



CITY OF PHOENIX, ARIZONA
OFFICE OF THE CITY ENGINEER
DESIGN AND CONSTRUCTION PROCUREMENT

REQUEST FOR QUALIFICATIONS

**PHOENIX SKY HARBOR INTERNATIONAL AIRPORT
FACILITIES & SERVICES TONTO LOT CAMPUS PHASE I
ENGINEERING SERVICES**

AV16000037

**PROCUREPHX PRODUCT CATEGORY CODE 925000000
RFx 6000001650**

REQUEST FOR QUALIFICATIONS

The City of Phoenix is seeking a qualified Engineering consultant team to provide services for the Facilities and Services Tonto Campus at Phoenix Sky Harbor International Airport which may include program validation, design, and possible construction administration and inspection. This multi-building campus is proposed as a phased development via Construction Manager at Risk delivery for the Aviation Department Facilities and Services Division. This project site is located at Phoenix Sky Harbor International Airport, East Tonto Road, Phoenix, Arizona 85034. The estimated construction cost of the first phase is approximately \$20 million.

SECTION I – PROJECT DESCRIPTION

The City of Phoenix Aviation Department seeks to develop a campus for the Facilities and Services Division at Phoenix Sky Harbor International. This multi-building campus is proposed as a phased development. The first phase includes a facility to accommodate both permanent and temporary functions as well as master plan the overall campus site, which includes, but is not limited to:

- Facility – 32,000 sf
 - Warehouse / Office space for Facilities & Services Division approximately 22,400 sf
 - Office / Training / Support space for Police Canine and Bomb Squad Division of approximately 6,300 sf
 - Warehouse / Support space for Federal Aviation Administration of approximately 3,650 sf
 - Site Development to realign Tonto Road and secure perimeter fence
 - Vehicle Parking of approximately 60 spaces
- Master Plan – 16 acres
 - Multi-building campus of approximately 180,000 sf to accommodate Administration, Shops, Stores, and Fleet functions
 - Maintenance Yard of approximately 327,000 sf
 - Vehicular Parking of approximately 400 spaces

See Exhibit B, F&S Relocation Tonto Lot Study and Exhibit C - Directions to F&S Building.

SECTION II – SCOPE OF WORK

The Consultant team will be responsible for general project administration, schematic design/pre-design phase (30%), design development phase (60%, 90%, and 100%), commissioning, cost analysis, construction documents and specifications, and possible construction administration and observation.

The Consultant scope of work includes services for the design phase and possibly for the procurement and construction phases. Subsequent to selection, the Consultant shall prepare, submit, and collaborate with the City on the draft scope of services, list of deliverables, and preliminary schedule.

It is anticipated that the project will be constructed using the Construction Manager at Risk (CMAR) delivery method.

Design Services shall include, but are not limited to the following:

- Coordinate with the City and Construction Manager at Risk (CMAR) during the design of the project
- Attend all project meetings as necessary to maintain the project objectives
- Submit and retrieve all required documents to and from various agencies
- Coordinate all permits and approvals from federal, state, county, and local utility authorities
- Prepare and submit written monthly progress reporting during entire design period
- Perform all design services under this contract for each/multiple design package
- Provide Design Team to deliver complete project including integrated technology specialties
- Collaborate with CMAR on appropriate design/build related scopes of work
- Develop and update project directory and coordinate monthly distribution with City and CMAR
- Verify LEED requirements/certification level and Aviation Department sustainability goals
- Develop and submit drawings and specifications for all phases of design
- Collaborate with the City to meet project requirements, which include scope, budget, and schedule
- Prepare necessary exhibits and make presentations to stakeholders including regulatory agencies
- Develop studies to lead to recommended solutions for decision making process

- Address Stakeholder and CMAR design/constructability review comments from milestone reviews
- Prepare construction cost estimates for each design phase milestone
- Reconcile with CMAR construction cost estimate(s) for each design phase milestone
- Perform value engineering / cost reduction efforts to optimize project budget
- Develop a schedule for City approval of design submittals for Planning and Development Department review(s)
- Identify private and public utility easements
- Design project to LEED requirements/certification level and Aviation Department sustainability goals
- Prepare drawings in AutoCAD format compatible with City of Phoenix CADD
- Design project to conform to requirements of Title 34, Arizona Revised Statutes
- Prepare final construction documents and provide print/electronic copies during CMAR trade contractor selection process
- Consult with the City to meet project requirements
- Coordinate and submit trade contractor selection packages
- Prepare necessary addenda during procurement process
- Other services as required to support successful completion of the work and the City's interests

Possible Construction Administration & Inspection (CA&I) Services shall include, but are not limited to the following:

- Provide general project administration and construction observation to ensure compliance with the project plans and specifications
- Participate in the CMAR construction progress meetings and other project meetings to prosecute the work
- Respond to Requests For Information (RFI)
- Review and comment on CMAR construction submittals
- Prepare Construction Change Directives (CCD) and Proposal Requests (PR) as needed
- Utilize the City's Project Management System – Unifier – as noted below
- Participate in Operational Readiness Activation and Transition (ORAT) meeting(s) and provide any supporting documentation, as required
- Perform reviews and provide input on sustainability evaluation criterion relative to City standards and Aviation Department goals
- Perform field inspection and prepare reports to ensure compliance with the project plans and specifications
- Review and certify CMAR progress payments
- Prepare and submit LEED report confirming construction practices comply with contract documents and specifications
- Review and validate entitlement of CMAR's proposed potential change notifications and change orders and submit recommendations to City
- Participate in weekly cost/credit change review meetings with 3rd party estimators
- Prepare and submit punch list and record documents
- Review and comment on closeout documentation, which includes CMAR's as-built documents to incorporate into project record documents
- Participate in the 11 ½ month warranty inspection
- Notify contractor and owner of any unsafe conditions observed at the construction site(s)
- Other services as required to support successful completion of the work and the City's interests

Use of UNIFIER, an Application Service Provider (ASP) web-based project management database, may be required. The following information provides a guideline for utilization. Any questions related to the requirements of UNIFIER should be directed to the Project Manager.

- The Consultant will be required to maintain all project records in electronic format.
- The City provides an ASP web-based project management database which the Consultant will be required to utilize in the fulfillment of the contract requirements.
- The Consultant shall provide a computerized networked office platform with broadband internet connectivity.
- UNIFIER training will be provided through the City of Phoenix to firms under contract.

SECTION III - PRE-SUBMITTAL MEETING

A pre-submittal meeting will be held at 1:00 p.m. on Thursday, October 24, 2024, at the Aviation Design and Construction Building, Diamondbacks Conference Room, located at 500 S. 24th Street, Phoenix, Arizona 85034 (Exhibit C – Directions). At this meeting, City staff will discuss the scope of work, general project requirements, and respond to questions from the attendees. It is strongly recommended that interested consultants attend the pre-submittal meeting. Inquiries regarding the project scope outside of this pre-submittal meeting must be directed to the Contracts Specialist.

SECTION IV - STATEMENT OF QUALIFICATIONS EVALUATION CRITERIA

A Firm will be selected through a qualifications-based selection process based on the criteria below. Sub-criteria are listed in order of importance in relation to project services. City of Phoenix project experience is not required.

A. Design Experience of the Prime Firm (maximum 100 points)

Describe the experience and qualifications of the prime firm in providing design services for similar projects within the past seven (7) years. Identify projects the submitting firm has completed. For each project listed, provide:

1. Description of the project including scope and project owner
2. Role of the firm and explain how this relates to the services being solicited
3. Project's original contract value, final contract value, and reason for variance
4. Project's start date and completion date

B. Construction Administration and Inspection Experience of the Prime Firm (maximum 100 points)

Describe the experience and qualifications of the prime firm in providing construction administration and inspection (CA&I) services for similar projects within the past seven (7) years. Identify projects the submitting firm has completed. Include assigned CA&I personnel if different from personnel performing design services. For each project listed, provide:

1. Description of the project including scope and project owner
2. Role of the firm and explain how this relates to the services being solicited
3. Project's original contract value, final contract value, and reason for variance
4. Project's start date and completion date

C. Design Experience of the Key Personnel and Subconsultants (maximum 150 points)

Describe the experience and qualifications of the specific project team expected to be assigned to this project in providing design services for similar projects within the past seven (7) years. For each key person identified, list their length of time with the firm. List each key person's role in the projects provided. If a project selected for a key person is the same as one selected for the firm, provide just the project name and the role of the key person. For each project listed, provide:

1. Description of the project including scope and project owner
2. Role of the team or team member and explain how this relates to the services being solicited
3. Project's original contract value, final contract value, and reason for variance
4. Project's start date and completion date

D. Construction Administration and Inspection Experience of Key Personnel and Subconsultants (maximum 150 points)

Describe the experience and qualifications of the project team expected to be assigned to this project in providing construction administration and inspection services for similar projects within the past seven (7) years. For each key person identified, list their length of time with the firm. List each key person's role in the projects provided. If a project selected for a key person is the same as one selected for the firm, provide just the project name and the role of the key person. Include assigned CA&I personnel if different from personnel performing design services. For each project listed, provide:

1. Description of the project including scope and project owner
2. Role of the team or team member and explain how this relates to the services being solicited
3. Project's original contract value, final contract value, and reason for variance
4. Project's start date and completion date

E. Project Understanding and Approach (maximum 350 points)

Describe your firm's understanding of the City's need for this project, including important considerations such as project issues and challenges. Describe the team's approach to the project, including important considerations such as:

1. Identify specific challenges of airport related projects and approaches to address or mitigate impacts of work within an active environment.
2. Articulate how your team intends to organize and engage internal and external stakeholders that may include the Aviation Department, Business Partners, and Regulatory Agencies to create a collaborative and cohesive working unit.
3. Explain how your team intends to synchronize the scope, budget, and schedule at the on-set of the project and maintain this course through the duration.

F. Staffing Information for Key Personnel (maximum 150 points)

Introduce the firm's proposed key design team members for this project including sub-consultants and define their roles and responsibilities. Describe the reason each candidate is proposed, their respective level of commitment, and the approach to lead and manage this design team. Tell where design team members intend to perform services and how to coordinate effective services with design team members at different locations.

1. Team's availability and commitment to the project, including subconsultants
2. Team's plan to maintain continuity of the proposed services
3. Organization chart showing key personnel, current professional licenses or certifications, and assigned roles for both Design and Construction Administration and Inspection Services for the project
4. Identify the location of the lead firm's principal office and the home office location of key staff on this project

G. Reference Check (maximum 21 points*)

Use the form provided (Exhibit A) to obtain at least three references. It is preferred no more than one be a City of Phoenix project. If your firm has not completed prior projects with other agencies, you will not be penalized. It is recommended there be references outside the City of Phoenix.

*These points are in addition to the 1,000 points for the SOQ.

SECTION V - SUBMITTAL REQUIREMENTS

New Electronic Submittal Process: Firms interested in this project must submit a Statement of Qualifications (SOQ) electronically via email to the assigned Contracts Specialist, Annette Perez at annette.perez@phoenix.gov.

Submittal requirements are as follows:

- Vendor Information: All firms must be registered in the City's Vendor Management System prior to submitting a proposal. For new firms, the City will send an email to your firm with a vendor number within two business days of submitting the request. The vendor number should be included on the cover of the SOQ. Information on how to register with the City is available at:**

<https://www.phoenix.gov/financesite/Pages/EProc-help.aspx>

If your firm is already registered with the City of Phoenix's ProcurePHX system, please visit <https://eprocurement.phoenix.gov/irj/portal> to login and access the electronic solicitation.

The product category code for this RFQ is 925000000 and the RFx number is 600001650.

Submittals:

- Submittals must be **emailed** to the assigned Contracts Specialist, Annette Perez, by the submittal due date and time.
- Submit only one SOQ electronically, in .PDF format only, addressing all evaluation criteria. No hard copies will be accepted.
- Clearly display the firm name, vendor number, project title, and project number on the cover of the SOQ.
- A maximum of **twenty (20) pages** is permitted to address all content in the SOQ submittal. **(Maximum page limit includes evaluation criteria and all additional content. It does not include information sheet.)**
- Submit electronically the Statement of Qualifications by **12:00 noon, Phoenix time, on Friday, November 8, 2024.**
- Upload one complete version of the SOQ addressing all the criteria. Upload format is .PDF.
- Page size must meet requirements of 8½" x 11".
- Font size must not be less than 10 point.
- Content count:
 - ✓ Each side of a page containing evaluation criteria and additional content will be counted toward the maximum page limit noted above.
 - ✓ Pages that have project photos, charts and/or graphs will be counted towards the maximum page limit noted above.
 - ✓ Front and back covers, information sheet, Table of Contents pages, and divider (tab) pages **will NOT** be counted toward the maximum page limit noted above, unless they include evaluation criteria and additional content that could be considered by the selection panel.

Information Sheet: Provide an information sheet that includes project title, project number, RFx number, **legal firm name (not a trade name)**, address, phone number, vendor number, and the name, title, email address and signature of your contact person for the project. Do not include any additional information.

Evaluation Criteria: Address the SOQ evaluation criteria.

Additional Content: Resumes and other information may be included (*content shall be included within the permitted maximum page limit*).

Note: All pages exceeding the specified maximum page limit will be removed from the submittal and not considered in evaluating a submitted SOQ.

SECTION VI – GROUNDS FOR DISQUALIFICATION

The following **will be grounds for disqualification**, and will be strictly enforced:

- Submitting the SOQ to the assigned Contracts Specialist after the submittal due date and time.
- Violating the "Contact with City Employees" policy contained in this RFQ.

SECTION VII - SELECTION PROCESS AND SCHEDULE

Interested firms will submit a SOQ. The firm will be selected through a qualifications-based selection process. A selection panel will evaluate each SOQ per the criteria set forth in Section IV above.

The City will select a firm based on the SOQs received; no formal interviews will be conducted. The City may conduct a due diligence review on the firm receiving the highest evaluation.

The City expects to create a final list of at least three, but not more than five firms for this project. The City will enter into negotiations with the selected firm and execute a contract upon completion of negotiation of fees, contract terms, and City Council approval.

The following tentative schedule has been prepared for this project.

Pre-submittal meeting	October 24, 2024
SOQs due	November 8, 2024
Selection Notification	Early December 2024
Scope Meeting	January 2025

If the City is unsuccessful in negotiating a contract with the best-qualified firm, the City may then negotiate with the next most qualified firm until a contract is executed, or the City may decide to terminate the selection process. Once a contract is executed with the successful firm, the procurement is complete.

All submitting firms will be notified of selection outcome for this project. The status of a selection on this project will be posted on the City of Phoenix's "Tabulations, Awards, and Recommendations" website:

<http://solicitations.phoenix.gov/awards>

SECTION VIII – GENERAL INFORMATION

Citywide Capital Improvement Projects. Consulting and contractor services supporting the City's Capital Improvement Projects are procured under the authority of the City Engineer, currently located within the Street Transportation Department. Design and Construction Procurement coordinates the citywide consulting and construction contracting procurement processes.

Changes to Request for Qualifications. *Any changes to this Request for Qualifications (RFQ) will be in the form of a Notification.* The City of Phoenix shall not be held responsible for any oral instructions. Notifications are available on both the Current Opportunities and ProcurePHX webpage.

It shall be the responsibility of the registered RFQ holder to determine, prior to the submittal of the Statement of Qualifications, if a Notification has been issued. Registered RFQ holders may refer to the web page or call the Contracts Specialist (listed below) to ascertain if a Notification has been issued for this project.

Alternate Format. For more information or a copy of this publication in an alternate format, contact the Contracts Specialist (listed below) - Voice or TTY 711. Requests will only be honored if made within the first week of the advertising period.

Release of Project Information/Public Records Request. The City shall provide the release of all public information concerning the project, including selection announcements and contract awards. Those desiring to release information to the public must receive prior written approval from the City. To submit a Public Records Request, visit phoenix.gov/pr.

City Rights. The City of Phoenix reserves the right to reject any or all Statements of Qualifications, to waive any informality or irregularity in any Statement of Qualifications received, and to be the sole judge of the merits of the respective Statements of Qualifications received.

Contact with City Employees. This policy is intended to create a level playing field for all Proposers, assure that contracts are awarded in public, and protect the integrity of the selection process. **OFFERORS THAT VIOLATE THIS POLICY WILL BE DISQUALIFIED.**

Beginning on the date the RFQ is issued and until the date the contract is awarded or the RFQ withdrawn, all persons or entities that respond to the RFQ, including their authorized employees, agents, representatives, proposed partner(s), subcontractor(s), joint venture(s), member(s), or any of their lobbyists or attorneys (collectively the Proposer), will refrain from any direct or indirect contact with any person (other than the designated Contract Specialist) who may play a part in the selection process, including members of the evaluation panel, the City Manager, Assistant City Manager, Deputy City

Managers, Department heads, the Mayor and other members of the Phoenix City Council. As long as the RFQ solicitation is not discussed, Proposers may continue to conduct business with the City and discuss business that is unrelated to this RFQ solicitation with City staff.

Commencing on the date and time a solicitation is published, potential or actual proposers (including their representatives) will only discuss matters associated with the solicitation with the Mayor, any members of City Council, the City Manager, any Deputy City Manager, or any department director directly associated with the solicitation (including in each case their assigned staff, except for the designated procurement officer) at a public meeting, posted under the Arizona Revised Statutes, until the resulting contract(s) are awarded or all offers or responses are rejected and the solicitation is cancelled without any announcement by the procurement officer of the City's intent to reissue the same or a similar solicitation.

Proposers may discuss their proposal or the RFQ solicitation with the Mayor or one or more members of the Phoenix City Council, provided such meetings are scheduled through the Contract Specialist (listed below), conducted in person at 200 W. Washington, Phoenix, Arizona 85003, and are posted as open meetings with the City Clerk at least twenty-four (24) hours prior to the scheduled meetings. The City Clerk will be responsible for posting the meetings. The posted notice shall identify the participants and the subject matter, as well as invite the public to participate.

Conflict of Interest. The City reserves the right to disqualify any Proposer on the basis of any real or apparent conflict of interest that is disclosed by the proposal submitted or any other data available to the City. This disqualification is at the sole discretion of the City. Any Proposer submitting a proposal herein waves any right to object now or at any future time, before any body or agency, including but not limited to, the City Council of the City of Phoenix or any court.

Protest Procedures. Firms responding to disqualification or a procurement outcome are referred to the Code of the City of Phoenix Chapter 2, Article XII, Section 2-187 to 2-190.4, which governs protest procedures utilized throughout the selection process. The procedures may be reviewed through the City of Phoenix website at:

<http://www.codepublishing.com/az/phoenix/>

A copy of the Protest Policy is also available online at:

<https://www.phoenix.gov/streets/procurement-opportunities>

Questions - Questions pertaining to this selection process or contract issues should be directed to the Contracts Specialist, Annette Perez at (602) 273-3488 or email annette.perez@phoenix.gov.

EXHIBIT A
CONSULTANT REFERENCE CHECK INSTRUCTIONS, FORM, AND SAMPLE LETTER

The attached Consultant Performance Evaluation Form is to be provided to the agencies or entities for which your firm has recently provided services relevant to those requested for this project. Provide the evaluation form to the Owner, or the Owner's representative directly responsible for oversight of the project to complete and submit to the email box listed below.

