EXHIBIT A
AIRPORT MASTER PLAN
SCOPE OF SERVICES
FOR THE
DENTON ENTERPRISE AIRPORT
DENTON, TEXAS

INTRODUCTION

This Airport Master Plan Scope of Services for Denton Enterprise Airport (DTO) is being prepared prior to initiation of the study, to establish the goals of the project and framework from which all parties to the project may participate. The objective of the master plan is to provide the Sponsor (City of Denton) with proper guidance for future development which will satisfy aviation demands and be wholly compatible with the environment. Coordination between the Sponsor, the Federal Aviation Administration (FAA), and other parties with an interest in the airport will be essential to bringing together all facts and data relevant to the project and to developing a mutual agreement regarding future development at the airport. A Planning Advisory Committee (PAC), made up of airport stakeholders, state and federal agencies, and city officials will be established for the study to provide proper direction for the development of the master plan recommendations.

The master plan will align with the following FAA Advisory Circulars and Orders where applicable:

- FAA Order 5090.3C, *Field Formulation of the National Plan of Integrated Airport Systems (NPIAS)*
- FAA Order 5190.6B, *Airport Compliance Manual* with Change 1 published November 22, 2021.
- FAA Order 5100.38D, *Airport Improvement Program (AIP) Handbook*
- FAA Order 5280.5D, *Airport Certification Program Handbook*
- FAA Order 2150.3C, *FAA Compliance and Enforcement Program, Change 7*
- FAA Order 1050.1F, *Environmental Impacts and Procedures*
- FAA Order 5050.4B, *National Environmental Policy Act (NEPA Implementing Instructions for Airport Actions.*
- FAA Order 5090.5 *Formulation of the NPIAS and ACIP*
- FAA AC 150/5070-6B, *Airport Master Plans*
- FAA AC 150/5300-13B, *Airport Design* published March 30, 2022
- FAA AC 150/100-14E, *Architecture, Engineering, and Planning Consultant Services for Airport Grant Projects.*
- FAA AC 150/5190-7, *Minimum Standards for Commercial Aeronautical Activities.*
- FAA AC 150/5100-19D, *Guide for Financial Reports Filed by Airport Sponsors*
- FAA AC 150/5325-4B, *Runway Length Requirements for Airport Design*
- FAA AC 150/5000-17, *Critical Aircraft and Regular Use Determination*
- FAA AC 150/5300-19, *Airport Data and Information Program*

- FAA AC 150/5060-5, *Airport Capacity and Delay*
- FAA AC 120/57A, *Surface Movement Guidance and Control System*
- AC 150/5210-20A, *Ground Vehicle Operations to include Taxiing or Towing an Aircraft on Airports*
- AC 150/5220-20A, *Airport Snow and Ice Control Equipment*
- Draft AC 150/5020-1A, *Noise Control and Compatibility Planning for Airports*
- AC 150/5100-19D, *Guide for Financial Reports Filed by Airport Sponsors*
- AC 150/5300-16B, *General Guidance and Specifications for Aeronautical Surveys: Establishment of Geodetic Control and Submission to the National Geodetic Survey*, updated errata Jan. 6, 2021
- AC 150/5300-17C, *Standards for Using Remote Sensing Technologies in Airport Surveys*
- AC 150/5300-18, *General Guidance and Specifications for Submission of Aeronautical Surveys to NGS: Field Data Collection and Geographic Information System (GIS) Standards*.
- AC 150/5210-15, *Airport Rescue and Firefighting Station Building Design*

Coffman Associates, Inc., will serve as the primary master planning consultant. The following subconsultants will contribute to various elements/tasks as noted in the scope of services below:

- **HubPoint Strategic Advisors** (air cargo feasibility and forecasts)
- **Jordan Aviation Strategies & Ambrogio Consulting Services** (financial analysis)
- **Martinez Geospatial** (airport mapping/survey)

Required and generalized master planning objectives in this Scope will include:

- To research factors likely to affect all air transportation demand segments at DTO over the next twenty years including the development of forecasts of potential commercial service, air cargo, general aviation operational and basing demand.

- To determine projected needs of airport users for the next twenty years, taking into consideration recent revisions to FAA design standards and the airport's conformance requirements, global positioning system (GPS) approaches or other new technology, commercial passenger and cargo trends, and the impact of general aviation fleet transitions on design standards.

