# San Bernardino International Airport Authority
**1601 East Third Street, Suite 100**
**San Bernardino, CA 92408**

**Request for Qualifications for**
**Phase II General Aviation Hangar Development Project**

## 1. INTRODUCTION

The San Bernardino International Airport Authority (SBIAA) (a joint powers authority comprised of the County of San Bernardino and the cities of Colton, Highland, Loma Linda, and San Bernardino) is issuing a Request for Qualifications (RFQ) to solicit responses from qualified developer and contractor teams with the vision, resources and expertise to enter into a development agreement and ground lease with the SBIAA for the buildout and operation of the Phase II General Aviation Hangar Development Project affecting an approximately 200,000 square foot parcel of SBIAA owned vacant land. In recent years, the SBIAA has made substantial investments in building, hangar, and terminal improvements, parking lot and other facility upgrades. This project would create a third row of box hangars for the developer/ground lessee to lease to future general aviation customers and tenants. SBIAA has previously installed underground utilities to the site, completed adjacent ramp and paving improvements, and established pre-entitled, and developable general aviation hangar site on the parcel.

The buildings are located at 170 & 180 Victoria Avenue in San Bernardino at the San Bernardino International Airport. This facility was a ground up construction completed in 2016 including general aviation infrastructure on the first and second rows of general aviation hangars, totaling 12 box hangars and 18 T-hangars located immediately south of the developable pad for the Phase II project (See attached Site Map, Exhibit "A").

### 1.1 Submission Deadline

For full consideration, response to this RFQ is due at the SBIAA's administrative office located at 1601 E. Third Street, Suite 100, San Bernardino, CA 92408 no later than Wednesday, June 24, 2026 at 2:00 p.m. Please submit one (1) signed original copy of the RFQ addressed to the attention of Ms. Jillian Ubaldo, Clerk of the Board. In bold lettering, mark the envelope with the following words: **"RFQ for Phase II General Aviation Hangar Development Project"**.

## 2. RFQ DESCRIPTION

This Request for Qualifications is to invite developer and contractor teams to submit qualifications to participate in delivering development services for the final design, engineering, value engineering, development, financing, and construction of compliant and conforming hangar facilities and improvements to complete the Phase II General Aviation Hangar Development Project.

## 3. SCOPE OF SERVICES

Subject to negotiation, approval, and execution of a separate ground lease agreement with the selected firm/developer– which shall govern the future operation and use of the proposed Phase II General Aviation Hangar Development Project facilities – the selected firm shall work under the direction of the SBIAA and in close coordination and collaboration with SBIAA's conceptual design engineer-of-record (Burns McDonald). The selected team shall provide comprehensive design, engineering, value engineering, financing, permit support, and construction services for the full-scale development and construction of the Phase II General Aviation Hangar Development Project. All aspects of the project will be subject to plan check and permitting through the SBIAA and City of San Bernardino. SBIAA shall serve as lead agency for any supplemental CEQA related processes.

## 4. SELECTION AND AWARD SCHEDULE

The following milestones are provided for reference only. The SBIAA reserves the right to modify the dates presented herein at its own sole discretion.

| | |
|---|---|
| Issue RFQ | June 1, 2026 |
| Non-mandatory walk-through of facility | June 15, 2026 |
| Deadline for Questions | June 18, 2026 |
| Proposal due date | June 24, 2026 |
| Optional Interviews Week of | June 29, 2026 |
| Selection and notification Week of | July 6, 2026 |
| Approval by Board | July 22, 2026 |

## 5. QUALIFICATION REQUIREMENTS

The SBIAA requires the following qualifications from respondents:

- Must be properly licensed with the State of California and local regulators in the areas of expertise, including providing evidence that the members of the project team have completed, or demonstrated the experience, competency, capability, and capacity to complete projects of similar size, scope, or complexity.
- Proposed key personnel must have sufficient experience and training to competently manage and complete the design and construction of the project, and a financial statement that ensures that the contracting entity has the capacity to complete the project.
- Must possess prior experience with projects at a U.S. commercial airport(s).
- Must possess the licenses, registration, and credentials required to design and construct the project, including, but not limited to, information on the revocation or suspension of any license, credential, or registration.
- Must provide evidence that establishes that the contracting entity has the capacity to obtain all required payment and performance bonding, liability insurance, and errors and omissions insurance.
- Must provide information concerning workers' compensation experience history and a worker safety program.

- Must provide evidence of an acceptable safety record. A proposer's safety record shall be deemed acceptable if its experience modification rate for the most recent three-year period is an average of 1.00 or less, and its average total recordable injury or illness rate and average lost work rate for the most recent three-year period does not exceed the applicable statistical standards for its business category or if the proposer is a party to an alternative dispute resolution system as provided for in Section 3201.5 of the Labor Code.
- The information required under this RFQ shall be certified under penalty of perjury by the contracting entity and its general partners or joint venture members, as applicable.
- The proposing entity shall not be prequalified or short-listed unless the entity provides an enforceable commitment to the SBIAA that the entity and its subcontractors at every tier will use a skilled and trained workforce to perform all work on the project or contract that falls within an apprentice able occupation in the building and construction trades, in accordance with applicable law under the State of California, specifically Chapter 2.9 (commencing with Section 2600) of Part 1 of the Public Contract Code.
- Must complete the Conflict of Interest Form, attached hereto as Exhibit "B" as part of its submission.
- Be able to provide past project references and examples of completion of similarly scaled and sized design and construction projects in the region.

## 6. SELECTION PROCESS

A Selection Committee designated by the SBIAA will evaluate the RFQs. The selection committee may short-list RFQs after the initial evaluation and interviews will be scheduled thereafter.

## 7. PRE-SUBMITTAL ACTIVITIES

**7.1. Questions Concerning RFQ** – In order to control the dissemination of information regarding this RFQ, organizations interested in submitting an RFQ shall not make personal contact with any member of the SBIAA staff members other than Darrell Hale, Property Manager. Questions regarding this RFQ shall be submitted no later than Thursday, June 18, 2026 at 2:00 p.m. All questions must be directed via e-mail to the individual listed below:

Mr. Darrell Hale, Property Manager
San Bernardino International Airport Authority
1601 E. Third Street, Suite 100
San Bernardino, CA 92408
(909) 382-4100, Ext. 155
Fax: (909) 382-4106
Email: dhale@sbdairport.com

**7.2 Non-mandatory facility walk-through** – A non-mandatory walk-through will be held on Monday, June 15, 2026 at 10:00 a.m. local time beginning at the main entrance at 275 N. Leland Norton Way, San Bernardino, CA 92408. All respondents to this RFQ are encouraged to attend the walk-through.

**7.3 Revision to the Request for Statement of Qualifications.** The SBIAA reserves the right to revise this RFQ. Revisions, in the form of an Addendum to this RFQ will be posted on the SBIAA website at https://sbiaa.org/business-opportunities/. It is the sole responsibility of interested parties to check the website regularly for updates related to this RFQ. No information or addendums will be sent directly to any interested parties.

