GRAND CANYON
NATIONAL PARK AIRPORT
ARIZONA

Appendix E

AIRPORT PLANS

AIRPORT MASTER PLAN

ADOT

Appendix E
AIRPORT PLANS

As part of this Master Plan, the Federal Aviation Administration (FAA) requires the development of Airport Layout Plan (ALP) drawings detailing specific parts of Grand Canyon National Park Airport (GCN or Airport) and its environs. The ALP drawings are created on a computer-aided drafting (CAD) system and serve as the official depiction of the current and planned condition at the Airport. The ALP drawings will be delivered to the FAA and Arizona Department of Transportation (ADOT) for their review and approval. The FAA will critique the drawings from a technical perspective to be sure all applicable federal regulations are met and will use the ALP as the basis for justification for funding decisions.

It should be noted that the FAA requires any changes to the airfield (i.e., runway and taxiway system, navigational aids, etc.) to be presented on the ALP. The landside configuration developed during the master planning process is also depicted on the ALP, but the FAA recognizes that landside development is much more fluid and dependent on developer needs. Thus, an updated ALP set is typically not necessary for future landside development.

The five primary functions of the ALP that define its purpose are provided in Advisory Circular (AC) 150/5070-6B, *Airport Master Plans*, as follows:

1) An approved plan is necessary for the Airport to receive financial assistance under the terms of the *Airport and Airway Improvement Act of 1982* (AIP), as amended, and to be able to receive specific Passenger Facility Charge funding. An airport must keep its ALP current and follow that plan, since those are grant assurance requirements of the AIP and previous airport development programs, including the 1970 Airport Development Aid Program (ADAP) and Federal Aid Airports Program (FAAP) of 1946, as amended. While ALPs are not required for airports other than those developed with

assistance under the aforementioned federal programs, the same guidance can be applied to all airports.

2) An ALP creates a blueprint for airport development by depicting proposed facility improvements. The ALP provides a guideline by which the airport sponsor can ensure that development maintains airport design standards and safety requirements and is consistent with airport and community land use plans.

3) The ALP is a public document that serves as a record of aeronautical requirements, both present and future, and as a reference for community deliberations on land use proposals and budget resource planning.

4) The approved ALP enables the airport sponsor and the FAA to plan for facility improvements at the airport. It also allows the FAA to anticipate budgetary and procedural needs. The approved ALP will also allow the FAA to protect the airspace required for facility or approach procedure improvements.

5) The ALP can be a working tool for the airport sponsor, including its development and maintenance staff.

AIRPORT LAYOUT PLAN SET

The ALP set includes several technical drawings which depict various aspects of the current and future layout of the Airport. The following is a description of the ALP drawings included with this Master Plan.

AIRPORT LAYOUT PLAN DRAWING

An official ALP Drawing has been developed for GCN. The ALP Drawing graphically presents the existing and ultimate airport layout as well as data that corresponds to the airfield system. The ALP Drawing includes such elements as the physical airport features, location of airfield facilities (i.e., runways, taxiways, navigational aids), and existing aviation development. Also presented on the ALP Drawing are the runway safety areas, airport property boundary, and revenue support areas.

The computerized plan provides detailed information on existing and future facility layouts on multiple layers that permit the user to focus on any section of the Airport at a desired scale. The plan can be used as base information for design and can be easily updated in the future to reflect new development and more detail concerning existing conditions as made available through design surveys. The ALP Drawing is used by the FAA to determine funding eligibility for future capital projects.

TERMINAL AREA DRAWING

The Terminal Area Drawing is a larger scale plan view drawing of existing and planned aprons, buildings, hangars, parking lots, and other landside facilities.

AIRPORT AIRSPACE DRAWING

Title 14 Code of Federal Regulations (CFR) Part 77, *Objects Affecting Navigable Airspace*, was established for use by local authorities to control the height of objects near airports. The Part 77 Airspace Drawing is a graphic depiction of this regulatory criterion. The Airspace Drawing is a tool to aid local authorities in determining if proposed development could present a hazard to aircraft using the Airport. It can be a critical tool for the Airport sponsor's use in reviewing proposed development in the vicinity of the Airport and for establishing locally enforceable height and hazard zoning regulations.

The Airspace Drawing assigns three-dimensional imaginary surfaces associated with the Airport. These imaginary surfaces emanate from the runway centerline(s) and are dimensioned according to the visibility minimums associated with the approach to the runway end and size of aircraft to operate on the runway. The Part 77 imaginary surfaces include the primary surface, horizontal surface, approach surface, transitional surface, and conical surface.

Penetrations to the Part 77 surfaces are considered obstructions to the Airport's airspace. Further analysis by the FAA, through an aeronautical survey, is necessary to determine if any obstructions are hazards to air navigation. It should be noted that the Part 77 drawings are based on ultimate planning recommendations and not necessarily existing conditions.

APPROACH SURFACE PROFILE DRAWINGS

The Approach Surface Profile Drawings present the entirety of the Part 77 approach surface to the end of each runway. It also depicts the runway centerline profile with elevations. This drawing provides profile details that the Airspace Drawings do not.

The Approach Surface Profile Drawings include identified penetrations to the approach surface. Penetrations to the approach surface are considered obstructions. The FAA will determine if any obstructions are also hazards which require mitigation. The FAA utilizes other design criteria such as the threshold siting surface (TSS) and various surfaces defined in FAA Order 8260.3B, *Terminal Instrument Procedures* (TERPS), to determine if an obstruction is a hazard.

If an obstruction is a hazard, the FAA can take many steps to protect air navigation. The mitigation options range from the airport owner removing the hazard to installing obstruction lighting, to the FAA adjusting the instrument approach minimums.

The drawing set includes the following approach surface drawings:

- Approach profile drawings for each runway end
- Inner portion of the approach surface drawings for each runway end

LAND USE DRAWING

The objective of the Land Use Drawing is to coordinate uses of the airport property in a manner compatible with the functional design of the airport facility. Airport land use planning is important for orderly development and efficient use of available space. There are two primary considerations for airport land use planning. These are to secure those areas essential to the safe and efficient operation of the airport and to determine compatible land uses for the balance of the property which would be most advantageous to the airport and community. In essence, this drawing depicts the suggested highest and best potential uses for airport property.

The Land Use Drawing presents generalized proposed uses of property for the future. The on-airport land uses on this drawing become the official FAA acceptance of current and future land uses. The map also depicts the existing and ultimate noise exposure limits set at the 65 Community Noise Equivalent Level (CNEL) sound level.

EXHIBIT "A" AIRPORT PROPERTY INVENTORY MAP

The Airport Property Map provides information on property under airport control and is, therefore, subject to FAA grant assurances. The various recorded deeds that make up the airport property are listed in tabular format. The primary purpose of the drawing is to provide information for analyzing the current and future aeronautical use of land acquired with federal funds.

DEPARTURE SURFACE DRAWING

The Departure Surface Drawing provides detailed analysis of the existing and ultimate departure surface for each corresponding runway end. A composite profile of the extended ground line is depicted. Obstructions are shown where appropriate.

DRAFT ALP DISCLAIMER

The preparation of the ALP set has been supported, in part, through financial assistance from the FAA through the Airport Improvement Program (AIP). The contents do not necessarily reflect the official views or policy of the FAA. Acceptance of the Master Plan does not in any way constitute a commitment on the part of the FAA to participate in any development depicted on the ALP drawings, nor does it indicate that the proposed development is environmentally acceptable or would have justification in accordance with appropriate public laws.

The ALP drawing set has been developed in accordance with accepted FAA standards. The ALP set has not been approved at the time of this printing and is subject to FAA airspace reviews. Land use and other changes may result.

GRAND CANYON NATIONAL PARK AIRPORT
ARIZONA
ADOT

LOCATION MAP

ARIZONA

AIRPORT LAYOUT PLAN SET
INDEX OF DRAWINGS

1. TITLE SHEET
2. AIRPORT LAYOUT PLAN DRAWING
3. TERMINAL AREA DRAWING
4. AIRPORT PAVEMENT DATA
5. AIRPORT AIRSPACE DRAWING
5a. RUNWAY 3 APPROACH FAN
6. OUTER APPROACH SURFACE FOR RUNWAY 3-21
7. INNER APPROACH SURFACE PLAN AND PROFILE FOR RUNWAY 3-21
8. ON-AIRPORT LAND USE DRAWING
9. EXHIBIT "A" AIRPORT PROPERTY MAP
10. DEPARTURE SURFACE RUNWAY 3-21

PREPARED FOR

ADOT

VICINITY MAP

SUBMITTED BY:
Coffman Associates

FOR APPROVAL BY:

APPROVED BY: ON THE DATE OF:

--
Airport Manager

No.	REVISIONS	DATE	BY	APP'D
	--	--	--	--
	--	--	--	--
	ALP AND MASTER PLAN	02/15/2009	KH	--

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GRAND CANYON NATIONAL PARK AIRPORT

DRAFT

TITLE SHEET

TUSAYAN, ARIZONA

PLANNED BY: Matt Quick
DETAILED BY: Maggie Beaver
APPROVED BY: Jim Harris P.E.

MARCH 2018

Coffman Associates
Airport Consultants
www.coffmanassociates.com

RUNWAY DATA	RUNWAY 3-21			
	EXISTING		ULTIMATE	
	3	21	3	21
RUNWAY DESIGN CODE (RDC)	C-II-4000		C-III-4000	
APPROACH REFERENCE CODE	D/IV/4000&D/V/4000		SAME	
DEPARTURE REFERENCE CODE	D/IV&D/V		SAME	
RUNWAY AZIMUTH (TRUE)	41°	221°	SAME	SAME
RUNWAY BEARING (TRUE)	40°40'04.20" E		SAME	
APPROACH TYPE	PRECISION	VISUAL	SAME	SAME
PART 77 APPROACH CATEGORY	50:1	20:1	SAME	SAME
APPROACH VISIBILITY MINIMUMS	3/4 MILE	VISUAL	3/4 MILE	VISUAL
RUNWAY DEPARTURE SURFACE	40:1	40:1	SAME	SAME
TYPE OF AERONAUTICAL SURVEY REQUIRED	VERTICALLY GUIDED		SAME	
THRESHOLD SITING SURFACE	34:1	20:1	SAME	SAME
DESIGN AIRCRAFT	BOMBARDIER CRJ 200		BOEING 737-700	
DESIGN AIRCRAFT UNDERCARRIAGE WIDTH (FEET)	37.42'		41.33'	
DESIGN AIRCRAFT WINGSPAN	68.67'		117.42'	
DESIGN AIRCRAFT TAIL HEIGHT	20.75'		41.58'	
RUNWAY LENGTH	8,999'		10,000'	
RUNWAY WIDTH	150'		SAME	
PERCENT OF WIND COVERAGE — 10.5 knots	99.14%		SAME	
PERCENT OF WIND COVERAGE — 13 knots	99.70%		SAME	
PERCENT OF WIND COVERAGE — 16 knots	99.96%		SAME	
RUNWAY END ELEVATION [1]	6,533.00'	6,608.6'	SAME	SAME
TOUCH DOWN ZONE ELEVATION [1]	6,556.3'	6,608.7'	SAME	SAME
DISPLACED THRESHOLD [1]	NONE	NONE	SAME	SAME
EFFECTIVE RUNWAY GRADIENT	1%		SAME	
MAXIMUM GRADIENT	2.0%		SAME	
RUNWAY SURFACE TYPE	ASPHALT		SAME	
RUNWAY PAVEMENT STRENGTH (in thousand lbs.)[2]	88(S),108(D),160(DT)		SAME	
PCN NUMBER	52/F/C/W/T		SAME	
RUNWAY SURFACE TREATMENT	GRVD		SAME	
RUNWAY LIGHTING	MIRL	MIRL	SAME	SAME
RUNWAY MARKING	PRECISION	NON-PREC	SAME	SAME
VISUAL AND NAVIGATIONAL AIDS	ILS or LOC/DME - RWY 3 RNAV (GPS) - RWY 3 VOR - RWY 3 ASOS ATCT LIGHTED WINDCONES PAPI - 4 RWY 21 REILs - RWY 21 -		SAME SAME SAME SAME SAME SAME PAPI - 4 RWY 3 REILs - RWY 3 -	
RUNWAY SAFETY AREA BEYOND STOP END	1,000'	1,000'	SAME	SAME
RUNWAY SAFETY AREA WIDTH	500'		SAME	
OBJECT FREE AREA BEYOND STOP END	1,000'	1,000'	SAME	SAME
OBJECT FREE AREA WIDTH	800'		SAME	
OBSTACLE FREE ZONE BEYOND STOP END (ACTUAL)	200'	200'	SAME	SAME
OBSTACLE FREE ZONE WIDTH	400'		SAME	
RUNWAY PROTECTION ZONE	1,700'x1,000' x1,510'	1,700'x500' x1,010'	SAME	SAME
TAXIWAY DESIGN GROUP (TDG)	TDG-3		SAME	
TAXIWAY WIDTH	75' - 93'		SAME	
TAXIWAY OBJECT FREE AREA WIDTH	186'		SAME	
TAXIWAY SAFETY AREA WIDTH	118'		SAME	
TAXIWAY WING TIP CLEARANCE	34'		SAME	
TAXIWAY CL TO FIXED OR MOVEABLE OBJECT	93'		SAME	
TAXIWAY LIGHTING	MITL		SAME	
TAXIWAY SURFACE MATERIAL	ASPHALT		SAME	
TAXIWAY TO RUNWAY SEPARATION	407'		SAME	
HOLDBAR TO RUNWAY CENTERLINE DISTANCE	250'		318'	
TAXIWAY TO AIRCRAFT PARKING DISTANCE	100'		SAME	
RUNWAY CENTERLINE TO AIRCRAFT PARKING	500'		SAME	
THRESHOLD SITING SURFACE OBJECT PENETRATIONS	NONE		SAME	

NOTES:
1. RUNWAY END ELEVATIONS, COORDINATES, DISTANCES, AND BEARING NOTED IN THIS ALP ARE FROM THE AVN DATASHEET.
2. SW-SINGLE WHEEL, DW-DUAL WHEEL, AND DT-DUAL TANDEM WHEEL.

