

March Field Air Museum



Ethan Fisher, UCLA Extension
LD7 - Spring 2022



Museum displays in main hangar

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INTRODUCTION



Top - 1942 Postcard; Bottom - Historic March Field - view of planes on runway
<https://www.march.afrc.af.mil/News/Photos/igphoto/2000296165/>

Quick Facts March Field Air Museum

ADDRESS: 22550 Van Buren Boulevard, Riverside, CA 92518

HOURS: Tuesday-Sunday, 9 a.m. to 5 p.m.

PHONE: (951) 902-5949

ESTABLISHED: 1979

ADMISSION: Adults \$12.00, Veterans \$10.00, Children \$6.00, 4 and under free, Active Duty, Active Guard and Active Reserves free

EDUCATION: 45 minute guided tram tours of the outdoor "Flightline" available throughout the day for an extra charge, docent-led tours available for groups with advanced notice, paranormal investigation tour at night

SIZE: 30 acres

STAFF: Director of Collections, Curation and Restoration: Jeff Houlihan
12 full and part-time employees, 100 volunteers

GOVERNANCE: Non-profit - March Field Museum Foundation

ATTENDANCE: Over 70,000 visitors annually

OFFICIAL MISSION: "Where stories of military and civilian aviation and March Field come alive."

INFORMAL MISSION: "The March Field Air Museum is a nonprofit educational institution dedicated to promoting an understanding of humanity's reach for the skies and March Field's pivotal role in the development of flight."

SLOGAN: "Reach for the Skies!"

TIMELINE - MARCH FIELD

1918 - Alessandro Flying Training Field established and renamed March Field



1926/1927 - The Army Air Corps was established and March Field reopened



1941 - After attack on Pearl Harbor March Field began serving as a training facility again. Many crews completed training at March Field before service in the Pacific Theater.



1979 - The March Field Museum was established



1923 - March Field is closed after signing of the 1918 WWI armistice



1931 - The base takes the appearance of a permanent installation and is changed to an operational base



1949 - After WWII March Field became part of the Strategic Air Command and supported efforts in the Korean War



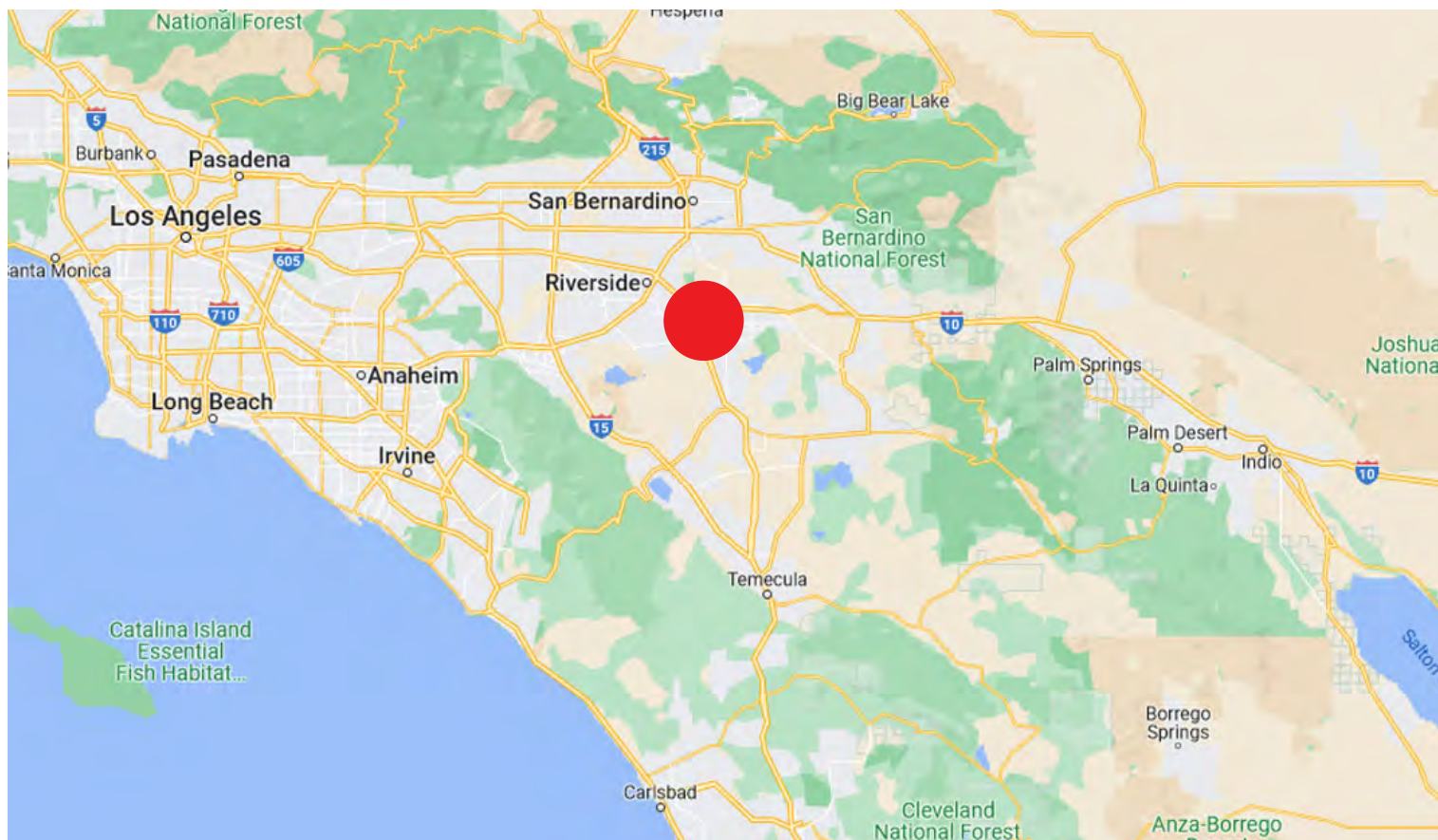
1996 - March Air Force Base is realigned and becomes March Air Reserve Base



PROGRAM



Air Show Viewers



Regional Map
Source: Google Maps, 2022



0 10 20 40 mi.
Scale: 1" = 20 miles

STATEMENT:

This project will create a master plan for the March Field Air Museum through an iterative process studying the current site opportunities and constraints, and study of precedents of other museums and memorials.

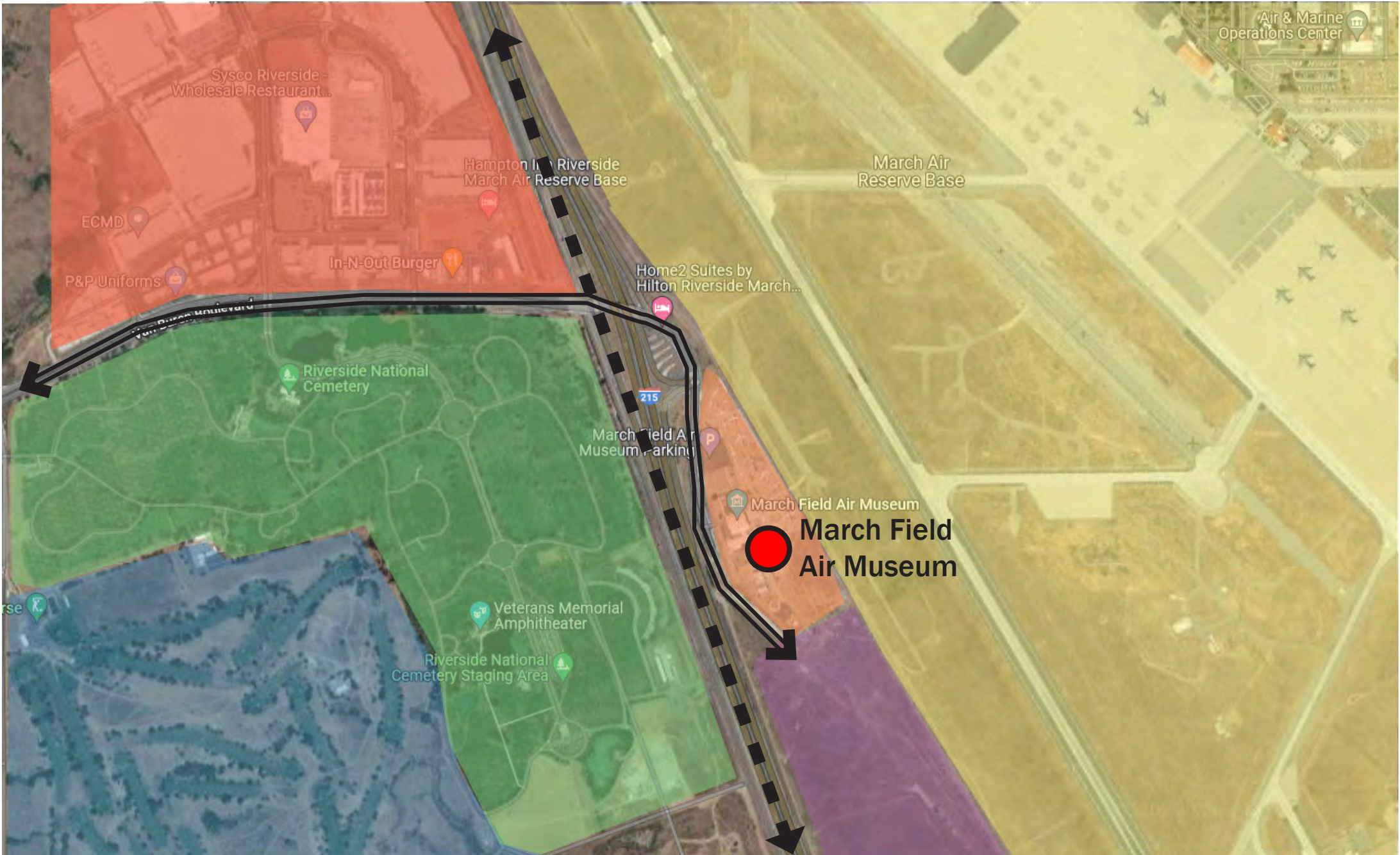
GOALS AND OBJECTIVES:

