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85340



It appears that the drainage report and design differ from the previous version. The on-site basin is not required since the site drainage will be managed by the existing airport storm drainage system. However, the minimum time of concentration (T_c) should be 5 minutes for Q100 calculation per city policy, not 10 minutes. The calculation is incorrect and must be corrected in the final drainage report. Additionally, the on-site drainage should be handled by the existing airport storm drain, not the city sewer. More detail explain is required for on site storm drain. The hydraulic analysis is required for this type of trench, especially if it lacks a slope and relies on head pressure for drainage. If the trench is completely level and relies only on head pressure, drainage might be inefficient or slow. A small slope is still recommended for better performance.

**DRAINAGE REPORT
FOR
FLEXJET
15115 N. AIRPORT DRIVE
SCOTTSDALE, ARIZONA 85260**

PREPARED FOR:

**Larson Associates Architects, Inc.
3807 N. 24th Street Suite 100
Phoenix, Arizona 85016**

Job Number 21-028
April 23, 2024
Rev: March 12, 2025

DRAINAGE NOTE:

SITE DRAINAGE WILL BE MANAGED WITH A CONTINUATION OF THE EXISTING DRAINAGE PATTERNS FROM THE NEW PARKING LOT AND NEW BUILDINGS USING THE EXISTING AIRPORT'S STORM DRAINAGE SYSTEM.

at your service

INTRODUCTION

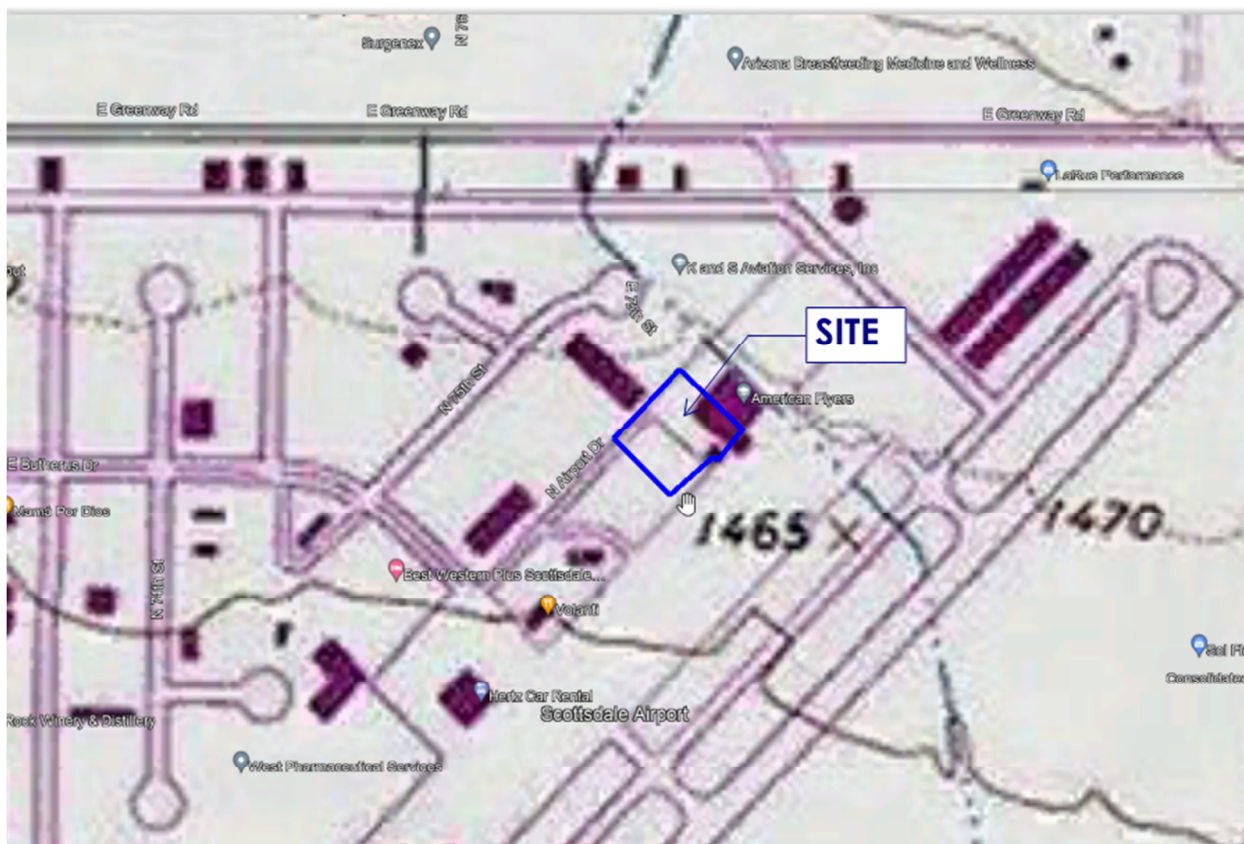
This drainage statement is being prepared in conjunction with the Flexjet project located at 15115 N. Airport Drive in the Scottsdale Airpark. It is located in the Southeast Quarter of Section 2, Township 3 North, Range 4 East of the Gila and Salt River Base and Meridian, Maricopa County, Arizona. The project is leasing 1.94 acres from the City of Scottsdale at the Scottsdale Airport. The purpose of this drainage statement is to present the drainage impacts that this project will have on the existing site.