The first three references submitted will be accepted and the scores utilized as part of the evaluation process. Each reference check is worth up to 7 points for a total of up to 21 points available.

The form is to be completed by the agency or entity and uploaded to the (email box) at:
soq.referencechecks@phoenix.gov

The procurement identifier is:

6000001650

Attention: Annette Perez

Also attached is a sample performance evaluation cover letter that may be used when sending the reference check request.

Sample Consultant Performance Evaluation Cover Letter

Sample Cover Letter
Contact Name
Address of Reference

(Your Name) is responding to a Request for Qualifications (RFQ) from the City of Phoenix Office of the City Engineer's Design and Construction Procurement section.

The City is requesting reference information related to our past performance. As a part of the response submittal process, the City is requesting performance evaluations from agencies that our firm has performed services for either in the past or is currently receiving services.

I would appreciate your cooperation in completing the attached Consultant Performance Evaluation form and return by email the completed form by **12:00 pm Phoenix time on November 8, 2024** to:

soq.referencechecks@phoenix.gov

Reference in Subject Line: RFX #6000001650

For questions, contact Annette Perez, Contracts Specialist at 602-273-3488 or via email annette.perez@phoenix.gov.

Failure to submit the Consultant Performance Evaluation form by the above date will have a negative impact on the proposal we submit for this service. Your cooperation in submitting this form by this date is appreciated.

If you have any questions regarding this request, please contact (your name) at (your telephone number).

Sincerely,

INSTRUCTIONS FOR COMPLETING CONSULTANT PERFORMANCE EVALUATION

Evaluate the consultant's contract performance in each of the rating areas listed below. On the Consultant Performance Evaluation form, circle the rating from 1 to 4 that most closely matches your evaluation of the consultant's performance. Comments are not required but appreciated. **Every rating area must be scored.**

The Design and Construction Procurement section will use the information from this form to evaluate firms competing for contract award. **This completed form will become public record and upon request, will be released to the consultant or any other entity.**

Please submit the completed form to the address indicated on the bottom of the Consultant Performance Evaluation form. Thank you for your time and your cooperation.

**PHOENIX SKY HARBOR INTERNATIONAL AIRPORT
 FACILITIES & SERVICES TONTO LOT CAMPUS PHASE I
 ENGINEERING SERVICES
 AV16000037
 RFx: 600001650**

CONSULTANT PERFORMANCE EVALUATION FOR _____
 (firm name)

In the box below, provide the project title, contracted services provided by the firm, and start and completion date of services. This form is to be completed by the Owner, or the Owner's representative directly responsible for oversight of the project. The project services evaluated must be relevant to the services of this project. Every rating area must be scored.

RATINGS: Summarize the Consultant's performance and **circle the number** below that corresponds to the performance rating for each category. Please see the rating scale.

1 = Unsatisfactory (.25 pt.); 2 = Poor (.50 pt.); 3 = Good (.75 pt.); 4 = Excellent (1.0 pt.)

HOW WOULD YOU RANK THE BUSINESS RELATIONSHIP BETWEEN THE OWNER AND THE FIRM?	4 3 2 1	Comments:
WAS THE TEAM PRESENTED IN THE PROPOSAL THE TEAM THAT WORKED ON THE PROJECT TO COMPLETION?	4 3 2 1	Comments:
WAS STAFF PROACTIVE IN SOLVING PROBLEMS THAT MAY HAVE OCCURRED ON THE PROJECT?	4 3 2 1	Comments:
WAS THE CONTRACTED SCOPE OF SERVICES COMPLETED ON TIME AND WITHIN BUDGET?	4 3 2 1	Comments:
HOW WOULD YOU RATE THE QUALITY OF WORK PERFORMED BY THIS FIRM ON YOUR PROJECT?	4 3 2 1	Comments:

DID THE FIRM RECOMMEND EFFICIENCIES OR PROVIDE INNOVATIVE IDEAS OR SUGGESTIONS?	4 3 2 1	Comments:
WOULD YOU BE WILLING TO CONTRACT WITH THIS FIRM AGAIN? (YES = 1 point)	YES NO	Comments:
TOTAL SCORE		(MAXIMUM 7 POINTS)

Reference Evaluation Provided By:

Name and Title: _____

Agency/Organization: _____

Date: _____

Telephone Number: _____

Email completed form by November 8, 2024 by 12:00 pm Phoenix time to:

soq.referencechecks@phoenix.gov

***EMAIL SUBJECT LINE SHOULD REFERENCE RFx NUMBER 6000001650**

The document should reference the project number and firm for which the reference check is being submitted. If no project number is available, reference the service and firm for which the reference check is being submitted.

EXHIBIT B
PHOENIX SKY HARBOR INTERNATIONAL AIRPORT
F&S RELOCATION TONTO LOT STUDY

(ATTACHED – 46 PAGES)

PHOENIX SKY HARBOR INTERNATIONAL AIRPORT

F&S RELOCATION TONTO LOT STUDY

6652111040 – TASK 27

SEPTEMBER 2024

► Prepared for:

PHX DVT GYR

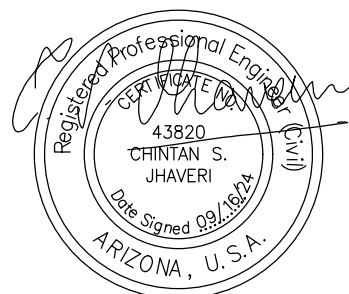
 CITY OF PHOENIX AVIATION DEPARTMENT

PHOENIX SKY HARBOR INTERNATIONAL AIRPORT
CITY OF PHOENIX AVIATION DEPARTMENT
3400 East Sky Harbor Boulevard, Suite 3300
Phoenix, Arizona 85034-4405

► Prepared by:

TRACE
CONSULTING

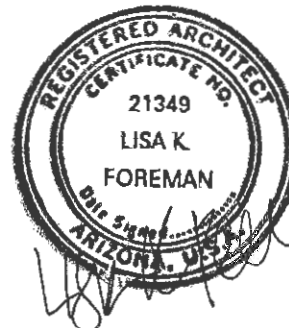
TRACE Consulting, LLC
1201 East Jefferson Street,
Suite 3
Phoenix, Arizona 85034
Phone: (602) 680-8264
TC#191101.27



FOR CIVIL

FORE
dimensions
architecture

FORE DIMENSIONS, LLC
3337 East Sells Drive
Phoenix, Arizona 85018
Phone: (602) 748-4664



FOR ARCHITECTURE

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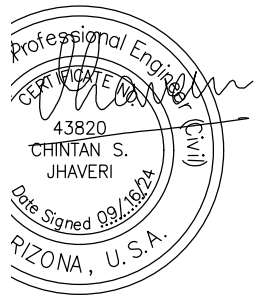
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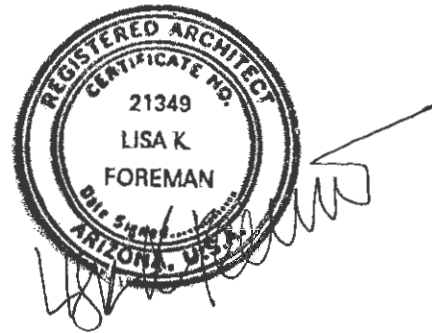
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FOR CIVIL



FOR ARCHITECTURE

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1.0 Overview and Purpose

The 2019 Phoenix Sky Harbor Comprehensive Asset Management Plan (CAMP) along with the 2021-2022 Comprehensive Asset Management Plan Update, prepared for the City of Phoenix Aviation Department, outline the new crossfield Taxiways U and V projects and describe how their construction impacts the airport facilities in the vicinity. The infrastructure for Facilities and Services (F&S) Employee Lot will be impacted and its relocation is necessary to enable the crossfield taxiways' construction. The 2019 CAMP identified the relocation of the F&S lot to the North Aero Support Complex, north of the Union Pacific Railroad; however, the City of Phoenix Aviation Department requested a study to evaluate the adaptation of the F&S lot program to the existing Tonto Street parking lot which is located north of Sky Harbor Boulevard and is bordered by 24th Street and Tonto Street on the west side of the north airfield. Figure 1 below, taken from the 2019 CAMP, shows the existing on-airport parking facilities, and the F&S Employee Lot is circled in red. Figure 2, also sourced from the 2019 CAMP, shows the new crossfield Taxiway U and Taxiway V, which conflict with the existing F&S Employee Lot, and identifies the F&S Relocation Tonto Lot Study limits in red.

Figure 1: Existing On-Airport Parking Facilities

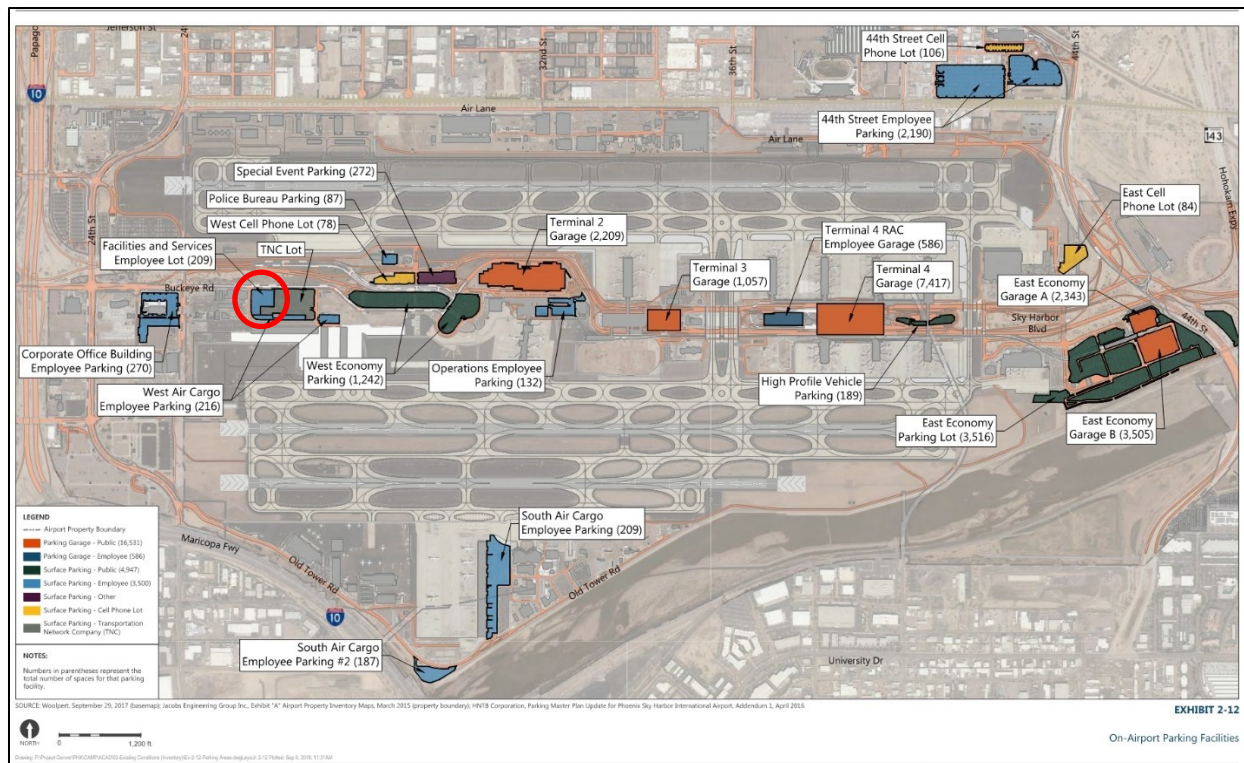
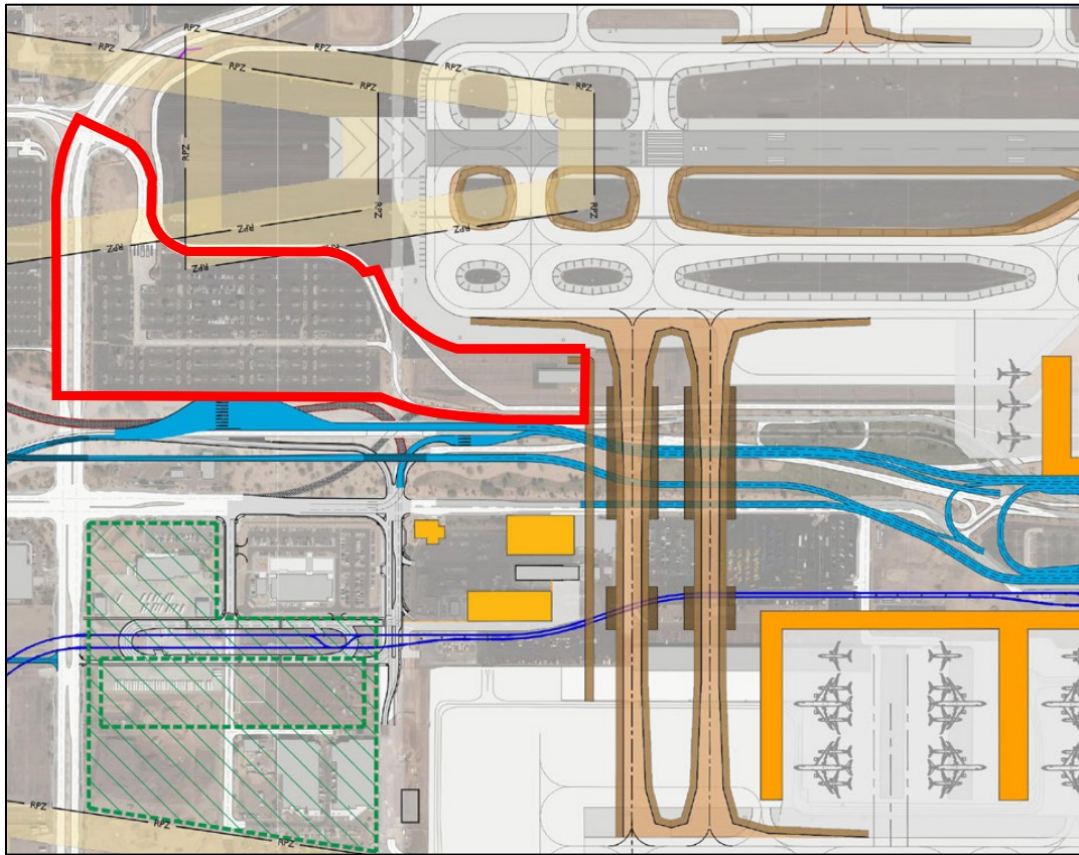


Figure 2: Proposed Crossfield Taxiway U and Taxiway V / F&S Relocation Tonto Lot Study Limits



The purpose of this study was to evaluate the relocation of the F&S infrastructure to the existing Tonto Street parking lot, evaluate the existing utilities, identify preliminary locations for new utility services, review roadway access for the future buildings from the landside, and confirm an airside access location for F&S personnel. The scope of the study included a 10% level conceptual design for a master plan of the entire F&S complex which includes the preliminary site plan showing the layout of new building and parking modifications, a utility plan with potential service connections identified, a landside roadway access exhibit, and an airside access exhibit that identifies potential access points for F&S staff to access the airside. Fore's scope included a study to develop conceptual design options for a new office/warehouse building to be used to relocate the current F&S, FAA, and Police Department K9 and Bomb Squad Division services located in the NW Development area to the Tonto Street parking lot area. Preliminary floorplans for the office/warehouse building were developed based on program criteria provided for the relocation of the Police K9 and Police Bomb to the Cargo D building. Their scope also included the development of options for the building and parking layouts for the site, which are also included as part of the study.

Program criteria for the study was based on the following documents prepared over the last five years:

1. 2021-2022 Comprehensive Asset Management Plan Update prepared by Ricondo
2. Conceptual design layouts for the relocation of the maintenance vehicle parking and on-site support activities affected by the new Taxiway U construction project prepared by Gannett Fleming
3. Conceptual design layouts to relocate the entire F&S complex north of the Union Pacific Railroad prepared by Fore Dimensions

2.0 F&S Tonto Campus

The study included the development of a 10% level conceptual design for the overall site plan of the Tonto Street parking lot area for the relocated F&S facilities that are currently located at 2515 East Buckeye Road. Table 1 below shows the proposed F&S infrastructure and their respective characteristics. The proposed concepts include building footprints and show the circulation and parking for visitors, employees, and fleet vehicles. The concepts also considered material and equipment storage as well as oversized vehicles on-site. The schemes presented in this section can also be found in Appendix A.

Table 1: F&S Infrastructure and Characteristics

Name	Type	Area	Height
Admin and Shops	2-story building	40,000 SF	40'-45'
Stores	1-story building	50,000 SF	30'-35'
Fleet	1-story building (Welding Area & 16 Bays)	50,850 SF	30'-35'
Maintenance Yard	Open yard	327,000 SF	N/A

Figure 3 shows Scheme 1 for the F&S Tonto Campus. Scheme 1 shows the Stores building located just outside the arrival Runway Protection Zone (RPZ). The proposed Stores building's parking area is located west of the building and the loading dock is located on the north side of the building. The parking area and the loading dock are accessed from the north side of the site off the realigned Tonto Street with two different driveways. The proposed Admin and Shops building is located south of the Stores building and is connected to the Stores building by a covered breezeway. The proposed parking area for the Admin and Shops building is located west of the building and is accessed via the south side off the realigned Tonto Street. The proposed Fleet building is located east of the Admin and Shops building. The parking area for the Fleet building is located between the Fleet building and the proposed Maintenance Yard to the north and is accessed via the north side of the site off the realigned Tonto Street.

Figure 3: Scheme 1

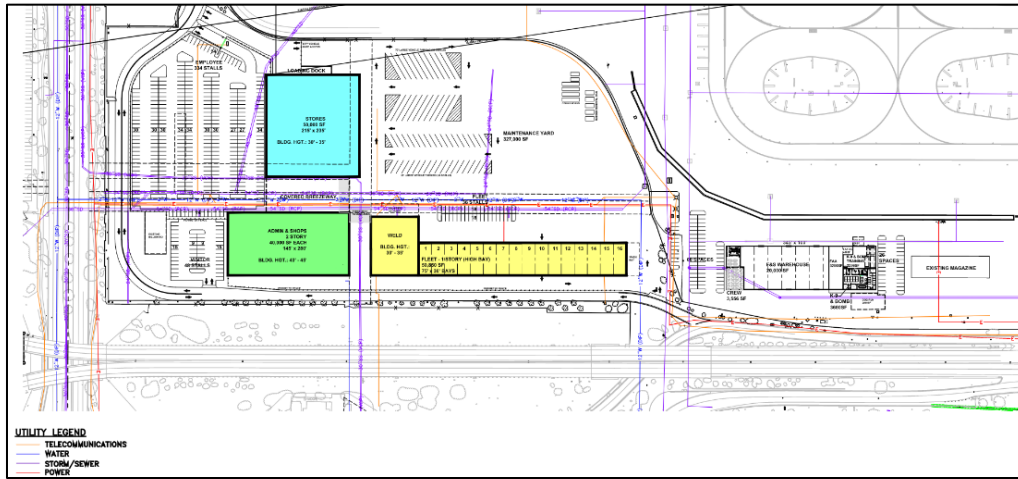


Figure 4 shows Scheme 2 for the F&S Tonto Campus. Scheme 2 shows the Admin and Shops building located just outside the arrival Runway Protection Zone (RPZ). The proposed Admin and Shops building’s parking area is located west of the building and accessed via the north side of the site off the realigned Tonto Street. The proposed Stores building is located south of the Admin and Shops building and is connected to the Admin and Shops building by a covered breezeway. The proposed parking area for the Stores building is located west of the building and is accessed at the same location as the parking for the Admin and Shops building. The Stores building has a proposed loading dock on the east side of the building which is accessed via the south side of the site off the realigned Tonto Street. The proposed Fleet building is located east of the Stores building. The parking area for the Fleet building is located between the Fleet building and the proposed Maintenance Yard to the north and is accessed via the south side of the site off the realigned Tonto Street.

