

**AMENDMENT NO. 1
TO
PROFESSIONAL SERVICES AGREEMENT FOR
AIRPORT DEVELOPMENT & STRATEGIC PLANNING SERVICES**

This Amendment (hereinafter called the “Amendment”) to the Professional Services Agreement for Airport Development & Strategic Planning Services at San Antonio International Airport is entered into by and between the City of San Antonio (herein called the “City”), a Texas municipal corporation, acting by and through its Aviation Director, and WSP USA, Inc., (hereinafter called “Consultant”), acting by and through its duly authorized corporate representative, as set out below. WITNESSETH:

WHEREAS, on March 29, 2018, the City and Consultant entered into a Professional Services Agreement for Airport Development & Strategic Planning Services at San Antonio International Airport. (hereinafter called the “Agreement”) pursuant to Ordinance No. 2018-03-29-0209; and

WHEREAS, it is now necessary to amend the scope of services and consultant’s fee schedule and increase the contract capacity for the completion of Phase 2 of the project; and

NOW THEREFORE, in consideration of the terms, covenants, agreements and demises herein contained, and in consideration of other good and valuable consideration, each to the other given, the sufficiency and receipt of which are hereby acknowledged, the Agreement entered into by and between the City and the Consultant is amended as follows:

- 1. Section VI—Compensation.** The total compensation listed in Section VI is hereby increased by \$5,072,838.22 for Phase 2, for a not to exceed total contract value of \$8,677,551.01.
- 2. Exhibit 1—Scope of Services.** The updated Statement of Work for Phase 2, attached hereto as Attachment 1, is incorporated into the Scope of Services.
- 3. Exhibit 2—Fee Schedule.** The updated Fee Schedule for Phase 2, attached hereto as Attachment 2, is incorporated into the Fee Schedule.

Except as amended hereby, all other provisions of the Agreement are hereby retained in their entirety and remain unchanged.

EXECUTED AND AGREED TO this _____ day of _____, 2019.

CITY OF SAN ANTONIO

WSP USA, INC.

By: _____

Erik J. Walsh
City Manager

By: h. fd
Signature

Arpit Talati Regional Business Manager
Printed Name & Title

APPROVED:

By: _____

City Attorney

ATTACHMENT 1
STATEMENT OF WORK FOR PHASE 2

ATTACHMENT 1

SCOPE OF SERVICES

AIRPORT DEVELOPMENT AND STRATEGIC PLANNING SERVICES

FOR SAN ANTONIO INTERNATIONAL AIRPORT

TABLE OF CONTENTS

1.	STAKEHOLDER ENGAGEMENT	3
1.1	Stakeholder Engagement Plan, Strategy, Key Issues.....	3
1.2	{RESERVED}.....	5
1.3	Stakeholder and Advisory Committees.....	5
1.4	Tools and Techniques	11
1.5	Communications.....	12
1.6	Special Outreach.....	16
1.7	Events, Meetings, and Gatherings	18
1.8	Survey and Data Collection	23
1.9	ASDC Coordination	25
2.	EXISTING CONDITIONS	26
2.1	{RESERVED}.....	26
2.2	{RESERVED}.....	26
2.3	{RESERVED}.....	26
2.4	{RESERVED}.....	26
2.5	{RESERVED}.....	26
2.6	{RESERVED}.....	26
2.7	{RESERVED}.....	26
2.8	Environmental Inventory.....	26
2.9	{RESERVED}.....	27
2.10	{RESERVED}.....	27
2.11	{RESERVED}.....	27
2.12	{RESERVED}.....	27
2.13	{RESERVED}.....	27
2.14	{RESERVED}.....	27
2.15	{RESERVED}.....	27
2.16	Update Phase I Existing Conditions Data	27

3.	PAVEMENT MANAGEMENT PLAN.....	28
4.	AVIATION DEMAND FORECASTS.....	29
4.1	{RESERVED}.....	29
4.2	{RESERVED}.....	29
4.3	{RESERVED}.....	29
4.4	{RESERVED}.....	29
4.5	{RESERVED}.....	29
4.6	{RESERVED}.....	29
4.7	{RESERVED}.....	29
4.8	{RESERVED}.....	29
4.9	Review Actual Aviation Demand Data	29
5.	ROADWAY DEMAND PROJECTIONS AND NEEDS	30
5.1	{RESERVED}.....	30
5.2	{RESERVED}.....	30
5.3	{RESERVED}.....	30
5.4	Update Phase I Roadway Demand Projections and Needs	30
5.5	Additional Traffic Data Collection	30
6.	2012 ECONOMIC IMPACT STUDY UPDATE	31
7.	FACILITY REQUIREMENTS	32
7.1	{RESERVED}.....	32
7.2	{RESERVED}.....	32
7.3	{RESERVED}.....	32
7.4	Runway 31L Threshold Requirements and safety study.....	32
7.5	{RESERVED}.....	33
7.6	{RESERVED}.....	33
7.7	{RESERVED}.....	33
7.8	{RESERVED}.....	33
7.9	{RESERVED}.....	33
7.10	{RESERVED}.....	33
7.11	{RESERVED}.....	33
7.12	{RESERVED}.....	33
7.13	{RESERVED}.....	33

7.14	Update Phase I Study Results	33
8.	RENEWAL AND REPLACEMENT ANALYSIS AND PLAN DEVELOPMENT	34
8.1	Establish Asset Portfolio and Condition	34
8.2	Conduct Maintenance Program Interviews and Facility/System Walk- Thru	34
8.3	Develop Maintenance and Capital Replacement Modeling Assumptions	35
8.4	FINALIZE ANALYSIS AND DEVELOP RECOMMENDATIONS	36
9.	PREPARE PHASE I REPORT.....	38
9.1	{RESERVED}.....	38
9.2	Finalize Phase I Report.....	38
10.	PROJECT MANAGEMENT	39
10.1	Project Management and Administration	39
10.2	Project Schedule.....	39
10.3	Project Meetings	39
10.4	{RESERVED}.....	40
10.5	Quality Control	40
10.6	{RESERVED}.....	40
11.	ADDITIONAL SERVICES (FEDERALLY FUNDED)	41
11.1	General Additional Services	41
11.2	Project Definition Documents – Federally Funded.....	41
12.	ADDITIONAL SERVICES (NON-FEDERALLY FUNDED)	43
12.1	General Additional Services	43
13.	ALTERNATIVES DEVELOPMENT AND EVALUATION	44
13.1	Round 1: Airfield Concepts.....	46
13.2	Round 2: Technically Feasible Airfield Alternatives and Terminal Concepts.....	47
13.3	Round 3: Final Airfield Alternatives and Initial Terminal Alternatives ...	50
13.4	Round 4: Preferred Alternatives with Access and Support Facilities Alternatives.....	51
13.5	Develop and Evaluate Composite Alternatives	54
13.6	Develop Preferred Development Plan.....	56
13.7	Alternatives Documentation	58

14.	IMPLEMENTATION PLAN	60
14.1	Develop Program/Project Phasing & drainage impacts	60
14.2	Planning-Level Cost Estimates	62
14.3	Implementation Strategies For Project Delivery	63
14.4	Final Airport Master Plan CIP and Proposed Funding Plan	64
14.5	Final SAT CIP	64
14.6	Identify Projects For Further Analysis	65
14.7	Capital program Framework/Prioritization	65
14.8	Implementation Plan Documentation	67
14.9	Update Runway 31I SRA	67
15.	NOISE EXPOSURE MAP UPDATE	69
15.1	Project Coordination	69
15.2	Develop A Comprehensive Database Of Current Conditions	71
15.3	Noise Contour Development and Impact Analysis	73
15.4	NEM Community Outreach Program	76
15.5	Prepare and Submit NEM Update Report	78
16.	FINANCIAL ANALYSIS/ COORDINATION	81
16.1	Determine Funding/ Debt Capacity	81
16.2	Coordination With AAAC	81
16.3	Coordination With City Finance Department	82
16.4	Develop Funding/Financing Plan	82
16.5	Prepare Financial Feasibility Analysis	82
17.	ALP DEVELOPMENT	84
17.1	FAA AC 150/5300-18B Aeronautical Survey	84
17.2	Implement Updated CAD/GIS Standards	84
17.3	Develop ALP Drawing Set	85
17.4	Prepare FAA Exhibit A Property Map	86
17.5	Develop ALP Narrative Report	86
18.	ENVIRONMENTAL OVERVIEW	88
19.	MASTER PLAN DOCUMENTATION	89

INTRODUCTION

This document describes the scope of services to be performed by WSP USA (CONSULTANT) and its team for Airport Development and Strategic Planning Services for the City of San Antonio (CITY) at the San Antonio International Airport (SAT or Airport), which is overseen by the CITY'S Department of Aviation, which oversees the San Antonio Airport System (SAAS). The planning services include a long-term 20-year Airport Master Plan, which is a Federal Aviation Administration (FAA)-guided process, but also reflect the region's current debate about its future aviation needs, and whether they can be met at the existing SAT site over the ultimate-term (20 to 50 years).

The Airport Master Plan will be prepared in accordance with the guidance based on FAA Advisory Circular 150/5070-6B, Airport Master Plan Updates, Change 2 dated 1/27/2015; FAA Standard Operating Procedures (SOP 2.00) for FAA Review and Approval of Airport Layout Plans (ALP) dated October 1, 2013; FAA AC 150/5300-13A, Airport Design, Change 1 dated February 26, 2014; FAA AC 150/5320-5D, Airport Drainage Design dated August 15, 2013; and FAA AC 150/5325-4, Runway Length Requirements for Airport Design, dated July 1, 2005.

The scope of work presented herein is for Phase II of the Airport Strategic Development and Planning Services. The scope of services for Phase I was approved by the San Antonio City Council in March 2018 and has been underway since April of the same year. The Phase I services are expected to be substantially complete by the end of the first quarter of 2019. Phase I served to develop an updated aviation demand forecast, initiate stakeholder engagement, and to answer the question whether the region's 50-year aviation needs could be met at the existing site.

Phase II services will produce an FAA-approved 20-year development plan for SAT, including a financing and phasing plan, and also will protect a 50-year plan. Phase II services are expected to be completed 14 months after notice-to-proceed (NTP).

TASK LIST

The major tasks to be accomplished in preparing the Phase II portion of the Airport Master Plan are:

- Task 1. Stakeholder Engagement (continuation of Phase I Services)
- Task 2. Existing Conditions (update to Phase I Services, if necessary)
- Task 3. Pavement Management Plan (continuation of Phase I Services)
- Task 4. Aviation Demand Forecasts (update to base year, if necessary)
- Task 5. Reserved (Roadway Demand Projections and Needs)
- Task 6. Reserved (2012 Economic Impact Study Update)
- Task 7. Reserved (Facility Requirements)
- Task 8. Condition Assessment Data Compilation (deleted in Phase I)
- Task 9. Prepare Phase I Report (continuation of Phase I Services)
- Task 10. Project Management (continuation of Phase I Services)
- Task 11. Additional Services (Federally Funded)
- Task 12. Additional Services (Non-Federally Funded)
- Task 13. Alternatives Development and Evaluation
- Task 14. Implementation Plan
- Task 15. NEM Update

- Task 16. Financial Analysis/Coordination
- Task 17. ALP Development
- Task 18. Environmental Overview
- Task 19. Master Plan Documentation

The CONSULTANT will be utilizing the services of various subconsultants to assist in the development of various elements of the Airport Master Plan. The table below provides a listing of the subconsultants and the various tasks for which they will be providing services in Phase I (additional team subconsultants will provide services during Phase II).

Subconsultants	Defined Name	Task(s)
Auxiliary Marketing Services	AMS	Task 1, Task 15
Poznecki-Camarillo, Inc.	PCI	Task 1, Task 2, Tasks 13-15 & Task 18
Unison Consulting Group	Unison	Task 2, Task 4, Task 16
Economic & Planning Systems	EPS	Task 2, Task 4, Task 6
Maestas & Associates, Inc.	Maestas	Task 2, Task 7, Task 13, Task 14
Hirsh Associates	Hirsh	Task 2, Task 7, Task 13, Task 14
Faith Group	FG	Task 2, Task 7, Task 13, Task 14
GRAM (as a vendor)	GRAM	Task 2, Task 5
Environmental Science Associates	ESA	Task 13, Task 15, Task 17
Connico	Connico	Task 13, Task 14
Quantum Spatial	Quantum	Task 17

The remainder of this document presents the proposed scope of work for each of the above tasks.

1. STAKEHOLDER ENGAGEMENT

SAAS seeks robust participation by members of the local and regional community, government, business partners, agency representatives, and other Airport stakeholders during the development of Airport Master Plan and Strategic Development Plan to complete the study successfully. The CONSULTANT will identify and recommend strategies and opportunities for stakeholder engagement and be responsible for coordination of all stakeholder engagement activities with appropriate Airport and SAAS, including the City's public participation standards.

Each deliverable will include one round of SAAS review. SAAS will review each draft and provide consolidated comments using track changes. The CONSULTANT will incorporate the comments from SAAS and revise the draft. For the various meetings contained under this task, it is assumed that SAAS or its representative will secure and schedule the required meeting space.

1.1 STAKEHOLDER ENGAGEMENT PLAN, STRATEGY, KEY ISSUES

1.1.1 STAKEHOLDER ENGAGEMENT PLAN

The CONSULTANT will use the final scope document as the plan for stakeholder engagement for Phase II of the Airport Development and Strategic Planning Services for San Antonio International Airport. This will serve as the guidance for engaging the community and stakeholders during development of the Plan.

1.1.2 STAKEHOLDER ENGAGEMENT STRATEGY SESSION

Within two weeks of issuance of the NTP, the CONSULTANT will plan and facilitate a one- to two-hour stakeholder engagement strategy session with SAAS. The purpose of this strategy session is to gather input from SAAS to inform completion of the draft stakeholder engagement plan.

1.1.3 KEY ISSUES IDENTIFICATION SESSION

Within two weeks of the stakeholder engagement strategy session, the CONSULTANT will facilitate a one-hour key issues identification session with SAAS. The key issues identification session will have the following objectives: identify and confirm the issues, problems, challenges, and opportunities that should be examined and that are of greatest concern to the Airport; identify audiences; and create messaging related to the issues and respective audiences. The following table summarizes how key issues will be discussed with stakeholders:

Task 1.1 Stakeholder Engagement Plan, Strategy, Key Issues	1.1.1 Stakeholder Engagement Plan	1.1.2 Stakeholder Engagement Strategy Session	1.1.3 Key Issues Identification Session
Tasks	<ul style="list-style-type: none"> The final Stakeholder Engagement Section of the scope of work for Phase II will serve as the Stakeholder Engagement Plan. 	<ul style="list-style-type: none"> Confirm objectives for the stakeholder engagement program. Confirm key stakeholder categories and their potential interests and concerns; identify potential new stakeholder categories for Phase II. Confirm Technical Advisory Committee (TAC), Stakeholder Working Group (SWG), and Transportation and Planning Partners Working Group (TPPWG) members, emails or mailing addresses, and phone numbers. Identify new TAC, SWG, TPPWG members if/as appropriate. Confirm members of SAAS's Strategic Development Plan management/ policy/oversight committee and the stakeholder engagement approval process for communiques. Confirm existing and effective outreach channels and identify new ones. 	<ul style="list-style-type: none"> Identify and confirm the issues that are of greatest concern to the Airport. Generate a list of key issues to present to stakeholder groups to confirm and identify any additional problems, challenges, and opportunities that should be examined.
Responsibilities	<ul style="list-style-type: none"> CONSULTANT (WSP): Supervise and review work of subconsultants. SUBCONSULTANTS (AMS & PCI): Implement the Phase II scope as the Stakeholder Engagement Plan. SAAS: Implement the Phase II scope as the Stakeholder Engagement Plan. 	<ul style="list-style-type: none"> CONSULTANT (WSP): Supervise and review work of subconsultants. SUBCONSULTANTS (AMS & PCI): Prepare draft and revised meeting agenda. Prepare meeting attendance list. Assist in confirming stakeholder categories and confirming working group members. Prepare proposed timeline for stakeholder meetings. Review and confirm or update definitions of working group members' roles, meeting agendas and materials, invitations to working groups members, and prepare meeting notes and action items. SAAS: Provide names, emails and/or addresses of chosen members. Secure meeting rooms. 	<ul style="list-style-type: none"> CONSULTANT (WSP): Supervise and review work of subconsultants. SUBCONSULTANTS (AMS & PCI): Prepare meeting agenda, list of potential key issues for review, and subsequent summary of key issues. Create proposed key messages to be used throughout Phase II of the Airport Strategic Development Plan effort. Prepare meeting attendance list. Prepare meeting notes and action items. SAAS: Participate in meeting; review and comment on key messages. Secure the meeting room.
Deliverables	<ul style="list-style-type: none"> Draft, revise, and finalize the scope as the Stakeholder Engagement Plan. 	<ul style="list-style-type: none"> Updated TAC, SWG, TPPWG rosters, schedules, descriptions, meeting agendas, meeting attendance list, meeting materials, meeting notes. 	<ul style="list-style-type: none"> List of key issues, meeting agenda, meeting attendance list, meeting notes, key messages related to issues.

1.2 {RESERVED}

1.3 STAKEHOLDER AND ADVISORY COMMITTEES

1.3.1 STAKEHOLDERS

Stakeholders include various categories of organizations and individuals. The list is a dynamic list and additions will be made on an on-going basis.

Task 1.3.1 Potential Stakeholders					
Users and tenants	Groups and individuals from within Airport's organization	FAA	Resource, regulatory, and review agencies	Vested external groups and individuals	Local and regional government officials (elected and appointed)
<ul style="list-style-type: none">• Commercial service and charter airlines• Air cargo airlines and operators• Corporate aircraft owners• Freight forwarders• Airline ground handling and catering companies• Airline maintenance base operators (MRO)• Aircraft fueling and storage operators• General aviation aircraft owners• General aviation hangar owners and tenants• Fixed-base operators	<ul style="list-style-type: none">• Airport Advisory Commission (AAC)• Airport Executive Director• Airport executive management team (as defined by SAAS)• Airport senior line operations, line maintenance personnel, senior fire, security and safety officers	<ul style="list-style-type: none">• Airports District Office• Air Traffic Organization• Airport Traffic Control Tower• Regional Technical Operations• System Management Office• Regional Flight Standards• Runway Safety Office• Flight Procedures Office• National Airspace System Implementation Center• Flight Service Station	<ul style="list-style-type: none">• Federal Inspection Service agencies/Customs and Border Protection• Federal agencies with responsibility for affected resources• Transportation Security Administration• Federal, state, regional, and local air quality, water quality, and wildlife agencies• Representatives of local political jurisdictions• State, regional, metropolitan, and local planning office• State, regional, metropolitan and local	<ul style="list-style-type: none">• Hotel and other hospitality business associations• Local tourism board and organizations• Chambers of commerce and other economic development groups• Community members and others with a strong economic or social tie to the Airport• Non-government organizations• Neighborhood associations• Traveling public	<ul style="list-style-type: none">• Mayor• Council members• City Manager's Office• City SAAS heads• County judge• County commissioners• Alamo Area Council of Governments• City/county officials in neighboring communities within the defined regional boundaries

Task 1.3.1 Potential Stakeholders					
Users and tenants	Groups and individuals from within Airport's organization	FAA	Resource, regulatory, and review agencies	Vested external groups and individuals	Local and regional government officials (elected and appointed)
<ul style="list-style-type: none"> • Air tour operators • Air ambulance and rescue operators • Flight schools • Flying clubs/Civil Air Patrol • Military users and tenants of the Airport • Rental car operators • Parking lot operators • Concessionaires • Ground transportation companies (taxi, Transportation Network Companies (TNC), shuttle bus, limousine operators, and public transportation) 			transportation and land use planning agencies <ul style="list-style-type: none"> • State aeronautics office • State and local environmental regulatory authorities • American Indian Tribes and Nations • SAWS (San Antonio Water and Sewer System) • CPS Energy (City Public Service) • SARA (San Antonio River Authority) • Edwards Aquifer Authority 	<ul style="list-style-type: none"> • Environmental Justice stakeholders • Private land owners and developers • 	

1.3.2 STAKEHOLDER DATABASE

The electronic database of names and contact information from Phase I will be updated and maintained throughout the project, to be used for disseminating the study information and public meeting notices. The database will be dynamic with periodic additions and updates, such as mailing list requests from survey participants.

For Phase II, addresses up to two-miles of the SAT property line, along with addresses within noise contours, will be considered for mailings via USPS mail regarding surveys and invitations to meetings.

Task 1.3.2 Stakeholder Database	
Tasks	<ul style="list-style-type: none">• Update and maintain database of names and contact information to include name, email, and/or address, phone, and source.• Add public event or meeting attendees' names and addresses to mailing list.
Responsibilities	<ul style="list-style-type: none">• CONSULTANT (WSP): supervise and review work of subconsultant.• SUBCONSULTANTS (AMS and PCI): develop and maintain database of stakeholder names and contact information.• SAAS: Provide electronic version of applicable contacts and contact lists, as well as Airport stakeholder names and contact information.
Deliverables	<ul style="list-style-type: none">• Electronic version of mailing list to include names, source, and contact information.

1.3.3 ADVISORY COMMITTEES

There are six committees/groups in this category, including Stakeholder Working Group (SWG), Technical Advisory Committee (TAC), Transportation and Planning Partners Working Group (TPPWG), Airport Advisory Commission (AAC), Airport Managers Group (AMG), and Airport System Development Committee (ASDC).

Two meetings are proposed with each of these groups to review findings of the Composite Alternatives task and overall findings of the Master Plan Study, before they are presented to the public. The Advisory Committee meetings will occur before pop-up events and the two open house sessions.

1.3.3.1 STAKEHOLDER WORKING GROUP

The CONSULTANT will assist SAAS with convening and facilitating a SWG comprised of key stakeholders in the Airport Master Plan and Strategic Development Plan, as agreed by SAAS and the CONSULTANT.

SWG members include community leaders; representatives of businesses and neighborhoods near the Airport, the traveling public (both frequent and infrequent), military, tourism, museum, tourism and hotel associations, and civic organizations (e.g., chambers of commerce) in the area served by SAT (generally following the boundaries of Alamo Area Councils of Government (AACOG)).

SWG member responsibilities include: serving as a liaison between the Strategic Development Plan and SWG members' respective organizations; assisting the Strategic Development Plan team to communicate with members of the SWG members' organizations; providing input and comments on evaluation measures, conceptual alternatives, and the screening process; providing feedback on public participation activities;

assisting with providing updates to the Stakeholder Database; and giving feedback to the CONSULTANT on the clarity and comprehension of the presentations to be made to the public.

1.3.3.2 TECHNICAL ADVISORY COMMITTEE

The CONSULTANT will assist SAAS with convening and facilitating a TAC comprised of key organizations that have a technical relationship to SAAS, per Phase I. Members of this group will include technical staff from appropriate local, state, and federal transportation agencies, and others as identified by SAAS.

TAC member responsibilities include: serving as a liaison between the Strategic Development Plan and TAC members' respective organizations; assisting the Strategic Development Plan team with communicating with members of the TAC members' organizations; providing technical review and comment on evaluation measures, conceptual alternatives, and the screening process; providing feedback on public participation activities; and giving feedback to the CONSULTANT on the clarity and comprehension of the presentations to be made to the public.

1.3.3.3 TRANSPORTATION AND PLANNING PARTNERS WORKING GROUP

The CONSULTANT will assist SAAS with convening and facilitating a TPPWG comprised of representatives from City's Planning SAAS and Transportation and Capital Improvements SAAS, VIA Metropolitan Transportation, and other transportation and planning-related agencies.

TPPWG member responsibilities include: serving as a liaison with their respective organizations; assisting the Strategic Development Plan team with communicating with members of the TPPWG members' organizations; discussing and providing technical review and comment on current and future planning efforts being conducted by the organizations they represent; providing feedback on public participation activities; assisting in the development of the Stakeholder Database; and giving feedback to the CONSULTANT on the clarity and comprehension of the presentations to be made to the public.

Task 1.3.3 Advisory Committees	1.3.3.1 Stakeholder Working Group (SWG)	1.3.3.2 Technical Advisory Committee (TAC)	1.3.3.3 Transportation and Planning Partners Working Group (TPPWG)
Tasks	<ul style="list-style-type: none"> Review and update list of members, recommending potential group members when applicable Plan and facilitate up to two two-hour meetings at or prior to key decision milestones: <ul style="list-style-type: none"> Composite Alternatives Master Plan Study Findings Secure meeting space Send invitations and track attendance Draft agendas for all meetings Prepare meeting materials Prepare graphic displays and handout materials Manage day-of meeting logistics, including refreshments and set-up Facilitate meetings 	<ul style="list-style-type: none"> Review and update list of members, recommending potential group members when applicable Plan and facilitate up to three two-hour meetings at or prior to key decision milestones: <ul style="list-style-type: none"> Sketch-planning/ brainstorming session Composite Alternatives Master Plan Study Findings Secure meeting space Send invitations and track attendance Draft agendas for all meetings Prepare meeting materials Prepare graphic displays and handout materials Manage day-of meeting logistics, including refreshments and set-up 	<ul style="list-style-type: none"> Review and update list of members, recommending potential group members when applicable Plan and facilitate up to two two-hour meetings: <ul style="list-style-type: none"> Composite Alternatives Master Plan Study Findings Secure meeting space Send invitations and track attendance Draft agendas for all meetings Prepare meeting materials Prepare graphic displays and handout materials Manage day-of meeting logistics, including refreshments and set-up Provide technical SME staffing at meetings

Task 1.3.3 Advisory Committees	1.3.3.1 Stakeholder Working Group (SWG)	1.3.3.2 Technical Advisory Committee (TAC)	1.3.3.3 Transportation and Planning Partners Working Group (TPPWG)
	<ul style="list-style-type: none"> • Provide technical SME staffing at meetings • Compile SWG comments • Develop meeting summary 	<ul style="list-style-type: none"> • Facilitate meetings • Provide technical SME staffing at meetings • Compile TAC comments • Develop meeting summary 	<ul style="list-style-type: none"> • Compile TPPWG comments • Develop meeting summary
Responsibilities	<ul style="list-style-type: none"> • CONSULTANT (WSP): assist SAAS with convening and facilitating meetings: create technical exhibits, graphic displays, and materials; provide technical SMEs to staff the meeting. • SUBCONSULTANTS (AMS & PCI): Suggest group members when applicable, manage pre- and day-of meeting logistics, facilitate meetings, create materials and reports, take and file photos for the Strategic Development Plan's photo archives. • SAAS: Secure meeting space, participate in meetings, contribute to suggested working group rosters, review and comment on meeting materials, exhibits, and reports. 	<ul style="list-style-type: none"> • CONSULTANT (WSP): assist SAAS with convening and facilitating meetings: create technical exhibits, graphic displays, and materials; provide technical SMEs to staff the meeting. • SUBCONSULTANTS (AMS & PCI): Suggest group members when applicable, manage pre- and day-of meeting logistics, facilitate meetings, create materials and reports, take and file photos for the Strategic Development Plan's photo archives. • SAAS: Secure meeting space, participate in meetings, contribute to suggested working group rosters, review and comment on meeting materials, exhibits, and reports. 	<ul style="list-style-type: none"> • CONSULTANT (WSP): assist SAAS with convening and facilitating meetings: create technical exhibits, graphic displays, and materials; provide technical SMEs to staff the meeting. • SUBCONSULTANTS (AMS & PCI): Suggest group members when applicable, manage pre- and day-of meeting logistics, facilitate meetings, create materials and reports, take and file photos for the Strategic Development Plan's photo archives. • SAAS: Secure meeting space, participate in meetings, contribute to suggested working group rosters, review and comment on meeting materials, exhibits, and reports.
Deliverables	<ul style="list-style-type: none"> • SWG roster updates • Up to two sets of graphic displays and handout materials • Up to two draft and revised agendas • Up to two draft and revised meeting summaries • Photos for the Airport Master Plan's "library" 	<ul style="list-style-type: none"> • TAC roster • Up to three sets of graphic displays and handout materials • Up to three draft and revised agendas • Up to three draft and revised meeting summaries • Photos for the Airport Master Plan's "library" 	<ul style="list-style-type: none"> • TPPWG roster • Up to two sets of graphic displays and handout materials • Up to two draft and revised agendas • Up to two draft and revised meeting summaries • Photos for the Airport Master Plan's "library"

1.3.3.4 SAN ANTONIO AIRPORT ADVISORY COMMISSION

The AAC is appointed by the San Antonio City Council and meets monthly to advise the City's Aviation Director on policies affecting the City's airports and air transportation initiatives. The CONSULTANT will assist SAAS with facilitating conversations and exercises during up to three AAC regularly scheduled meetings.