EXISTING CONDITIONS

This site is located within Scottsdale Airpark south of the Greenway Hayden Loop. The property is owned by the City of Scottsdale and will be leased by the developer.

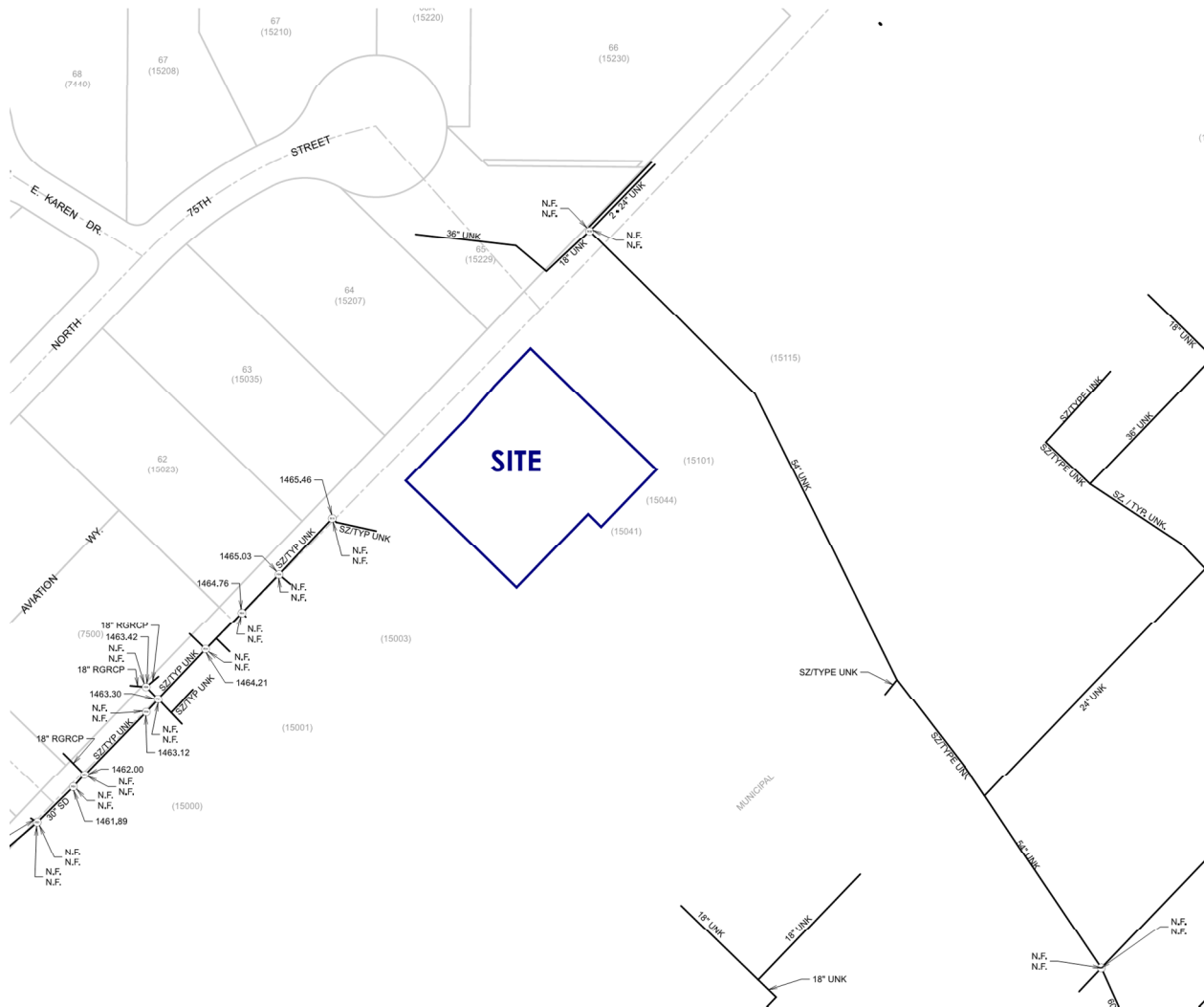
Based on the Federal Emergency Management Agency's (FEMA's) Flood Insurance Rate Map Number 04013C1760L dated October 16th, 2013, this site is located in flood zone "Shaded X". FEMA defines flood zone "Shaded X" as, *"Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot, or drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood."*

The lot is currently developed as a private aviation terminal. The existing improvements are being demolished to allow for the new construction project. See vicinity map below:



In addition, the Central Arizona Project canal is located approximately 4500 feet north of the site. The canal effectively acts as a levee from the historic runoff generated from the McDowell Mountains. Based on all of this information, it is a safe assertion that this project is not adversely affected from offsite stormwater runoff.