- To recommend improvements which will enhance the landside area's ability to satisfy future aviation needs taking into consideration the potential for commercial passenger service, air cargo, advanced air mobility (AAM), and general aviation needs.

- To analyze the existing airfield system to determine the existing and ultimate runway lengths required to satisfy the airport's critical aircraft. This analysis will include future improvements necessary to aid in supporting forecast demand.

- To produce accurate base maps of existing and proposed facilities and updated Airport Layout Plan (ALP) drawings consistent with the FAA's Standard Operating Procedure

(SOP) No. 2.0.

- To review future use and zoning of airport property and approaches to each runway for future protection. This will involve the development of new noise exposure contours.

- Landside development options to maximize revenue streams.

- To establish a schedule of development priorities and a program for improvements proposed in the master plan, consistent with the FAA's capital improvement program planning.

- Consider sustainability efforts, specifically waste and recycling improvements as part of FAA's updated standards.

ELEMENT 1 - STUDY INITIATION AND ORGANIZATION

The purpose of this element is to allow for proper time to manage the project including the project website, project updates with the sponsor, team management, and overall QA/QC.

Task 1.1 Study Design

Description: ln accordance with Federal Aviation Administration guidelines for the preparation of master plans contained in Advisory Circulars 150/5070−6B, *Airport Master Plans,* and 150/5300−13B, *Airport Design*, prepare an outline of the basic elements of the master planning work effort. Identify respective individual work tasks which will be necessary to meet both the requirements set by the FAA and the sponsor for each element of the master plan work scope. Prepare detailed descriptions of each individual work task which describe the specific work effort involved and identify the result or product of the work effort.

Responsibilities:
Consultant: Prepare work scope and budget.
Sponsor: Review work scope and budget.
Product: Work scope and budget.

Task 1.2 Establish Planning Advisory Committee (PAC) and Conduct PAC Kickoff Meeting

Description: Potential members will be identified and asked to serve on a Planning Advisory Committee (PAC) for the master plan. The PAC will be composed of a) representatives of FAA as well as other local, regional, state, or federal agencies; b) airport board, users, and tenants; and c) local community representatives. The PAC, which is a non-voting body, will advise the Consultant on the content and recommendations of the master plan study through meetings and review of working papers.

Upon appointment by the Sponsor of a PAC, provide fifteen (15) standard three−ring notebooks

for distribution to the PAC for their use during the study. A workbook cover will be designed, and the workbook format will be developed with sections for inserting working papers, notes, and other pertinent information. A glossary and list of abbreviations/acronyms will be developed and included as an appendix in the workbook.

The initial, or kickoff meeting, of the PAC will be undertaken during the initial inventory trip by the Consultant. The consultant will also provide the opportunity to conduct an open house public workshop and/or Airport Advisory Board briefing during the inventory trip.

Responsibilities:
Consultant: Design and prepare workbooks for the Committee and attend kickoff meeting.
Sponsor: Distribute invitations and initiation materials to PAC and provide meeting room.
Product: Fifteen (15) study workbooks. Conduct PAC kickoff meeting and public coordination as desired by the Sponsor. A virtual component for the PAC meeting and public coordination may be available, as necessary.

Task 1.3 Develop Project Website

Description: Various project materials will be hosted on a project specific website developed by the Consultant to allow public access to project materials. Materials which would be available on the website could include the presentation boards from the various public information workshops and monthly project status updates. During the planning process, all working draft materials will be available for review on the website. The public will be able to utilize the website to make comments on the contents of the phase reports. All pertinent comments will be included within the Final Master Plan document.

Responsibilities:
Consultant: Develop project specific website. Host the project materials on a project specific website.
Sponsor: Review and provide comment.
Product: Website access to project materials. Encourage use of the website to comment on the draft materials during the planning process.

Tasks 1.4 Project Management

Description: The project management task includes work items required to set up and manage contracts, budgets, and invoicing as well as to provide project management and coordination with DTO, the FAA, and sub-consultants. The project timeline and coordination are anticipated to take place over a period of eighteen (18) months. Project coordination in the form of semi-regular project coordination conference calls/online communication is also included. This task does not include on-site meetings (included in other tasks). This task covers the following types of coordination and project management:

- Set up and prepare project scopes, budgets, contracts with airport/city staff and establish

subconsultant contract agreements.

- Perform monthly budget invoicing and contract management.

- Provide general on-going project coordination with airport/city staff. This task does not include any on-site meetings with staff but could include video, phone, or other distance meeting options.

