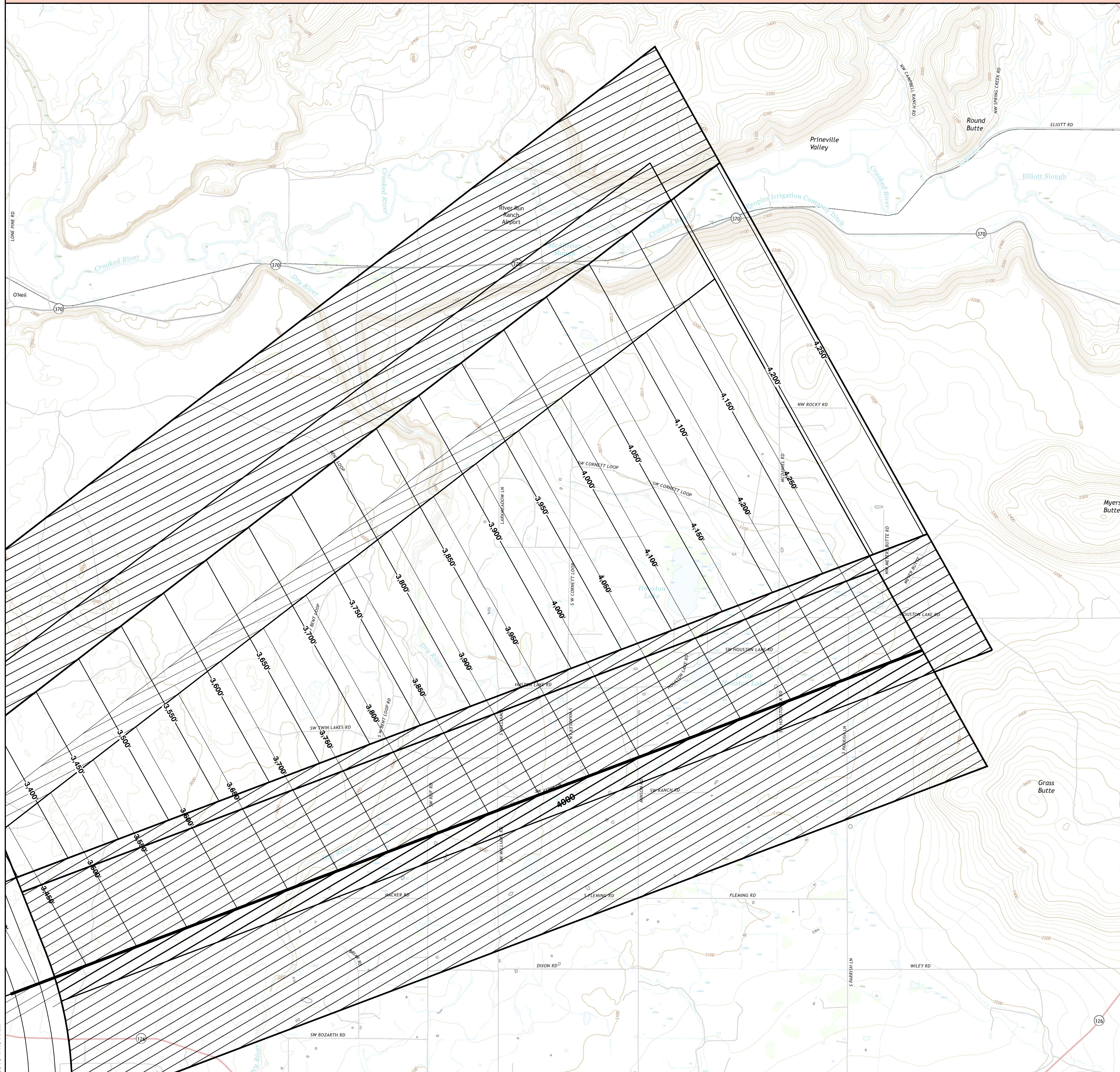
SHEET NO.

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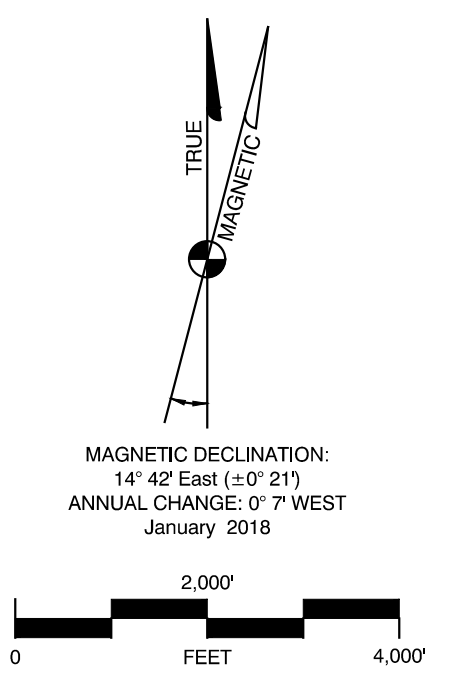
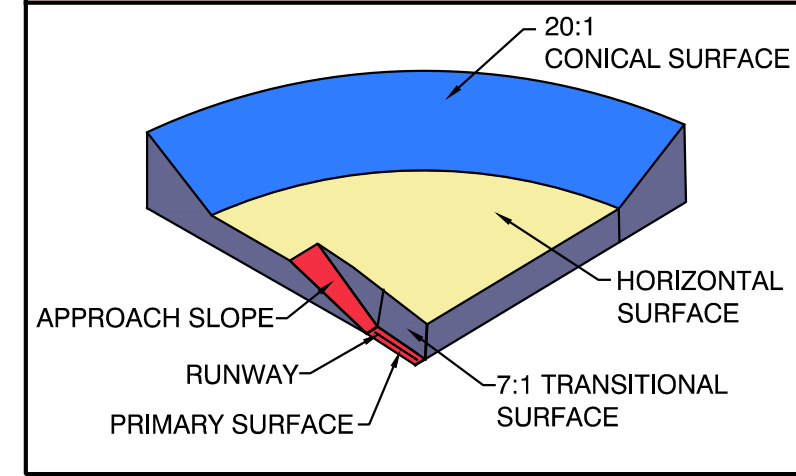
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RUNWAYS 23L/23R OUTER APPROACH PLAN



TYPICAL FAR PART 77 SURFACES



- LEGEND: PLAN VIEW
- Part 77 Surfaces
  - Part 77 Approach Surface
  - Part 77 Surface Contour
  - Terrain Contours

- NOTES:
- Runway ends, Part 77 surface contours and obstruction elevations are shown in NAD83 and NAVD83. All elevations in feet above mean sea level (MSL).
  - Object and runway end elevation source: AGIS Survey, Quantum Spatial, August 2017.
  - Basemap source: USGS Topographic maps.
  - See Departure Surfaces (Sheet 12) for 40:1 departure surfaces for each runway.
  - For the Data Tables, a negative penetration value indicates the object is clear of the airspace surface.

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SHEET CONTENTS  
RUNWAYS 23L/23R  
OUTER  
APPROACHES

SHEET NO.  
**6 of 17**

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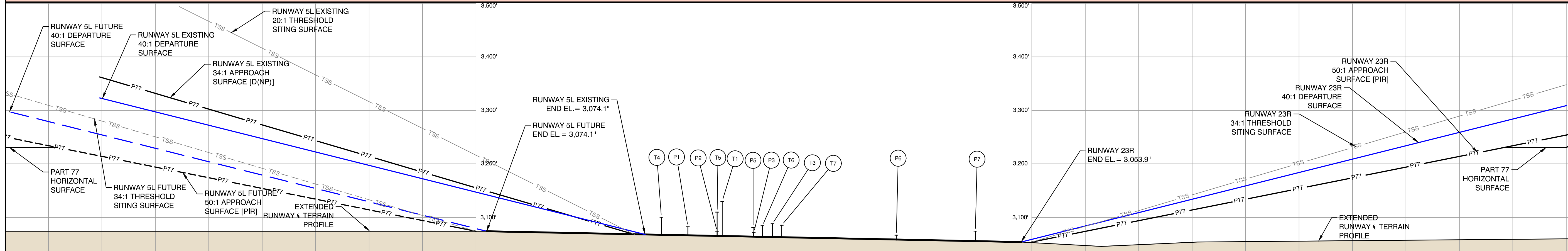
SHEET CONTENTS

PART 77  
PROFILES

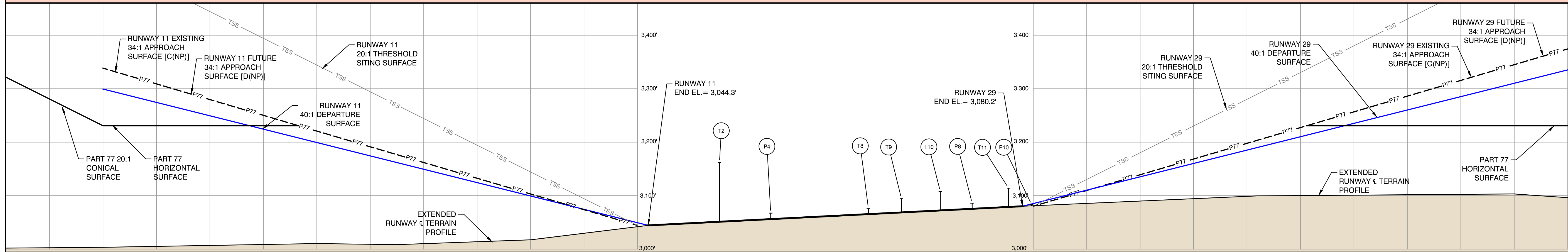
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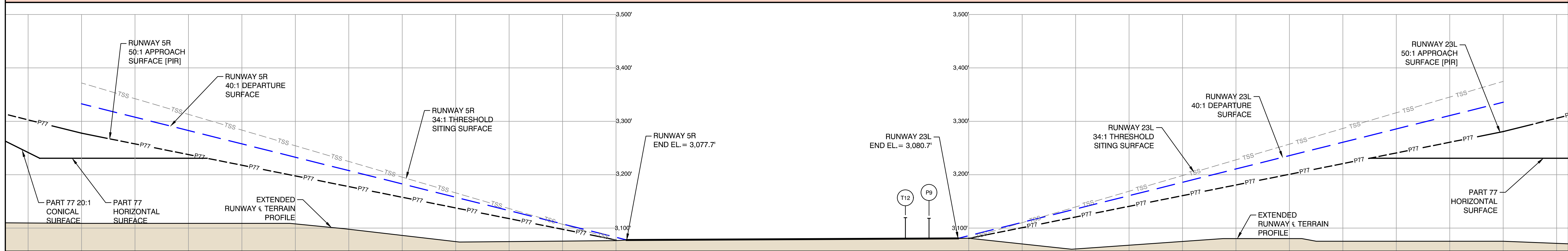
**RUNWAY 5L/23R OUTER APPROACH PROFILE**



**RUNWAY 11/29 OUTER APPROACH PROFILE**



**RUNWAY 5R/23L OUTER APPROACH PROFILE**



**LEGEND: PROFILE VIEW**

- P77 — Part 77 Surface
- P77 — Part 77 Existing Approach Surface
- P77 — Part 77 Future Approach Surface
- TSS — Existing Threshold Siting Surface (TSS)
- TSS — Future TSS
- 40:1 — 40:1 Existing Departure Surface
- 40:1 — 40:1 Future Departure Surface
- T Object

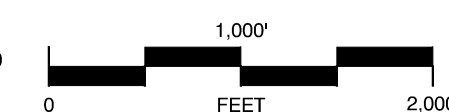
**NOTES:**

- Runway ends, Part 77 surface contours and obstruction elevations are shown in NAD83 and NAVD88. All elevations in feet above mean sea level (MSL).
- Object and runway end elevation source: AGIS Survey, Quantum Spatial, August 2017.
- Trees in close proximity and similar elevations are grouped together.
- For the Data Tables, a negative penetration value indicates the object is clear of the airspace surface.

**PART 77 PRIMARY AND TRANSITIONAL OBJECTS**

POINT #	OBJECT DESCRIPTION	OBJECT ELEVATION	PART 77 SURFACE	PART 77 SURFACE ELEVATION	PART 77 PENETRATION	DISPOSITION
P1	Windsock	3082.5	Primary	3,070.8'	11.7'	No Action
P2	Vegetation	3074.2	Primary	3,070.3'	3.9'	Remove
P3	Vegetation (3)	3071.3	Primary	3,068.7'	1.6'	Remove
P4	Vegetation	3067.4	Primary	3,066.6'	0.8'	Remove
P5	Vegetation (6)	3080.9	Primary	3,069.9'	11.0'	Remove
P6	Vegetation	3066.8	Primary	3,064.8'	2.0'	Remove
P7	AWOS Antenna	3074.4	Primary	3,058.2'	16.2'	No Action
P8	Windsock	3086.1	Primary	3,077.9'	8.2'	No Action
P9	Trees (15)	3118.3	Primary	3,080.4'	37.9'	Remove
P10	Vegetation (3)	3083.8	Primary	3,080.6'	3.2'	Remove
T1	Pole	3130.1	Transitional	3,119.7'	10.4'	Obstruction Light
T2	ATCT	3161.6	Transitional	3,143.0'	18.6'	No Action
T3	Windsock	3088.1	Transitional	3,080.8'	7.3'	No Action
T4	Trees (3)	3100.5	Transitional	3,093.9'	6.6'	Trim
T5	Trees (10)	3110	Transitional	3,091.5'	18.5'	Trim
T6	Vegetation	3084.3	Transitional	3,079.9'	4.4'	Trim
T7	Building	3085.5	Transitional	3,083.3'	2.2'	No Action
T8	Vegetation	3076.3	Transitional	3,074.6'	1.7'	Trim
T9	Tree	3094.2	Transitional	3,093.7'	0.5'	Trim
T10	Trees (3)	3107.7	Transitional	3,102.7'	5.0'	Trim
T11	Tree	3114	Transitional	3,108.1'	5.9'	Trim
T12	Trees (5)	3119.5	Transitional	3,109.2'	10.3'	Trim

PROFILE VIEW:  
VERTICAL EXAGGERATION OF 10  
VERTICAL SCALE: 1"=100'