DEVIATIONS TO STANDARDS

DEVIATION DESCRIPTION	EFFECTED DESIGN STANDARD	EXISTING	PROPOSED DISPOSITION
INTERNAL PERIMETER ACCESS ROAD	RUNWAY SAFETY AREA	650' BEYOND NORTH END OF RUNWAY 3 -21	REMOVE PERIMETER ACCESS ROAD
MARKED HELICOPTER LANDING AREA	RUNWAY OBJECT FREE AREA	600' BEYOND NORTHEAST END OF RUNWAY 3 -21	REMOVE HELICOPTER LANDING AREA
AIRPORT ROAD, FENCING AND RETAINING WALL	RUNWAY OBJECT FREE AREA	714' BEYOND NORTH END OF RUNWAY 3 -21	REQUEST MODIFICATION TO STANDARDS

DECLARED DISTANCES	RUNWAY			
	EXISTING		ULTIMATE	
	3	21	3	21
TAKEOFF RUN AVAILABLE (TORA)	8,999'	8,999'	10,000'	10,000'
TAKEOFF DISTANCE AVAILABLE (TODA)	8,999'	8,999'	10,000'	10,000'
ACCELERATE-STOP DISTANCE AVAILABLE (ASDA)	8,999'	8,999'	10,000'	10,000'
LANDING DISTANCE AVAILABLE (LDA)	8,999'	8,999'	10,000'	10,000'

AIRPORT DATA

GRAND CANYON NATIONAL PARK AIRPORT (GCN)

CITY: TUSAYAN, ARIZONA — COUNTY: COCONINO COUNTY, ARIZONA
RANGE: 30N — TOWNSHIP: 2E — CIVIL TOWNSHIP: N/A

		EXISTING	ULTIMATE
NPIAS SERVICE LEVEL		NON - HUB PRIMARY / COMMERCIAL SERVICE	SAME
STATE SERVICE ROLE		COMMERCIAL SERVICE	SAME
CRITICAL DESIGN AIRCRAFT		BOMBARDIER CRJ - 200	BOEING 737-700
AIRPORT REFERENCE CODE (ARC)		C-II	C-III
AIRPORT ELEVATION (ABOVE MEAN SEA LEVEL)		6608.7'	SAME
MEAN MAXIMUM TEMPERATURE OF HOTTEST MONTH		84°F (July)	SAME
AIRPORT REFERENCE POINT (ARP) COORDINATES (NAD 83)	Latitude	35°57'08.5000"N	35°57'04.7300"N
	Longitude	112°08'49.1000"W	112°08'03.0200"W
AIRPORT INSTRUMENT NAVIGATIONAL AIDS		GPS VOR ILS OR LOC/DME	SAME SAME
MISCELLANEOUS FACILITIES (OWNERSHIP)		PAPI-4 (RWY 21) REILs (RWY 21) LIGHTED WIND CONES ASOS ATCT	PAPI - 4 (RWY 3) REILs (RWY 3) SAME SAME SAME

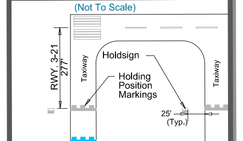
RUNWAY END COORDINATES (NAD 83)

		EXISTING	ULTIMATE
RUNWAY 3	Latitude	35°56'34.7377"N	35°56'27.2400"N
	Longitude	112°09'24.7015"W	112°09'32.6300"W
RUNWAY 21	Latitude	35°57'42.2257"N	SAME
	Longitude	112°08'13.4164"W	SAME

TAXIWAY DESIGN GROUP

	EXISTING	TDG	ULTIMATE	TDG
TWY A	84'	TDG-3	SAME	SAME
TWY B	82'	TDG-3	SAME	SAME
TWY C	75'	TDG-3	SAME	SAME
TWY D	75'	TDG-3	SAME	SAME
TWY E	75'	TDG-3	SAME	SAME
TWY F	93'	TDG-3	SAME	SAME
TWY G	93'	TDG-3	SAME	SAME
TWY P	75'	TDG-3	SAME	SAME

HOLDING POSITION MARKINGS/SIGN (TYP)
(Not To Scale)

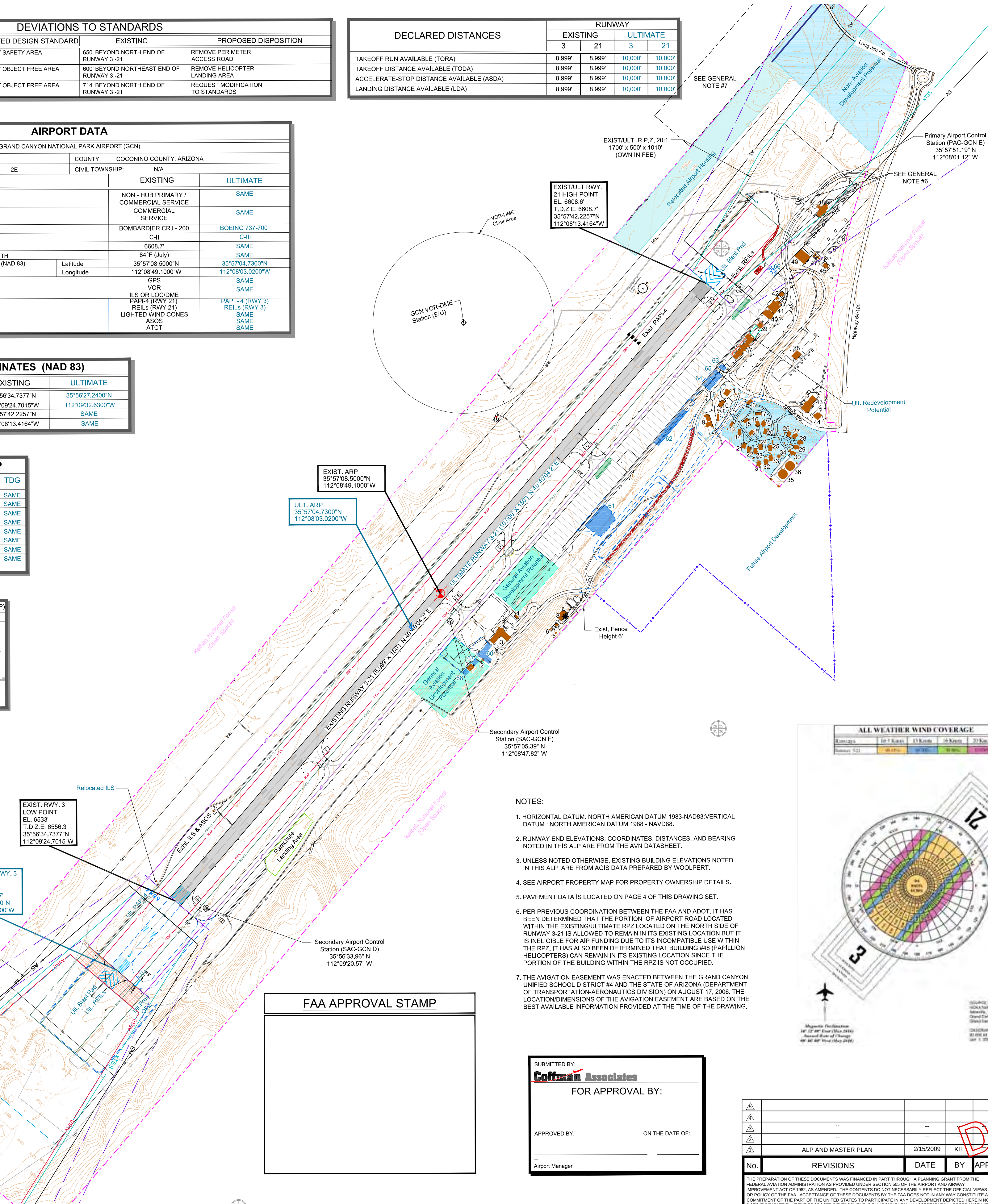


EXISTING AIRPORT FACILITIES

NO.	DESCRIPTION	ELEV. (MSL)	NO.	DESCRIPTION	ELEV. (MSL)
1	NATIONAL PARK SERVICE HANGAR	6595.29'	30	AIRPORT HOUSING	6686.93'
2	NATIONAL PARK SERVICE OFFICES	6586.45'	31	AIRPORT HOUSING	6674.12'
3	ARFF FACILITY	6612.07'	32	AIRPORT HOUSING	6679.06'
4	AIRFIELD LIGHTING VAULT	6582.88'	33	AIRPORT HOUSING	6683.86'
5	BUILDING	6647.61'	34	AIRPORT WATER SUPPLY TANK	6698.78'
6	TANKS	6642.48'	35	AIRPORT WATER SUPPLY TANK	6697.88'
7	BUILDING	6649.03'	36	AIRPORT WATER SUPPLY TANKS	6698.16'
8	ATCT	6753.16'	37	AIRPORT TERMINAL	6649.27'
9	AIRPORT MAINTENANCE	6639.44'	38	GRAND CANYON HELICOPTERS	6666.21'
10	TUSAYON TOWN HALL	6634.95'	39	OLD ARFF STATION	6634.12'
11	AIRPORT ADMINASTRATION OFFICE	6635.91'	40	GRAND CANYON AIRLINE TERMINAL	6643.91'
12	AIRPORT HOUSING	6649.55'	41	GRAND CANYON FBO HANGAR	6637.46'
13	AIRPORT HOUSING	6649.55'	42	FUEL FARM	6623.89'
14	AIRPORT HOUSING	6660.80'	43	MAVERICK AVIATION	6672.65'
15	AIRPORT HOUSING	6656.78'	44	MAVERICK PILOT'S LOUNGE	6668.31'
16	AIRPORT HOUSING	6671.83'	45	BUILDING	6644.92'
17	AIRPORT HOUSING	6660.02'	46	PAPILLION MAINTANENCE HANGAR	6654.04'
18	AIRPORT HOUSING	6668.40'	47	PAPILLION FUEL TANK	6636.79'
19	AIRPORT HOUSING	6673.57'	48	PAPILLION HELICOPTERS	6670.70'
20	AIRPORT HOUSING	6675.40'	49	OLD ATCT (ABANDONED)	6636.60'
21	AIRPORT HOUSING	6668.76'	50	--	-
22	AIRPORT HOUSING	6674.02'	51	--	-
23	AIRPORT HOUSING	6673.52'	52	--	-
24	AIRPORT HOUSING	6676.45'	53	--	-
25	AIRPORT HOUSING	6682.81'	54	--	-
26	AIRPORT HOUSING	6690.13'	55	--	-
27	AIRPORT HOUSING	6689.58'	56	--	-
28	AIRPORT HOUSING	6687.89'	57	--	-
29	AIRPORT HOUSING	6689.35'			

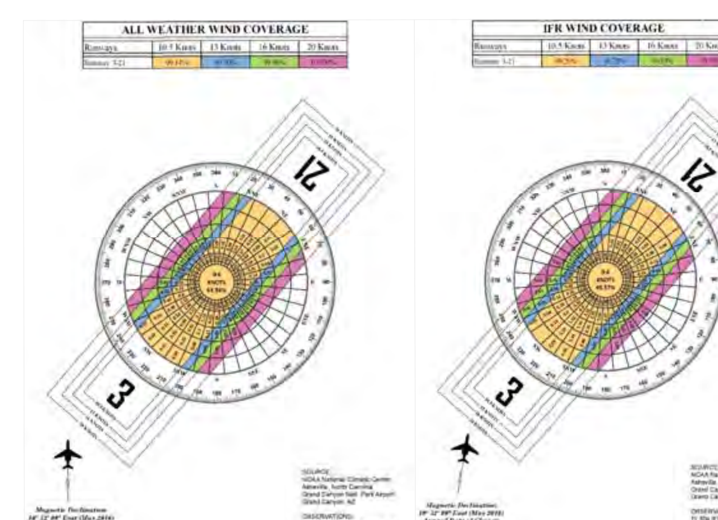
ULTIMATE AIRPORT FACILITIES

NO.	DESCRIPTION	Est. ELEV. (MSL)
60	MAINTENANCE FACILITY	±6595.00'
61	AIRPORT TERMINAL	±6640.00'
62	8 LINEAR BOX HANGARS	±6630.00'
63	FUEL FARM (SELF SERVICE)	±6625.00'
64	CONVENTIONAL HANGAR	±6637.00'
65	CONVENTIONAL HANGAR	±6637.00'
66	HELICOPTER PARKING	NA
67	EXECUTIVE HANGAR	±6580'
68	EXECUTIVE HANGAR	±6581'