1.3.3.5 AIRPORT MANAGERS GROUP

The CONSULTANT will assist SAAS with facilitating conversations and exercises during up to three meetings of the AMG to participate in the Strategic Development Plan efforts on behalf of SAAS's internal audience.

1.3.3.6 SAN ANTONIO AIRPORT SYSTEM DEVELOPMENT COMMITTEE

The ASDC was created in January 2018 to gather local business and community leaders to identify short-

term and long-term capital improvement recommendations for SAT. In Phase II, the ASDC will provide guidance in the development of the SDP. The CONSULTANT will assist SAAS with facilitating conversations and exercises for up to three ASDC meetings.

The CONSULTANT will assist SAAS with ASDC efforts/Strategic Development Plan coordination as requested.

Task 1.3.3 Advisory Committees	Task 1.3.3.4 Airport Advisory Commission (AAC)	Task 1.3.3.5 Airport Managers Group (AMG)	Task 1.3.3.6 Airport System Development Committee (ASDC)
Tasks	<ul style="list-style-type: none"> Plan up to three two-hour meetings: <ul style="list-style-type: none"> Sketch planning/ brainstorming session Composite Alternatives Master Plan Study Findings Provide facilitation for up to three two-hour meetings Respond to committee members' questions and information requests Draft agendas for presentations at meetings Prepare meeting materials Prepare graphic displays and handout materials Provide technical SME staffing at meetings Compile group comments Develop meeting summary 	<ul style="list-style-type: none"> Plan up to three two-hour meetings: <ul style="list-style-type: none"> Sketch planning/ brainstorming session Composite Alternatives Master Plan Study Findings Provide facilitation for up to three two-hour meetings Secure meeting space Coordinate schedules of City leadership and SAAS managers Respond to managers' questions and information requests Send invitations and track attendance Draft agendas for all meetings Prepare meeting materials Prepare graphic displays and handout materials Manage day-of meeting logistics including refreshments and set-up Provide technical SME staffing at meetings Compile group comments Develop meeting summary 	<ul style="list-style-type: none"> Plan up to three two-hour meetings: <ul style="list-style-type: none"> Composite alternatives Master Plan Study Findings Other (timing to be determined) Provide facilitation for up to three two-hour meetings Secure meeting space Coordinate schedules of City leadership and committee members Respond to committee members' questions and information requests Draft agendas for all meetings Prepare meeting materials Provide technical SME staffing at meetings
Responsibilities	<ul style="list-style-type: none"> CONSULTANT (WSP): create technical exhibits, graphic displays, and materials; provide technical SMEs to staff the meeting SUBCONSULTANTS (AMS & PCI): facilitate meetings, create meeting materials and reports, take and file photos for the Strategic Development Plan's photo archives SAAS: Secure meetings space, create meeting agendas, manage pre- and day-of meeting logistics, create materials and reports, participate in meetings, review and comment on meeting materials, exhibits, 	<ul style="list-style-type: none"> CONSULTANT (WSP): create technical exhibits, graphic displays, and materials; provide technical SMEs to staff the meeting SUBCONSULTANTS (AMS & PCI): facilitate meetings, create meeting agendas, materials and reports, take and file photos for the Strategic Development Plan's photo archives SAAS: Secure meeting space, coordinate schedules of City leadership and managers, manage pre- and day-of meeting logistics, participate in meetings, review and comment on meeting materials, exhibits; 	<ul style="list-style-type: none"> CONSULTANT (WSP): create technical exhibits, graphic displays, and materials; provide technical SMEs to staff the meeting SUBCONSULTANTS (AMS & PCI): Coordinate agenda items, messaging, materials, and follow-up as required for up to three meetings, take and file photos for the Strategic Development Plan's photo archives. SAAS: Lead meeting and secure meeting space, coordinate schedules of City leadership and committee members, create meeting agendas, manage pre- and day-of meeting logistics, create

Task 1.3.3 Advisory Committees	Task 1.3.3.4 Airport Advisory Commission (AAC)	Task 1.3.3.5 Airport Managers Group (AMG)	Task 1.3.3.6 Airport System Development Committee (ASDC)
	and prepare meeting summary reports; respond to committee members' questions and information requests	respond to managers' questions and information requests	materials and reports, participate in meetings, contribute to suggested working group rosters, review and comment on meeting materials, exhibits, and prepare meeting summary reports • Respond to committee members' questions and information requests
Deliverables	• Up to three sets of graphic displays and handout materials	• Up to three sets of graphic displays and handout materials	• Up to three sets of graphic displays and handout materials

1.4 TOOLS AND TECHNIQUES

1.4.1 SOCIAL MEDIA AND WEBPAGE

The CONSULTANT will make recommendations and prepare content for SAAS's existing social media platforms and webpages to engage and inform targeted publics and audiences. CONSULTANT will also monitor for troubleshooting purposes the Strategic Development Plan social media platforms and webpages.

1.4.1.1 SOCIAL MEDIA

The CONSULTANT will draft social media content intended to inform and engage followers on a monthly basis during the Strategic Development Plan process. Content could include the introduction of the Airport Master Plan, progress updates, event and meeting announcements, visuals, graphic materials, and photos of engaged stakeholders. SAT staff will handle and respond to inquiries, per existing COSA protocols and policies.

1.4.1.2 WEBPAGE

CONSULTANT will create draft and revised content for an Airport webpage (or website linked to Airport webpage) dedicated to communicating with the public and stakeholders about the Strategic Development Plan. This webpage or website is intended to be the first point of information about the Strategic Development Plan for members of the public and key stakeholders. Content will be updated up to 12 times, at key milestones.

1.4.1.3 COMMUNITY MEMBERS' STORYTELLING PROJECT

Using the overview, framework, process, and prompts created by the CONSULTANT in Phase I, the storytelling project will continue in Phase II. The storytelling project asks for community members and travelers to provide short, first-hand video accounts via personal smartphones about why SAT is important to them. The resulting videos will be used in social media, on the website, at meetings, and at the Airport to illustrate the "human traveler" side of the Airport, and to inspire people to get engaged in the Strategic Development Plan process. All creative content and media will belong to SAAS, as sole owner.

Task 1.4.1 Social Media and Webpage	1.4.1.1 Social Media	1.4.1.2 Webpage	1.4.1.3 Storytelling
Tasks	<ul style="list-style-type: none"> • Create social media content • Post on Airport social media platforms during meetings and events and as requested 	<ul style="list-style-type: none"> • Create content for Strategic Development Plan webpage • Provide up to 12 updates to website content at key milestones 	<ul style="list-style-type: none"> • Update overview, framework, process, and prompts for the storytelling project videos • Share prompts and urge community members/traveling public to record brief testimonials
Responsibilities	<ul style="list-style-type: none"> • CONSULTANT (WSP): Supervise and review work of subconsultant • SUBCONSULTANT (AMS and PCI): Draft and revise social media content consistent with Airport's social media practices and policies • SAAS: Review and comment on social media content and calendar. Post on social media during meetings and events and as appropriate. Respond to comments/questions on social media 	<ul style="list-style-type: none"> • CONSULTANT (WSP): Supervise and review work of subconsultant • SUBCONSULTANT (AMS and PCI): Draft and revise webpage content and updates • SAAS: Review and comment on content and updates. Upload content and updates to website 	<ul style="list-style-type: none"> • CONSULTANT (WSP): Supervise and review work of subconsultant • SUBCONSULTANT (AMS and PCI): Update program guide, instructions, and prompts for video storytelling; coordinate mini-campaigns to encourage storytelling at the Airport and events • SAAS: Review and comment on storytelling project. Assist in identifying Airport locations and dates for recording and posting videos
Deliverables	<ul style="list-style-type: none"> • Content for up to 75 Airport Master Plan-related posts 	<ul style="list-style-type: none"> • Content for webpage • Periodic webpage updates 	<ul style="list-style-type: none"> • Video program overview, instructions, prompts, video library guidelines, and 30- to 60-second videos recorded on team members' smartphones

1.5 COMMUNICATIONS

Tools will be developed to inform and engage stakeholders, community members, travelers, and all other internal and external audiences in the Strategic Development Plan process. Documents will be submitted by CONSULTANT and reviewed by SAAS using the “Approval process – Strategic Development Plan for Stakeholder Engagement documents and materials” process defined in Phase I.

1.5.1 EMAIL AND POSTAL MAIL UPDATES

The CONSULTANT will prepare up to six updates and invitations regarding important junctures of the Strategic Development Plan for distribution online and in-person at the Airport and events. The intent is to distribute these updates via email to notify stakeholders about upcoming meetings, progress reports, and other outreach activities. Postcards will be mailed when necessary, up to three times (e.g., surveys, popups and meeting announcements).

1.5.2 INFORMATIONAL AND EDUCATIONAL MATERIALS

The CONSULTANT will produce draft and revised informational and educational materials, as hard copies and electronically for the webpage, email, and social media. Materials could include:

- Alternatives booklet (collection of drawings from committee meetings and screenings)
 - Messaging regarding the Plan, process, and milestones for Advisory Group members' use
 - Fact sheets
 - Flyers/invitations
 - Meeting notices
 - Meeting signage and graphics
 - Presentations (PowerPoints), other than advisory committee presentations
 - FAQs
 - Palm cards/rack cards
 - Glossary/terminology reference
 - Mailing list solicitation/addition tools
 - Comments cards
 - Activity sheets
 - Style guide
-

1.5.3 DESIGN

The CONSULTANT will design, using the Strategic Development Plan “family look” from Phase I, draft and revised informational, educational, meeting, and other collateral materials for print and online use.

1.5.4 COMMUNITY AND GOVERNMENT COMMUNIQUES

Up to 18 draft and revised brief announcements and write-ups about Strategic Development Plan-related issues, news, and surveys will be provided for inclusion in newsletters, website, or bulletins, such as City Council District email blasts, Chambers of Commerce newsletters, tourism organizations, newsletters, and email blasts.

Task 1.5 Communications	1.5.1 Updates and invitations	1.5.2 Informational and educational materials	1.5.3 Design	1.5.4 Community and government communiqués
Tasks	<ul style="list-style-type: none"> • Develop, publish, and distribute via email (postal mail when appropriate) up to 6 updates about the Strategic Development Plan 	<ul style="list-style-type: none"> • Alternatives booklet (up to 2) • Messaging for Advisory Group members' use (up to 5) • Fact sheets (up to 4) • Flyers/invitations (up to 30) • Meeting notices (up to 4) • Meeting signage and graphics (up to 6) • Presentations (PowerPoints) (up to 6) • FAQs (up to 4) • Palm cards/rack cards (up to 4) • Glossary/terminology reference (up to 2) • Mailing list solicitation/addition tools (up to 2) • Comments cards (up to 4) • Activity sheets (up to 4) • Style guide (up to 1) 	<ul style="list-style-type: none"> • Design graphics and specific colors and type for print/web assets including all informational and educational materials listing in Section 1.4.2 (up to 80) 	<ul style="list-style-type: none"> • Create up to 18 brief announcements and write-ups about Strategic Development Plan-related issues, news, and surveys for inclusion in community and government newsletters, website, bulletins
Responsibilities	<ul style="list-style-type: none"> • CONSULTANT (WSP): Supervise and review work of subconsultant • SUBCONSULTANTS (AMS and PCI): Draft and revise updates and invitations. Distribute email (and mail as appropriate) updates and invitations • SAAS: Review and comment on content. Post on social media and website 	<ul style="list-style-type: none"> • CONSULTANT (WSP): Supervise and review work of subconsultant • SUBCONSULTANTS (AMS and PCI): Draft and revise materials. Distribute as appropriate • SAAS: Review and comment 	<ul style="list-style-type: none"> • CONSULTANT (WSP): Supervise and review work of subconsultant • SUBCONSULTANTS (AMS and PCI): Draft and revise design and type specifications for print and electronic use • SAAS: Review and comment 	<ul style="list-style-type: none"> • CONSULTANT (WSP): Supervise and review work of subconsultant. • SUBCONSULTANTS (AMS and PCI): Draft and revise communiques. • SAAS: Review and comment on content. Distribute via email.
Deliverables	<ul style="list-style-type: none"> • Up to 6 electronic (and print, when applicable) updates and invitations 	<ul style="list-style-type: none"> • Alternatives booklet • Messaging for Advisory Group members' use • Fact sheets • Flyers/invitations • Meeting notices • Meeting signage and graphics • Presentations (PowerPoints) 	<ul style="list-style-type: none"> • Graphics • Color and type specifications 	<ul style="list-style-type: none"> • Up to 18 Brief announcements and write-ups

Task 1.5 Communications	1.5.1 Updates and invitations	1.5.2 Informational and educational materials	1.5.3 Design	1.5.4 Community and government communiqués
		<ul style="list-style-type: none"> • FAQs • Palm cards/rack cards • Glossary/terminology reference • Mailing list solicitation/addition tools • Comments cards • Activity sheets • Style guide • Spanish translation for all the above 		

1.6 SPECIAL OUTREACH

Efforts to engage specific populations, stakeholders, and audiences will be made throughout the Airport Strategic Development Plan process.

1.6.1 ENVIRONMENTAL JUSTICE INITIATIVES

Environmental Justice initiatives and outreach will be integrated into all facets of stakeholder and community engagement for the Airport Strategic Development Plan. Additionally, special outreach related to Spanish-speaking and limited-English-proficiency populations will include a thoughtful focus on diversity when identifying target audiences and stakeholders. Includes translation of all stakeholder engagement materials, as necessary.

1.6.2 COMMUNITY AND GOVERNMENT PLANNING COORDINATION

Up to 24 planning and community/stakeholder engagement activities will be coordinated with other planning efforts that are concurrent with the Airport Master Plan, (e.g., SA Tomorrow Comprehensive Plan, VIA's Rapid Transit Corridors study, Council District neighborhood coalitions).

1.6.3 {RESERVED}

1.6.4 AD HOC STAKEHOLDER ENGAGEMENT SUPPORT

The CONSULTANT will support SAAS as needed, (e.g., preparing talking points and/or op-eds for specific outreach situations and occasions, speeches/remarks, PowerPoint presentations for SAAS management and elected officials, City Manager's Office, volunteer leadership, briefings and meetings as requested). Due to the open nature of this task, the effort will be limited to no more than 88 hours for the CONSULTANT team.

1.6.5 {RESERVED}

Task 1.6 Special outreach	1.6.1 Environmental Justice Populations	1.6.2 Community and government planning coordination	1.6.3 Media relations and outreach {reserved}	1.6.4 Ad hoc stakeholder engagement support
Tasks	<ul style="list-style-type: none"> • When applicable: • Translate written materials • Provide on-site English-to-Spanish interpretation during public meetings • Place advertisements in both English- and Spanish-language media • Place media releases in both English- and Spanish-language media • Be sensitive to timing, accessibility, and transit availability when selecting meeting locations and dates/time 	<ul style="list-style-type: none"> • Coordinate up to 24 activities related to planning and community/ stakeholder engagement efforts with other planning efforts and neighborhood coalitions 		<ul style="list-style-type: none"> • CONSULTANT will provide stakeholder engagement and outreach support when needed/ requested
Responsibilities	<ul style="list-style-type: none"> • CONSULTANT (WSP): Supervise and review work of subconsultant • SUBCONSULTANT (AMS and PCI): Identify, recommend, and provide translation/ interpretation services, and meeting location/date/ time sensitivities. Place advertisements in both English- and Spanish-language media • SAAS: Identify translation and interpretation needs as appropriate. Place media releases in both English- and Spanish-language media 	<ul style="list-style-type: none"> • CONSULTANT (WSP): Supervise and review work of subconsultant • SUBCONSULTANT (AMS and PCI): Identify and recommend opportunities to coordinate with other planning endeavors, provide staffing as appropriate; take photos for project records and use • SAAS: Arrange for booth/table/ other representation in SAAS or other agency or neighborhood events and provide staff members to support consultants; take photos for project records and use 		<ul style="list-style-type: none"> • CONSULTANT (WSP): Supervise and review work of subconsultant • SUBCONSULTANT (AMS and PCI): Assist SAAS as requested (e.g. messaging, speeches) • SAAS: Brief CONSULTANT team on ad hoc needs as they occur; review content

Task 1.6 Special outreach	1.6.1 Environmental Justice Populations	1.6.2 Community and government planning coordination	1.6.3 Media relations and outreach {reserved}	1.6.4 Ad hoc stakeholder engagement support
Deliverables	<ul style="list-style-type: none"> Written translations and oral interpretations as requested/required 	<ul style="list-style-type: none"> Create and update calendar reflecting possible event dates Prepare short reports on participate in other planning efforts events Photos for the Strategic Development Plan library 		<ul style="list-style-type: none"> Written documents Briefings as needed

1.7 EVENTS, MEETINGS, AND GATHERINGS

Traditional and non-traditional events, meetings, and gatherings will be held to communicate information about and seek input for the Strategic Development Plan. Topics will include: Airfield Alternatives, Terminal Alternatives and Landside, Implementation and Financing. The CONSULTANT will prepare agendas, notifications, informational materials, exhibits, handouts, and other collaterals for each event. A post-event report will document each event, meeting, and gathering.

1.7.1 “POP-UP” EVENTS

Up to 22 pop-up events will be held over the course of Phase II, with two occurring at the airport and two in each Council District (after consideration of City Council Offices’ events calendars and/or Councilmember feedback). Pop-ups will include intercept surveys and information sharing.

Possible pop-up locations include Council district-specific popups, (e.g., Mission Marquee); stakeholder group partner popups, (e.g., chamber of commerce mixers, young professionals, events in communities outside of the City); and general events, (e.g., Stinson Municipal Airport (SSF) events, Travis Park, SeaWorld, Houston Street lunch, Bat Loco (SARA), Yanaguana Garden at Hemisfair Park, Kidcation Week (CVB)).

1.7.2 NEIGHBOR COFFEE KLATCHES

Monthly information gathering opportunities will be held (between 12 and 14) for SAT neighbors to learn about the Strategic Development Plan and give input to visit with airport leaders and project team, (informal with no agenda/presentation) in a relaxed environment. Participants would buy their own coffee. Possible locations include coffee shops near SAT (e.g., La Taza at Brookhollow/281, Revolution at Broadway/Sunset). These gatherings will be held monthly on alternating dates and times.

1.7.3 ONE-ON-ONE/SMALL GROUP BRIEFINGS/TARGETED SPEAKING OPPORTUNITIES

Meeting opportunities will be organized and scheduled by SAAS management. Meetings will take place with elected officials, individual stakeholders, and existing community organizations, including civic clubs; military leadership; chambers of commerce; nearby homeowners and property owners’ associations’

leadership; economic development officials; tourism organizations; transportation leaders; business leaders; environmental groups; and others. These meetings will be comprised of visual aids, as well as a PowerPoint presentations, to inform and engage community members. Such meetings may be scheduled with community boards, elected officials, civic organizations, and other interested organizations such as SAYP/LOOP young professionals and Express News Town Hall. The CONSULTANT will provide presentation material and accompany SAAS representatives when requested. Due to the open nature of this task, the CONSULTANT team effort will be limited to no more than 20 hours.

1.7.4 PUBLIC OPEN HOUSE SESSIONS

There will be public open house sessions at two different milestones: composite alternatives, and presentation of study findings:

- Composite alternatives: one open house session to provide information to and seek input from community members in one location.
- Presentation of study findings: one open house session to present study findings to community members in one location.

The sessions will be advertised at least two weeks prior to the events in the relevant newspapers/online periodicals. Elected officials and advisory committee members will be notified prior to the notices appearing in the newspapers. Notices to individuals included in the project database will be sent, messaging will be posted on social media, and media releases will be prepared. Public comments will be solicited on-site and online for at least 10 days after the open house sessions. Reports will be developed, to include notices, sign-in sheets, comments received, exhibits, handouts, photographs, and a description of any project modifications.

Task 1.7 Events, Meetings, and Gatherings	1.7.1 Pop-up events	1.7.2 Neighbor coffee klatches	1.7.3 One-on-one/small group briefings	1.7.4 Public open houses sessions
Tasks	<ul style="list-style-type: none"> • Schedule and coordinate up to 22 pop-up events • Circulate invitations and announcements • Prepare informational materials, exhibits and handouts • Write summary report 	<ul style="list-style-type: none"> • Schedule and coordinate up to 14 neighbor coffee klatch gatherings • Circulate invitations and announcements to neighborhoods • Prepare informational materials, exhibits and handouts • Write summary report 	<ul style="list-style-type: none"> • Schedule and coordinate individual and group meetings for Airport officials • Prepare packets and materials for meetings • Write summary report 	<ul style="list-style-type: none"> • Draft agenda for open house • Coordinate SAAS schedules & schedule open houses • Secure event spaces (physical and online) • Plan and coordinate up to 2 open houses • Send invitations to individuals in the project database • Mail or email invitation letters to elected officials • Mail invitations to adjacent property owners • Publish public notices/ advertisements at area Libraries and Senior Centers • Create media releases • Create social media and website content • Create floorplan/layout for open house set-up • Prepare attendance list and have staff welcome public and invite them to sign-in • Offer comment card and set up tables to fill out comments throughout venue. • Prepare materials including graphic displays and handout materials • Prepare PowerPoint presentation and talking points • Manage day-of event logistics including refreshments and set-up • Arrange for interpreters, court reporter and security • Brief/train SAT staff and consulting staff members • Facilitate open house events • Provide technical SME staffing at open houses • Provide staff people to help with

Task 1.7 Events, Meetings, and Gatherings	1.7.1 Pop-up events	1.7.2 Neighbor coffee klatches	1.7.3 One-on-one/small group briefings	1.7.4 Public open houses sessions
				logistics day-of event <ul style="list-style-type: none"> • Compile comments • Develop open house summary
Responsibilities	<ul style="list-style-type: none"> • CONSULTANT (WSP): Supervise and review work of subconsultant; provide technical SMEs and staff members to assist with logistics and create technical exhibits, graphic displays, and materials • SUBCONSULTANTS (AMS & PCI): Plan, coordinate, and staff pop-ups; manage pre- and day-of logistics and arrangements, create materials and reports • SAAS: Coordinate SAAS personnel schedules, provide give-away items, secure pop-up space and location permission (and compensate as necessary), participate in pop-ups, contribute to suggested agenda, review and comment on pop-up materials and reports 	<ul style="list-style-type: none"> • CONSULTANT (WSP): Supervise and review work of subconsultant • SUBCONSULTANTS (AMS & PCI): Identify and recommend dates and locations, provide staffing as appropriate; take photos for project records and use • SAAS: Coordinate SAAS personnel schedules, secure gathering space and location permission, participate in gatherings, contribute to suggested agenda, review and comment on materials and reports, respond to participants' questions and concerns 	<ul style="list-style-type: none"> • CONSULTANT (WSP): Supervise and review work of subconsultant; create graphic displays and materials • SUBCONSULTANTS (AMS & PCI): Provide up to 20 hours of support, as requested Staff meetings as requested; manage pre- and day-of meeting logistics and arrangements, create materials and reports • SAAS: Plan, schedule, manage pre- and day-of meeting logistics and arrangements, create materials and reports, and coordinate meetings; participate in meetings, create agenda, review and comment on meeting materials and reports 	<ul style="list-style-type: none"> • CONSULTANT (WSP): Supervise and review work of subconsultant; provide technical SMEs and staff members to assist with logistics; convene and facilitate open houses; create technical exhibits, graphic displays, and materials • SUBCONSULTANTS (AMS & PCI): Plan, coordinate, and staff events; train/brief all open house staff in advance; manage pre- and day-of event logistics and arrangements; facilitate events; create materials and reports • SAAS: Secure open house space and compensate as necessary), participate in events, contribute to suggested agenda, review and comment on open house materials, exhibits, and reports
Deliverables	<ul style="list-style-type: none"> • Informational materials, exhibits and handouts • Short report to document each series of pop-ups • Photos for the Airport Master Plan's "library" 	<ul style="list-style-type: none"> • Informational materials, exhibits and handouts • Short report to document each gathering • Photos for the Airport Master Plan's "library" 	<ul style="list-style-type: none"> • Informational materials, exhibits and handouts, as requested • Short report to document each meeting, as requested • Photos for the Airport Master Plan's "library", as requested 	<ul style="list-style-type: none"> • Open house plan and layout • Agenda and materials • Comment cards • Invitations and announcements • Advertisements and content for media releases • Social media and website content • Display boards and exhibits • Talking points and PowerPoint presentation

Task 1.7 Events, Meetings, and Gatherings	1.7.1 Pop-up events	1.7.2 Neighbor coffee klatches	1.7.3 One-on-one/small group briefings	1.7.4 Public open houses sessions
				<ul style="list-style-type: none"> • Documentation of open house sessions • Photos for the Airport Master Plan's "library"

1.8 SURVEY AND DATA COLLECTION

The CONSULTANT will track all stakeholder engagement activities and document each outreach and data collection opportunity. Surveys will be conducted to systematically collect input from stakeholders, community members, and travelers. Public comments and feedback will be incorporated into the overall Airport Strategic Development Plan decision-making process.

1.8.1 SURVEYS

The CONSULTANT will conduct up to four surveys to gain input from stakeholders during each milestone phase (Airfield Alternatives, Terminal Alternatives and Landside, and Implementation and Financial Feasibility), as well as invitations to comment on categories not mentioned above, such as a survey that is ongoing, never-closed for ad hoc Airport Master Plan-specific input and/or mailing list requests. All surveys will be available in paper and online (Survey Monkey), in both English and Spanish.