- Provide an engaging and interactive experience for all ages and visitors.
- Create spaces flexible in nature that can be used for large or small gatherings, fundraising, and rentals.
- Maintain compliance with restrictions on clear zones, building heights, and tree planting areas.
- Improve visibility from the freeway through consideration of an iconic element.
- Preserved access for air show viewing.
- Increase attendance and sustainability of the museum through an expansion of the facility and its amenities.
- Provide sensitivity sustainability and the environment through practices and design.
- Provide sensitivity and respect towards veterans and all people and places currently or historically affected by war and conflict.

KEY DELIVERABLES:

- Parking improvements
- Design for two fire bases – proposed include WWII Pacific Theater and complete Iraqi/Afghanistan
- Design of an aviation themed restaurant
- Redesign the Memorial Garden complex
- Improved entry gateway to the museum

SITE ANALYSIS - CONTEXT



Context Diagram
Source image: Google Maps, 2022

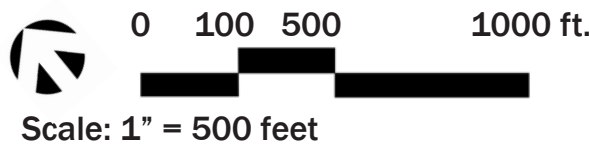


Scale: 1" = 1000 feet

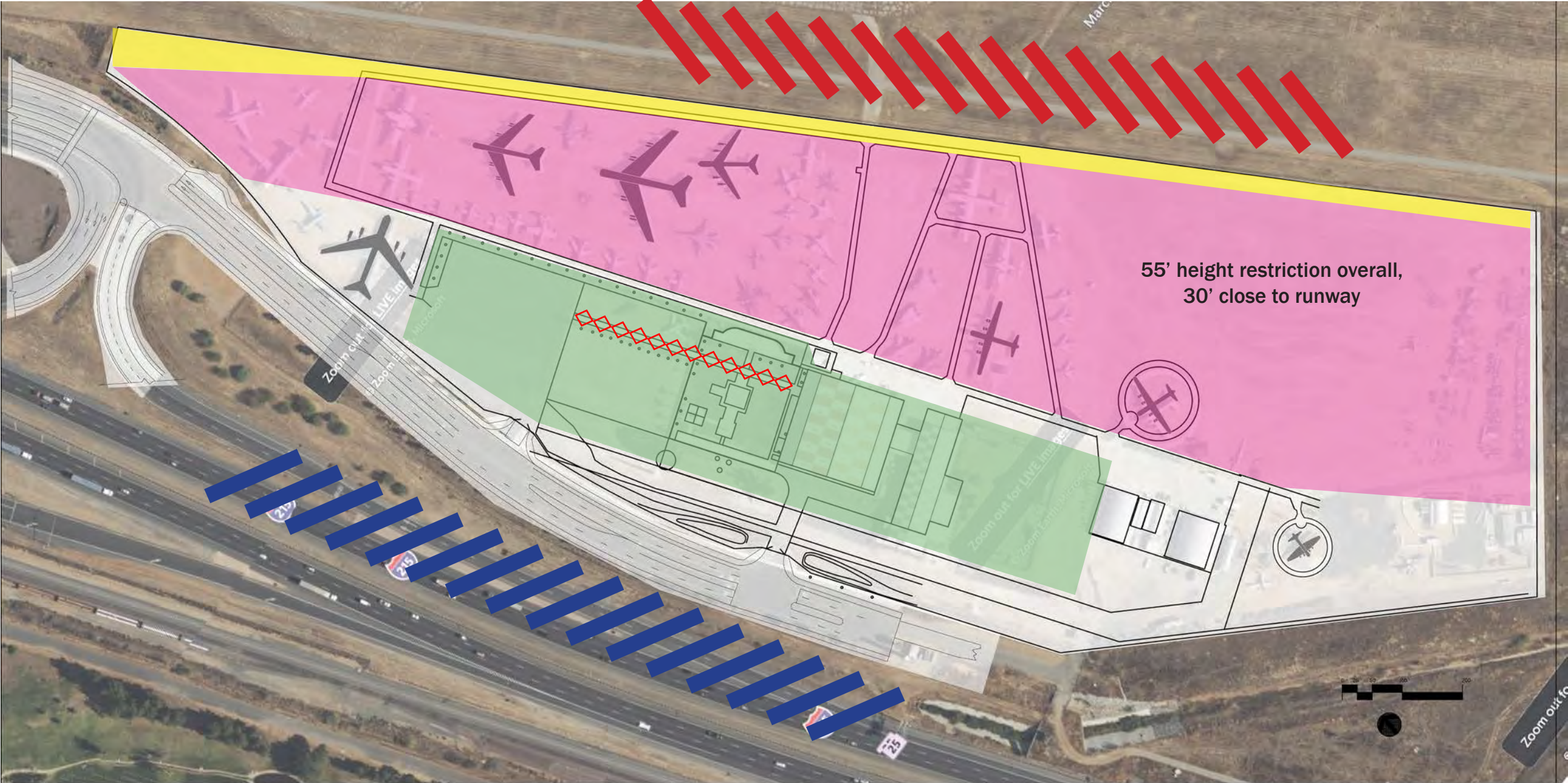
SITE ANALYSIS - INVENTORY



Legend		
• • • • Pedestrian Circulation	Existing Buildings	Overflow Parking
↔ Vehicular Circulation	Landscaped Area	Solar Path
🌀 Santa Ana Winds	✈ Non-moveable Planes	👤 Primary Entry Visitors
🌀 Prevailing Winds		



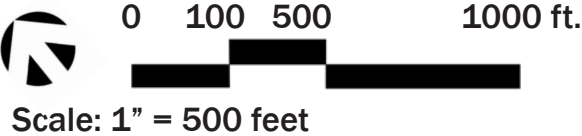
SITE ANALYSIS - CONSTRAINTS



NOTES:

- Poor night lighting
- Poor visibility from freeway
- Confusing entry for visitor parking
- HOT HOT HOT
- Lack of shade and seating
- Lacking options for children
- No visitor facilities (restrooms) at far corners
- Heavy construction nearby, lots of truck traffic likely in the future
- Roses doing poorly in garden
- Need to maintain access paths for plane movement

Legend	
	Freeway Noise
	Airport Noise
	Non-moveable Planes
	Reserve Base Setback 25'
	Limit of Landscape
	Height Restrictions
	Pathway to Remain



SITE PHOTOS



Museum frontage towards Van Buren Boulevard



Main entry into museum



Memorial courtyard with sponsorship tiles

SITE PHOTOS



Memorial courtyard lawn, museum entry at right



Restoration hangars



Vietnam Fire Base



Future Iraqi/Afghanistani fire base

SITE PHOTOS



B-17 exhibit



Staff parking, Van Buren Boulevard construction at right



Perimeter near airfield



Public parking

PRECEDENT STUDY - PALM SPRINGS AIR MUSEUM



Palm Springs Air Museum

Palm Springs, CA

Opened 1996

85,000 square foot facility with 59 aircraft

NOTES:

- Located at public airport
- Combination of static and flyable planes
- Visitors comment on quality of their planes
- Hangar space serves as wonderful indoor event space because they can roll their planes outside
- Weather is hotter than MAFM, primarily indoor museum
- Overall many of the planes are smaller in scale than planes at MAFM

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PRECEDENT STUDY - PIMA AIR & SPACE MUSEUM



Pima Air Museum

Tucson, AZ

Opened 1976

*80 acres and over 400
aircraft*

NOTES:

- Large outdoor air field with a wide variety of planes
- Located near Davis Monthan-Tucson Air Force Base
- Over 250,000 square feet of hangar space
- Outdoor viewing areas are challenging for wheelchairs because the paths are not paved
- Mission "Creating unlimited horizons in aerospace education through the preservation and presentation of the history of flight."
- Quick-service restaurant called "Flight Grill" with patio views