Based on the current topographic survey of the parcel, all of the onsite runoff is directed by surface flows into the airport proper. Existing catch basins are located southeasterly of the site the collect the surface runoff and directs it to the airport's storm drain system. Ultimately, the runoff ends up in the stormwater basin near the southwest corner of the airport property. See the city's drainage quarter section map below for details:



Based on the existing land use of the parcel, the runoff coefficient for the 100-year storm event was calculated as 0.81 based on the following percentages:

CATEGORY	AREA (SF)	"C" FACTOR
HARDSCAPE	65,299	0.90
LANDSCAPE	19,249	0.50
TOTAL	84,548	0.81

Assuming a 10 minute time of concentration, the peak 100-year discharge from the site was calculated as 9.2-cfs.

Tc min is 5, but 10.

PROPOSED CONDITIONS

The developer of Flexjet is leasing the underlying parcel from the City of Scottsdale. The existing buildings and parking lot are being demolished. A new building will be constructed for use as a plane hangar and passenger terminal, along with a new underground parking garage will be constructed within the leased limits. See attached concept grading plan.

RETENTION REQUIREMENTS

Based on information from Scottsdale Airport and information received at the pre-application meeting, since the site is considered part of the airport and historically has drained into the airport's drainage infrastructure, no retention facilities are required for the project.

Based on the proposed grading plan and land uses, the 100-year runoff coefficient for the 100-year storm event was calculated as 0.86 based on the following percentages:

if only relies on the head pressure, might be inefficient or slow, a small slope will recommended for better performance.

CATEGORY	AREA (SF)	"C" FACTOR
HARDSCAPE	76,514	0.90
LANDSCAPE	8,034	0.50
TOTAL	84,548	0.81

65% of the proposed site will drain directly into the airport. Assuming a 10 minute time of concentration, the peak 100-year discharge into the airport was calculated as 6.3-cfs. The remaining 35% of the site will drain into Airport Drive and enter the existing storm drain system via curb inlets. The 100-year discharge was calculated as 3.5-cfs.

5 minutes is minimum per city policy

The project has an underground parking garage. The ramp to the subsurface lot is covered, and a grade break at the top of the ramp minimizes the amount of rainwater flowing below grade. Any stormwater that flows to the parking garage will be collected in a trench drain and pumped into a sand/grit interceptor, and discharged into the city's sewer system. These details are included on the plumbing drawings.

On site drainage is handle by airport storm drain, then collect by a basin, not city sewer

A trench drain will be installed on the easterly wall of the hangar to manage the roof drainage from the east half of the new hangar and the west half of the existing hangar. Approximately 22,950 square feet of roof area will ultimately drain to the new trench drain. Assuming a 10-minute time of concentration, the peak 100-year discharge into the drain is 2.9 cfs. Given the site constraints, the trench bottom has **no slope to it**. Head pressure will force the stormwater to the outlet on the airport side. Given the length of the trench, the highwater

Use tc =5min for Q100 calculation.

DRAINAGE NOTE:
 SITE DRAINAGE WILL BE MANAGED WITH A CONTINUATION OF THE EXISTING DRAINAGE PATTERNS FROM THE NEW PARKING LOT AND NEW BUILDINGS USING THE EXISTING AIRPORT'S STORM DRAINAGE SYSTEM.

from previous plan

elevation required to convey the anticipated 2.9 cfs of runoff was calculated as 69.0. The wall hangars along the trench corridor will be waterproofed to an elevation 70.00 to account for this highwater elevation.

The new roof drain outlets for the project are located on the architectural site plan. A copy of the site plan is also included in the Appendix of this report.

Final drainage details will be included with the final construction documents.