1.8.2 METRICS MATRIX

An ongoing “metrics matrix” will track Airport Master Plan-specific “touches” (inbound and outbound), community and stakeholder engagement participation. It does not include traditional media monitoring or social media metrics. Measurements will include numbers of:

- Community representatives participating in the working groups
- Community meetings held
- Attendees at community meetings
- Written/online surveys conducted and collected
- Meetings with Mayor and City Council members
- Meetings with County Judge & Commissioners
- Pop-up (intercept) events
- Media releases and stories
- Written or email comments collected
- Names on the stakeholder database
- Email blasts to the stakeholder database

1.8.3 {RESERVED}

1.8.4 STAKEHOLDER ENGAGEMENT PROGRAM DOCUMENTATION {RESERVED}

Task 1.8 Survey and Data Collection	1.8.1 Surveys	1.8.2 Metrics matrix	1.8.3 Maps and exhibits data {reserved}	1.8.4 Stakeholder engagement program documentation {reserved}
Tasks	<ul style="list-style-type: none"> • Create up to four survey instruments for stakeholders. Invite stakeholders, community members, and travelers to participate in surveys via e-blasts and social media • Conduct online surveys, and make paper copies available • Translate all surveys into Spanish • Compile and report survey results 	<ul style="list-style-type: none"> • Create metrics matrix • Update metrics matrix after each event, meeting, milestone, or outreach activity • Compile a final metrics matrix at the end of the study 		
Responsibilities	<ul style="list-style-type: none"> • CONSULTANT (WSP): Supervise and review work of subconsultant • SUBCONSULTANTS (AMS and PCI): Draft and revised survey instrument and survey results; report results as appropriate; translate surveys into Spanish • SAAS: Review and comment on survey instruments and reports. Post results on website and social media as appropriate 	<ul style="list-style-type: none"> • CONSULTANT (WSP): Supervise and review work of subconsultant • SUBCONSULTANTS (AMS and PCI): Draft and revised list of metrics to keep track of; update matrix; create periodic reports using the list of metrics • SAAS: Review and comment on metrics matrix and reports 		
Deliverables	<ul style="list-style-type: none"> • Survey instruments • Compilation of survey results • Survey trends and analytics 	<ul style="list-style-type: none"> • Metrics matrix periodic reports • Metrics matrix final report 		

1.9 ASDC COORDINATION

SAAS will lead and coordinate the ASDC meetings and the consultant team will have minimal involvement with ASDC.

Task 1 Responsibilities:

- As outlined in Task 1 tables

Task 1 Travel/Meetings:

- WSP: Two four-people trips for open houses
- WSP: Four one-person trips for pop-up meetings
- WSP: Three four-people trips for committee meetings

Task 1 Deliverables:

- As outlined in Task 1 tables.

2. EXISTING CONDITIONS

The purpose of this study element is to assemble and organize relevant information, data, and mapping to be used throughout the study in support of various analyses. This element will maximize the use of existing information and will prepare new data and documentation only when existing information is unavailable, incomplete, or outdated.

2.1 {RESERVED}

2.2 {RESERVED}

2.3 {RESERVED}

2.4 {RESERVED}

2.5 {RESERVED}

2.6 {RESERVED}

2.7 {RESERVED}

2.8 ENVIRONMENTAL INVENTORY

Update section regarding San Antonio became Non-attainment area as of 2018 and future projects will need to consider the additional air quality analyses to address this designation. Assume no major updates will be needed.

2.9 {RESERVED}

2.10 {RESERVED}

2.11 {RESERVED}

2.12 {RESERVED}

2.13 {RESERVED}

2.14 {RESERVED}

2.15 {RESERVED}

2.16 UPDATE PHASE I EXISTING CONDITIONS DATA

To the extent necessary, the CONSULTANT will update any inventory data that has changed since the completion of Chapter 1: Existing Conditions. No significant additional material will be developed.

3. PAVEMENT MANAGEMENT PLAN

- {RESERVED}

4. AVIATION DEMAND FORECASTS

4.1 {RESERVED}

4.2 {RESERVED}

4.3 {RESERVED}

4.4 {RESERVED}

4.5 {RESERVED}

4.6 {RESERVED}

4.7 {RESERVED}

4.8 {RESERVED}

4.9 REVIEW ACTUAL AVIATION DEMAND DATA

The CONSULTANT will review the actual aviation activity data for Fiscal Year (FY) 2018 and confirm that no update to the FAA-approved forecast is necessary. It is assumed that no significant changes in air travel demand will have occurred that impact the long-term projections. If the review indicates that the five-year aviation demand is more than 15 percent different than the FAA-approved forecasts, facility requirements may be adjusted in Task 7.14.

5. ROADWAY DEMAND PROJECTIONS AND NEEDS

5.1 {RESERVED}

5.2 {RESERVED}

5.3 {RESERVED}

5.4 UPDATE PHASE I ROADWAY DEMAND PROJECTIONS AND NEEDS

The CONSULTANT will review any pertinent information and, to the extent necessary, will update the roadway demand projections prepared during Phase I of the Airport Master Plan. Updates will only be made if the changes are substantial and would materially impact the final demand projections prepared in Phase I.

5.5 ADDITIONAL TRAFFIC DATA COLLECTION

The CONSULTANT will collect additional data on the airport site at the intersection of Northern Boulevard and Airport Boulevard, as well as the intersection of Northern Boulevard and Service Road. These counts will be compared to the counts previously collected in June 2018 and balanced to the previously collected counts at the adjacent intersections of Airport Boulevard and Loop 410 and Airport Boulevard and Dee Howard Way/South Terminal Drive.

The CONSULTANT will also review the Origin-Destination study previously completed by the Texas SAAS of Transportation (TxDOT) for the Loop 410/US 281 interchange, which includes adjacent intersections. The goal of this review will be to identify travel patterns in the area with relation to the airport site for both airport and non-airport activities.

Task 5 Responsibilities:

- **CONSULTANT (WSP):** Lead traffic study and analyze traffic data collected by GRAM, a vendor of the CONSULTANT.
- **SAAS:** Provide input regarding changes to the intersection and review draft.

Task 5 Travel:

- No out-of-town travel is required to complete this task.

Task 5 Deliverables:

- Summary of TxDOT O-D Study results and how/if it impacts travel patterns to/from SAT.

6. 2012 ECONOMIC IMPACT STUDY UPDATE

- {RESERVED}

7. FACILITY REQUIREMENTS

7.1 {RESERVED}

7.2 {RESERVED}

7.3 {RESERVED}

7.4 RUNWAY 31L THRESHOLD REQUIREMENTS AND SAFETY STUDY

Faith Group will prepare a “desktop review” of the previous 2010 SAT decoupling SRA and summarize in a brief memo updating the inputs of the past SRA (e.g. safety stats) and summarizing what has changed in the airfield conditions since the previous SRA (e.g. 1 hot spot eliminated). The memo will be based on the latest available 2018 safety data since no RSAT meeting was held in December, 2018.

7.5 {RESERVED}

7.6 {RESERVED}

7.7 {RESERVED}

7.8 {RESERVED}

7.9 {RESERVED}

7.10 {RESERVED}

7.11 {RESERVED}

7.12 {RESERVED}

7.13 {RESERVED}

7.14 UPDATE PHASE I STUDY RESULTS

The CONSULTANT will update any Airport Master Plan Phase I results that are impacted by material changes to the existing conditions, aviation demand forecasts or roadway demand forecasts.

8. RENEWAL AND REPLACEMENT ANALYSIS AND PLAN DEVELOPMENT

The purpose of this task is to perform develop annual capital renewal and replacement needs for Terminal A, Terminal B, and the CONRAC facility at SAT through a visual review, desktop review, interviews and refinement of existing information. This analysis will supplement the results previously developed through recent Department's Facilities Condition Assessment efforts and consolidate information to present a combined 20-year outlook of future lifecycle renewal and replacement needs and financial forecasts. The results of this effort will be incorporated into the broader SDP capital improvement program (CIP) and the used in the development of the CIP phasing and implementation plan (Task 14).

8.1 ESTABLISH ASSET PORTFOLIO AND CONDITION

CONSULTANT will compile existing and readily available asset inventory, condition, useful life and replacement cost information for major systems, subsystems, and assets within the Terminal A, Terminal B, and the CONRAC Facilities. This information will supplement existing analysis previously performed for the over 100 other buildings and facilities within the SAT site. Information will be compiled into a uniform dataset for establishing a baseline inventory of assets and include key attributes such as installation dates, useful life, condition scores, and replacement cost. CONSULTANT will identify critical information gaps and make documented assumptions as appropriate to fill in gaps by conducting research and applying industry accepted approaches. CONSULTANT will summarize the information, review with SAAS, and prepare an appropriate dataset for analysis. Key activities for this task include:

- Develop a formal data request memorandum outlining information required for this effort including asset hierarchy, inventory, and key attributes including: condition, age, useful life, and replacement cost
- Collate and review existing inventory information provided by SAAS, perform a gap analysis to identify remaining needs, and develop strategy to estimate and/or complete core dataset
- Conduct work sessions with SAAS asset class subject matter experts (SMEs) to review asset inventory, types, characteristics, and validate information and assumptions
- Utilize existing condition assessment analyses to establish baseline condition scores at the asset and/or system/subsystem level as appropriate (*note that some of this information may be updated based on outcomes of Task 8.2*)
- Configure a master inventory spreadsheet that captures all data organized by system and/or subsystem including key attributes as noted above
- Facilitate a work session to review final consolidated dataset and gain consensus to move forward with analysis

8.2 CONDUCT MAINTENANCE PROGRAM INTERVIEWS AND FACILITY/SYSTEM WALK-THRU

CONSULTANT will develop interview guides and meet with appropriate SAAS staff and/or contractors to understand and document historic and current inspection, maintenance, and replacement programs for major systems and subsystems within Terminal A, Terminal B, and the CONRAC Facility. Discussion topics

will include inspection and preventive maintenance strategies, maintenance schedules and tasks/activities, standard operating procedures, condition and risk assessment approaches, historic asset condition and reliability, and ongoing issues. Discussions will also include availability of historic maintenance cost information to support the lifecycle analysis. Through these interviews, CONSULTANT will get a more comprehensive understanding of the scope, age, and condition of SAAS's asset base, and understand current scope of maintenance programs and future needs. CONSULTANT will also request and collect any readily available information and documentation on asset/system maintenance programs, condition assessments, and historic cost data as available. Following the interviews, SAAS will provide resources to accompany CONSULTANT subject matter experts for up to two days of visual review of facilities to informally understand and document current asset portfolio and condition.

Key activities include:

- Develop a formal data request memorandum outlining maintenance program information required for this effort
- Develop agenda and interview guides for maintenance program interviews and coordinate with SAAS to schedule appropriate interviews with maintenance staff
- Conduct and facilitate up to ten individual and/or group interviews (lasting between one hour to 90 minutes) over a two-day period
- Conduct visual review of facilities and systems over a two-day period with appropriate SAAS asset/system owners/subject matter experts (SMEs) and/or maintenance staff
- Review and evaluate maintenance program cost and budget information provided by SAAS and its contractors and incorporate into 20-year renewal/replacement plan costs

8.3 DEVELOP MAINTENANCE AND CAPITAL REPLACEMENT MODELING ASSUMPTIONS

The CONSULTANT will develop a spreadsheet tool to analyze the renewal, replacement, and maintenance work plans for Terminal A, Terminal B, and the CONRAC facility and model the 20-year needs forecast. The analysis will incorporate the assumptions developed in previous tasks and will be performed at the appropriate level of the hierarchy (e.g. system, subsystem, and/or asset) given data availability and other potential constraints. Renewal/replacement plans will be based on several elements including condition, estimated useful lives, replacement costs, and timing of any major overhauls. A 20-year renewal and replacement schedule and financial projection will be developed.

Key activities include:

- Develop a spreadsheet model to analyze assets and lifecycle strategies, and to determine future investment forecast. The level of the analysis (i.e. systems and subsystems) will be based on availability of data and SAAS staff resources availability to assist in the effort
- Undertake analysis and develop final maintenance budgets and timing and cost of any major overhauls from Task 8.3 and integrate into renewal and replacement forecast
- Review final assumptions and analysis outputs with SAAS SMEs

8.4 FINALIZE ANALYSIS AND DEVELOP RECOMMENDATIONS

The CONSULTANT will incorporate the final analysis outputs from Task 8.3, incorporate into a summary report, and develop an overall business case to support required long-term renewal and replacement budgets. CONSULTANT will compare model outputs to recent budgets and expenditures and provide high-level assessment as to SAAS's historic investment levels relative to forecast needs. Information will be summarized for appropriate incorporation into the SDP.

- Summarize all analysis and finalize agreed estimate of long-term annual maintenance, renewal, and replacement forecasts that represent "Option 1" of continuing to operate existing facility in a state of ongoing "state of good repair". Provide comparison against historic expenditure as reference
- Summarize current assumptions for major enhancements, upgrades, etc. needed for existing facilities to perform at a higher level of service as determined by SAAS leadership

Responsibilities:

- CONSULTANT will lead the analysis and modeling efforts as described above and lead the development of all major deliverables
- CITY will coordinate data collection and meetings with appropriate staff, contractors, and/or consultants as necessary to complete the work
-

Assumptions:

- CITY will provide information available from prior studies or through parallel SDP tasks to determine the schedule for major enhancements and upgrades
- CONSULTANT analysis and data collection scope for this effort includes internal systems and subsystems within Terminal A, Terminal B, and the CONRAC Facility only. Internal systems within these facilities that will be analyzed include: HVAC, plumbing (water, wastewater, stormwater), and conveyance (escalator/elevator), along with specialty systems that include baggage handling and passenger boarding bridges. Other facility systems/assets including foundation, structure, windows, internal finishes, roofing, etc. are not included and will only be analyzed at a high level with general assumptions based on cost per square foot.
- CONSULTANT analysis will be desktop level only and will not include extensive field data collection, inventory, and/or condition assessment efforts and will rely on best available information from existing SAAS data sources and reports that are made available to CONSULTANT. CONSULTANT will only perform a general walk-through of Terminal A, Terminal B, and CONRAC Facility as described in the scope.
- CONSULTANT analysis is reliant on the scope and quality of data available from existing reports, spreadsheets, and other readily available sources. Where detailed data is not readily available at the asset level, CONSULTANT will communicate with SAAS to determine best approach which may include analysis may be performed at the system or subsystem level using a broader set of assumptions.
- Maintenance and operations costs projections developed by CONSULTANT will rely on historic expenditure information provided by SAAS along with other information gathered during interviews with maintenance staff as described in the scope. Analysis will represent current maintenance programs and practices already in place. CONSULTANT will not perform any maintenance program optimization reviews or analysis or make recommendations for enhanced maintenance tasks as part of this effort.

- CONSULTANT has budgeted for a single cycle of model review in Task 8.3 to prevent multiple running and re-running of model scenarios and outputs.

Travel/Meetings:

- Task 8.1: Two, two-day trips with up to three people to conduct meetings with SAAS to gather data and verify information with SMEs and conduct final review work session
- Task 8.2: One four-day trip with up to five people to conduct maintenance interviews and facility inspections
- Task 8.4: One two-day trip with up to three people to present deliverable and findings to SAAS

Deliverables:

CONSULTANT will develop a report and presentation with outputs of the renew/replacement cost forecasts being incorporated into the SDP CIP. The report will summarize long-term needs to keep assets in state of good repair. Report will present and recommend appropriate option(s), including: continued baseline investment levels and/or enhanced investment levels. Results will evaluate against other options and/or recommendations developed from the SDP including major enhancements and upgrades to existing facilities and/or construction of a new facilities.

9. PREPARE PHASE I REPORT

9.1 {RESERVED}

9.2 FINALIZE PHASE I REPORT

During Phase I of the Airport Master Plan, the CONSULTANT submitted deliverables and chapters for which comments were not received in accordance with the deliverables schedule. Any comments to those deliverables will need to be incorporated into the Airport Master Plan documentation.

10. PROJECT MANAGEMENT

Project management includes the general day-to-day administration and management of the project, including CLIENT and project team communication, as well as progress reports to be submitted with each invoice. Other miscellaneous administrative items will be accounted for under this task as needed, including the development and maintenance of the project budget and schedule.

10.1 PROJECT MANAGEMENT AND ADMINISTRATION

The CONSULTANT shall manage the team of subconsultants, including:

- Manage WSP prime contract;
 - Manage subconsultant contract and scope of work adherence;
 - Mobilize project and team;
 - Monitor contract compliance, including insurance requirements and disadvantaged business enterprise (DBE) participation;
 - Manage project progress and progress reporting required for project administration;
 - Coordinate ongoing work among consultants and communicate with the client on behalf of the CONSULTANT and,
 - Coordinate general administrative and management tasks required for successful contract completion.
-

10.2 PROJECT SCHEDULE

The CONSULTANT will develop a project schedule and a list of deliverables, and submit them to SAAS for review and approval. The CONSULTANT will incorporate comments into the schedule and the description of deliverables. SAT and the CONSULTANT will use the schedule to track progress of the CONSULTANT'S work.

10.3 PROJECT MEETINGS

The CONSULTANT and SUBCONSULTANT (AMS) will conduct project meetings with SAT's project management team and a smaller, executive leadership group. Project management meetings will occur weekly for the duration of Phase II of the Airport Master Plan, for a total of approximately 60 meetings. The CONSULTANT'S Project Manager will attend all project meetings, either in person or via conference call (in case of a scheduling conflict, a suitable replacement will be agreed to with SAT). The CONSULTANT will ensure that their deputy project managers and key team members attend project meetings at appropriate stages of the services.

The agenda for each meeting will include, at a minimum:

- Review of the current project schedule
- Review of the action items list, distributed no later than one hour prior to the meeting
- Technical status of the work in progress
- Review of the current issues

In addition to the weekly project management meetings, executive briefings will be held with the Airport Director and other designated executives, as established during Phase I of the Airport Master Plan. These meetings serve to brief executive level staff in a time-efficient manner of "need to know" items, rather than

routine management information, such any upcoming potentially controversial topics or decisions requiring executive awareness or approval. Typically, these meetings will be scheduled for an hour. These meeting will typically occur every four to six weeks (up to 12 meetings).

10.4 {RESERVED}

10.5 QUALITY CONTROL

The CONSULTANT will maintain high quality for all work products to a normal professional standard of care. All work by subconsultants will be reviewed by WSP. All SAT final deliverables will be reviewed by a professional who did not produce the work and a technical editor per ISO 9001. Draft technical work in progress may be shared with SAAS without quality review (or with parallel review) in the interest of time (and this will be disclosed). The CONSULTANT's ISO 9001 certificate is provided as an appendix to this Scope of Services.

When providing draft deliverables, the CONSULTANT will provide a schedule for the receipt of consolidated comments from SAAS to incorporate into subsequent revisions of the document. Any delays in the receipt of comments will add additional time to deliver revised documents, so that appropriate quality reviews can be performed.

10.6 {RESERVED}

Task 10 Responsibilities:

- **CONSULTANT (WSP):** Provide project management and quality control for the overall project.

Task 10 Travel/Meetings:

- Attend meeting(s) to define, clarify, and establish task descriptions, work efforts, responsibilities, and the overall requirements of the work scope. These meetings will be held in the offices of SAAS, CONSULTANT or the FAA, as appropriate.
- Meetings: approximately 60 project management meetings, 12 executive committee meetings, and two peer review meetings.

Task 10 Deliverables:

- Project schedules for project management meetings
- Monthly progress reports
- Meeting presentation materials/agendas and minutes

11.ADDITIONAL SERVICES (FEDERALLY FUNDED)

11.1 GENERAL ADDITIONAL SERVICES

This task serves to allow SAAS to direct the CONSULTANT to undertake additional needed services that are not foreseen and defined herein that are federally funded. Additional services could be required for reasons such as changes or rework due to new FAA guidance. Additionally, SAAS may require additional technical support for early infrastructure decisions, that is, decisions that need to be made prior to the recommendations that will result from this plan. Also, not all services needed to support the stakeholder engagement and the ASDC can be defined in detail at this time. SAAS direction will be required for each subtask that is to be undertaken under this task. Written communication and SAAS approval will be required prior to start of any contingency work; documentation will include nature of services, associated effort level and cost (including travel), and duration of services.

It is likely that project definition documents will be developed under this task; however, the specific projects for which they will be developed is unknown at this time. Further details regarding the type of information that will be contained in the PDDs is contained in Task 11.2 below.

11.2 PROJECT DEFINITION DOCUMENTS – FEDERALLY FUNDED

The CONSULTANT will conduct up to five project definition documents (PDDs) based on SAAS's template/format, as listed below:

- Introduction
- Project description
- Project justification
- Project assumptions
- Design standards
- Utility requirements
- Environmental impacts
- Project phasing requirements
- Cost estimate
- Schedule
- Procurement/project delivery method/contract type
- Communication/IT impacts

These documents will ultimately include conceptual design information, engineering outlines, and other pertinent information gained during the planning process and discussions with SAAS, as listed below.

Proposed Action

This section will go into further detail describing the preferred alternative and how it will be implemented.

Existing Conditions

Describe the existing airfield and terminal layout.

No Action Alternative

Describe that the No Action Alternative will be carried through the environmental review process. Detail any routine projects necessary to maintain the existing airfield configuration.

Stakeholder Interviews and Community Engagement

Describe interviews and community engagement sessions that were conducted to review the Proposed Action with stakeholders and the public.

NEPA and Federal Approvals

Describe impacts based upon NEPA and federal agencies that are required to approve these projects.

Project Definitions and Acquisition Strategies

Separate work into individual projects. Define these projects at a high level. These high-level project definitions will be refined into formal Project Definition Documents under a separate task. Describe potential acquisition strategies for each project.

Construction Phasing and Schedule

Develop construction phasing plan. High level phases will be separated into intervals of approximately five years.

Program Cost Estimate

Develop Class 4 construction cost estimates, as defined by AACE International, for each phase of this program. Summarize total program implementation cost and all assumptions.

Programming Analysis

Summarize the approach, assumptions, and results of the programming analysis used to analyze, evaluate, and quantify, where possible, the benefits and impacts of the Proposed Action. This may include results from traffic flow simulations, analysis of capacity and delay benefits, analysis of life cycle cost benefits, and/or evaluation of potential environmental benefits.

Purpose and Need Narrative

Detail the purpose of this program and its history. Include CLIENT's purpose and need as well as FAA purpose and need. Detail any requested federal action.

Funding Analysis

Detail funding sources. Prepare estimated total program costs into a funding plan, aligned with phases for separate design and construction packages.

12.ADDITIONAL SERVICES (NON-FEDERALLY FUNDED)

12.1 GENERAL ADDITIONAL SERVICES

This task serves to allow SAAS to direct the CONSULTANT to undertake additional needed services that are not foreseen and defined herein that are not federally funded. Additional services could be required for reasons such as changes or rework due to new FAA guidance. Additionally, SAAS may require additional technical support for early infrastructure decisions, that is, decisions that need to be made prior to the recommendations that will result from this plan. Also, not all services needed to support the stakeholder engagement and the ASDC can be defined in detail at this time. SAAS direction will be required for each subtask that is to be undertaken under this task. Written communication and SAAS approval will be required prior to start of any additional services work; documentation will include nature of services, associated effort level and cost (including travel), and duration of services.

13. ALTERNATIVES DEVELOPMENT AND EVALUATION

TASK PURPOSE

The purpose of Task 13 is to identify and evaluate alternatives for adequately meeting the region's long-term aviation needs at SAT.

With the involvement of SAAS, advisory and other committees, and members of the community, a broad range of development concepts will be identified, evaluated, then reduced to a shortlist of alternatives, and lastly a final plan.

The alternatives analysis will follow the FAA methodology for airport master planning (AC 150/5070-6B) and the key elements of this process are:

- Identification of alternative ways to address previously identified facility requirements.
- Evaluation of the alternatives, individually and collectively, so that planners gain a thorough understanding of the strengths, weaknesses, and other implications of each.
- Selection of the recommended alternative.

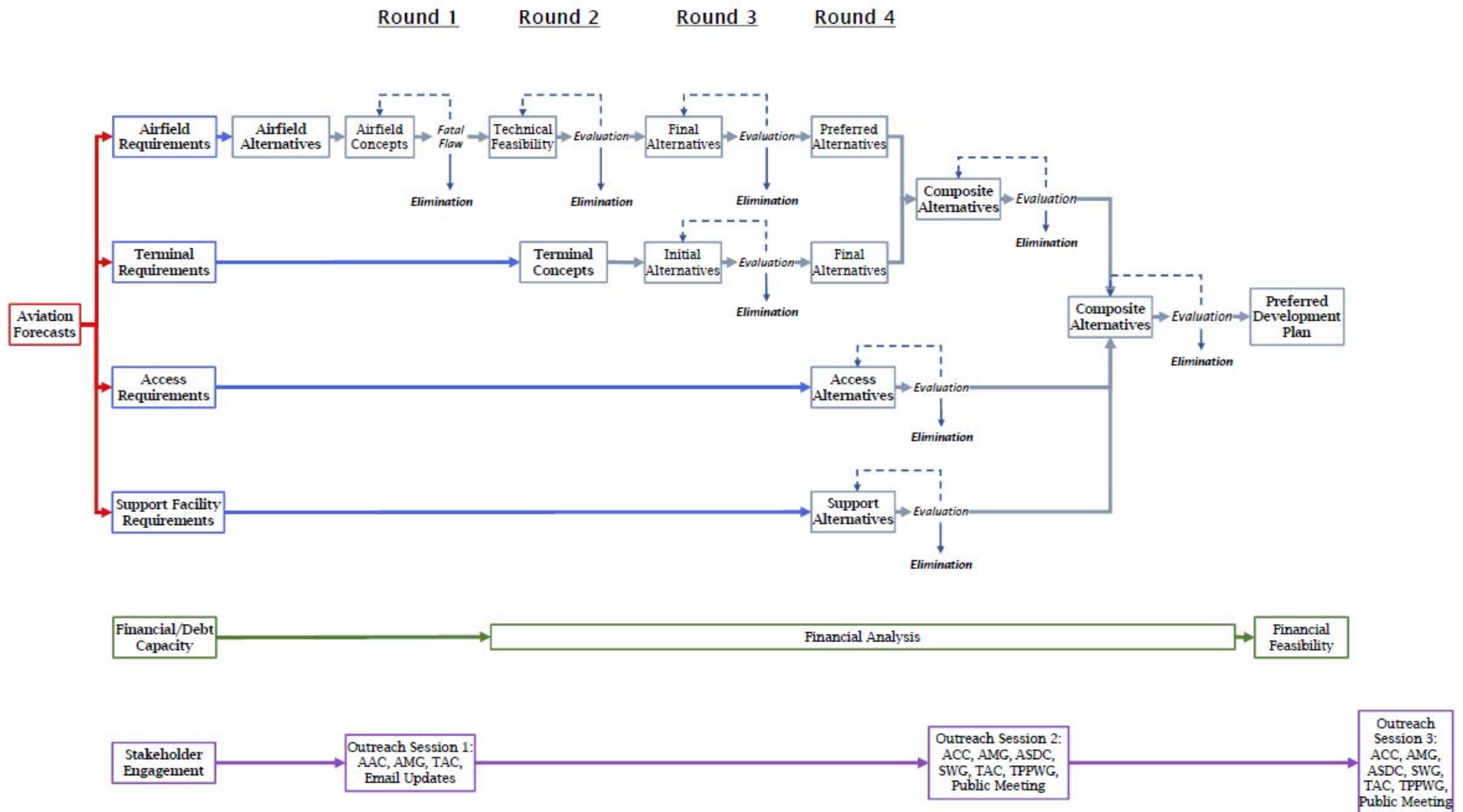
GENERAL APPROACH

Because of its size, importance and associated airspace, alternatives for the airfield will be developed first. The other components, particularly the passenger terminal area, will be developed around the final airside alternatives, followed by access alternatives and support area alternatives. The alternatives will achieve the long-term (20 years) facility requirements, without precluding potential ultimate (50-year) development options.