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PRECEDENT STUDY - RUNWAY 34 RESTAURANT



Runway 34 Restaurant

Switzerland

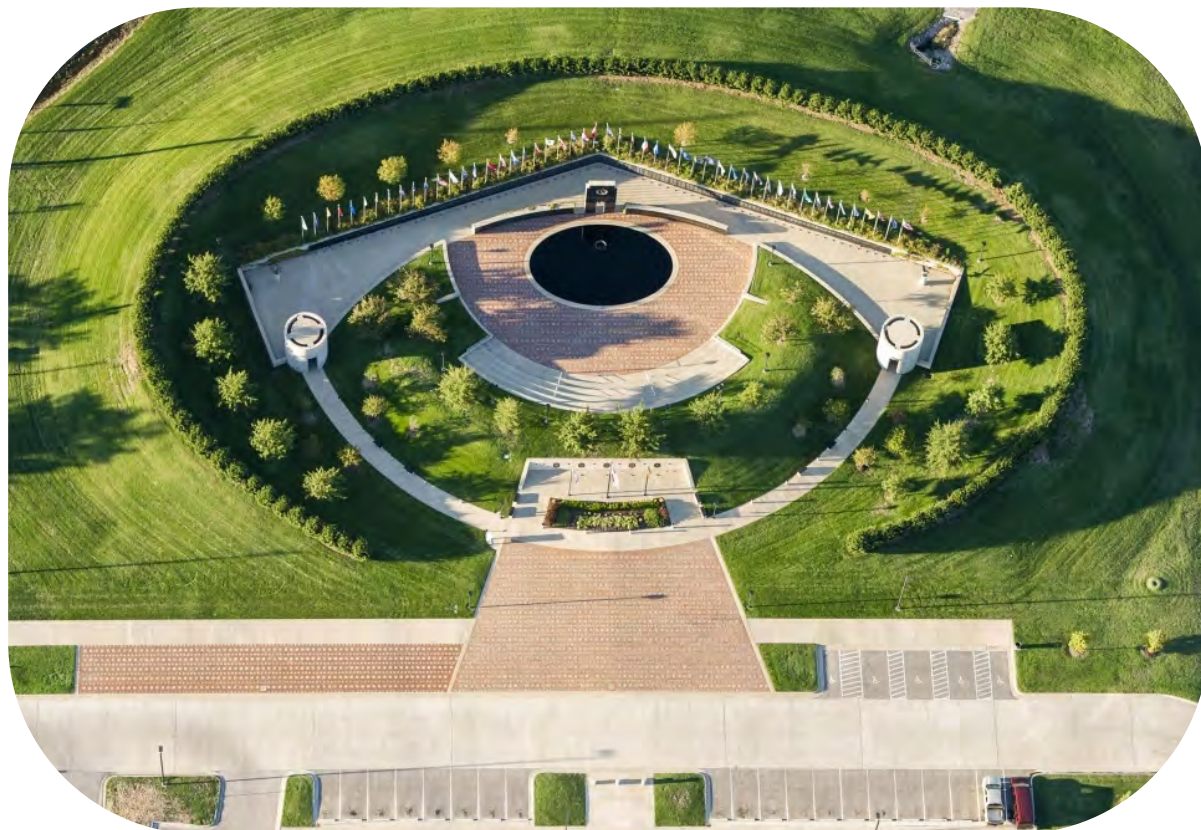
Opened 2005

NOTES:

- Located adjacent to Zurich Airport
- Restaurant is built around a 47 year old Russian aircraft that was flown to its final location and restored
- The restaurant in the shape of a hangar was built around the aircraft and you can eat inside and under the plane.
- Several other planes are set around the restaurant area
- It took several years to find the right plane for the interior
- The restaurant was started by a SWISS Air pilot

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PRECEDENT STUDY - VETERANS MEMORIAL



Veterans Memorial Amphitheater at University of Pittsburgh

Pittsburgh, PA

Opened 2004

NOTES:

- Impressive display of 50 state flags around the amphitheater
- Park setting is for quiet contemplation while the amphitheater and plaza serve as a setting for special events and programs
- There is a 1/2 size replica of the Vietnam Memorial wall from D.C.
- The ground plane has over 3,400 granite pavers that have been purchased and engraved
- Other features include a reflecting pool, bronze sculptures, and eternal flame

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PRECEDENT STUDY - VIETNAM MEMORIAL PARK



VETERANS MEMORIAL PARK - CONCEPTUAL MASTER PLAN

Veteran's Memorial Park

Las Cruces, NM

Opened 2018

NOTES:

- Centerpiece is a UH-1H Huey helicopter that was restored for the project
- The memorial includes black marble panels etched with names of New Mexican Vietnam veterans
- Additional graphic elements are included in the memorial with photos and names
- The Vietnam Memorial is part of a larger Veteran's Park that includes a memorial wall and memorial sculpture to American and Filipino prisoners of war during WWII on the Bataan Peninsula of the Philippine island of Luzon.

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FIRE BASE STUDY - AFGHANISTAN



Forward Operating Base Afghanistan

2001-2021

*Variety of sizes and
locations throughout the
country*

- NOTES:
- All the bases have gabion baskets with rock
 - Variety of helicopters for carrying troops and cargo or combat
 - Tent-style quonset huts
 - Desert setting with limited shade and cover
 - Conex containers served as storage space and buildings

FIRE BASE STUDY - WWII PACIFIC THEATER



WWII Pacific Theater Fire Base

WWII - 1941 to 1945

*China, Central Pacific,
South-East Asia and
South West Pacific*

NOTES:

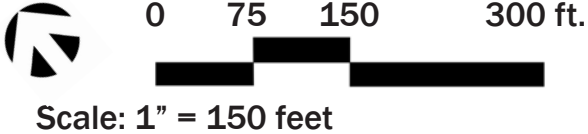
- Quonset huts were a typical structure in the Pacific
- Many of the tropical islands were densely covered in palm trees
- A WWII fire base would provide lots of space to display planes
- Along the beaches in the sand were foxholes which are dug out areas the troops could hide in when defending the beach or during an attack
- Most equipment was airplanes, but some land equipment included LVTS (Landing Vehicle Tracked) and M2 155 guns.

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CONCEPT 1- FLIGHT/WINGS



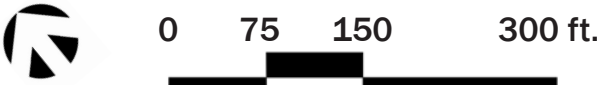
This design is inspired from aviation, the striking geometry of airplane propellers and fixed wings is present throughout the museum. The center of the site serves as the central point leading to each end of the site. A prominent entry may serve as a formal welcome for visitors to the museum.