Figure 4: Scheme 2

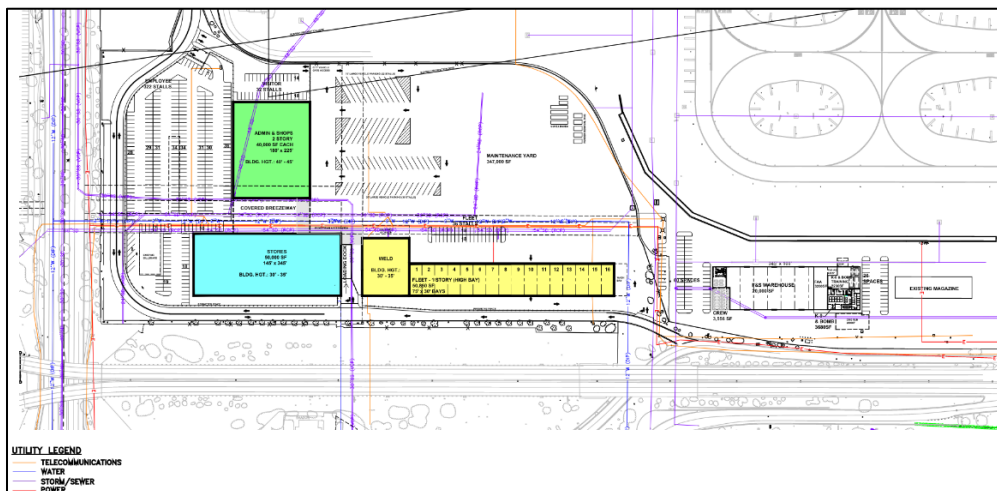
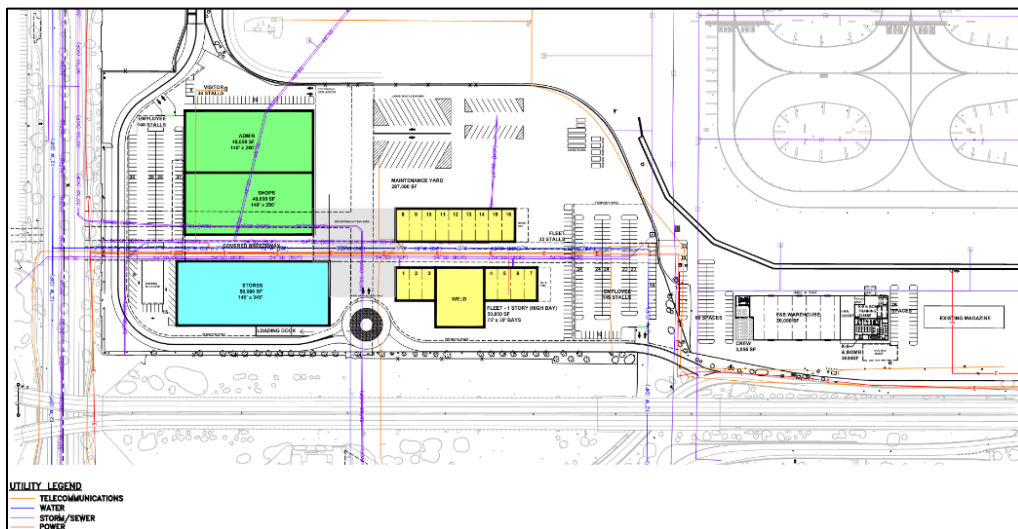


Figure 5 shows Scheme 3 for the F&S Tonto Campus Scheme 3 shows the Admin and Shops building as a single story with the Admin section on the north and the Shops section connected to it on the south. Its location falls slightly within the arrival Runway Protection Zone (RPZ). The proposed Admin and Shops building's parking area is located west of the building and accessed via the north side of the site off the realigned Tonto Street. The visitor parking area for the Admin building is located on the north side of the building and is also accessed via the north side of the site. The proposed Stores building is located south of the Admin and Shops building and is connected to the Admin and Shops building by a covered breezeway. The proposed parking area for the Stores building is located west of the building and is accessed at the same location as the parking for the Admin and Shops building. The Stores building has a proposed loading dock on the south side of the building which is accessed via the south side of the side off the realigned Tonto Street. The proposed Fleet building is located east of the Stores building. The Fleet building is divided into two structures with 7 of the bays and the Weld area location on the south and the remaining 9 bays located just north. The parking area for the Fleet building is located east of the Fleet building and south of the proposed Maintenance Yard and is accessed via the south side of the site off the realigned Tonto Street.

Figure 5: Scheme 3



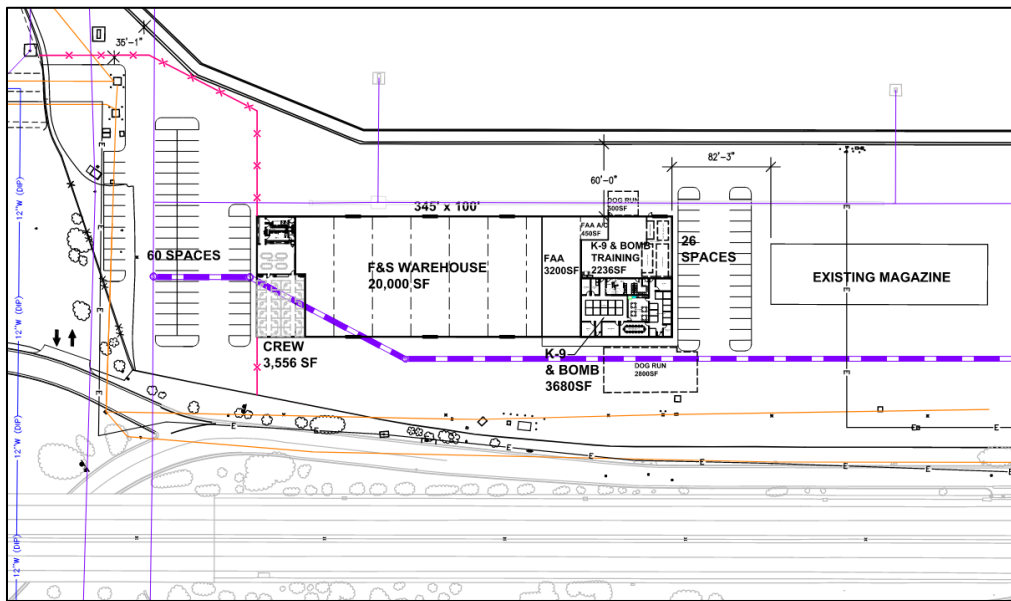
3.0 Tonto Phase 1 Build Out

The study included the development of a conceptual design for the new F&S office/warehouse building which is required to relocate the F&S services currently located in the NW Development area on the north side of the airport to the Tonto Street parking lot area. The existing location of these F&S services conflict with the proposed improvements outlined in the PHX CAMP including general aviation

redevelopment, aero business development, and the north cargo expansion which are all planned for the northwest corner of the north airfield.

As a result of multiple exhibit iterations and coordination with the Aviation Department as part of this study, Fore developed Scheme A which is a preliminary floor plan for the Tonto Phase 1 Build Out that can be seen in Figure 6 and is also included as Appendix B. The Tonto Phase 1 Build Out area includes an F&S storage warehouse and the office space for the FAA, Police K-9 Division, and Police Bomb Division. The area is located to the east of the F&S Tonto Campus buildings outlined in the previous section and is situated south of Taxiway C's west end. The F&S and FAA will access the parking lot on the west side of the building via a driveway off the realigned Tonto Street, and the parking lot will be established as landside through the realignment of the Air Operations Area (AOA) fence. The Police K-9 and Bomb Division staff will access the facility via airside and their parking area will also be located airside, east of the building.

Figure 6: Scheme A



4.0 Parking Lot Calculation and Yard Space

4.1 Phase 1

Phase 1 includes the F&S warehouse, FAA office, and Police K-9/Bomb office building. The parking calculations for Phase 1 were provided by the Aviation Department for this building's intended purpose. The number of police vehicle spaces was recently provided when they were being considered for relocation to the Cargo D building. The Police K-9/Bomb parking lot, located

airside, has 26 proposed parking spaces. The landside parking lot for the F&S and FAA staff has 60 proposed parking spaces. The preliminary parking layout can be seen in Figure 6.

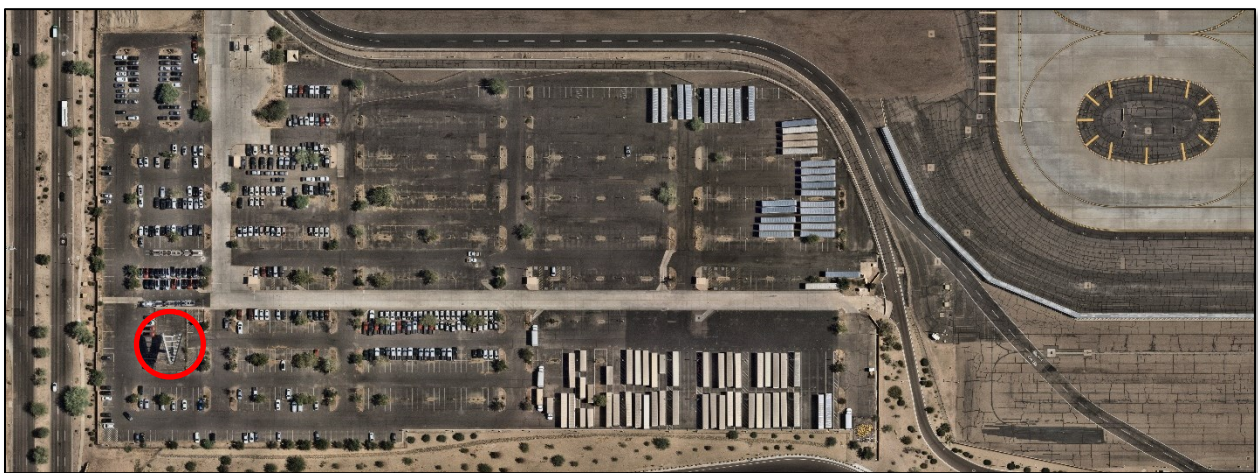
4.2 Phase 2

Phase 2 includes the proposed Tonto Campus buildings comprised of the Admin and Shops, Stores, and Fleet buildings as well as the adjacent Maintenance Yard. The parking calculations for Phase 2 were based on the three studies previously referenced as criteria for design. Fore evaluated the design criteria as well as the parking space counts of the existing F&S parking areas and determined the minimum parking spots for each parking lot. The Parking Lot Calculation Summary generated by Fore can be found in Appendix C. An analysis of the Maintenance Yard space was previously conducted, and the exhibits can be found in Appendix D.

4.3 Existing Billboard

There is an existing billboard in the southwest corner of the existing Tonto Lot. The Aviation Department has a perpetual easement agreement with the signage company for the billboard to remain in the Tonto Lot. Access to the billboard and the surrounding fenced area must be maintained. The site plan layouts presented in this report were configured with the intent of the billboard's accessibility remaining and location staying the same. Scheme 1 proposes the billboard to be outside the limits of the perimeter fence. Schemes 2 and 3 propose the billboard to be within the limits of the perimeter fence and situated within the limits of the employee parking lot. In Schemes 2 and 3, the parking lot is configured around the billboard's fenced limits and traffic flow is circulated around it. Figure 7 shows the existing location of the billboard circled in red in relation to Tonto Lot's current configuration.

Figure 7: Existing Billboard Location

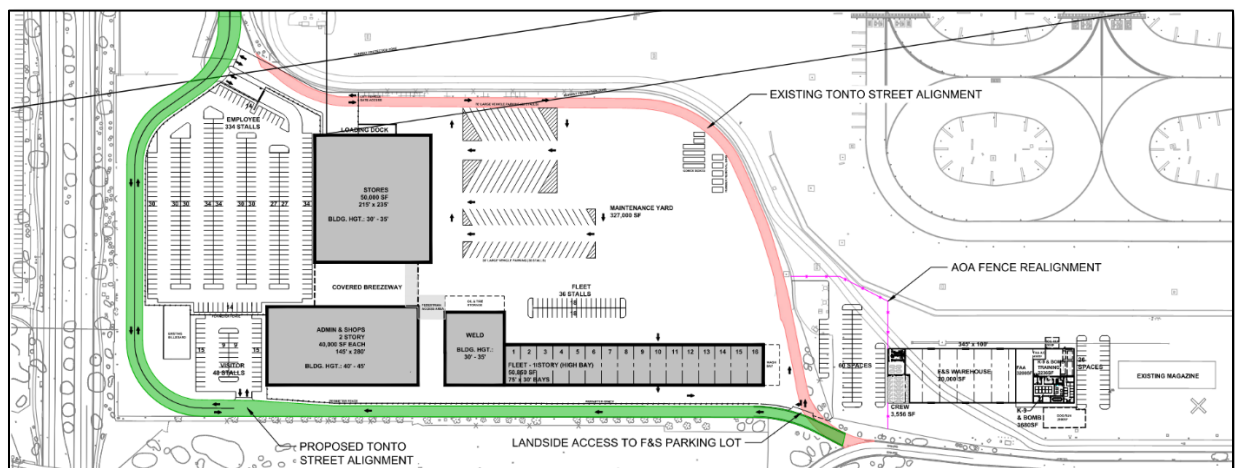


5.0 Preliminary Roadway, Parking and Site Access

The general site plan schemes developed as part of this study all require the realignment of E Tonto Street. The proposed E Tonto Street alignment will wrap around the south and west side of the new F&S complex and will allow for multiple landside access points to the complex. The realignment begins near the southeast corner of the existing Tonto Street parking lot, continues west to the southwest corner of the existing Tonto Street parking lot, turns north and continues until it ties into Sky Harbor Circle near the northwest corner of the existing Tonto Street parking lot. The Roadway Layout graphic below depicts the existing and proposed alignment for E Tonto Street. Driveways for vehicular access to the landside parking lots are proposed along the E Tonto Street alignment. The parking lot layouts for the Phase 2 area vary in each scheme and will be determined during final design for that phase.

The Phase 1 area is located northeast of E Tonto Street's existing alignment. The Phase 1 area will be for F&S Department, FAA, and the Police K9 and Bomb units and includes buildings for warehouse space, office space, and training space. The parking lot for the F&S buildings will be located landside and is currently proposed on the west side of the Phase 1 area. The F&S parking lot will not have access control; however, the F&S building will be controlled by badge access and will provide access to the airside. The AOA fence will require realignment around the new landside parking area, and a driveway for the F&S parking lot will need to be constructed along the realigned portion of E Tonto Street. The Police K9/Bomb building will be located airside and the parking lot will only be accessible via airside. The Roadway Layout graphic in Figure 8 shows the landside access for the F&S lot in Phase 1 as well as the AOA fence realignment.

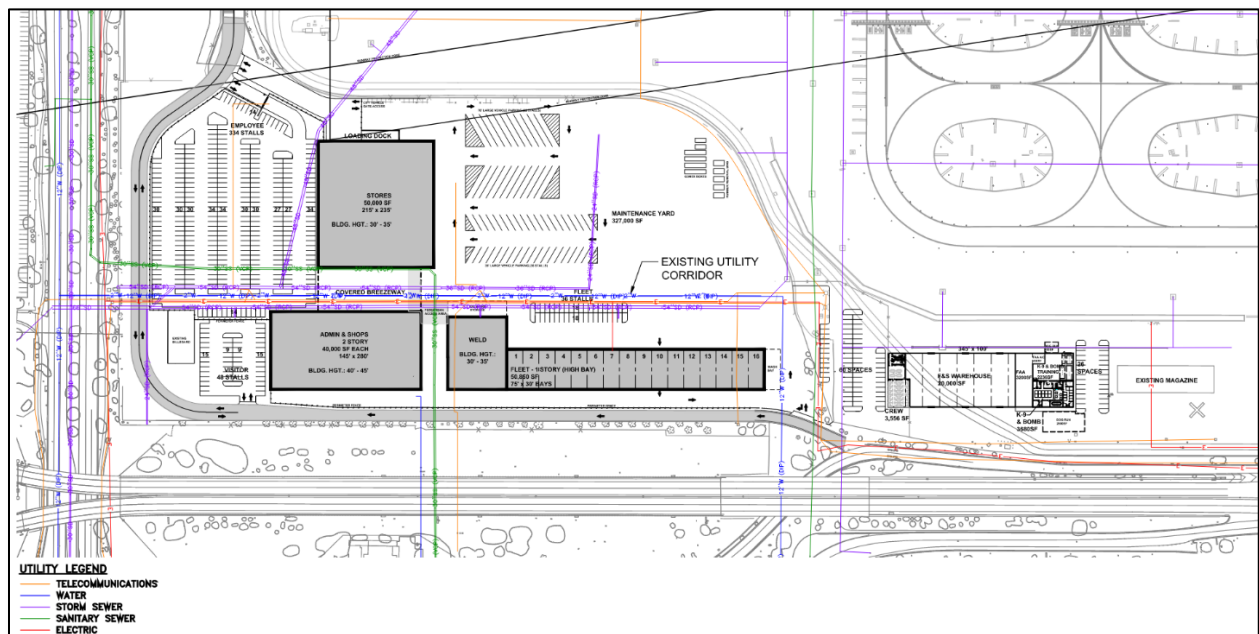
Figure 8: Roadway Layout



6.0 Preliminary Utility Layout

Utility mapping files were provided by the City of Phoenix Aviation Department from the PHX Sky Train Stage 2 project which served as the preliminary utility map for this study. The utility mapping files were used to identify a utility corridor running east/west across the existing Tonto Street parking lot. Utilities in this corridor include underground electric, water, sanitary sewer, storm sewer, and communication cables. The utility corridor and other utilities in the project area can be seen in the Utility Layout graphic below. One of the goals of the study phase was to develop options for the general site layout that minimized impact to this utility corridor and other utilities in the project area. In general, the schemes propose locating the buildings outside the limits of the corridor which involves positioning the buildings in Phase 2 to the north and south of the corridor, and the buildings in Phase 1 to the east, past the limits of the corridor. Depending on the chosen scheme, an existing 48” storm drain pipe may need to be relocated as it conflicts with a proposed building in some of the layout options. This 48” storm drain pipe begins airside and flows south towards an existing 54” storm drain pipe within the utility corridor.

Figure 9: Utility Layout



7.0 Airspace Analysis

A preliminary airspace analysis was performed by the Aviation Planning and Environmental Division assuming the campus layout shown in Scheme 2. The Admin and Shops building was found to penetrate some FAA designated surfaces; although, it was noted that there is precedence for similar conditions throughout the airport and impacts may be acceptable to the FAA. However, it is also noted that the Scheme 1 concept or further siting enhancements of the vertical structures may reduce or eliminate the surface impacts. During the design phase, further analysis and optimization will be carried out to determine an optimal site arrangement that is acceptable from an airspace standpoint. See Appendix E for the email correspondence summarizing the internal airspace analysis performed by the Aviation Department.