The alternatives development and evaluation will be a five-step process:

- Summarize facility requirements from Phase I, prepare constraint maps identifying “untouchable” facilities and FAA modifications to standards that need to be addressed and develop alternatives screening criteria,
- Identify, develop and evaluate airfield alternatives in four collaborative rounds with the stakeholders,
- Develop and evaluate terminal alternatives in three collaborative rounds with the stakeholders,
- Generate composite alternatives consolidating the preferred airside and terminal alternatives and analyzing future options for the other airport components, including access and support facilities, major utilities and drainage facilities, and;
- Select the preferred airport development plan.
- The Alternatives Work Flow chart on the next page depicts the general flow and timing of the evaluation rounds

SAT Strategic Development Plan Phase II Alternatives Work Flow



13.1 ROUND 1: AIRFIELD CONCEPTS

Round 1 will involve development and evaluation of airfield concepts, and is broken up in two steps:

1. Step 1: brainstorming with Airport Master Plan committees about ideas to meet the needs of SAT for the next 20 years. This exercise could generate as many as 20 airfield configuration ideas (initial concepts) that will then be reviewed to eliminate the ones with fatal flaws. The remaining concepts will move on to Step 2.
2. Step 2: high-level evaluation of the remaining concepts using the next level of mapping, such as USGS maps and recent aerial photography. Only runway-related FAA design standards and associated airspace criteria will be analyzed. These concepts will then be reviewed to eliminate any that have fatal flaws, and the remaining will move on to Round 2.

The following provides more details regarding the details of the Step 1 and Step 2 efforts described above.

Step 1: Development and Evaluation of Initial Airfield Concepts

- Develop full range of initial high-level concepts:
- Prepare for sketch-planning/brainstorming session to inform/educate committees on runway facility requirements in the introduction of the session:
 - Prepare PPT of Facility Requirements Summary for sketch-planning/brainstorming sessions
 - Prepare constraints/opportunities maps (to include old facilities nearing useful life, “untouchable” facilities that need to be avoided, FAA modification to standards,)
 - Review of sketch-planning/brainstorming session organization and materials with SAAS
 - Revision of organization and materials
- Conduct sketch-planning/brainstorming sessions:
 - Sketch-planning/brainstorming with stakeholder committees to generate stick-figure level ideas based on high-level “Will it Fit?” or “WIF?”
 - Brainstorming sessions will include:
 - 1 meeting with Airport Executive Staff (SAAS)
 - 1 meeting with City Manager (CMO)
 - 3 committee meetings – one with each of these Stakeholder Groups:
 - Technical Advisory Committee (TAC)
 - Airport Managers Group (AMG)
 - Airport Advisory Commission (AAC)
- Provide set of sketch exhibits with simple descriptions.
- Conduct Step 1 fatal flaws screening. Criteria to include:
- Providing dual IMC dependent simultaneous ARR/DEP capability
- Providing recommended minimum runway lengths
- Identifying major airspace conflicts consistent with FAA local airspace configuration, safety regulations and future plans (e.g. NextGen)
- Convert sketches from the meetings into presentation/report figures
- If can revise concept to overcome any flaws, concept will be retained for Step 2
- Summarize concepts characteristics in evaluation matrix
- Evaluate concepts
- Review with SAAS and select shortlist (up to 10 concepts)

- Step 1: Output: elimination/enhancement of concepts that are not realistically feasible or are not adequate to achieve the needs.
- Step 2: High-Level Evaluation of Remaining Airfield Concepts
 - Fatal flaw screening criteria to include:
 - Avoiding impacts to hard constraints, such as US 281/Loop 410 interchange and railway.
 - Prepare RPZ Study for concepts with RPZs encroaching on incompatible land uses.
 - Avoiding impacts to other elements of the alternative analysis effort (e.g. terminal options).
 - Preserving 50-year airfield capacity options and potential future airspace developments.
 - Preventing conflicts with other 50-year elements.
 - Other fatal flaws.
- If revised concept can overcome any flaws, concept will be retained for Round 2
- Summarize concepts characteristics in evaluation matrix
- Review with SAAS and revise as needed
- Step 2 output: refined sketches backed up with high-level rationales
- Prepare technical memorandum
- Round 1 will not include any drainage analysis

Task 13.1 Responsibilities:

- **CONSULTANT (WSP):** Prepare presentation materials and brainstorming elements, attend team meetings and support meetings with Committees (3), convert to PowerPoint graphics, prepare technical memorandum, preliminary financial feasibility, review with SAAS, meet/coordinate with team, supervise work of subconsultants.
- **SUBCONSULTANT (AMS):** Prepare for, attend team meetings and lead facilitation of Round 1 meetings for Committees (3), meet/coordinate with team.
- **SUBCONSULTANT (PCI):** Attend team meetings, support facilitation of Round 1 meetings, Committees (3), prepare meeting minutes, meet/coordinate with team.
- **SAAS:** provide information to CONSULTANT, attend Round 1 meetings, review meeting minutes and technical memorandum within two weeks and provide one consolidated list of comments.

Task 13.1 Travel/Meetings:

- Two three-person trips to review concepts with SAAS
- One three-person trip to review sketch-planning session materials with SAAS

Task 13.1 Deliverables:

- Round 1 presentation (PPT), meeting minutes and technical memorandum of the results.

13.2 ROUND 2: TECHNICALLY FEASIBLE AIRFIELD ALTERNATIVES AND TERMINAL CONCEPTS

In Round 2, the remaining alternatives (six to 10 from Round 1) will be evaluated with more detail based on data/information collected in Phase I and from input by Technical Advisory Committees. The remaining airfield alternatives will be analyzed against cost factors, such as utilities impacts, environmental issues, and operational impacts during construction. Next, these alternatives will be reviewed to eliminate any that have fatal flaws; the remaining alternatives will then be used to generate passenger terminal concepts that will move on to Round 3.

13.2.1 EVALUATE TECHNICALLY FEASIBLE AIRFIELD ALTERNATIVES

- Develop additional alternative detail
 - Runway configurations
 - Main taxiway network and ground movement flows
- Develop criteria for evaluation. Round 2 airfield alternatives evaluation expected to include:
 - ROM cost comparison/financial feasibility
 - High-level operational efficiency
 - Rough estimate of phasing and overall constructability
 - High-level structural engineering input for airfield bridges/decks
 - High-level operational efficiency
 - Impact on other facilities and infrastructure
 - Major utilities and drainage impacts (based on information provided by SAAS, no geotechnical or survey investigations included)
 - Major environmental impacts
- Evaluate airfield alternatives with evaluation matrix
- If possible, revise alternatives to overcome any flaws
- Identify technically feasible airfield alternatives and compile shortlist of alternatives (up to 5)
- Prepare technical memorandum summarizing analysis
- Prepare PowerPoint presentation for review meeting with SAAS
- Review with SAAS and revise as needed; prepare meeting minutes.
- Round 2 drainage analysis will be limited to top three alternatives
- Round 2 output: airfield alternatives backed up with detailed rationales.

Task 13.2.1 Responsibilities:

- **CONSULTANT (WSP):** Prepare presentation materials, attend and lead Airfield Alternatives meeting with SAAS, including PowerPoint graphics, technical memorandum, structural engineering for runway/roadways, financial feasibility, review with SAAS, meet/coordinate with team, supervise work of subconsultants
- **SUBCONSULTANT (AMS):** Prepare for and attend meeting with SAAS, meet/coordinate with team
- **SUBCONSULTANT (Connico):** Provide pre-construction cost estimates at planning-level criteria and phasing and constructability analysis, meet/coordinate with team, prepare and attend meeting with SAAS.
- **SUBCONSULTANT (Maestas):** Conduct drainage analysis, meet/coordinate with team, prepare and attend meeting with SAAS. This task includes the preliminary analysis of storm sewer trunk lines only. Inlets, laterals, Salado Creek, or detention is not included in the analysis of the alternatives for this phase. Qualitative/red flag analysis only.
- **SUBCONSULTANT (PCI):** Conduct environmental and utility analysis, meet/coordinate with team, prepare for and attend meeting with SAAS.
- **SAAS:** Attend and host airfield alternatives meeting, review meeting minutes and technical memorandum within two weeks with one consolidate list of comments.

Task 13.2.1 Travel/Meetings:

- WSP: One three-person trip for Airfield Alternatives meetings.
- Connico: One one-person trip for Airfield Alternatives meetings.

Task 13.2.1 Deliverables:

- Airfield Alternatives presentation (PPT), meeting minutes and technical memorandum of the results.
-

13.2.2 DEVELOP INITIAL TERMINAL CONCEPTS

Once the technically feasible airfield alternatives are established in Round 2, the passenger terminal facility concepts will be developed based on the gate and facility requirements for the 20-year planning horizon.

- Develop several terminal concepts for each of the technically feasible airfield alternatives (up to 5 airfield alternatives), based on long-term gate demand
- Screen terminal concepts with evaluation matrix, based on factors such as:
 - Ability to meet 2038 demand
 - Preserving options for long-term development at year 2068
 - Passenger convenience
 - Operational efficiency (from vehicle curbside to the airfield)
 - Constructability/ease of phasing – high-level
 - Comparative cost – high-level
 - Financial feasibility – high-level
- Select shortlist of terminal concepts
- Prepare technical memorandum summarizing analysis
- Prepare PowerPoint presentation for review meeting with SAAS
- Review with SAAS and revise as needed; prepare meeting minutes.
- Initial Terminal Concept output includes shortlist of terminal concepts, working in conjunction with airfield alternatives.
- No drainage analysis will be performed for terminal concepts.

Task 13.2.2. Responsibilities:

- **CONSULTANT (WSP):** Prepare presentation materials and attend and lead terminal concept meeting with SAAS including PowerPoint graphics, technical memorandum, financial feasibility, review with SAAS and TAC, meet/coordinate with team, supervise work of subconsultants.
- **SUBCONSULTANT (AMS):** Prepare for and attend meeting with SAAS, meet/coordinate with team.
- **SUBCONSULTANT (HIRSH):** Prepare terminal alternatives and present concepts in meeting with SAAS, meet/coordinate with team.
- **SAAS:** Attend and host Initial Terminal Concepts meetings, review meeting minutes and technical memorandum within two weeks with one consolidate list of comments.

Task 13.2.2 Travel/Meetings:

- WSP: One three-person trip for Initial Terminal Concept meetings.
- Hirsh: One one-person trip for Initial Terminal Concept meetings.

Task 13.2.2 Deliverables:

- Initial Terminal Concept presentation (PPT), meeting minutes and technical memorandum of the results.

13.3 ROUND 3: FINAL AIRFIELD ALTERNATIVES AND INITIAL TERMINAL ALTERNATIVES

In Round 3, the final airfield alternatives will be selected, in addition to the initial evaluations of terminal facility concepts from Round 2. The remaining runway alternatives will be analyzed against factors, such as property acquisition, ROM Level 5 cost estimates, as defined by Association for the Advancement of Cost Engineering (AACE) International, utilities impact, major drainage changes and noise issues. In addition, a long-term planning safety study will convene to evaluate the airfield and terminal alternatives to identify issues and potential safety improvements. These alternatives will then be reviewed to eliminate any that have fatal flaws, and the remaining alternatives will be used to generate Initial Terminal Alternatives that will move to Round 4, with two to three Preferred Airfield Alternatives.

- Develop airfield alternative details:
 - Relocate facilities impacted by proposed airfield alternative (e.g. GRE).
 - Structural engineering input for airfield bridges/decks.
- Evaluate airfield alternatives:
 - Airspace considerations
 - Potential impacts on the airport system (e.g. shift GA to SSF)
 - Conduct aviation safety review as part of the Long-Term Planning Safety Study – Meeting #1 of 2 (light version of Safety Risk Assessment (SRA) panel):
 - Develop additional detail and variations/sub-alternatives to minimize disadvantages associated with safety issues.
 - Prepare white paper/draft report.
 - Review with SAAS and revise as needed.
 - Output: developed preferred alternative(s)
- Select final airfield alternatives.
- Evaluate remaining terminal alternatives based on factors including:
 - Walking distances/passenger convenience
 - Passenger experience (e.g. square feet/passenger, rough internal organization, etc.)
 - Constructability/ease of phasing
 - TSA and CBP accommodations
 - BHS aspects
 - Terminal operational efficiency and interface with aircraft turnaround process
 - Flexibility/expandability
 - ROM cost comparison
 - General ability to connect with ground access/parking
 - Impact on other elements (e.g. fuel farm)
- Terminal alternatives output: Select preferred terminal alternative(s) for further detail development.
- Prepare technical memorandum summarizing analysis.
- Prepare PowerPoint presentation for review meeting with SAAS.
- Review with SAAS and revise as needed; prepare meeting minutes.
- Round 3 output: two to three preferred airfield and terminal alternatives.
- Round 3 drainage analysis will be limited to the top two alternatives.

Task 13.3 Responsibilities:

- **CONSULTANT (WSP):** Prepare presentation materials, attend and lead Round 3 meeting with SAAS, including PowerPoint graphics, technical memorandum, financial feasibility, structural engineering for runway/roadways, review with SAAS, meet/coordinate with team, supervise work of subconsultants.
- **SUBCONSULTANT (AMS):** Prepare for and attend meeting with SAAS, meet/coordinate with team.
- **SUBCONSULTANT (HIRSH):** Conduct terminal alternatives, meet/coordinate with team, prepare for and attend meeting with SAAS.
- **SUBCONSULTANT (Faith Group):** Conduct Safety Study #1, prepare, facilitate and lead meeting with SRA-like panel.
- **SUBCONSULTANT (PCI):** Conduct more extensive utility and environmental analysis, prepare for and attend meeting with SAAS.
- **SUBCONSULTANT (Maestas):** Conduct more extensive drainage analysis, prepare for and attend meeting with SAAS. This task includes the analysis of storm sewer trunklines and preliminary detention assumptions. Inlets and laterals analysis is not included with this phase.
- **SUBCONSULTANT (ESA):** Conduct noise analysis (AEDT 2d), meet/coordinate with team, prepare for and attend meeting with SAAS.
- **SAAS:** Attend and host Round 3 meetings, review meeting minutes and technical memorandum within two weeks and provide a consolidated list of comments.

Task 13.3 Travel/Meetings:

- WSP: One three-person trip for Round 3 meeting, plus one one-person trip for safety study meeting.
- Hirsh: One one-person trip for Round 3 meeting.
- ESA: One two-person trip for Round 3 meeting.
- Faith Group: One one-person trip for safety study meeting.
-

Task 13.3 Deliverables:

- Round 3 presentation (PPT), meeting minutes and technical memorandum of the results.
- Noise: Runway use and flight track use information suitable for incorporation into AEDT for each future case. Three contour sets depicting the DNL 65, 70, and 75 contours.
- Safety Study: white paper/draft report with safety recommendations for airfield.

13.4 ROUND 4: PREFERRED ALTERNATIVES WITH ACCESS AND SUPPORT FACILITIES ALTERNATIVES

In this final round, the preferred airfield alternatives (two to three) will be matched with the final terminal alternatives. Access and support/tenant facility alternatives will be developed and reviewed to eliminate those with fatal flaws; the remaining alternatives will be used to generate the preferred access and support alternatives that will move on to the composite alternatives' analysis.

13.4.1 DEVELOP FINAL TERMINAL ALTERNATIVES

- Develop additional terminal alternatives detail:
 - Terminal Configuration Plan
 - Terminal Interior Functionality Plan (Passenger Flow)
 - Detailed Phasing Plan for further development by future designers and contractors
 - ROM cost estimates, based on phasing plan Level 5 (per AACE)

- Provide graphical renderings of desired design for marketing material support, using InfraWorks or similar software
- Output: Detailed Terminal Alternative Plan(s)

13.4.2 DEVELOP ON-AIRPORT ACCESS ALTERNATIVES

The CONSULTANT will develop options and alternative configurations to meet projected facility requirements for surface access within the airport and particularly to the passenger terminal, based on the preferred airfield and the terminal alternatives. The alternatives will be based on the individual facility and operational requirements defined in the Facility Requirements chapter. The analysis will consider multiple concepts for the functional areas, which could include the following infrastructure improvements:

- Auto parking, cell lot, etc.
- Bike, pedestrian, multi-modal access
- Employee parking
- CONRAC
- Roadway relocations associated with terminal/airfield concepts
- Rail/transit concepts for connecting to existing and future regional transit system

The analysis will consist of the following tasks:

- Assess internal airport circulation:
 - Develop a traffic model of a portion of the existing internal airport circulation, using Vissim, a traffic model software. The Vissim model will reflect on-airport roadway vehicle operations accessing the terminal curbside areas during typical weekday AM and PM peak hours and during an additional airport peak hour. Calibration of the Vissim model will be performed based on field observations. Traffic models of the preferred plan will be modified to measure the impact of access changes, as well as terminal and airfield improvements to internal airport circulation.
 - Develop internal airport circulation alternatives (two to three) for the long-term airport layout plan (2038).
 - Develop and evaluate traffic models for the internal airport circulation alternatives:
 - Future volumes will be created based on traffic projections and passenger growth estimates.
 - The future volumes will be rerouted based on changes to travel patterns associated with the alternatives.
 - These traffic models will inform the decision-making process when choosing a final preferred alternative.
 - A final model will be provided that incorporates the final recommended revisions and improvements to the airport layout.
- Evaluate enhancements, using the traffic model, to mitigate curbside roadway pedestrian/vehicle interactions, additional terminal roadway capacity enhancements, and other identified deficiencies.
- Develop a conceptual rail/transit alignment based on connectivity to proposed regional transit systems and connectivity within the airport system and to/from Terminals. Considerations include:
 - Location of a future transit hub on the airport campus and how it will serve the airport: BRT and/or light rail
 - ConnectSA
 - Connections to the North Star Transit Center and downtown
 - The goal will be that it can serve BRT initially and be converted to Light Rail in the future.
 - Coordination will occur with TxDOT SAT District, ConnectSA, VIA Transit and City of San Antonio TCI.
- Conduct a review of new technology and possible transportation options for the on-airport system,

including gondolas, CV/AV, future TNCs like UberAir, etc.

- Provide design support:
 - Provide concept layouts of proposed roadway and intersection solutions, where appropriate.
 - Connico to develop order of magnitude cost estimates, to include high-level construction costs, such as right-of-way acquisition, materials, and engineering design.
- Prepare technical memorandum summarizing analysis.
- Prepare PowerPoint presentation for review meeting with SAAS.
- Review with SAAS and revise as needed; prepare meeting minutes.

13.4.3 DEVELOP OFF-AIRPORT ACCESS ALTERNATIVES

This task will focus on how vehicular traffic enters and exits the airport. The CONSULTANT will review the operational and safety performance of the current airport access points, as analyzed in Phase I of the project. For future scenarios and in conjunction with long-term airport terminal and airfield plans, the CONSULTANT will develop future high-level access improvements. Consideration will be given to potential new entry roadways and to alternatives of major improvements to intersections or to existing access points. Entering and exiting trips will be reassigned manually based on the proposed terminal location and the preferred airfield layout.

The analysis will consist of:

- Develop airport access alternatives:
 - Provide design support and guidance to develop up to two alternative access plans for 2038.
 - Identify the possible alignment of a new airport entry road in concept plan layout.
 - Develop order of magnitude cost estimates to provide guidance on the selection of a final preferred alternative.
- Assess alternative transportation:
 - CONNECTSA: develop potential locations for a multimodal transit hub on the airport campus with connections to the North Star Transit Center, the north side and downtown San Antonio, in coordination with proposed plans by VIA and ConnectSA.
 - New Technologies:
 - Review current industry research and best-practices from around the world to list potential solutions that could be considered in the short- and long-term.
 - Provide discussion on the potential for current and future technologies to support travel to and from the airport and within the airport (Connected Vehicle/Automated Vehicle technology, passenger drones, and aerial gondolas).
- Prepare technical memorandum summarizing analysis.
- Prepare PowerPoint presentation for review meeting with SAAS.
- Review with SAAS and revise as needed; prepare meeting minutes.

13.4.4 DEVELOP SUPPORT FACILITIES AND TENANT ALTERNATIVES

The CONSULTANT will identify options and alternative configurations to meet projected facility requirements for airport support facilities and tenants. The alternatives will be based on the individual facility and operational requirements defined in the Facility Requirements chapter and the preferred airfield and terminal alternatives.

- Develop alternatives for:
 - Air cargo facilities, including Airplane Design Group VI compatible routes from/to cargo area
 - Urban air mobility (UAM) vertiport (add provisions)
 - GA/FBO facilities
 - MRO facilities
 - Aircraft fueling facilities
 - Airport support facilities, including ARFF, airport maintenance, office space, etc.
- Select a preferred alternative. Identify areas available and suitable for commercial development
- Prepare technical memorandum summarizing analysis.
- Prepare PowerPoint presentation for review meeting with SAAS.
- Review with SAAS and revise as needed; prepare meeting minutes.

Task 13.4 Responsibilities:

- **CONSULTANT (WSP):** Prepare roadway access and parking concepts, airport support and tenant concepts, presentation materials, attend and lead Round 4 Preferred Alternatives meeting with SAAS, including PowerPoint graphics, technical memorandum, financial feasibility, review with SAAS, meet/coordinate with team, supervise work of subconsultants.
- **SUBCONSULTANT (AMS):** Prepare for and attend meeting with SAAS, meet/coordinate with team.
- **SUBCONSULTANT (HIRSH):** Conduct final terminal alternatives, meet/coordinate with team, prepare for and attend meeting with SAAS.
- **SUBCONSULTANT (PCI):** Conduct utility and environmental analysis for terminal and roadway conceptual layouts/support, meet/coordinate with team, prepare for and attend meeting with SAAS.
- **SUBCONSULTANT (Maestas):** Conduct drainage analysis related to terminal concepts, meet/coordinate with team, prepare for and attend meeting with SAAS.
- **SAAS:** Attend and host Round 4 meeting, review meeting minutes and technical memorandum within two weeks with one consolidate list of comments.

Task 13.4 Travel/Meetings:

- WSP: Four three-person trips for preferred alternatives meetings.
- Hirsh: Four one-person trips for preferred alternatives meetings.

Task 13.4 Deliverables:

- Round 4 presentations (PPT), meeting minutes and technical memoranda of the results.

13.5 DEVELOP AND EVALUATE COMPOSITE ALTERNATIVES

The CONSULTANT will develop overall composite alternatives for all airport functional areas, combining the preferred airfield and terminal alternatives with the preferred access and support alternatives. The composite alternatives will be evaluated using the previous screening criteria and a preferred development plan will be selected.

- Develop composite alternatives:
 - Develop final access alternatives (road, intermodal, parking) in conjunction with terminal location(s).
 - Develop final support facility alternatives.
- Define screening criteria and evaluate composite alternatives based on screening criteria.

- Conduct safety study screening #2:
 - Evaluate composite alternatives (including previous SRA)
 - Conduct safety screening ("SRA-lite" panel)
 - Prepare white paper/draft report
 - Review with SAAS and revise as needed
 - Output: developed preferred alternative(s)
- Conduct airfield operational efficiency analysis for Preferred Development Plan to validate proposed airfield layout:
 - Locate runway access and Rapid Exit Taxiways (using FAA Runway Exit Design Interactive Model or similar) and prepare aircraft taxi flows
 - Conduct capacity/delay assessment with a software solution, such as MITRE's runway simulator
- Prepare technical memorandum.
- Prepare composite alternatives presentation for SAAS review.
- Present composite alternatives to SAAS, using InfraWorks or similar 3-D software, review with SAAS and revise as needed.
- Prepare composite alternatives presentation for stakeholder session, review materials and session organization with SAAS.
- Revise organization and materials.
- Conduct stakeholder meetings:
 - One meeting with ASDC
 - Five committee meetings – one with each of the five Stakeholder Groups:
 - Airport Managers Group (AMG)
 - Airport Advisory Commission (AAC)
 - Technical Advisory Committee (TAC)
 - Stakeholders Working Group (SWG)
 - Transportation & Planning Partners Working Group (TPPWG)
 - Pop-up meetings and open house (members of the community/public)
- Select Preferred Development Plan.
- Prepare stakeholder meeting minutes.

Task 13.5 Responsibilities:

- **CONSULTANT (WSP):** Prepare preferred roadway access and parking concepts, airport support and tenant concepts, structural engineering for runway/roadways, and presentation materials, attend and lead Composite Alternatives meeting with SAAS, including PowerPoint graphics, technical memorandum, financial feasibility, review with SAAS meet with team, ASDC, Committees (3) and public pop-ups and open house, supervise work of subconsultants.
- **SUBCONSULTANT (AMS):** Prepare for and attend meeting with SAAS, meet with team, prepare for, attend and lead facilitation of ASDC, Committees (3), public pop-ups and open house.
- **SUBCONSULTANT (PCI):** Prepare for and attend meeting with SAAS, meet with team, prepare for, attend and facilitate ASDC, Committees (3), public pop-ups and open house, prepare meeting notes.
- **SUBCONSULTANT (HIRSH):** Evaluate composite terminal alternatives, meet/coordinate with team, prepare for and attend meeting with SAAS.
- **SUBCONSULTANT (FG):** Lead safety study and review, meet/coordinate with team, prepare for and attend meeting with SAAS.
- **SAAS:** Attend and host composite alternatives meeting, review meeting minutes and technical memorandum within two weeks and provide a consolidated list of comments.

Task 13.5 Travel/Meetings:

- WSP: One four-person trip for review meeting with SAAS.
- Hirsh: One one-person trip for review meeting with SAAS.
- Faith Group: One one-person trip for safety study screening of Composite Alternatives meeting.

Task 13.5 Deliverables:

- Composite Alternatives presentation (PPT), meeting minutes and technical memorandum of the results.
-

13.6 DEVELOP PREFERRED DEVELOPMENT PLAN

The results of the Composite Alternatives evaluation will be the basis for preparing the Preferred Development Plan, illustrating SAT's proposed projects for the 20-year planning period. The plan will depict proposed airfield, terminal, access, support and tenant facilities, and include high-level phasing for the 5, 10 and 20-year planning periods. The plan will be depicted using FAA's SOP 2.0 for Airport Layout Plan in AutoCAD, to allow easy transfer to the Airport Layout Plan development task. A potential 50-year development plan will also be developed to aid SAAS in preserving airspace and ensure land use compatibility.