CONCEPT 1- FLIGHT/WINGS

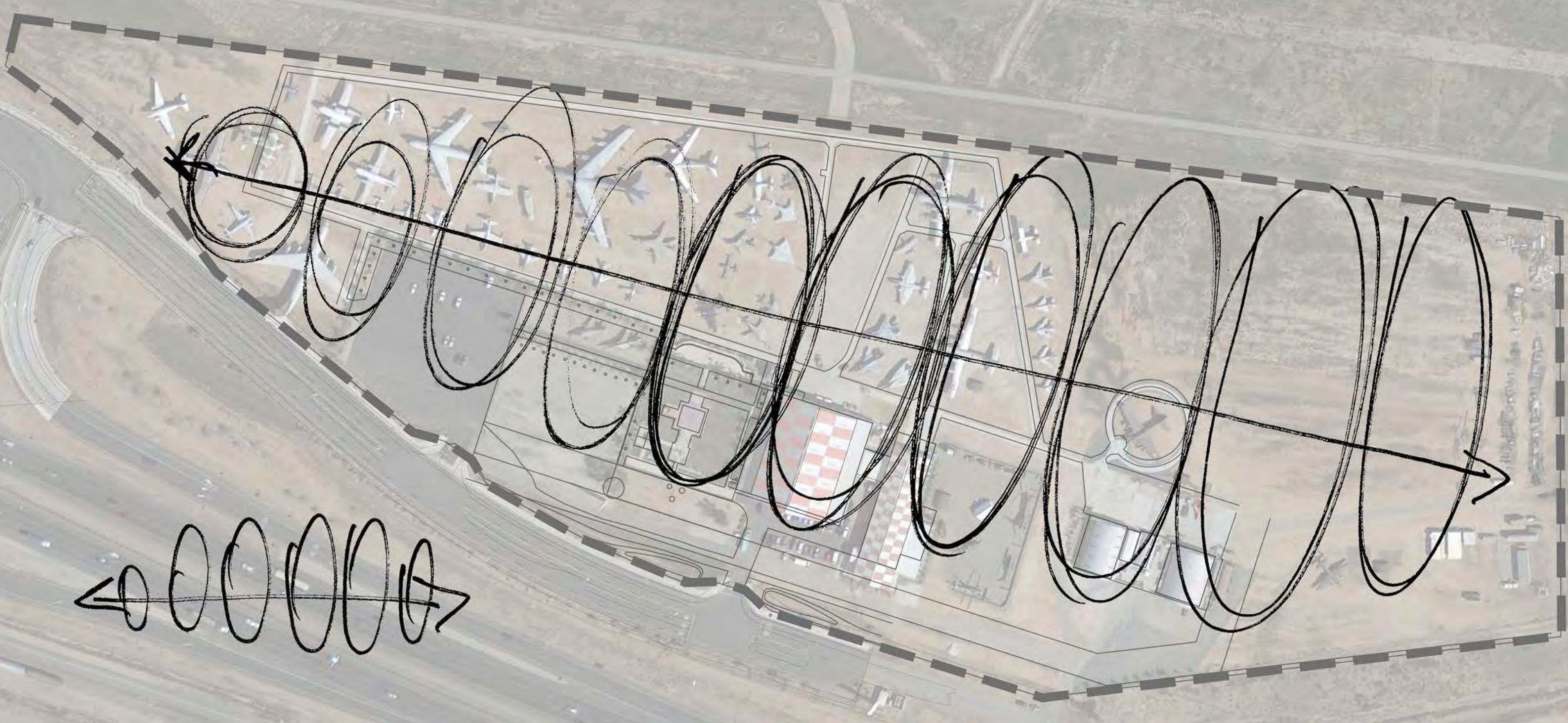


This concept is refined further with a key hub area on the western edge of the site. Moving the boneyard and parking to opposite, far ends of the site allows facilities to be clustered in the center of the museum. Expanding the memorial garden into the current airfield could improve the entry walkway experience.

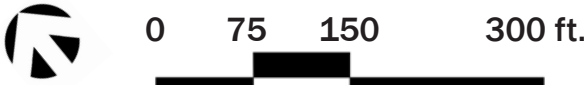


Scale: 1" = 150 feet

CONCEPT 2- LINEAR/AIRCRAFT CARRIER



This concept is symbolic of an aircraft carrier with a linear orientation of elements on the deck and runway. This is a potential method for organizing the site as a linear stack of experiences.

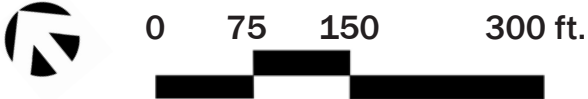


Scale: 1" = 150 feet

CONCEPT 2- LINEAR/AIRCRAFT CARRIER

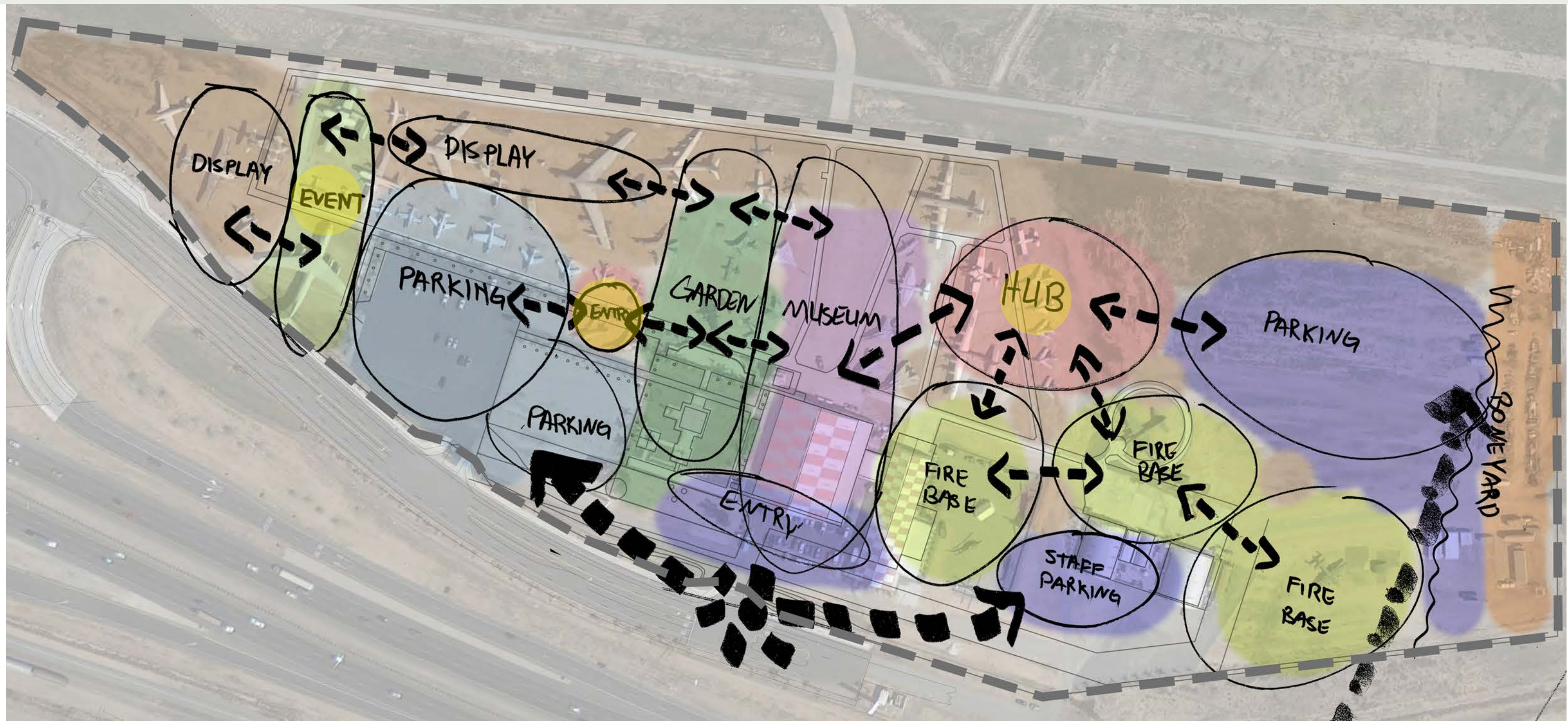


Building further on this concept is a central entry facility that is separate from the museum. With a separate entry the parking can wrap around making it more accessible to all visitors and bringing the garden memorial plaza within the museum envelope. An event space adjacent to the parking with minor facilities may allow for events that are isolated and don't require the full museum site to be open.



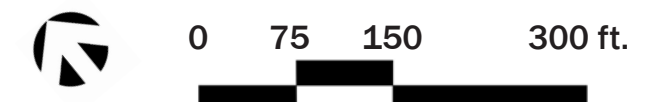
Scale: 1" = 150 feet

REFINED CONCEPT



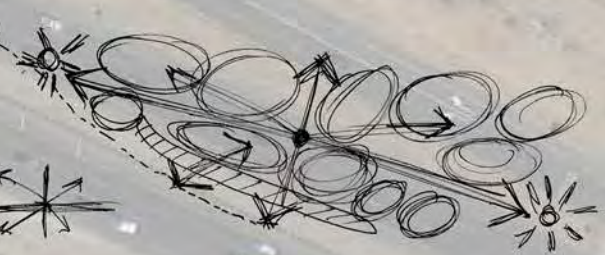
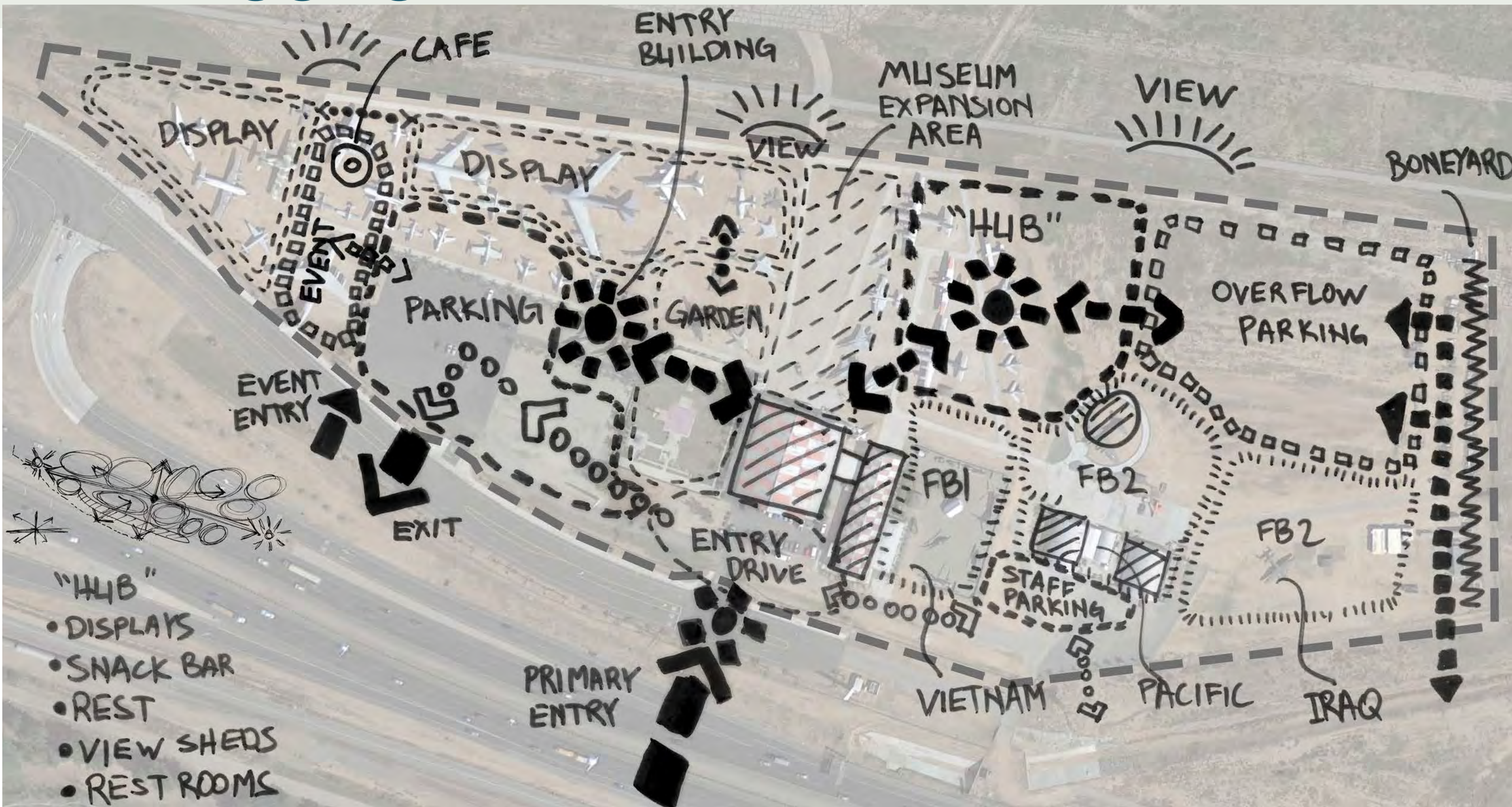
Reviewing the concepts, a few elements stood out as critical pieces that may improve the visitor experience. An entry area will be a welcome spot for people visiting the museum. The entry plaza creates the opportunity to build on an enhanced visitor experience through the garden. The hub is a key location with additional facilities and a restaurant.