8.0 Cost Estimate

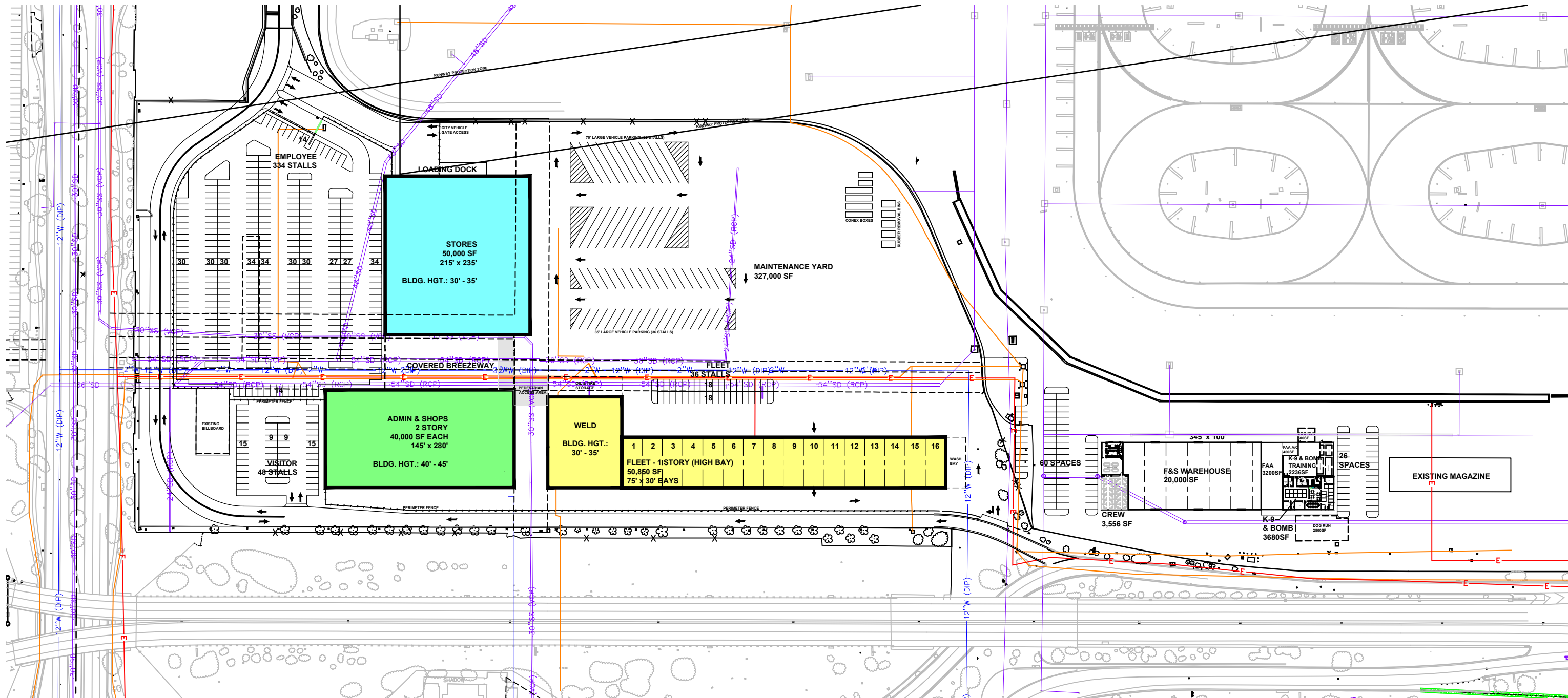
A cost estimate for Tonto Phase 1 was compiled by Hill International through the Aviation Department Design and Construction Services Division. It includes an assessment of construction cost and all other project related costs to formulate an initial project budget based on the concept plan. Per Hill International, the assumed escalation is 6% per annum. Construction was assumed for 12 months with a start date in June 2025. See Appendix F for the Conceptual Estimate for the Tonto Site Development.

9.0 Environmental Considerations

An FAA 163 determination request was submitted by the Aviation Planning and Environmental Division which requested the FAA Regional Airport Division and District Office (ADO) to provide a review of design, construction and operation of the maintenance/security/airport-support facilities proposed as part of this project. The request included justification for the belief that the proposed project would not have material impact on aircraft operations at, to, or from the airport and would not affect the safety of people and property on the ground. It also claimed that the project would not have an adverse effect on the value of prior Federal investments. Upon consideration of the justifications presented in the request, the FAA determined that they lack the legal authority to approve or disapprove changes to the PHX Airport Layout Plan (ALP) for the proposed project. Furthermore, because the FAA lacks this authority and lacks the authority to regulate the use of the land associated with the project, they also determined that they do not have an action subject to the National Environmental Policy Act (NEPA). The email correspondence between the Planning and Environmental Division and the FAA is included in Appendix G.

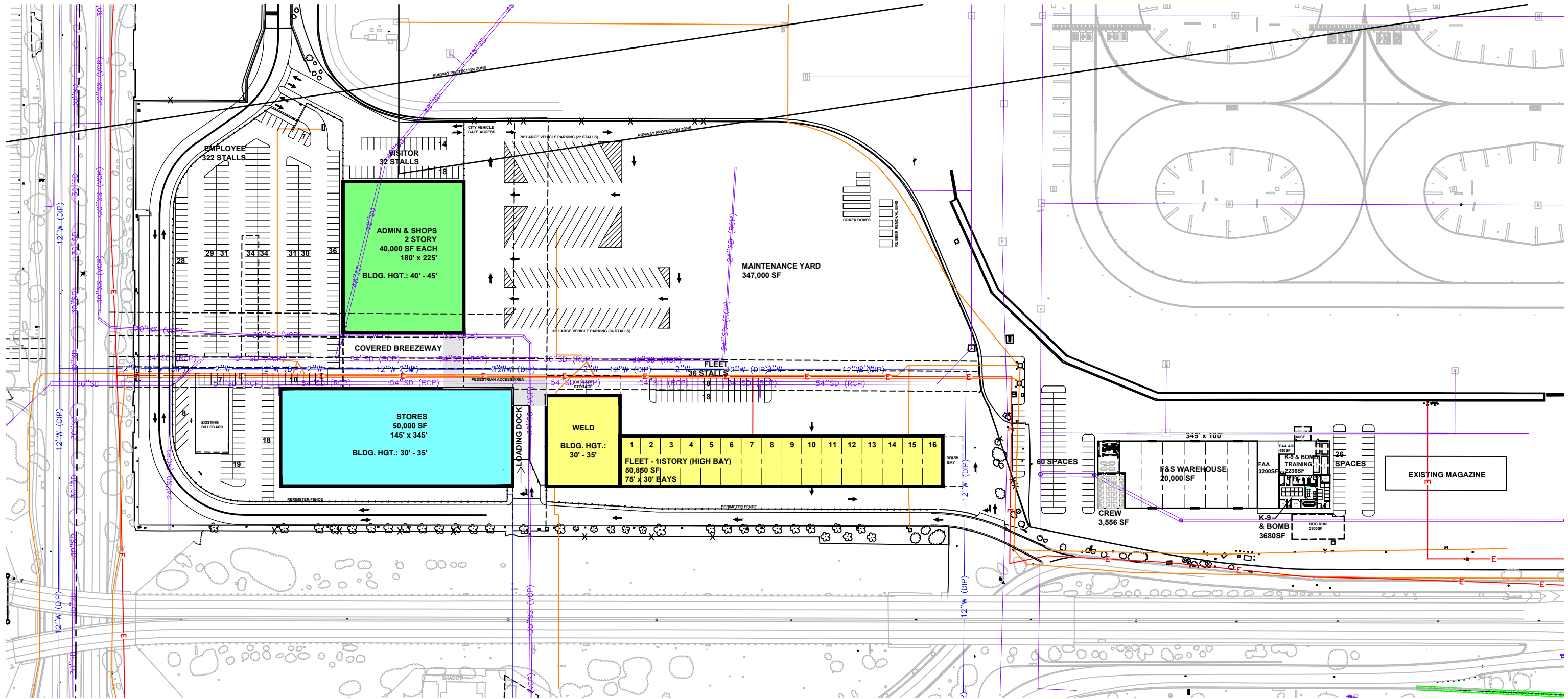
Appendix A: F&S Tonto Campus Schemes

1. Employee parking – see attached, Parking calc PDF. The new site layout accommodates 322 spaces in the main lot, plus another 60 near the starter building in the very east part of the lot. The main lot is a 45% increase over your current lot which is 223 spaces. The new lot, in conjunction with supplementary space near the east starter building seems like a pretty good buffer to accommodate future growth as well as consolidation of all staff, but would be good to get your perspective.
2. Yard space – see yard sizes PDF page 7. Pre Sky Train mods F&S had 124,000 SF. Post Sky Train grew that to 219,000 SF. Post Taxi U it will be 197,000 SF. The Tonto concept provides 347,000 SF (see Scheme A PDF). This is a significant increase over post Taxi U and additionally it is in nice squared off contiguous space that should be more efficient than current location configurations.
3. In terms of administrative building space – current main F&S building has an approximate foot print of 40,000 SF, includes some storage area and as you know is very inefficiently laid out since it was not designed for its current purpose. The new proposed Admin/shops building as shown will accommodate 40,000 SF per floor (with two floors) with storage/deliveries in a separate building. It can be expanded on the 2nd floor to go over the breezeway between admin and storage building for added space. I'll shortly provide ability for a 3rd floor limits given height restrictions adjacent to the RPZ. Additionally, the 20,000 SF starter building provide added flex space, especially when Police K9 likely moves out to long term Ops/Police campus.



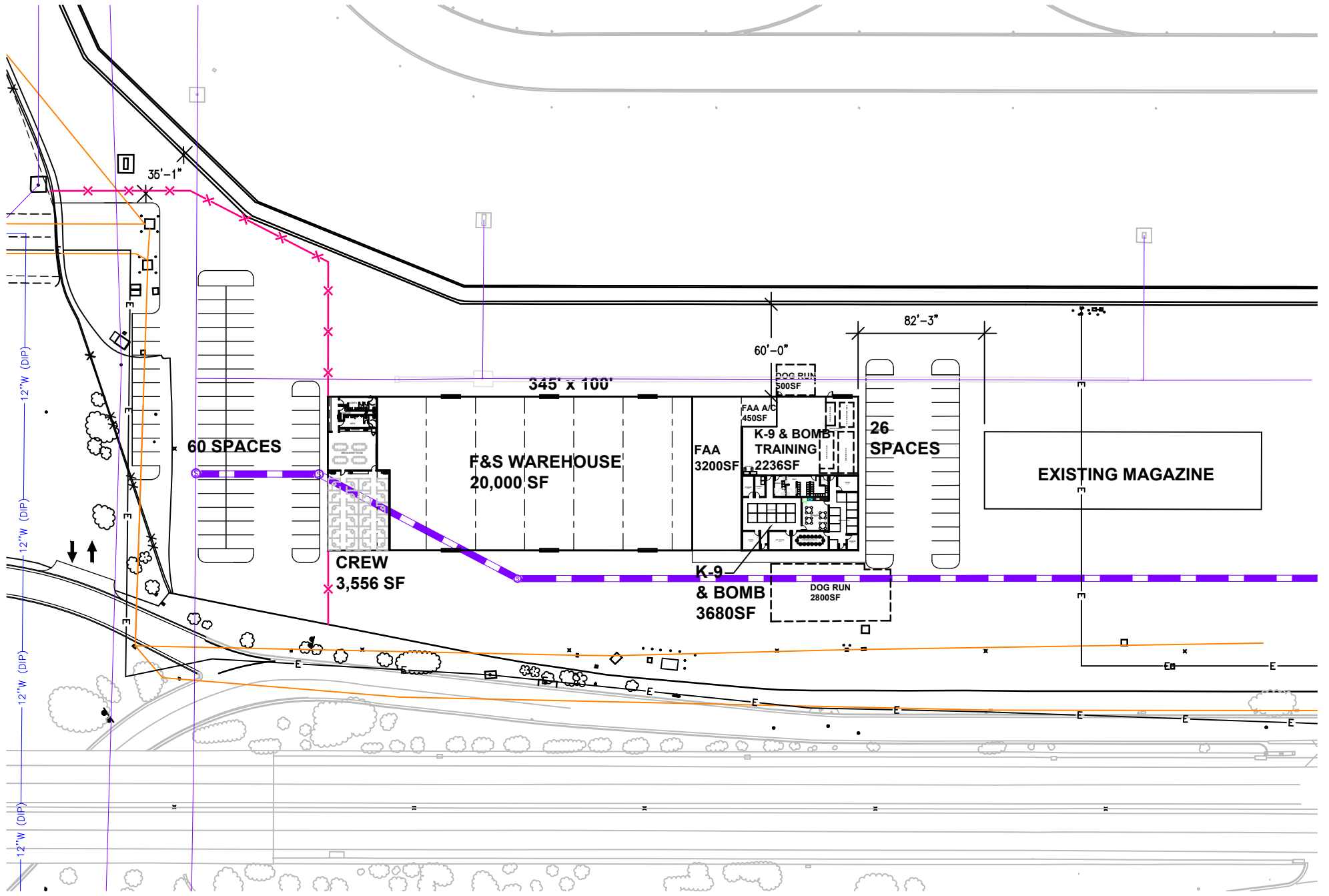
UTILITY LEGEND

- TELECOMMUNICATIONS
- WATER
- STORM/SEWER
- POWER



- UTILITY LEGEND**
- TELECOMMUNICATIONS
 - WATER
 - STORM/SEWER
 - POWER

Appendix B: Tonto Phase 1 Scheme



F&S STORAGE WITH FAA/K-9/BOMB

Appendix C: Parking Lot Calculation Summary

PARKING LOT CALCULATIONS SUMMARY:

- **EXISTING AT FACILITIES SERVICES BUILDING CAMPUS
(according to Taxiway Relocation Calculations)**

**EMPLOYEE: 223 SPACES
VISITOR: 30 SPACES**

- **2019 GREYHOUND CAMPUS FACILITIES STUDY**

**EMPLOYEE: 241 SPACES
VISITOR: 54 SPACES**

- **2023 RICONDO FACILITIES STUDY**

**EMPLOYEE: 332 SPACES
VISITOR:**

- **2023 TAXIWAY RELOCATION FACILITIES STUDY**

**EMPLOYEE: 201 SPACES
VISITOR: 31 SPACES
LANDSIDE: 53 SPACES
AIRFIELD: 50 SPACES
LANDSCAPE: 34 SPACES**

- **2024 TRACE/FORE F&S TONTO LOT CAMPUS STUDY**

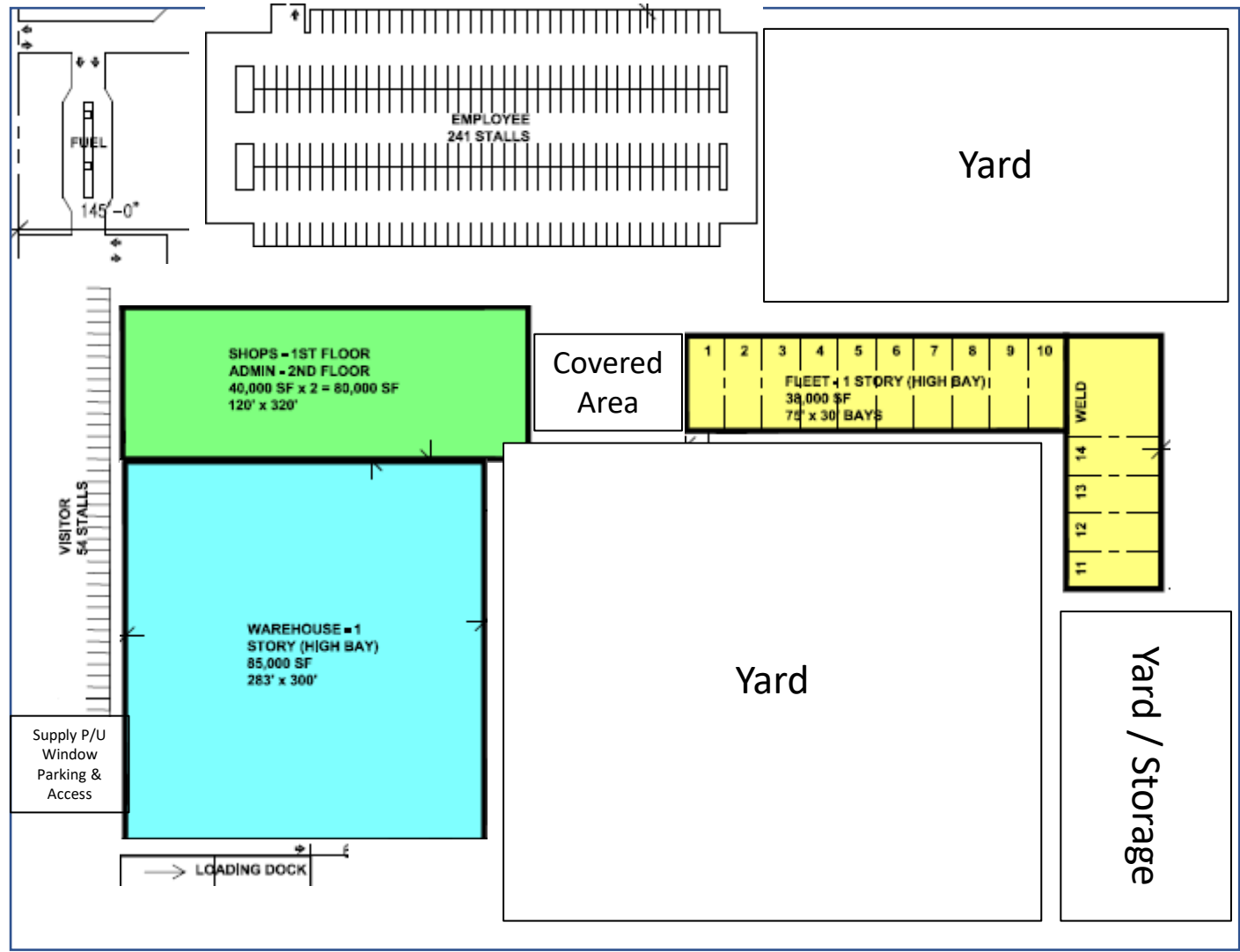
**EMPLOYEE: 322 SPACES
VISITOR: 32 SPACES
FLEET: 36 SPACES**