13.6.1 COMPLETE 20-YEAR PLAN

The main purpose of the 20-year Airport Master Plan is to depict the proposed projects through the forecast period of 2038. The plan will depict proposed airfield, terminal, access, support and tenant facilities and include high-level phasing for the 5, 10 and 20-year planning periods.

- Assess results of Composite Alternatives task.
- Prepare preferred development plan (20-year).
- Prepare technical memorandum.
- Prepare presentation materials for SAAS review meeting.
- Attend and lead preferred development plan meeting with SAAS.
- Review with SAAS and revise as needed.
- Prepare meeting minutes.

Task 13.6.1 Responsibilities:

- **CONSULTANT (WSP):** Prepare preferred development plans, presentation materials, attend and lead preferred development plan meeting with SAAS, including PowerPoint graphics, technical memorandum, review with SAAS, supervise work of subconsultants.
- **SUBCONSULTANT (AMS):** Prepare for and attend meeting with SAAS.
- **SAAS:** Attend and host meeting, review meeting minutes and technical memorandum within two weeks and provide a consolidated list of comments.

Task 13.6.1 Travel/Meetings:

- One three-person trip for Preferred Development Plan meeting (20-year plan).

Task 13.6.1 Deliverables:

- Preferred Development Plan presentation (PPT), meeting minutes and technical memorandum of the results.

13.6.2 DRAINAGE IMPACTS TO PREFERRED PLAN

This task will reflect evaluating the drainage impacts of the final airfield alternatives (maximum of three alternatives). Additionally, this task will include the analysis to address any deficiencies within the existing airfield drainage system and expansion to accommodate the future infrastructure (utilities, structures, runways, etc.) associated with the final alternatives, as defined in the overall Airport Master Plan.

The following tasks are anticipated for the Final Airfield Alternatives:

- Identify the current downstream deficiencies to establish a baseline storm water condition.
- Develop storm water concepts which will mitigate the increase in runoff from proposed improvements within the airport property and avoid downstream impacts. Identify downstream and upstream impacts as defined by the City of San Antonio and identify mitigation options including detention for the increase in runoff.
- Revise the existing conditions storm sewer hydraulic models within the airfield to address the deficiencies identified in the Phase I drainage analysis to be in compliance with the FAA 150/5320-5D, Airport Drainage Design.
- Implement the revised Atlas 14 discharges to the models, which are set to be effective by the City of San Antonio.
- Develop the alternative drainage systems for each of the Final Airfield Alternatives including airside and landside facilities.
- Compare the results of each alternative's hydraulic analysis for the Final Airfield Alternatives to determine drainage impacts of each.
- Prepare all exhibits drawings using ArcGIS and AutoCAD Software, following new CAD/GIS Standards to be developed in Task 7.12.

Task 13.6.2 Responsibilities:

- **CONSULTANT (WSP):** Coordinate with subconsultant Maestas, review reports.
- **SUBCONSULTANT (Maestas):** Evaluate the Airfield Alternatives and analyze the proposed drainage systems which accommodate the said alternatives. This task includes the analysis of storm sewer trunklines and preliminary detention assumptions. Inlets and laterals analysis is not included with this phase.
- **SAAS:** Review the report and plans

Task 13.6.2 Travel: None

Task 13.6.2 Deliverables:

- Prepare exhibits depicting the drainage alternatives for the various Airfield Alternatives identified above;
- Prepare hydraulic report documenting the drainage alternatives.

13.6.3 DEVELOP ULTIMATE 50-YEAR PLAN

The main purpose of the ultimate 50-year plan is to depict FAA Part 77 airspace surfaces to preserve airspace, illustrate major roadway changes for local and state transportation officials, and identify potential land acquisition. Due to the long-term horizon of this plan, it is not possible to determine the exact best airport development, and the plan may show several variations to provide SAT with optimum future flexibility.

- Prepare 50-year plan:
 - Depict potential ultimate airfield layout and associated Part 77 surfaces
 - Depict potential major roadway changes
 - Depict potential land acquisition needs
- Prepare technical memorandum
- Prepare presentation materials for SAAS review meeting
- Attend and lead 50-year plan meeting with SAAS
- Review with SAAS and revise as needed
- Prepare meeting minutes

Task 13.6.3 Responsibilities:

- **CONSULTANT (WSP):** Prepare preferred development plans, presentation materials, attend and lead preferred development plan meeting with SAAS, including PowerPoint graphics, technical memorandum, review with SAAS, supervise work of subconsultants.
- **SUBCONSULTANT (AMS):** Prepare for and attend meeting with SAAS.
- **SAAS:** Attend and host meeting, review meeting minutes and technical memorandum within two weeks and provide a consolidated list of comments.

Task 13.6.3 Travel/Meetings:

- One three-person trip for Preferred Development Plan meeting (50-year plan).

Task 13.6.3 Deliverables:

- Preferred Development Plan presentation (PPT), meeting minutes and technical memorandum of the results.

13.7 ALTERNATIVES DOCUMENTATION

The alternatives analysis and process will be summarized and documented. The will include the following:

- Prepare documentation:
 - Summarize meetings held with stakeholders and the public, including the presentation materials and meeting notes.
 - Summarize the various alternatives (airfield, terminal, access, support facilities, etc.) and document why concepts were kept or discarded.
 - Prepare an evaluation matrix to simply summarize each alternative, illustrating why the preferred alternative was selected.
 - This summary will include tables, flow charts, decision tree(s) and images depicting the various alternatives.
- Prepare presentation materials for SAAS review meeting.
- Review with SAAS and revise as needed.
- Prepare meeting minutes.
-

Task 13.7 Responsibilities:

- **CONSULTANT (WSP):** Prepare the tables, flowcharts, decision tree, technical report, review with SAAS, supervise work of subconsultants.
- **SUBCONSULTANT (AMS):** Prepare summary of stakeholder engagement, attend meetings.

- **SAAS:** Host meetings and review technical report within two weeks and provide a consolidated list of comments

Task 13.7 Travel/Meetings:

- One three-person trip for Alternatives Documentation review meeting.

Task 13.7 Deliverables:

- Alternatives Documentation and presentation (PPT) and meeting minutes.

14. IMPLEMENTATION PLAN

The purpose of this task is to prepare a logical sequence of projects that will be needed to implement the Preferred Development Plan developed during Task 13. In addition, the CONSULTANT will develop cost estimates and documentation related to the development of the implementation plan during this task, including the identification of projects for Project Definition Documentation. The Runway 31L Decoupling SRA will be updated based on the implementation plan.

14.1 DEVELOP PROGRAM/PROJECT PHASING & DRAINAGE IMPACTS

The CONSULTANT will analyze the Preferred Development Plan developed in Task 13 and divide it into several distinct phases. These phases will represent the near-term (five to seven years), mid-term (end of near term to 15 years), and long-term (15 to 20 years), or logical project milestone timelines. In addition, the major “future” projects beyond 2038 will be listed for general awareness but will not be analyzed for costing/constructability. For each phase, required projects and intermediate programs will be identified to implement the overall program.

In addition to the specific timeframe/phase, planning activity levels (PALs) for each project will be identified. Future airport development will be tied to activity levels that warranting a level of development or a specific project rather than a specific year. Each individual project or program will have a trigger for implementation that is based on an activity level (i.e., passenger traffic, air cargo weight, aircraft operations, etc.). For example, if airline passenger traffic does not increase as quickly as anticipated, then the demand for additional aircraft gates would occur later. Conversely, if the actual passenger traffic grows more quickly than forecast, then the demand for additional gates will happen sooner.

During this task, the CONSULTANT will also analyze other infrastructure required to support the implementation of the preferred alternative. This includes the following:

- Develop one (1) conceptual ultimate build out (50-year) hydraulic model for Salado Creek, within the existing and proposed SAT airport property to support the 50-year plan, based on Atlas 14 flows provided by the City of San Antonio.
 - Develop the build out drainage system model based on the Preferred Alternative.
 - Determine major utility improvements.
-

14.1.1 DRAINAGE IMPLEMENTATION PLAN

This task will reflect a detailed evaluation of the drainage impacts to the preferred Airside Alternative. The evaluation will consist of developing an overall ultimate buildout drainage system, which can then be phased to accommodate the 20-year plan, as defined in the overall Airport Master Plan.

The following tasks are anticipated for the Drainage Implementation plan:

- Develop one (1) conceptual ultimate build out hydraulic model for Salado Creek, within the SAT airport property. No design or grading will be completed as part of this task.
- Develop the ultimate build out drainage system model based on the preferred Airside Alternative (trunk lines only, no heat map).

- Develop a phasing plan, at approximate five-year intervals (trunk lines only).
- Develop drainage project recommendations to mitigate the improvements which increases impervious cover within the first five years (2020-2025).
- Develop a preliminary cost estimate for each phase interval of the drainage improvements based on the current construction costs.
- Update and finalize the drainage report documenting the ultimate build out drainage system, cost estimates, and phasing plan.
- Prepare all exhibits drawings using ArcGIS and AutoCAD Software, following new CAD/GIS Standards to be developed in Task 7.12.

-

Task 14.1.1 Responsibilities:

- **CONSULTANT (WSP):** Coordinate with subconsultant Maestas, review reports.
- **SUBCONSULTANT (Maestas):** Finalize the ultimate build out plan, develop a phasing plan, and update the drainage report.
- **SAAS:** Review the final drainage report.

Task 14.1.1 Travel:

- One two-person trip to coordinate with sub consultant on drainage.

Task 14.1.1 Deliverables:

- Exhibits depicting drainage alternatives based on the various Airfield Alternatives identified above.
- Hydraulic report documenting drainage alternatives.

14.1.2 CAPITAL PROJECT/PROGRAM PHASING

Each major project/intermediate program will include incremental steps for project implementation, including, but not limited to, more detailed planning studies, required environmental studies/approvals, preliminary engineering, design, construction (in distinct/logical phases), and commissioning. To develop the programming/phasing of the Airport Master Plan CIP, the following steps are anticipated:

- Conduct eight internal workshops (airfield, terminal, landside and support facilities including utilities and drainage. It is assumed two internal workshops will take place for each category).
- Prepare technical memorandum, including addressing non-attainment designation and how projects are developed and the results of the 2019 PMP analysis.
- Prepare materials for workshops with SAAS.
- Conduct four workshops with SAAS. (one for each category).
- Revise phasing materials per SAAS comments and prepare meeting minutes.
- Conduct one final workshop with SAAS.
- Revise phasing materials per SAAS comments and prepare meeting minutes.
- Conduct one workshop with Executive staff.
- Revise phasing materials per Executive staff comments and prepare meeting minutes.

Task 14.1.2 Responsibilities:

- **CONSULTANT (WSP):** Develop phasing and project list by year; prepare workshop materials, attend and lead workshop for each type of facility as well as follow up workshop(s), including preparing PowerPoint graphics, review with SAAS, supervise work of subconsultants.
- **SUBCONSULTANT (AMS):** Prepare for and attend meeting with SAAS.

- **SUBCONSULTANT (PCI):** Attend internal workshop(s) and prepare for and attend workshop(s) with SAAS.
- **SUBCONSULTANT (Maestas):** Attend internal workshop(s) and prepare for and attend workshop(s) with SAAS.
- **SUBCONSULTANT (Hirsh):** Attend internal terminal workshop and prepare for and attend terminal workshop with SAAS.
- **SAAS:** attend and host meeting, provide comments to materials in a timely manner (within two weeks of meeting).

Task 14.1.2 Travel/Meetings:

- Four five-person trips for phasing development workshops with subconsultants.
- Four five-person trips to present phasing/implementation plan to SAAS.
- One four-person trip to present phasing/implementation plan to Executive Team.

Task 14.1.2 Deliverables:

- Present development plans, meeting minutes and technical memorandum of the results.

14.2 PLANNING-LEVEL COST ESTIMATES

The CONSULTANT will prepare Class 4 (AACE) construction cost estimates, for each project defined in Task 14.1, summarizing the costs by phase of the Airport Master Plan CIP. These cost estimates will be suitable to use to develop the funding plan developed as part of this task, as well as the financial feasibility/funding analysis prepared as part of Task 16. As needed, the costs will be allocated to a specific year depending on the final phasing program developed in Task 14.1. CONSULTANT will conduct both internal and client workshops to review cost estimates for each phase.

- Develop project list by year.
- Include non-attainment analysis, as necessary.
- Prepare cost estimates.
- Conduct internal workshop.
- Prepare materials for workshop with SAAS.
- Conduct workshop with SAAS (this workshop may be conducted concurrently with the final program/phasing plan workshop outlined in Task 14.1 above).
- Revise phasing materials per SAAS comments and prepare meeting minutes.

Task 14.2 Responsibilities:

- **CONSULTANT (WSP):** Develop phasing and project list by year; prepare workshop materials, attend and lead workshop for each type of facility as well as follow up workshop(s), including preparing PowerPoint graphics, review with SAAS, supervise work of subconsultants.
- **SUBCONSULTANT (AMS):** Prepare for and attend meeting with SAAS.
- **SUBCONSULTANT (PCI):** Assist in the development of costs for appropriate projects.
- **SUBCONSULTANT (Maestas):** Assist in the development of costs for appropriate projects.
- **SUBCONSULTANT (Connico):** Prepare Class 4 (AACE) cost estimates for the majority of projects in the phased SDP CIP.
- **SAAS:** Attend and host meetings, provide comments to materials in a timely manner (within two weeks of meeting).

Task 14.2 Travel/Meetings:

- WSP: One three-person trip to review cost estimates with SAAS.
- Connico: One one-person trip to review cost estimates with SAAS.

Task 14.2 Deliverables:

- Draft and final cost estimate spreadsheets by year/phase. These spreadsheets will contain details related to the cost estimates provided and be in editable format that can be updated in the future by SAAS, if necessary.

14.3 IMPLEMENTATION STRATEGIES FOR PROJECT DELIVERY

The CONSULTANT will identify various implementation strategies for the proposed projects in the SDP CIP. These implementation strategies will include, but not be limited to, traditional design-bid-build, and non-traditional delivery methods, including construction management at risk and design-build-finance-operate-maintain. Projects that could be potential candidates for non-traditional delivery will also be identified.

In addition, the CONSULTANT, will review the legal limits to the use of public-private partnerships and alternative delivery methods in the State of Texas, as well as the City. Timelines related to the procurement of projects using public-private partnerships will also be researched. Further, legislative changes that need to be made will be identified to procure a project using a public-private partnership for the candidate projects identified during this task.

- Prepare white paper.
- Review white paper with SAAS (on-site meeting).
- Revise white paper per SAAS comments and prepare meeting minutes.
- Present white paper to Executive Team (on-site meeting).
- Revise white paper per SAAS comments and prepare meeting minutes.
- Present white paper to City officials (on-site meeting).
- Revise white paper per SAAS comments and prepare meeting minutes.

Task 14.3 Responsibilities:

- **CONSULTANT (WSP):** Provide draft and final white paper on various delivery methods that could possibly be employed for the SDP CIP projects;
- **SAAS:** Coordinate and attend meetings

Task 14.3 Travel/Meetings:

- WSP: One two-person trip to present/discuss delivery method whitepaper with SAAS.
- WSP: Two one-person trips to present findings to Executive Team and other City officials.

Task 14.3 Deliverables:

- Final alternative delivery method white paper with presentation outlining findings.

14.4 FINAL AIRPORT MASTER PLAN CIP AND PROPOSED FUNDING PLAN

The CONSULTANT will review the final Airport Master Plan CIP and identify potential funding sources. These funding sources will include, but not be limited to, Airport Improvement Program (AIP) grants, passenger facility charges (PFCs), public-private partnerships (P3), and SAAS funds (cash/capital reserves and bond proceeds). The initial proposed funding plan may be refined during Task 16 (financial feasibility development). The CONSULTANT will conduct a meeting to review the assumptions regarding project eligibility and to review the initial project funding plan for the Airport Master Plan CIP.

- Identify funding sources for each project.
- Prepare funding plan in Excel spreadsheet.
- Prepare technical memorandum.
- Prepare meeting materials.
- Review funding plan with SAAS.
- Revise funding plan per SAAS comments and prepare meeting minutes.

Task 14.4 Responsibilities:

- **CONSULTANT (WSP):** Provide final funding plan and documentation.
- **SAAS:** Coordinate and attend meetings.

Task 14.4 Travel/Meetings:

- WSP: One one-person trip to review final funding plan with SAAS.
-

Task 14.4 Deliverables:

- Final alternative delivery method white paper.

14.5 FINAL SAT CIP

The CONSULTANT will incorporate the final Airport Master Plan CIP with the existing SAT CIP to create the final SAT Airport Master Plan CIP. Funding plans for the existing SAT CIP will be combined with the proposed funding plan for the Airport Master Plan CIP, resulting in the final funding plan for the SAT CIP, which will be used in Task 16.

The CONSULTANT will prepare for and conduct a meeting to present the final project eligibility assumptions and the funding plan for the final SAT Airport Master Plan.

- Review existing SAT CIP with SAAS.
- Incorporate proposed Master Plan projects.
- Prepare DRAFT “Final SAT CIP” and meeting materials.
- Review DRAFT “Final SAT CIP” with SAAS.
- Revise DRAFT “Final SAT CIP” per SAAS comments and prepare meeting minutes.

Task 14.5 Responsibilities:

- **CONSULTANT (WSP):** Develop final SAT CIP.
- **SAAS:** coordinate and attend meetings as required.

Task 14.5 Travel/Meetings:

- WSP: One three-person trip to review final funding plan with SAAS.

Task 14.5 Deliverables:

- Final SAT CIP by phase and year.
-

14.6 IDENTIFY PROJECTS FOR FURTHER ANALYSIS

The CONSULTANT, along with SAAS, will identify the major projects/programs within the near-term planning period for which project definition documents (PDDs) will be developed. PDDs will be prepared as part of Task 11 or Task 12 for the identified projects, depending on whether they are eligible for federal funding.

In addition, preliminary information will be gathered for up to five projects to assist in the development of PDDs:

- Project description
- Project justification
- Project assumptions

The CONSULTANT will review the gathered information with SAAS, make any changes per SAAS comments and prepare meeting minutes.

Task 14.6 Responsibilities:

- **CONSULTANT (WSP):** Attend meeting to identify the projects for which PDDs will be developed. Gather information for identified projects. Present information to SAAS.
- **SAAS:** Coordinate and attend meetings.

Task 14.6 Travel/Meetings:

- One two-person trip to determine with SAAS the list of potential projects for which PDDs will be developed.
- One two-person trip to present initial information gathered for PDDs to SAAS.

Task 14.6 Deliverables:

- Final alternative delivery method white paper.
-

14.7 CAPITAL PROGRAM FRAMEWORK/PRIORITIZATION

The SAAS has been implementing CIP process improvements on an ongoing basis since 2016. Those improvements and processes will be used in this task to integrate the SDP CIP projects with the SAAS's overall CIP.

14.7.1 PROJECT PRIORITIZATION CRITERIA AND EVALUATION FRAMEWORK

The CONSULTANT will participate in project prioritization work sessions with SAAS and the consultant currently under contract to update the criteria and evaluation framework. The project prioritization work sessions draw from the previous prioritization criteria, and will later incorporate any necessary criteria from

the SDP to develop a consolidated list of eight to 12 of the most important evaluation criteria. This will be used to develop an appropriate project ranking and scoring framework. Potential drivers and categories could include: asset functional/physical condition, regulatory compliance, growth/capacity, resiliency, security, environmental sustainability, service levels/amenities, community/economic growth, asset reliability, and financial revenues/benefits. The discussions will incorporate all key infrastructure categories including, but not limited to: airside, landside, terminal, support facilities, etc.

The CONSULTANT shall attend up to two work sessions that shall last approximately two to four hours. These work sessions will be aimed at reviewing industry standard approaches and evaluating social, financial, and environmental criteria to identify, develop, and weight the most appropriate criteria for SAT. The CONSULTANT will review and incorporate categories developed during the master plan as appropriate. Additionally, the CONSULTANT shall assist in developing a final scoring and ranking methodology and optimization framework, with supporting guidelines and instructions.

14.7.2 INTEGRATE SDP CIP WITH SAAS CIP FINALIZE TOOLKIT AND TEMPLATES AND DOCUMENT PROCESS, WORKFLOW, AND GOVERNANCE

The CONSULTANT shall assist with the final integration of the SDP CIP into the Airport CIP by attending up to four work sessions/meetings that will be approximately four hours in length with Airport staff and others to assist with evaluation, prioritization criteria, scoring and weighting of the projects.

14.7.3 COORDINATION CALL PARTICIPATION

The CONSULTANT will participate in bi-weekly conference calls to coordinate the prioritization development process. These calls will be with the SAAS and others to discuss progress on the development of evaluation and ranking criteria and process via bi-weekly coordination conference calls.

14.7.4 IMPLEMENTATION SUPPORT

At the conclusion of Task 14.7.2, SAAS and the CONSULTANT project manager(s) shall discuss the need for additional ongoing support in order to apply the new approach across the entire SAT project portfolio and develop an updated project plan, schedule, and financial forecast. These efforts are not included in CONSULTANT's initial scope and can be discussed as needed when key milestones of the existing scope of work are achieved (i.e. after Task 14.7.2).

Responsibilities:

- **CONSULTANT (WSP):**
 - Attend two Prioritization Framework Work Sessions related to Task 14.7.1.
 - Attend four evaluation sessions with SAAS and its consultant related to Task 14.7.2.
 - Participate in up to 10 bi-weekly coordination calls with SAAS and others on evaluation and ranking criteria and process.
- **CITY:** Coordinate and attend meetings

Travel:

- Six one-person trips to attend workshop/meetings with the SAAS and others to assist with the prioritization and integration of the SDP CIP with the Airport CIP.

14.8 IMPLEMENTATION PLAN DOCUMENTATION

The CONSULTANT will develop documentation for Task 14, which will be structured into logical sections in the following general format:

- Introduction and Background
- History of program
- Existing CIP (identify major projects and objectives)
- Airport Master Plan Alternatives Process Review
- Preferred Development Plan
- Programming Analysis
 - Identify the timing of each phase of the Airport Master Plan CIP
 - Brief description each project/program
 - Provide cost estimate of each project
- Funding Analysis
 - Funding Sources
 - Funding Plan
 - Funding Impact on Phasing and Duration
- Final SAT CIP

Task 14.8 Responsibilities:

- **CONSULTANT (WSP):** Prepare one draft and one final report.
- **SAAS:** Review and approve revised report.

Task 14.8 Travel/Meetings:

- WSP: One three-person trip for documentation review.

Task 14.8 Deliverables:

- Draft report
- Final report

14.9 UPDATE RUNWAY 31L SRA

The purpose of this task is to update the Runway 4-22/Runway 13R-31L Decoupling Safety Risk Assessment, based on the safety study for long-term planning purposes conducted during Phase I.

After the Preferred Development Plan is selected and its implementation studied, a revision of the SRA of the intersection between the Runway 31L Threshold and Runway 4-22 will be prepared. The revised SRA report will provide recommendations for addressing safety concerns and mitigating aviation safety hazards to an appropriate level of risk, based on FAA standards and best practices.

The following list represents the anticipated tasks necessary to finalize the SRA for runway decoupling:

- Conduct benefit-cost analysis (BCA) comparison of 2010 SRA decouple recommendation and the proposed 20-year plan.
- Prepare final document of SRA results.
- Provide final report to the SRA panel members for review.

- Finalize SRA report and acquire signatures, as necessary.

Gathering the SRA panel for an in-person meeting is not anticipated, as the safety study for long-term planning will have concluded on the fate of Runway 4-22 and determined the acceptability of maintaining the coupling until the deconstruction of 4-22 or the implementation of the previous SRA. The CONSULTANT will prepare and lead a conference call with the SRA panel members to review and discuss the revision of the SRA based on the safety study for long-term planning purpose.

Task 14.9 Responsibilities:

- **CONSULTANT (WSP):** Supervise work of subconsultant Faith Group; Provide technical support and aviation safety expertise; Prepare BCA of decoupling vs ALP recommendation.
- **SUBCONSULTANT (FAITH GROUP):** Update SRA report; Lead SRA review call and revise draft report as needed; Provide aviation safety expertise.
- **SAAS:** Review and approve revised SRA report.

Task 14.9 Travel/Meetings:

- WSP: One two-person trip for SRA review call with panel via conference call and document review with SAAS.
- FG: One one-person trip to attend meeting with CITY.

Task 14.9 Deliverables:

- Revised SRA report.

15. NOISE EXPOSURE MAP UPDATE

SAAS completed a 14 Code of Federal Regulations (CFR) Part 150 Noise Exposure Map (NEM) Update in December 2014, as part of its ongoing efforts to improve the compatibility of SAT with the surrounding communities. The update to the 2009 NEM was accepted by the FAA on January 12, 2015, and the Record of Approval (ROA) for the revisions to the Noise Compatibility Program (NCP) was issued on June 2, 2015. The updated NEMs reflect SAT's day-night average sound level (DNL) contours in 2014 and 2019, while the updated NCP recommended continuation of the Residential Acoustical Treatment Program (RATP) and acoustical treatment to noise sensitive facilities relative to the 2014 NEM DNL 65 dBA contours. As part of the ROA, the FAA noted that as an approved measure, the RATP and noise sensitive structure measures would apply to future approved NEM updates (not just 2014 NEMs) without a need to revise the NCP.

This NEM scope was developed to ensure compliance with 14 CFR Part 150 and in consideration of the conditions outlined above.

15.1 PROJECT COORDINATION

15.1.1 NEM UPDATE PROJECT KICK-OFF MEETING

The CONSULTANT team will initiate the project and organize and lead a project team kick-off meeting involving key members of airport staff, FAA, and the CONSULTANT team. Up to two individuals will participate in the master plan kickoff meeting. At the kick-off meeting, key project goals will be reviewed, and the schedule will be discussed. Meeting notes will be prepared documenting the agreed upon project goals, communication protocols, and core team members.

Task 15.1.1 Deliverables:

- Pre-meeting coordination and scheduling.
- Kick-off meeting agenda, meeting handouts, and summarized meeting notes.
- Call coordination and scheduling.
- Coordination meeting agendas, meeting handouts, and action item summaries.

Task 15.1.1 Assumptions:

- SAAS to assist in meeting coordination, scheduling, and material review.
- Assumes the kick-off meeting will take place at SAAS offices.
- Assumes calls will last up to one hour.

15.1.2 COORDINATION MEETINGS WITH SAAS

The CONSULTANT team will conduct a series of coordination calls and meetings with various SAAS representatives to review milestones and action items and address any issues or questions that may arise throughout the course of the NEM development. Up to 15 coordination calls will be conducted with up to three project team members. Up to eight on-site meetings will be conducted with up to two project team members. An Action Item List will be prepared, update, and distributed before each conference call.

Task 15.1.2 Deliverables:

- Meeting coordination and scheduling, meeting agendas, meeting handouts, action item summaries and summarized meeting notes for up to **15 coordination calls and eight on-site meetings**.

Task 15.1.2 Assumptions:

- SAAS to assist in meeting coordination and scheduling and material review.
 - Assumes site meetings will take place at SAAS offices.
-

15.1.3 SAAS LEADERSHIP AND CITY COUNCIL BRIEFINGS

The CONSULTANT team will conduct up to three on-site briefings with SAAS leadership or the City Council. These briefing will include preparation of PowerPoint materials suitable for conducting the briefings. The CONSULTANT team will coordinate briefing materials and preparation with SAAS.