- Formal driving entry
- Entry plaza leading to garden experience
- Fire base that includes the hangar facilities
- Event space adjacent to parking

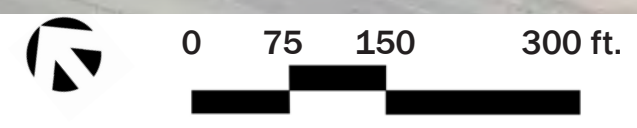


Scale: 1" = 150 feet

FINAL CONCEPT

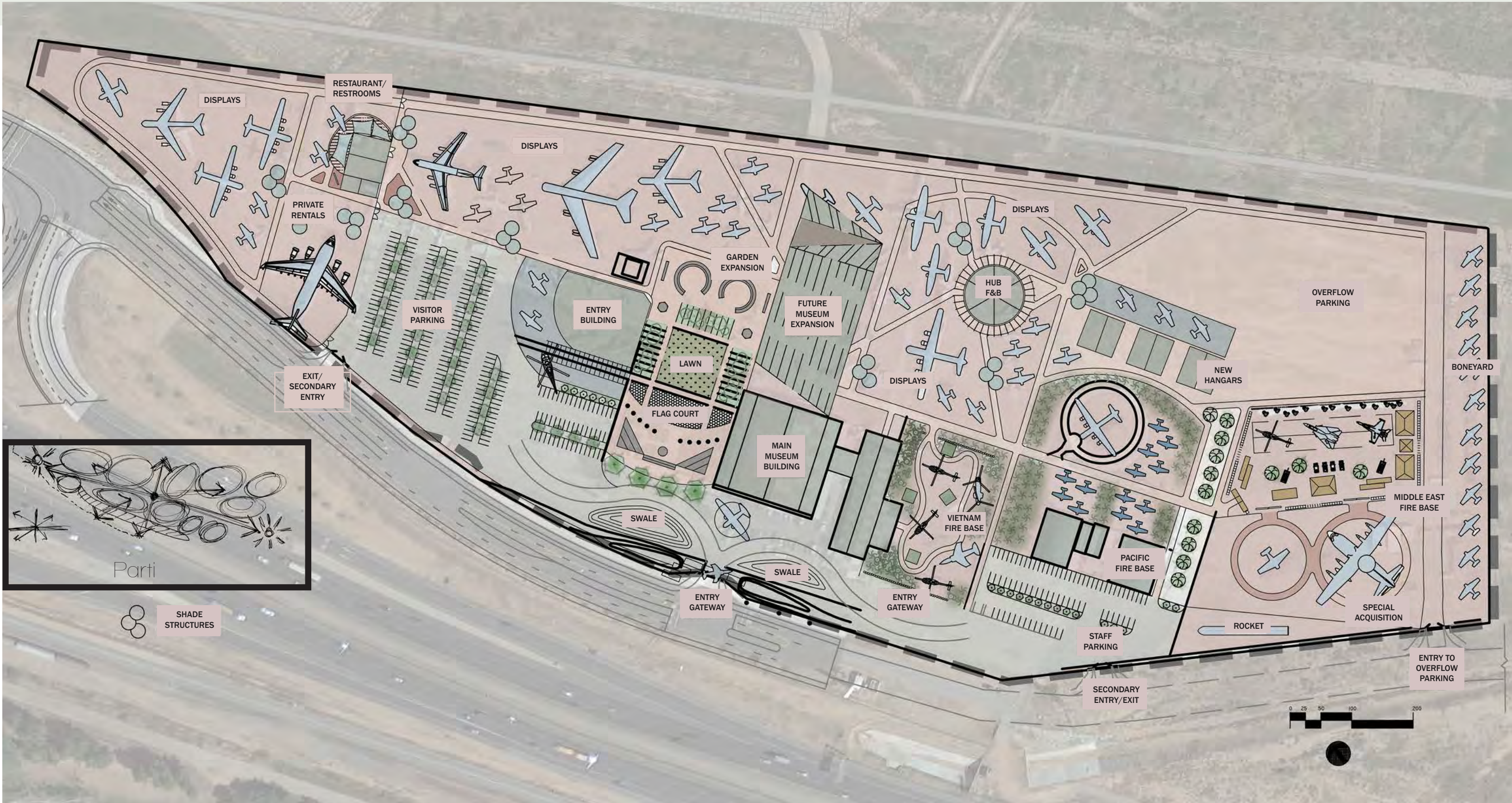


- "HUB"
- DISPLAYS
 - SNACK BAR
 - REST
 - VIEW SHEDS
 - REST ROOMS

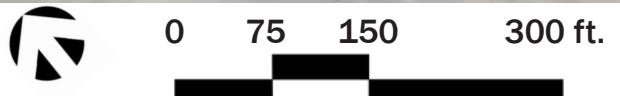


Scale: 1" = 150 feet

ILLUSTRATIVE SITE PLAN



SHADE STRUCTURES



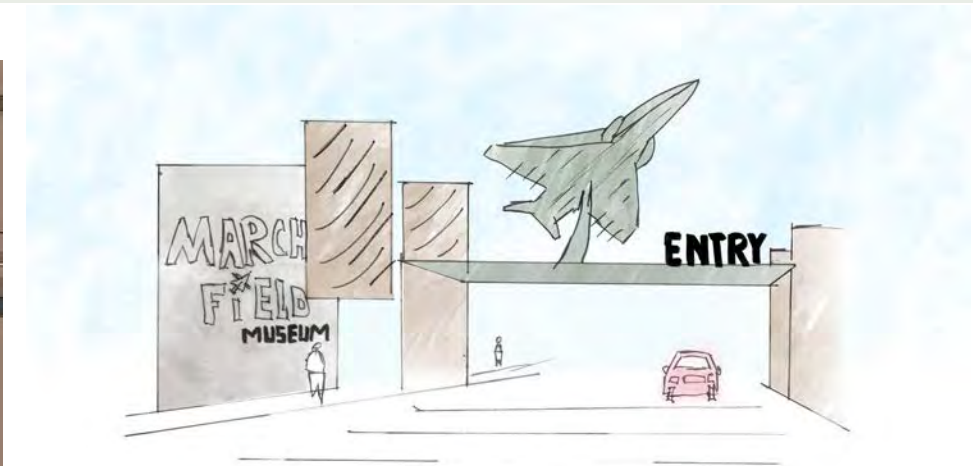
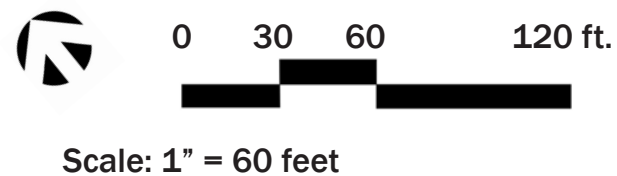
Scale: 1" = 150 feet

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ENTRY AND PARKING - ENLARGEMENT