## 8. SPECIAL CONDITIONS

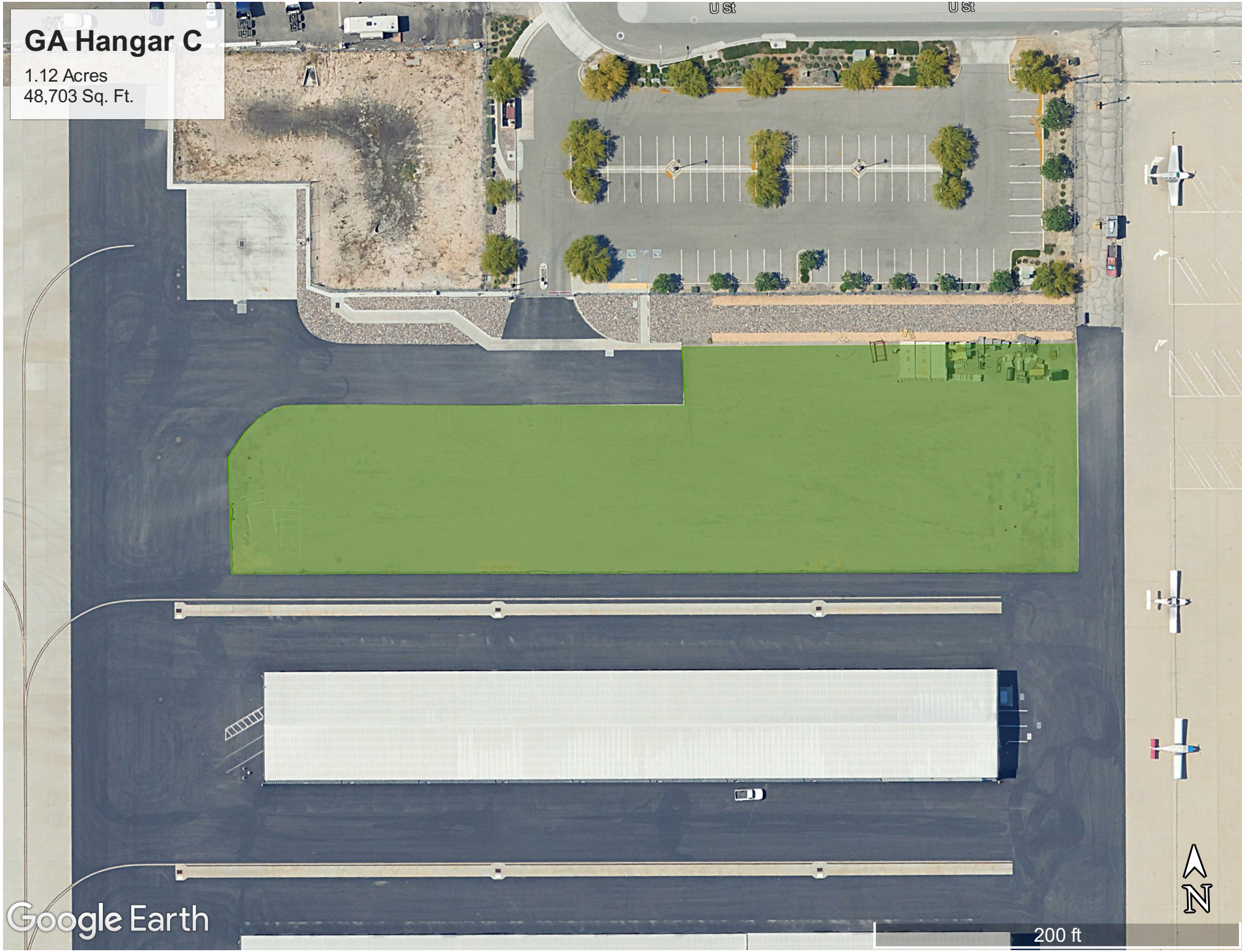
**General –** The SBIAA reserves the right to cancel, in part or in its entirety, this RFQ including but not limited to, selection schedule, submittal date, and submittal requirements. If the SBIAA cancels or revises this RFQ, it will be posted on the SBIAA website. The SBIAA reserves the right to interview and request additional information and clarifications from any responders to this RFQ. Selection announcements, contract awards, and all data provided by the SBIAA shall be protected from public disclosure.

## 9. ATTACHMENTS TO THIS RFQ

Exhibit A: Site Map and 10% Design Report
Exhibit B: Conflict of Interest Form
Exhibit C: Scope of Services

Exhibit “A”
SITE MAP AND 10% DESIGN REPORT

See Attached


GA Hangar C
1.12 Acres
48,703 Sq. Ft.
U St
U St
N
200 ft
Google Earth

# C1 Hangar – 10% Design

## San Bernardino International Airport

**7/20/2018**

# C1 Hangar – 10% Design

**prepared for**

**San Bernardino International Airport**
**San Bernardino, California**

**7/20/2018**

**prepared by**

**Burns & McDonnell Engineering Company, Inc.**
**140 S. State College Blvd. Suite 100, Brea, CA 92821**

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## EXECUTIVE SUMMARY

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# LIST OF ABBREVIATIONS

| Abbreviation | Term/Phrase/Name |
|---|---|
| BOD | Basis of Design |
| Burns & McDonnell | Burns & McDonnell Engineering Company, Inc. |
| CMa | Construction Manager Agent |
| CMAR | Construction Manager-at-Risk |
| CM | Construction Manager |
| D-B-B | Design-Bid-Build |
| GA | General Aviation |
| GMP | Guaranteed Maximum Price |
| RFI | Request for Information |
| ROM | Rough Order of Magnitude |
| SBIAA | San Bernardino International Airport |
| SF | Square Feet |

# 1.0 EXECUTIVE SUMMARY

San Bernardino International Airport Authority (SBIAA) has identified a need to plan and construct a new hangar facility that is flexible in design and has the capacity to handle both small and large general aviation aircraft. Senior leadership is currently at a critical point in deciding the mix of hangars they would like to design and construct. In 2016, SBIAA constructed two different hangar complexes, referred to as Hangars A1 and B1, all of which have been leased. Currently, there are more general aviation (GA) aircraft than there are available hangars, and thus several pilots are on a waiting list for hangar space. The new set of hangars will be referend to as Hangar C1.

SBIAA contracted Burns & McDonnell Engineering Company, Inc. (Burns & McDonnell) for the initial hangar assessment. This is the first phase in deciding which hangars to design to allow SBIAA to achieve both their short and long term functional and operational goals. Burns & McDonnell analyzed several different hangar options, which included the following:

Option A – Nested T-Hangars

Option B – Box Hangars

Option C – Mix of five box hangars and one executive box hangar

Each hangar option was ranked by a set of evaluation criteria including: price, hangar size, flexibility, future SBIAA fleet mix, door type, maximum door width, maximum door height, and taxilane constraints. It was determined by SBIAA Sr. Leadership that Option C was the preferred option.

This report is organized into the following sections:

Section 2.0 – Final 10% Design of Hangar C1

Section 3.0 – Scope of Work Components for Phase 2 – Design

Section 4.0 – Basis of Design

Section 5.0 – Rough Order of Magnitude Cost Estimate

Section 6.0 – Preliminary Schedule

Section 7.0 – Project Delivery Method Alternatives

# 2.0 FINAL 10% DESIGN

Burns & McDonnell presented various hangar options to San Bernardino International Airport including the following:

Option A – Nested T-Hangars

Option B – Box Hangars

Option C - Mix of five box hangars and one executive box hangar

It was determined that Option C was the preferred option with SBIAA Sr. Leadership. Figure 1 demonstrates the final 10% design of the future hangar complex. This option consists of four 60’ x 70’ box hangars and one executive 100’ x 110’ box hangar combined into one footprint.

The clear depth observed from Hangar C1 to existing Hangar B1 is 92.16’. The smaller box hangars would be placed in front of the existing driveway from the parking lot, and the existing gravel would be replaced with asphalt concrete to provide a 27.44’ paved width access road. Each box hangar will have one exit door, located on the back of the hangar. The executive box hangar will have two exit doors. The exterior façade to match hangars A1 and B1.

The south parking lot gate would be reconstructed with two independent operating gates for ingress and egress with card reader. The fire department will be able to access the back of the hangars via this operating gate. Three hangar specific parking stalls will be constructed on the airfield area on the back side of the hangars. Additionally, each hangar will have a garage door for vehicle access, in the event the pilot would like to park his/her vehicle in the hangar. The north parking lot configuration will not change.

Three fire walls will be located throughout the hangar complex every 12,000 square feet to avoid use of foam fire protection. Additionally, a fire riser room will be located in the northeast corner of the executive box hangar.

A new storm drain and water line would be constructed in addition to an aircraft-rated trench drain. Additionally, the communication pullbox, telephone vault, electrical vault and communication conduit will need to be relocated. On the West end of the hangar complex, the existing storm drain will need to be relocated and will be connected to the oil-water separator within the wash basin. Figure 2 demonstrates the hangar elevations and Figure 3 depicts the code analysis.