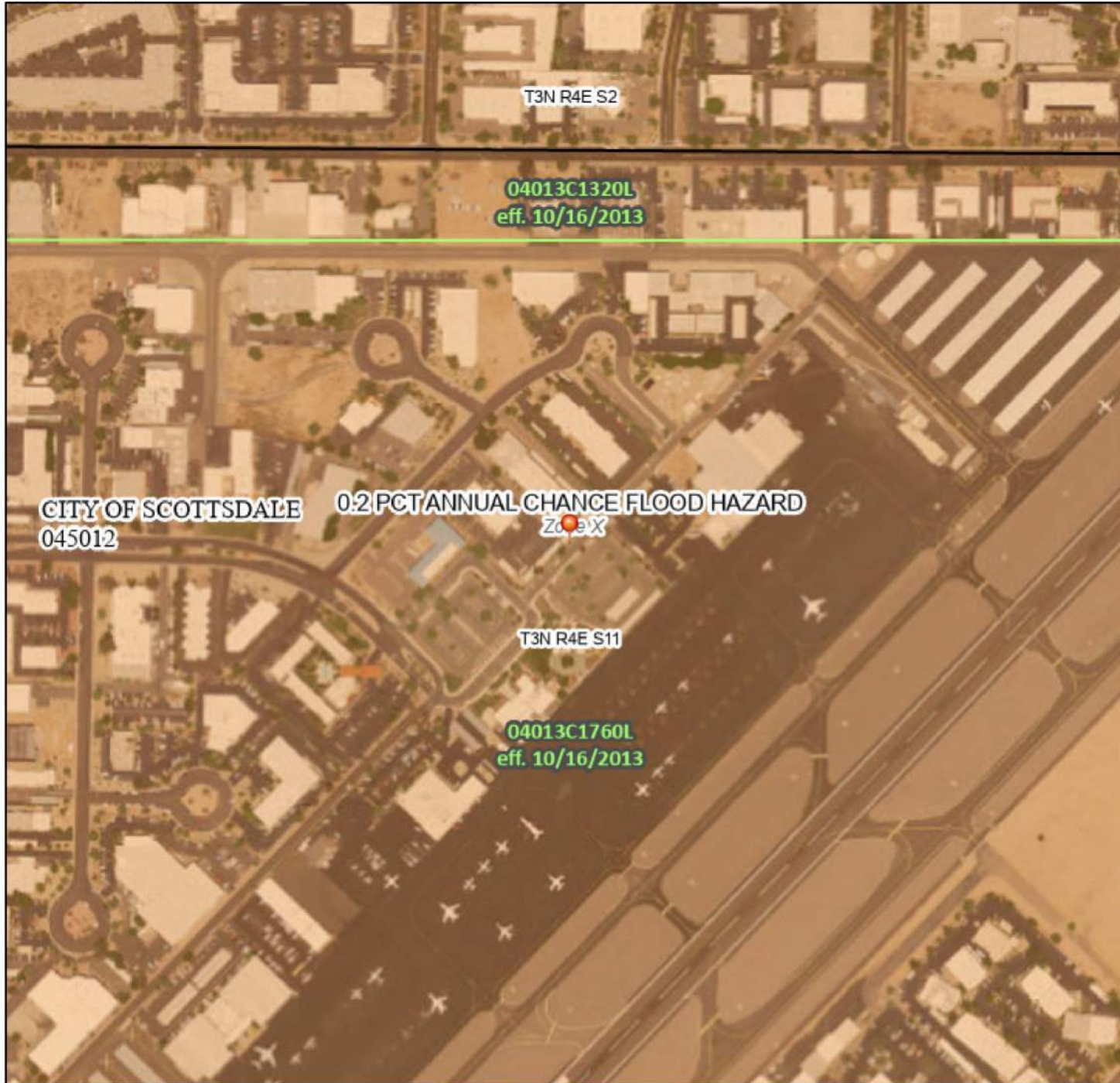
Since the site is disturbing in excess of 1-acre, a SWPPP plan and report has been prepared with the demolition drawings, and a Notice of Intent is on file with ADEQ (AZCON 107823).