- **2024 TRACE/FORE TONTO PHASE 1 FACILITIES STUDY**

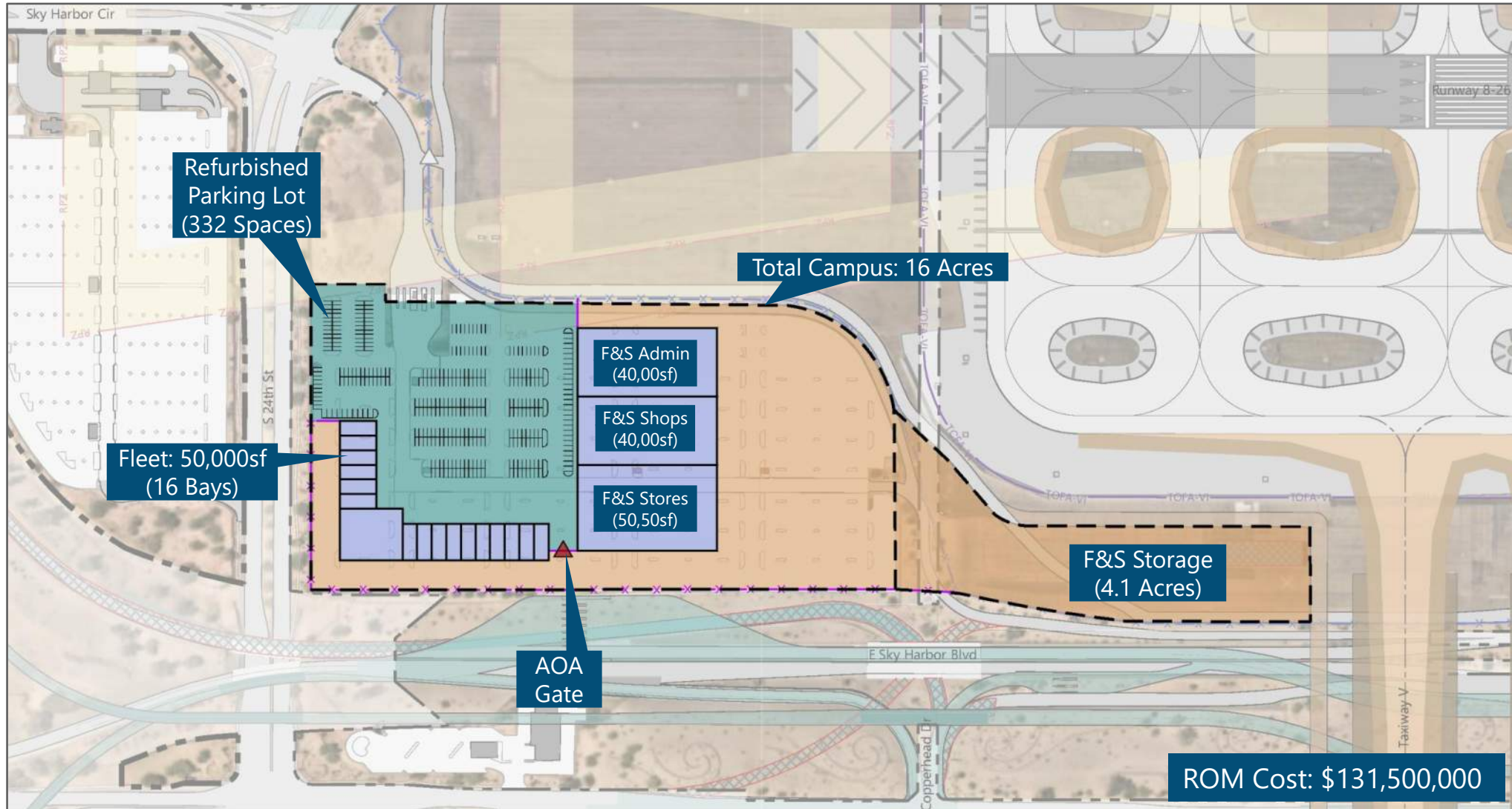
PHASE 1 FACILITIES: 60 SPACES (available)

POLICE/BOMB: 26 SPACES (available)

2019 GREYHOUND PARK FACILITIES STUDY

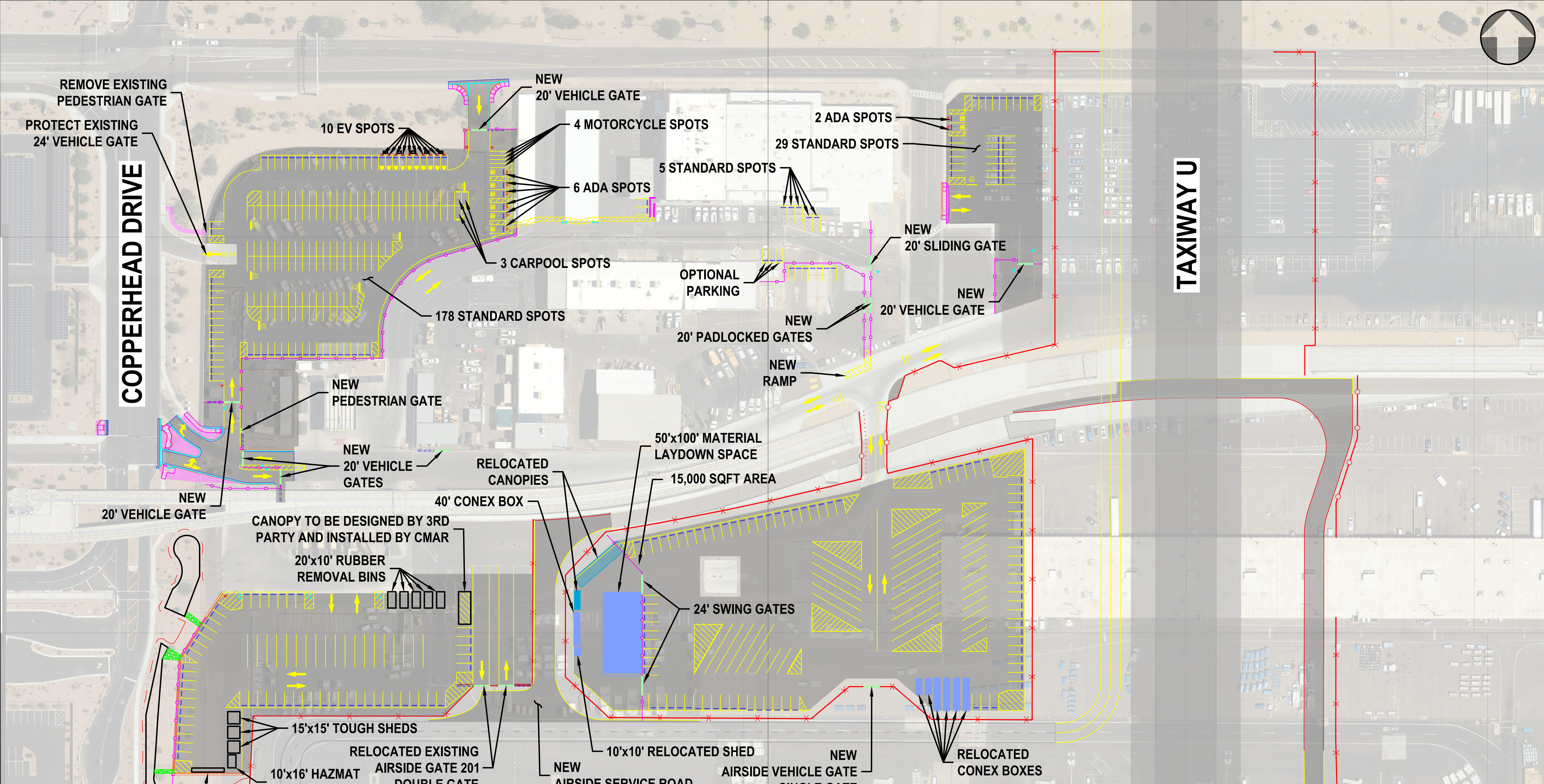


Preferred Alternative - F&S

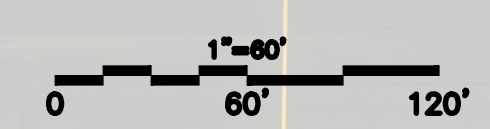


Note: Preliminary cost estimate still under review.

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 PLOT DATE: Apr 25, 2023
 cseadest



PARKING SPOT SUMMARY					
SPOT TYPE	EMPLOYEE LOT	VISITOR LOT	LANDSIDE LOT	AIRFIELD LOT	LANDSCAPE LOT
EXISTING	223	30			
STANDARD	178	29	53	50	34
ADA	6	2	-	-	-
EV	10	-	-	-	-
CARPOOL	3	-	-	-	-
MOTORCYCLE	4	-	-	-	-
LARGE 35'	-	-	19	4	13
LARGE 70'	-	-	-	11	11





CITY OF PHOENIX AVIATION DEPARTMENT

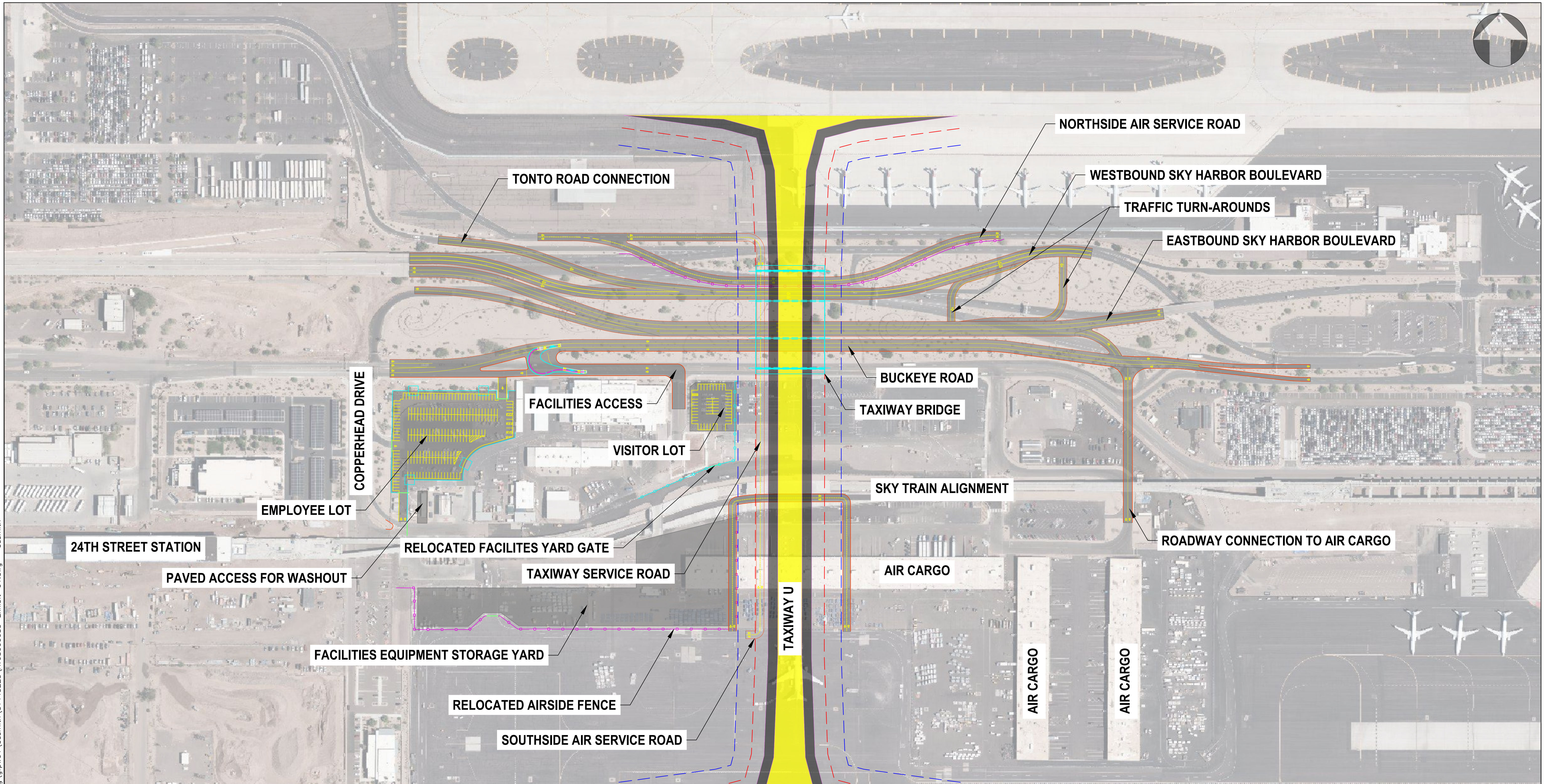
NEW CROSSFIELD TAXIWAY U

OVERALL FACILITIES AND SERVICES MODIFICATIONS

Design Sub-Consultant	Design Consultant	Drawn By: CAS	S-19
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		Date: 04/25/2023	

Appendix D: F&S Yard Space Analysis Exhibits

PLOT DATE: Apr 06, 2022 FILE PATH: C:\pwworking\gfpw01\dosmith\1443223\W08000085-Exhibit-C1.dwg dosmith



PARKING AND STORAGE LOT COMPARISONS

FACILITY	SIZE BEFORE SKY TRAIN	SIZE AFTER SKY TRAIN	SIZE AFTER TAXIWAY U
EMPLOYEE LOT	200 PARKING SPACES	217 PARKING SPACES	APPROXIMATELY 200 PARKING SPACES
VISITOR LOT	41 PARKING SPACES	30 PARKING SPACES	APPROXIMATELY 40 PARKING SPACES
FACILITIES EQUIPMENT STORAGE YARD	124,000 SQUARE FEET	157,000 SQUARE FEET	197,000 SQUARE FEET

PHX DVT GYR

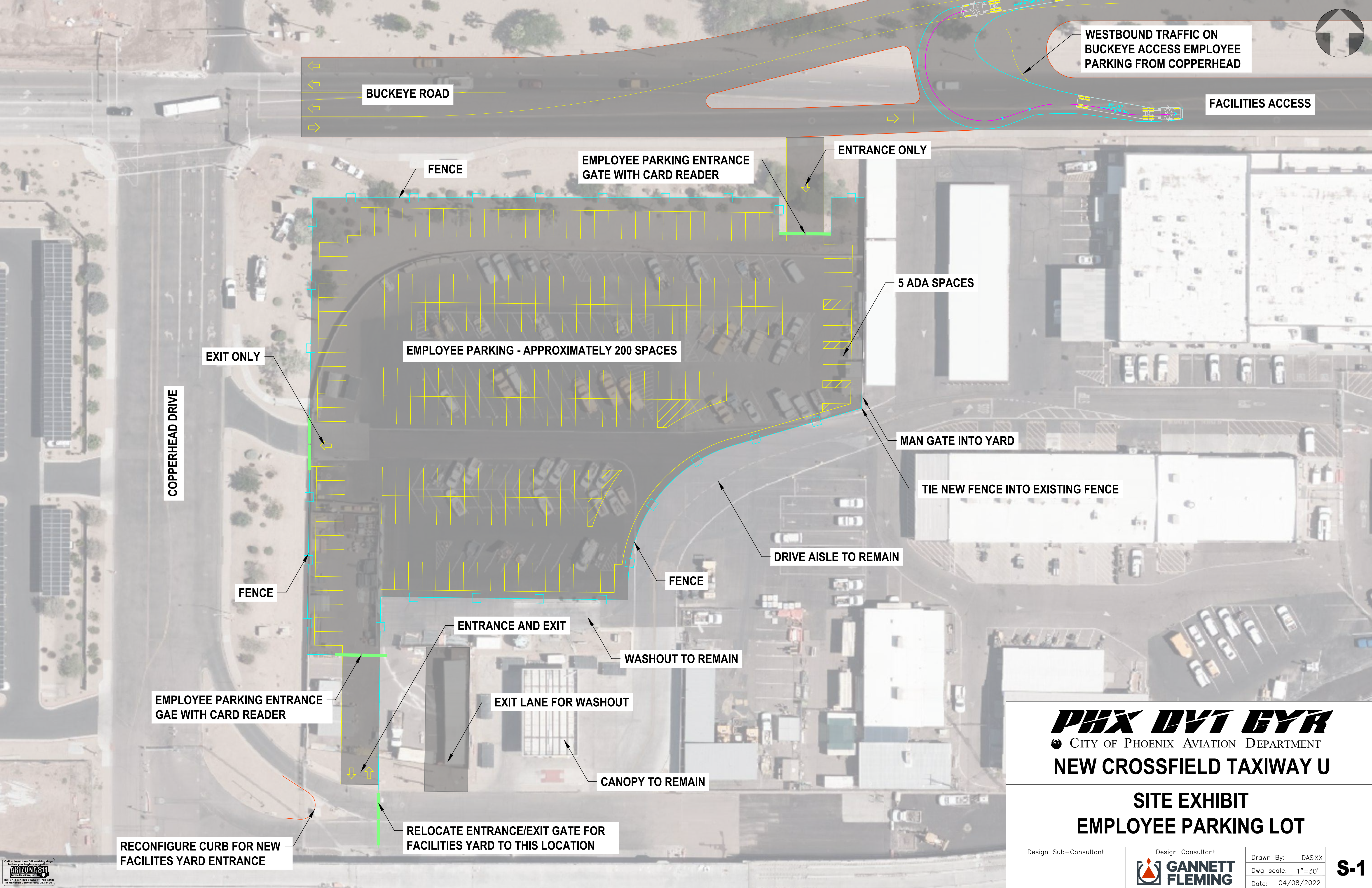
CITY OF PHOENIX AVIATION DEPARTMENT

NEW CROSSFIELD TAXIWAY U

OVERALL PROJECT EXHIBIT

Design Sub-Consultant	Design Consultant	Drawn By: DAS	G-1
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		Date: 04/08/2022	

PLOT DATE: Apr 06, 2022 FILE PATH: C:\pwworking\gfpw01\dosmith\1443223\W08000085-Exhibit-S1.dwg dsosmith