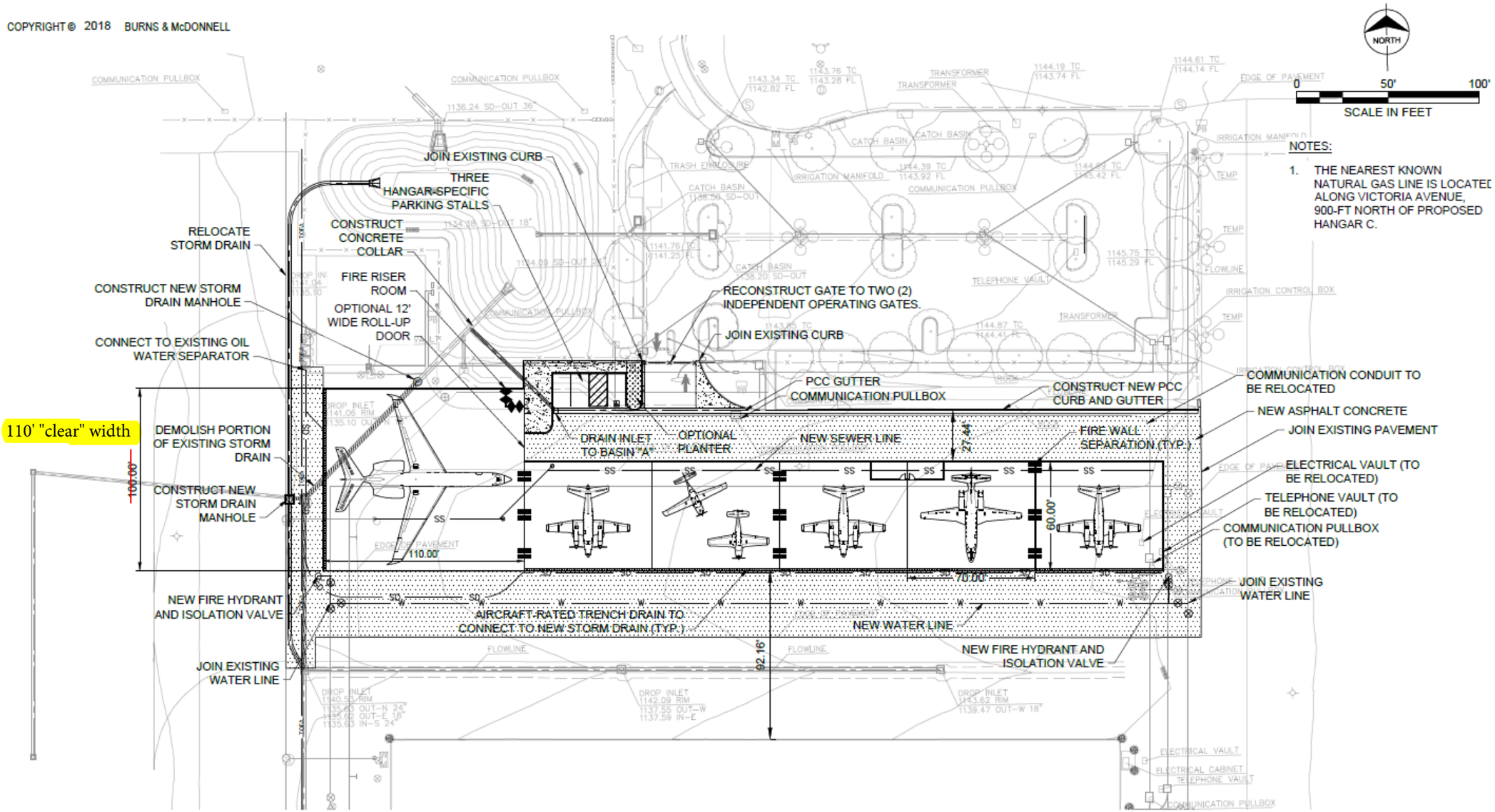


**Figure 1 - Hangar C 10% Design**

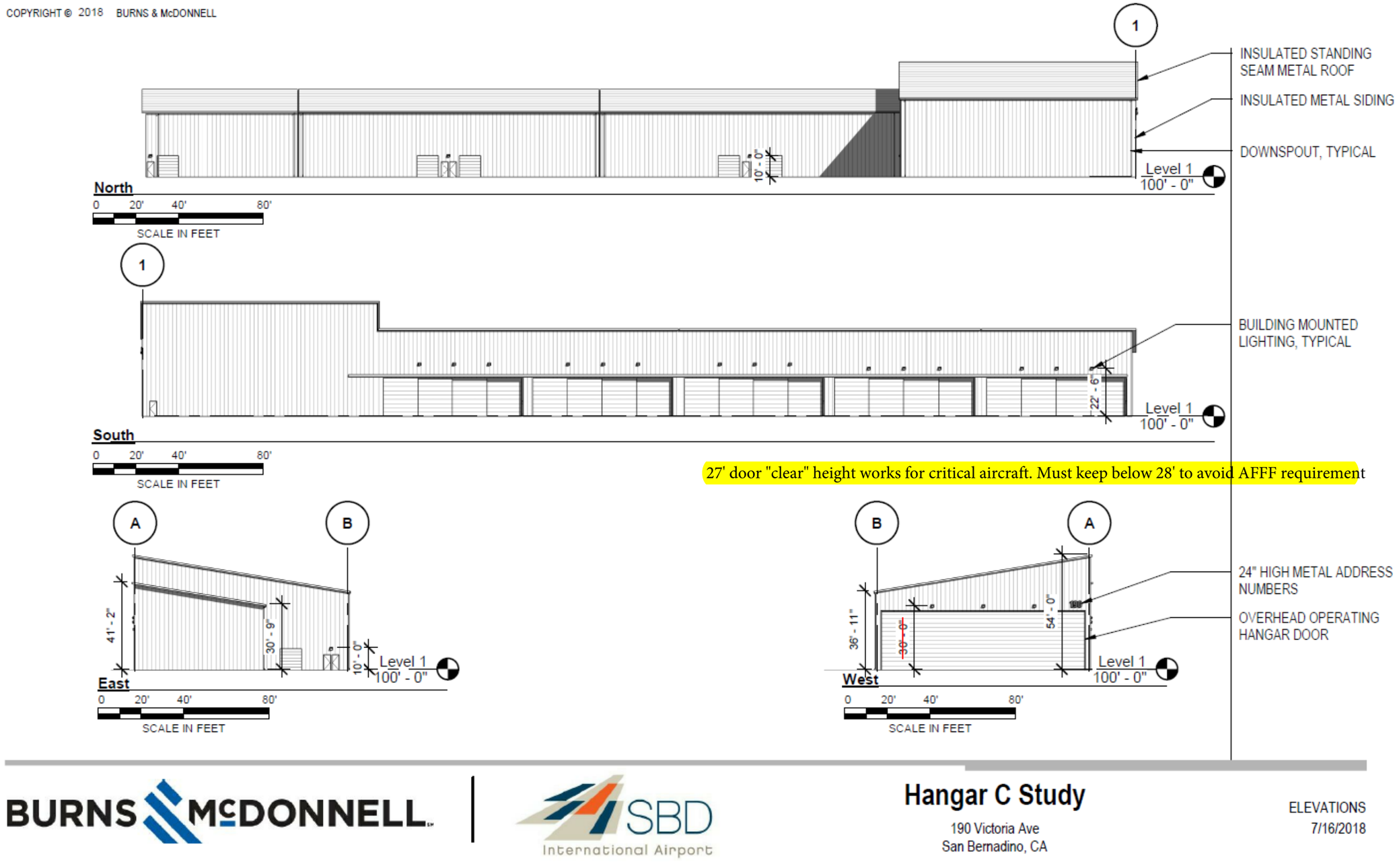


**Figure 2 - Hangar C Elevations**

1. APPLICABLE CODES AND STANDARDS

| ABBREVIATIONS | TITLE | EDITION |
|---|---|---|
| CBC | CALIFORNIA BUILDING CODE | 2016 |
| CFC | CALIFORNIA FIRE CODE | 2016 |
| CMC | CALIFORNIA MECHANICAL CODE | 2016 |
| CPC | CALIFORNIA PLUMBING CODE | 2016 |
| NFPA 10 | STANDARD FOR PORTABLE FIRE EXTINGUISHERS | 2013 |
| NFPA 13 | STANDARD FOR THE INSTALLATION OF SPRINKLER SYSTEMS | 2013 |
| NFPA 70 | NATIONAL ELECTRICAL CODE | 2014 |
| NFPA 72 | NATIONAL FIRE ALARM AND SIGNALING CODE | 2013 |
| NFPA 80 | STANDARD FOR FIRE DOORS AND OTHER OPENING PROTECTIVES | 2013 |
| NFPA 90A | STANDARD FOR THE INSTALLATION OF AIR-CONDITIONING AND VENTILATING SYSTEMS | 2015 |
| NFPA 101 | LIFE SAFETY CODE | 2015 |