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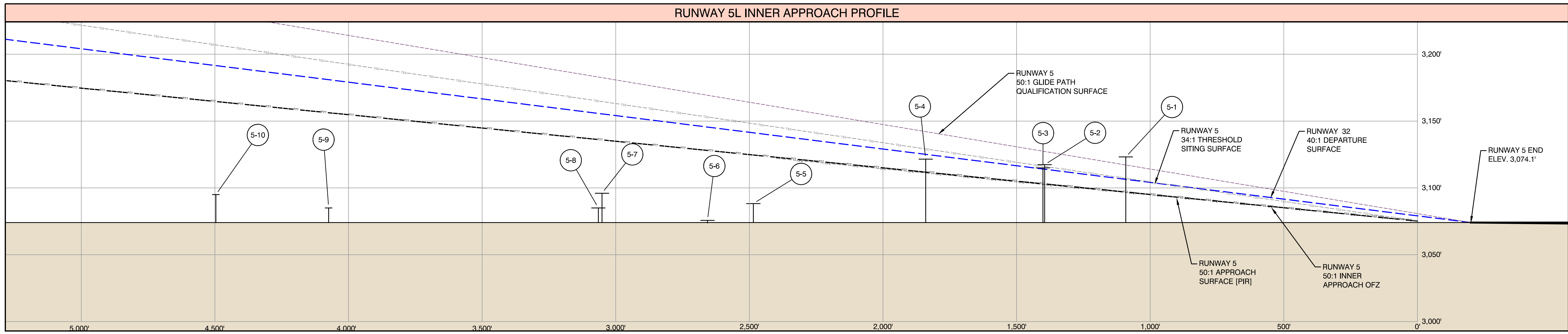
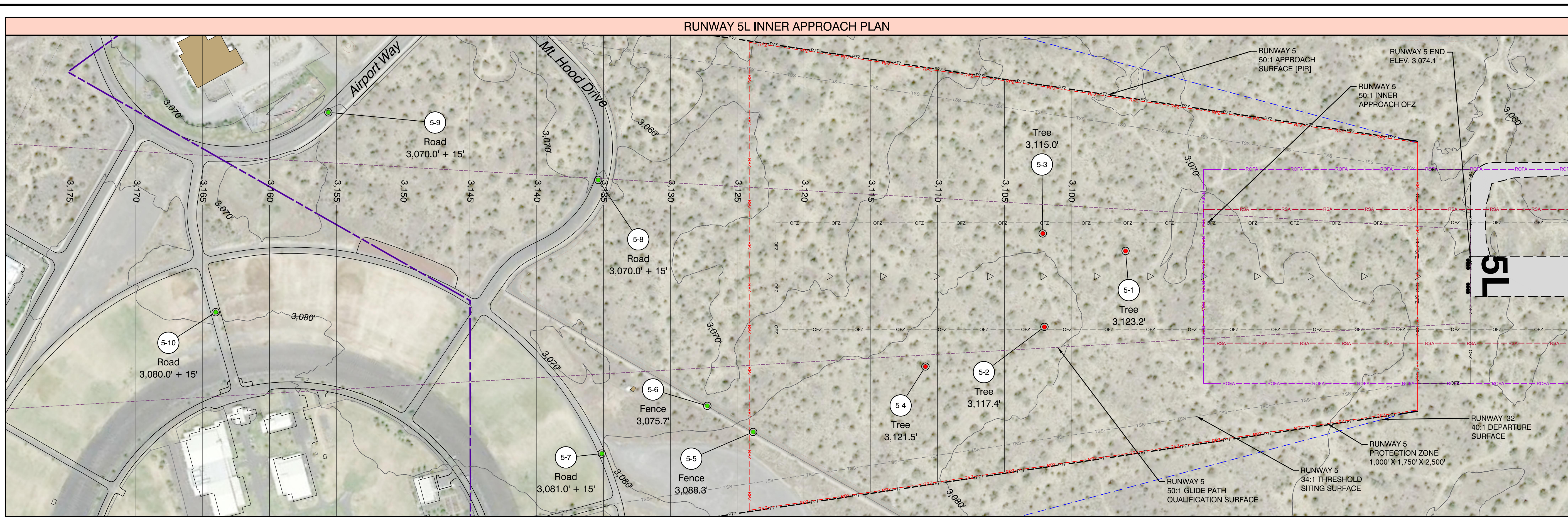
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SHEET CONTENTS  
**INNER APPROACH  
RUNWAY 5L/23R -  
FUTURE**



**LEGEND: PLAN VIEW**

- Future Runway / Taxiway
- Airport Property Boundary
- Fence
- Building - On Airport / Off Airport
- Part 77 Approach Surface
- Part 77 Approach Contour
- Runway Departure Surface
- Threshold Siting Surface (TSS)
- Runway Protection Zone (RPZ)
- Runway Safety Area (RSA)
- Runway Object Free Area (ROFA)
- Obstacle Free Zone (OFZ)
- Object Penetrates Part 77 Surface
- Obstacle Penetrates Part 77 Surface
- Glide Path Qualification Surface
- Terrain Contours

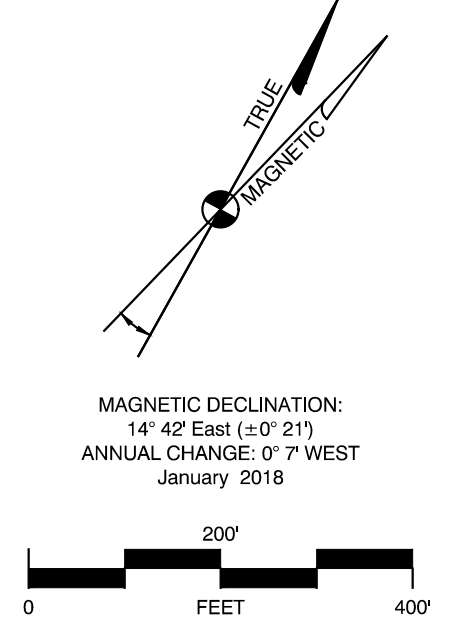
**LEGEND: PROFILE VIEW**

- Part 77 Approach Surface
- Threshold Siting Surface
- Runway Departure Surface
- Obstacle Free Zone (OFZ)
- Glide Path Qualification Surface
- Object

**NOTES:**

- Runway ends, Part 77 surface contours and obstruction elevations are shown in NAD83 and NAVD83. All elevations in feet above mean sea level (MSL).
- Object and runway end elevation source: AGIS Survey, Quantum Spatial, August 2017.
- Ortho imagery: Quantum Spatial, August 2017.
- Airspace surfaces associated with the future Runway 5L end and instrument approaches are illustrated (Runway 5L will have a 2,962' extension).
- Threshold siting surface (TSS) penetrations are proposed to be lowered or removed prior to runway extension. No runway threshold displacement proposed.
- For the Data Tables, a negative penetration value indicates the object is clear of the airspace surface.
- Per Part 77, 15 feet added to road elevations.

RUNWAY 5L OBJECT DATA												
POINT #	OBJECT DESCRIPTION	OBJECT ELEVATION	PART 77 SURFACE	50:1 PART 77 SURFACE ELEVATION	PART 77 PENETRATION	34:1 TSS SURFACE ELEVATION	TSS PENETRATION	30:1 GLIDE PATH QUAL. SURFACE	GQS PENETRATION	50:1 INNER APPROACH OFZ	INNER APPROACH OFZ PENETRATION	DISPOSITION
5-1	Tree	3,123.2'	Approach	3,095.9'	27.3'	3,106.2'	17.0'	3,117.1'	6.1'	3,095.9'	27.3'	Trim/Remove
5-2	Tree	3,117.4'	Approach	3,102.0'	15.4'	3,115.1'	2.3'	3,127.3'	-9.9'	3,102.0'	15.4'	Trim/Remove
5-3	Tree	3,115.0'	Approach	3,102.1'	12.9'	3,115.3'	-0.3'	3,127.3'	-12.5'	3,102.1'	12.9'	Trim/Remove
5-4	Tree	3,121.5'	Approach	3,110.9'	10.6'	3,128.2'	-6.7'	Object Not Under Surface	Object Not Under Surface	Object Not Under Surface	Object Not Under Surface	Trim/Remove
5-5	Fence	3,088.3'	Approach	3,127.2'	-38.9'	3,152.2'	-63.9'	Object Not Under Surface	Object Not Under Surface	Object Not Under Surface	Object Not Under Surface	No Action
5-6	Fence	3,075.7'	Approach	3,127.2'	-51.4'	3,152.2'	-76.4'	Object Not Under Surface	Object Not Under Surface	Object Not Under Surface	Object Not Under Surface	No Action
5-7	Road	3,086.0'	Approach	3,135.1'	-49.1'	3,163.9'	-77.9'	Object Not Under Surface	Object Not Under Surface	Object Not Under Surface	Object Not Under Surface	No Action
5-8	Road	3,085.0'	Approach	3,135.4'	-50.4'	3,164.2'	-79.2'	3,182.9'	-97.9'	Object Not Under Surface	Object Not Under Surface	No Action
5-9	Road	3,085.0'	Approach	3,155.6'	-70.6'	3,193.9'	-108.9'	Object Not Under Surface	Object Not Under Surface	Object Not Under Surface	Object Not Under Surface	No Action
5-10	Road	3,095.0'	Approach	3,164.0'	-69.0'	3,206.4'	-111.4'	3,230.7'	-135.7'	Object Not Under Surface	Object Not Under Surface	No Action



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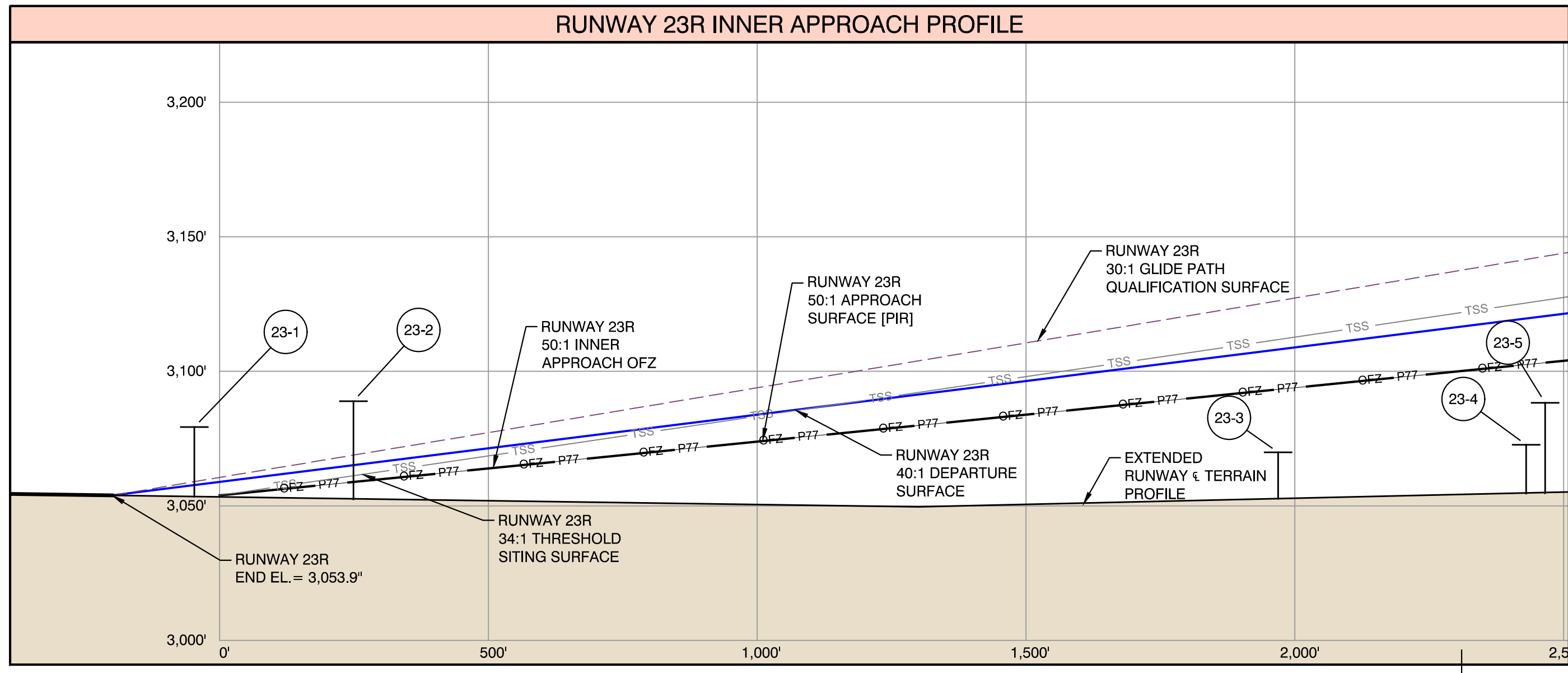
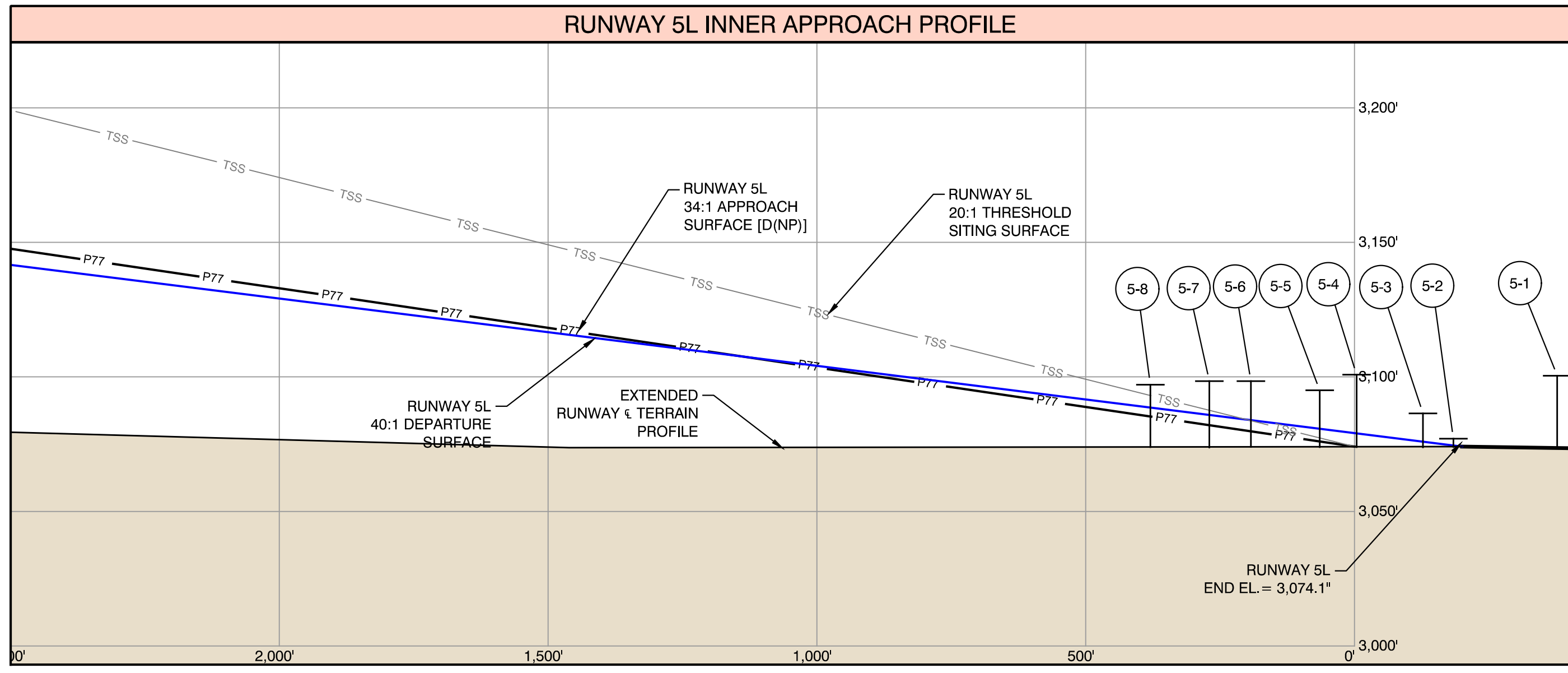
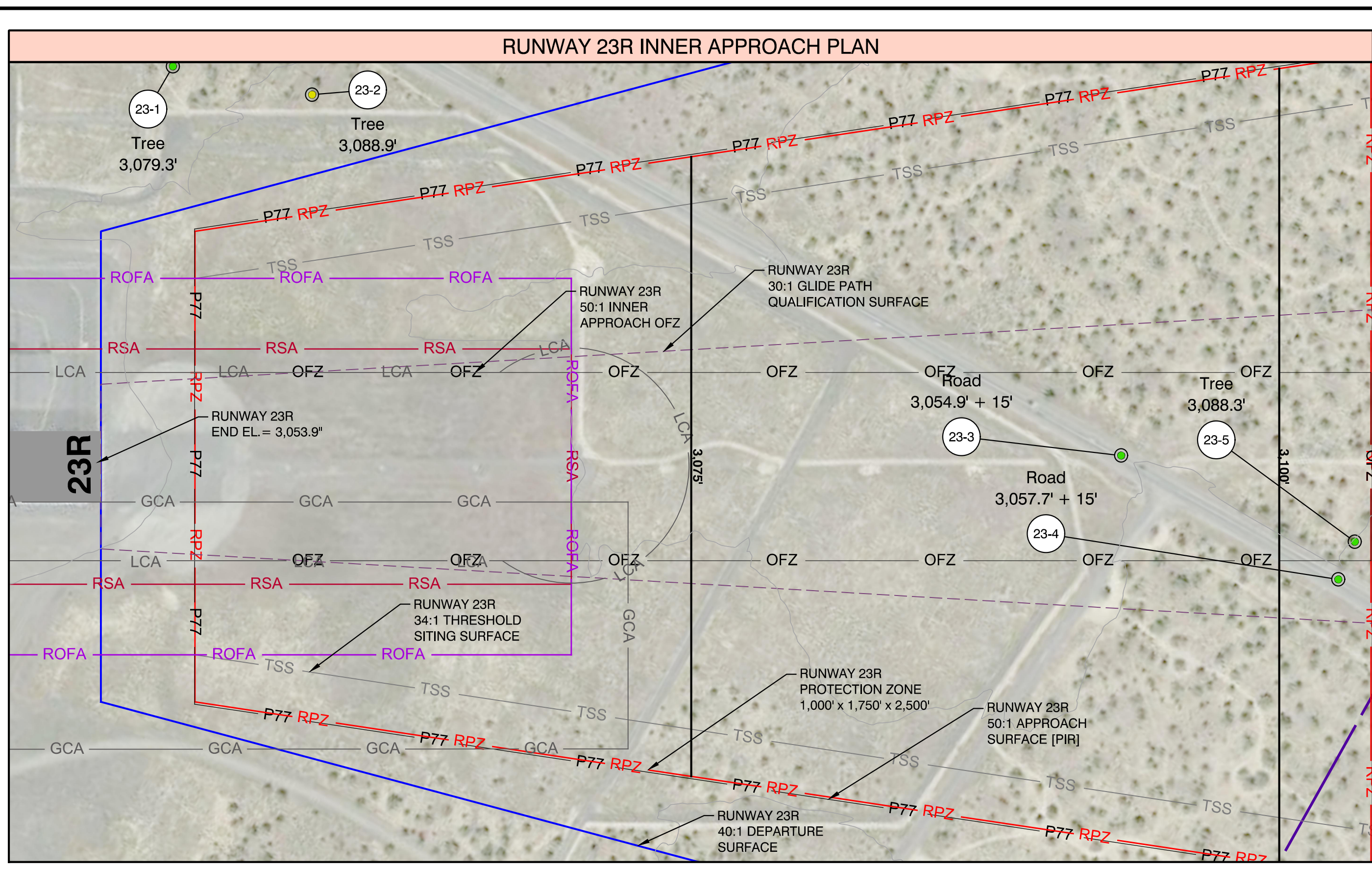
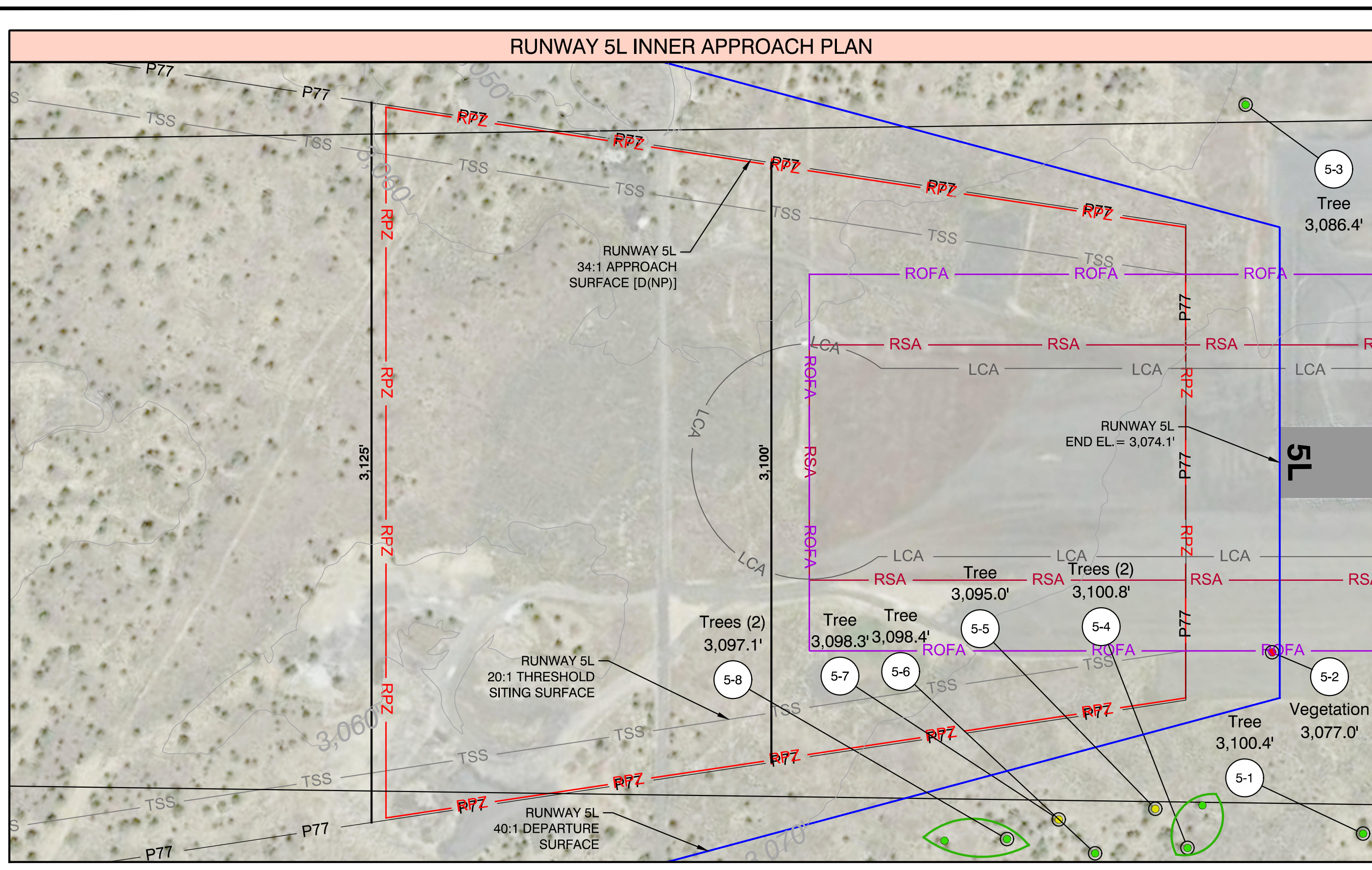
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SHEET CONTENTS  
**INNER APPROACH  
 RUNWAY 5L/23R -  
 EXISTING**