LEGEND

EXISTING	ULTIMATE	DESCRIPTION
		AIRPORT PROPERTY LINE
		SECTION CORNERS
		AIRPORT REFERENCE POINT (ARP)
	SAME	AIRPORT ROTATING BEACON
N/A		NON-AVIATION DEVELOPMENT POTENTIAL
N/A		RELOCATED AIRPORT HOUSING
X/U BRL		BUILDING RESTRICTION LINE
		STRUCTURES ON AIRPORT
N/A		ABANDON/REMOVE BUILDING
		NO TAXI ISLAND
		GENERAL AVIATION DEVELOPMENT POTENTIAL
	SAME	AUTOMATED WEATHER OBSERVATION STATION
		AIRPORT PAVEMENT
N/A		ABANDON/REMOVE PAVEMENT
N/A		PRECISION OBSTACLE FREE ZONE
		FENCE LINE
		HOLD MARKING
OFA	uOFA	OBJECT FREE AREA
RSA	RSA(U)	RUNWAY SAFETY AREA
OFZ		OBSTACLE FREE ZONE
RPZ		RUNWAY PROTECTION ZONE
TOFA	SAME	TAXIWAY OBJECT FREE AREA
TSA	SAME	TAXIWAY SAFETY AREA
AS	AS(U)	RUNWAY APPROACH SURFACE
xTSS	uTSS	THRESHOLD SITING SURFACE
	SAME	DEPARTURE SURFACE
	SAME	TIE-DOWNS
		PAPI-4
		RUNWAY END IDENTIFIER LIGHTS (REILS)
		WINDSOCK
	SAME	TOPOGRAPHIC CONTOURS
	SAME	PACs AND SACs
	SAME	AVIGATION EASEMENT



NOTES:

1. HORIZONTAL DATUM: NORTH AMERICAN DATUM 1983-NAD83:VERTICAL DATUM : NORTH AMERICAN DATUM 1988 - NAVD88.
2. RUNWAY END ELEVATIONS, COORDINATES, DISTANCES, AND BEARING NOTED IN THIS ALP ARE FROM THE AVN DATASHEET.
3. UNLESS NOTED OTHERWISE, EXISTING BUILDING ELEVATIONS NOTED IN THIS ALP ARE FROM AGIS DATA PREPARED BY WOOLPERT.
4. SEE AIRPORT PROPERTY MAP FOR PROPERTY OWNERSHIP DETAILS.
5. PAVEMENT DATA IS LOCATED ON PAGE 4 OF THIS DRAWING SET.
6. PER PREVIOUS COORDINATION BETWEEN THE FAA AND ADOT, IT HAS BEEN DETERMINED THAT THE PORTION OF AIRPORT ROAD LOCATED WITHIN THE EXISTING/ULTIMATE RPZ LOCATED ON THE NORTH SIDE OF RUNWAY 3-21 IS ALLOWED TO REMAIN IN ITS EXISTING LOCATION BUT IT IS INELIGIBLE FOR AIP FUNDING DUE TO ITS INCOMPATIBLE USE WITHIN THE RPZ. IT HAS ALSO BEEN DETERMINED THAT BUILDING #48 (PAPILLION HELICOPTERS) CAN REMAIN IN ITS EXISTING LOCATION SINCE THE PORTION OF THE BUILDING WITHIN THE RPZ IS NOT OCCUPIED.
7. THE AVIGATION EASEMENT WAS ENACTED BETWEEN THE GRAND CANYON UNIFIED SCHOOL DISTRICT #4 AND THE STATE OF ARIZONA (DEPARTMENT OF TRANSPORTATION-AERONAUTICS DIVISION) ON AUGUST 17, 2006. THE LOCATION/DIMENSIONS OF THE AVIGATION EASEMENT ARE BASED ON THE BEST AVAILABLE INFORMATION PROVIDED AT THE TIME OF THE DRAWING.

FAA APPROVAL STAMP

SUBMITTED BY:
Coffman Associates
FOR APPROVAL BY:

APPROVED BY: ON THE DATE OF:

--
Airport Manager

No.	REVISIONS	DATE	BY	APP'D.
5				
4				
3	--	--	--	--
2	--	--	--	--
1	ALP AND MASTER PLAN	2/15/2009	KH	--

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GRAND CANYON NATIONAL PARK AIRPORT

AIRPORT LAYOUT PLAN DRAWING

TUSAYAN, ARIZONA

DRAFT

PLANNED BY: Matt Quick
DETAILED BY: Maggie Beaver
APPROVED BY: Jim Harris P.E.

MARCH 2018 — SHEET 2 OF 10

Coffman Associates
Airport Consultants
www.coffmanassociates.com

EXISTING AIRPORT FACILITIES

NO.	DESCRIPTION	ELEV. (MSL)	NO.	DESCRIPTION	ELEV. (MSL)
1	NATIONAL PARK SERVICE HANGAR	6595.29'	30	AIRPORT HOUSING	6686.93'
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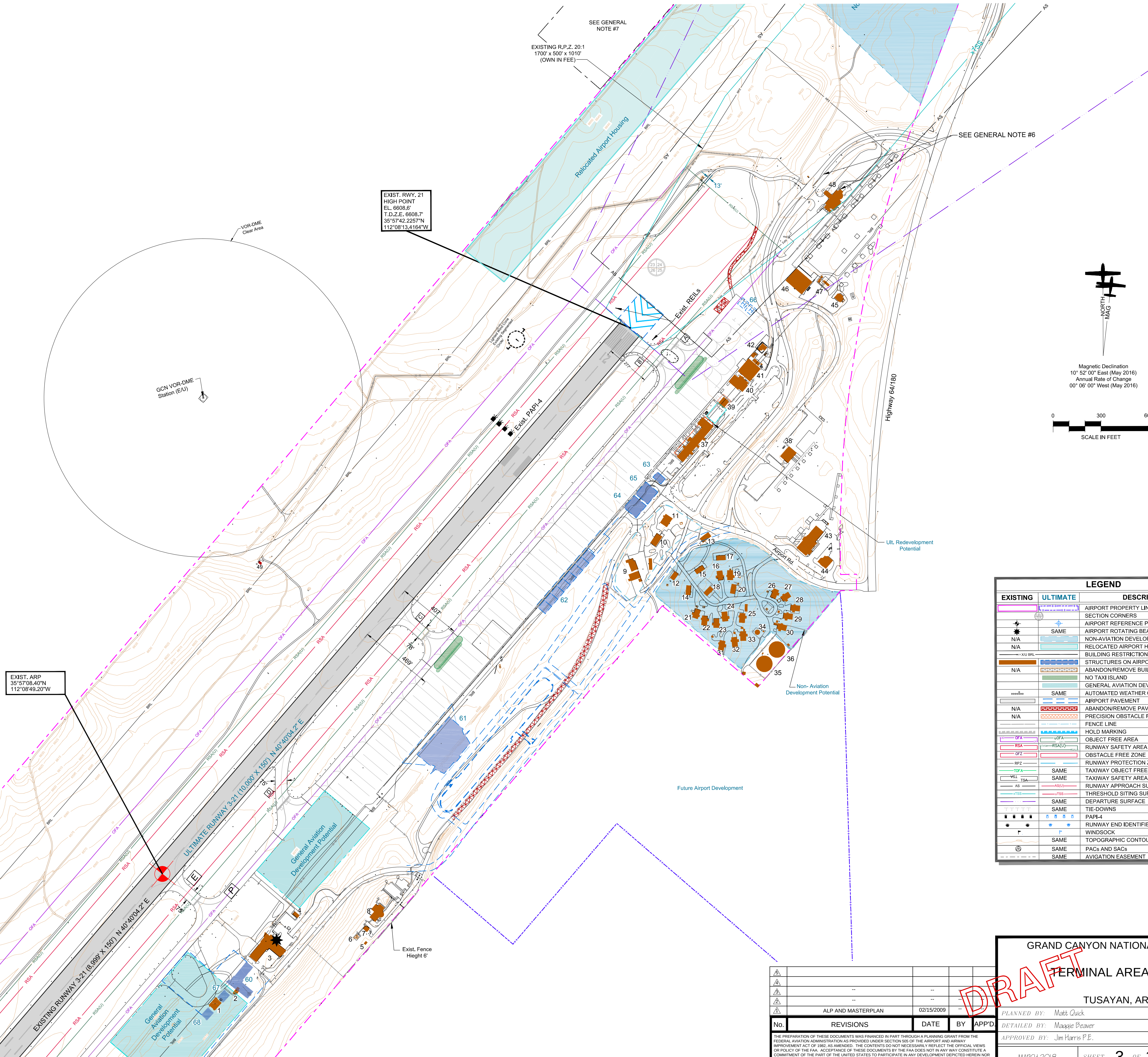
9	AIRPORT MAINTENANCE	6639.44'	38	GRAND CANYON HELICOPTERS	6666.21'
10	TUSAYON TOWN HALL	6634.95'	39	OLD ARFF STATION	6634.12'
11	AIRPORT ADMINISTRATION OFFICE	6635.91'	40	GRAND CANYON AIRLINE TERMINAL	6643.91'
12	AIRPORT HOUSING	6649.55'	41	GRAND CANYON FBO HANGAR	6637.46'
13	AIRPORT HOUSING	6649.55'	42	FUEL FARM	6623.89'
14	AIRPORT HOUSING	6660.80'	43	MAVERICK AVIATION	6672.65'
15	AIRPORT HOUSING	6656.78'	44	MAVERICK PILOT'S LOUNGE	6668.31'
16	AIRPORT HOUSING	6671.83'	45	BUILDING	6644.92'
17	AIRPORT HOUSING	6660.02'	46	PAPILLION MAINTANENCE HANGAR	6654.04'
18	AIRPORT HOUSING	6668.40'	47	PAPILLION FUEL TANK	6636.79'
19	AIRPORT HOUSING	6673.57'	48	PAPILLION HELICOPTERS	6670.70'
20	AIRPORT HOUSING	6675.40'	49	OLD ATCT (ABANDONED)	6636.60'
21	AIRPORT HOUSING	6668.76'	50	--	-
22	AIRPORT HOUSING	6674.02'	51	--	-
23	AIRPORT HOUSING	6673.52'	52	--	-
24	AIRPORT HOUSING	6676.45'	53	--	-
25	AIRPORT HOUSING	6682.81'	54	--	-
26	AIRPORT HOUSING	6690.13'	55	--	-
27	AIRPORT HOUSING	6689.58'	56	--	-
28	AIRPORT HOUSING	6687.89'	57	--	-
29	AIRPORT HOUSING	6689.35'			

ULTIMATE AIRPORT FACILITIES

NO.	DESCRIPTION	Est. ELEV. (MSL)
60	MAINTENANCE FACILITY	±6595.00'
61	AIRPORT TERMINAL	±6640.00'
62	8 LINEAR BOX HANGARS	±6630.00'
63	FUEL FARM (SELF SERVICE)	±6625.00'
64	CONVENTIONAL HANGAR	±6637.00'
65	CONVENTIONAL HANGAR	±6637.00'
66	HELICOPTER PARKING	NA
67	EXECUTIVE HANGAR	±6580'
68	EXECUTIVE HANGAR	±6581'



NOTES:

1. HORIZONTAL DATUM: NORTH AMERICAN DATUM 1983-NAD83:VERTICAL DATUM : NORTH AMERICAN DATUM 1988 - NAVD88.
2. RUNWAY END ELEVATIONS, COORDINATES, DISTANCES, AND BEARING NOTED IN THIS ALP ARE FROM THE AVN DATASHEET.
3. UNLESS NOTED OTHERWISE, EXISTING BUILDING ELEVATIONS NOTED IN THIS ALP ARE FROM AGIS DATA PREPARED BY WOOLPERT.
4. SEE AIRPORT PROPERTY MAP FOR PROPERTY OWNERSHIP DETAILS.
5. PAVEMENT DATA IS LOCATED ON PAGE 4 OF THIS DRAWING SET.
6. PER PREVIOUS COORDINATION BETWEEN THE FAA AND ADOT, IT HAS BEEN DETERMINED THAT THE PORTION OF AIRPORT ROAD LOCATED WITHIN THE EXISTING/ULTIMATE RPZ LOCATED ON THE NORTH SIDE OF RUNWAY 3-21 IS ALLOWED TO REMAIN IN ITS EXISTING LOCATION BUT IT IS INELIGIBLE FOR AIP FUNDING DUE TO ITS INCOMPATIBLE USE WITHIN THE RPZ. IT HAS ALSO BEEN DETERMINED THAT BUILDING #48 (PAPILLION HELICOPTERS) CAN REMAIN IN ITS EXISTING LOCATION SINCE THE PORTION OF THE BUILDING WITHIN THE RPZ IS NOT OCCUPIED.
7. THE AVIGATION EASEMENT WAS ENACTED BETWEEN THE GRAND CANYON UNIFIED SCHOOL DISTRICT #4 AND THE STATE OF ARIZONA (DEPARTMENT OF TRANSPORTATION-AERONAUTICS DIVISION) ON AUGUST 17, 2006. THE LOCATION/DIMENSIONS OF THE AVIGATION EASEMENT ARE BASED ON THE BEST AVAILABLE INFORMATION PROVIDED AT THE TIME OF THE DRAWING.