2. TYPE OF CONSTRUCTION (IBC 601)

| BUILDING ELEMENT | TYPE OF CONSTRUCTION | FIRE RESISTANCE RATING |
|---|---|---|
| PRIMARY STRUCTURAL FRAME | IIB | 0 HR |
| BEARING EXTERIOR WALL | IIB | 0 HR |
| BEARING INTERIOR WALL | IIB | 0 HR |
| NON-BEARING EXTERIOR WALL | IIB | 0 HR |
| NON-BEARING INTERIOR WALL | IIB | 0 HR |
| FLOOR CONSTRUCTION INCLUDING SUPPORTING BEAMS AND JOISTS | IIB | 0 HR |
| ROOF CONSTRUCTION INCLUDING SUPPORTING BEAMS AND JOISTS | IIB | 0 HR |

3. CLASSIFICATION OF OCCUPANCY

| AREAS | OCCUPANCY | CBC | NFPA 101 |
|---|---|---|---|
| CONFERENCE ROOM > 49 OCCUPANTS | ASSEMBLY, GROUP A-3 | 303.4 | 6.1.2 |
| OPEN OFFICE, CIRCULATION, RESTROOMS, LOBBY, BREAKROOM | BUSINESS, GROUP B | 304.1 | 6.1.11 |
| FACTORY AREA | INDUSTRIAL MODERATE-HAZARD, F-1 | 306.2 | 6.1.12 |
| FACTORY AREA | GENERAL INDUSTRIAL LOW-HAZARD, F-2 | 306.3 | 40.1.2.1.1 |
| EXPLOSIVE STORAGE | HIGH-HAZARD, GROUP H-2 | 307.4 | 40.1.2.1.3 |
| FLAMMABLE LIQUID STORAGE | HIGH-HAZARD, GROUP H-3 | 307.5 | 40.1.2.1.3 |
| TOXIC LIQUID STORAGE | HIGH-HAZARD, GROUP H-4 | 307.6 | 40.1.2.1.3 |
| AIRCRAFT HANGAR | MODERATE-HAZARD STORAGE, GROUP S-1 | 311.2 | 6.1.13 |
| WAREHOUSE | LOW-HAZARD STORAGE, GROUP S-2 | 311.3 | 6.1.13 |

7. BUILDING ALLOWABLE AREA (CBC 508)

| FLOOR | OCCUPANCY | ACTUAL AREA (SF) | RESTRICTING MODIFIED ALLOWABLE AREA (SF) | RATIO (SUM < 1) |
|---|---|---|---|---|
| FIRST | S-1 | 31,928 | 70,000 | 0.456 |

8. MODIFIED ALLOWABLE HEIGHT (CBC 504)

| OCCUPANCY | *RESTRICTING ALLOWABLE HEIGHT (FT / STORY) | SPRINKLER INCREASE (FT / STORY) | MODIFIED ALLOWABLE HEIGHT (FT / STORY) |
|---|---|---|---|
| A-3, F-1, S-1 | 55 / 2 | 20 / 1 | 75 / 3 |
| H-3 | 55 / 2 | NOT PERMITTED | 55 / 2 |
| B / S-1* | 55 / 2 | 20 / 1 | 75 / 3 |
| B, F-2, H-4, S-2 | 55 / 3 | 20 / 1 | 75 / 4 |

12. OCCUPANT LOAD CALCULATIONS (NFPA 101)

| FLOOR | AREA | FUNCTION OF SPACE | AREA (SF) | OCCUPANT LOAD FACTOR (SF/PERSON) | OCCUPANTS |
|---|---|---|---|---|---|
| LEVEL 1 | HANGAR | HANGAR | 31,874 | 500 | 64 |
| LEVEL 1 | OFFICES, BATHROOMS | BUSINESS AREAS | | 100 | |
| LEVEL 1 | CONFERENCE ROOM, BREAK | ASSEMBLY WITHOUT FIXED SEATING | | 15 | |
| LEVEL 1 | LOCKER ROOM | LOCKER ROOM | | 50 | |
| LEVEL 1 | FIRE PUMP ROOM, BOILER ROOM, MECH ROOM, ELEC ROOM, STORAGE | ACCESSORY STORAGE | 54 | 300 | 1 |

13. OCCUPANT LOAD SUMMARY AND MINIMUM EXITS FROM FLOOR

| FLOOR | GROSS AREA (SF) | OCCUPANTS | REQUIRED EXITS (NFPA 101) | REQUIRED EXIT SEPARATION (NFPA 101) |
|---|---|---|---|---|
| LEVEL 1 | 31,928 | 64 | 2 (7.4.1.1) | 1/3 DIAGONAL (7.5.1.3.3) |

14. MINIMUM EXITS OR EXIT ACCESSES FROM A SPACE OR AREA (NFPA 101)

| OCCUPANCY | CONDITION PERMITTING ONE EXIT | CONDITION REQUIRING TWO OR MORE EXITS | CODE SECTION |
|---|---|---|---|
| INDUSTRIAL | LESS THAN 100' COMMON PATH | 100' OR GREATER COMMON PATH | 40.2.4.1.2 |
| BUSINESS | N/A | ALL CONDITIONS | 38.2.4 |
| STORAGE | LESS THAN 100' COMMON PATH | 100' OR GREATER COMMON PATH | 42.2.4.1 |
| ASSEMBLY | N/A | ALL CONDITIONS | 12.2.4.1 |

15. COMMON PATH, DEAD-END, AND TRAVEL DISTANCE LIMITS (NFPA 101, TABLE A.7.6)

| OCCUPANCY | COMMON PATH LIMIT (FT) | DEAD END LIMIT (FT) | TRAVEL DISTANCE LIMIT (FT) |
|---|---|---|---|
| INDUSTRIAL GENERAL | 100 | 50 | 250 |
| BUSINESS | 100 | 50 | 300 |
| STORAGE ORDINARY HAZARD | 100 | 100 | 400 |
| ASSEMBLY | 20 FOR > 50 PERSONS<br>75 FOR ≤50 PERSONS | 20 | 250 |

21. FIRE EXTINGUISHER DISTRIBUTION (NFPA 10)

| OCCUPANCY | PRIMARY CLASSIFICATION OF FIRE AND HAZARD | MINIMUM RATING | MINIMUM FLOOR AREA PER A (SF) | MAX TRAVEL DISTANCE (FT) |
|---|---|---|---|---|
| ALL | CLASS A:B:C - ORDINARY | 2-A | 1,500 | 75 |

BURNS McDONNELL | SBD International Airport

**Hangar C Study**

190 Victoria Ave
San Bernadino, CA

BUILDING CODE ANALYSIS
7/12/2018

**Figure 3 - Hangar C Building Code Analysis**

# 3.0 SCOPE OF WORK COMPONENTS FOR PHASE 2 - DESIGN

The components to be included in phase 2, design, are described in detail below.

## 3.1 Parking

The south parking lot gate would be reconstructed with two independent operating gates for ingress and egress with card reader. Three hangar specific parking stalls will be constructed on the airfield area on the back side of the hangars. Additionally, each hangar will have a garage door for vehicle access, in the event the pilot would like to park his/her vehicle in the hangar. The north parking lot configuration will not change.

## 3.2 Fire Walls

Three fire walls will be located throughout the hangar complex every 12,000 square feet to avoid use of foam fire protection. Additionally, a fire riser room will be located in the northeast corner of the executive box hangar.

## 3.3 HVAC

All mechanical design will be in accordance with the following applicable codes and guidelines: NFPA 54 National Fuel Gas Code and NFPA 409 Standard on Aircraft Hangars. Additionally, the following Parts from Title 24, California Building Standards Code shall be followed: Part 2 - California Building Code, Part 4 – California Mechanical Code, Part 5 – California Plumbing Code, Part 6 – California Energy Code, Part 9 – California Fire Code, and Part 11 – California Green Building Standards Code.

The hangar will be heated via thermostatically controlled infrared heaters suspended from the structure to the indoor design condition as stated for freeze protection and occupant comfort. Mechanical ventilation will be provided via exterior sidewall-mounted exhaust fans while the hangar is occupied. Outside air louvers will be filtered to mitigate dust/sand within the hangar and provided with motorized dampers interlocked with exhaust fans. Heating fuel source (natural gas or electric) will be determined in following design stages in accordance with the requirements of Title 24 Part 6, §140.4(g).