SHEET NO.



- LEGEND: PLAN VIEW**
- Runway
  - Airport Property Boundary
  - P77 Part 77 Approach Surface
  - Part 77 Surface Contour
  - Threshold Siting Surface (TSS)
  - 40:1 Departure Surface
  - 30:1 Glide Path Qualification Surface
  - Localizer Critical Area (LCA)
  - Glide Slope Critical Area (GCA)
  - Runway Protection Zone (RPZ)
  - Runway Safety Area (RSA)
  - Runway Object Free Area (ROFA)
  - Obstacle Free Zone (OFZ)
  - Object Penetrates Part 77 Surface
  - Object Within 10ft. Part 77 Surface
  - Object > 10ft. Clear of Part 77 Surface
  - Terrain Contours
  - Group of Trees
- LEGEND: PROFILE VIEW**
- P77 Part 77 Approach Surface
  - TSS Threshold Siting Surface
  - 40:1 Departure Surface
  - 30:1 Glide Path Qualification Surface
  - OFZ Obstacle Free Zone (OFZ)
  - Object

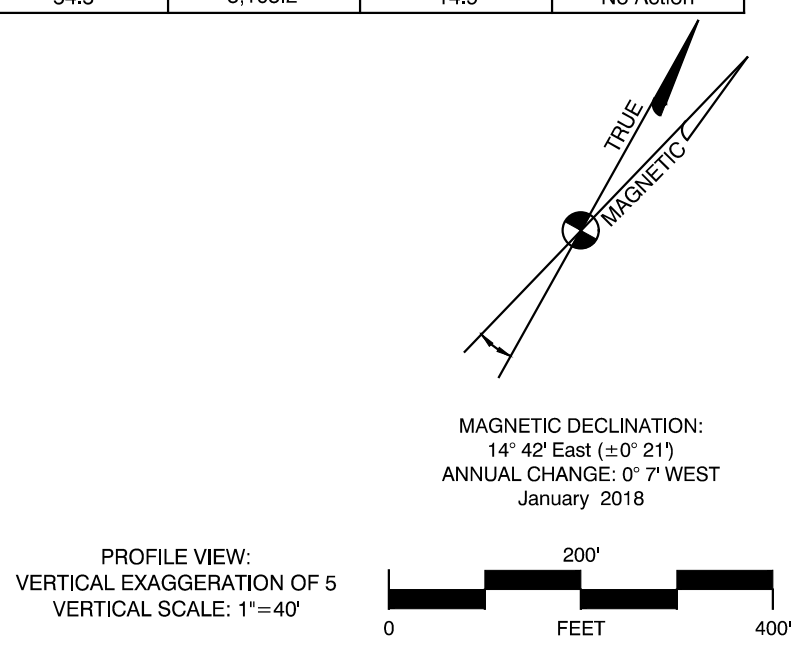
- NOTES:**
- Runway ends, Part 77 surface contours and obstruction elevations are shown in NAD83 and NAVD83. All elevations in feet above mean sea level (MSL).
  - Object and runway end elevation source: AGIS Survey, Quantum Spatial, August 2017.
  - Ortho imagery: Quantum Spatial, August 2017.
  - Airspace surfaces associated with the existing runway and instrument approaches are illustrated.
  - Trees in close proximity and similar elevations are grouped together.
  - For the Data Tables, a negative penetration value indicates the object is clear of the airspace surface.
  - Per Part 77, 15 feet added to road elevations.

**RUNWAY 5L OBJECT DATA**

POINT #	OBJECT DESCRIPTION	OBJECT ELEVATION	PART 77 SURFACE	50:1 PART 77 SURFACE ELEVATION	PART 77 PENETRATION	34:1 TSS SURFACE ELEVATION	TSS PENETRATION	DISPOSITION
5-1	Tree	3,100.4'	Transitional	3,115.4'	-15.0'		Object Not Under Surface	No Action
5-2	Vegetation	3,077.0'	Primary	3,074.1'	2.9'		Object Not Under Surface	Remove
5-3	Tree	3,086.4'	Transitional	3,111.3'	-24.9'		Object Not Under Surface	No Action
5-4	Trees (2)	3,100.8'	Transitional	3,119.7'	-18.9'		Object Not Under Surface	No Action
5-5	Tree	3,095.0'	Transitional	3,102.2'	-7.2'		Object Not Under Surface	No Action
5-6	Tree	3,098.4'	Transitional	3,121.3'	-22.9'		Object Not Under Surface	No Action
5-7	Tree	3,098.3'	Transitional	3,105.8'	-7.5'		Object Not Under Surface	No Action
5-8	Trees (2)	3,097.1'	Transitional	3,117.0'	-19.9'		Object Not Under Surface	No Action

**RUNWAY 23R OBJECT DATA**

POINT #	OBJECT DESCRIPTION	OBJECT ELEVATION	PART 77 SURFACE	50:1 PART 77 SURFACE ELEVATION	PART 77 PENETRATION	34:1 TSS SURFACE ELEVATION	TSS PENETRATION	30:1 GLIDE PATH QUAL. SURFACE	QGS PENETRATION	50:1 INNER APPROACH OFZ	INNER APPROACH OFZ PENETRATION	DISPOSITION
23-1	Tree	3,079.3'	Transitional	3,104.0'	-24.7'		Object Not Under Surface	Object Not Under Surface	Object Not Under Surface	Object Not Under Surface	Object Not Under Surface	No Action
23-2	Tree	3,088.9'	Transitional	3,095.3'	-6.4'		Object Not Under Surface	Object Not Under Surface	Object Not Under Surface	Object Not Under Surface	Object Not Under Surface	No Action
23-3	Road	3,069.9'	Approach	3,093.3'	-23.4'	3,111.8'	-41.9'	3,126.2'	-56.3'	3,093.3'	-23.4'	No Action
23-4	Road	3,072.7'	Approach	3,102.5'	-29.8'	3,125.4'	-52.7'	3,141.6'	-68.9'	3,102.5'	-29.8'	No Action
23-5	Tree	3,088.3'	Approach	3,103.2'	-14.9'	3,126.4'	-38.1'	3,142.8'	-54.5'	3,103.2'	-14.9'	No Action