LEGEND

EXISTING	ULTIMATE	DESCRIPTION
		AIRPORT PROPERTY LINE
		SECTION CORNERS
		AIRPORT REFERENCE POINT (ARP)
	SAME	AIRPORT ROTATING BEACON
N/A		NON-AVIATION DEVELOPMENT POTENTIAL
N/A		RELOCATED AIRPORT HOUSING
X/U BRL		BUILDING RESTRICTION LINE
		STRUCTURES ON AIRPORT
N/A		ABANDON/REMOVE BUILDING
		NO TAXI ISLAND
		GENERAL AVIATION DEVELOPMENT POTENTIAL
	SAME	AUTOMATED WEATHER OBSERVATION STATION
		AIRPORT PAVEMENT
N/A		ABANDON/REMOVE PAVEMENT
N/A		PRECISION OBSTACLE FREE ZONE
		FENCE LINE
		HOLD MARKING
OFA	uOFA	OBJECT FREE AREA
RSA	RSA(U)	RUNWAY SAFETY AREA
OFZ		OBSTACLE FREE ZONE
RPZ		RUNWAY PROTECTION ZONE
TOFA	SAME	TAXIWAY OBJECT FREE AREA
TSA	SAME	TAXIWAY SAFETY AREA
AS	AS(U)	RUNWAY APPROACH SURFACE
xTSS	uTSS	THRESHOLD SITING SURFACE
	SAME	DEPARTURE SURFACE
	SAME	TIE-DOWNS
		PAPI-4
		RUNWAY END IDENTIFIER LIGHTS (REILS)
		WINDSOCK
	SAME	TOPOGRAPHIC CONTOURS
	SAME	PACs AND SACs
	SAME	AVIGATION EASEMENT

No.	REVISIONS	DATE	BY	APP'D.
5				
4				
3	--	--	--	--
2	--	--	--	--
1	ALP AND MASTERPLAN	02/15/2009	--	--

THE PREPARATION OF THESE DOCUMENTS WAS FINANCED IN PART THROUGH A PLANNING GRANT FROM THE FEDERAL AVIATION ADMINISTRATION AS PROVIDED UNDER SECTION 505 OF THE AIRPORT AND AIRWAY IMPROVEMENT ACT OF 1982, AS AMENDED. THE CONTENTS DO NOT NECESSARILY REFLECT THE OFFICIAL VIEWS OR POLICY OF THE FAA. ACCEPTANCE OF THESE DOCUMENTS BY THE FAA DOES NOT IN ANY WAY CONSTITUTE A COMMITMENT OF THE PART OF THE UNITED STATES TO PARTICIPATE IN ANY DEVELOPMENT DEPICTED HEREIN NOR DOES IT INDICATE THAT THE PROPOSED DEVELOPMENT IS ENVIRONMENTALLY ACCEPTABLE IN ACCORDANCE WITH THE APPROPRIATE PUBLIC LAWS.

GRAND CANYON NATIONAL PARK AIRPORT

TERMINAL AREA DRAWING

DRAFT

TUSAYAN, ARIZONA

PLANNED BY: Matt Quick
DETAILED BY: Maggie Beaver
APPROVED BY: Jim Harris P.E.

MARCH 2018 | SHEET 3 OF 10

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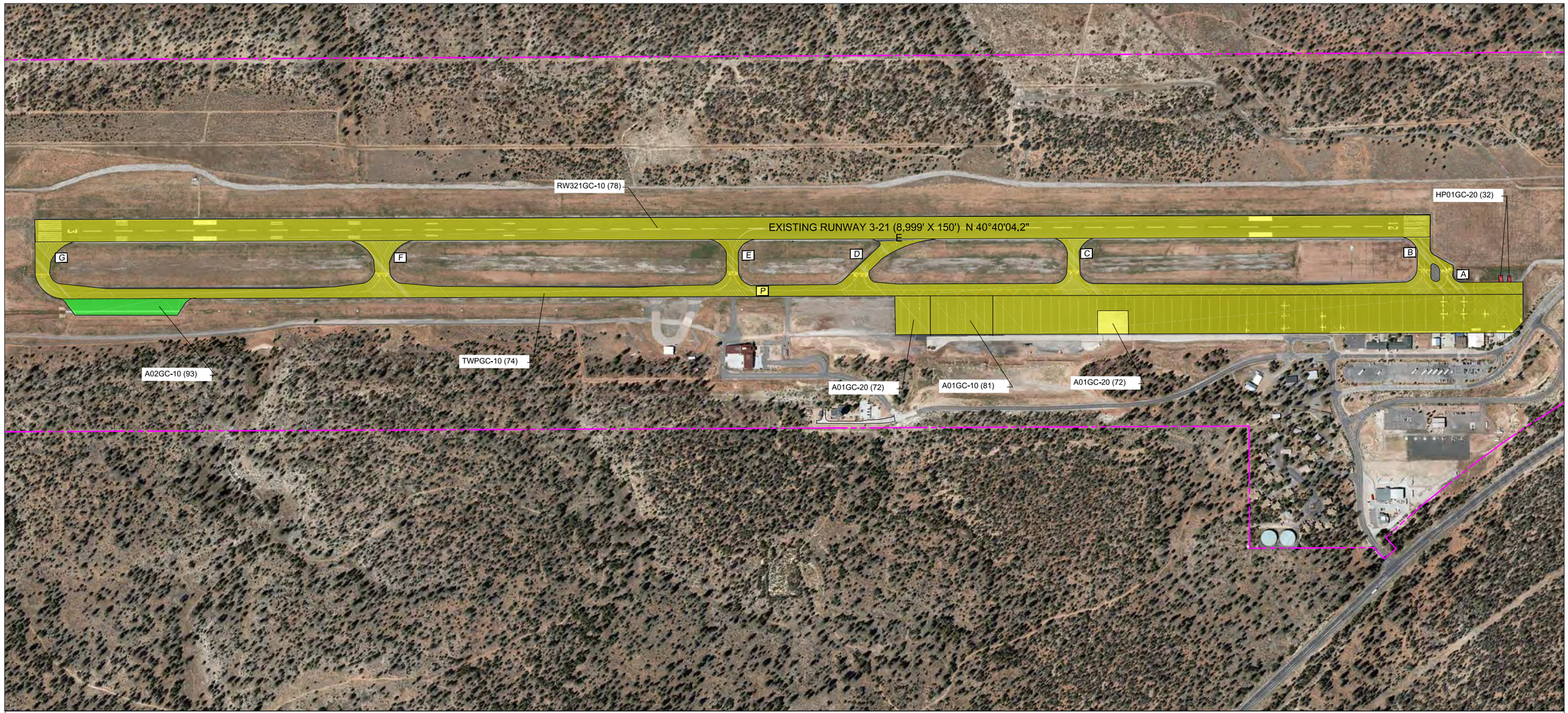


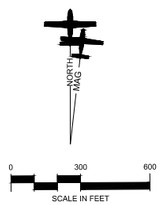
PAVEMENT DATA			
PAVEMENT SECTION	PCI	AREA (SF)	SURFACE
RW321GC-10	78	1,349,999 SF	AAC
TWPGC-10	74	967,791 SF	AAC
A02GC-10	93	78,756 SF	AC
A01GC-20	72	889,005 SF	AC
A01GC-10	81	101,562 SF	AC
A01GC-15	83	101,562 SF	AC
HP01GC-10	32	2,000 SF	AC

NOTES:
1. PAVEMENT DATA SOURCE, ARIZONA AIRPORT PAVEMENT MANAGEMENT SYSTEM, INSPECTION DATE JUNE 7, 2013. https://apps.azdot.gov/Airports/APTech_DAP

LEGEND

AIRPORT PROPERTY LINE

C TAXIWAY DESIGNATION



No.	REVISIONS	DATE	BY	APP'D
1	ALP AND MASTER PLAN	02/15/2009	KH	
2	--	--		
3	--	--		
4				
5				

THE PREPARATION OF THESE DOCUMENTS WAS FINANCED IN PART THROUGH A PLANNING GRANT FROM THE FEDERAL AVIATION ADMINISTRATION AS PROVIDED UNDER SECTION 505 OF THE AIRPORT AND AIRWAY IMPROVEMENT ACT OF 1982, AS AMENDED. THE CONTENTS DO NOT NECESSARILY REFLECT THE OFFICIAL VIEWS OR POLICY OF THE FAA. ACCEPTANCE OF THESE DOCUMENTS BY THE FAA DOES NOT IN ANY WAY CONSTITUTE A COMMITMENT OF THE PART OF THE UNITED STATES TO PARTICIPATE IN ANY DEVELOPMENT DEPICTED HEREIN NOR DOES IT INDICATE THAT THE PROPOSED DEVELOPMENT IS ENVIRONMENTALLY ACCEPTABLE IN ACCORDANCE WITH THE APPROPRIATE PUBLIC LAWS.

GRAND CANYON NATIONAL PARK AIRPORT

AIRPORT PAVEMENT DATA

TUSAYAN, ARIZONA

DRAFT

PLANNED BY: Matt Quick
DETAILED BY: Maggie Beaver
APPROVED BY: Jim Harris P.E.

MARCH 2018

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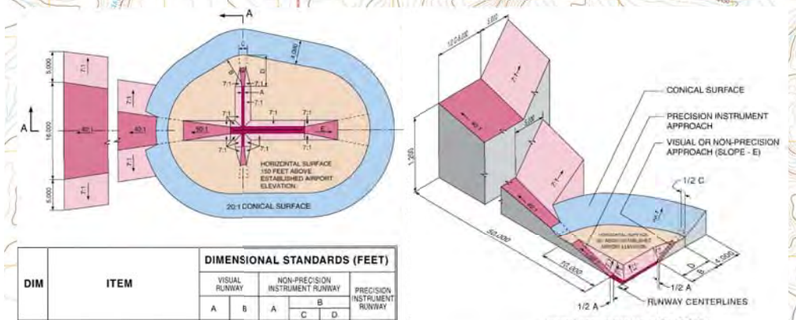
OBSTRUCTION TABLE

	Object Description	Top Object Elevation	Obstructed Part 77 Surface	Surface Elevation	Object Penetration	Proposed Object Disposition
1	TREE GROUP	6539.00' MSL	RWY 3 APPROACH	6533.60' MSL	5.63'	To Be Determined
2	TREE GROUP	6563.79' MSL	RWY 3 APPROACH	6556.40' MSL	7.39'	To Be Determined
3	TREE	6559.56' MSL	RWY 3 APPROACH	6558.46' MSL	1.10'	To Be Determined
4	TREE	6560.37' MSL	RWY 3 APPROACH	6559.42' MSL	0.96'	To Be Determined
5	TREE GROUP	6626.20' MSL	RWY 3 APPROACH	6570.77' MSL	55.43'	To Be Determined
6	OBSTACLE	6605.40' MSL	RWY 3 APPROACH	6593.33' MSL	12.07'	To Be Determined
7	OBSTACLE	6685.11' MSL	RWY 3 APPROACH	6616.29' MSL	68.82'	To Be Determined
8	TREE	6652.31' MSL	RWY 3 APPROACH	6639.43' MSL	13.68'	To Be Determined
9	TREE	6646.81' MSL	RWY 3 APPROACH	6640.25' MSL	6.57'	To Be Determined
10	TREE GROUP	6659.83' MSL	RWY 3 APPROACH	6647.31' MSL	12.53'	To Be Determined
11	OBSTACLE	6623.00' MSL	RWY 21 APPROACH	6609.85' MSL	13.15'	To Be Determined
12	OBSTACLE	6646.95' MSL	RWY 21 APPROACH	6634.34' MSL	12.61'	To Be Determined
13	OBSTACLE	6675.36' MSL	RWY 21 APPROACH	6668.69' MSL	6.67'	To Be Determined
14	OBSTACLE	6673.00' MSL	RWY 21 APPROACH	6668.65' MSL	4.35'	To Be Determined
15	TREE GROUP	6549.77' MSL	PRIMARY	6533.14' MSL	16.63'	To Be Determined
16	OBSTACLE	6543.09' MSL	PRIMARY	6533.14' MSL	9.94'	To Be Determined
17	OBSTACLE	6541.00' MSL	PRIMARY	6534.26' MSL	6.74'	To Be Determined
18	OBSTACLE	6566.33' MSL	PRIMARY	6538.01' MSL	28.32'	To Be Determined
19	OBSTACLE	6545.85' MSL	PRIMARY	6538.79' MSL	7.06'	To Be Determined
20	OBSTACLE	6551.28' MSL	PRIMARY	6544.35' MSL	6.93'	To Be Determined
21	OBSTACLE	6558.18' MSL	PRIMARY	6546.41' MSL	11.77'	To Be Determined
22	OBSTACLE	6555.36' MSL	PRIMARY	6548.03' MSL	7.33'	To Be Determined
23	OBSTACLE	6602.32' MSL	PRIMARY	6602.12' MSL	0.20'	To Be Determined
24	OBSTACLE	6648.90' MSL	PRIMARY	6608.77' MSL	40.13'	To Be Determined
25	OBSTACLE	6611.00' MSL	PRIMARY	6608.77' MSL	2.23'	To Be Determined
26	OBSTACLE	6602.32' MSL	PRIMARY	6602.12' MSL	0.20'	To Be Determined
27	OBSTACLE	6665.48' MSL	TRANSITIONAL	6639.28' MSL	26.20'	To Be Determined
28	OBSTACLE	6739.57' MSL	TRANSITIONAL	6710.46' MSL	29.11'	To Be Determined
29	OBSTACLE	6755.60' MSL	TRANSITIONAL	6669.51' MSL	86.09'	To Be Determined
30	OBSTACLE	6687.52' MSL	TRANSITIONAL	6685.42' MSL	2.10'	To Be Determined
31	OBSTACLE	6764.80' MSL	HORIZONTAL	6758.70' MSL	6.11'	To Be Determined
32	OBSTACLE	6775.50' MSL	HORIZONTAL	6758.70' MSL	16.80'	To Be Determined
33	OBSTACLE	6796.26' MSL	HORIZONTAL	6758.70' MSL	37.56'	To Be Determined
34	OBSTACLE	6800.32' MSL	HORIZONTAL	6758.70' MSL	41.62'	To Be Determined
35	OBSTACLE	6827.70' MSL	HORIZONTAL	6758.70' MSL	69.00'	To Be Determined
36	OBSTACLE	6833.80' MSL	HORIZONTAL	6758.70' MSL	75.12'	To Be Determined
37	OBSTACLE	6851.76' MSL	HORIZONTAL	6758.70' MSL	93.06'	To Be Determined
38	OBSTACLE	6847.00' MSL	CONICAL	6840.40' MSL	6.60'	To Be Determined
39	OBSTACLE	6880.84' MSL	CONICAL	6874.41' MSL	6.40'	To Be Determined
40	OBSTACLE	6812.37' MSL	CONICAL	6767.86' MSL	44.51'	To Be Determined
41	OBSTACLE	6848.46' MSL	CONICAL	6769.27' MSL	79.19'	To Be Determined
42	OBSTACLE	6857.88' MSL	CONICAL	6814.19' MSL	43.69'	To Be Determined