The outdoor design conditions for Hangar C1, San Bernardino International Airport, California:

| | |
|---|---|
| CEC Climate Zone | 10 |
| | |
| Summer Cooling Conditions | |
| 1% Dry Bulb | 102.9°F |

| | |
|---|---|
| 1% Mean Coincident Wet Bulb | 69.7°F |
| | |
| Winter Heating Conditions | |
| 99% Dry Bulb | 36.5°F |
| | |
| Location: | |
| N. Latitude | 34.10 degrees |
| W. Longitude | 117.23 degrees |
| Elevation | 1158 feet |

The indoor design conditions for the hangar are as follows:

| | |
|---|---|
| Summer | Ventilation |
| Winter | 55°F – heating condition |

Ventilation rates shall be in accordance with CEC Title 24 Part 6.

## 3.4 Civil/Site Work

Civil engineering design will be in accordance with applicable FAA Standards for Specifying Construction on Airports, Advisory Circular 150/5300-13A Airport Design and 150/5370-10G Airport Construction Standards for work within the Airport Operations Area (AOA). All civil engineering work outside the AOA will be constructed in conformance with the City of San Bernardino Public Works Standards and Specifications, and in accordance with the County of San Bernardino Flood Control District.

### 3.4.1.1 Pavement Design

Airfield pavement will conform to FAA standards for construction. Aircraft pavement will be an Asphalt Concrete Flexible pavement design in conformance with FAA Standard P-401. Asphalt Binder will be Performance Grade (PG) 76-22 and will be placed over granular base conforming to P-209 over a compacted subgrade placed in conformance with P-152. The existing site was previously over-excavated and re-compacted, so no unexpected non-conforming subgrade is expected. Asphalt pavement in areas not subjected to aircraft traffic will be designed in accordance with the Standards Specifications for Public Works Construction (Green-Book). Section will be designed to support an H-20 traffic load. Asphalt binder will be PG 76-22 and Asphalt Cement pavement will conform to Gradation C-2. Base will

meet the Green-Book Specification for Processed Miscellaneous Base (PMB) allowing reuse of existing AC grindings.

#### 3.4.1.2 Utilities

Existing utilities were roughed into the site in anticipation of a different Hangar layout. As a part of this project a number of these utilities will require relocation and/or reconstruction. This project will require the relocation of the communications duct work and fiber cabling around the proposed Hangar footprint including the relocation of an existing pull-box. Two existing fire hydrant locations will be removed, and the hydrants re-used in new locations. An exiting on-site water line will be displaced by the new location of the Hangar – this line will be reconstructed to the south of the proposed Hangar to maintain the supply loop. The existing water line will be repurposed for a fire supply line to the proposed Hangar. The existing site storm drain line will be removed under the proposed footprint and flows diverted to the existing flood control basin. The existing sewer line that was 'stubbed' out for future use will be reconfigured and reused for this Hangar.

#### 3.4.1.3 Trench Drain

Each hangar will have a trench drain conforming to NFPA 409. Trench drains shall drain to the existing oil separator at the wash basin sized to handle the combination of a fuel spill from the aircraft with the largest fuel capacity capable of being housed in the hangar and the fire protection hose stream design rate. Storm drain to be relocated.

#### 3.4.1.4 Hangar Doors

The 60' x 70' box hangars shall have rolling doors. The hangar doors will be designed to stack to the left and/or to the right, stacking on the neighboring hangar. It is recommended that the large executive hangar have a Megadoor – a vertical lifting fabric door. The Megadoor can withstand heavy winds and rough environments and allows for rapid opening and closing. Another door option for the executive door is to install a rolling door, however this would require an outrigger for a stacking location on the north side of the hangar which would block access to the wash rack.

### 3.5 Electrical

All electrical design, and installation by the Contractor shall be per National Electrical Code (NFPA 70), National Electrical Safety Code (IEEE-C2), Life Safety Code (NFPA 101), Standards for Aircraft Hangars (NFPA 409), Illuminating Society of North America (IESNA) Lighting Handbook, International Fire Code (as amended by Boone County), 28 CFR Part 36 (ADA), and all local codes and regulations.

All equipment and electrical systems shall be grounded per NEC Article 250. Electrical equipment provided shall be UL listed. All equipment within hazardous locations shall be listed for such locations.

### 3.5.1 Exterior Electrical Systems

#### 3.5.1.1 Underground Distribution

Primary power shall be obtained from local SBIAA owned pad-mounted transformer located in existing parking lot north of the proposed new hangar. Connections to service transformer shall be coordinated with owner and secondary power from the transformer shall be brought into the hangar and terminated on a service entrance rated distribution main panelboard. Secondary voltage shall be 480 V. An 200A meter will be placed in the distribution board for each branch feeding each new bay. Existing manhole located inside the proposed building footprint will be relocated to the east side of the new hangar.

#### 3.5.1.2 Exterior Lighting

Exterior luminaries for building exterior lighting shall be wall mounted over man doors. Additional hangar mounted lighting is proposed to illuminate the space between hangar B1 and Hangar C1. Lamps shall be LED. Lighting levels shall be per IESNA Handbook.

Control of all exterior lighting shall be by means of photoelectric cells integral to light fixtures. West end fixtures will be shielded due to the proximity of the runway.

### 3.5.2 Interior Electrical Systems

#### 3.5.2.1 Electrical Service and Distribution

Main panelboard shall be sized to accommodate building calculated demand plus 25% future expansion. Provide short circuit withstand rating as required.

A 208Y/120V transformer shall be furnished and installed by Electrical Contractor. The transformer shall be three-phase, dry-type, general purpose ventilated with a primary of 480 volts and a secondary voltage of 208/120 volt. It will be fed from the main panelboard and will feed 208/120 volts panelboard.

A panelboard shall be provided for distribution to individual branch circuits. Provide short circuit protection to withstand rating as required. Contractor shall provide short circuit and coordination study.

Panelboards shall contain spaces for future breakers that compose of at least 20% of the panel and shall contain a minimum of 10% spare breakers. Duplex convenience receptacles rated 20 Ampere, 125-volts,

60-Hertz shall be wall mounted located on minimum 12-foot centers on the hangar perimeter walls. A maximum of four duplex receptacles shall be connected to any one 20-ampere circuit.

All conduits in the hangar shall be electrical metallic tubing. Conduit below the hangar floor shall be concrete encased PVC with the final 2 feet of all conduits transitioning from below hangar floor slab to above the floor, within the hangar bay shall be electrical metallic tubing.

All circuits requiring a neutral shall be provided with a full size, dedicated neutral. All electrical circuits shall include a green insulated equipment-grounding conductor. All conductors shall be copper. All insulation shall be THWN/THHN for branch circuits, and XHHW for feeders #2AWG and larger.

#### 3.5.2.2 Interior Lighting

Interior illumination shall be designed to the current edition of the IES Lighting Handbook. Design height shall be the floor. All interior lighting shall be accomplished with the use of LED fixtures.

Emergency egress lighting shall be provided by wall sealed beam type (LED), un-switched unitary fixtures with battery backup in compliance with NFPA 101. Illuminated exit signs with battery back-up shall be provided throughout the hangar to mark egress pathways.

### 3.5.3 Grounding

Building grounding shall be per NEC Article 250.

### 3.5.4 Lighting Protection

A lightning protection system compliant with NFPA 780 shall be provided. System shall carry UL Master Label. System shall be bonded to building steel and counterpoise system. Air terminals shall be sized and spaced per NFPA 780. Materials shall be fully compatible with roofing material. Air terminal mounting bases shall be of the adhesive type. All penetrations of roof shall be water tight and approved by the Owner.

### 3.5.5 Communications

Internet/data services shall be provided. Existing communication manhole shall be relocated to the east side of the hangar. A new 12-strand single mode fiber optic cable and 50-pair copper cable is proposed as backbone cables for telecom (data and phone) service for the hangar. The backbone cables may be brought in from the existing communication manhole. However, further coordination with the facility IT representative is required for cable type/amount and routing requirements. A Main Distribution Frame (MDF) room with an adjacent server room will accommodate most telecom head-end equipment. A

dedicated electrical panel with separated meter required by IT representative will be provided for the rooms. UPS's will be provided in the rooms to back up the mission critical load, as required.

Intermediate Distribution Frame (IDF) rooms will be provided in each bay of the hangar for the area where horizontal cable length exceeds 300' limit from the MDF room. The IDF rooms will be connected to the MDF room with backbone cable in 4" conduit(s).