- Legend
- ① Parking
 - ② Ticketing
 - ③ Turnstiles
 - ④ Exit and Secondary Entry
 - ⑤ Entry Building/Gift Shop
 - ⑥ Memorial Garden

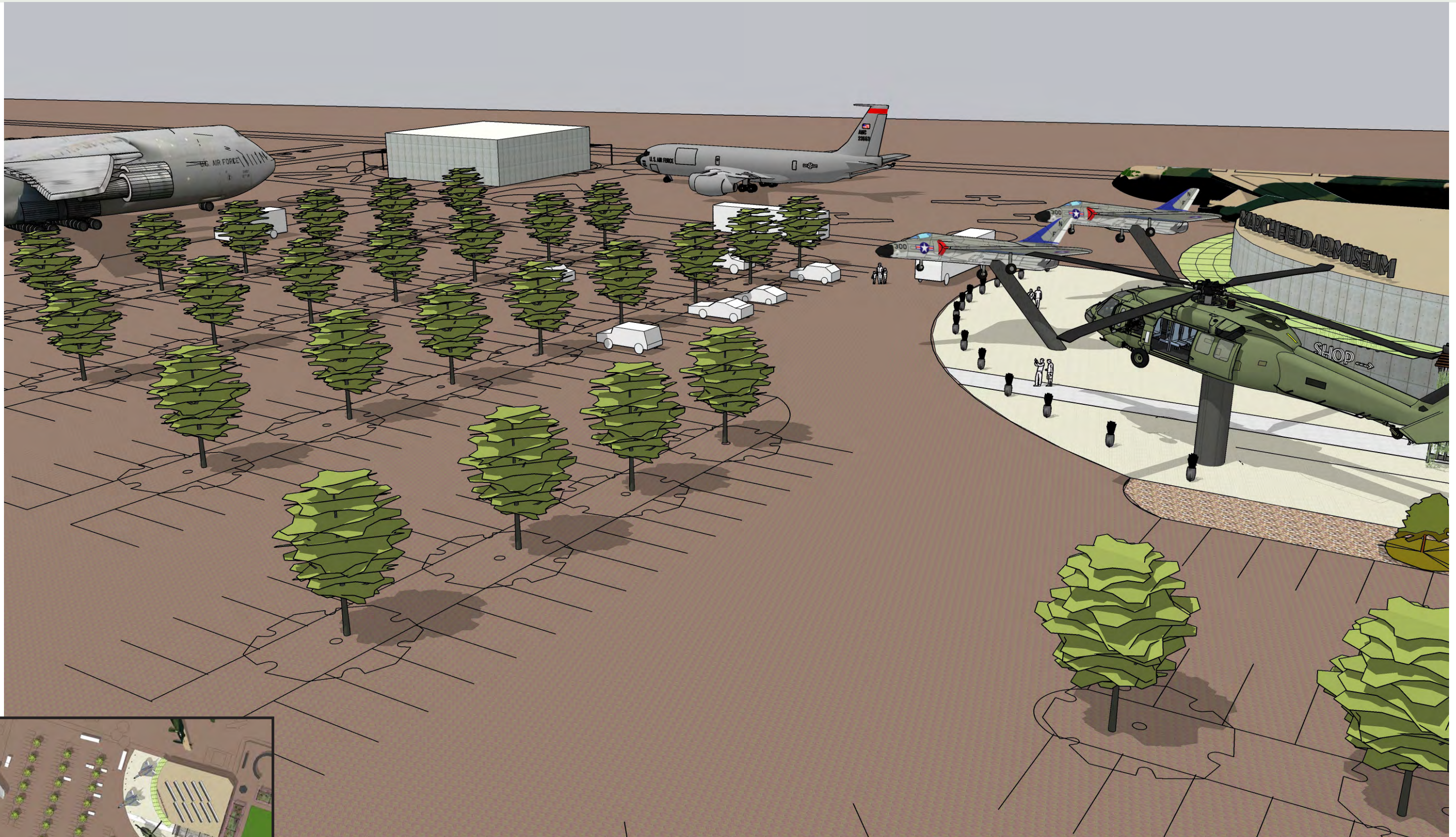


Shown above is a concept idea for a primary entry gateway. With a significant street-side architectural element there will be no ambiguity about the entry to the museum parking and there will be an increased presence along the freeway corridor.

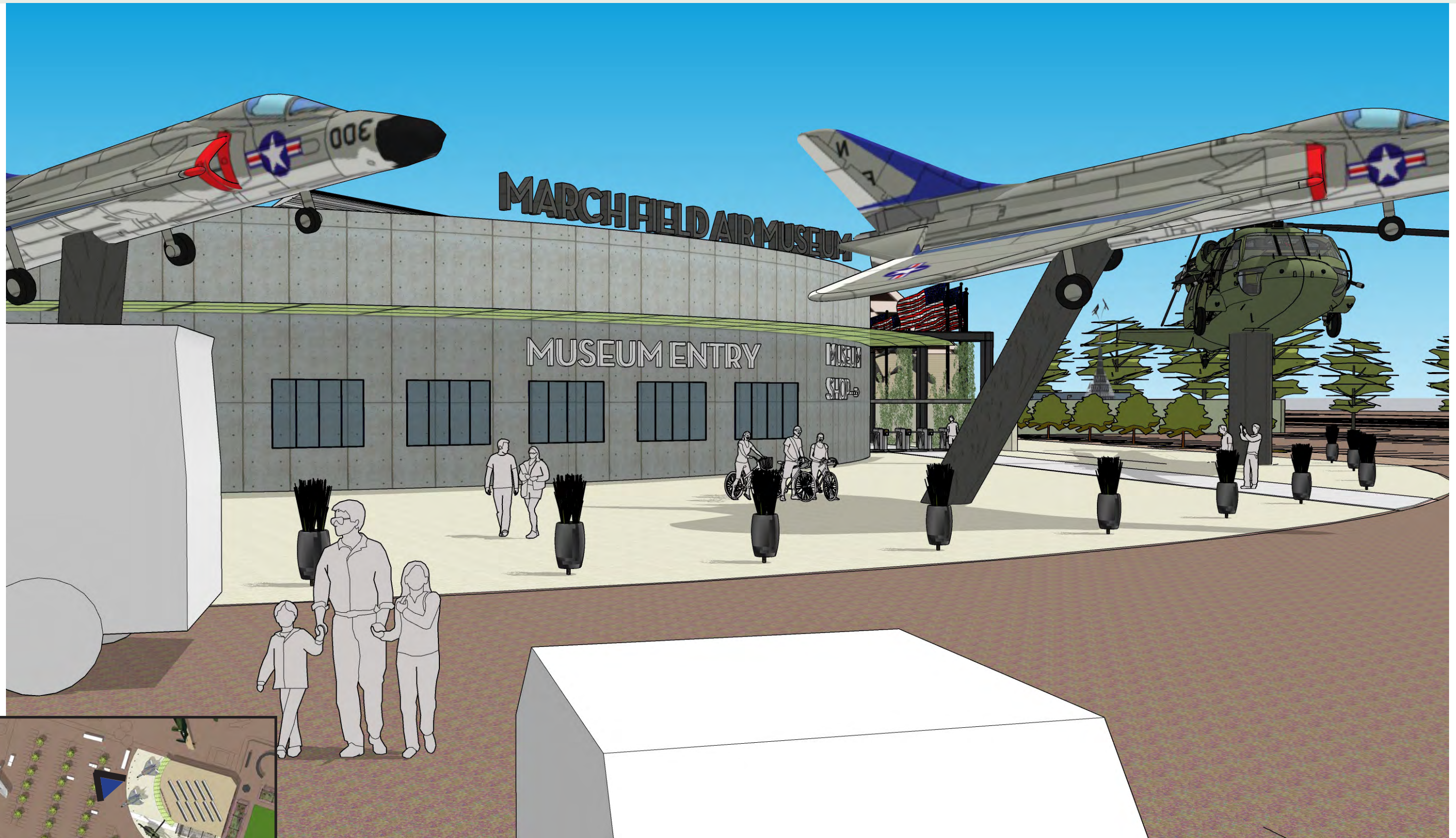


Shown below is a concept idea for a ticketing entry into the museum from the parking area. Using the power of an elevated helicopter over the structure, visitors will clearly understand where to go from the parking area. A planted trellis corridor leading into the museum provides the feel of overhead camo-netting and provides shade.