APPENDIX

National Flood Hazard Layer FIRMMette



111°55'15"W 33°37'37"N



Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

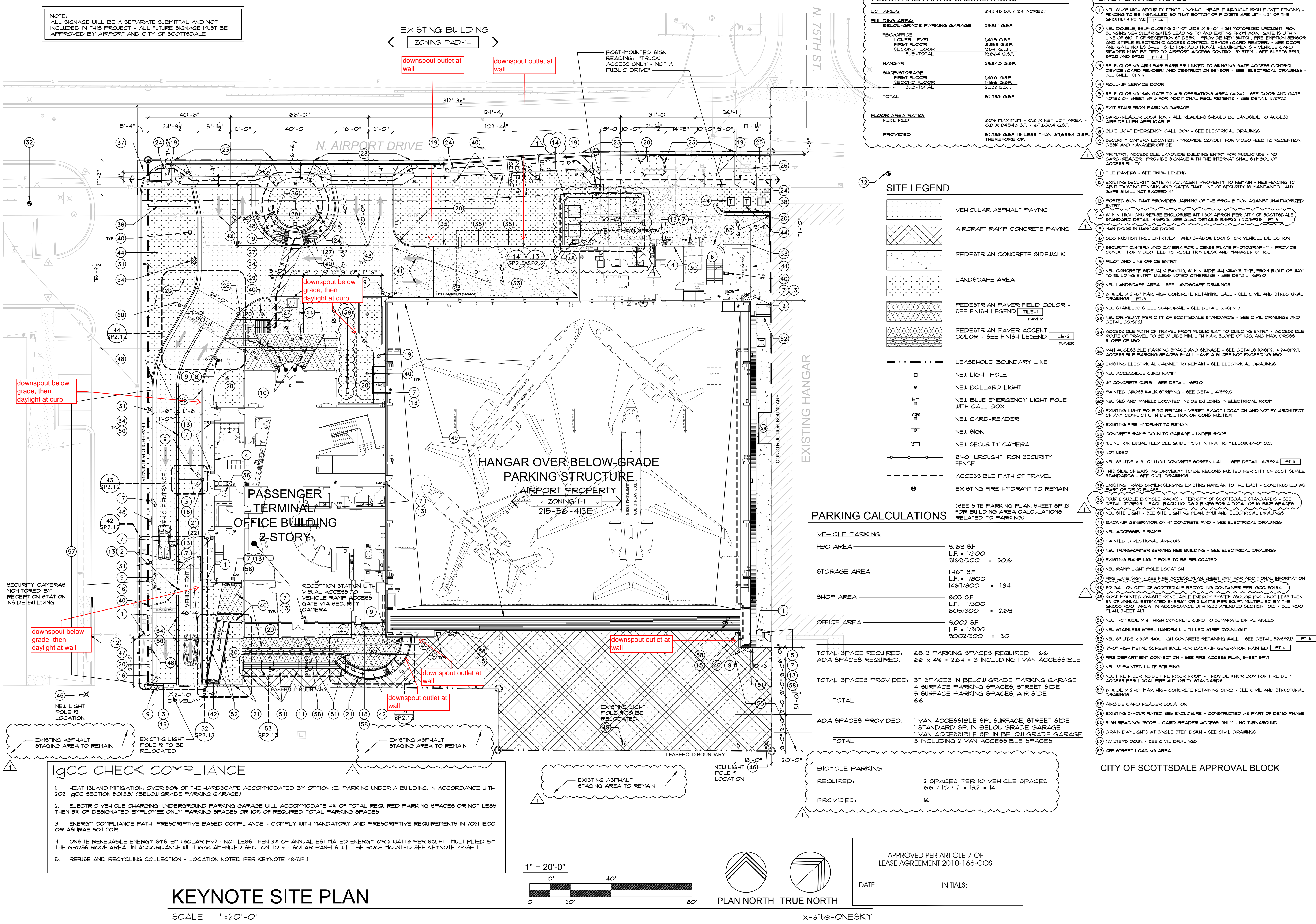
- | | | |
|------------------------------------|--|---|
| SPECIAL FLOOD HAZARD AREAS | | Without Base Flood Elevation (BFE)
Zone A, V, A99 |
| | | With BFE or Depth Zone AE, AO, AH, VE, AR |
| | | Regulatory Floodway |
| OTHER AREAS OF FLOOD HAZARD | | 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X |
| | | Future Conditions 1% Annual Chance Flood Hazard Zone X |
| | | Area with Reduced Flood Risk due to Levee. See Notes. Zone X |
| | | Area with Flood Risk due to Levee Zone D |
| OTHER AREAS | | NO SCREEN Area of Minimal Flood Hazard Zone X |
| | | Effective LOMRs |
| GENERAL STRUCTURES | | Area of Undetermined Flood Hazard Zone D |
| | | Channel, Culvert, or Storm Sewer |
| | | Levee, Dike, or Floodwall |
| OTHER FEATURES | | 20.2 Cross Sections with 1% Annual Chance Water Surface Elevation |
| | | 17.5 Cross Sections with 1% Annual Chance Water Surface Elevation |
| | | Coastal Transect |
| | | Base Flood Elevation Line (BFE) |
| | | Limit of Study |
| | | Jurisdiction Boundary |
| MAP PANELS | | Coastal Transect Baseline |
| | | Profile Baseline |
| | | Hydrographic Feature |
| | | Digital Data Available |
| | | No Digital Data Available |
| | | Unmapped |
- The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 4/22/2021 at 6:41 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

NOTE:
ALL SIGNAGE WILL BE A SEPARATE SUBMITTAL AND NOT INCLUDED IN THIS PROJECT - ALL FUTURE SIGNAGE MUST BE APPROVED BY AIRPORT AND CITY OF SCOTTSDALE



FLOOR AREA RATIO CALCULATIONS

LOT AREA:	84,548 SF. (1.94 ACRES)
BUILDING AREA:	
BELOW-GRADE PARKING GARAGE	28,914 G.S.F.
FBO/OFFICE LEVEL	1,465 G.S.F.
FIRST FLOOR	8,258 G.S.F.
SECOND FLOOR	9,541 G.S.F.
SUB-TOTAL	19,864 G.S.F.
HANGAR	29,940 G.S.F.
SHOP/STORAGE	1,466 G.S.F.
FIRST FLOOR	1,466 G.S.F.
SECOND FLOOR	1,466 G.S.F.
SUB-TOTAL	2,932 G.S.F.
TOTAL	52,736 G.S.F.
FLOOR AREA RATIO REQUIRED	80% MAXIMUM * 0.8 X NET LOT AREA * 0.8 X 84,548 SF. = 67,638.4 G.S.F.
PROVIDED	52,736 G.S.F. IS LESS THAN 67,638.4 G.S.F. THEREFORE OK