# 4.0 BASIS OF DESIGN

Throughout the initial assessment, Burns & McDonnell discussed the basis of design (BOD) with SBIAA. The BOD are the program requirements specifically requested by SBIAA. It presents the basic rationale and assumptions, criteria and considerations to be developed within the final design.

## 4.1 Architectural Requirements:

a. Full insulation;

b. Exterior appearance to blend in with existing hangars A1 and B1;

c. Smooth concrete floors

d. All firewalls to be painted a neutral color;

e. High beam trusses to be painted a light grey color, shop prime with a finish coat. Not galvanized;

f. No skylights;

g. Hangar doors to have windows;

h. Address placards to match existing;

i. Signage needed for both hangar address and number of each hangar. Hangar address: 190 Victoria Avenue;

j. Mailbox stand to be installed for all three hangars (A1, B1 and C1) in the parking lot area;

k. No weather windsock needed;

l. Storm water drain to be installed off the hangar roof;

m. Hangar doors to have a standard locking device;

n. Bollards required in design.

## 4.2 Mechanical/Plumbing Requirements

a. Sewer connection required to each hangar box. Restrooms are not to be included in design;

b. Cold water connection required to each hangar, to be installed through the walls, not the floor;

c. No gas required (may not be per code);

d. Storm water drain to be installed off the hangar roof;

e. Full insulation;

f. Dust can be problematic. Requested the installation of filters on passive and/or mechanical ventilation;

g. Wet pipe sprinkler system to be installed (can explore dry powder, Cease Fire Systems).

## 4.3 Electrical

a. LED lights, minimum lights per code required. Add additional lights within the large executive box hangar;

b. LED lights to be installed on the exterior wall of the hangar shell. Exterior lights to have a photocell – no motion sensor;

c. Outside area lighting to be mounted to the outside of each facility. West end lights would need to be shielded as runway is nearby;

d. Internet/data required for each hangar. Connection point for internet connection to be located in the middle of the hangars (issue with previous hangars);

e. One outlet to be installed on each wall within each box hangar;

f. Two outlets to be installed on each wall within the large executive box hangar;

g. 110/220 3 phase power required in the box hangars;

h. Each hangar to have its own breaker panel and individually metered. 50 amps required for box hangar and 200 amps required for the executive box hangar;

i. Flashing blue strobe lights to be installed on the exterior of the hangar for fire signal;

j. No outside security cameras required;

k. Fire alarm strobes on the interior of the hangars are not required;

l. Need to upgrade the AOA entryway gate from the parking lot. Currently the gate opens too slow. Would like two gates, one for ingress and the other for egress;

m. Conduit to run to each hangar for more flexibility. SBIAA does have a robust fiber system.

## 4.4 Civil

a. No taxiway markings to be included in the design except for the taxiway centerline.

b. Soils were cut and recompacted to a 10-12’ depth. 100% compaction.

c. 7460 FAA approval required.

## 4.5 Fire Protection

a. Fire riser to be installed in a fire riser room in the north east corner of the executive hangar.

b. No fire strobes required.

c. Fire wall is required every 12,000 SF to avoid Foam Fire Protection;

d. Wet pipe sprinkler system required. May explore dry powder (Cease Fire Systems).

## 4.6 Structural

a. No tilt-up walls; estimate is based on Pre-Engineered Metal Building.

b. The foundation should have a fill feature per code drain with ½% front pony wall.

# 5.0 ROUGH ORDER OF MAGNITUDE COST ESTIMATE

Table 1 below depicts the rough order of magnitude (ROM) design and construction cost estimate for the new Hangar C1 complex.

| San Bernardino International Airport Authority | | | | |
|---|---|---|---|---|
| **10% Design Opinion of Probable Construction Cost - Hangar C Study** | | | | |
| Construction Item | Quantity | Units | Unit Price | Total |
| Construct Asphalt Apron - P401 <100,000 Lb Aircraft | 25600 | SF | $ 6.35 | $ 162,560 |
| Construct P403 Fire Access lane | 12300 | SF | $ 4.50 | $ 55,350 |
| Reconfigure Entry Driveway and Access Gates to provide 2 - 12 Foot Gates with new operators | 1 | LS | $ 51,200.00 | $ 51,200 |
| Gutter | 350 | LF | $ 38.00 | $ 13,300 |
| Relocate Fire Hydrant | 2 | EA | $ 8,500.00 | $ 17,000 |
| Construct 3' PCC Cross Gutter and Spandrel | 430 | SF | $ 8.50 | $ 3,655 |
| Reconstruct Storm Drain | 285 | LF | $ 145.00 | $ 41,325 |
| Construct 8' Chain Link Fence | 150 | LF | $ 42.00 | $ 6,300 |
| Manhole | 2 | EA | $ 8,800.00 | $ 17,600 |
| Relocate Communication Distribuition System | 1 | LS | $ 57,660.00 | $ 57,660 |
| Relocate On-Site Fire Supply Line | 580 | LF | $ 73.00 | $ 42,340 |
| Construct Trench Drain and Connection to Existing OWS | 1 | LS | $ 109,000.00 | $ 109,000 |
| Construct Box Hangars | 16800 | SF | $ 73.90 | $ 1,241,520 |
| Construct Executive Hangar | 11000 | SF | $ 98.30 | $ 1,081,300 |
| Connect to Existing Utilities - Water, Fire, Power | 1 | LS | $ 28,000.00 | $ 28,000 |
| **Subtotal =** | | | | **$ 2,928,110** |
| **Estimated Design/CA/CM Fees =** | 10% | | | **$ 292,811.00** |
| **Estimated Agency Fees/Permits =** | 3.5% | | | **$ 102,484** |
| **Contingency =** | 10% | | | **$ 292,811** |
| **Total =** | | | | **$ 3,616,216** |
| Notes: | | | | |
| Box Hangars - unfinished interiors | | | | |
| Door Type - sliding on Box Hangar, Vertical Lift on Executive Hangar | | | | |
| Pavement Strength for <100,000 Aircraft (no Stabilized Base) | | | | |
| No increase in Impervious area, no adjustment to Storm Water Storage | | | | |

**Table 1 - ROM Cost Estimate**

# 6.0 PRELIMINARY SCHEDULE

The preliminary schedule for both the design and construction can found in Table 2 – Preliminary Schedule.

# 10% Design Hangar C - Executive Hangar & Box Hangars (32,000 SF) Construction Schedule

*Conventional Design Bid Build*


| ACTIVITY | PLAN START | PLAN DURATION |
|---|---|---|
| NTP | 1 | 1 |
| 30% A/E Design | 1 | 10 |
| SBIAA Review | 11 | 2 |
| 90% A/E Design | 10 | 16 |
| SBIAA Review | 26 | 2 |
| 100% A/E Design | 26 | 6 |
| SBIAA Review/Approval | 32 | 1 |
| City of SB Plan Check | 33 | 4 |
| Comment Review/Plan Revision | 37 | 4 |
| City of SB Plan Check #2 | 41 | 4 |
| Comment Review/Plan Revision | 45 | 2 |
| City of SB Plan Check #3 | 47 | 4 |
| Comment Review/Plan Revision | 51 | 2 |
| City Permit Issued | 52 | 1 |
| Assist SBIAA/Bidding Services | 52 | 6 |
| Construction | 58 | 63 |
| Utility Relocations | 62 | 20 |
| Grading/Pad Construction | 62 | 30 |
| Hangar Construction | 72 | 48 |
| Utility Connections | 108 | 12 |
| Airside Site Improvements | 100 | 20 |
| Landside Improvements | 110 | 10 |
| Commisioning | 119 | 4 |
| Occupancy | 123 | 1 |