Task 15.1.3 Deliverables:

- PowerPoint presentations

Task 15.1.3 Assumptions:

- SAAS to assist in meeting coordination and scheduling and material review.
-

15.1.4 COORDINATION MEETINGS WITH FAA

The CONSULTANT team will conduct includes a series of meetings throughout the project with various FAA representatives to collect data, ensure accuracy and timely availability of information, and address any issues or questions that may arise throughout the course of the project. Up to two meetings will be conducted with the Texas ADO and up to three additional meetings will be conducted with FAA ATC and/or TRACON personnel. Follow-up phone calls will take place throughout the project as required to obtain needed information and guidance.

Task 15.1.4 Deliverables:

- Meeting coordination and scheduling, PowerPoint slideshows, meeting agendas, meeting handouts, action item summaries and summarized meeting notes for up to **five meetings**.

Task 15.1.4 Assumptions:

- SAAS to assist in meeting coordination and scheduling and material review.
 - Assumes these meetings will take place at SAAS offices, FAA ATC offices, or FAA Texas ADO offices.
-

15.1.5 OTHER AGENCY COORDINATION

The CONSULTANT team will schedule and participate in meetings with key agencies, such as Bexar County or the Alamo Area Metropolitan Planning Organization (AAMPO). The meetings will include project briefings and collection/verification of key project data. Up to five meetings will be held with key agency representatives.

Task 15.1.5 Deliverables:

- Meeting coordination and scheduling.

- Coordination meeting agendas, meeting handouts, and summarized meeting notes for up to **three meetings**.

Task 15.1.5 Assumptions:

- SAAS to assist in meeting coordination and scheduling and material review.
- Assumes these meeting will either take place at the Airport or Agency offices.

15.2 DEVELOP A COMPREHENSIVE DATABASE OF CURRENT CONDITIONS

15.2.1 STUDY AREA BASE MAPPING AND LAND USE PLANNING AND ZONING INVENTORY

Base mapping associated with the NEM Update will be developed for several different geographical areas and will employ several different scales. One base map will be of a size to allow review of the DNL contour limits. Information to be displayed on this base map will include the airport boundary, limits of political jurisdictions, and existing major roadways, rail corridors and significant water features.

A second base map will be developed showing a larger area of coverage. This base map will be used to graphically display flight corridors for the baseline condition and future alternatives. The map scale will not be less than 1" = 2,000' as required by 14 CFR Part 150. Map extents will allow for flight tracks to be shown at least 30,000 feet from each runway end. This base map will also include the SAT property limits, major roadways, and other identifiable physical features (e.g., rivers) to relate flight tracks to known ground locations. Both base map graphics will be prepared utilizing available GIS data.

Data necessary for use in the impact analysis of the baseline and future land use conditions will be collected through the review of existing data layers contained in Bexar County GIS files. This will include existing land use data, future land use data (as available), and existing zoning designations available in digital form from the County or neighboring jurisdictions planning departments.

The following information will be collected for the coverage needed to comply with 14 CFR Part 150 (i.e., at least 30,000 feet from each runway end):

- Roadway Base Map
- Political jurisdictions and boundaries
- Existing land use
- Future land use (as available)
- Current zoning
- Noise sensitive and noncompatible land uses (schools, places of worship, hospitals, etc.)
- Homes that have been sound insulated and are no longer considered noncompatible
- Parcel maps/property ownership

Consistent with 14 CFR Part 150 requirements, existing comprehensive plans, land use plans, zoning ordinances, subdivision regulations, building codes, easement terminology, overlay zoning and other documentation pertaining to land use planning and development in the vicinity of the Airport as readily available will be obtained and reviewed. This review will concentrate on identification of the mechanisms

that are presently in place to enhance land use compatibility in the SAT environs. Provisions in ordinances, land development codes, and future land use plans that relate to future noise/land use compatibility will also be identified and discussed. The CONSULTANT team will identify the general land use type (residential, commercial, industrial, institutional), approximate density, and location of current land uses for existing and future land development (as determined from approved future off-Airport land use plans or zoning). The existing sound insulation program will also be included in this analysis.

Verification of recent changes to existing land uses that have occurred will be performed using the most current aerial photography available and supplemented with up to one day of field verification. Identified changes will be incorporated into the GIS databases. Noise sensitive sites including schools, churches, hospitals, parks, recreation areas, and historic sites within the 65 DNL contour will be verified through the most current aerial photography and supplemented during the field verification effort. The resulting field data will be input into the database and depicted on the study area base mapping.

Future land use will be derived based on the most current future land use planning documentation available for each jurisdiction within the study area. Where future land use plans are in progress (being revised, developed, etc.) at the time of data collection, the CONSULTANT team will, to the extent possible, identify potential options to address the uncertainty created by the pending nature of available data and discuss these with SAAS to define a recommendation for addressing the necessary information. In cooperation with SAAS and other relevant technical experts, the CONSULTANT team will coordinate with the specific jurisdiction(s), where a definitive source of future land use issue has arisen, to develop a future land use concept for the five-year future condition consistent with the jurisdiction's expectations.

Task 15.2.1 Deliverables:

- **Base map overlays of the study area for existing land use, existing zoning, future land use plans, and noise sensitive site locations.**

Task 15.2.1 Assumptions:

- SAAS to assist with data gathering and details related to existing sound insulation program.
- Assumes one day of field verification is sufficient to validate data.
- Assumes existing and future land use data, zoning, comprehensive plans, etc., are available digitally.
- Assumes parcel data is readily available in digital/GIS format.
- Assumes no new aerial photogrammetry.

15.2.2 POPULATION/SOCIOECONOMIC DATA

Baseline population data will utilize the most recent estimates of census data available from the U.S. Census Bureau. Ratios of population per dwelling unit by census block will be developed for the purposes of determining population impacts within the DNL 65 dBA contour.

Task 15.2.2 Deliverables:

- Population data in GIS format.

Task 15.2.2 Assumptions:

- Population data collected will be limited to areas within the approximate DNL 65 dBA contour.

15.2.3 EXISTING LAND USE AND OPERATIONAL MEASURES

The recommendations of the previous SAT NCP will be reviewed and the status of implementation of elements of the approved noise abatement program will be identified and documented. Implemented noise mitigation measures will be modeled in the updated NEMs as part of the baseline condition to the extent that they are reflected in the baseline operational data.

Task 15.2.3 Deliverables:

- Document summarizing the previous SAT **NCP**.

Task 15.2.3 Assumptions:

- Assumes previous measures are well documented and status can be readily determined.

15.2.4 AIRSPACE/AIR TRAFFIC CONTROL DATA AND OPERATIONS DATA

The CONSULTANT team will collect data to document existing operational conditions and inform development of modeling assumptions. Data to be collected includes airport terminal area airspace and air traffic control procedure information, existing airspace sectoring, and operational procedures. Additionally, information from the airport's noise and operations monitoring system (NOMS) systems will be collected in electronic format suitable for processing in database and GIS formats. This includes aircraft operational information; runway use and radar track information from the airport's NOMS.

Task 15.2.4 Assumptions:

- SAAS will assist in obtaining data in a useable format for analysis.
- Assumes data is readily available in a digital format suitable for processing without conversion or manipulation.

15.3 NOISE CONTOUR DEVELOPMENT AND IMPACT ANALYSIS

15.3.1 OPERATIONS AND FLEET MIX ANALYSIS (DERIVATIVES)

The FAA approved the Airport Master Plan aviation demand forecast in October 2018. This forecast will be used as the basis for determining the operational levels anticipated at SAT in the base year and future year (at least five years in the future). A detailed fleet mix evaluation will be prepared as part of the master plan forecast and will include determination of the daytime/nighttime activity split by aircraft and engine type and operational stage lengths for both the base and future years. This includes commercial air carrier, air taxi, military and general aviation aircraft.

Each aircraft/engine type will be assigned an AEDT aircraft type. However, the database does not include all aircraft that are in operation today. For certain aircraft types, the FAA has identified pre-approved substitute aircraft for use in the model. For aircraft that are not in the AEDT or its pre-approved substitution database, an appropriate similar aircraft will be selected. It should be noted that the use of any non-standard inputs requires written approval from the FAA. For these aircraft, an appropriate substitute aircraft will be identified and documented in correspondence sent to the FAA's Project Manager for distribution to the

FAA's Office of Environment and Energy (AEE) for review and approval.

Task 15.3.1 Deliverables:

- Operational and fleet mix information suitable for incorporation into AEDT.
- If required, a technical memorandum to the FAA's AEE requesting approval of aircraft substitutions.

Task 15.3.1 Assumptions:

- The FAA-approved Airport Master Plan aviation demand forecast will provide detailed fleet information that along with runway use data will be used to determine the daytime/nighttime activity split by aircraft and engine type and operational stage lengths for both the base and future years.

15.3.2 RUNWAY USE AND FLIGHT TRACK ANALYSIS

The CONSULTANT team will prepare a series of baseline condition flight tracks for use in modeling aircraft activities. Flight tracks will be developed for fixed-wing aircraft and helicopter arrivals, departures, and traffic pattern operations, as appropriate. Flight track and runway use by aircraft category/type and time of day will be developed through analysis of SAT's NOMS data. Significant periods of non-standard operations (runway closures, etc.) will be identified through consultation with SAAS and ATCT staff.

Flight track and runway use for the future condition will reflect changes that are reasonably anticipated to be in place in the future year. These changes will be identified through consultation with the FAA ATO personnel and reflected in runway and flight track use assumptions for those years.

Task 15.3.2 Deliverables:

- Runway use and flight track use information suitable for incorporation into AEDT.

Task 15.3.2 Assumptions:

- SAAS to obtain data in a useable format for analysis.
- SAAS to assist in resolving any data gaps.
- Assumes that no user-defined flight profiles will be required.

15.3.3 EXISTING NOISE EXPOSURE LEVELS (BASE YEAR)

Using the baseline operations and fleet mix data developed in a previous task, the latest version AEDT will be used to determine current aircraft noise exposure levels in the SAT environs. DNL 65, 70 and 75 dBA contours will be calculated and overlaid on both large-scale and small-scale base mapping. The formal base-year NEM will be developed. The NEM will reflect a scaled, geographic depiction of the airport, its DNL contours, and existing land uses in surrounding areas that comply with map scale and data requirements as specified in paragraphs A150.101, A150.103, A150.105, and 150.21 of 14 CFR Part 150. The resulting NEMs will be provided by the CONSULTANT team for certification by SAAS.

Task 15.3.3 Deliverables:

- Noise Exposure Maps.

Task 15.3.3 Assumptions:

- Assumes no airspace or operational changes or changes to model input assumptions after the modeling effort has been initiated.

15.3.4 FUTURE NOISE EXPOSURE LEVELS (FIVE-YEAR HORIZON)

The CONSULTANT team will prepare future year DNL contours based on the projected conditions, operations and fleet mix identified under a previous task. DNL 65, 70 and 75 dBA contours will be calculated and overlaid on both large scale and small-scale base mapping. The resulting contours will be provided by the CONSULTANT team for certification by SAAS. The formal future year NEM will be developed.

Task 15.3.4 Deliverables:

- Noise Exposure Maps.

Task 15.3.4 Assumptions:

- Assumes no airspace or operational changes or changes to model input assumptions after the modeling effort has been initiated.

15.3.5 QUANTIFY IMPACTED DWELLING UNITS, POPULATION AND NOISE SENSITIVE INSTITUTIONAL USES INSIDE DNL 65 DBA CONTOUR

Impacts will be determined relative to the land use compatibility guidelines contained in 14 CFR Part 150 for both the baseline and future contours. Impacts to housing and other noise sensitive sites will be calculated identifying the numbers of dwellings and sensitive sites situated within each 5-dBA contour interval for DNL 65 dBA and above associated with the baseline noise contours and will be depicted on the baseline noise exposure map using standard land use mapping classifications. Land uses will be identified by acreage/type within each 5-dBA contour interval for DNL 65 dBA and higher contour intervals. Impacts in terms of population will be calculated for existing and future identifying the number of people situated within each 5-dBA contour interval from DNL 65 dBA to 75 dBA. Housing and noise sensitive site impacts will be identified including residential units that been previously sound insulated. Residential units that have been deemed compatible will be also be identified to the extent which the information is readily available. A searchable database (access or web based) will be developed for properties located within the 65 DNL contour.

In addition to the impact analysis, the updated contours will be compared to those developed as part of the previous NEM effort. A neighborhood analysis will also be conducted and a proposed approach to RSIP eligibility and neighborhood equity will be developed and coordinated with SAAS and the FAA. This analysis will consider those properties previously identified as potentially eligible for RSIP treatment.

Task 15.3.5 Deliverables:

- Dwelling units, noise sensitive uses, land uses, population impacts.
- A searchable parcel database.
- Proposed maps for next phase of the RSIP.

Task 15.3.5 Assumptions:

- Assumes that noise sensitive use information is readily available in GIS format.
- Assumes parcel data is readily available in digital/GIS format.

15.4 NEM COMMUNITY OUTREACH PROGRAM

15.4.1 INITIAL NEM PUBLIC WORKSHOPS

The CONSULTANT team will conduct four initial informal open-house style workshops will be held on consecutive nights at an appropriate time and location in association with the initiation of this task. These workshops will provide the opportunity for information sharing and input during the NEM Update. At the workshops, the CONSULTANT team will discuss (on a one-on-one basis) the Part 150 NEM Update process and noise information available for review with those in attendance. The CONSULTANT team will provide up to 25 30-inch by 40-inch presentation board exhibits or similar exhibits describing the Part 150 process, noise modeling, land use compatibility, the role of the FAA in the Part 150 process and other information as appropriate. In addition, the CONSULTANT team will provide handouts (up to four pages in English and in Spanish), sign-in sheets, and comment forms for the workshop. Up to 12 members of the CONSULTANT team, including one bilingual staff member, will be available to attend the public workshop. A court reporter will be provided to record private verbal comments.

The CONSULTANT team will support SAAS in the selection of the location for the workshop and will prepare draft public workshop advertisements to be placed within the local newspaper(s) of greatest circulation in the Airport area or those with specific targeted audiences. The CONSULTANT team will translate the advertisement into Spanish and will coordinate with the local news outlets to run one set of advertisements 30 days before the workshop and a second set of advertisements closer to the workshop (two total advertisements).

Task 15.4.1 Deliverables:

- Preparation of exhibits/boards, handout (in English and in Spanish), sign-in sheets, comment forms, and preparation of advertisements (in English and in Spanish). The CONSULTANT team will also provide signage, easels, and other equipment if necessary, and breakdown of the workshop exhibits along with staff for the workshop and the sign-in table.

Task 15.4.1 Assumptions:

- SAAS will assist in identifying an appropriate venue.
- The CONSULTANT team will provide a court reporter and translation services.
- Up to 12 members of the CONSULTANT team will participate in the public workshop.

15.4.2 DRAFT NEM PUBLIC WORKSHOPS

Four informal open house style workshops will be held on consecutive nights upon completion of the Draft NEMs. The workshops will provide the opportunity for the public to review the updated NEMs. At the workshop, the CONSULTANT team will discuss (on a one-on-one basis) with those in attendance the Part 150 Study Update process, and the process undertaken to develop the NEMs. The CONSULTANT team will provide up to 35 30-inch by 40-inch presentation board mounted exhibits describing the Part 150 process, NEM development, land use compatibility, and other information as appropriate. In addition, the CONSULTANT team will provide handouts (in English and in Spanish), sign-in sheets, and comment forms for the workshop. Up to 12 members of the CONSULTANT team, including one bilingual staff member, will be available to attend the public workshop. A court reporter will be provided to record private verbal comments.

The CONSULTANT team will support SAAS to prepare draft public workshop advertisements to be placed within the local newspaper(s) of greatest circulation in the Airport area or those with specific targeted audiences. The CONSULTANT team will translate the advertisement into Spanish and will coordinate with the local news outlets to run one set of advertisements 30 days before the workshop and a second set of advertisements closer to the workshop (two total advertisements).

Task 15.4.2 Deliverables:

Preparation of exhibits/boards or similar, handout (in English and in Spanish), sign-in sheets, comment forms, and preparation of advertisements (in English and in Spanish). The CONSULTANT team will also provide signage, easels, and set up and break down breakdown of the workshop boards along with staff for the workshop and the sign-in table.

Task 15.4.2 Assumptions:

- SAAS will secure meeting space and coordinate schedules of City leadership and managers, manage pre-and day-of meeting logistics, participate in meetings, review and comment on meeting materials, exhibits; respond to managers' questions and information requests.
- The CONSULTANT team will provide a court reporter and translation services.
- Up to 12 members of the CONSULTANT team will participate in the public workshop.

15.4.3 PUBLIC COMMENT MANAGEMENT AND RESPONSES

The CONSULTANT team will compile the public comments provided throughout the project and will catalogue them by topic into a comment matrix. Responses will be prepared for each topic and will be keyed back to the comment matrix. Individual responses will not be prepared for each individual letter; rather, the comments will be addressed broadly by topic. Responses will only be prepared for comments related to the noise study or noise related issues. The public comments, summary matrix and responses will be coordinated with the FAA and included in the final draft report.

Task 15.4.3 Deliverables:

Compilation of comments provided throughout the project and preparation of a comment matrix and responses by topic for inclusion in a report appendix.

Overall statistics on comments received by community will be summarized.

Task 15.4.3 Assumptions: The level of effort for this task assumes processing of no more than 40 comment letters containing no more than three distinct comments each (120 comments total). It also assumes that all comments can be addressed with no more than 15 topic or category type responses. Comments received more than these limits may require additional budget depending on the nature and volume of comments received.

- SAAS to review and provide input on comment responses.
- SAAS to route comments to CONSULTANT team to ensure they are included in database.

15.5 PREPARE AND SUBMIT NEM UPDATE REPORT

15.5.1 PRELIMINARY DRAFT NEM UPDATE REPORT

A comprehensive Preliminary Draft NEM Update report will be prepared for review by SAAS. Comments will be incorporated and a revised draft will be prepared and submitted to the FAA. This includes preparation of the FAA NEM checklist and inclusion in the document appendix.

Task 15.5.1 Deliverables:

One electronic copy, and up to five printed copies of the Preliminary Draft SAT NEM Update report and up to five printed copies of the revised Preliminary Draft SAT NEM Update report.

Full-size NEM drawings (1" = 2,000') will only be provided in the appendix for two report copies in both the preliminary and revised preliminary sets. All other full-size NEM drawings (1" = 2,000') will be provided on a CD inserted in the appendix.

Assumptions: SAAS and FAA to provide consolidated review comments in track changes format.

15.5.2 PUBLIC DRAFT NEM UPDATE REPORT

Upon completion of the FAA's review of the revised preliminary draft, the CONSULTANT team will incorporate the FAA's comments and prepare the Public Draft NEM Update Report. A notice of availability of the public draft report will be published along with the NEM Public Workshop (Task 15.4.2). Twelve copies of the Draft NEM Report will be prepared and up to six copies will be placed in publicly accessible locations in communities near the airport. The balance will be provided to SAAS, the FAA, and other agencies as appropriate.

Task 15.Deliverable(s): One electronic copy, and up to five printed copies of the Draft SAT NEM Update. Full-size NEM drawings will only be provided in the appendix for up to 9 report copies. All other full-size NEM drawings will be provided on a CD inserted in the appendix.

Assumptions: Assumes one round of FAA review before publication.

15.5.3 FINAL DRAFT NEM UPDATE

Comments received on the Draft NEM Report from SAAS, FAA and other agencies will be consolidated and incorporated into a final draft or responded to as appropriate. Conflicting comments will be discussed with SAAS and the FAA as required to ensure resolution. Any changes required resulting from public comment will also be incorporated. Upon completion of review of the Draft NEM Update and incorporation of review comments, six copies of the Final Draft NEM Update will be provided to SAAS for its use and for submittal to the FAA.

Deliverable(s): One master digital track changes version of the NEM Report that incorporates changes. One electronic PDF file, all word files and up to six printed copies of the Final Draft NEM Update report will be prepared. Full-size NEM drawings will only be provided in the appendix for up to three report copies. All other full-size NEM drawings will be provided on a CD inserted in the appendix.

Assumptions:

- SAAS to assist in ensuring comments are provided in timely manner.
 - SAAS and FAA to provide consolidated review comments in track changes format.
 - Assumes no additional modeling or impact analysis will be required to address comments.
-

15.5.4 FINAL NEM REPORT

Upon completion of review of the Final Draft NEM Update by the FAA and incorporation of review comments, up to six copies of the Final NEM Report will be provided to SAAS for its use and for submittal to the FAA and FDOT.

Deliverable(s): One electronic PDF file and up to six printed copies of the Final SAT NEM Update report will be prepared. Full-size NEM drawings will only be provided in the appendix for up to three report copies. All other full-size NEM drawings will be provided on a CD inserted in the appendix.

Assumptions: Assumes no additional changes will be made by the FAA prior to NEM acceptance.

15.5.5 NEM NOTICE OF AVAILABILITY

Upon FAA acceptance of the NEMs, the CONSULTANT team will prepare a notice of availability to be published in a local newspaper periodically during the subsequent months. The notice should be published for a total of three advertisements in the months following FAA acceptance of the NEMs to meet constructive notice requirements.

Deliverable(s): One electronic document for use in publishing the notice of availability of the NEMs.

Assumptions:

- SAAS to provide consolidated review comments in track changes format.
 - SAAS will be responsible for publishing the notices of availability.
-

15.5.6 PROJECT MANAGEMENT

Project management for this task includes coordination with the CONSULTANT team and SAAS to ensure the scope of work is being delivered. In addition, the CONSULTANT will administer the project to ensure the timely delivery of project materials and that invoices are being processed accurately.

Task 15 Responsibilities:

- **CONSULTANT (WSP):** Supervise work of subconsultant ESA and review documentation, attend meetings.
- **SUBCONSULTANT (ESA):** Conduct NEM update; Lead SRA review call and revise draft report as needed; Provide aviation safety expertise.
- **SUBCONSULTANT (AMS):** prepare for and attend client and public
- **SUBCONSULTANT (PCI):** prepare for and attend client and public, provide translations as necessary
- **SAAS:** Review and approve revised NEM report.

Task 15 Travel/Meetings:

- Kick-off Meeting
- Coordination with SAAS: up to eight meetings
- SAAS Leadership and Council Briefings: up to three briefings
- Coordination with FAA:
 - Up to two meetings with the Texas ADO
 - Up to three meetings with FAA ATC and/or TRACON personnel
- Coordination with other agencies: up to five meetings
- Initial NEM Public Workshops: up to four workshops with up to 12 CONSULTANT team staff
- DRAFT NEM Public Workshops: up to four workshops with up to 12 CONSULTANT team staff
- WSP: 17 trips
- ESA: 35 trips

Task 15 Deliverables:

- Draft NEM report and noise contours
- Final NEM report and noise contours

16. FINANCIAL ANALYSIS/ COORDINATION

16.1 DETERMINE FUNDING/ DEBT CAPACITY

During Phase I, the CONSULTANT prepared an initial debt capacity analysis to determine a range of values for which SAAS could issue bonds and to provide funding for its capital program. During Phase II, this analysis will be further refined. In addition, SAAS's capacity to utilize AIP, PFC, and other traditional airport capital funding sources will be evaluated.

The potential funding sources will include the following:

- Airport Improvement Program (AIP) grants;
- Passenger Facility Charge (PFC) revenue (both "Pay-As-You-Go" PFC revenue and PFC revenue leveraged through the issuance of PFC-backed bonds);
- Airport discretionary funds;
- Bonds
- Customer Facility Charges (if applicable);
- Other debt instruments such as commercial paper; and
- Innovative financing alternatives, such as public-private partnerships and third-party development opportunities.

The CONSULTANT will also assess SAT's ability to generate PFC revenue based on assumptions regarding the timing of PFC approval and revenue per passenger. The CONSULTANT will also evaluate the SAT's ability to increase its leveraging of future PFCs through the issuance of additional PFC-backed bonds. An evaluation of the potential for the receipt of additional AIP grants for the Master Plan projects will be provided. Debt funding capacity will be analyzed to assess the financial feasibility of issuing additional bonds or other debt instruments backed by airport revenues. In addition, the potential for creative financing strategies will be examined, such as third-party development opportunities, for capital projects that could be of interest to private investors and/or developers.

The funding capacity of the near-term CIP projects will be analyzed in more detail than the medium- and long-term costs, due to the uncertainty of future funding and possible changes in the importance and the timing of the medium- and long-term projects.

16.2 COORDINATION WITH AAAC

SAT is currently participating in negotiations with the airlines for a new airline use and lease agreement. The Airport Airlines Affairs Committee is conducting these negotiations. During 2019, monthly meetings of the AAAC are scheduled to support this effort. WSP will attend at least six of these meetings to update the airlines on the progress of the Airport Master Plan, as well as to gain understanding of the terms of the new use and lease agreement, as it will impact the financial feasibility prepared later in this task.

It is assumed that this task will require participation in six meetings with the AAAC for two CONSULTANT team members.

16.3 COORDINATION WITH CITY FINANCE DEPARTMENT

During Phase I of the Airport Master Plan, the CONSULTANT began engaging the City Finance Department relative to analysis that was being completed for the Study. The purpose of this task is to continue those meetings on a regular basis (likely bi-monthly) during Phase II of the Airport Master Plan. Agendas and topics for discussion will be agreed upon by SAAS's Chief Aviation Administration Officer prior to the meetings.

This task will require up to eight meetings with the City Finance Department for one CONSULTANT team member.

16.4 DEVELOP FUNDING/FINANCING PLAN

It is anticipated that funding availability and financial feasibility will be an evaluation criteria used to evaluate alternatives. In addition, as part of Task 14, an implementation plan, along with a funding plan will be developed. This task will be utilized in coordination with those tasks for iterative financial evaluation/funding plan development that will be required for the Phase II of the Airport Master Plan. The primary focus of this task is on financial model creation and modification due to changing assumptions that are occurring as part of Task 13 and Task 14.

A comprehensive financial model to simulate the financial structure and operations of SAT will be developed. The financial model will incorporate SAT's cost/revenue center structure, existing non-airline revenue rate structure (parking rates, terminal concession fees, rental car concession fees, etc.), existing and planned airline rates and charges methodology, current outstanding debt, and other key components of the airport's financial operations. The financial model will be designed to enable the CONSULTANT to prepare financial projections and perform financial sensitivity analyses, as well as test the various iterations for financial feasibility.

16.5 PREPARE FINANCIAL FEASIBILITY ANALYSIS

This task includes the preparation of the financial feasibility analysis and the documentation required as part of the Airport Master Plan for this effort. Utilizing the cost estimates developed during Task 14 for the CIP, as well as the data and reviews of information collected as part of the inventory process, the financial feasibility of the Preferred Alternative of the Airport Master Plan will be determined.

The financial analysis will involve collecting, organizing, and analyzing historical financial data; developing a financial model; identifying funding sources for the Master Plan and ACIP projects; and preparing financial projections. The financial analysis will also include the Existing SAT CIP to determine the financial feasibility of all projects that are contemplated, not just those in the Preferred Alternative.