- ### SITE PLAN KEYNOTES
- NEW 8'-0" HIGH SECURITY FENCE - NON-CLIMBABLE WROUGHT IRON PICKET FENCING - FENCING TO BE INSTALLED, SO THAT BOTTOM OF PICKETS ARE WITHIN 2' OF THE GROUND 4/19/213 PT.4
 - NEW DOUBLE, SELF-CLOSING 24'-0" WIDE X 8'-0" HIGH MOTORIZED WROUGHT IRON SWINGING VEHICULAR GATES LEADING TO AND EXITING FROM ADA. GATE IS WITHIN LINE OF SIGHT OF RECEPTIONIST DESK. PROVIDE KEY SWITCH, FIRE-EMPTION SENSOR AND SIMPLE ELECTRONIC ACCESS CONTROL DEVICE (CARD READER) - SEE DOOR AND GATE NOTES SHEET 9P13 FOR ADDITIONAL REQUIREMENTS - VEHICLE CARD READER MUST BE TIED TO AIRPORT ACCESS CONTROL SYSTEM - SEE SHEETS 9P13, 9P212 AND 9P213 PT.4
 - SELF-CLOSING ARMED BARRIER LINKED TO SWINGING GATE ACCESS CONTROL DEVICE (CARD READER) AND OBSTRUCTION SENSOR - SEE ELECTRICAL DRAWINGS - SEE SHEET 9P212
 - ROLL-UP SERVICE DOOR
 - SELF-CLOSING MAN GATE TO AIR OPERATIONS AREA (AOA) - SEE DOOR AND GATE NOTES ON SHEET 9P13 FOR ADDITIONAL REQUIREMENTS - SEE DETAIL 1/2/9P22
 - EXIT STAIR FROM PARKING GARAGE
 - CARD-READER LOCATION - ALL READERS SHOULD BE LANDSIDE TO ACCESS AIRSIDE WHEN APPLICABLE
 - BLUE LIGHT EMERGENCY CALL BOX - SEE ELECTRICAL DRAWINGS
 - SECURITY CAMERA LOCATION - PROVIDE CONDUIT FOR VIDEO FEED TO RECEPTION DESK AND MANAGER OFFICE
 - PRIMARY ACCESSIBLE LANDSIDE BUILDING ENTRY FOR PUBLIC USE - NO CARD-READER. PROVIDE SIGNAGE WITH THE INTERNATIONAL SYMBOL OF ACCESSIBILITY
 - TILE PAVERS - SEE FINISH LEGEND
 - EXISTING SECURITY GATE AT ADJACENT PROPERTY TO REMAIN - NEW FENCING TO ABUT EXISTING FENCING AND GATES THAT LINE OF PROHIBITION IS MAINTAINED. ANY GAPS SHALL NOT EXCEED 4'
 - POSTED SIGN THAT PROVIDES WARNING OF THE PROHIBITION AGAINST UNAUTHORIZED ENTRY
 - 6' MIN. HIGH CITY REUSE ENCLOSURE WITH 30" APRON PER CITY OF SCOTTSDALE STANDARD DETAIL 14/9P23. SEE ALSO DETAILS 13/9P22 & 20/9P215 PT.3
 - MAN DOOR IN HANGAR DOOR
 - OBSTRUCTION FREE ENTRY/EXIT AND SHADOW LOOPS FOR VEHICLE DETECTION
 - SECURITY CAMERA AND CAMERA FOR LICENSE PLATE PHOTOGRAPHY - PROVIDE CONDUIT FOR VIDEO FEED TO RECEPTION DESK AND MANAGER OFFICE
 - PILOT AND LINE OFFICE ENTRY
 - NEW CONCRETE SIDEWALK PAVING, 6' MIN. WIDE WALKWAYS, TYP. FROM RIGHT OF WAY TO BUILDING ENTRY, UNLESS NOTED OTHERWISE - SEE DETAIL 1/9P22
 - NEW LANDSCAPE AREA - SEE LANDSCAPE DRAWINGS
 - 8' WIDE X 2'-6" MAX. HIGH CONCRETE RETAINING WALL - SEE CIVIL AND STRUCTURAL DRAWINGS PT.3
 - NEW STAINLESS STEEL GUARDRAIL - SEE DETAIL 53/9P213
 - NEW DRIVEWAY PER CITY OF SCOTTSDALE STANDARDS - SEE CIVIL DRAWINGS AND DETAIL 30/9P211
 - ACCESSIBLE PATH OF TRAVEL FROM PUBLIC WAY TO BUILDING ENTRY - ACCESSIBLE ROUTE OF TRAVEL TO BE 3' WIDE MIN. WITH MAX. SLOPE OF 1:50, AND MAX. CROSS SLOPE OF 1:50