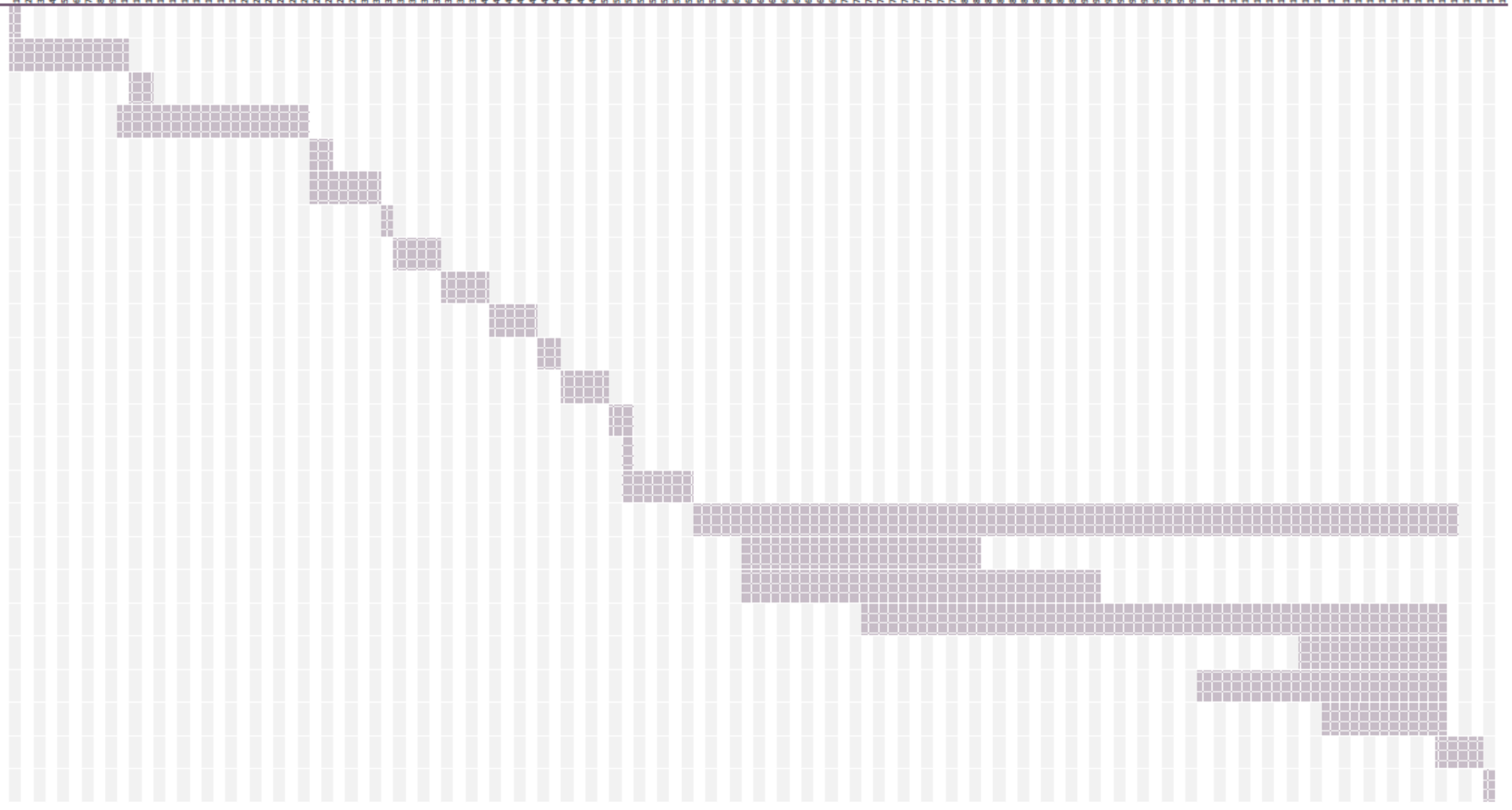


**Table 2 - Preliminary Schedule**

# 7.0 PROJECT DELIVERY METHOD ALTERNATIVES

This section compares various traditional and alternative project delivery methods in terms of project schedule, budget, risks, overall project administration and potential for litigations.

## 7.1 Design-Bid-Build

Design-Bid-Build (D-B-B) is the most commonly used and most traditional project delivery method. In this delivery method, the owner contracts with separate entities for both the design and the construction of a project. There are three phases to this method: (1) design phase (2) procurement phase (3) construction phase.

During the design phase, the selected architect will work directly with the owner to identify the owners needs and goals to develop the bid documents. The architect will work with other design disciplines as needed including but not limited to: structural engineers, mechanical, electrical and plumbing engineers, fire protection, civil engineers and landscape architects.

Once the design phase is completed, the owner typically writes the scope of work for the construction and seeks bids from construction firms or multiple disciplines to complete the work. The architect typically reviews the bids, answers any questions and investigates the contractors qualifications and develops a bid tabulation and offers the owner a recommendation for award.

In the construction phase, the contractor will obtain the necessary permits. It is common practice that the general contractor will limit its role to managing the overall construction process and work with subcontractors for project specific components. The architect will continue to provide construction administration services, answering Requests for Information (RFIs) and reviewing submittals as required.

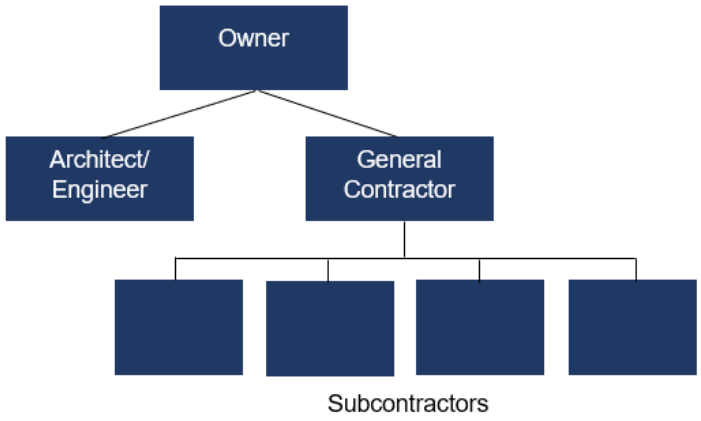


**Figure 4 - Design-Bid-Build**

*Benefits of D-B-B include:*

- The design team works directly with the owner to ensure their goals and vision get incorporate into the overall design.
- The general contractor bids the project using the 100% completed design documents. Should there be an incomplete or incorrect information in the design and specifications, the general contractor addresses them prior to submitting a bid in the form of an RFI and the architect will submit an addendum, resulting in less change orders.
- D-B-B ensures fairness amongst all potential bidders.
- Both the design procurement and the construction procurement are competitively bid, thus the owner can compare multiple firms and prices.
- The design and construction roles are separate and well identified, making the responsibilities of each and the associated liability very clear.
- The designers are more active in the construction phase to ensure their design intentions are implemented.

*Cons of D-B-B include:*

- The contractors generally have the "cheaper is better" mentality when bidding the project. Selecting the lowest priced general contractor can compromise the overall quality of the construction work and increase the project risks.
- The general contractor is brought onto the team after the design is completed, thus they have no opportunity to provide input to the overall design, potentially saving costs on procurement of materials or constructability issues.
- Project delays and increased costs could occur should redesign be required for any change orders.
- The overall project schedule takes longer than other delivery methods as the construction phase does not start until after the design is complete.
- Adversarial relationships between the designer and the general contractor may occur.
- Potential litigation could occur due to both the designer and the general contractor having separate contracts with the Owner.

## 7.2 Design-Build

Design-Build is more commonly used in the construction industry where the Owner has a single point of contact, known as the "design-builder" to deliver the project. The Owner typically hires a general contractor to act as the design-builder, although the project can also be led by an architect or engineer. It is also common for a partnership or joint-venture between a design firm and a construction firm for one project. Often times the designer, engineer and builder are all from the same firm which results in a quicker project completion.

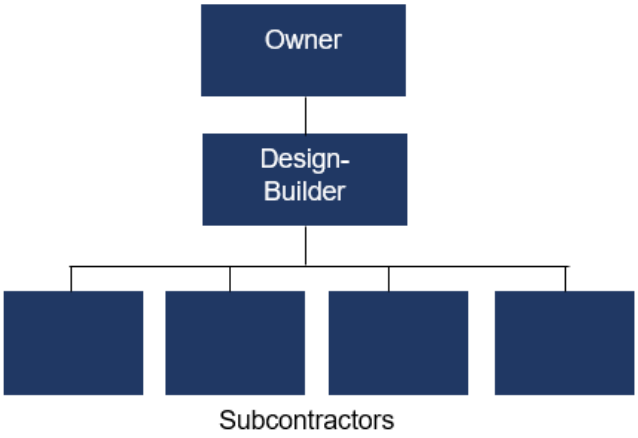


**Figure 5 - Design-Build**

*Benefits of Design-Build:*

- The Owner has a single source of accountability for the entire project.
- Fosters teamwork and collaboration between the design team and the construction team. The designer and the general contractor collaborate in the design phase and discover any problems before the construction begins.
- Better management of the overall project budget. Reviewing the project budget in the design phase and communicating the cost implications of design decisions ensures control of the project budget.
- This project delivery method often results in faster project completion. The procurement time is reduced, the construction can start before the design is completed, and any issues or problems are discovered early.
- As there is one contract with the owner, litigation is unlikely to occur.