WESTBOUND TRAFFIC ON BUCKEYE ACCESS EMPLOYEE PARKING FROM COPPERHEAD

FACILITIES ACCESS

BUCKEYE ROAD

ENTRANCE ONLY

FENCE

EMPLOYEE PARKING ENTRANCE GATE WITH CARD READER

5 ADA SPACES

EMPLOYEE PARKING - APPROXIMATELY 200 SPACES

EXIT ONLY

COPPERHEAD DRIVE

MAN GATE INTO YARD

TIE NEW FENCE INTO EXISTING FENCE

DRIVE AISLE TO REMAIN

FENCE

FENCE

ENTRANCE AND EXIT

WASHOUT TO REMAIN

EMPLOYEE PARKING ENTRANCE GAE WITH CARD READER

EXIT LANE FOR WASHOUT

CANOPY TO REMAIN

RECONFIGURE CURB FOR NEW FACILITES YARD ENTRANCE

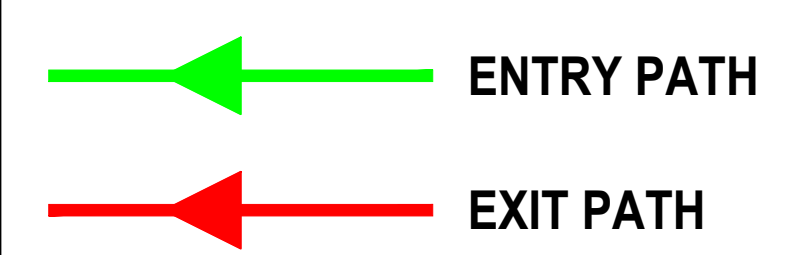
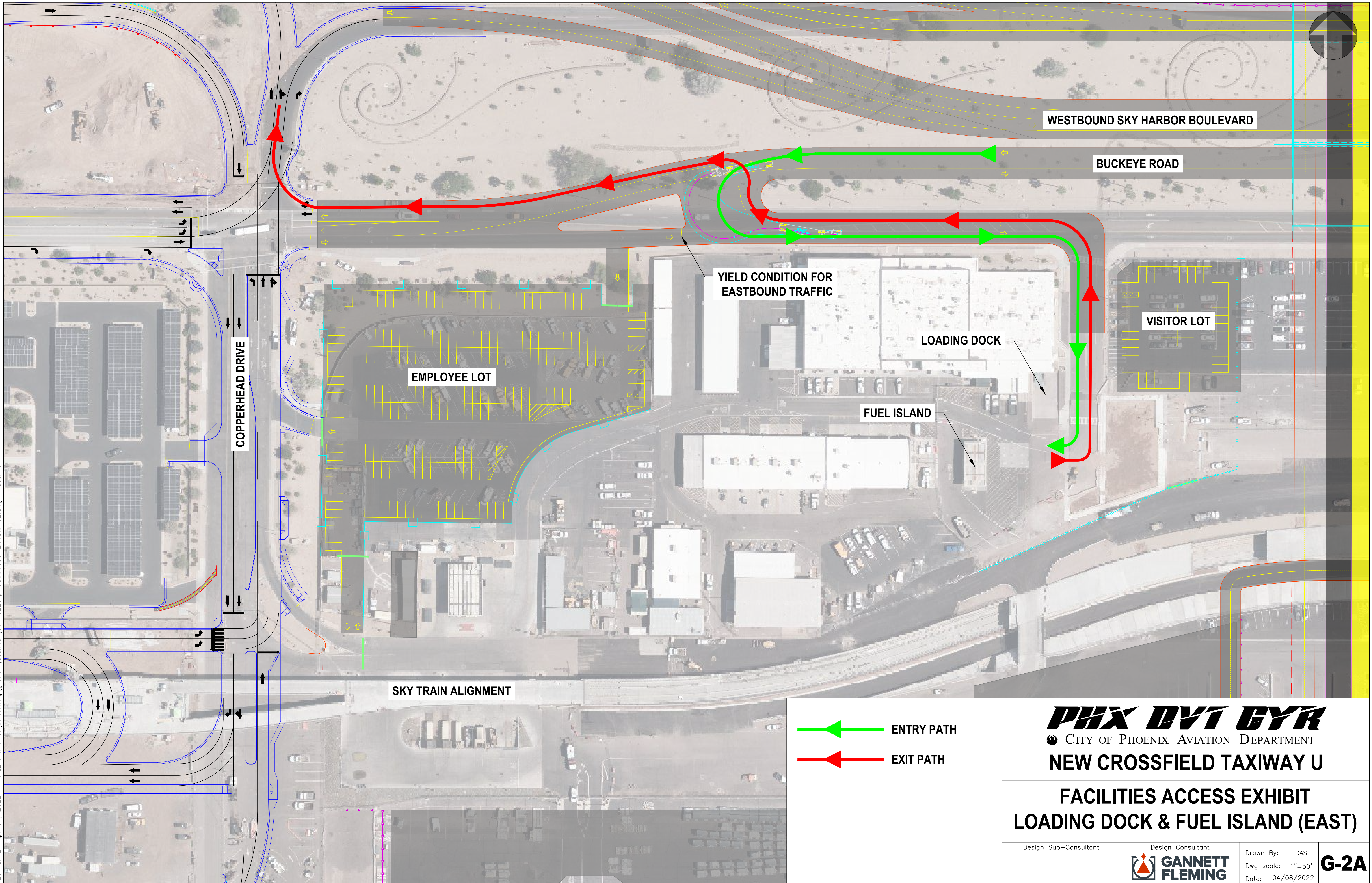
RELOCATE ENTRANCE/EXIT GATE FOR FACILITIES YARD TO THIS LOCATION

PHX DVT GYR
 CITY OF PHOENIX AVIATION DEPARTMENT
NEW CROSSFIELD TAXIWAY U

SITE EXHIBIT
EMPLOYEE PARKING LOT

Design Sub-Consultant	Design Consultant	Drawn By: DASXX	S-1
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		Date: 04/08/2022	

PLOT DATE: Apr 07, 2022 FILE PATH: C:\pwworking\gfpw01\dosmith\d1443223\W08000085-Exhibit-C2.dwg dosmith



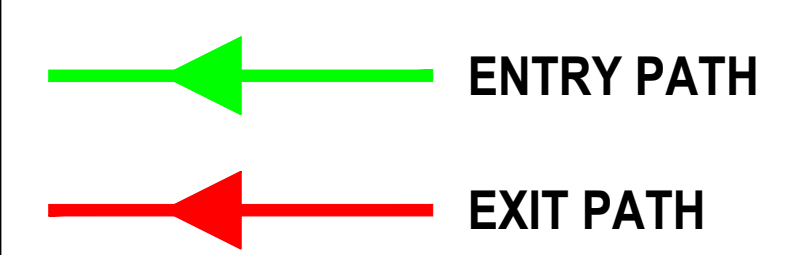
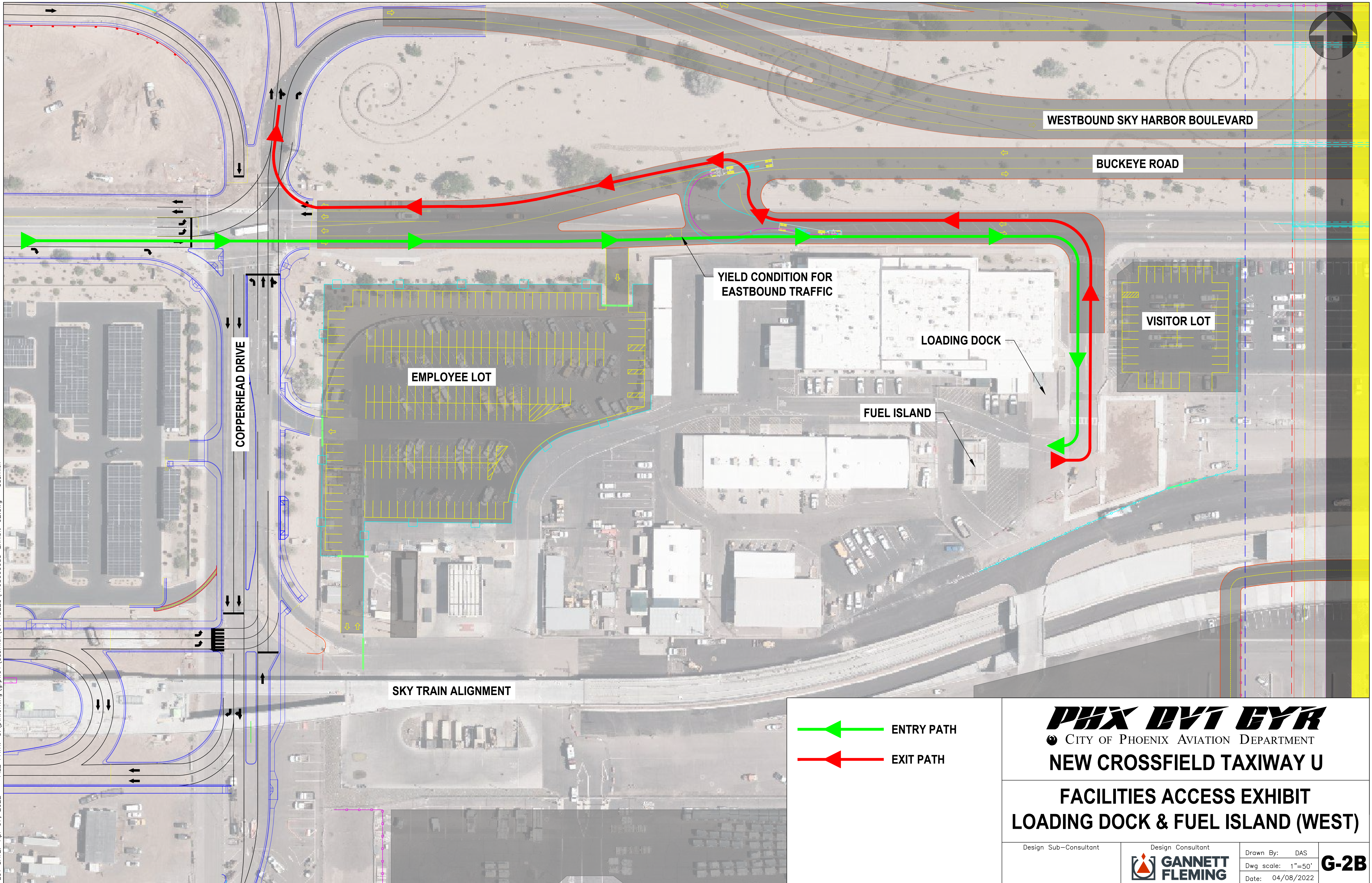
PHX DVT GYR
 CITY OF PHOENIX AVIATION DEPARTMENT

NEW CROSSFIELD TAXIWAY U

**FACILITIES ACCESS EXHIBIT
 LOADING DOCK & FUEL ISLAND (EAST)**

Design Sub-Consultant	Design Consultant	Drawn By: DAS	G-2A
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		Date: 04/08/2022	

PLOT DATE: Apr 07, 2022 FILE PATH: C:\pwworking\gfpw01\dosmith\d1443223\AV08000085-Exhibit-C2.dwg dosmith

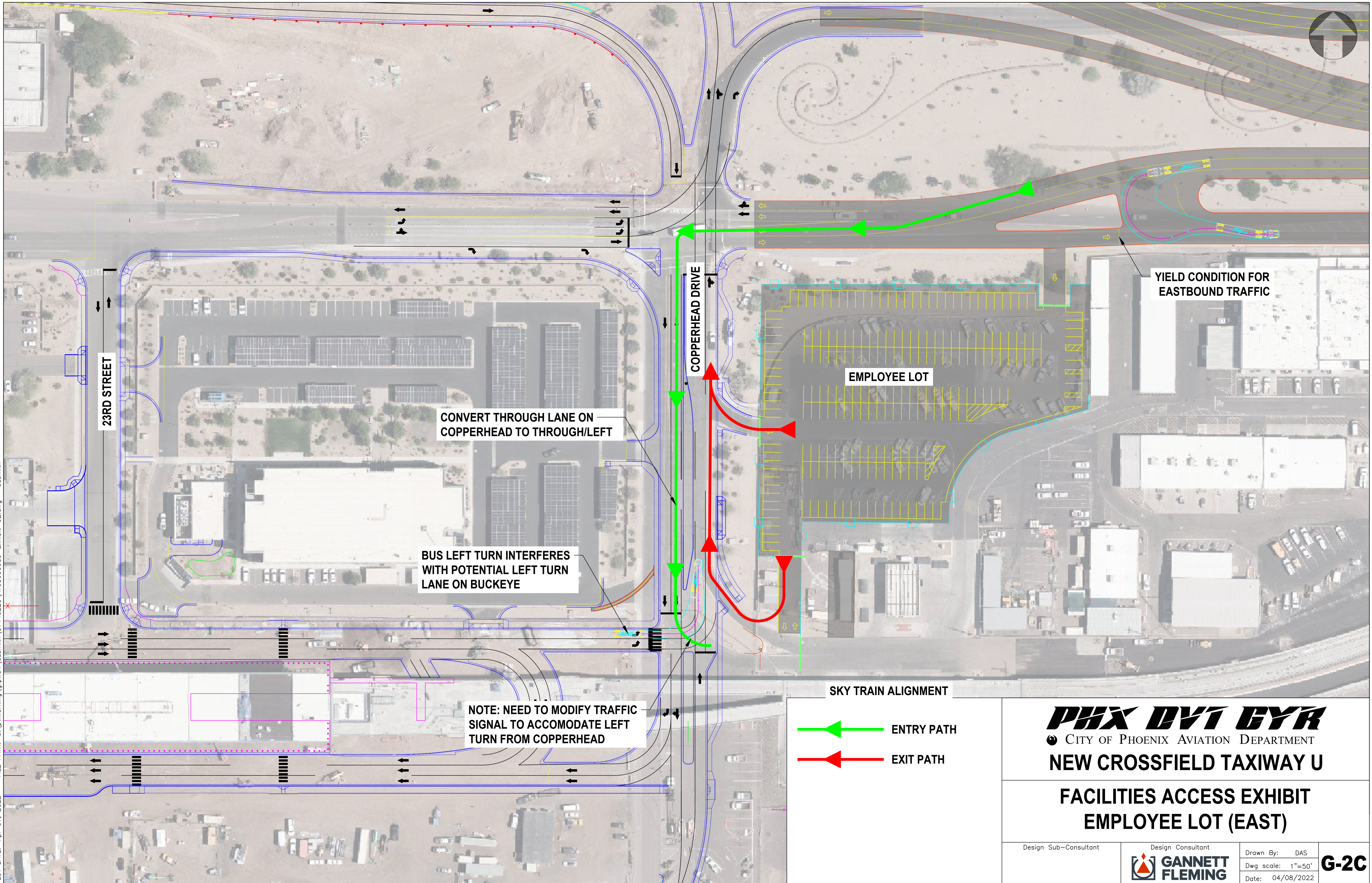


PHX DVT GYR
 CITY OF PHOENIX AVIATION DEPARTMENT
NEW CROSSFIELD TAXIWAY U

FACILITIES ACCESS EXHIBIT
LOADING DOCK & FUEL ISLAND (WEST)

Design Sub-Consultant	Design Consultant	Drawn By: DAS	G-2B
	GANNETT FLEMING	Dwg scale: 1"=50'	
		Date: 04/08/2022	

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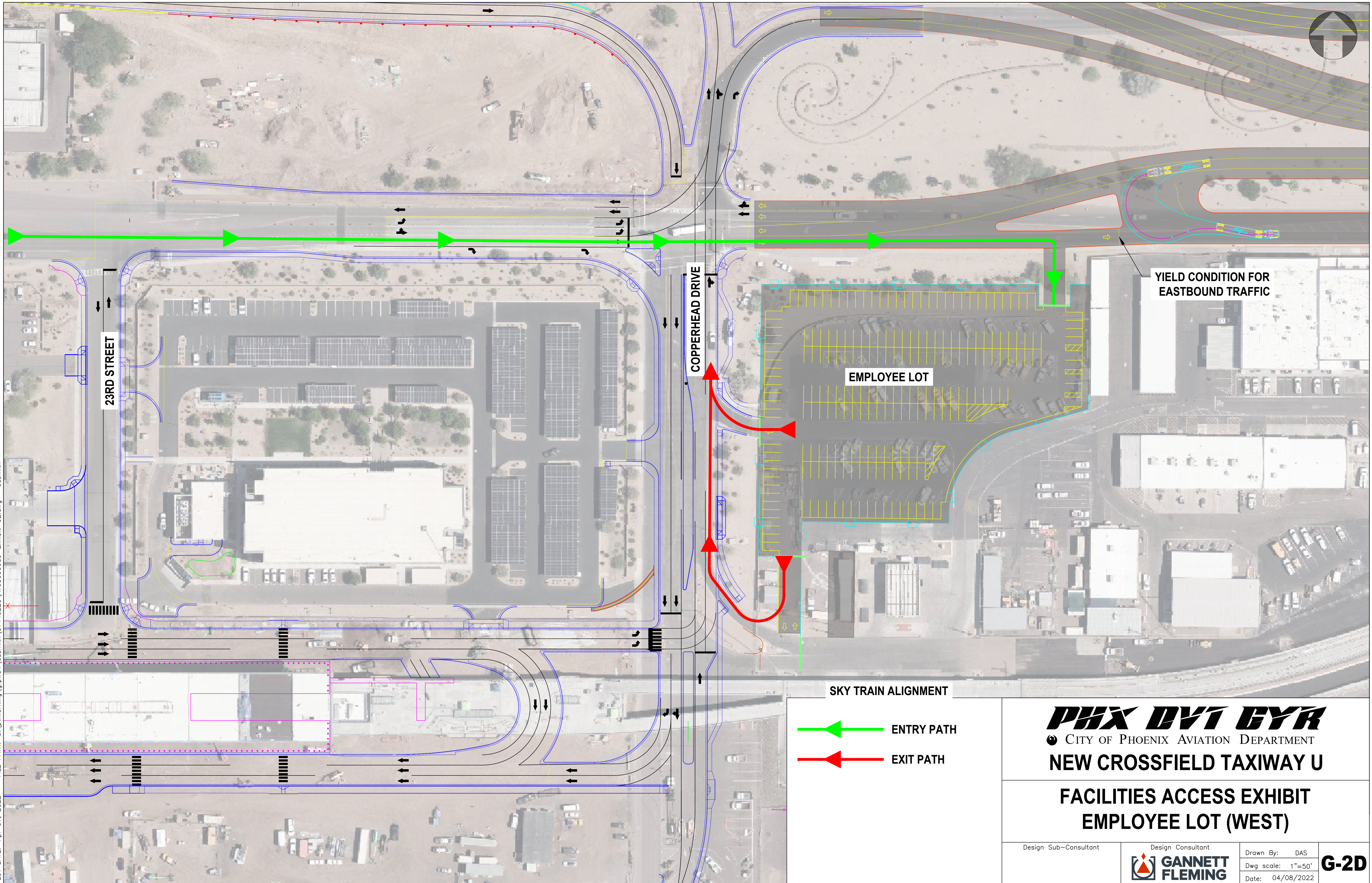
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CITY OF PHOENIX AVIATION DEPARTMENT