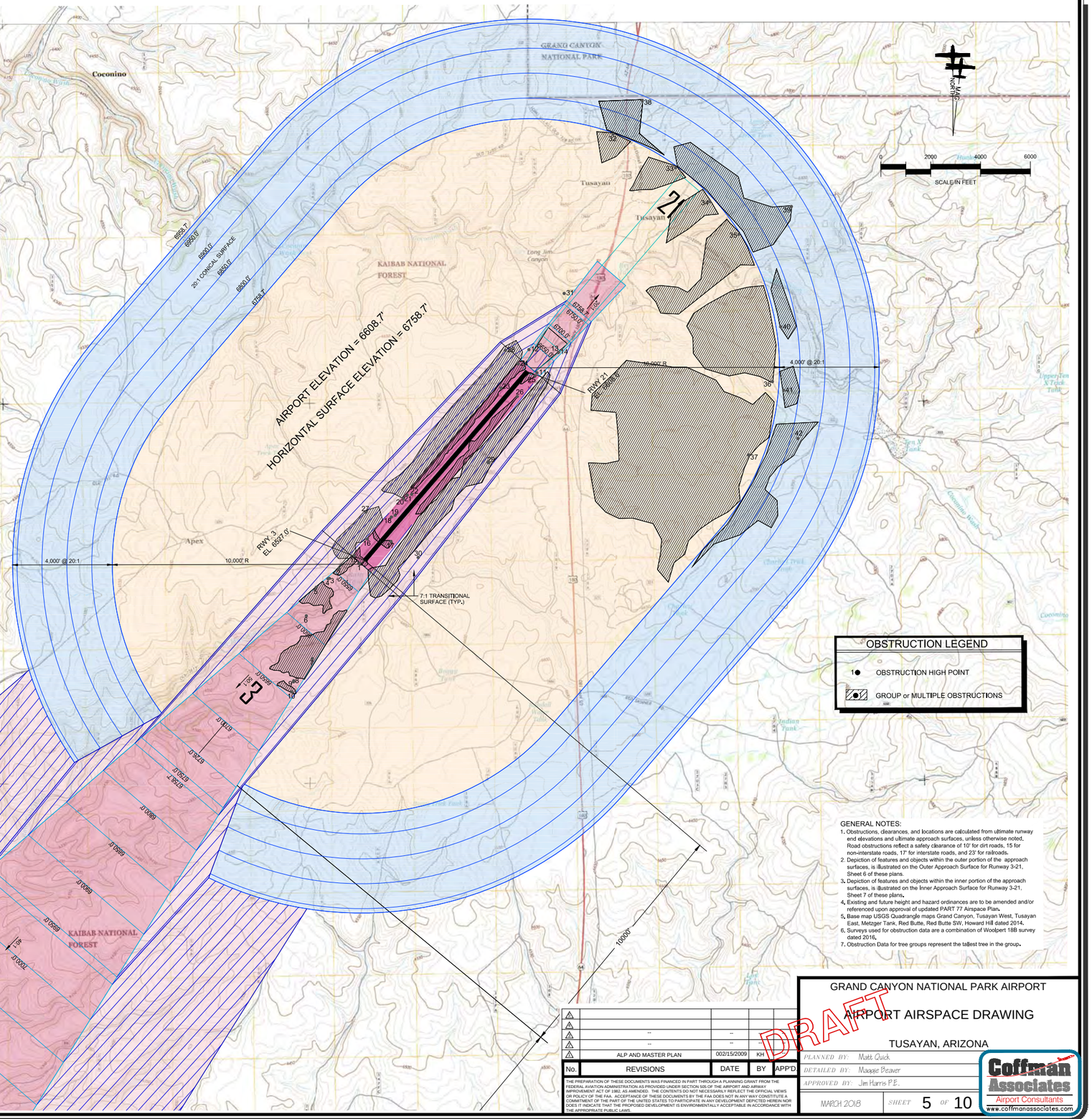


ISOMETRIC VIEW OF SECTION A-A

SOURCE: 14 CFR Part 77, Section 77.25, Civil Airport Imaginary Surfaces

DIM	ITEM	DIMENSIONAL STANDARDS (FEET)					
		VISUAL RUNWAY		NON-PRECISION INSTRUMENT RUNWAY			PRECISION INSTRUMENT RUNWAY
		A	B	A	B C	B D	
A	WIDTH OF PRIMARY SURFACE AND APPROACH SURFACE WIDTH AT INNER END	250	500	500	500	1,000	1,000
B	RADIUS OF HORIZONTAL SURFACE	5,000	5,000	5,000	10,000	10,000	10,000
		VISUAL APPROACH		NON-PRECISION INSTRUMENT APPROACH			PRECISION INSTRUMENT APPROACH
		A	B	A	B C	B D	
C	APPROACH SURFACE WIDTH AT END	1,250	1,500	2,000	3,500	4,000	16,000
D	APPROACH SURFACE LENGTH	5,000	5,000	5,000	10,000	10,000	*
E	APPROACH SLOPE	20:1	20:1	20:1	34:1	34:1	*

A - UTILITY RUNWAYS
B - RUNWAYS LARGER THAN UTILITY
C - VISIBILITY MINIMUMS GREATER THAN 3/4 MILE
D - VISIBILITY MINIMUMS AS LOW AS 3/4 MILE
* - PRECISION INSTRUMENT APPROACH SLOPE IS 50:1 FOR INNER 10,000 FEET AND 40:1 FOR AN ADDITIONAL 40,000 FEET



OBSTRUCTION LEGEND

1● OBSTRUCTION HIGH POINT

GROUP or MULTIPLE OBSTRUCTIONS

GENERAL NOTES:

1. Obstructions, clearances, and locations are calculated from ultimate runway end elevations and ultimate approach surfaces, unless otherwise noted. Road obstructions reflect a safety clearance of 10' for dirt roads, 15 for non-interstate roads, 17' for interstate roads, and 23' for railroads.
2. Depiction of features and objects within the outer portion of the approach surfaces, is illustrated on the Outer Approach Surface for Runway 3-21, Sheet 6 of these plans.
3. Depiction of features and objects within the inner portion of the approach surfaces, is illustrated on the Inner Approach Surface for Runway 3-21, Sheet 7 of these plans.
4. Existing and future height and hazard ordinances are to be amended and/or referenced upon approval of updated PART 77 Airspace Plan.
5. Base map USGS Quadrangle maps Grand Canyon, Tusayan West, Tusayan East, Metzger Tank, Red Butte, Red Butte SW, Howard Hill dated 2014.
6. Surveys used for obstruction data are a combination of Woolpert 18B survey dated 2016.
7. Obstruction Data for tree groups represent the tallest tree in the group.

No.	REVISIONS	DATE	BY	APP'D
1	ALP AND MASTER PLAN	002/15/2009	KH	
2	--	--	--	
3	--	--	--	
4				
5				

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GRAND CANYON NATIONAL PARK AIRPORT

AIRPORT AIRSPACE DRAWING

TUSAYAN, ARIZONA

DRAFT

PLANNED BY: Matt Quick
DETAILED BY: Maggie Beaver
APPROVED BY: Jim Harris P.E.

MARCH 2018 | SHEET 5 OF 10

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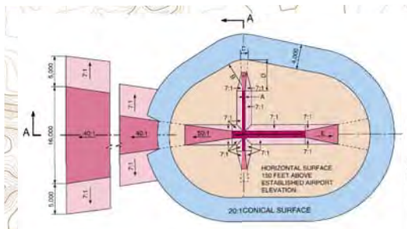

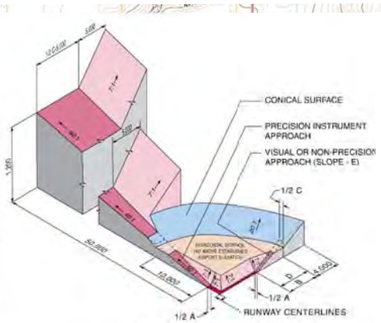

ISOMETRIC VIEW OF SECTION A-A

DIM	ITEM	DIMENSIONAL STANDARDS (FEET)					
		VISUAL RUNWAY		NON-PRECISION INSTRUMENT RUNWAY			PRECISION INSTRUMENT RUNWAY
		A	B	A	B C	B D	
A	WIDTH OF PRIMARY SURFACE AND APPROACH SURFACE WIDTH AT INNER END	250	500	500	500	1,000	1,000
B	RADIUS OF HORIZONTAL SURFACE	5,000	5000	5,000	10,000	10,000	10,000
		VISUAL APPROACH		NON-PRECISION INSTRUMENT APPROACH			PRECISION INSTRUMENT APPROACH
		A	B	A	B C	B D	
C	APPROACH SURFACE WIDTH AT END	1,250	1500	2,000	2,500	4,000	16,000
D	APPROACH SURFACE LENGTH	5,000	5000	5,000	10,000	10,000	*
E	APPROACH SLOPE	20:1	20:1	20:1	34:1	34:1	*

A - UTILITY RUNWAYS
B - RUNWAYS LARGER THAN UTILITY
C - VISIBILITY MINIMUMS GREATER THAN 3/4 MILE
D - VISIBILITY MINIMUMS AS LOW AS 3/4 MILE
* - PRECISION INSTRUMENT APPROACH SLOPE IS 50:1 FOR INNER 10,000 FEET AND 40:1 FOR AN ADDITIONAL 40,000 FEET

SOURCE: 14 CFR Part 77, Section 77.25, Civil Airport Imaginary Surfaces.

OBSTRUCTION TABLE

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2	TREE GROUP	6563.79' MSL	RWY 3 APPROACH	6556.40' MSL	7.39'	To Be Determined
3	TREE	6559.56' MSL	RWY 3 APPROACH	6558.46' MSL	1.10'	To Be Determined
4	TREE	6560.37' MSL	RWY 3 APPROACH	6559.42' MSL	0.96'	To Be Determined
5	TREE GROUP	6626.20' MSL	RWY 3 APPROACH	6570.77' MSL	55.43'	To Be Determined
6	OBSTACLE	6605.40' MSL	RWY 3 APPROACH	6593.33' MSL	12.07'	To Be Determined
7	OBSTACLE	6685.11' MSL	RWY 3 APPROACH	6616.29' MSL	68.82'	To Be Determined
8	TREE	6652.31' MSL	RWY 3 APPROACH	6639.43' MSL	13.68'	To Be Determined
9	TREE	6646.81' MSL	RWY 3 APPROACH	6640.25' MSL	6.57'	To Be Determined
10	TREE GROUP	6659.83' MSL	RWY 3 APPROACH	6647.31' MSL	12.53'	To Be Determined
11	OBSTACLE	6623.00' MSL	RWY 21 APPROACH	6609.85' MSL	13.15'	To Be Determined
12	OBSTACLE	6646.95' MSL	RWY 21 APPROACH	6634.34' MSL	12.61'	To Be Determined
13	OBSTACLE	6675.36' MSL	RWY 21 APPROACH	6668.69' MSL	6.67'	To Be Determined
14	OBSTACLE	6673.00' MSL	RWY 21 APPROACH	6668.65' MSL	4.35'	To Be Determined
15	TREE GROUP	6549.77' MSL	PRIMARY	6533.14' MSL	16.63'	To Be Determined
16	OBSTACLE	6543.09' MSL	PRIMARY	6533.14' MSL	9.94'	To Be Determined
17	OBSTACLE	6541.00' MSL	PRIMARY	6534.26' MSL	6.74'	To Be Determined
18	OBSTACLE	6566.33' MSL	PRIMARY	6538.01' MSL	28.32'	To Be Determined
19	OBSTACLE	6545.85' MSL	PRIMARY	6538.79' MSL	7.06'	To Be Determined
20	OBSTACLE	6551.28' MSL	PRIMARY	6544.35' MSL	6.93'	To Be Determined
21	OBSTACLE	6558.18' MSL	PRIMARY	6546.41' MSL	11.77'	To Be Determined
22	OBSTACLE	6555.36' MSL	PRIMARY	6548.03' MSL	7.33'	To Be Determined
23	OBSTACLE	6602.32' MSL	PRIMARY	6602.12' MSL	0.20'	To Be Determined
24	OBSTACLE	6648.90' MSL	PRIMARY	6608.77' MSL	40.13'	To Be Determined
25	OBSTACLE	6611.00' MSL	PRIMARY	6608.77' MSL	2.23'	To Be Determined
26	OBSTACLE	6602.32' MSL	PRIMARY	6602.12 MSL	0.20'	To Be Determined
27	OBSTACLE	6665.48' MSL	TRANSITIONAL	6639.28' MSL	26.20'	To Be Determined
28	OBSTACLE	6739.57' MSL	TRANSITIONAL	6710.46' MSL	29.11'	To Be Determined
29	OBSTACLE	6755.60' MSL	TRANSITIONAL	6669.51' MSL	86.09'	To Be Determined
30	OBSTACLE	6687.52' MSL	TRANSITIONAL	6685.42' MSL	2.10'	To Be Determined
31	OBSTACLE	6764.80' MSL	HORIZONTAL	6758.70' MSL	6.11'	To Be Determined
32	OBSTACLE	6775.50' MSL	HORIZONTAL	6758.70' MSL	16.80'	To Be Determined
33	OBSTACLE	6796.26' MSL	HORIZONTAL	6758.70' MSL	37.56'	To Be Determined
34	OBSTACLE	6800.32' MSL	HORIZONTAL	6758.70' MSL	41.62'	To Be Determined
35	OBSTACLE	6827.70' MSL	HORIZONTAL	6758.70' MSL	69.00'	To Be Determined
36	OBSTACLE	6833.80' MSL	HORIZONTAL	6758.70' MSL	75.12'	To Be Determined
37	OBSTACLE	6851.76' MSL	HORIZONTAL	6758.70' MSL	93.06'	To Be Determined
38	OBSTACLE	6847.00' MSL	CONICAL	6840.40' MSL	6.60'	To Be Determined
39	OBSTACLE	6880.84' MSL	CONICAL	6874.41' MSL	6.40'	To Be Determined
40	OBSTACLE	6812.37' MSL	CONICAL	6767.86' MSL	44.51'	To Be Determined
41	OBSTACLE	6848.46' MSL	CONICAL	6769.27' MSL	79.19'	To Be Determined
42	OBSTACLE	6857.88' MSL	CONICAL	6814.19' MSL	43.69'	To Be Determined