The development of the financial feasibility plan will be an iterative process. As the alternatives are evaluated in Task 13 and the implementation plan is developed in Task 14, it will be evaluated for financial feasibility and then adjusted so the final alternative is financially feasible.

To prepare the financial feasibility analysis for the Airport Master Plan, the following activities will be undertaken:

- **Collect, Organize, and Analyze Historical Financial Data** – Develop a base of historic and current financial trend data and information on the financial structure and financial position of SAT for use in considering the impact of proposed development recommendations on the overall financial position of the airport.

Historical financial data will be collected from the airport during the development of the financial inventory. This will include, but not be limited to airline revenue, nonairline revenue, operating and maintenance (O&M) expenses, and debt service. Based on the historical data the airport's financial structure and operations will be reviewed. The review will also include an analysis of O&M expenses and revenues by line item and cost/revenue center. Historical financial trends will be summarized and analyzed by revenue and expense categories.

- **Financial Results Presentation** – the CONSULTANT will prepare tables that present projections of revenues, expenses, debt service and overall financial cash flow, including debt service coverage calculations.
-
- **Funding Source Identification/Utilization** – earlier in this task, SAT's capacity for debt funding, and the utilization of other funding sources will be evaluated. The financial feasibility analysis will document that analysis.
- **Prepare Financial Projections/Analyses** – The financial model will be utilized to prepare financial projections. The model will be used to prepare projections of O&M expenses (by category and by cost center), operating revenues (nonairline and airline), non-operating revenues, and annual debt service requirements. Projections of annual cash flow and annual discretionary cash balances, debt service coverage, airline cost per enplanement, and other key financial variables will be prepared.

The financial analysis for the Airport Master Plan will be presented in summary spreadsheets and accompanying text that will describe the analysis, the conclusions, and recommendations. The text will explain the underlying assumptions related to the projections of revenue and O&M expenses, as well as the proposed funding plan for the preferred alternative will be presented, with an analysis of the financial feasibility of that alternative.

Responsibilities:

- **CONSULTANT (WSP):** Attend meetings with City Finance Department and AAAC, develop financial model, prepare analysis, and supervise work of subconsultant Unison
- **SUBCONSULTANT (Unison):** Assist in the development of the funding plan for the Airport Master Plan CIP.
- **SAAS:** Provide data in a timely manner, coordinate meetings as necessary.

Travel:

- Six two-person trips for AAAC Coordination
- Eight one-person trips for City Finance Department Coordination
- Three two-person trips to coordinate delivery of financial analysis and documentation

Deliverable(s): Agendas and presentation materials for City Finance Department and AAAC meetings as needed, one draft and one final financial feasibility study chapter for inclusion in the Airport Master Plan documentation.

17. ALP DEVELOPMENT

The CONSULTANT shall develop the Airport Layout Plan (ALP) and eALP set for the Preferred Development Plan, assist SAAS with implementing the updated CAD/GIS standards, previously developed, and update the FAA AGIS survey and mapping. The specific tasks include:

- Conduct a FAA AC 150/5300-18B aeronautical survey, including airspace for 50-year airfield and update existing AGIS mapping
- Implement the updated CAD/GIS Standards developed under Phase I
- Develop ALP drawing set, per FAA SOP 2.0 including ultimate/50-year airfield for Part 77 protection and separate AGIS sheet
- Develop ALP narrative, per FAA SOP 2.0 and FAA AC 150/5070-6B - Airport Master Plans, change 2.

17.1 FAA AC 150/5300-18B AERONAUTICAL SURVEY

This project is to accomplish an FAA Airport Airspace Analysis Survey for all surfaces defined in FAA Advisory Circular 150/5300 - 18B: Section 2.7.1.1 Runways with vertical guidance. In addition, the CONSULTANT will provide FAR Part 77 Airspace Surfaces obstruction data. The CONSULTANT will provide a spreadsheet identifying the applicable dimensions and slopes for FAR Part 77 Airspace Surfaces.

For this project, Quantum Spatial will acquire new vertical stereo digital imagery at a physical image scale of 1" = 3,750' of the obstruction surface areas and 1" = 694' of the airport property. The aerial imagery will cover all of the VG Airspace Analysis surfaces using a Ultracam Falcon Digital Aerial Mapping System, or comparable, during leaf-on conditions.

Quantum Spatial will be responsible for preparation and submittal of the Statement of Work (SOW), Survey and Quality Control Plan, Imagery Acquisition Plan, Imagery Acquisition Report, Final Project Report and all associated data files as required for submission to the FAA AGIS online database.

The subtasks are listed below with details provided in the Appendix:

- Quality standards per FAA and NGS
- Project area definition
- Control surveying
- Photogrammetric Mapping
- Orthophoto Mapping
- 18B Obstruction Surveys
- Other Obstruction Surveys
- Deliverables

Quantum will also upload acoustically treated properties to AGIS based on SAAS-provided data. In addition, they will develop a plan to identify existing obstructions, such as trees, based on the existing airfield. WSP will propose remediation strategies, such as tree removal.

17.2 IMPLEMENT UPDATED CAD/GIS STANDARDS

The purpose of this task is to implement the CAD/GIS Standards developed under Phase I, to ensure

consistent, repeatable, and predictable application of the CAD/GIS standards. The scope of services for this task includes implementation support, including the following:

- **Process/workflow mapping and analysis:** The process/workflow mapping will leverage information learned from Phase I and define specific procedures at a sufficient level of detail to capture inputs, dependencies, and outputs. The processes/workflows of interest are related to procurement, CAD/GIS development, AGIS reporting, quality assurance and acceptance, data governance, and project design reviews. The CONSULTANT will map out the processes and solicit feedback from SAT staff to ensure accurate representation of current processes/workflows. The processes/workflows will then be analyzed to identify CAD/GIS-related barriers, burdens, and opportunities for improvement.
- **Pilot project design and study:** Piloting the use and compliance of CAD/GIS Standards on a project from initiation to close-out will ensure the continued effectiveness of standards. The design of the pilot project will include defining the framework from which to capture necessary data such as process issues (roadblocks, constraints, etc.), efficiency measures (costs, benefits, etc.), and procurement challenges (contract language, issue resolution, etc.). The CONSULTANT will work closely with SAT staff to select the candidate project and gather the necessary data during the implementation of the CAD/GIS standards.
- **Documentation of findings:** The CONSULTANT will consolidate the results from the previous tasks into a report illustrating the baseline processes/workflows, information learned from the pilot projects, and recommended process/workflow changes. The CONSULTANT will review the changes with SAAS and finalize a list of prioritized changes.
- **Revision of CAD/GIS Standards,** as needed to accommodate lessons learned from pilot projects: The CONSULTANT will coordinate with SAAS to identify what changes need to be incorporated into the CAD/GIS Standards manual and what changes are to be addressed in the process documents.
- **Process/procedure development:** Several specific processes will be developed/documented as part of this phase related to the following: quality assurance surveillance of CAD/GIS development (CAD/GIS submittal reviews, standards audit, evaluations, etc.), CAD/GIS Standards management and maintenance, and master CAD/GIS data management.

17.3 DEVELOP ALP DRAWING SET

The CONSULTANT shall graphically depict on the ALP drawing set the recommended airport development, including the staged improvement of facilities. The CONSULTANT shall prepare the drawings listed in FAA's ARP SOP 2.0 at a level of detail appropriate for a commercial service airport the size and complexity of SAT. The following drawings are anticipated to be prepared:

- Cover Sheet
- Contents and Abbreviations
- Airport Data Sheet
- Existing Airport Layout Plan Drawing
- Proposed Airport Layout Plan Drawing
- Ultimate Airport Layout Plan Drawing (50-year airfield)
- Terminal Area Plan (as needed)
- Existing/Future Runway Declared Distances (if applicable)
- Existing/Future Runway Centerline Profiles
- Airport Airspace Drawing
- Ultimate Airspace Drawing (50-year airfield)

- Inner Portion of the Approach Surface Drawings
- Runway Departure Surface Drawings
- Airport Land Use Drawing(s)
- Airport Land Use Map and Noise Contours, noting Airport is currently zoned Residential.
- Exhibit A, Property Map (in accordance with FAA ARP SOP 3.00) based on existing available data from SAAS and FAA and does not include new surveying. Missing information will be summarized and provided to SAAS.

The CONSULTANT shall prepare the ALP drawing set in compliance with FAA requirements and in accordance with the SAT's updated CAD/GIS standards. The DRAFT ALP set will be submitted to SAAS for review. Upon addressing SAAS comments, the DRAFT ALP set will be submitted to the FAA for review.

17.4 PREPARE FAA EXHIBIT A PROPERTY MAP

This task is in support of the preparation of an FAA Exhibit "A" Airport Property Inventory Map for SAT, consisting of multiple properties associated with approximately 2600 acres of land.

This task includes research of existing public information and information provided by SAAS and FAA, which will be used to update the 1998 Exhibit A, consistent with the FAA ARP SOP 3.00 guidance, up to a level of effort of \$75,000.

17.5 DEVELOP ALP NARRATIVE REPORT

An ALP Narrative Report will be prepared to describe the recommended plan per FAA SOP 2.0 and FAA AC 150/5070-6B - Airport Master Plans, change 2. It will present the information in the ALP drawing set.

Responsibilities:

- **CONSULTANT (WSP):** Lead CAD/GIS standards effort, eALP and ALP development, supervise work of subconsultants.
- **SUBCONSULTANT (Quantum):** AGIS survey, mapping and photogrammetry, existing obstruction identification and upload eALP to AGIS, including acoustically treated parcels.
- **SUBCONSULTANT: (PCI):** Assemble provided data, review and prepare limited Exhibit A Property Map update and related narrative text.
- **SUBCONSULTANT (ESA):** ALP noise contours based on NEM data. Assumes contour sets required for ALP are developed in Tasks 13 or 15. If additional noise modeling is required to reflect changes in assumptions or interim years, additional budget would be required.
- **SAAS:** Communicate feedback to CONSULTANT, as necessary; Provide any rules or policy guidance that may impact implementation (e.g. quality manual, data practices policy, transparency rules, etc.); Review task deliverables within 2-week, provide one set of consolidate comments.

Travel/Meetings:

- WSP: Four three-person, one-day air travel trips to gather information and present results.
- Quantum: Two one-person, one-day air travel trips for kick-off, to gather information, conduct ground surveys and to then present results.

Deliverables:

- Pilot project findings report with recommended process/workflow and standards changes.
- Revised CAD/GIS Standards Manual, one hardcopy and a PDF.
- Process documentation, Level 3 procedures and work instructions, one hardcopy and a PDF.
- Develop web portal strategic framework to leverage the internet as a mechanism to host authoritative consultant resources (CAD/GIS Standards documentation, templates, etc.), facilitate submittals, etc.
- All drawing sheets will be on 30-inch by 42-inch sheets or greater and will be included in a reduced size format within the draft narrative report. Up to seven printed sets and a PDF are included.
- Upload to AGIS in CAD and GIS per FAA/NGS standards, including eALP.

18. ENVIRONMENTAL OVERVIEW

The purpose of this task is to compile an environmental overview of the final airport layout plan. The environmental overview will consist of a summary of existing conditions, a summary of major environmental impacts potentially caused by the final airport layout plan (including permitting and mitigation requirements, where applicable), a summary description of alternatives considered per environmental resource with a potentially major impact, a summary table of proposed projects and corresponding environmental review and permitting requirements, and an anticipated timeline of environmental approval per proposed project within the final airport layout plan.

Documentation and graphics detailing the existing noise exposure conditions. Dwelling units, noise sensitive uses, land uses, population impacts for the existing conditions.

Assumptions:

- No new noise modeling is conducted as part of this analysis.
- No major updates needed.

Responsibilities:

- **CONSULTANT (WSP):** Supervise work of SUBCONSULTANT (PCI).
- **SUBCONSULTANT (PCI):** Environmental overview.
- **SUBCONSULTANT (ESA):** Noise and Noise Compatible Land Use
- **SAAS:** Review environmental overview.

Travel/Meetings:

- PCI: Local travel as required, up to four trips (120 miles).
- WSP: One two-people trip

Deliverables:

- Environmental Overview Technical Report
- Documentation and graphics detailing the existing noise exposure conditions

19.MASTER PLAN DOCUMENTATION

The final documentation task will result in three reports:

- SDP Report
- Master Plan Update Report
- Executive Summary

The following activities are anticipated to produce the SDP Report:

- Prepare an outline of the SDP report for SAAS review
- Prepare a DRAFT report combining the Phase I and II study efforts, upon completion of Tasks 13 through Task 18, based on the outline approved by SAAS
- Submit a PDF of the DRAFT SDP report for review to the ASDC, TAC, FAA, and Airport officials
- Participate in web meeting to discuss comments
- Address comments and revise report accordingly, resulting in the FINAL Phase II Report

The following activities are anticipated to produce the **Master Plan Study Update Report**:

- Combine the Phase I and Phase II Reports, resulting in the DRAFT Master Plan Update Report, including appendices
- Submit a PDF of the DRAFT Master Plan Update Report for review to the ASDC, TAC, FAA, and Airport officials
- Participate in web meeting to discuss comments
- Address comments and revise report accordingly, resulting in the FINAL Master Plan Update Report

The following activities are anticipated to produce the **Master Plan Study Update Executive Summary**:

- Prepare a DRAFT Executive Summary of the FINAL Master Plan Update Report
- Submit a PDF of the DRAFT Master Plan Update Executive Summary for review to the ASDC, TAC, FAA, and Airport officials
- Participate in web meeting to discuss comments
- Address comments and revise report accordingly, resulting in the FINAL Master Plan Update Executive Summary
-

Responsibilities:

- **CONSULTANT (WSP):** Compile deliverables as outlined in this task; Produce paper copies of deliverables.
- **SAAS/FAA/ASDC/Committees:** Review and provide comments to the three DRAFT deliverables.

Meetings:

- Three web meetings with SAAS to review SAAS/FAA/ASDC/TAC comments on each deliverable.

Deliverables:

- Outline of the Phase II Report for SAAS review.
- Electronic PDF of the Draft and Final Phase II report and up to 10 paper copies, if requested.
- Electronic PDF of the Draft and Final Master Plan Study report
- Up to 10 paper copies of the DRAFT and FINAL Master Plan Study report, if requested
- Up to 500 copies of a glossy Master Plan Study Executive Summary, not to exceed two tabloid size sheets printed on both sides.

APPENDIX



April 8, 2019

Mr. Mark A. Kuttrus, AICP
Assistant Vice President, East Coast Aviation Planning
WSP
434 Fayetteville Street
Suite 1500
Raleigh, NC 27601

Project: Aeronautical Obstruction Survey – San Antonio International Airport (SAT)

Dear Mr. Kuttrus,

This summary of work describes our understanding of the scope of work and services required for a Master Plan and aeronautical obstruction survey at the San Antonio International Airport (SAT) located in San Antonio, TX. The project will be done in compliance with AGIS policies and will include an airport airspace analysis for vertically-guided operations for EXISTING Runways 13L/31R, 13R/31L, and 4/22. The Advisory Circulars identified below detail the data collection requirements and accuracies for the project and the verification process by the Federal Aviation Administration (FAA) and the National Geodetic Survey (NGS).

- AC 150/5300-16A “General Guidance and Specifications for Aeronautical Surveys: Establishment of Geodetic Control and Submission to the National Geodetic Survey”
- AC 150/5300-17C, Change 1 “Standards for Using Remote Sensing Technologies in Airport Surveys”
- AC 150/5300-18B, Change 1 “Survey and Data Standards for Submission of Aeronautical Data Using Airports GIS

Summary of Work

We understand that the purpose of this project is to accomplish an FAA Airport Airspace Analysis Survey for all surfaces defined in FAA Advisory Circular 150/5300 - 18B: Section 2.7.1.1 Runways with vertical guidance. In addition, we will provide FAR Part 77 Surface obstruction data. WSP will be required to provide a spreadsheet identifying the applicable dimensions and slopes for FAR Part 77 Surfaces.

For this project, we will acquire new vertical stereo digital imagery at a physical image scale of 1"= 3,750' of the obstruction surface areas and 1"= 694' of the airport property. The aerial imagery will cover all of the VG Airspace Analysis surfaces using a Ultracam Falcon Digital Aerial Mapping System, or comparable, during leaf-on conditions.

From the 1"= 3,750' imagery, we will produce the following:

- Limited landmark feature planimetric mapping
- Color digital orthophotos with a 1.0' pixel resolution
- Identification and mapping of obstruction obstacles for all of the Part 77 and VG surfaces

From the 1"= 694' imagery, we will produce the following:

- **UPDATING** 40 scale mapping with 1' contours of the existing airport property
 - Updating Areas of change as defined by WSP and SAT.
 - AECOM updated in 2017
- Identification and mapping of obstruction obstacles for the VGRPS, VGPCS & VGPS surfaces



Quantum Spatial will be responsible for preparation and submittal of the Statement of Work (SOW), Survey and Quality Control Plan, Imagery Acquisition Plan, Imagery Acquisition Report, Final Project Report and all associated data files as required for submission to the FAA AGIS online database.

Quality Standards

The project has been designed to conform to the National Map Accuracy Standards for 1" = 40' scale planimetric feature collection, one foot contours and three and twelve inch orthophoto production. In addition, we insure that the photogrammetric mapping will meet all FAA and NGS standards. We will exercise reasonable care and will conform to the standards of practice ordinarily used by the photogrammetric profession.

Project Area

The project area encompasses all of San Antonio International Airport (SAT) inclusive of the obstruction surfaces as defined in AC 150/5300-18B.

Control Surveying

The aerial photography will be completed with ABGPS control which will be used for the base control for the geo-referencing of the aerial imagery. Quantum Spatial will process the ABGPS data using COR stations and reference it to the project control datums:

Horizontal: North American Datum of 1983/2011 (NAD 83(2011)), in the TX State Plane Coordinate System, South Central Zone in US survey feet.

Vertical: North American Vertical Datum of 1988 (NAVD 88)

Quantum Spatial will complete all of the remaining on-site ground control surveys, including:

- Geodetic control validation of the existing airport PACS and SACS stations or establish temporary airport control according to the guidelines established in AC 150/5300-16A
- Establishing all necessary photo-identifiable ground control and FAA mandated check-points required to validate the ABGPS and IMU control. Quantum Spatial will provide information on the specific locations of the required control and check points.
- Collection of all the airport runway end positions
- Collection of vertical profiles for all runways
- Collection of the position, elevation, and where required the appropriate navigational aid perpendicular point of all electronic and visual navigational aids (NAVAIDS) located on the airport and associated with any current instrument approach servicing the airport
- Updating Field Attribution in areas of change
- All other tasks, not specifically listed above, as outlined in FAA AC-18B, Table 2-1 "Survey Requirements Matrix for *Airport Layout Plan*."

Photogrammetric Mapping

We will collect the features normally shown on 1"= 40' scale mapping within the mapping limits identified in the RFP (see exhibit).

We will build a digital terrain model (DTM) by collecting masspoints and breaklines. These DTM elements will be used to construct a triangulated irregular network (TIN) surface from which 1' contours will be interpolated. Contours will be dashed in areas where the ground is obscured by trees, dense brush, deep shadows or other obstructing features. Dashed contours indicate a lower level of accuracy. Additional field surveys should be performed in areas of dashed contours prior to design. All contours will be continuous polylines. The final data will be delivered in ESRI Shapefile format (FAA).



Orthophoto Mapping

We will use the control solution and imagery to generate a Digital Elevation Model (DEM) of the VG surfaces. The imagery will be processed into color digital orthophotos using the aforementioned DEM to rectify the images. Orthophotos for the entire project area will be developed with a 1.0' pixel resolution and for the airport property, with a 0.25' pixel resolution. Orthos will be delivered in a GeoTIFF file format.

18B Obstruction Surveys

The Obstructions Surfaces to be uploaded to the AGIS database will satisfy the requirements of AC 150/5300-18B:

- 2.7.1.2 Analysis of EXISTING Runways 13L/31R, 4/22, and 13R/31L with Vertically Guided Operations (Surfaces include the VGRPS, VGPCS, VGAS, VGPS, VGATS, VGHS and VGCS)

The specific types and quantities of obstructions for each surface are outlined and clearly defined for the particular surface in each circular section. Any obstructions that meet the requirement of the circular, but are of a nature that elevations at the highest point of the obstruction are virtually impossible to read through photogrammetric methods (cell tower, electrical tower, etc.), will be identified and relayed to the surveyor to initiate field surveyed elevations for the obstruction.

The obstruction delivery will include the limited landmark planimetric feature collection.

The final data will be uploaded in AGIS in ESRI Shapefile format.

Other Obstruction Surveys

Other obstructions to be provided directly to WSP include:

- Part 77 Analysis of Runway 13R/31L and 4/22 – Precision
- Part 77 Analysis of Runway 13L/31R – Non - Precision

Production Schedule

We will work with you to finalize a mutually agreeable schedule for the project after FAA Control Plan approvals. We will make a reasonable effort to maintain the agreed-upon schedule. However, should the project be interrupted by technical problems beyond our control, including control deficiencies or map file re-deliveries rescheduling may become necessary.

Deliverables

Quantum Spatial will submit all data collected and associated required deliverable in the formats specified in the appropriate advisory circulars to the FAA Office of Airports, Airports Surveying-GIS Program. All data submissions to the FAA will be through the program's web site at <http://airports-gis.faa.gov>.

The AC 150/5300-17C project data deliveries that will not be submitted through the web site will be delivered on external hard drives or DVDs.

The 18B deliverables that will be uploaded to the AGIS website include:

- Statement of Work, Imagery Plan and Survey and Quality Control Plan
- Image Delivery
- Color digital orthophotos
- Digital limited landmark detail outside the airport
- Obstruction survey data for **EXISTING** Runways 13R/31L, 4/22, and 13L/31R



- Planimetric data and one foot contours to 18B specs (Shapefile format)
- Photogrammetrically derived and surveyed attributes in defined format
- Surveyed ends and profile for each runway
- NAVAID data
- FGDC compliant metadata
- Final Report

We will deliver the following items to WSP:

- Topologically structured Planimetric data and one foot contours in Civil 3D format
- Color digital orthophotos with a 1.0' pixel resolution in GeoTIFF (project area)
- Color digital orthophotos with a 0.25' pixel resolution in GeoTIFF (airport property)
- Color digital orthophotos, both resolutions, in MrSID (*if required*)
- 2 color enlargements (30"x40") covering the airport and surrounding area (mounted/laminated/framed)
- Part 77 obstruction survey data for Runways 13R/31L, 4/22, 13L/31R in Microstation/Excel/CSV file format

All digital files will be delivered on external hard drive or CD/DVD.

Cost and Payment Terms

Compensation for the above services will be provided as a lump sum cost.

Client Responsibilities

The successful and timely completion of this project is dependent upon a number of elements and work tasks, some of which involve participation by WSP. You will be responsible for designating a representative for the project who will have the authority to transmit instructions, receive information, and make timely decisions with respect to the services provided by Quantum Spatial.

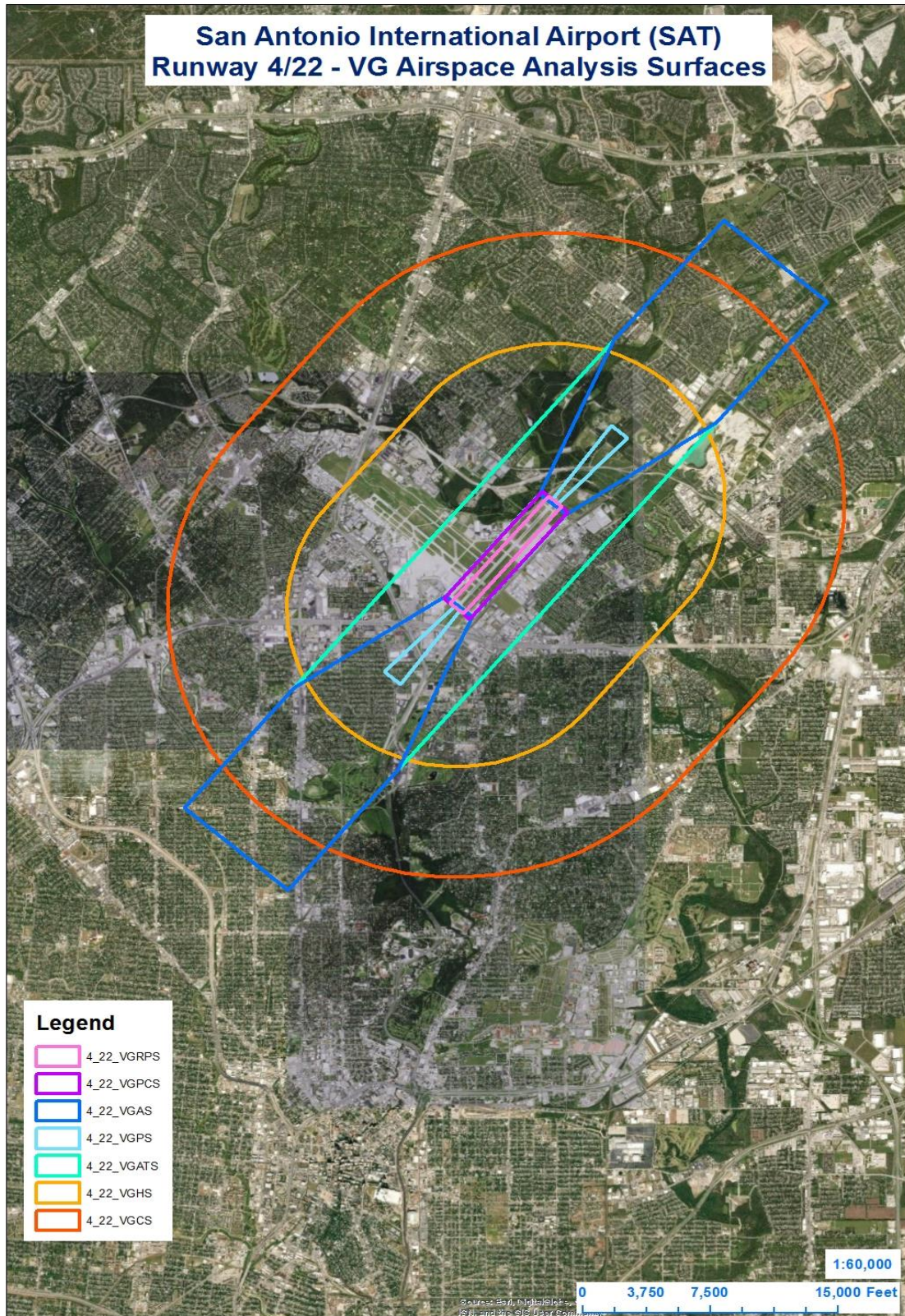
Quantum Spatial Representative

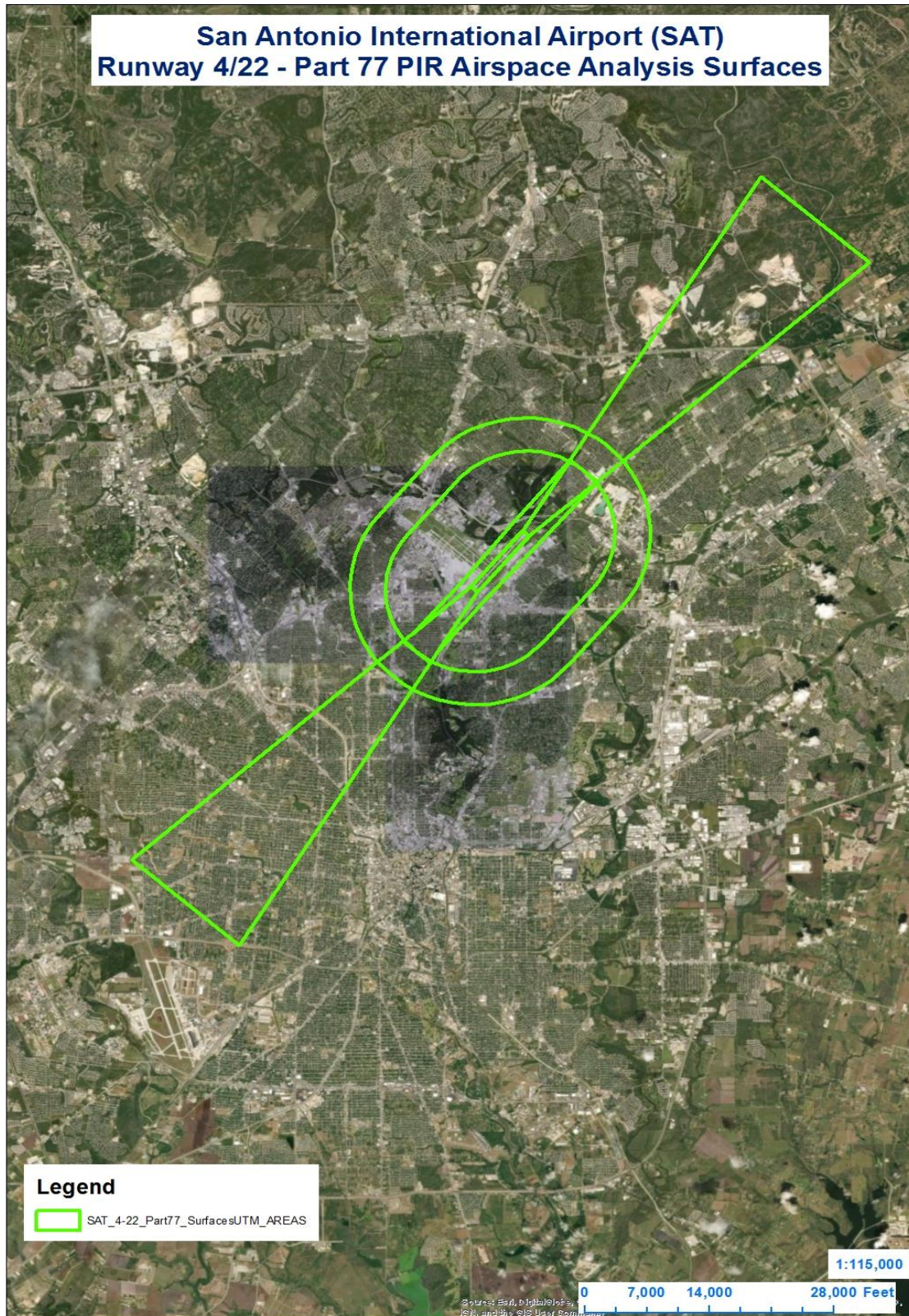
Jill Mahoney, Project Manager and Marlin Zook, Technical Manager, will represent us during the performance of the services to be provided under this agreement. Each has the authority to transmit and receive instructions and make decisions with respect to the services. Each is authorized to commit the necessary resources towards completing the services described herein.