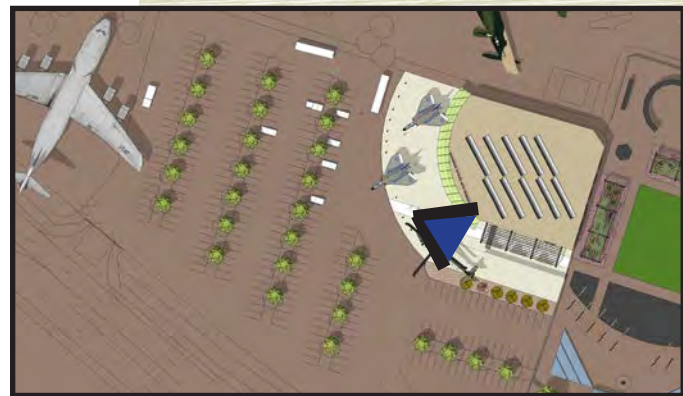
ENTRY AND PARKING - BIRDS-EYE VIEW



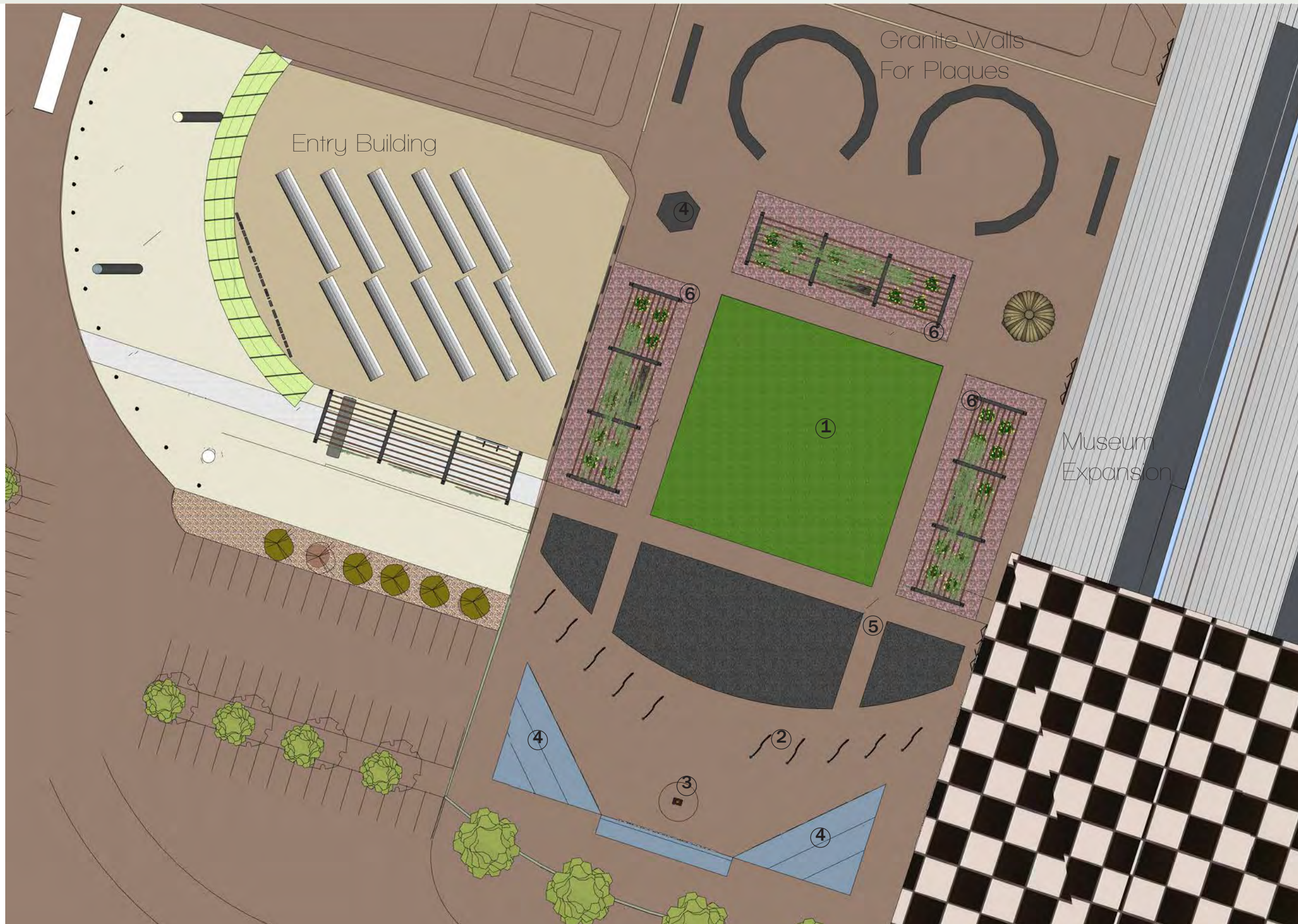
ENTRY PLAZA



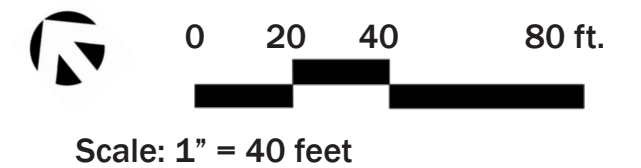
ENTRY TO MUSEUM



MEMORIAL GARDEN - ENLARGEMENT



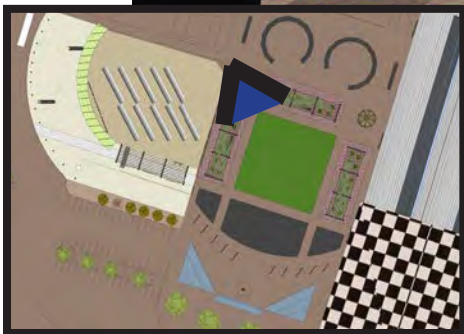
- Legend
- ① Formal Lawn
 - ② Flag Court
 - ③ Hap Arnold Memorial
 - ④ Memorials (Existing and New)
 - ⑤ Granite "Reflecting Pool"
 - ⑥ Rose Beds With Trellis



MEMORIAL GARDEN - BIRDS-EYE VIEW



MEMORIAL GARDEN



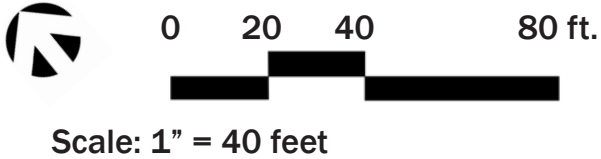
MEMORIAL GARDEN



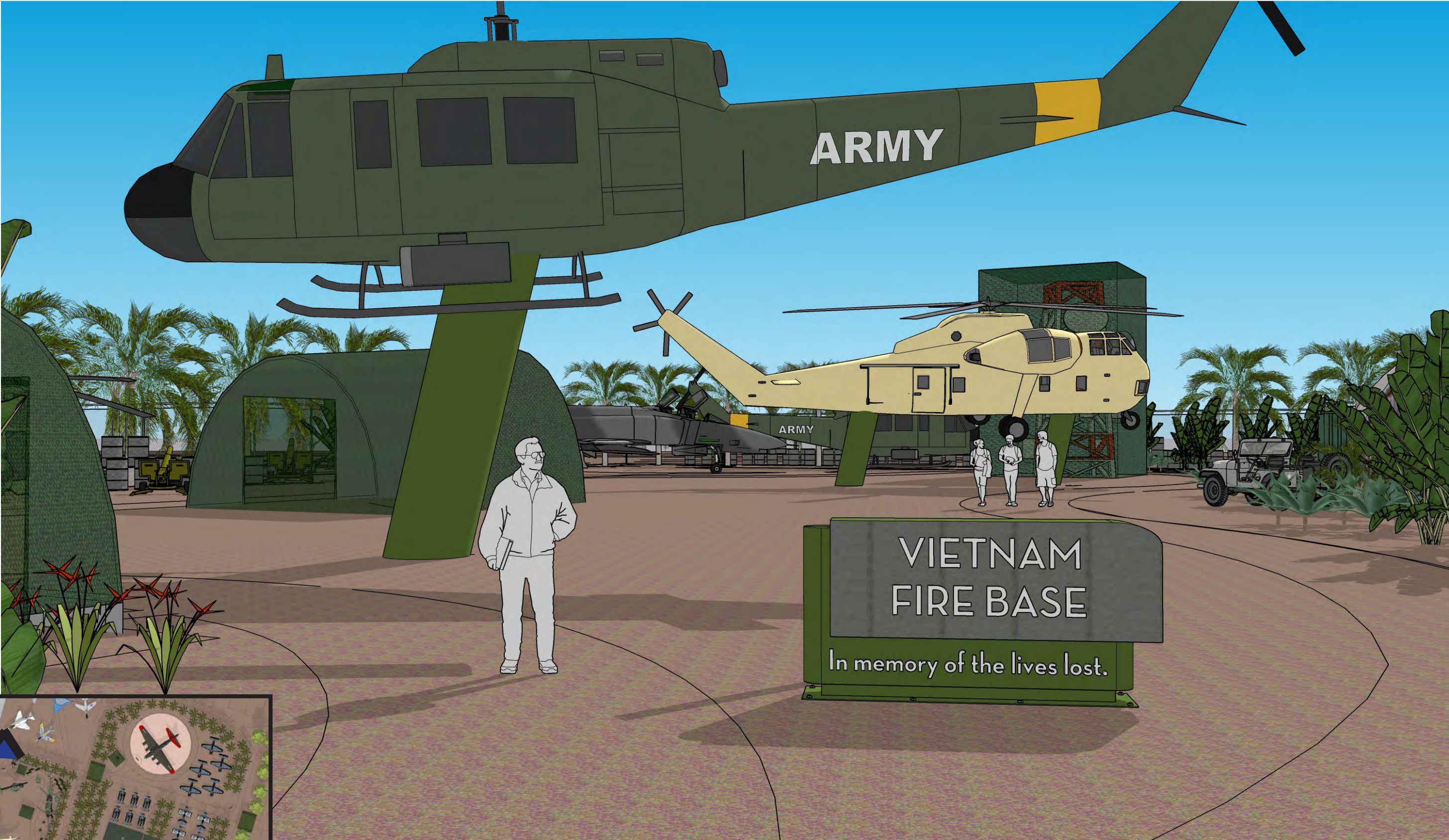
VIETNAM & PACIFIC FIRE BASE - ENLARGEMENT