OBSTRUCTION LEGEND

1● OBSTRUCTION HIGH POINT

GROUP or MULTIPLE OBSTRUCTIONS

GENERAL NOTES:

1. Obstructions, clearances, and locations are calculated from ultimate runway end elevations and ultimate approach surfaces, unless otherwise noted. Road obstructions reflect a safety clearance of 10' for dirt roads, 15 for non-interstate roads, 17' for interstate roads, and 23' for railroads.
2. Depiction of features and objects within the outer portion of the approach surfaces, is illustrated on the Outer Approach Surface for Runway 3-21, Sheet 6 of these plans.
3. Depiction of features and objects within the inner portion of the approach surfaces, is illustrated on the Inner Approach Surface for Runway 3-21, Sheet 7 of these plans.
4. Existing and future height and hazard ordinances are to be amended and/or referenced upon approval of updated PART 77 Airspace Plan.
5. Base map USGS Quadrangle maps Grand Canyon, Tusayan West, Tusayan East, Metzger Tank, Red Butte, Red Butte SW, Howard Hill dated 2014.
6. Surveys used for obstruction data are a combination of Woolpert 18B survey dated 2016.
7. Obstruction Data for tree groups represent the tallest tree in the group.

No.	REVISIONS	DATE	BY	APP'D
1	ALP AND MASTER PLAN	2/15/2009	KH	
2	--	--	--	
3	--	--	--	
4				
5				

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GRAND CANYON NATIONAL PARK AIRPORT

RUNWAY 3 APPROACH FAN

TUSAYAN, ARIZONA

DRAFT

PLANNED BY: Matt Quick
DETAILED BY: Maggie Beaver
APPROVED BY: Jim Harris P.E.

MARCH 2018

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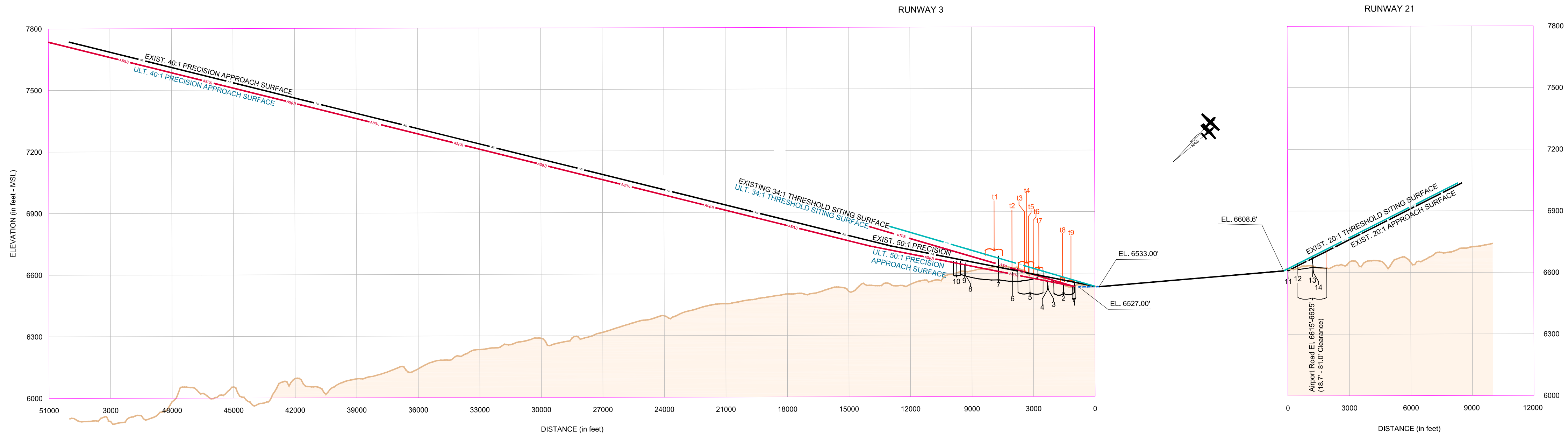
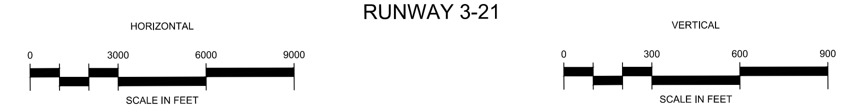
www.coffmanassociates.com



RUNWAY 3-21



GENERAL NOTES:

1. Obstructions, clearances, and locations are calculated from ultimate runway end elevations and ultimate approach surfaces, unless otherwise noted. Road obstructions reflect a safety clearance of 10' for dirt roads, 15' for non-interstate roads, 17' for interstate roads, and 23' for railroads.
2. Depiction of features and objects within the inner portion of the approach surfaces, is illustrated on the Inner Approach Surface for Runway 3-21, Sheet 7 of these plans.
3. Existing and future height and hazard ordinances are to be amended and/or referenced upon approval of updated PART 77 Airspace Plan
4. Surveys used for obstruction data are a combination of Woolpert 18B survey dated.
5. Obstruction Data for tree groups represent the tallest tree within the group.

RUNWAY 3 APPROACH OBSTRUCTION TABLE

Object Description	Top Object Elevation	Obstructed Part 77 Surface	Surface Elevation	Object Penetration	Proposed Object Disposition
1 TREE GROUP	6539.00' MSL	RWY. 3 Approach	6533.60' MSL	5.63'	To Be Determined
2 TREE GROUP	6563.79' MSL	RWY. 3 Approach	6556.40' MSL	7.39'	To Be Determined
3 TREE	6559.56' MSL	RWY. 3 Approach	6558.46' MSL	1.10'	To Be Determined
4 TREE	6560.37' MSL	RWY. 3 Approach	6559.42' MSL	0.96'	To Be Determined
5 TREE GROUP	6626.20' MSL	RWY. 3 Approach	6570.77' MSL	55.43'	To Be Determined
6 OBSTACLE	6605.40' MSL	RWY. 3 Approach	6593.33' MSL	12.07'	To Be Determined
7 OBSTACLE	6685.11' MSL	RWY. 3 Approach	6616.27' MSL	68.82'	To Be Determined
8 TREE	6652.31' MSL	RWY. 3 Approach	6639.43' MSL	13.68'	To Be Determined
9 TREE	6646.81' MSL	RWY. 3 Approach	6640.25' MSL	6.57'	To Be Determined
10 TREE GROUP	6659.83' MSL	RWY. 3 Approach	6647.31' MSL	12.53'	To Be Determined

RUNWAY 21 APPROACH OBSTRUCTION TABLE

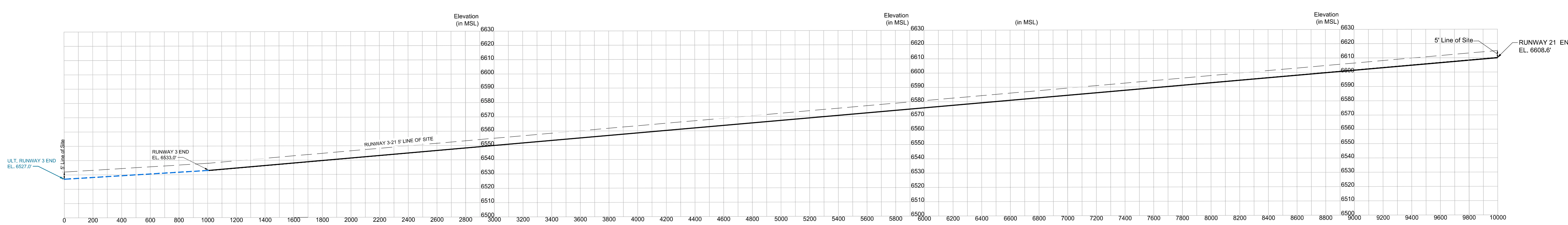
Object Description	Top Object Elevation	Obstructed Part 77 Surface	Surface Elevation	Object Penetration	Proposed Object Disposition
11 OBSTACLE	6623.00' MSL	RWY. 21 Approach	6609.85' MSL	13.15'	To Be Determined
12 OBSTACLE	6646.95' MSL	RWY. 21 Approach	6634.34' MSL	12.61'	To Be Determined
13 OBSTACLE	6675.36' MSL	RWY. 21 Approach	6668.69' MSL	6.67'	To Be Determined
14 OBSTACLE	6673.00' NSL	RWY. 21 Approach	6668.65' MSL	4.35'	To Be Determined

RUNWAY 21 TSS OBSTRUCTION TABLE

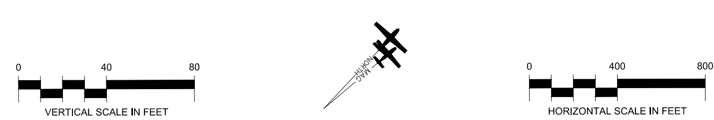
Object Description	Top Object Elevation	Obstructed Surface	Surface Elevation	Object Penetration	Proposed Object Disposition
NONE	--	--	--	--	--

RUNWAY 3 TSS OBSTRUCTION TABLE

Object Description	Top Object Elevation	Obstructed Surface	Surface Elevation	Object Penetration	Proposed Object Disposition
t1 OBSTACLE	6685.11' MSL	Threshold Siting Surface	6655.48' MSL	29.63'	To Be Determined
t2 TREE	6627.70' MSL	Threshold Siting Surface	6622.36' MSL	5.34'	To Be Determined
t3 OBSTACLE	6609.78' MSL	Threshold Siting Surface	6604.79' MSL	4.99'	To Be Determined
t4 OBSTACLE	6624.29' MSL	Threshold Siting Surface	6600.30' MSL	23.99'	To Be Determined
t5 OBSTACLE	6602.65' MSL	Threshold Siting Surface	6598.88' MSL	3.77'	To Be Determined
t6 OBSTACLE	6591.93' MSL	Threshold Siting Surface	6591.91' MSL	0.02'	To Be Determined
t7 TREE GROUP	6615.33' MSL	Threshold Siting Surface	6587.47' MSL	27.85'	To Be Determined
t8 TREE GROUP	6556.60' MSL	Threshold Siting Surface	6550.84' MSL	5.77'	To Be Determined
t9 TREE GROUP	6546.83' MSL	Threshold Siting Surface	6541.74' MSL	5.08'	To Be Determined



RUNWAY 3-21 PROFILE



No.	REVISIONS	DATE	BY	APP'D.
5				
4				
3	--	--	--	--
2	--	--	--	--
1	ALP AND MASTER PLAN	2/15/2009	KH	--

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GRANDCANYON NATIONAL PARK AIRPORT

OUTER APPROACH SURFACE FOR RUNWAY 3-21

DRAFT

TUSAYAN, ARIZONA

PLANNED BY: Matt Quick
DETAILED BY: Maggie Beaver
APPROVED BY: Jim Harris P.E.