NEW CROSSFIELD TAXIWAY U

**FACILITIES ACCESS EXHIBIT
EMPLOYEE LOT (EAST)**

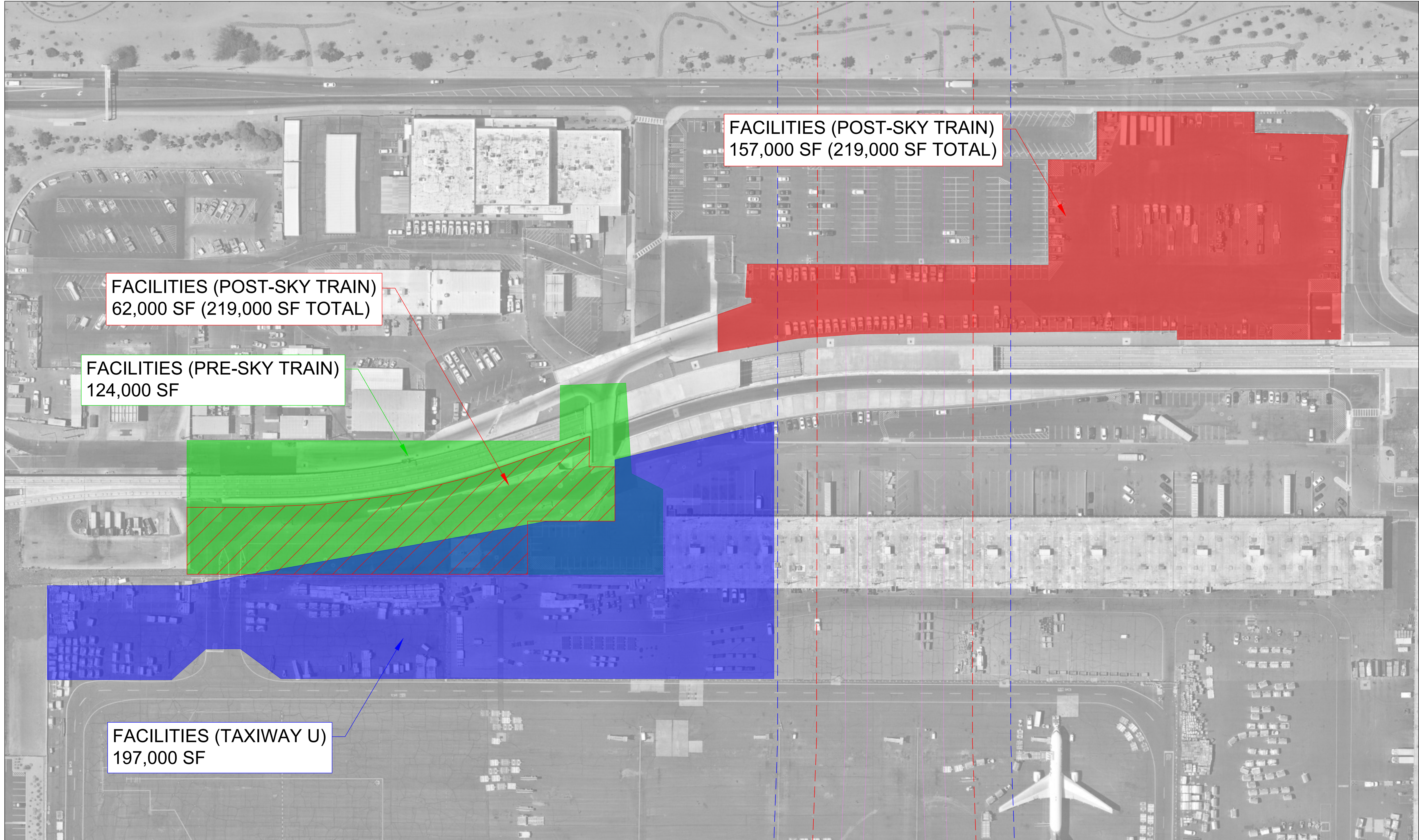
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dosmith



PHX DVT GYR
CITY OF PHOENIX AVIATION DEPARTMENT
NEW CROSSFIELD TAXIWAY U
FACILITIES ACCESS EXHIBIT
EMPLOYEE LOT (WEST)

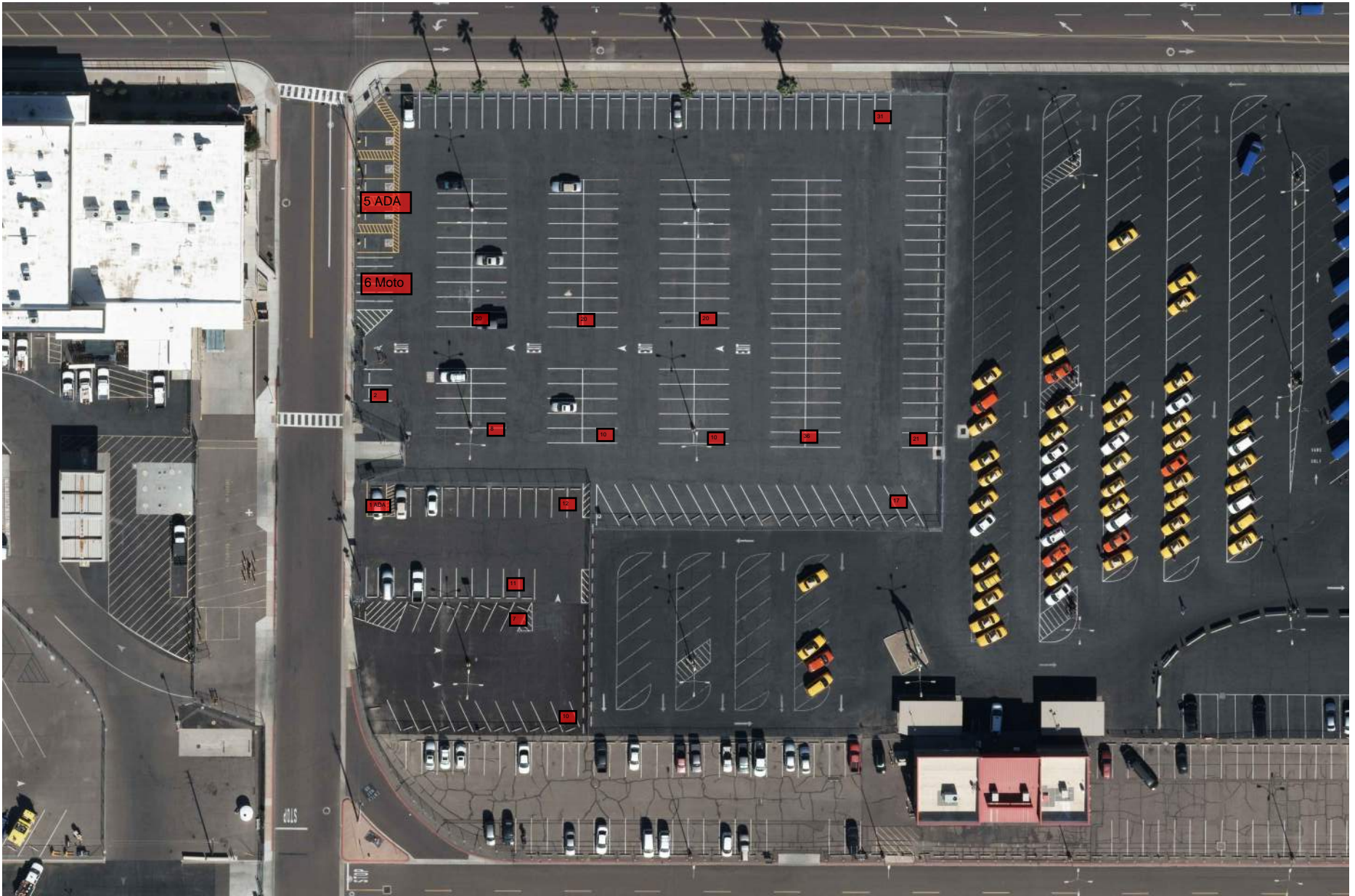
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		Date: 04/08/2022	





Imagery ©2022 Google, Imagery ©2022 Maxar Technologies, U.S. Geological Survey, Map data ©2022 Google 50 ft

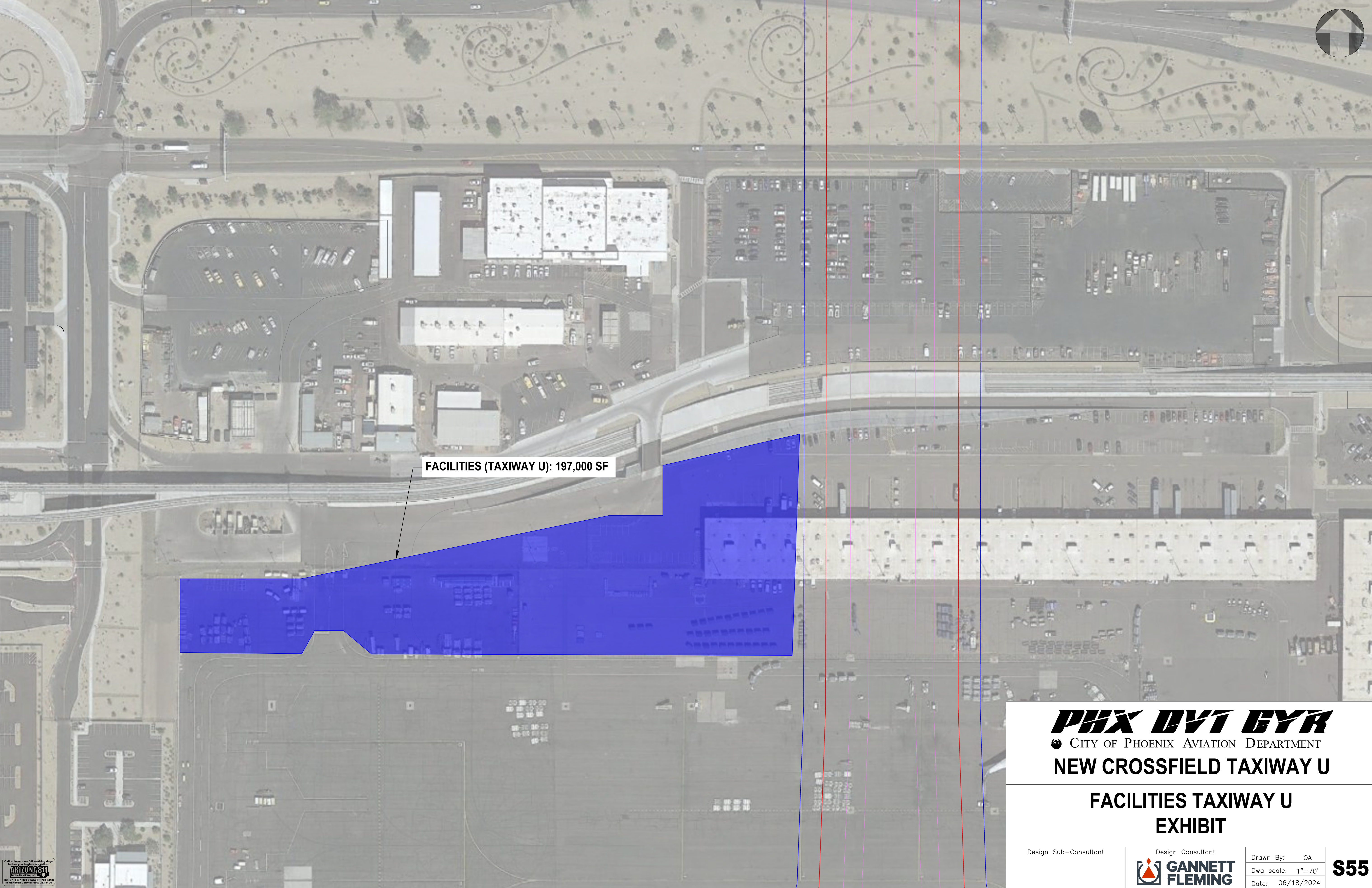
Visitor Lot - 28 Spaces, + 2 ADA (30 Total)
 Employee Lot - 212 Spaces + 5 ADA (217 Total)



Visitors Lot - 40 Spaces + 1 ADA (41 Total)

Employee Lot - 195 Spaces + 5 ADA (200 Total)

FILE PATH: C:\pwworking\gfpw01\colalaw@gfnet.com\d1443223\W08000085-Exhibit-S55.dwg
PLOT DATE: Jun 18, 2024
colalaw



FACILITIES (TAXIWAY U): 197,000 SF

PHX DVT GYR

CITY OF PHOENIX AVIATION DEPARTMENT

NEW CROSSFIELD TAXIWAY U

FACILITIES TAXIWAY U EXHIBIT

Design Sub-Consultant

Design Consultant

Drawn By: OA

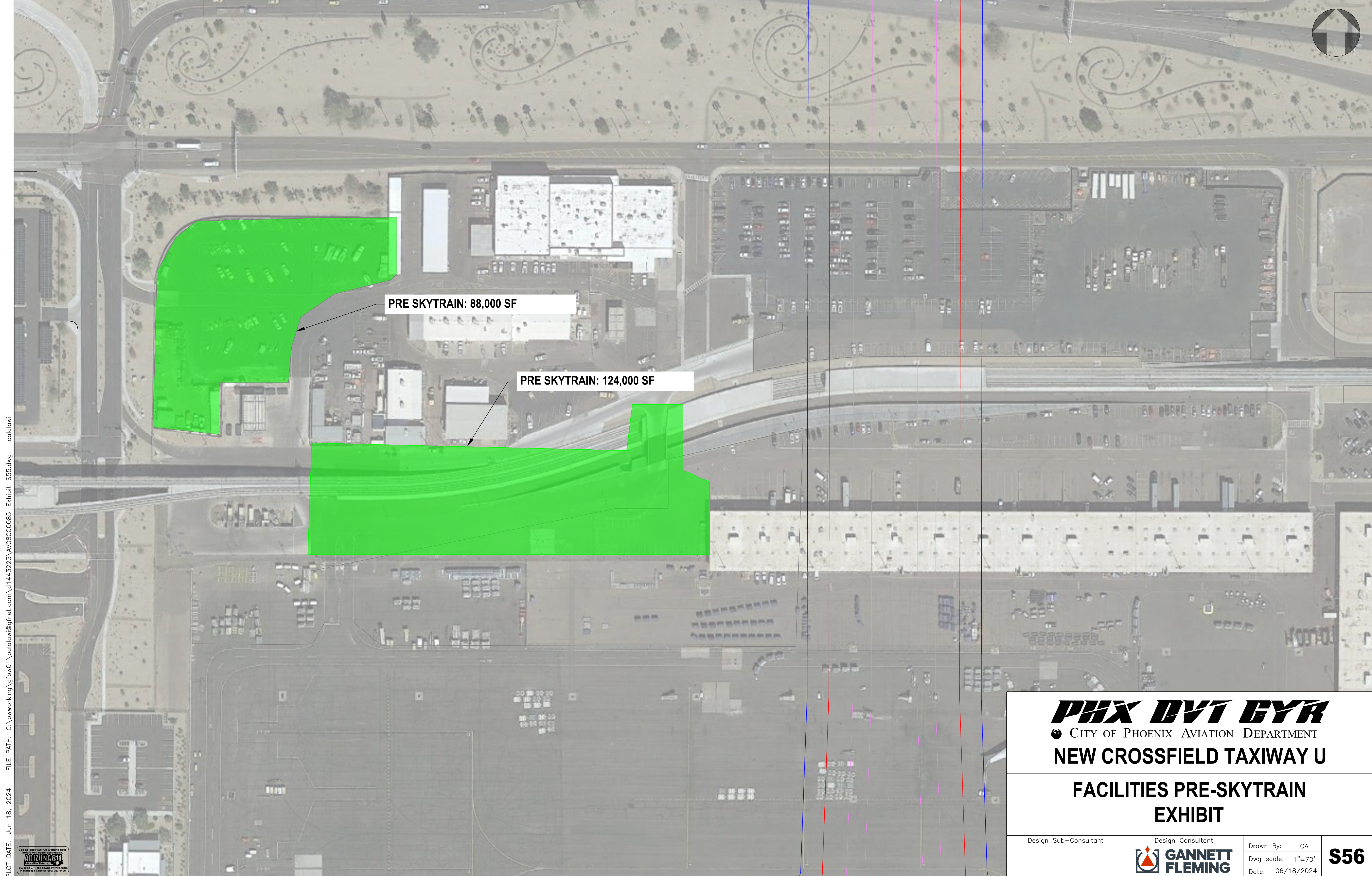
Dwg scale: 1"=70'

Date: 06/18/2024



S55





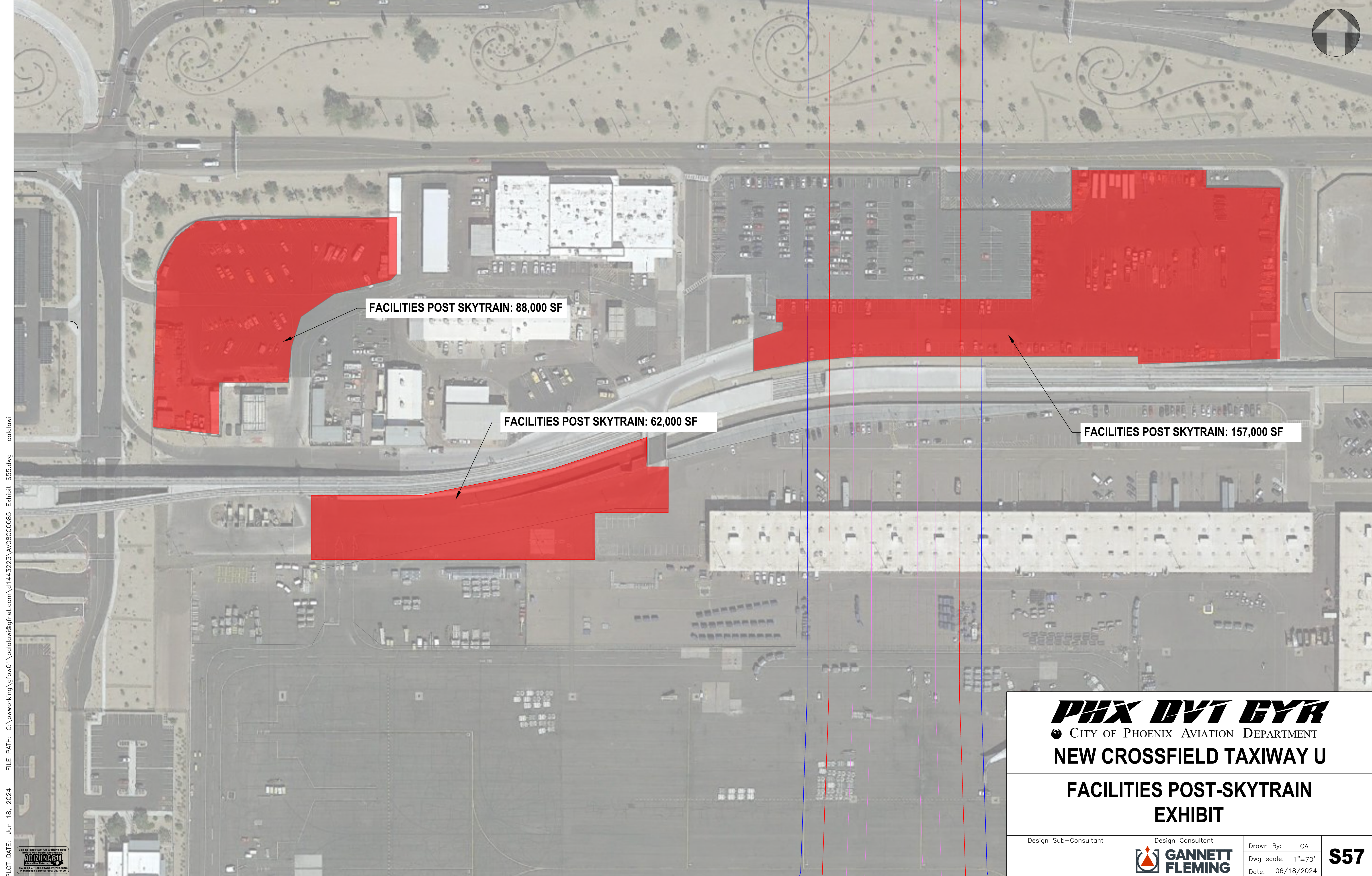
PLOT DATE: Jun 18, 2024 FILE PATH: C:\pwworking\gfpw01\coalaw@gannett.com\d1443223\W08000085-Exhibit-S55.dwg coalaw



PHX DVT GYR
 CITY OF PHOENIX AVIATION DEPARTMENT
NEW CROSSFIELD TAXIWAY U

FACILITIES PRE-SKYTRAIN
EXHIBIT

Design Sub-Consultant	Design Consultant	Drawn By: OA	S56
		Dwg scale: 1"=70'	
		Date: 06/18/2024	