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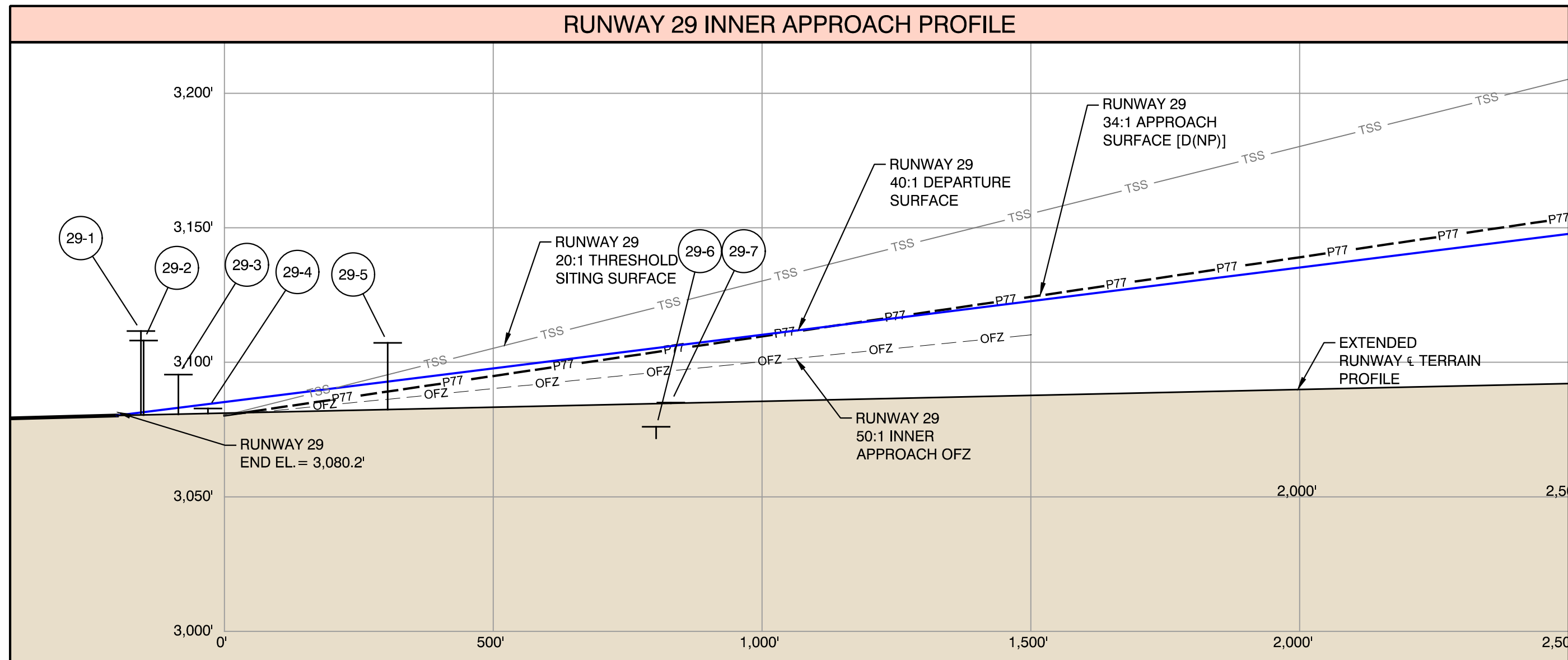
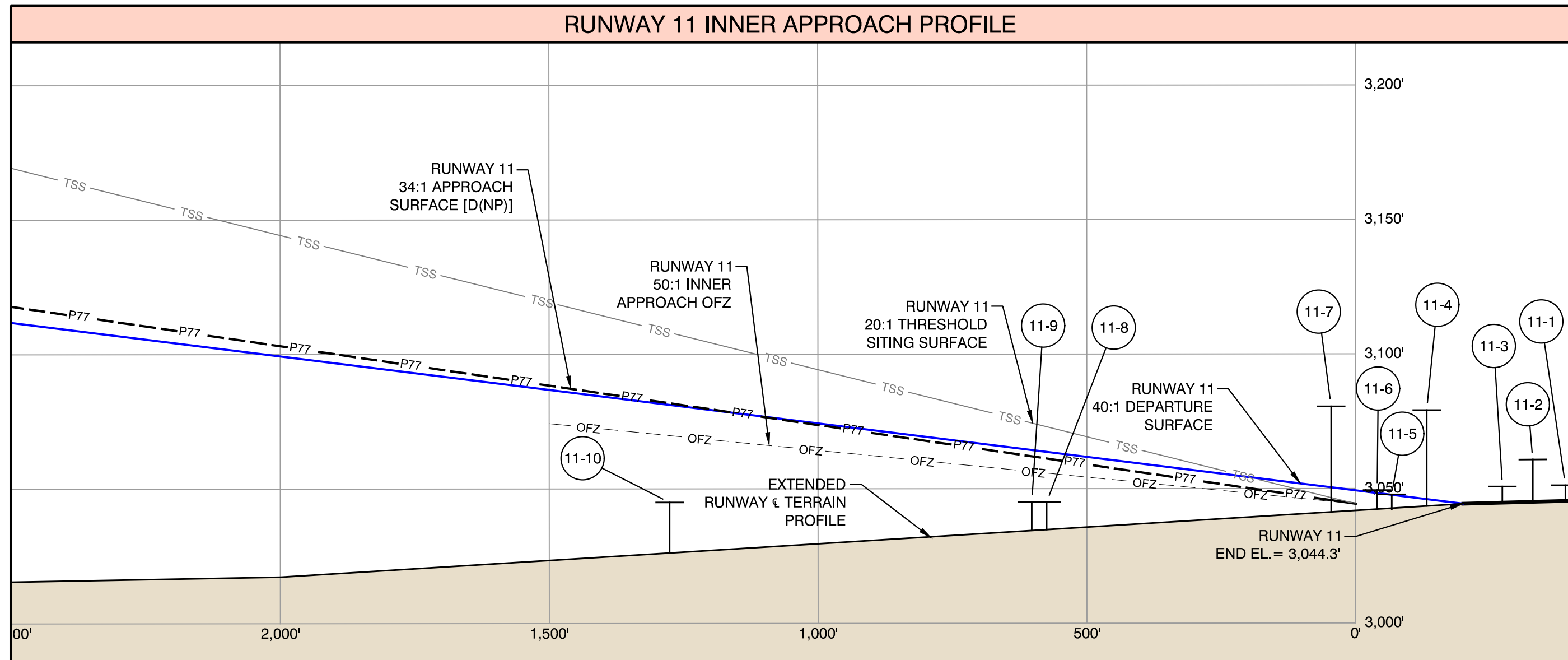
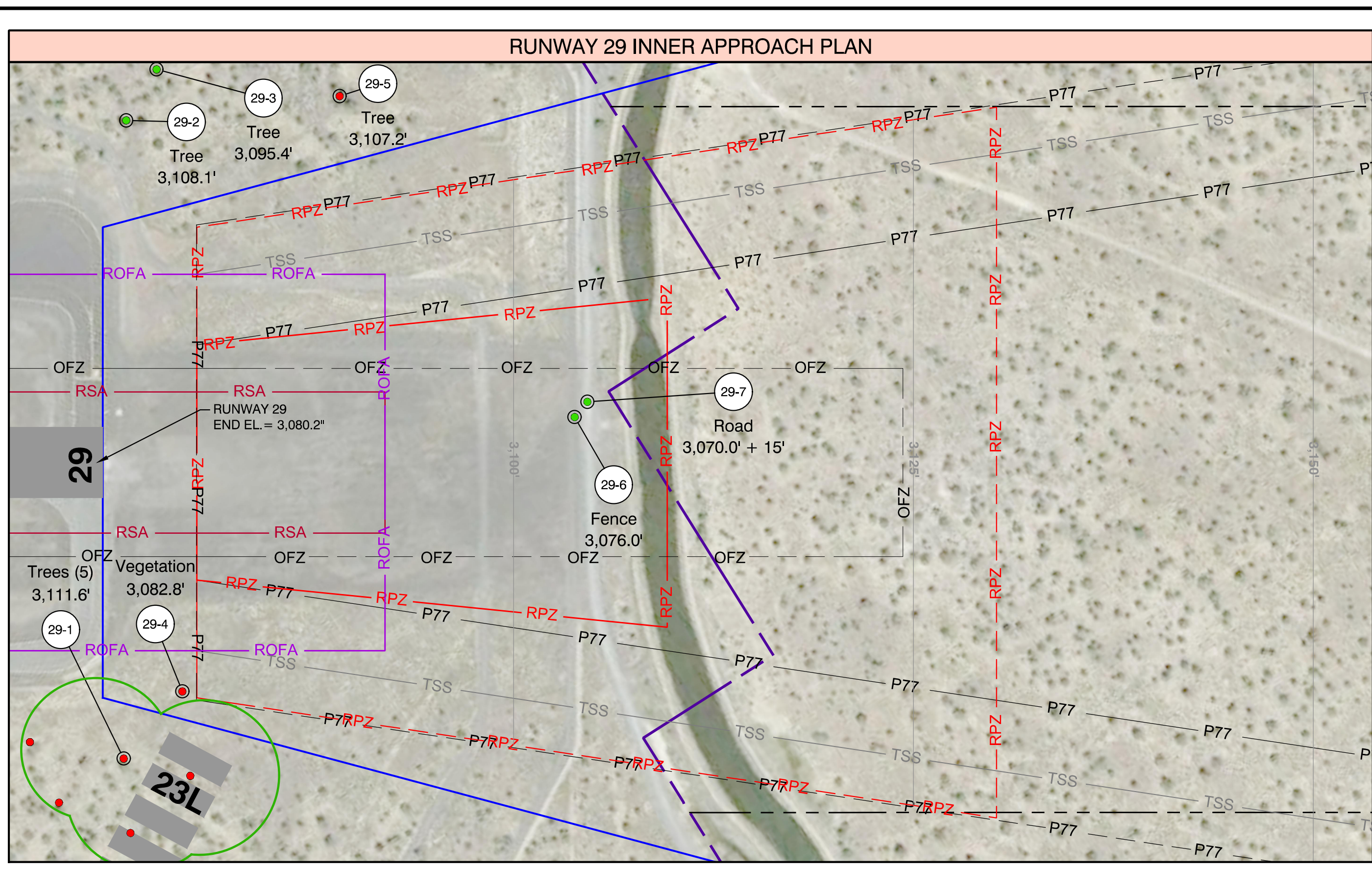
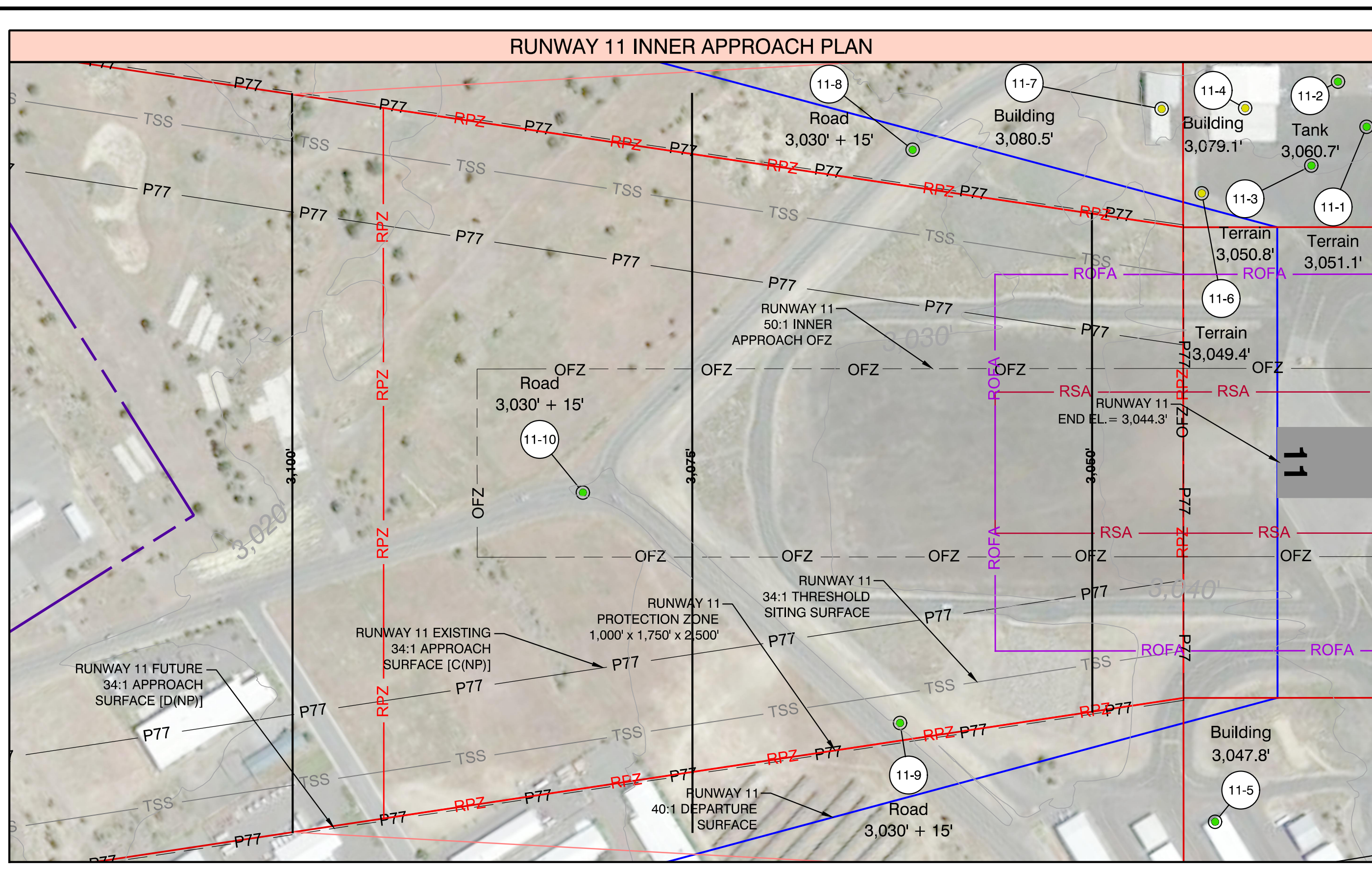
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SHEET CONTENTS  
**INNER  
 APPROACH  
 RUNWAY 11/29**



- LEGEND: PLAN VIEW**
- Runway
  - Airport Property Boundary
  - P77 Part 77 Approach Surface
  - Part 77 Surface Contour
  - Threshold Siting Surface (TSS)
  - 30:1 Glide Path Qualification Surface
  - Runway Protection Zone (RPZ)
  - Runway Safety Area (RSA)
  - Runway Object Free Area (ROFA)
  - Obstacle Free Zone (OFZ)
  - Future OFZ
  - Object Penetrates Part 77 Surface
  - Object Within 10ft. Part 77 Surface
  - Object > 10ft. Clear of Part 77 Surface
  - Terrain Contours
  - Group of Trees
- LEGEND: PROFILE VIEW**
- P77 Part 77 Approach Surface
  - TSS Threshold Siting Surface
  - 40:1 Departure Surface
  - Obstacle Free Zone (OFZ)
  - Object

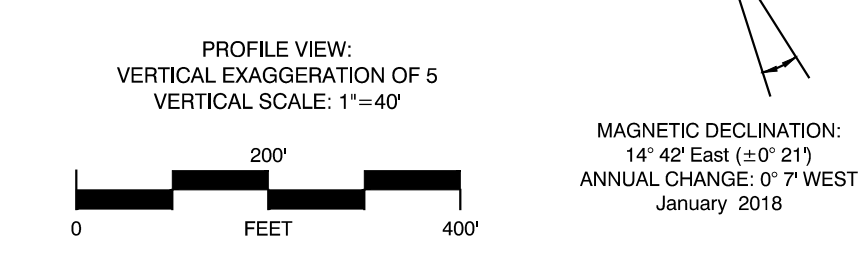
- NOTES:**
- Runway ends, Part 77 surface contours and obstruction elevations are shown in NAD83 and NAVD88. All elevations in feet above mean sea level (MSL).
  - Object and runway end elevation source: AGIS Survey, Quantum Spatial, August 2017.
  - Ortho imagery: Quantum Spatial, August 2017.
  - Airspace surfaces associated with the future runway and instrument approaches are illustrated (Runway 11/29 will change to Non-precision [D(NP)] and maintain a 34:1 Approach slope).
  - Trees in close proximity and similar elevations are grouped together.
  - For the Data Tables, a negative penetration value indicates the object is clear of the airspace surface.
  - Per Part 77, 15 feet added to road elevations.

**RUNWAY 11 OBJECT DATA**

POINT #	OBJECT DESCRIPTION	OBJECT ELEVATION	PART 77 SURFACE	34:1 PART 77 SURFACE ELEVATION	PART 77 PENETRATION	20:1 TSS SURFACE ELEVATION	TSS PENETRATION	50:1 INNER APPROACH OFZ	INNER APPROACH OFZ PENETRATION	DISPOSITION
11-1	Terrain	3,051.1'	Transitional	3,074.8'	-23.7'			Object Not Under Surface	Object Not Under Surface	No Action
11-2	Tank	3,060.7'	Transitional	3,088.5'	-27.8'			Object Not Under Surface	Object Not Under Surface	No Action
11-3	Terrain	3,050.8'	Transitional	3,063.0'	-12.2'			Object Not Under Surface	Object Not Under Surface	No Action
11-4	Building	3,079.1'	Transitional	3,080.5'	-1.4'			Object Not Under Surface	Object Not Under Surface	No Action
11-5	Building	3,047.8'	Transitional	3,081.9'	-34.1'			Object Not Under Surface	Object Not Under Surface	No Action
11-6	Terrain	3,049.4'	Transitional	3,054.6'	-5.2'			Object Not Under Surface	Object Not Under Surface	No Action
11-7	Building	3,080.5'	Transitional	3,080.6'	-0.1'			Object Not Under Surface	Object Not Under Surface	No Action
11-8	Road	3,045.0'	Transitional	3,067.8'	-22.8'			Object Not Under Surface	Object Not Under Surface	No Action
11-9	Road	3,045.0'	Approach	3,062.0'	-17.0'	3,074.4'	-29.4'	Object Not Under Surface	Object Not Under Surface	No Action
11-10	Road	3,045.0'	Approach	3,081.8'	-36.8'	3,108.1'	-63.1'	3,069.8'	-24.8'	No Action

**RUNWAY 29 OBJECT DATA**

POINT #	OBJECT DESCRIPTION	OBJECT ELEVATION	PART 77 SURFACE	34:1 PART 77 SURFACE ELEVATION	PART 77 PENETRATION	20:1 TSS SURFACE ELEVATION	TSS PENETRATION	50:1 INNER APPROACH OFZ	INNER APPROACH OFZ PENETRATION	DISPOSITION
29-1	Trees (5)	3,111.6'	Transitional	3,098.6'	13.0'			Object Not Under Surface	Object Not Under Surface	Trim/Remove
29-2	Tree	3,108.1'	Transitional	3,112.7'	-4.6'			Object Not Under Surface	Object Not Under Surface	Monitor
29-3	Tree	3,095.4'	Transitional	3,128.2'	-32.8'			Object Not Under Surface	Object Not Under Surface	No Action
29-4	Vegetation	3,082.8'	Primary	3,080.2'	2.6'			Object Not Under Surface	Object Not Under Surface	Remove
29-5	Tree	3,107.2'	Transitional	3,120.4'	-13.2'			Object Not Under Surface	Object Not Under Surface	No Action
29-6	Fence	3,076.0'	Approach	3,103.8'	-27.8'	3,120.4'	-44.3'	3,096.3'	-20.3'	No Action
29-7	Road	3,085.0'	Approach	3,104.6'	-19.6'	3,121.7'	-36.7'	3,096.8'	-11.8'	No Action