MARCH 2018 — SHEET 6 OF 10

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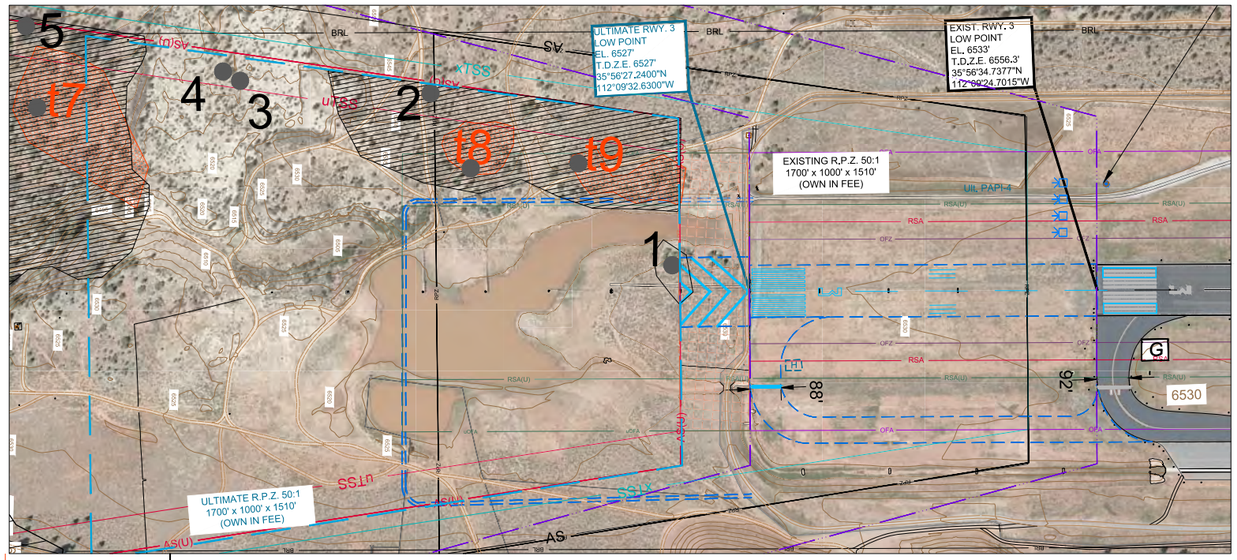

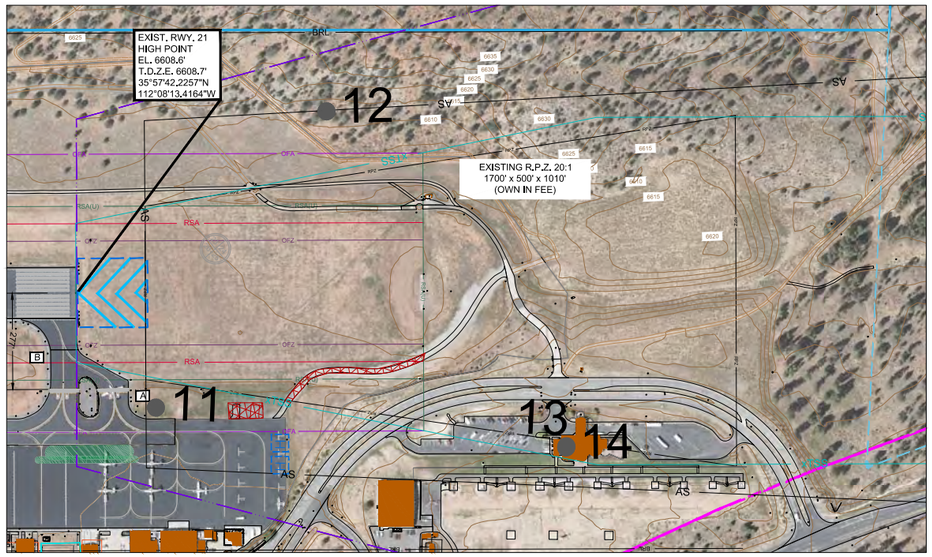

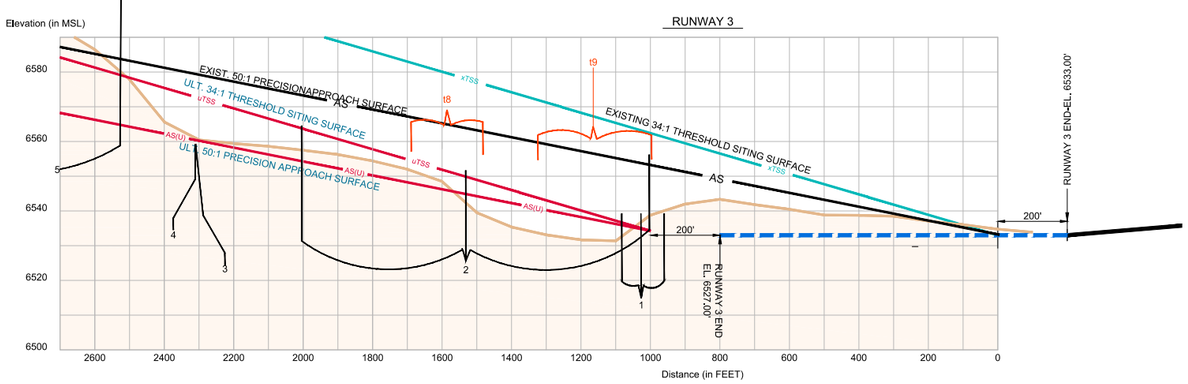

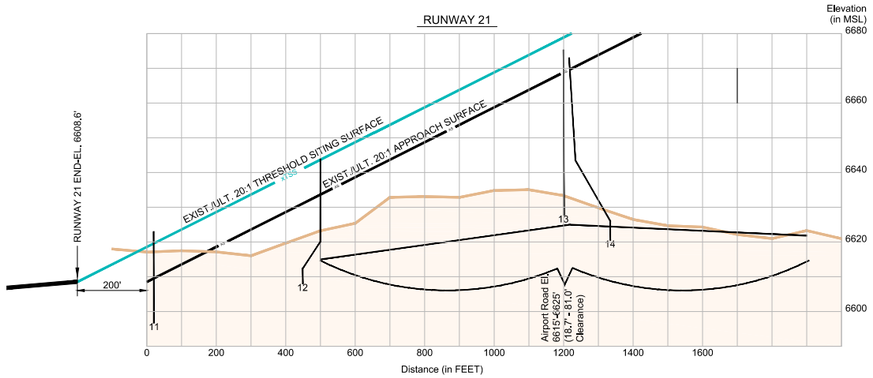

RUNWAY 3 APPROACH OBSTRUCTION TABLE

	Object Description	Top Object Elevation	Obstructed Part 77 Surface	Surface Elevation	Object Penetration	Proposed Object Disposition
1	TREE GROUP	6539.00' MSL	RWY. 3 Approach	6533.60' MSL	5.63'	To Be Determined
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RUNWAY 3 TSS OBSTRUCTION TABLE

	Object Description	Top Object Elevation	Obstructed Surface	Surface Elevation	Object Penetration	Proposed Object Disposition
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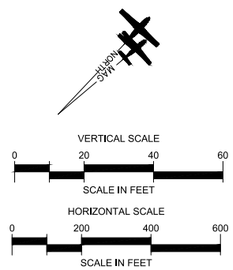

GENERAL NOTES:

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4. Surveys used for obstruction data are a combination of Woolpert 18B survey dated.
5. Obstruction Data for tree groups represent the tallest tree within the group.

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	Object Description	Top Object Elevation	Obstructed Part 77 Surface	Surface Elevation	Object Penetration	Proposed Object Disposition
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RUNWAY 21 TSS OBSTRUCTION TABLE

Object Description	Top Object Elevation	Obstructed Surface	Surface Elevation	Object Penetration	Proposed Object Disposition
NONE	–	–	–	–	–

No.	REVISIONS	DATE	BY	APP'D
5				
4				
3	--	--		
2	--	--		
1	ALP AND MASTER PLAN	2/15/2009	KH	

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GRAND CANYON NATIONAL PARK AIRPORT

INNER APPROACH SURFACE PLAN AND PROFILE FOR RUNWAY 3-21

TUSAYAN, ARIZONA

DRAFT

PLANNED BY: Matt Quick
DETAILED BY: Maggie Beaver
APPROVED BY: Jim Harris P.E.

MARCH 2018 | SHEET 7 OF 10

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LEGEND

- Airfield Operations
- Aviation Related - General Aviation and Air Tours
- Aviation Related - Commercial
- Future Aviation Development
- Non - Aviation Related
- Existing Airport Property Line
- Ultimate Property Line
- 65 2035 DNL Noise Contour

Relocated ILS

Magnetic Declination
10° 52' 00" East (May 2016)
Annual Rate of Change
00° 06' 00" West (May 2016)

0 600 1200 1800
SCALE IN FEET

No.	REVISIONS	DATE	BY	APP'D
1	ALP AND MASTER PLAN	2/15/2009	KH	
2	--	--	--	
3	--	--	--	
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GRAND CANYON NATIONAL PARK AIRPORT

ON AIRPORT LAND USE DRAWING

TUSAYAN, ARIZONA

DRAFT

PLANNED BY: Matt Quick
DETAILED BY: Maggie Beaver
APPROVED BY: Jim Harris P.E.

MARCH 2018 SHEET 8 OF 10

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EXISTING PROPERTY DATA

TRACT	GRANTOR	GRANTEE	ACREAGE	TYPE OF INTEREST	TYPE OF CONVEYANCE INSTRUMENT	BOOK/PAGE	DATE	FAA GRANT #	PURPOSE OF ACQUISITION	EASEMENT TYPE
1	US DEPARTMENT OF AGRICULTURE	ADOT AERONAUTICS	±853.68	FEE SIMPLE	DEED	DOCKET 277 PAGES 585-002	05-12-1967	UNKNOWN	UNKNOWN	NONE
2	GREGG GIBBONS (DBA TEN-X-RANDY)	ADOT AERONAUTICS	±4.96	FEE SIMPLE	DEED	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	NONE

EXISTING PROPERTY DATA LEASES

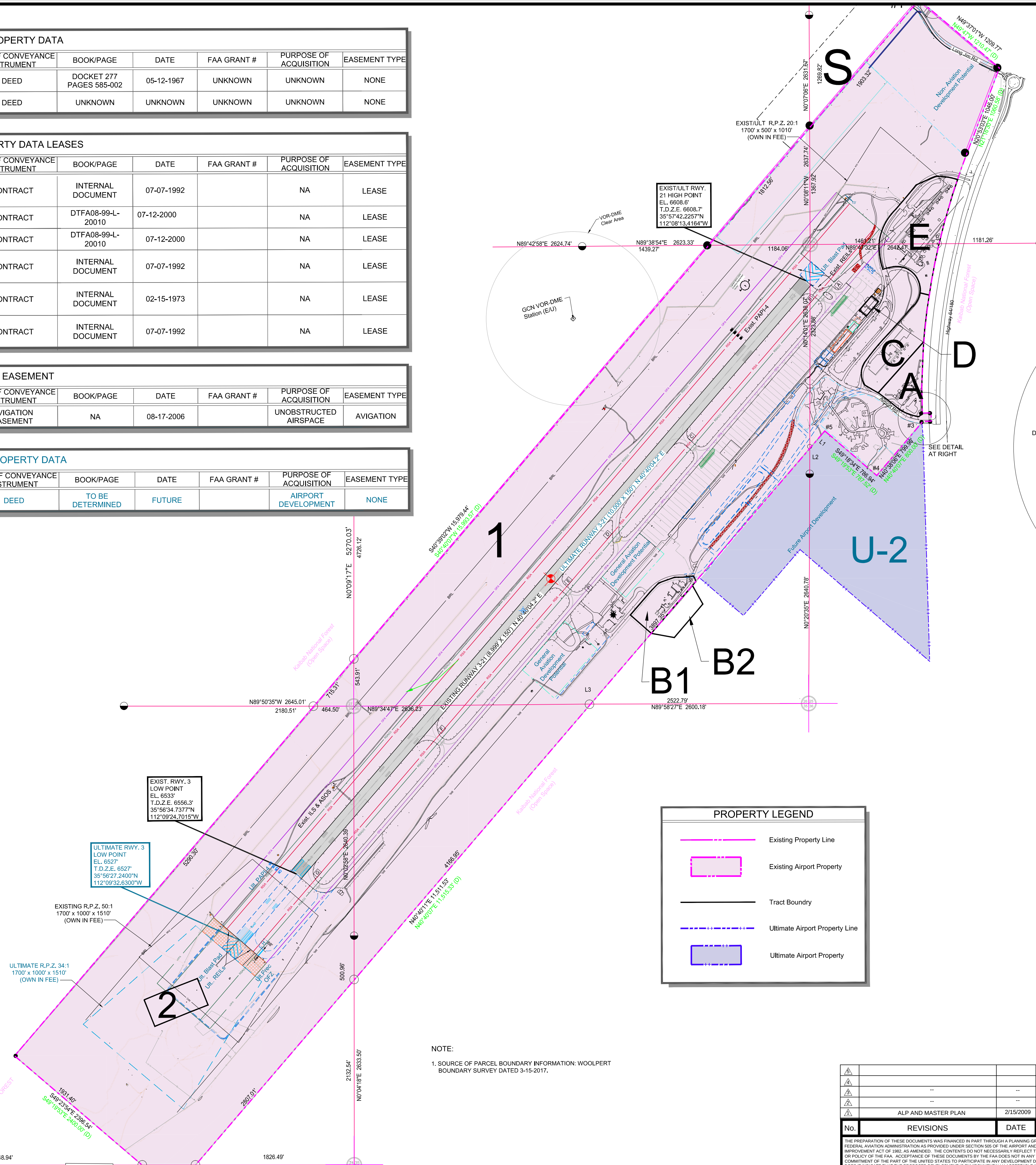
TRACT	GRANTOR	GRANTEE	ACREAGE	TYPE OF INTEREST	TYPE OF CONVEYANCE INSTRUMENT	BOOK/PAGE	DATE	FAA GRANT #	PURPOSE OF ACQUISITION	EASEMENT TYPE
A	ADOT AERONAUTICS	MAVERICK HELICOPTER TOURS	±4.77	NA	CONTRACT	INTERNAL DOCUMENT	07-07-1992		NA	LEASE
B1	ADOT AERONAUTICS	FAA ATCT	±8.3	NA	CONTRACT	DTFA08-99-L-20010	07-12-2000		NA	LEASE
B2	ADOT AERONAUTICS	FAA ATCT	±3.3	NA	CONTRACT	DTFA08-99-L-20010	07-12-2000		NA	LEASE
C	ADOT AERONAUTICS	KENAL HELICOPER SERVICE	±8.04	NA	CONTRACT	INTERNAL DOCUMENT	07-07-1992		NA	LEASE
D	ADOT AERONAUTICS	GRAND CANYON AIRLINES	±0.5	NA	CONTRACT	INTERNAL DOCUMENT	02-15-1973		NA	LEASE
E	ADOT AERONAUTICS	PAPILLON GRAND CANYON HELICOPTERS	±13	NA	CONTRACT	INTERNAL DOCUMENT	07-07-1992		NA	LEASE