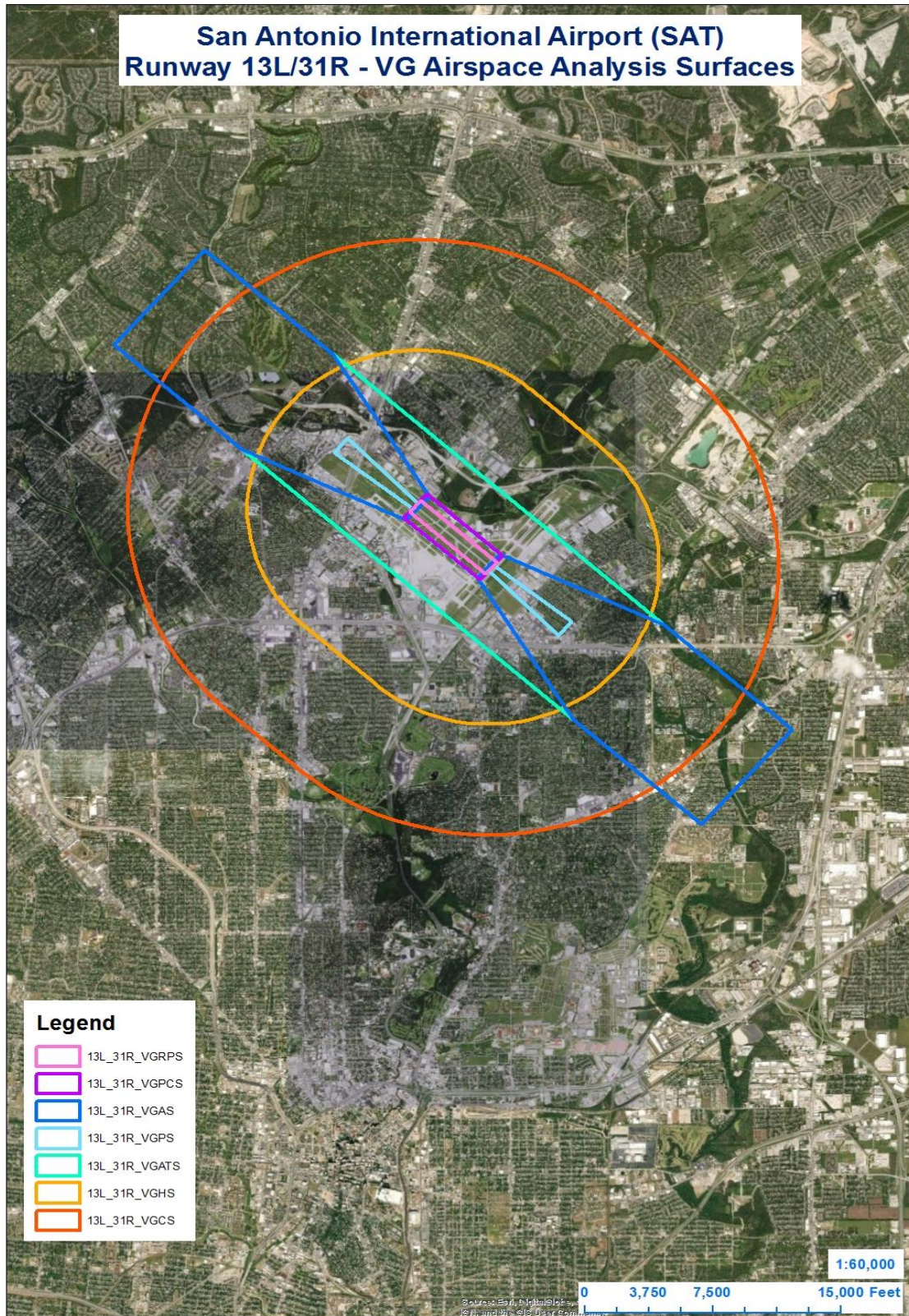
We look forward to working with you and your staff to complete this project in a timely and cost effective manner. Should you have any questions, please call our office at (920) 912-6263 or email me at the address shown below.

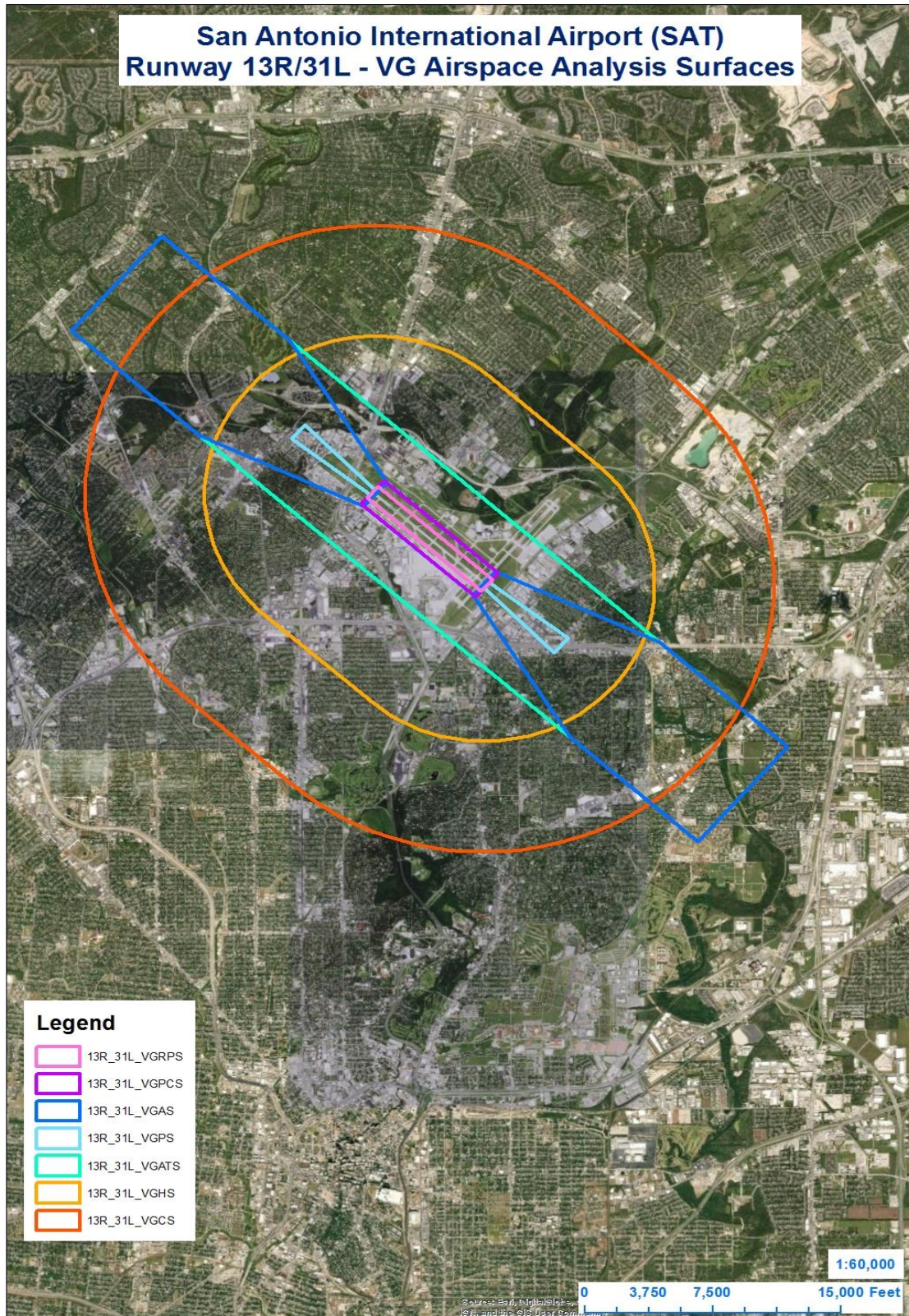
Sincerely,
Quantum Spatial, Inc.

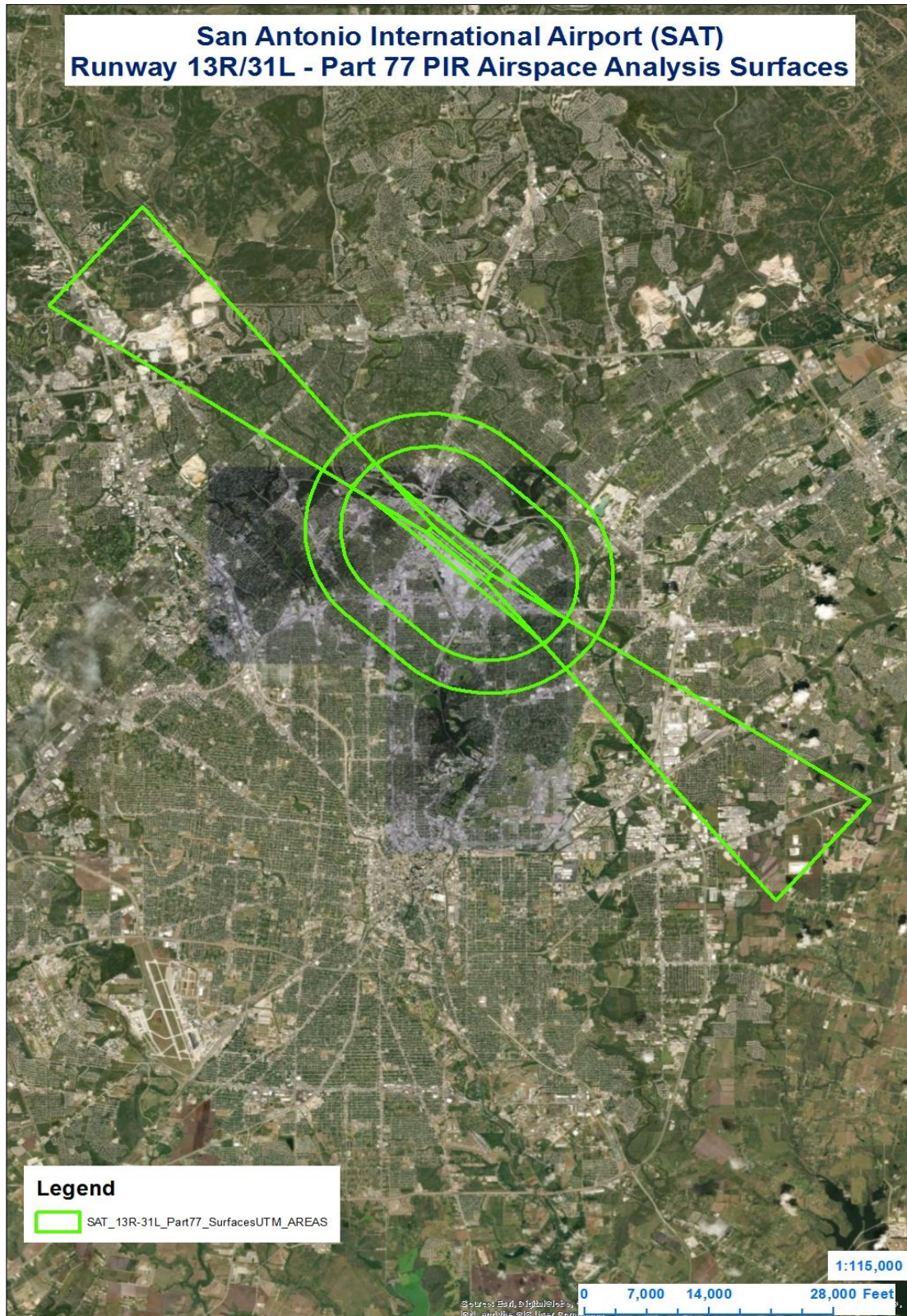
Bob Vander Meer
Vice President
rvandermeer@quantumspatial.com

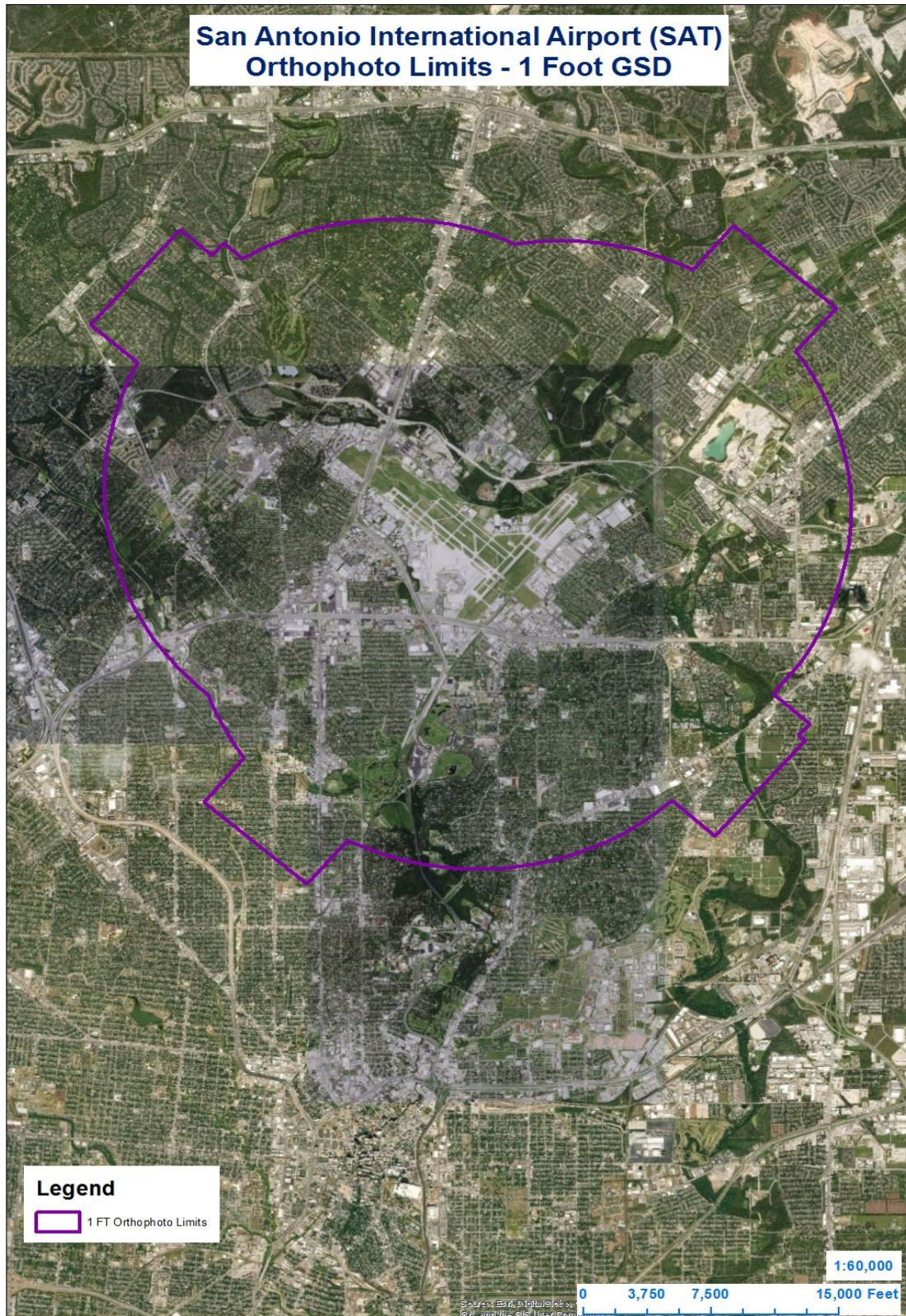




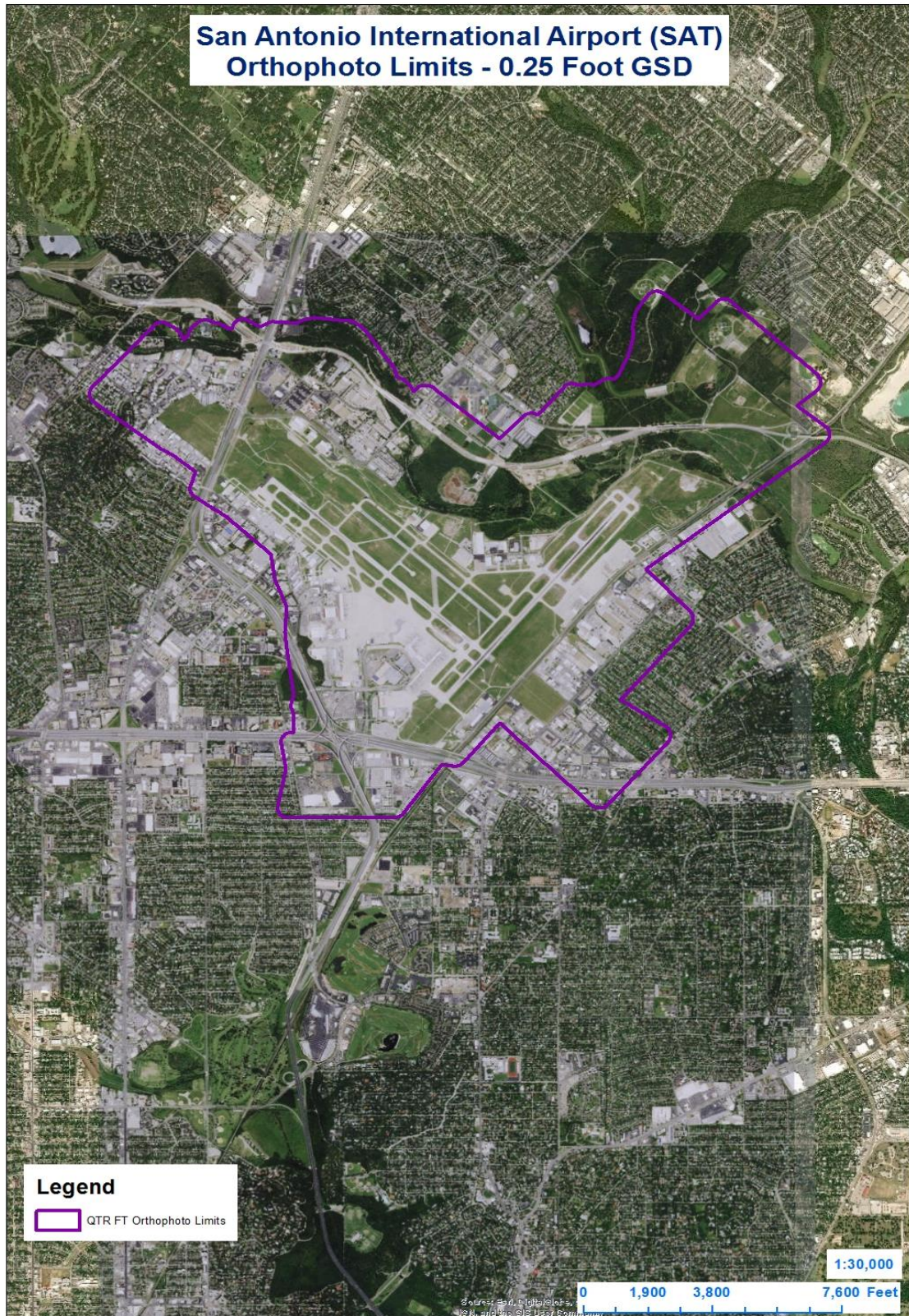












ATTACHMENT 2
FEE SCHEDULE FOR PHASE 2

Amendment 1 - Exhibit 2
Airport Development and Strategic Planning Services
San Antonio International Airport
FEE SUMMARY BY TASK

TASK	Phase I			Phase II			Total		
	Labor	Expenses	Total	Labor	Expenses	Total	Labor	Expenses	Total
Task 1 Stakeholder Engagement	\$591,138.25	\$90,698.00	\$681,836.25	\$696,226.13	\$231,159.44	\$927,385.57	\$1,287,364.38	\$321,857.44	\$1,609,221.82
Task 2 Existing Conditions	982,460.44	169,417.50	\$1,151,877.94	37,281.66	3,600.00	\$40,881.66	\$1,019,742.10	\$173,017.50	\$1,192,759.60
Task 3 Pavement Management Plan	69,736.10	4,000.00	\$73,736.10	0.00	0.00	\$0.00	\$69,736.10	\$4,000.00	\$73,736.10
Task 4 Aviation Demand Forecasts	147,281.69	18,200.00	\$165,481.69	16,629.93	0.00	\$16,629.93	\$163,911.62	\$18,200.00	\$182,111.62
Task 5 Roadway Demand Projections & Needs	172,621.20	3,400.00	\$176,021.20	23,824.29	8,000.00	\$31,824.29	\$196,445.49	\$11,400.00	\$207,845.49
Task 6 2012 Economic Impact Study Update	121,304.49	7,750.00	\$129,054.49	0.00	0.00	\$0.00	\$121,304.49	\$7,750.00	\$129,054.49
Task 7 Facility Requirements	603,381.35	39,650.00	\$643,031.35	29,788.88	0.00	\$29,788.88	\$633,170.23	\$39,650.00	\$672,820.23
Task 8 Life-Cycle Cost/Renewal Replacement Analysis	0.00	0.00	\$0.00	117,000.00	13,000.00	\$130,000.00	\$117,000.00	\$13,000.00	\$130,000.00
Task 9 Prepare Phase I Report	46,023.52	11,800.00	\$57,823.52	18,801.82	0.00	\$18,801.82	\$64,825.34	\$11,800.00	\$76,625.34
Task 10 Project Management	389,850.25	36,000.00	\$425,850.25	368,946.96	112,800.00	\$481,746.96	\$758,797.21	\$148,800.00	\$907,597.21
Task 11 Additional Services (Federally Funded)	95,000.00	5,000.00	\$100,000.00	175,000.00	0.00	\$175,000.00	\$270,000.00	\$5,000.00	\$275,000.00
Task 12 Additional Services (Non-Federally Funded)	0.00	0.00	\$0.00	95,000.00	0.00	\$95,000.00	\$95,000.00	\$0.00	\$95,000.00
Task 13 Alternatives Development & Evaluation	0.00	0.00	\$0.00	1,424,259.13	102,848.00	\$1,527,107.13	\$1,424,259.13	\$102,848.00	\$1,527,107.13
Task 14 Implementation Plan	0.00	0.00	\$0.00	698,207.62	73,633.00	\$771,840.62	\$698,207.62	\$73,633.00	\$771,840.62
Task 15 Noise Exposure Map Update	0.00	0.00	\$0.00			\$0.00	\$0.00	\$0.00	\$0.00
Task 16 Financial Analysis/Coordination	0.00	0.00	\$0.00	219,331.25	33,800.00	\$253,131.25	\$219,331.25	\$33,800.00	\$253,131.25
Task 17 ALP Development	0.00	0.00	\$0.00	389,328.02	30,613.00	\$419,941.02	\$389,328.02	\$30,613.00	\$419,941.02
Task 18 Environmental Overview	0.00	0.00	\$0.00	41,375.49	2,800.00	\$44,175.49	\$41,375.49	\$2,800.00	\$44,175.49
Task 19 Master Plan Documentation	0.00	0.00	\$0.00	91,583.60	18,000.00	\$109,583.60	\$91,583.60	\$18,000.00	\$109,583.60
Org+A1 Total - Strategic Development Plan	\$3,218,797.29	\$385,915.50	\$3,604,712.79	\$4,442,584.78	\$630,253.44	\$5,072,838.22	\$7,661,382.07	\$1,016,168.94	\$8,677,551.01
Org-A2 Total - Noise Exposure Map (NEM) Update	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
TOTAL			\$3,604,712.79			\$5,072,838.22			\$8,677,551.01