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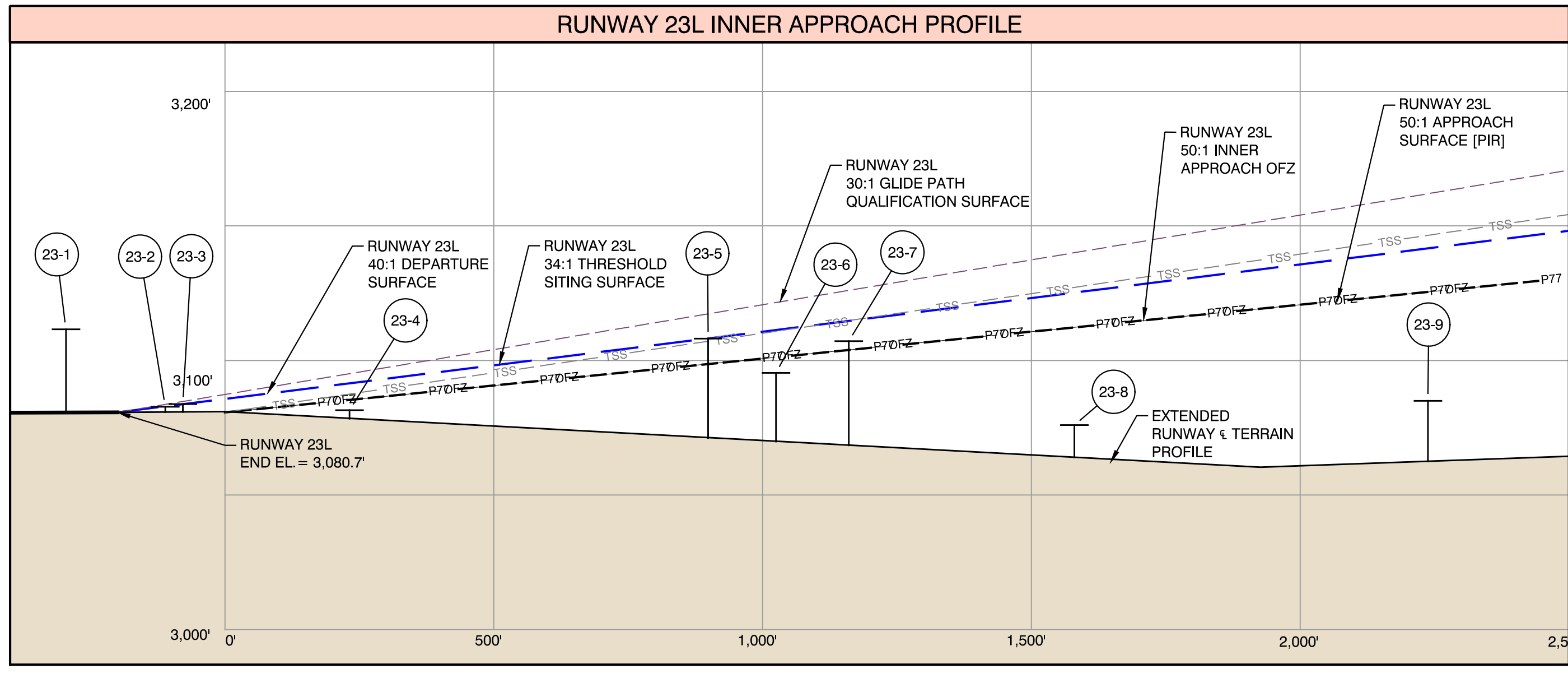
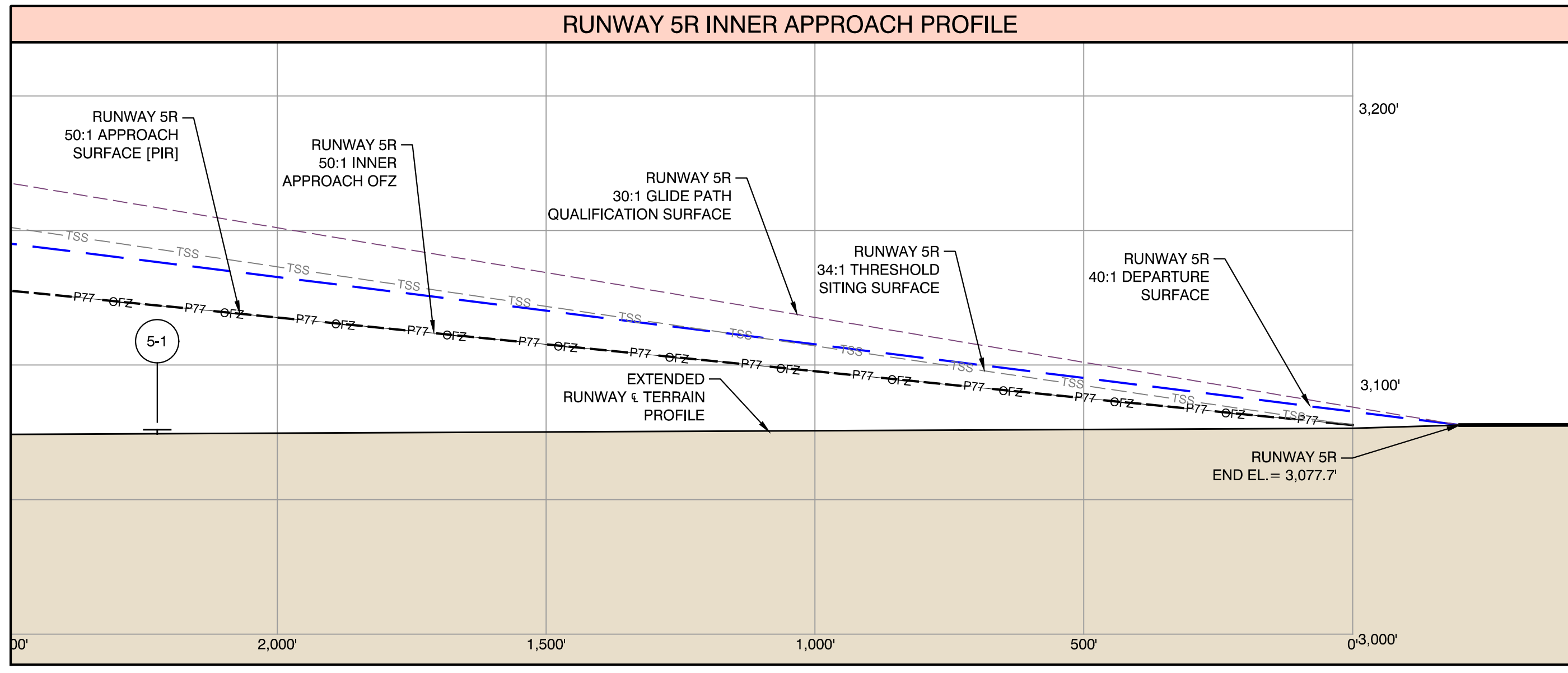
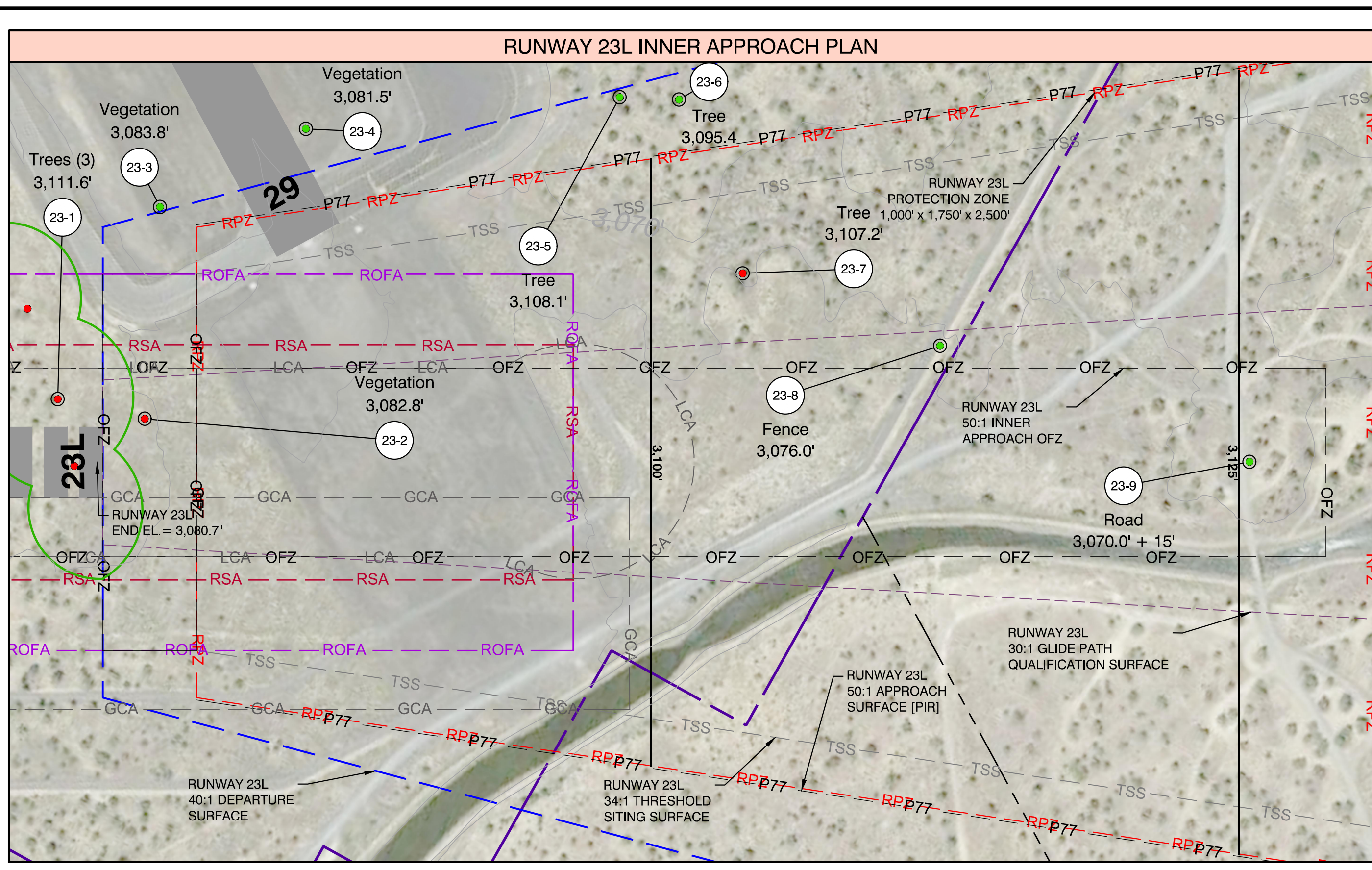
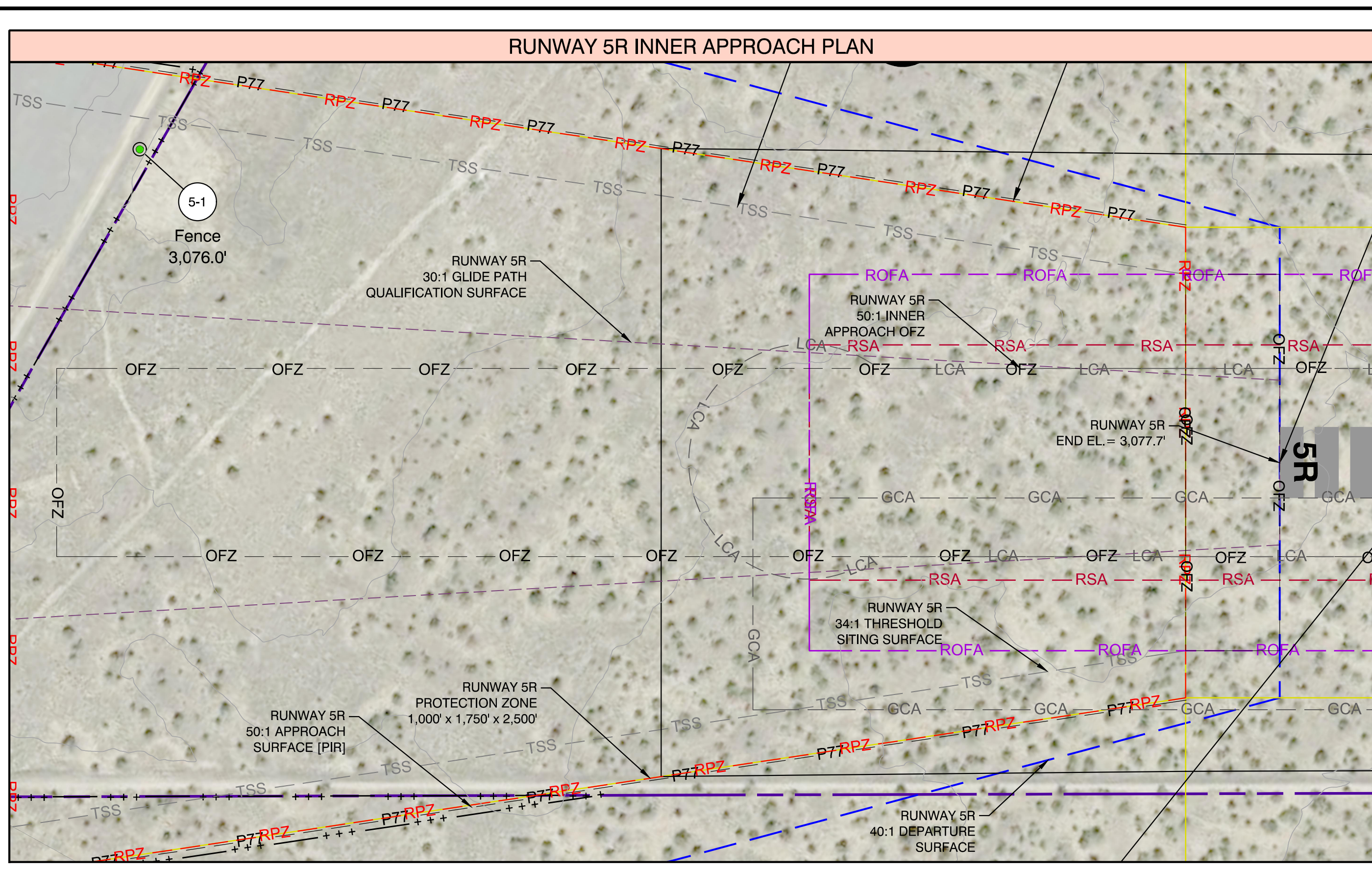
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SHEET CONTENTS  
**INNER  
 APPROACH  
 RUNWAY 5R/23L**



**LEGEND: PLAN VIEW**

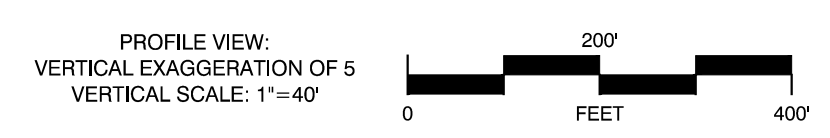
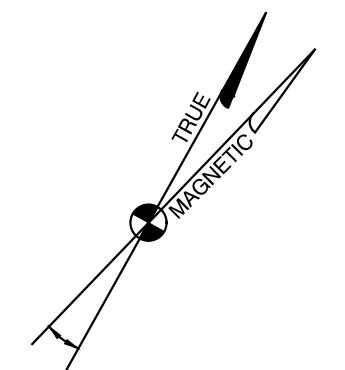
- Runway
- Airport Property Boundary
- Part 77 Approach Surface
- Part 77 Surface Contour
- Threshold Siting Surface (TSS)
- 40:1 Departure Surface
- 30:1 Glide Path Qualification Surface
- Localizer Critical Area (LCA)
- Glide Slope Critical Area (GCA)
- Runway Protection Zone (RPZ)
- Runway Safety Area (RSA)
- Runway Object Free Area (ROFA)
- Obstacle Free Zone (OFZ)
- Object Penetrates Part 77 Surface
- Object Within 10ft. Part 77 Surface
- Object > 10ft. Clear of Part 77 Surface
- Terrain Contours
- Group of Trees

**RUNWAY 5R OBJECT DATA**

POINT #	OBJECT DESCRIPTION	OBJECT ELEVATION	PART 77 SURFACE	50:1 PART 77 SURFACE ELEVATION	PART 77 PENETRATION	34:1 TSS SURFACE ELEVATION	TSS PENETRATION	30:1 GLIDE PATH QUAL SURFACE	GQS PENETRATION	50:1 INNER APPROACH OFZ	INNER APPROACH OFZ PENETRATION	DISPOSITION
5-1	Fence	3,076.0'	Approach	3,122.2'	-46.2'	3,143.1'	-67.1'	3,158.5'	-82.5'	3,122.2'	-46.2'	No Action

**NOTES:**

- Runway ends, Part 77 surface contours and obstruction elevations are shown in NAD83 and NAVD88. All elevations in feet above mean sea level (MSL).
- Object and runway end elevation source: AGIS Survey, Quantum Spatial, August 2017.
- Ortho imagery: Quantum Spatial, August 2017.
- Airspace surfaces associated with the ultimate (+20 years) runway and instrument approaches are illustrated.
- Trees in close proximity and similar elevations are grouped together.
- For the Data Tables, a negative penetration value indicates the object is clear of the airspace surface.
- Per Part 77, 15 feet added to road elevations.