 - VAN ACCESSIBLE PARKING SPACE AND SIGNAGE - SEE DETAILS 10/9P21 & 24/9P21. ACCESSIBLE PARKING SPACES SHALL HAVE A SLOPE NOT EXCEEDING 1:50
 - EXISTING ELECTRICAL CABINET TO REMAIN - SEE ELECTRICAL DRAWINGS
 - NEW ACCESSIBLE CURB RAMP
 - 6" CONCRETE CURB - SEE DETAIL 1/9P22
 - PAINTED CROSS WALK STRIPING - SEE DETAIL 4/9P22
 - NEW BBS AND PANELS LOCATED INSIDE BUILDING IN ELECTRICAL ROOM
 - EXISTING LIGHT POLE TO REMAIN - VERIFY EXACT LOCATION AND NOTIFY ARCHITECT OF ANY CONFLICT WITH DEMOLITION OR CONSTRUCTION
 - EXISTING FIRE HYDRANT TO REMAIN
 - CONCRETE RAMP DOWN TO GARAGE - UNDER ROOF
 - "ULINE" OR EQUAL FLEXIBLE GUIDE POST IN TRAFFIC YELLOW, 6'-0" O.C.
 - NOT USED
 - NEW 8' WIDE X 3'-0" HIGH CONCRETE SCREEN WALL - SEE DETAIL 16/9P24 PT.3
 - THIS SIDE OF EXISTING DRIVEWAY TO BE RECONSTRUCTED PER CITY OF SCOTTSDALE STANDARDS - SEE CIVIL DRAWINGS
 - EXISTING TRANSFORMER SERVING EXISTING HANGAR TO THE EAST - CONSTRUCTED AS PART OF DEMO PHASE
 - FOUR DOUBLE BICYCLE RACKS - PER CITY OF SCOTTSDALE STANDARDS - SEE DETAIL 21/9P21 - EACH RACK HOLDS 2 BIKES FOR A TOTAL OF 16 BIKE SPACES
 - NEW SITE LIGHT - SEE SITE LIGHTING PLAN, 9P111 AND ELECTRICAL DRAWINGS
 - BACK-UP GENERATOR ON 4" CONCRETE PAD - SEE ELECTRICAL DRAWINGS
 - NEW ACCESSIBLE RAMP
 - PAINTED DIRECTIONAL ARROWS
 - NEW TRANSFORMER SERVING NEW BUILDING - SEE ELECTRICAL DRAWINGS
 - EXISTING RAMP LIGHT POLE TO BE RELOCATED
 - NEW RAMP LIGHT POLE LOCATION
 - FIRE LANE SIGN - SEE FIRE ACCESS PLAN, SHEET 9P11 FOR ADDITIONAL INFORMATION
 - 90 GALLON CITY OF SCOTTSDALE RECYCLING CONTAINER PER ICC 903.4.1
 - ROOF MOUNTED ON-SITE RENEWABLE ENERGY SYSTEM (SOLAR PV) - NOT LESS THAN 3% OF ANNUAL ESTIMATED ENERGY OR 2 WATTS PER SQ. FT. MULTIPLIED BY THE GROSS ROOF AREA IN ACCORDANCE WITH ICC AMENDED SECTION 1013 - SEE ROOF PLAN SHEET A11
 - NEW 1'-0" WIDE X 6" HIGH CONCRETE CURBS TO SEPARATE DRIVE AISLES
 - NEW STAINLESS STEEL HANDRAIL WITH LED STRIP DOWNLIGHT
 - NEW 8' WIDE X 30" MAX. HIGH CONCRETE RETAINING WALL - SEE DETAIL 52/9P213 PT.3
 - 2'-0" HIGH METAL SCREEN WALL FOR BACK-UP GENERATOR, PAINTED PT.4
 - FIRE DEPARTMENT CONNECTION - SEE FIRE ACCESS PLAN, SHEET 9P11
 - NEW 3" PAINTED WHITE STRIPING
 - NEW FIRE RISER INSIDE FIRE RISER ROOM - PROVIDE KNOX BOX FOR FIRE DEPT ACCESS PER LOCAL FIRE AUTHORITY STANDARDS
 - 8' WIDE X 2'-0" MAX. HIGH CONCRETE RETAINING CURB - SEE CIVIL AND STRUCTURAL DRAWINGS
 - AIRSIDE CARD READER LOCATION
 - EXISTING 2-HOUR RATED SEB ENCLOSURE - CONSTRUCTED AS PART OF DEMO PHASE
 - SIGN READING: 'STOP - CARD-READER ACCESS ONLY - NO TURNAROUND'
 - DRAIN DAYLIGHTS AT SINGLE STEP DOWN - SEE CIVIL DRAWINGS
 - (2) STEPS DOWN - SEE CIVIL DRAWINGS
 - OFF-STREET LOADING AREA