- Provide general on-going project coordination with and project management of sub-consultants.

Responsibilities:
Consultant: Provide project management for scheduled 18-month schedule.
Sponsor: As necessary aid consultant.
Product: Project management services.

ELEMENT 2 - INVENTORY OF EXISTING CONDITIONS

The purpose of this study element is to assemble and organize relevant information and data pertaining to the airport and the surrounding area. A series of inventory efforts are necessary to collect and organize a variety of specific historical, technical, legal, financial, and planning data as described in the following tasks.

Task 2.1 Inventory Airport Facilities

Description: Perform inventories of physical facilities and existing land uses within the present boundaries of the airport. These inventories will identify and describe existing facilities as to age, type, ownership, and condition, as well as changes to building conditions and uses since the completion of the last master plan, and will include, as a minimum, the following items:

- Airfield: Runways, Taxiways, Aprons, Lighting and Marking, Navigational Aids
- Terminal Area: Terminal building, access and parking
- General Aviation Areas: Square footage of hangars
- Military use areas (as applicable): Ramp, Access and Parking
- FBO/Specialty Operators: Leased Area, Airfield facilities
- Support: Utilities, Fire and Rescue facilities, Fueling facilities, Maintenance areas
- Other areas: Airport tenants including military facilities (as necessary)
- Wildlife Hazards: summarize known wildlife issues
- Additional on−airport and off−airport land uses

In addition, all available plans, specifications, maps, photographs, drawings, and other data, including FAA Master Records (or other records maintained by the FAA), or other reports or studies considered to be relevant, will be obtained for possible use during the study. This task includes an on-site inventory trip to gather data, tour the airport facilities, and to conduct in-

person interviews with airport staff and relevant airport tenants as necessary.

Responsibilities:

Consultant: Conduct a complete inventory of the airport facilities to accumulate pertinent data including an on-site tour of facilities and in-person interviews with airport staff and airport tenants as necessary.

Sponsor: Provide the Consultant access to the airport property and airport records as necessary.

Product: Tabulated airport facilities inventory for input to later tasks, highlighting changed conditions since the last master plan was prepared.

Task 2.2 Inventory Air Traffic Activity and Airspace

Description: A detailed review of available information pertaining to air traffic and passenger/cargo activity at DTO will be performed for the past 20−year period. Data collection will include an inventory count of aircraft based at the airport by aircraft type, enplaning and deplaning passenger data (as available), air cargo (as available) and fuel sales maintained by the airport or fixed base operators. The information will be collected in various formats for forecasting purposes.

Air traffic activity data for the airport will be assembled and organized from various sources such as the FAA's Traffic Flow Management System Count (TFMSC) and GCR's Airport IQ. Relevant data on commercial, air cargo, general aviation (private and corporate), air taxi, and military activity will be collected. Data will be obtained from the Sponsor, the FAA Southwest Region, and Fixed Base Operators (FBOs). The assembled data will include, as available:

a) Historical operations, including local (touch-and-go) and itinerant operational splits.
b) Based aircraft by type, as available.
c) Estimated use (by percentage) of each runway.

Review and perform inventories of airspace and air traffic procedures at the airport. Conduct interviews with airport officials, FAA representatives, pilots, and others as necessary or appropriate to develop a complete description of the existing airspace environment and current airport traffic procedures. Basic inventory items will include:

a) Airport traffic patterns.
b) Approach and departure procedures.
c) Military airspace near the airport.
d) National parks/wilderness areas.

Responsibilities:

Consultant: Assemble data.

Sponsor: Assist Consultant in obtaining available airport records. Assist as necessary.

Product: Input to subsequent tasks.

Task 2.3 Inventory Local Plans, Land Uses, and Demographic Data

Description: Obtain available information concerning local land use, economic development, and environmental plans, and demographic or economic factors which are likely to have a significant impact on the demand for air transportation in the air trade area as well as those factors that involve potential impact characteristics of the airport environs. Key information will include the area−wide composition, characteristics, distribution, and growth patterns of the following:

- Population
- Economic base (business, income, and employment)
- Present and projected land uses
- Existing and planned surface transportation
- Environmental documentation
- Long range transportation plan
- Zoning ordinance(s)
- Height and hazard ordinance/mitigation measures

Responsibilities:
Consultant: Assemble data based on latest information available.
Sponsor: Assist in collection of data.
Product: Input to later analysis.