**RUNWAY 23L OBJECT DATA**

POINT #	OBJECT DESCRIPTION	OBJECT ELEVATION	PART 77 SURFACE	50:1 PART 77 SURFACE ELEVATION	PART 77 PENETRATION	34:1 TSS SURFACE ELEVATION	TSS PENETRATION	30:1 GLIDE PATH QUAL SURFACE	GQS PENETRATION	50:1 INNER APPROACH OFZ	INNER APPROACH OFZ PENETRATION	DISPOSITION
23-1	Trees (3)	3,111.6'	Primary	3,080.7'	30.9'			Object Not Under Surface	Object Not Under Surface	Object Not Under Surface	Object Not Under Surface	Remove
23-2	Vegetation	3,082.8'	Primary	3,080.7'	2.1'			Object Not Under Surface	Object Not Under Surface	Object Not Under Surface	Object Not Under Surface	Remove
23-3	Vegetation	3,083.8'	Transitional	3,123.4'	-39.6'			Object Not Under Surface	Object Not Under Surface	Object Not Under Surface	Object Not Under Surface	No Action
23-4	Vegetation	3,081.5'	Transitional	3,110.5'	-29.0'			Object Not Under Surface	Object Not Under Surface	Object Not Under Surface	Object Not Under Surface	No Action
23-5	Tree	3,108.1'	Transitional	3,120.1'	-12.0'			Object Not Under Surface	Object Not Under Surface	Object Not Under Surface	Object Not Under Surface	No Action
23-6	Tree	3,095.4'	Transitional	3,119.4'	-24.0'			Object Not Under Surface	Object Not Under Surface	Object Not Under Surface	Object Not Under Surface	No Action
23-7	Tree	3,107.2'	Approach	3,103.9'	3.3'	3,114.8'	-7.6'	3,126.0'	-18.8'	3,103.9'	3.3'	Trim
23-8	Fence	3,076.0'	Approach	3,112.3'	-36.3'	3,122.2'	-51.2'	3,140.0'	-64.0'	3,112.3'	-36.3'	No Action
23-9	Road	3,085.0'	Approach	3,125.5'	-40.5'	3,146.5'	-61.5'	3,162.0'	-77.0'	3,125.5'	-40.5'	No Action

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 Redmond, Oregon 97756

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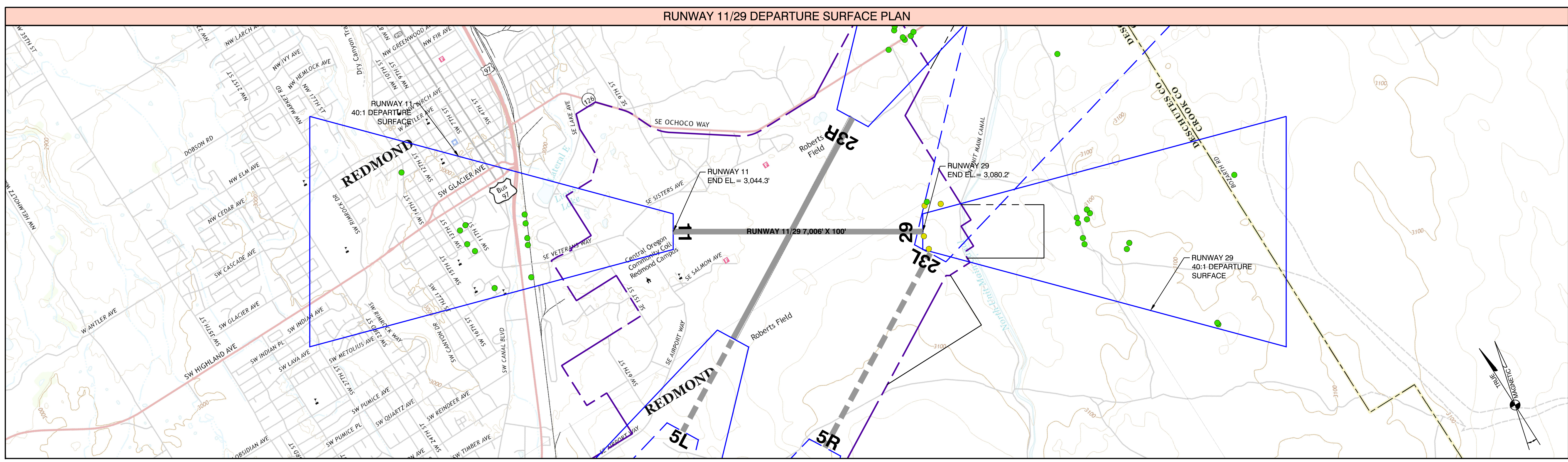
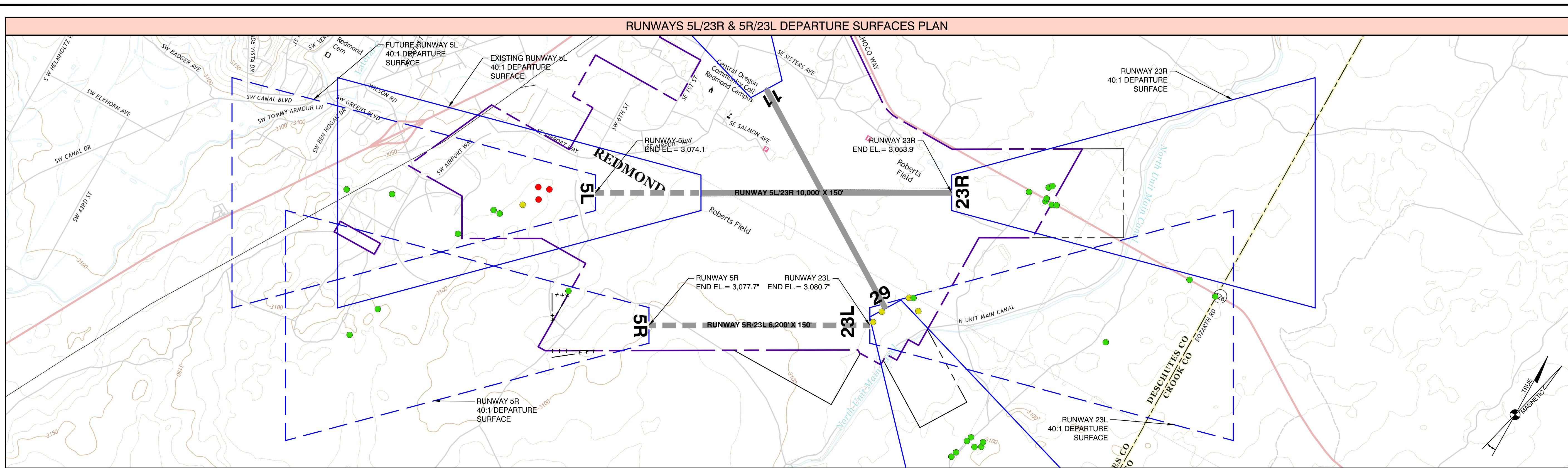
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**DEPARTURE SURFACES**

SHEET NO.

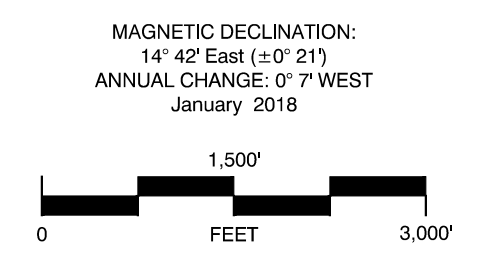


- LEGEND: PLAN VIEW**
- Existing Runway
  - Future Runway/Extension
  - Airport Property Boundary
  - 40:1 Departure Surface
  - 40:1 Future Departure Surface
  - Existing Avigation Easement
  - Future Avigation Easement
  - Terrain Contours

- NOTES:**
- Runway ends, Part 77 surface contours and obstruction elevations are shown in NAD83 and NAVD88. All elevations in feet above mean sea level (MSL).
  - Object and runway end elevation source: AGIS Survey, Quantum Spatial, August 2017.
  - Basemap source: USGS Topographic maps.
  - For detail on departure profiles, see Part 77 profiles (Sheet 7).

	DEPARTURE AGIS OBJECTS					
	RUNWAY 5L	RUNWAY 23R	RUNWAY 11	RUNWAY 29	RUNWAY 5R	RUNWAY 23L
● OBJECTS THAT PENETRATE PART 77 SURFACE	3	0	0	0	0	0
● OBJECTS WITHIN 10 FEET OF PART 77 SURFACE	1	0	0	2	0	4
● OBJECTS > 10 FEET CLEAR OF PART 77 SURFACE	5	7	11	12	3	4

Departure objects captured in the 2017 AGIS survey are represented on this table. For detail on close-in obstructions in RPZ areas and lateral transitional surface, see Inner-Approach Plans (Sheets 8.9, 10, and 11).



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City of Redmond  
411 SW 9th Street  
Redmond, Oregon 97756

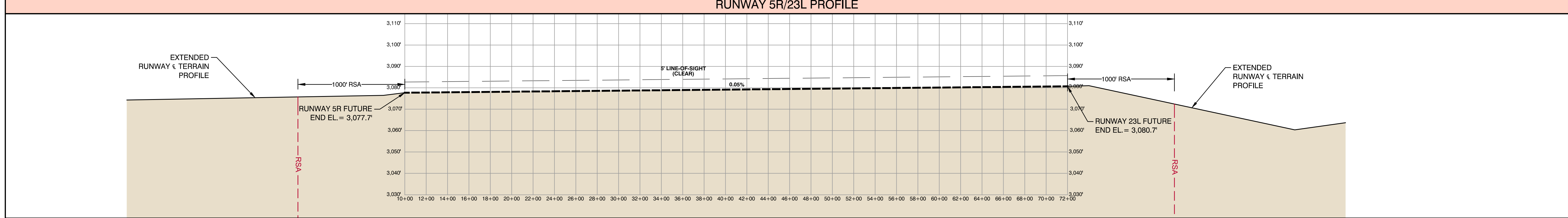
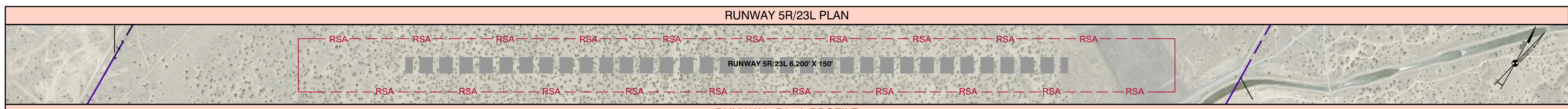
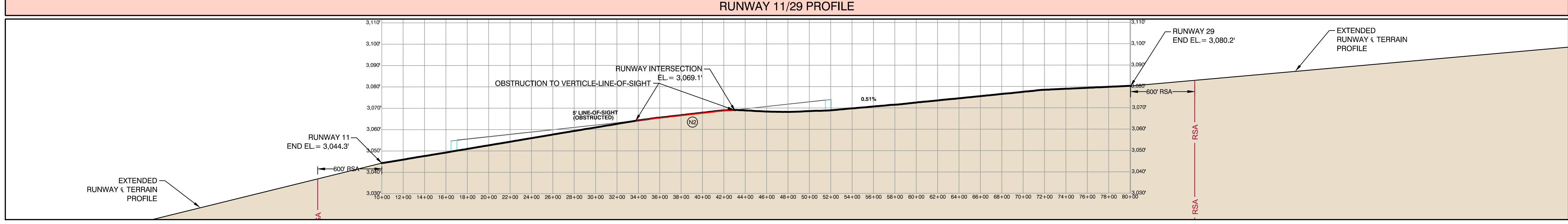
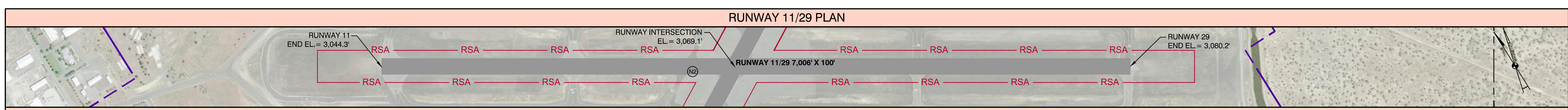
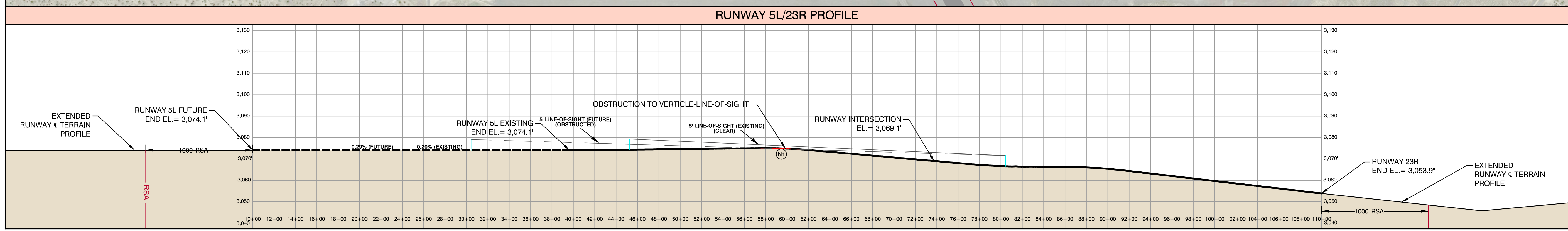
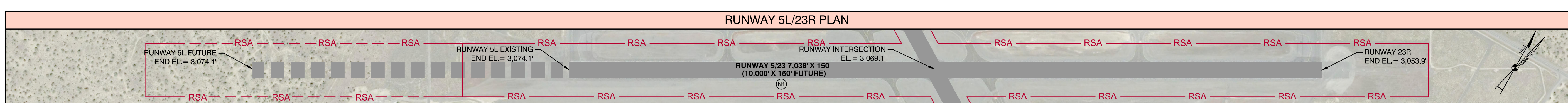
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**DRAFT**  
Work in Progress

NOT FOR CONSTRUCTION

MBH NO.: 1817700-121032.01  
DATE: August 2018  
DESIGNED BY: BM  
DRAWN BY: DL, TE  
CHECKED BY: BM  
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**RUNWAY PROFILES**

SHEET NO.  
**13 of 17**

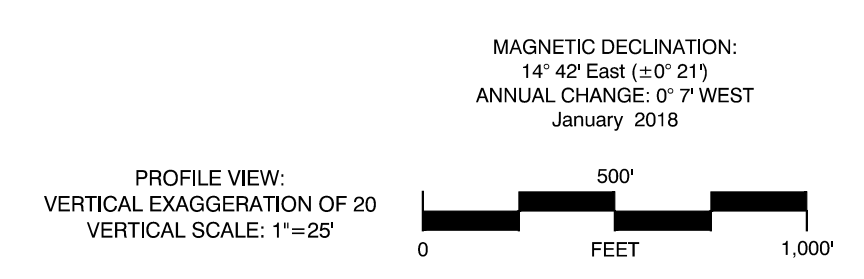


- LEGEND: PLAN VIEW**
- Existing Runway
  - Future Runway/Extension
  - Airport Property Boundary
  - Existing Avigation Easement
  - Future Avigation Easement
- LEGEND: PROFILE VIEW**
- Existing Runway
  - Future Runway/Extension
  - Existing 5' Line-of-Sight
  - Future 5' Line-of-Sight