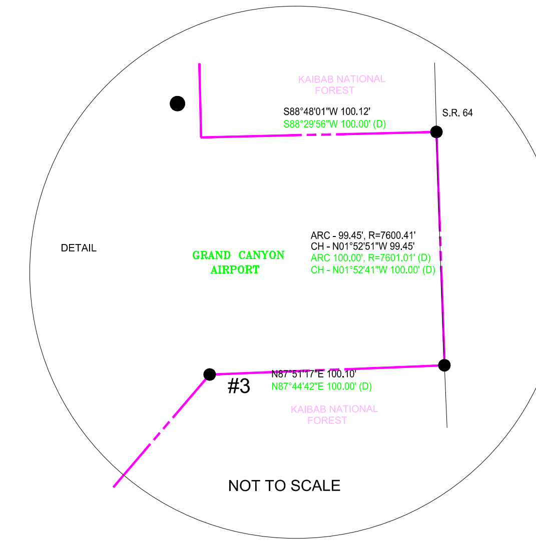
AVIGATION EASEMENT

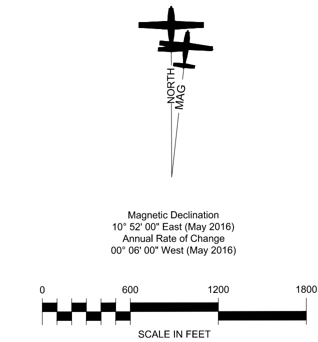
TRACT	GRANTOR	GRANTEE	ACREAGE	TYPE OF INTREST	TYPE OF CONVEYANCE INSTRUMENT	BOOK/PAGE	DATE	FAA GRANT #	PURPOSE OF ACQUISITION	EASEMENT TYPE
S	GRAND CANYON SCHOOL DISTRICT #4	ADOT AERONAUTICS	±26.00	NA	AVIGATION EASEMENT	NA	08-17-2006		UNOBSTRUCTED AIRSPACE	AVIGATION

ULTIMATE PROPERTY DATA

TRACT	GRANTOR	GRANTEE	ACREAGE	TYPE OF INTREST	TYPE OF CONVEYANCE INSTRUMENT	BOOK/PAGE	DATE	FAA GRANT #	PURPOSE OF ACQUISITION	EASEMENT TYPE
1	US DEPARTMENT OF AGRICULTURE	ADOT AERONAUTICS	±80.26	FEE SIMPLE	DEED	TO BE DETERMINED	FUTURE		AIRPORT DEVELOPMENT	NONE







Magnetic Declination
10° 52' 00" East (May 2016)
Annual Rate of Change
00° 06' 00" West (May 2016)

0 600 1200 1800
SCALE IN FEET

LEGEND

EXISTING	ULTIMATE	DESCRIPTION
		AIRPORT PROPERTY LINE
		SECTION CORNERS
		AIRPORT REFERENCE POINT (ARP)
	SAME	AIRPORT ROTATING BEACON
N/A		NON-AVIATION DEVELOPMENT POTENTIAL
N/A		RELOCATED AIRPORT HOUSING
X/U BRL		BUILDING RESTRICTION LINE
		STRUCTURES ON AIRPORT
N/A		ABANDON/REMOVE BUILDING
		NO TAXI ISLAND
		GENERAL AVIATION DEVELOPMENT POTENTIAL
	SAME	AUTOMATED WEATHER OBSERVATION STATION
		AIRPORT PAVEMENT
N/A		ABANDON/REMOVE PAVEMENT
N/A		PRECISION OBSTACLE FREE ZONE
		FENCE LINE
		HOLD MARKING
OFA	uOFA	OBJECT FREE AREA
RSA	RSA(U)	RUNWAY SAFETY AREA
OFZ		OBSTACLE FREE ZONE
RPZ		RUNWAY PROTECTION ZONE
TOFA	SAME	TAXIWAY OBJECT FREE AREA
TSA	SAME	TAXIWAY SAFETY AREA
AS	AS(U)	RUNWAY APPROACH SURFACE
xTSS	uTSS	THRESHOLD SITING SURFACE
	SAME	DEPARTURE SURFACE
	SAME	TIE-DOWNS
		PAPI-4
		RUNWAY END IDENTIFIER LIGHTS (REILS)
		WINDSOCK
	SAME	TOPOGRAPHIC CONTOURS
	SAME	PACs AND SACs
	SAME	AVIGATION EASEMENT

PROPERTY LEGEND

- Existing Property Line
- Existing Airport Property
- Tract Boundry
- Ultimate Airport Property Line
- Ultimate Airport Property

LEGEND

- QUARTER CORNER
- FOUND MONUMENT AS NOTED
- SET 3/4" REBAR WITH 3-1/4" ALUMINUM CAP STAMPED "RLS 18539"
- MONUMENT NOT FOUND
- RM REFERENCE MONUMENT
- (D) DEED DIMENSION
- L1 LINE TABLE DIMENSION
- #1 CORNER NUMBER FROM 1987 SURVEY

NOTE:

1. SOURCE OF PARCEL BOUNDARY INFORMATION: WOOLPERT BOUNDARY SURVEY DATED 3-15-2017.

SUBMITTED BY: Coffman Associates

FOR APPROVAL BY:

APPROVED BY: ______ ON THE DATE OF: ______

Airport Manager

No.	REVISIONS	DATE	BY	APP'D
5				
4				
3	--	--	--	--
2	--	--	--	--
1	ALP AND MASTER PLAN	2/15/2009	KH	--

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GRAND CANYON NATIONAL PARK AIRPORT

EXHIBIT "A" AIRPORT PROPERTY MAP

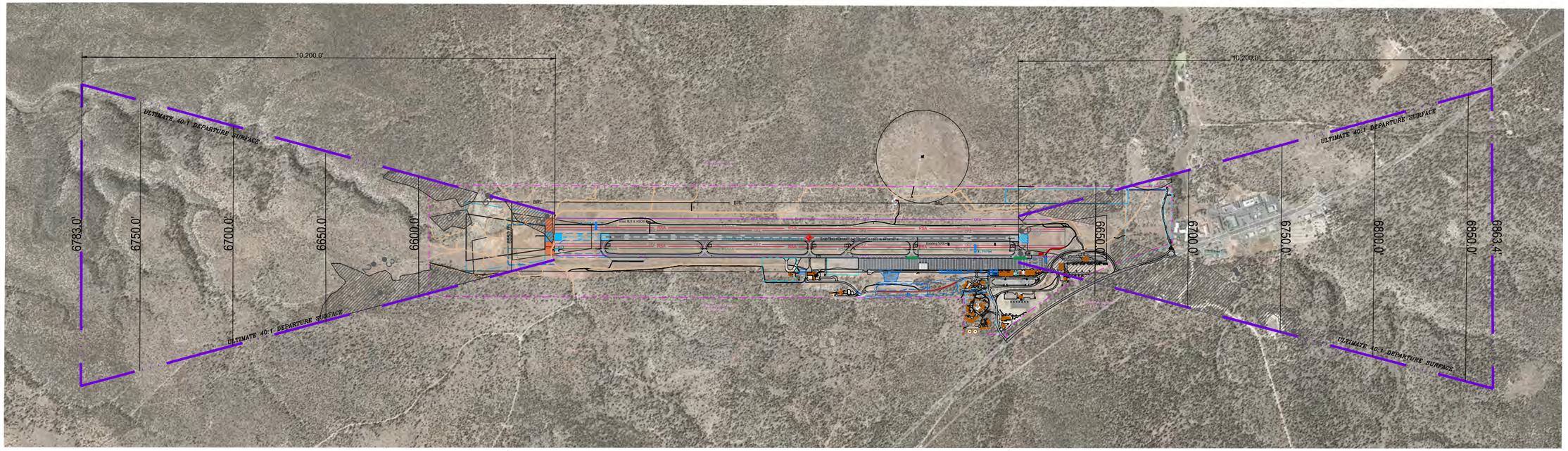
TUSAYAN, ARIZONA

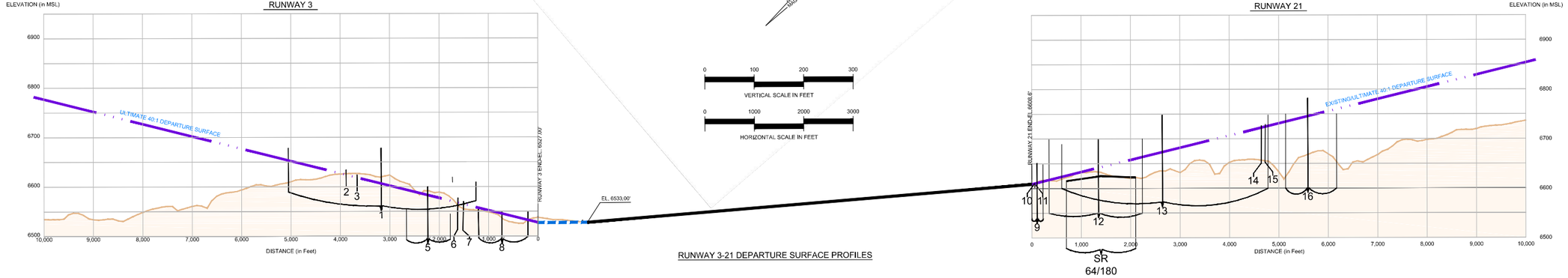
DRAFT

PLANNED BY: Matt Quick
DETAILED BY: Maggie Beaver
APPROVED BY: Jim Harris P.E.

MARCH 2018 SHEET 9 OF 10

Coffman Associates Airport Consultants www.coffmanassociates.com





RUNWAY 3-21 DEPARTURE SURFACE PROFILES

RUNWAY 3 DEPARTURE OBSTRUCTION TABLE

	Object Description	Top Object Elevation	Obstructed Part 77 Surface	Surface Elevation	Object Penetration	Proposed Object Disposition
1	OBSTACLE	6689.60' MSL	RWY. 3 Departure	6627.17' MSL	62.43'	To Be Determined
2	TREE	6634.27' MSL	RWY. 3 Departure	6630.56' MSL	3.71'	To Be Determined
3	OBSTACLE	6629.01' MSL	RWY. 3 Departure	6624.98' MSL	4.03'	To Be Determined
4	OBSTACLE	6646.90' MSL	RWY. 3 Departure	6621.06' MSL	25.91'	To Be Determined
5	TREE GROUP	6615.33' MSL	RWY. 3 Departure	6584.76' MSL	30.57'	To Be Determined
6	TREE	6577.58' MSL	RWY. 3 Departure	6569.49' MSL	8.09'	To Be Determined
7	TREE	6570.33' MSL	RWY. 3 Departure	6567.96' MSL	2.37'	To Be Determined
8	TREE GROUP	6549.77' MSL	RWY. 3 Departure	6533.14' MSL	16.63'	To Be Determined

RUNWAY 21 DEPARTURE OBSTRUCTION TABLE

	Object Description	Top Object Elevation	Obstructed Part 77 Surface	Surface Elevation	Object Penetration	Proposed Object Disposition
9	OBSTACLE	6651.20' MSL	RWY. 21 Departure	6613.63' MSL	37.57'	To Be Determined
10	OBSTACLE	6611.00' MSL	RWY. 21 Departure	6609.67' MSL	1.33'	To Be Determined
11	OBSTACLE	6610.00' MSL	RWY. 21 Departure	6608.64' MSL	0.35'	To Be Determined
12	OBSTACLE	6699.94' MSL	RWY. 21 Departure	6657.17' MSL	42.77'	To Be Determined
13	OBSTACLE	6748.25' MSL	RWY. 21 Departure	6667.02' MSL	81.23'	To Be Determined
14	OBSTACLE	6726.24' MSL	RWY. 21 Departure	6725.40' MSL	0.84'	To Be Determined
15	TREE	6728.66' MSL	RWY. 21 Departure	6608.83' MSL	2.83'	To Be Determined
16	OBSTACLE	6782.20' MSL	RWY. 21 Departure	6756.63' MSL	25.61'	To Be Determined

No.	REVISIONS	DATE	BY	APP'D
5				
4				
3	--	--		
2	--	--		
1	ALP AND MASTER PLAN	2/15/2009	KH	

DRAFT

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GRAND CANYON NATIONAL PARK AIRPORT

DEPARTURE SURFACE RUNWAY 3-21

TUSAYAN, ARIZONA

PLANNED BY: Matt Quick
DETAILED BY: Maggie Beaver
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MARCH 2018

SHEET 10 OF 10

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