FACILITIES POST SKYTRAIN: 88,000 SF

FACILITIES POST SKYTRAIN: 62,000 SF

FACILITIES POST SKYTRAIN: 157,000 SF

PHX DVT GYR

CITY OF PHOENIX AVIATION DEPARTMENT

NEW CROSSFIELD TAXIWAY U

**FACILITIES POST-SKYTRAIN
EXHIBIT**

Design Sub-Consultant

Design Consultant

Drawn By: OA

Dwg scale: 1"=70'

Date: 06/18/2024



S57

PLOT DATE: Jun 18, 2024 FILE PATH: C:\pwworking\gfpw01\coialaw@gfnet.com\d1443223\W08000085-Exhibit-S55.dwg celalawi



Appendix E: Airspace Analysis
(Not Included)

Appendix F: Cost Estimate

Conceptual Estimate

AV01080042

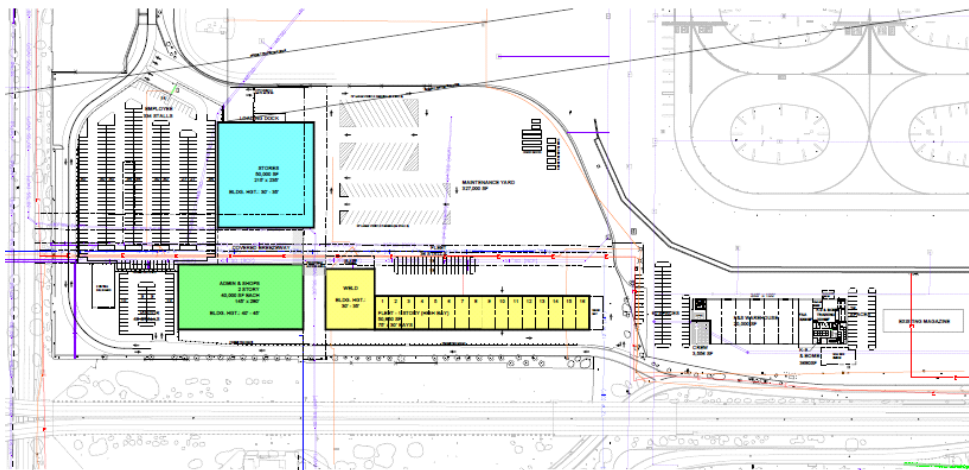
Tonto Site Development

Phoenix Sky Harbor International Airport

City of Phoenix Aviation Department

Phoenix, Arizona 85034

July 30, 2024



This estimate has been prepared by:

Hill International

500 S. 24th St.

Phoenix, AZ 85034



Estimated Hard Cost w/ Contractor Contingency



PROJECT NUMBER: AV01080042

Project Title : Tonto Site Development

Item Description	Quantity	Unit	U/Cost	Total
General Requirement				
Mobilization & demobilization	1	LS	\$ 150,000.00	\$ 50,000.00
Dumpsters	12	Mo	\$ 1,000.00	\$ 12,000.00
Barricading & Temporary fencing (Allowance)	1	LS	\$ 50,000.00	\$ 50,000.00
Office facilities - trailer, Conex, etc.	12	Mo	\$ 1,800.00	\$ 21,600.00
Utility Locating	1	ALLW	\$ 30,000.00	\$ 30,000.00
Survey Layout	1	ALLW	\$ 20,000.00	\$ 20,000.00
Safety & Security	12	MO	\$ 9,000.00	\$ 108,000.00
Quality Control	1	ALLW	\$ 150,000.00	\$ 150,000.00
A10 FOUNDATIONS				
Excavation for footing	500	CY	\$ 22.00	\$ 11,000.00
Column footing including rebar and anchor bolt & pier cap	530	CY	\$ 950.00	\$ 503,500.00
Concrete Slab on grade	34,200	SF	\$ 12.00	\$ 410,400.00
B10 SUPERSTRUCTURE				
Structural steel framing including columns	300	TN	\$ 8,500.00	\$ 2,552,550.00
Metal deck - 1-1/2" 18 gauge deck	34,200	SF	\$ 8.00	\$ 273,600.00
Install one layer of Versico 4" Insulation	34,200	SF	\$ 10.00	\$ 342,000.00
Fully adhere Versico 80 mil PVC Single ply Membrane	33,500	SF	\$ 12.00	\$ 402,000.00
Misc. steel.	1	ALLW	\$ 50,000.00	\$ 50,000.00
B20 EXTERIOR VERTICAL ENCLOSURES				
Tilt Up panels Including Paint on exterior	18,000	SF	\$ 86.00	\$ 1,548,000.00
Caulking & sealants	18,000	SF	\$ 1.30	\$ 23,400.00
Exterior windows	1	ALLW	\$ 50,000.00	\$ 50,000.00
HM single door including frame and hardware	7	Ea.	\$ 3,500.00	\$ 24,500.00
Over Hang Doors	6	Ea.	\$ 15,000.00	\$ 90,000.00
C10 INTERIOR CONSTRUCTION				
Miscellaneous rough carpentry	34,200	SF	\$ 1.50	\$ 51,300.00
Standard metal stud partition including batt insulation and gypsum board each side.	8,800	SF	\$ 15.00	\$ 132,000.00
Standard metal stud partition including batt insulation and gypsum board on one side.	7,000	SF	\$ 12.00	\$ 84,000.00
Paint on Interior walls	25,000	SF	\$ 1.00	\$ 25,000.00
Single HM doors including frame and hardware	20	EA.	\$ 3,500.00	\$ 70,000.00
Ceiling, Acoustic ceiling tile	12,100	SF	\$ 10.00	\$ 121,000.00
Code / id signage	34,200	SF	\$ 0.50	\$ 17,100.00
Fire extinguisher cabinets	34,200	SF	\$ 0.20	\$ 6,840.00
Miscellaneous fittings (shelving, lockers, etc.)	34,200	SF	\$ 0.40	\$ 13,680.00
Toilet partition, standard	3	EA.	\$ 1,600.00	\$ 4,800.00
Toilet partition, ADA	4	EA.	\$ 2,000.00	\$ 8,000.00
Urinal screen	2	EA.	\$ 600.00	\$ 1,200.00
Coat hooks	7	EA.	\$ 35.00	\$ 245.00
Toilet paper dispenser	7	EA.	\$ 200.00	\$ 1,400.00
Seat cover dispenser	7	EA.	\$ 300.00	\$ 2,100.00
Grab bar, set of 2	4	EA.	\$ 200.00	\$ 800.00
Paper towel disposal with bins	4	EA.	\$ 850.00	\$ 3,400.00
Restroom mirrors	4	EA.	\$ 250.00	\$ 1,000.00
Soap dispenser	4	EA.	\$ 50.00	\$ 200.00
Sanitary napkin dispenser	4	EA.	\$ 400.00	\$ 1,600.00
Sanitary napkin disposal	4	EA.	\$ 150.00	\$ 600.00
Janitor Room Fittings	1	LS	\$ 2,000.00	\$ 2,000.00
C20 INTERIOR FINISHES				
Wall protection	1	ALLW	\$ 20,000.00	\$ 20,000.00
Restroom wall tiles	1,800	SF	\$ 25.00	\$ 45,000.00
Floor preparation	34,200	SF	\$ 0.50	\$ 17,100.00
Floor protection	34,200	SF	\$ 0.50	\$ 17,100.00
Floor finish, restroom tiles	1,500	SF	\$ 15.00	\$ 22,500.00
Floor finish, sealed concrete	28,200	SF	\$ 3.00	\$ 84,600.00
Floor Finish , Carpet tile	4,414	SF	\$ 8.00	\$ 35,312.00
Floor finish, rubber wall base	2,000	LF	\$ 2.00	\$ 4,000.00

Estimated Hard Cost w/ Contractor Contingency



PROJECT NUMBER: AV01080042

Project Title : Tonto Site Development

D20 PLUMBING					\$ 508,977.30
Domestic Water	3,480	LF	\$ 42.23	\$	146,945.86
Equipment	14	EA	\$ 2,552.37	\$	35,733.20
Fixtures and Drains	219	EA	\$ 468.36	\$	102,570.84
Sanitary UG Waste & Vent	1,112	LF	\$ 39.96	\$	44,435.52
Sanitary: AG W&W	930	LF	\$ 34.01	\$	31,629.30
Storm Drain Below Grade	358	LF	\$ 95.81	\$	34,299.98
Storm Drain Above Garde	336	LF	\$ 50.60	\$	17,001.60
Water Treatment (Domestic Water)	1	LS	\$ 2,500.00	\$	2,500.00
Fire Caulking	1	LS	\$ 1,200.00	\$	1,200.00
Insulation - Plumbing	1	LS	\$ 36,673.00	\$	36,673.00
Excavation/Backfill	1	ALLW	\$ 55,988.00	\$	55,988.00
D30 HEATING, VENTILATION, AND AIR CONDITIONING (HVAC)					\$ 724,674.90
Refrigeration Piping	400	LF	\$ 38.40	\$	15,360.00
Duct Work and Accessories (Includes Pressure Testing)	17,435	LBS	\$ 3.62	\$	63,114.70
Labor - HVAC Field Installation	1	LS	\$ 123,287.00	\$	123,287.00
BIM/Detailing	1	LS	\$ 6,500.00	\$	6,500.00
Material Handling	1	LS	\$ 6,000.00	\$	6,000.00
Chilled Water Piping (from 5'-0" outside of building)	1,206	LF	\$ 41.40	\$	49,928.40
Condensate Piping	588	LF	\$ 34.10	\$	20,050.80
Equipment	1	LS	\$ 218,072.00	\$	218,072.00
Temperature Controls	1	LS	\$ 162,000.00	\$	162,000.00
Testing, Adjusting, and Balancing	1	LS	\$ 12,540.00	\$	12,540.00
Insulation: Mechanical	1	LS	\$ 27,422.00	\$	27,422.00
Water Treatment	1	LS	\$ 2,500.00	\$	2,500.00
Fire Caulking	1	LS	\$ 2,900.00	\$	2,900.00
Hoisting	1	ALLW	\$ 15,000.00	\$	15,000.00
D40 FIRE PROTECTION					\$ 215,885.00
Wet Pipe Fire Suppression System	33,500	SF	\$ 4.80	\$	160,800.00
Fire Pump - Electric	1	EA	\$ 39,700.00	\$	39,700.00
Transfer Switch	1	EA	\$ 425.00	\$	425.00
Rough-in at Fire Pump Room	1	EA	\$ 5,280.00	\$	5,280.00
Engineering Analysis	48	HR	\$ 110.00	\$	5,280.00
Report Preparation	24	HR	\$ 110.00	\$	2,640.00
Post Report Review	16	HR	\$ 110.00	\$	1,760.00
D50 ELECTRICAL					\$ 1,037,193.80
Lighting Fixtures	33,500	SF	\$ 3.75	\$	125,625.00
Lighting Fixtures Install	33,500	SF	\$ 0.81	\$	27,202.00
Lighting Controls	33,500	SF	\$ 0.44	\$	14,874.00
Distribution	33,500	SF	\$ 4.80	\$	160,800.00
Service Entrance	33,500	SF	\$ 0.48	\$	16,080.00
Feeders	33,500	SF	\$ 2.27	\$	76,045.00
Low Voltage Gear -1600 Switchgear	1	LS	\$ 172,800.00	\$	172,800.00
DATA - Rough in & Cabling per RFP	33,500	SF	\$ 0.28	\$	9,540.80
Wireless	33,500	SF	\$ 1.18	\$	39,530.00
Fire Alarm System	33,500	SF	\$ 2.45	\$	82,075.00
Audio/Visual -	33,500	SF	\$ 0.78	\$	26,130.00
Security - Raceways, boxes, & system	33,500	SF	\$ 1.53	\$	51,255.00
Communication Ductbank	1	LS	\$ 13,750.00	\$	13,750.00
Grounding	1	LS	\$ 45,225.00	\$	45,225.00
Mechanical Equipment Connections	33,500	SF	\$ 2.01	\$	67,402.00
BIM	1	LS	\$ 43,860.00	\$	43,860.00
Testing & Commisioning	1	LS	\$ 65,000.00	\$	65,000.00
D60 COMMUNICATIONS					\$ 100,500.00
Communication System	33,500	SF	\$ 3.00	\$	100,500.00

Estimated Hard Cost w/ Contractor Contingency



PROJECT NUMBER: AV01080042

Project Title : Tonto Site Development

E20 FURNISHINGS				\$	100,000.00
Fixed Furniture	1	ALLW	\$ 100,000.00	\$	100,000.00
F30 DEMOLITION				\$	200,000.00
Site Element Demolition	1	ALLW	\$ 200,000.00	\$	200,000.00
G20 SITE IMPROVEMENTS				\$	360,000.00
Development Site	1	ALLW	\$ 100,000.00	\$	100,000.00
High Security fence	350	LF	\$ 200.00	\$	70,000.00
AC Paving & striping	3,000	SY	\$ 50.00	\$	150,000.00
Dog run turf	4,000	SF	\$ 10.00	\$	40,000.00
G30 SITE MECHANICAL UTILITIES				\$	409,634.20
Domestic Water					
Domestic water piping, DIP	40	LF	\$ 58.00	\$	2,320.00
Domestic water piping, DIP	565	LF	\$ 68.00	\$	38,420.00
Gate Valve	1	EA	\$ 1,590.00	\$	1,590.00
Gate Valve	1	EA	\$ 1,800.00	\$	1,800.00
Fire water piping, 8" DIP	244	LF	\$ 205.00	\$	50,020.00
Fire Hydrants	3	EA	\$ 6,804.00	\$	20,412.00
Tie into existing system	1	EA	\$ 7,500.00	\$	7,500.00
Water meter and pit	1	EA	\$ 15,000.00	\$	15,000.00
Cut and patch allowance	1	LS	\$ 10,000.00	\$	10,000.00
Testing	1	EA	\$ 8,250.00	\$	8,250.00
Engineering Reports	1	EA	\$ 12,000.00	\$	12,000.00
Report Preparation	1	EA	\$ 5,200.00	\$	5,200.00
Wall Penetration	1	EA	\$ 4,500.00	\$	4,500.00
Excavation/Backfill	849	LF	\$ 80.28	\$	68,157.72
SANITARY SEWER SYSTEMS					
Reconstitute salvaged RCP storm sewer, 24"	165	LF	\$ 75.00	\$	12,375.00
Piping, PVC, 12"	242	LF	\$ 95.00	\$	22,990.00
Piping, PVC, 10"	359	LF	\$ 85.00	\$	30,515.00
Nyloplast drain basin and grate, 15"	4	EA	\$ 1,200.00	\$	4,800.00
Manhole, 60" dia.	1	EA	\$ 6,500.00	\$	6,500.00
Roof drain, 10"	8	EA	\$ 495.00	\$	3,960.00
Testing	1	EA	\$ 8,250.00	\$	8,250.00
Engineering Reports	1	EA	\$ 12,000.00	\$	6,000.00
Report Preparation	1	EA	\$ 5,200.00	\$	5,200.00
Excavation/Backfill	766	LF	\$ 80.28	\$	61,494.48
G40 SITE ELECTRICAL UTILITIES				\$	570,538.40
ELECTRICAL DISTRIBUTION					
RCS 13.2kv 1200 amp (6-switch 600a rated)	1	LS	\$ 125,750.00	\$	125,750.00
Conduit 4-5", pvc encased, primary	300	LF	\$ 225.00	\$	67,500.00
Switch pads 13.2kv concrete	1	EA	\$ 5,500.00	\$	5,500.00
Generator load bank tie in	1	LS	\$ 3,500.00	\$	3,500.00
Conduit 10-4", pvc encased secondary	400	LF	\$ 425.00	\$	170,000.00
Conduit 6-4", pvc encased secondary	100	LF	\$ 200.00	\$	20,000.00
Grounding loop building system	890	LF	\$ 25.00	\$	22,250.00
EXTERIOR LIGHTING					
Fixture L5, 27" exterior led step light concrete mounted	50	EA	\$ 100.00	\$	5,000.00
Fixture L6, exterior led step light concrete mounted	12	EA	\$ 600.00	\$	7,200.00
Fixture MH2, in-grade metal halide stainless housing	3	EA	\$ 1,105.00	\$	3,315.00
Fixture MH4A, pedestrian semi spherical 175w mh	7	EA	\$ 1,575.00	\$	11,025.00
Fixture MH5, wall downlight tempered glass 39w mh	54	EA	\$ 525.00	\$	28,350.00
Conduit 1",pvc	2,000	LF	\$ 3.00	\$	6,000.00
Conduit 1", grc	800	LF	\$ 13.00	\$	10,400.00
Copper wire #10, thhn	32	CLF	\$ 63.00	\$	2,016.00
Copper wire #8, thhn	40	CLF	\$ 82.83	\$	3,313.20
Copper wire #6, thhn	40	CLF	\$ 110.48	\$	4,419.20
EXTERIOR COMMUNICATIONS & SECURITY					
Security underground allowance	1	LS	\$ 75,000.00	\$	75,000.00
Total Direct Cost					11,743,830.60
<i>Design Contingency</i>				15%	\$ 1,761,574.59
<i>General Conditions</i>				10.0%	\$ 1,350,540.52
<i>Bonds & Insurance</i>				2.5%	\$ 371,398.64
<i>Profit/ Fee</i>				6.0%	\$ 913,640.66
<i>Sales Tax</i>				5.6%	\$ 902,281.06
Contractor Hard Cost				45.13%	\$ 17,043,266.08
Contractor's Contingency and Factors (from Table 3)				5.0%	\$ 852,163.30
Total Hard Cost w/ Contractor Contingency					\$ 17,895,429.38

Contractor Contingency

Table 3

Project Number AV01080042

Project Name Tonto Site Development

Date July 30, 2024

Description	Unit	Hard Cost	Total	Assumptions
Factors from WBS accounted for in "Construction"	0.0%	\$ 17,043,266	\$ -	Multiple contractors
Construction & Design Contingency	0.0%	\$ 17,043,266	\$ -	
Complexity	1.0%	\$ 17,043,266	\$ 170,433	
Night Work	2.0%	\$ 17,043,266	\$ 340,865	
Airport in Operation	2.0%	\$ 17,043,266	\$ 340,865	
Safety Area Requirements	0.0%	\$ 17,043,266	\$ -	
Asphalt Material Increase	0.0%	\$ 17,043,266	\$ -	
Concrete Material Increase	0.0%	\$ 17,043,266	\$ -	
Steel Material Increase	0.0%	\$ 17,043,266	\$ -	
Copper Material Increase	0.0%	\$ 17,043,266	\$ -	
Other:	0.0%	\$ 17,043,266	\$ -	
Project Total with Construction Contingency	5.0%		\$852,163	

Notes:

Appendix G: FAA 163 Determination

(Not Included)

EXHIBIT C
DIRECTIONS TO AVIATION DESIGN AND CONSTRUCTION SERVICES BUILDING

(ATTACHED)

The Aviation DCS building is a 2-story glass building, with a teal roof, with its main/visitor entrance facing East. Our front entrance gate, that you would normally access from South 24th Street, is permanently closed. You will need to enter from Sky Harbor Circle and turn into the lay down yard. Make a right once you're in the lot and follow it, staying to your right, until you make it through the gates, and to the front of the building. You will see a large parking lot, with City of Phoenix cars parked facing the building. You will enter the building through the double glass doors. See map below, follow red line.