**NOTES:**

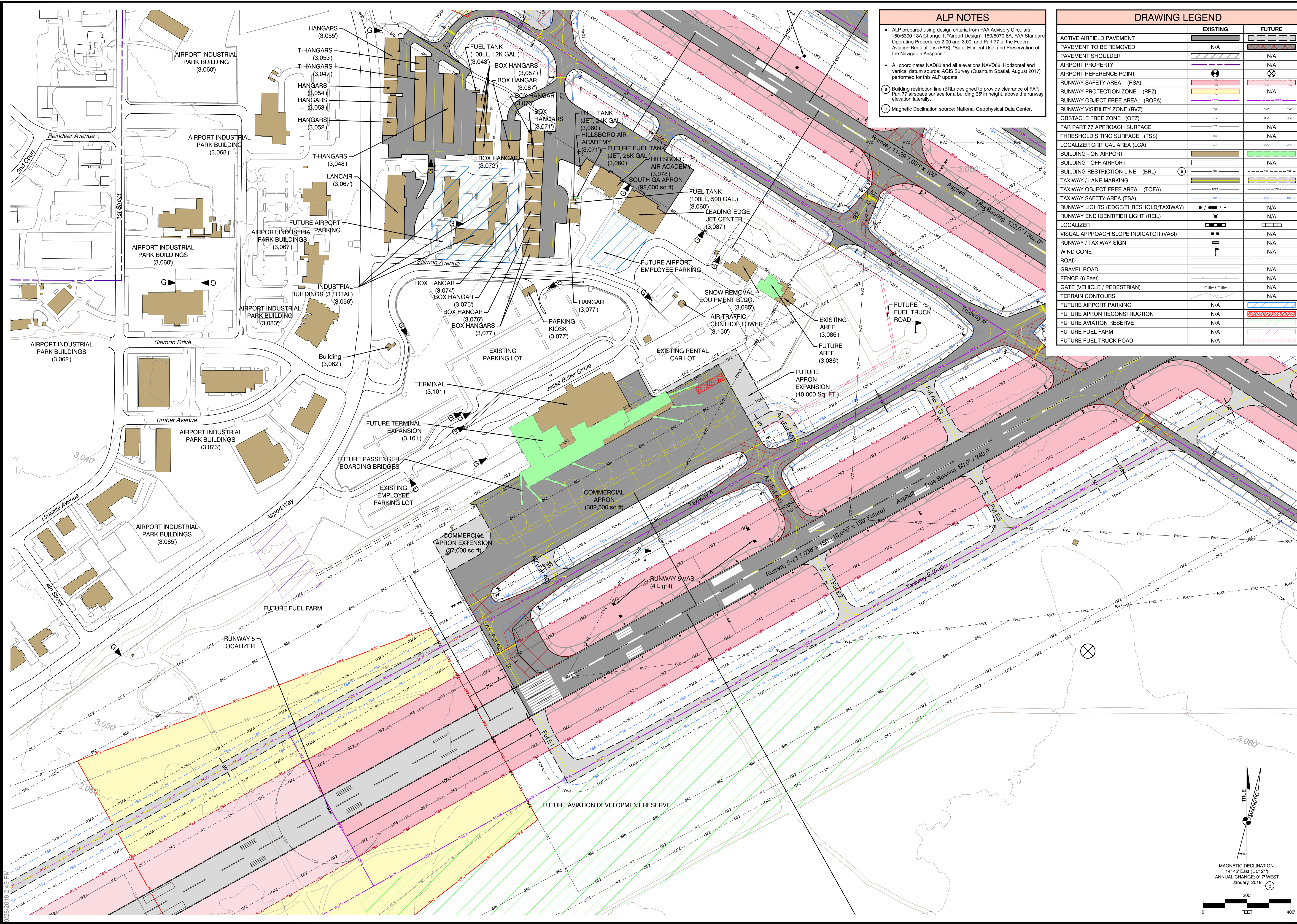
- Runway ends, Part 77 surface contours and obstruction elevations are shown in NAD83 and NAVD88. All elevations in feet above mean sea level (MSL).
- Object and runway end elevation source: AGIS Survey, Quantum Spatial, August 2017.
- Basemap source: Google Earth.
- As per paragraph 305 section b.(2) of AC 150/5300-13A, runways with a full parallel taxiway. Any point 5 feet (1.5 m) above the runway centerline must be mutually visible with any other point 5 feet (1.5 m) above the runway centerline that is located at a distance that is less than one half the length of the runway.

NON-STANDARD CONDITIONS	
EXISTING CONDITION	DISPOSITION
(N1) Runway 5/23 has a crest that obstructs vertical line-of-sight.	Crest obstructing Runway 5/23 will be lowered to not obstruct vertical line-of-sight during runway extension to southwest.
(N2) Runway 11/29 has a crest that obstructs vertical line-of-sight.	Crest obstructing Runway 11/29 being lowered in Fiscal Year 2018 construction project.



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**ALP NOTES**

- ALP prepared using design criteria from FAA Advisory Circulars 150/5300-13A Change 1, "Airport Design", 150/5070-6A, FAA Standard Operating Procedures 2.00 and 3.00, and Part 77 of the Federal Aviation Regulations (FAR), "Safe, Efficient Use, and Preservation of the Navigable Airspace."
- All coordinates NAD83 and all elevations NAVD88. Horizontal and vertical datum source: AGIS Survey (Quantum Spatial, August 2017) performed for this ALP update.
- Building restriction line (BRL) designed to provide clearance of FAR Part 77 airspace surface for a building 35' in height, above the runway elevation laterally.
- Magnetic Declination source: National Geophysical Data Center.

	EXISTING	FUTURE
ACTIVE AIRFIELD PAVEMENT		
PAVEMENT TO BE REMOVED		
PAVEMENT SHOULDER		
AIRPORT PROPERTY		
AIRPORT REFERENCE POINT		
RUNWAY SAFETY AREA (RSA)		
RUNWAY PROTECTION ZONE (RPZ)		
RUNWAY OBJECT FREE AREA (ROFA)		
RUNWAY VISIBILITY ZONE (RVZ)		
OBSTACLE FREE ZONE (OFZ)		
FAR PART 77 APPROACH SURFACE		
THRESHOLD SITING SURFACE (TSS)		
LOCALIZER CRITICAL AREA (LCA)		
BUILDING - ON AIRPORT		
BUILDING - OFF AIRPORT		
BUILDING RESTRICTION LINE (BRL)		
TAXIWAY / LANE MARKING		
TAXIWAY OBJECT FREE AREA (TOFA)		
TAXIWAY SAFETY AREA (TSA)		
RUNWAY LIGHTS (EDGE/THRESHOLD/TAXIWAY)		
RUNWAY END IDENTIFIER LIGHT (REIL)		
LOCALIZER		
VISUAL APPROACH SLOPE INDICATOR (VASI)		
RUNWAY / TAXIWAY SIGN		
WIND CONE		
ROAD		
GRAVEL ROAD		
FENCE (6 Feet)		
GATE (VEHICLE / PEDESTRIAN)		
TERRAIN CONTOURS		
FUTURE AIRPORT PARKING		
FUTURE APRON RECONSTRUCTION		
FUTURE AVIATION RESERVE		
FUTURE FUEL FARM		
FUTURE FUEL TRUCK ROAD		

**Mead & Hunt**  
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 ROBERTS FIELD  
 AIRPORT LAYOUT PLAN**  
 City of Redmond  
 411 SW 9th Street  
 Redmond, Oregon 97756

ISSUED

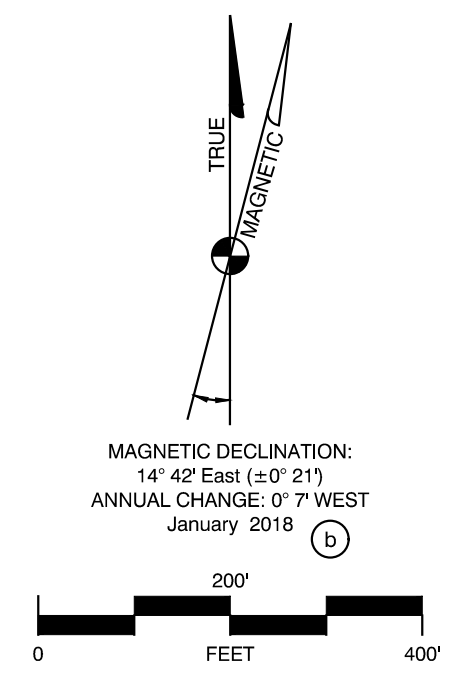
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 Work in Progress

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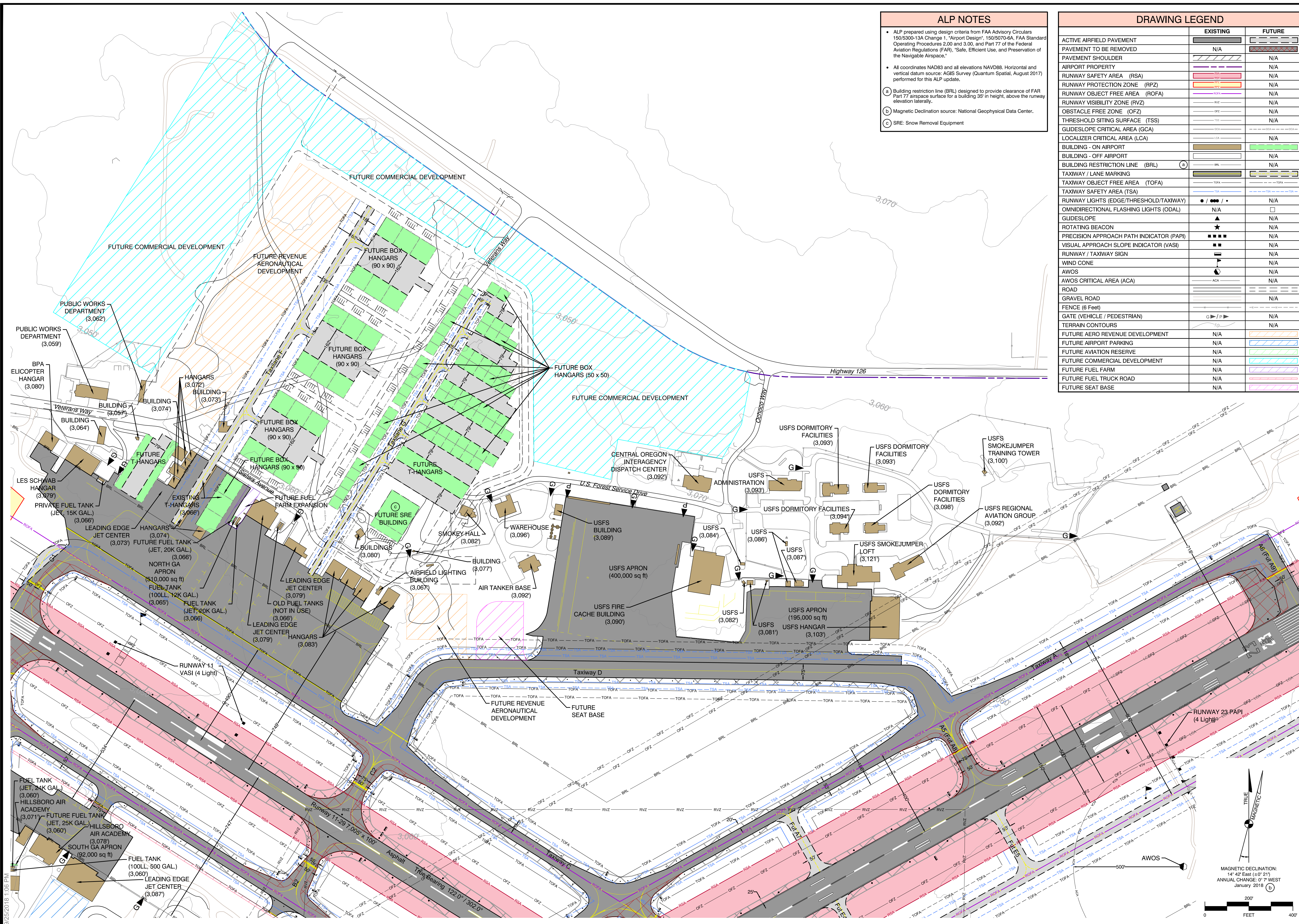
**TERMINAL AREA  
 PLAN**

SHEET NO.  
**14 of 17**



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- ALP NOTES**
- ALP prepared using design criteria from FAA Advisory Circulars 150/5300-13A Change 1, "Airport Design", 150/5070-6A, FAA Standard Operating Procedures 2.00 and 3.00, and Part 77 of the Federal Aviation Regulations (FAR), "Safe, Efficient Use, and Preservation of the Navigable Airspace."
  - All coordinates NAD83 and all elevations NAVD88. Horizontal and vertical datum source: AGIS Survey (Quantum Spatial, August 2017) performed for this ALP update.
  - Building restriction line (BRL) designed to provide clearance of FAR Part 77 airspace surface for a building 35' in height, above the runway elevation laterally.
  - Magnetic Declination source: National Geophysical Data Center.
  - SRE: Snow Removal Equipment

DRAWING LEGEND		
	EXISTING	FUTURE
ACTIVE AIRFIELD PAVEMENT		
PAVEMENT TO BE REMOVED		
PAVEMENT SHOULDER		
AIRPORT PROPERTY		
RUNWAY SAFETY AREA (RSA)		
RUNWAY PROTECTION ZONE (RPZ)		
RUNWAY OBJECT FREE AREA (ROFA)		
RUNWAY VISIBILITY ZONE (RVZ)		
OBSTACLE FREE ZONE (OFZ)		
THRESHOLD SITING SURFACE (TSS)		
GLIDESLOPE CRITICAL AREA (GCA)		
LOCALIZER CRITICAL AREA (LCA)		
BUILDING - ON AIRPORT		
BUILDING - OFF AIRPORT		
BUILDING RESTRICTION LINE (BRL)		
TAXIWAY / LANE MARKING		
TAXIWAY OBJECT FREE AREA (TOFA)		
TAXIWAY SAFETY AREA (TSA)		
RUNWAY LIGHTS (EDGE/THRESHOLD/TAXIWAY)		
OMNIDIRECTIONAL FLASHING LIGHTS (ODAL)		
GLIDESLOPE		
ROTATING BEACON		
PRECISION APPROACH PATH INDICATOR (PAPI)		
VISUAL APPROACH SLOPE INDICATOR (VASI)		
RUNWAY / TAXIWAY SIGN		
WIND CONE		
AWOS		
AWOS CRITICAL AREA (ACA)		
ROAD		
GRAVEL ROAD		
FENCE (6 Feet)		
GATE (VEHICLE / PEDESTRIAN)		
TERRAIN CONTOURS		
FUTURE AERO REVENUE DEVELOPMENT		
FUTURE AIRPORT PARKING		
FUTURE AVIATION RESERVE		
FUTURE COMMERCIAL DEVELOPMENT		
FUTURE FUEL FARM		
FUTURE FUEL TRUCK ROAD		
FUTURE SEAT BASE		

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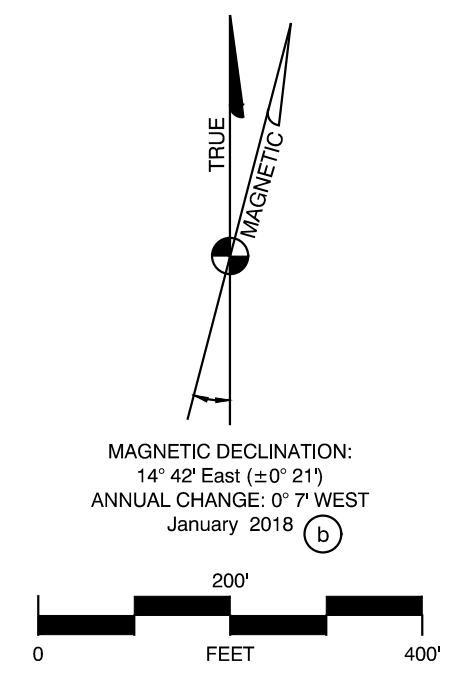
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 Redmond, Oregon 97756

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SHEET CONTENTS  
**NORTH BUILDING  
 AREA PLAN**