*Design-Build Cons:*

- This method has low transparency which may result in higher prices rather than competitively bidding.

- The design team reports directly to the contractor and not to the owner, which may lower the overall quality of the project.

- The owner is less involved throughout the project.

## 7.3 Construction Manager-at-Risk (CM-at-Risk)

CM-at-Risk is a parallel model where both the designer and builder are procured separately by the Owner during the design phase of the project. The Construction Manager is procured prior to the designer and assists in the overall design RFQ evaluation/interview/ and selection. Once the design firm is hired, the construction manager at risk (CMAR) acts as a consultant to the owner and participates in the design phase, allowing them to provide constructive feedback and solutions which may result in cost savings measures, provide for a better delivery schedule and provide for better long-term maintenance of the facility.
Additionally, there is a commitment by the CMAR to deliver the project within a Guaranteed Maximum Price (GMP). Any costs outside of the GMP, and are not change orders, are the financial liability of the CMAR.

The CMAR typically does not build the project. Their overall responsibilities include managing the design and construction of the project. They may additionally offer other services such as surveying, cost estimating, engineering, etc.

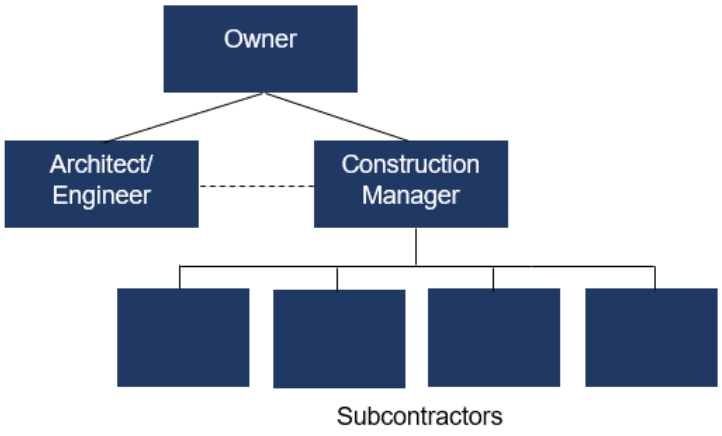


**Figure 6 - Construction Manager-at-Risk**

*Benefits of CMAR:*

- A high level of cost control;
- The CMAR is the Owner's advocate and manages all aspects of the project with the owner's interest in mind.
- The owner's overall risk is limited as the project budget is determined by the GMP;
- As the GMP is provided by the CMAR before bidding the project, the lowest bidder does not have to be selected.
- Strong collaborative working relationships occur between the Owner, CMAR, and designer which results in reduced change orders, higher quality, improved communications, accelerated project schedule and better cost management.
- Accelerated project schedule from generating the design documents to the start of the construction phase.

*Cons of CMAR:*

- It is often misunderstood that the GMP will not be exceeded within this delivery method. The GMP is based on the plans and specifications with added contingency. However major scope changes will result in change orders, which in tern should increase the GMP contract.
- The Owner has far less influence on the project once the award is made to the construction manager.
- Requires multiple bids from subcontractors from all major disciplines and trades to ensure competitive bidding.

## 7.4 CM Agent (CMa)

Unlike CM-at-Risk where the construction manager is responsible to deliver the project on time, within budget, and enter into agreements with subcontractors, the CM Agent (CMa) assists the owner in managing the project but is not legally committed to delivering the project on time/budget and does not enter into agreements with subcontractors. The Owner is responsibly for procuring the design/architect team as well as the various construction trades. Generally, the CM is selected at the same time as the Architect/Engineer.

Essentially, the CM Agent serves as an extension of staff for the owner and assist in managing the different contracts but has no financial risks. Additionally, the CMa assists the Owner in overall project schedule and coordination, ensuring the work is being performed in conformance with the contract, project documentation, value engineering, and constructability of the design. Each subcontractor is thus responsible for cost, schedule and quality and each trade is competitively bid.

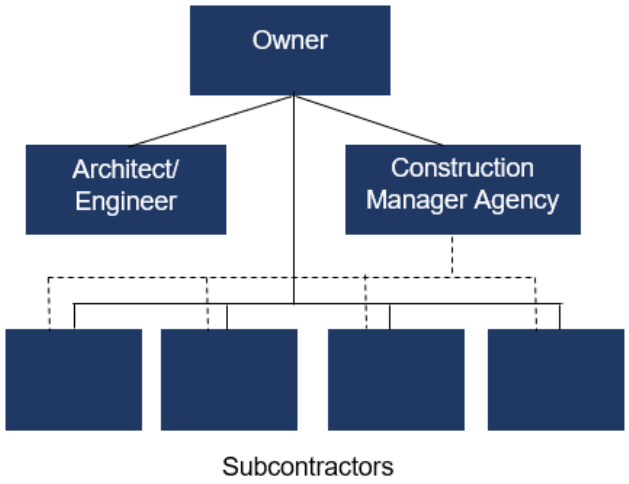


**Figure 7 - CM Agency**

*Pros of CMa:*

- The construction manager (CM) may act as the agent or manager of the project, assisting in administration and management of the project.
- Owner is still highly involved throughout the various project stages.
- "Fast-track" project schedule as the Owner can award construction contracts before the design is complete.
- CM offers construction knowledge throughout the design, limiting problems and issues during construction.

*Cons of CMa:*

- The Owner procures the designer and all trades and thus has multiple points of contact.

- The Owner assumes all contractual costs and project risks.
- The project cost is not “fixed”.
- More project administration then other delivery methods.
- Potential for claims as the designer and construction contractors are under different contracts.

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Exhibit “B”
SCOPE OF SERVICES

The selected developer and contractor team shall provide comprehensive design, engineering, value engineering, and construction services to complete the Phase II General Aviation Hangar Development Project.

Working under the direction of the SBIAA and in close coordination with the conceptual design engineer-of-record, the team will be responsible for the buildout and future operation of a third row of box hangars on an approximately 200,000 square foot parcel of SBIAA-owned land. The team will be responsible for final design and engineering, securing necessary financing, and providing permit support through the SBIAA and City of San Bernardino. All work must be performed by a skilled and trained workforce in accordance with California Public Contract Code, ensuring the successful buildout and transition of the site for future general aviation tenants.

Exhibit “C”
CONFLICT OF INTEREST FORM

See Attached

# CONFLICT OF INTEREST DISCLOSURE FORM

## **Project:** Phase II General Aviation Hangar Development Project
## **Agency:** San Bernardino International Airport Authority (SBIAA)

All developer and contractor teams interested in conducting business with the SBIAA must complete and return this Disclosure Form as part of their RFQ response. Vendors are subject to the SBIAA's conflict of interest policies; failure to disclose known potential conflicts may exempt a vendor from doing business with the Authority.

**Certifications:** By signing below, the Vendor certifies the following statements are true to the best of their knowledge:

1. No SBIAA official, employee, or immediate family member of a SBIAA official/employee has an ownership interest in the vendor's company or is deriving personal financial gain from this project contract.
2. No official or employee who has been retired or separated from the SBIAA for less than one (1) year has an ownership interest in the vendor's company.
3. No current SBIAA employee is simultaneously employed or prospectively to be employed by the vendor.
4. The vendor declares it has not and will not provide gifts, hospitality, or any other gratuities of any dollar value to any SBIAA employee or elected official to obtain or maintain this contract.
5. Please note any exceptions below:

| Conflict of Interest Disclosure* | |
|---|---|
| Name of SBIAA official, employee, or immediate family member with whom there may be a potential conflict of interest. | Relationship to employee<br>_____<br>Interest in vendor's company<br>Other (please describe in box below) |
| | |

*Disclosure does not disqualify vendors.

| I certify that the contents of this Conflict of Interest Disclosure are true and correct to my knowledge and I have the authority to certify on behalf of the Vendor by my signature below: | | |
|---|---|---|
| | | |
| Vendor Name | Vendor Phone Number | |
| | | |
| Signature of Vendor Authorized Representative | Date | Printed Name of Vendor Authorized Representative |