- Legend
- ① Entry Transition to Pacific
 - ② Radio Tower
 - ③ Palm Collection
 - ④ Existing Flying Fortress
 - ⑤ New Planes



VIETNAM FIRE BASE - ENTRY VIEW



VIETNAM FIRE BASE - INTERIOR VIEW



VIETNAM FIRE BASE - INTERIOR VIEW



PACIFIC THEATER - BIRDS-EYE VIEW



PACIFIC THEATER - ENTRY VIEW



PACIFIC THEATER - ALTERNATE ENTRY



MIDDLE EAST CAMPAIGNS - ENLARGEMENT



- Legend
- ① "Runway" - Colored DG
 - ② Indoor Displays
 - ③ Hesko Containers
 - ④ Entry Gateways
 - ⑤ Future Acquisition/Loan
 - ⑥ Landscape Transition



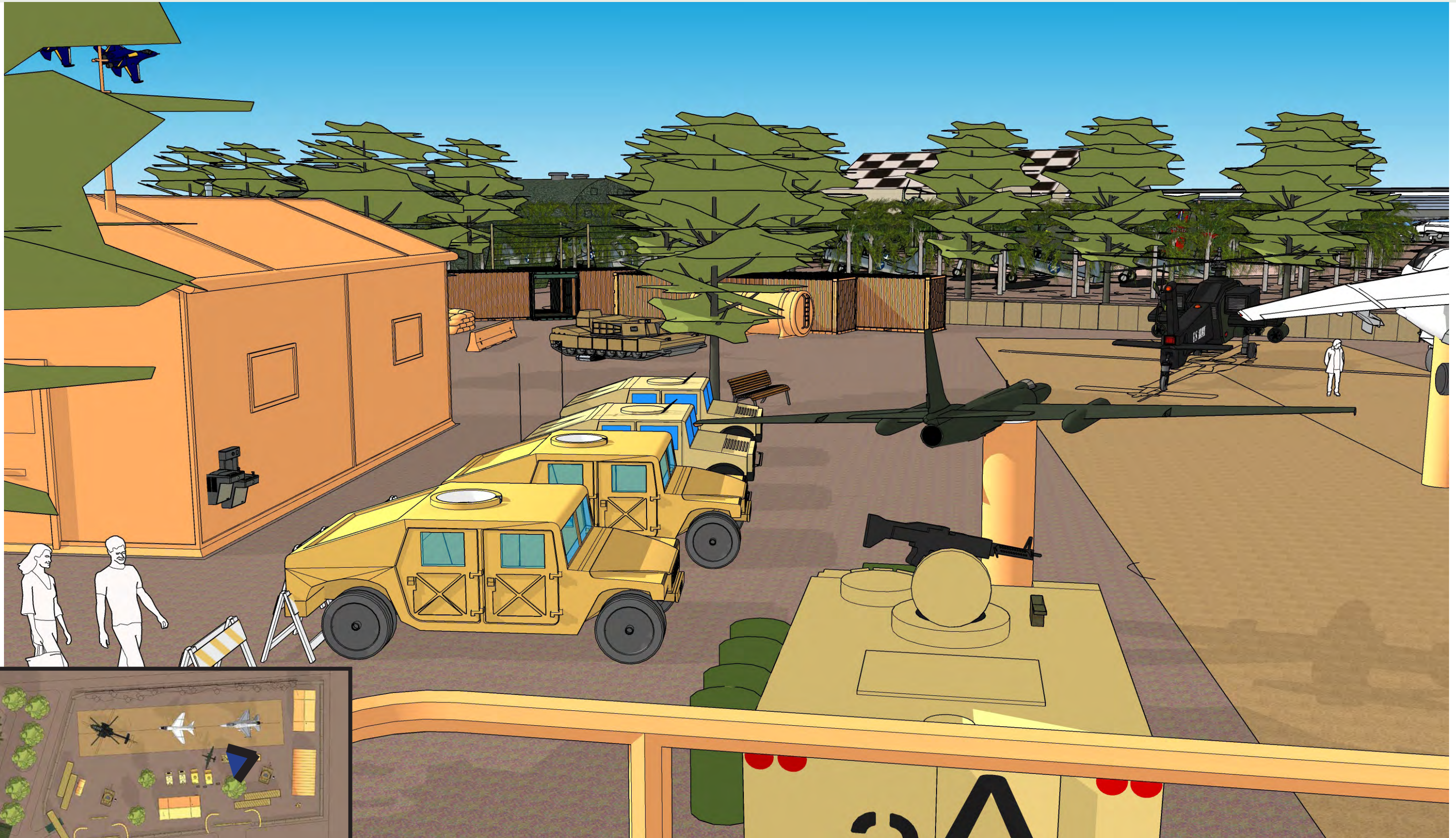
MIDDLE EAST - ENTRY VIEW



MIDDLE EAST - BIRDS-EYE VIEW



MIDDLE EAST - VIEW FROM TOWER



MIDDLE EAST - ALTERNATE ENTRY



PLANT PALETTE

“Faux Tropical” Low Water Shrubs



Strelitzia nicolai
Giant Bird of Paradise



Agave 'Blue Flame'
Blue Flame Agave



Agave 'Blue Glow'
Blue Glow Agave



Caesalpinia pulcherrima
Red Bird of Paradise



Strelitzia reginae
Bird of Paradise



Ruellia brittoniana
Mexican Petunia



Feijoa sellowiana
Pineapple Guava



Justicia spicigera
Mexican Honeysuckle

Low Water Trees



Bauhinia macranthera
Chihuahuan Orchid Tree
(H x W): 15ft x 15ft



Prosopis X Phoenix
Thornless Mesquite
(H x W): 35ft x 35ft



Acacia willardiana
Palo Blanco
(H x W): 20ft x 15



Acacia farnesiana Sweet Sierra
Podless Sweet Acacia
(H x W): 25ft x 25ft

Low Water Palms



Brahea armata
Blue Hesper Palm
25-40' H



Butia odorata
Pindo Palm
15-20' H



Chamaerops humilis
Mediterranean Fan Palm
6-15' H, Clumping



Phoenix canariensis
Canary Island Date Palm
40-60' H



Phoenix dactylifera
Date Palm
40-60' H



Trachycarpus fortunei
Windmill Palm
25-30' H

All species listed here are low water as classified by WUCOLS in the City of Riverside, with the exception of *Strelitzia sp.* (listed as Moderate).

REFERENCES AND CREDITS

Aerial of air field <https://www.march.afrc.af.mil/Portals/135/march1932%20WEBSITE.jpg>
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Pittsburgh State - Veteran's Memorial <https://www.psuvetmemorial.org/>
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Runway 34 Restaurant Night https://img2.10bestmedia.com/Images/Photos/229317/p-0075-gardens-trellisandfamily-studioj_55_660x440_201404241043.jpg
Runway 34 Restaurant Interior https://lh5.googleusercontent.com/p/AF1Qip0EmkmVNccW57_vJOhpEmjNk7804ih5a3Kubtub=w1920-h1080-k-no
Runway 34 Restaurant - Entry https://www.charlywerdernews.ch/public/065/runway_34/01-Hannah-Loretz-by-Charly-Werder-RUNWAY-34.jpg
Pima Air Main Hangar <https://pimaair.org/wp-content/uploads/2019/11/Martin-PBM-5A.jpg>
Pima Air Main Outdoor <https://pearlharborwarbirds.com/wp-content/uploads/2015/08/140129171637-aviation-museum-pima-boneyard-horizontal-large-gallery.jpg>
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Palm Springs Air Museum - heritage hangar event <https://www.lonestarflight.org/wp-content/uploads/2020/05/heritage-hangar-front-1024x1024.jpg>
F4U Corsair with palm trees <https://www.islandlifemag.com/wp-content/uploads/2017/09/F4U-Corsair.jpg>
F6F-3 Hellcats of VF-40 at Espiritu Santo 1944 https://en.wikipedia.org/wiki/File:F6F-3_Hellcats_of_VF-40_at_Espiritu_Santo_1944.jpg
Huts in South Pacific https://www.ibiblio.org/hyperwar/USN/Building_Bases/img/bases2-p209.jpg
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All plant photos are Creative Commons openly shared