- ### SITE LEGEND
- VEHICULAR ASPHALT PAVING
 - AIRCRAFT RAMP CONCRETE PAVING
 - PEDESTRIAN CONCRETE SIDEWALK
 - LANDSCAPE AREA
 - PEDESTRIAN PAVEMENT FIELD COLOR - SEE FINISH LEGEND TILE-1 PAVEMENT
 - PEDESTRIAN PAVEMENT ACCENT COLOR - SEE FINISH LEGEND TILE-2 PAVEMENT
 - LEASEHOLD BOUNDARY LINE
 - NEW LIGHT POLE
 - NEW BOLLARD LIGHT
 - NEW BLUE EMERGENCY LIGHT POLE WITH CALL BOX
 - NEW CARD-READER
 - NEW SIGN
 - NEW SECURITY CAMERA
 - 8'-0" WROUGHT IRON SECURITY FENCE
 - ACCESSIBLE PATH OF TRAVEL
 - EXISTING FIRE HYDRANT TO REMAIN

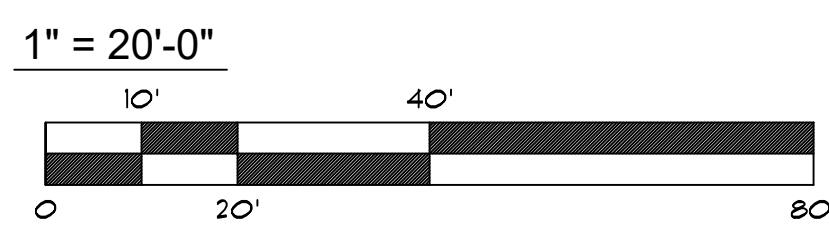
PARKING CALCULATIONS

VEHICLE PARKING	
FBO AREA	9,169 SF L.F. = 1/300 9,169/300 = 30.6
STORAGE AREA	1,461 SF L.F. = 1/800 1,461/800 = 1.84
SHOP AREA	805 SF L.F. = 1/300 805/300 = 2.69
OFFICE AREA	9,002 SF L.F. = 1/300 9,002/300 = 30
TOTAL SPACE REQUIRED:	65.13 PARKING SPACES REQUIRED = 66
ADA SPACES REQUIRED:	66 x 4% = 2.64 = 3 INCLUDING 1 VAN ACCESSIBLE
TOTAL SPACES PROVIDED:	57 SPACES IN BELOW GRADE PARKING GARAGE 4 SURFACE PARKING SPACES, STREET SIDE 5 SURFACE PARKING SPACES, AIR SIDE TOTAL 66
ADA SPACES PROVIDED:	1 VAN ACCESSIBLE SF, SURFACE, STREET SIDE 1 STANDARD SF, IN BELOW GRADE GARAGE 1 VAN ACCESSIBLE SF, IN BELOW GRADE GARAGE 3 INCLUDING 2 VAN ACCESSIBLE SPACES

BICYCLE PARKING

REQUIRED:	2 SPACES PER 10 VEHICLE SPACES 66 / 10 * 2 = 13.2 = 14
PROVIDED:	16

- ### IGCC CHECK COMPLIANCE
- HEAT ISLAND MITIGATION: OVER 50% OF THE HARDSCAPE ACCOMMODATED BY OPTION (E) PARKING UNDER A BUILDING, IN ACCORDANCE WITH 2021 IGCC SECTION 901.3.1 (BELOW GRADE PARKING GARAGE)
 - ELECTRIC VEHICLE CHARGING: UNDERGROUND PARKING GARAGE WILL ACCOMMODATE 4% OF TOTAL REQUIRED PARKING SPACES OR NOT LESS THAN 8% OF DESIGNATED EMPLOYEE ONLY PARKING SPACES OR 10% OF REQUIRED TOTAL PARKING SPACES
 - ENERGY COMPLIANCE PATH: PRESCRIPTIVE BASED COMPLIANCE - COMPLY WITH MANDATORY AND PRESCRIPTIVE REQUIREMENTS IN 2021 IECC OR ASHRAE 90.1-2019
 - ON-SITE RENEWABLE ENERGY SYSTEM (SOLAR PV) - NOT LESS THAN 3% OF ANNUAL ESTIMATED ENERGY OR 2 WATTS PER SQ. FT. MULTIPLIED BY THE GROSS ROOF AREA IN ACCORDANCE WITH IGCC AMENDED SECTION 1013 - SOLAR PANELS WILL BE ROOF MOUNTED SEE KEYNOTE 49/9P11
 - REFUSE AND RECYCLING COLLECTION - LOCATION NOTED PER KEYNOTE 48/9P11

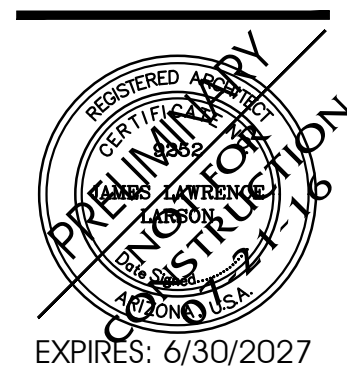


APPROVED PER ARTICLE 7 OF LEASE AGREEMENT 2010-166-COS
DATE: _____ INITIALS: _____

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FLEXJET PAX TERMINAL/OFFICE/HANGAR
SCOTTSDALE AIRPORT
15115 N. AIRPORT DR.
SCOTTSDALE, AZ 85260



EXPIRES: 6/30/2027

Drawing Name:
NEW KEYNOTE
SITE PLAN

Revisions
3-1-25 PROGRESS SET
1-08 RESUBMITTAL 2 - 3/7/25

Date: 3/7/25

Project Number:
2021.004

Drawing No:

SP1.1