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AIRPORT PARCEL DATA						
PARCEL NO.	ACRES	TYPE OF INTEREST	FUNDING SOURCE	FAA GRANT NUMBER	GRANTOR	NOTES
A	1,366.55	PATENT DEED	LOCAL FUNDS	N/A	USA	Acquired Under Patent Deed from USA, April 10, 1950
B	22.35	FEE SIMPLE	FAA	6-41-0052-05	FAA	Acquired under ADAP 05 21.16 acres, 1978
C	234.82	FEE SIMPLE	FAA	6-41-0052-03	FAA	Acquired under ADAP 03 252 acres, 1975
D	86.63	FEE SIMPLE	FAA	6-41-0052-06	FAA	Acquired under ADAP 06 90.2 acres, 1979
E	78.01	EASEMENT	LOCAL FUNDS	N/A	TEKTRONIX INC.	Avigation Easement Fee Title - Tektronix INC. Released by FAA April 24, 1980
F1	94.00	FEE SIMPLE	LOCAL FUNDS	N/A	DESCHUTES CO.	Deschutes County Property trade deal to City of Redmond surplus property transferred from Area N
F2	63.21	EASEMENT	LOCAL FUNDS	N/A	DESCHUTES CO.	Deschutes County Given Fee Title, corrected deed of release dated November 14, 1979
G	181.45	EASEMENT	LOCAL FUNDS	N/A	USA	Avigation Easement Area Acquired from USA September 8, 1980
H	123.40	FEE SIMPLE	LOCAL FUNDS	N/A	DESCHUTES CO.	Acquired in Fee from Deschutes Co. Inc. Property trade. Approved by FAA June 12, 1979
I	10.07	FEE SIMPLE	LOCAL FUNDS	N/A	CITY OF REDMOND	Added to Airport Property by City of Redmond February 13, 1992
J	2.15	EASEMENT	LOCAL FUNDS	N/A	LANCAIR INC.	Avigation Easement Fee Title - Lancair INC. Released by FAA February 6 1992
K	144.18	FEE SIMPLE	LOCAL FUNDS	N/A	DESCHUTES CO.	Acquired in Fee from Deschutes County June 1992, patent transferred from Area L June 1992
L	32.39	EASEMENT	LOCAL FUNDS	N/A	DESCHUTES CO.	Avigation Easement Fee Title Released by FAA June 1992
M	160.28	FEE SIMPLE	LOCAL FUNDS	N/A	C.O.C.C.	Area traded to Airport for C.O.C.C. prop. Area N July 21, 1995, surplus property transf. from Area N
N	24.42	FEE SIMPLE	LOCAL FUNDS	N/A	C.O.C.C.	C.O.C.C. Deeded Property July 21, 1995, released by FAA July 1995
O	2.21	EASEMENT	LOCAL FUNDS	N/A	C.O.C.C.	C.O.C.C. Deeded Parking Easement 1995
P	134.06	QUIT CLAIM DEED	LOCAL FUNDS	N/A	JUNIPER GOLF CLUB	Quit Claim Deed Volume 105 Page 164 September 16, 1985
IIA	0.25	FEE SIMPLE	FAA	6-41-0052-04	FAA	Acquired under ADAP 04, 1977
III	21.87	FEE SIMPLE	FAA	6-41-0052-04	FAA	Acquired under ADAP 04, 1977
IV	1.06	FEE SIMPLE	FAA	6-41-0052-04	FAA	Acquired under ADAP 04, 1977

TANGENT TABLE		
TANGENT	DIRECTION	DISTANCE
T1	N00°07'10"E	16.63'
T2	N89°32'01"E	655.82'
T3	N00°04'03"E	169.41'
T4	N00°04'03"E	160.81'
T5	N89°31'27"E	327.62'
T6	N00°02'25"E	660.56'
T7	N89°30'16"E	327.31'
T8	N00°11'39"W	532.37'
T9	N23°21'05"W	540.00'
T10	N41°57'05"W	631.08'
T11	N89°54'32"W	344.03'
T12	N89°39'32"W	636.64'
T13	N89°11'00"W	700.18'
T14	S19°15'15"W	82.68'
T15	S15°54'22"W	144.50'

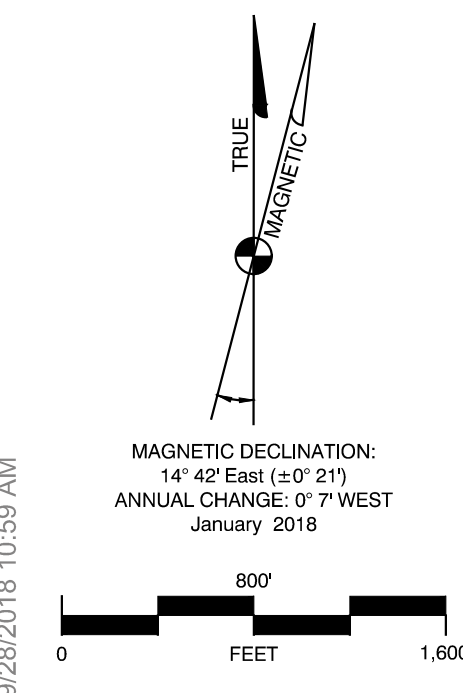
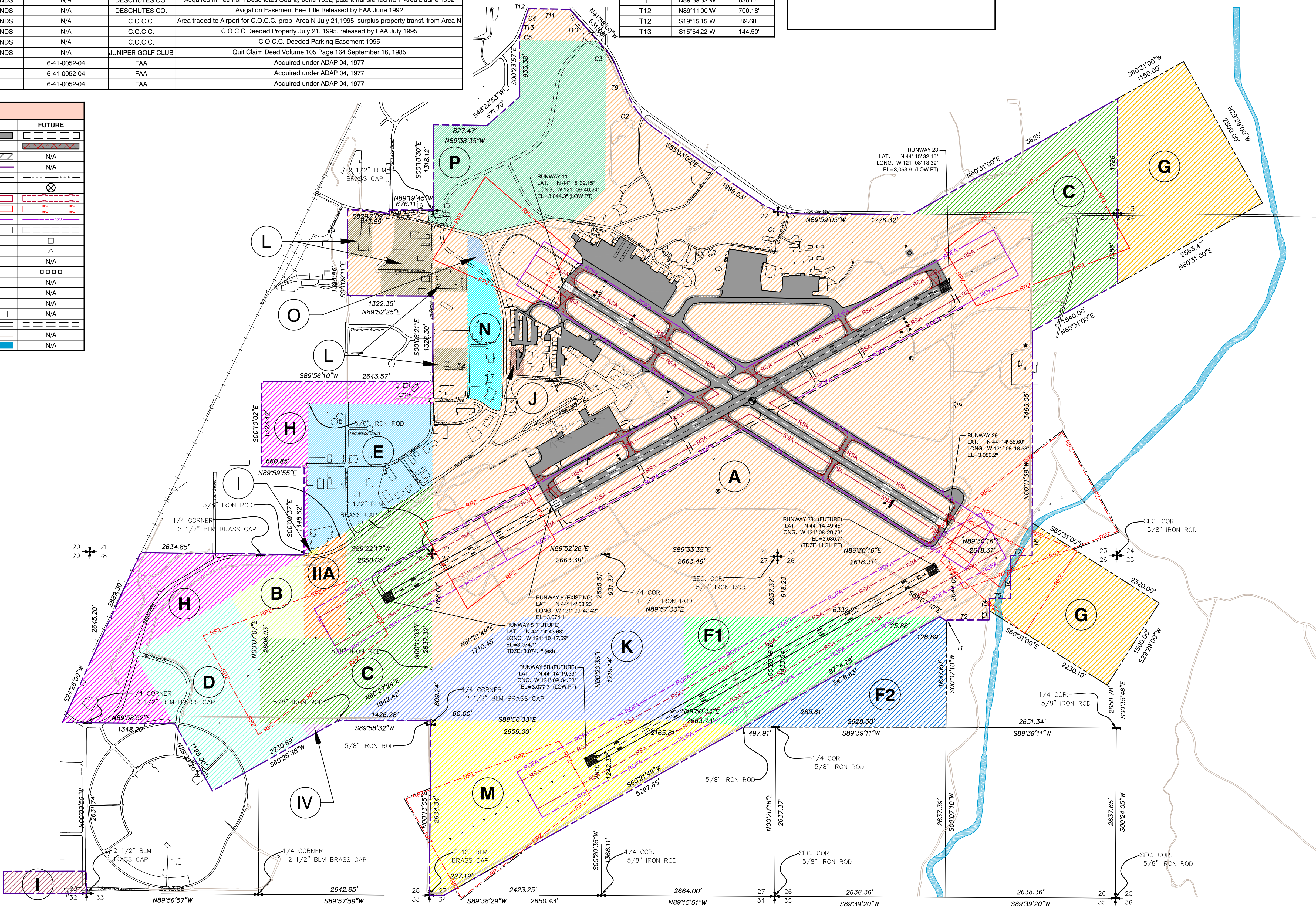
CURVE TABLE					
CURVE	LENGTH	RADIUS	DELTA	BEARING	CHORD
C1	628.28'	1,030.00'	34°57'00"	N72°31'30"W	618.60'
C2	569.57'	1,030.00'	31°41'00"	N39°12'30"W	562.34'
C3	281.20'	970.00'	16°36'36"	S31°40'18"E	280.22'
C4	148.20'	2,536.23'	03°20'53"	S17°34'49"W	148.18'
C5	68.32'	530.00'	07°23'08"	S19°35'56"W	68.27'

REVISIONS					
Δ	DATE	BY	DESCRIPTION	APPD	DATE
1.	2011	JNR	Updated Nov. 2011 - Century West Eng.		1/12
2.	2013	JNR	Updated AIP-035		7/13
3.	2018	MH	2018 Master Plan - ALP Update		8/18

DRAWING LEGEND		
	EXISTING	FUTURE
ACTIVE AIRFIELD PAVEMENT		
PAVEMENT TO BE REMOVED		
PAVEMENT SHOULDER		
AIRPORT PROPERTY		
AVIGATION EASEMENT		
AIRPORT REFERENCE POINT		
RUNWAY SAFETY AREA (RSA)		
RUNWAY PROTECTION ZONE (RPZ)		
RUNWAY OBJECT FREE AREA (ROFA)		
BUILDING - ON AIRPORT		
Omnidirectional Flashing Lights (ODAL)		
Medium Intensity Approach Lighting (MALSR)		
ROTATING BEACON		
PRECISION APPROACH PATH INDICATOR (PAPI)		
VISUAL APPROACH SLOPE INDICATOR (VASI)		
WIND CONE		
AWOS		
RAILROAD		
ROAD		
GRAVEL ROAD		
CANAL		

**EXHIBIT 'A' NOTES**

- Airport Property Boundary Source: Approved 2013 Exhibit A and quit claim deed #91-01120. Property lines, parcels, bearings and distances obtained from 2013 Exhibit A and quit claim deed.
- Approved 2013 Exhibit A does not meet SOP 3.0 checklist requirements.
- Note from 2013 Exhibit A: All survey information on this map has been calculated from latest available records of surveys made by the United States Department of the Interior, Bureau of Land Management.
- Note on easements: Pacific Power and Light, United Telephone, and Cascade Natural Gas Company have standard franchise agreements with the City of Redmond on all airport property.
- Acres for individual parcels based on digital line work.



**Mead & Hunt**  
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 City of Redmond  
 411 SW 9th Street  
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ISSUED  
**DRAFT**  
 Work in Progress

NOT FOR CONSTRUCTION

MH NO.: 1817700-121032.01  
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 CHECKED BY: BM  
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SHEET CONTENTS  
**EXHIBIT 'A'**  
**AIRPORT PROPERTY MAP**

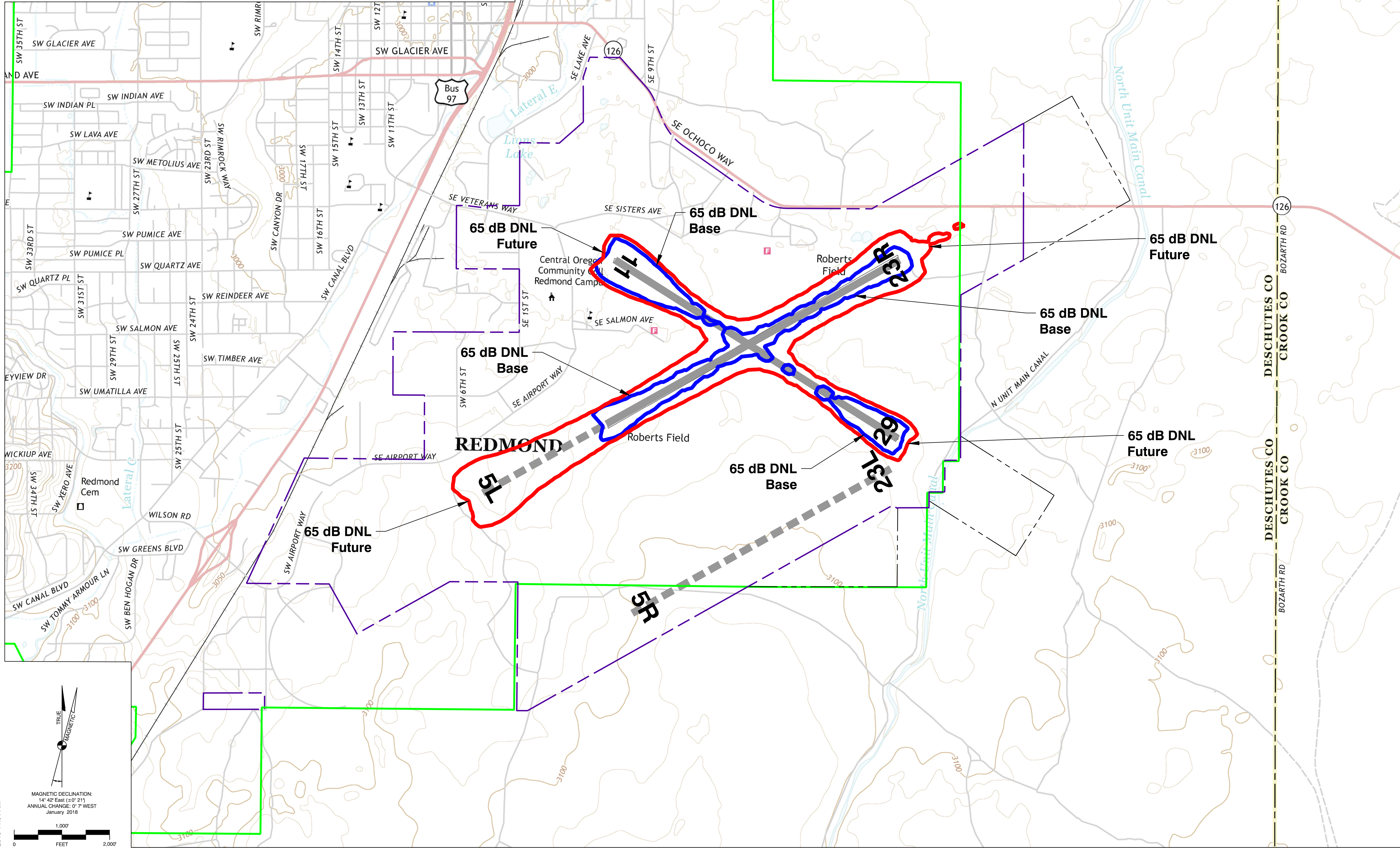
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DRAWING LEGEND	
REDMOND CITY LIMITS	
AIRPORT PROPERTY	
AVIGATION EASEMENT	
EXISTING RUNWAY	
FUTURE RUNWAY/EXTENSION	
65 dB DNL: 2016 BASE YEAR OPERATIONS	
65 dB DNL: 2036 OPERATIONS	

- | NOISE CONTOUR NOTES |   |
|---------------------|---|
| •                   | Airport noise contours developed using Aviation Environmental Design Tool (AEDT), version 2D. All contours are DNL.   |
| •                   | Base Year (2016) operations total 82,356.   |
| •                   | Future Scenario Year (2036) operations total 90,377.  |
| •                   | Operation totals based on Chapter 2 - Aviation Activity Forecasts (Page #3), of the Master Plan update. Forecasts approved in September 2017. Operation totals used in the development of noise contours consider the addition of flight school operations. |
| •                   | Noise contours developed for existing runways and extension to runway 5/23. Noise contours were not developed for Runway 5R/23L due to the runway being beyond the 20 year planning period of the master plan.  |



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 TRUE  
 MAGNETIC  
 MAGNETIC DECLINATION:  
 14° 42' East (±0° 21')  
 ANNUAL CHANGE: 0° 7' WEST  
 January 2018

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