Task 2.4 Obtain Tabulated Wind Data

Description: The Consultant will obtain the most current ten years of wind data for DTO, from the National Oceanic and Atmospheric Administration, National Climatic Center and/or on−airport weather reporting aids for use in preparing an updated wind rose for the airport layout plan.

Responsibilities:
Consultant: Obtain tabulated wind data.
Sponsor: Coordinate with the Consultant as necessary.
Product: Tabulated wind data for use in preparing an updated wind rose.

Task 2.5 Environmental Inventory

Description: The purpose of this task is to obtain information regarding environmental sensitivities on or near airport property. Sources of information will include past environmental documents, agency maps, existing literature, and relevant internet sources. Examples of information to be gathered includes wetlands, riparian areas, threatened or endangered species, floodplains, cultural resources, air quality, parks and natural resource areas, and prime farmland. Informal consultation with various federal and state agencies will occur only if needed information is not available through resources listed above. The information obtained in this task

is intended to identify any significant environmental resources prior to the alternatives evaluation process to lessen or eliminate environmental requirements for potential project development.

Responsibilities:
Consultant: Assemble data based on latest information available.
Sponsor: Assist in collection of data.
Product: Input into later analysis.

ELEMENT 3 – AVIATION DEMAND FORECASTS

This study element is intended to update the estimate of future levels of air traffic by quantity and by characteristics that will identify the demand that is projected at DTO, and the local socioeconomic characteristics contributed by the local area. The following work tasks will be carried out as part of this element.

Task 3.1 Review Regional Aviation and Socioeconomic Forecasts

Description: Review and analyze current local and regional socioeconomic forecasts obtained in the inventory element. Similarly review the forecasts and assumptions of the aviation forecasts prepared by the FAA for its *Terminal Area Forecasts*. The forecasts prepared for the last master plan, if available, will also be reviewed and analyzed.

Responsibilities:
Consultant: Review all socioeconomic material pertaining to the study and the region.
Sponsor: Assist in identifying potential sources of information and assist Consultant in obtaining identified socioeconomic material.
Product: Forecasts of expected socioeconomic factors and aviation activity at DTO and other regional airports.

Task 3.2 Prepare Aviation Demand Forecasts

Description: Develop aviation demand forecasts using both simple and more complex methodologies, taking into consideration forecasts from other sources such as the FAA. Historical aviation activity statistics for the airport will be organized to evaluate airport peaking characteristics and fleet mix ratios. The methodology used in this analysis will involve a variety of techniques that will factor in national transportation statistics, local socioeconomic factors, as well as the independent airport data. Correlation analysis techniques will include relatively simple graphical comparison, as well as more complex regression analysis.

The forecasts shall result in estimates of aviation demand for five, ten and twenty years including:

- Potential commercial airline passenger enplanements, fleet mix, and operations

- Potential air cargo operations, tonnage, and fleet mix **(primary responsibility for HubPoint Strategic Advisors)**
- Annual volume and mix of aircraft operations
- Air taxi (related to scheduled or non-scheduled operations having fewer than 60 passenger seats
- Based aircraft by aggregate and fleet mix
- Aircraft operations by aggregate, itinerant/local
- Other air taxi to include Part 135 and fractional ownership operations

Peaking characteristics will also be established for use in demand capacity evaluations for the following:

- Potential air carrier enplanements/passengers and operations
- General aviation operations
- Total airport operations

Responsibilities:

Consultant: Prepare aviation demand forecasts for the 20–year planning horizon. **Air cargo activity projections will be the primary responsibility of HubPoint Strategic Advisors.**

Sponsor: Assist Consultant in obtaining available airport records.

Product: Complete incremental forecasts for 5, 10, and 20 years from the base year. These forecasts will be coordinated with the FAA (for their approval) to ensure that the study proceeds based on generally supported assumptions.

Task 3.3 Identify Existing and Future Airport Design Critical Aircraft

Description: Utilizing data provided by the airport and that obtained from FAA database resources, identify the current critical and future aircraft for the airport, per FAA AC 150/5000-17, *Critical Aircraft and Regular Use Determination*. The aircraft identified will be the most demanding aircraft, or family of aircraft, conducting a minimum of 500 annual operations. The analysis will include a projection of aircraft operations by runway design code (RDC) and airport reference code (ARC) to determine future planning design standards.

This analysis will outline the RDC for commercial airline, air cargo, general aviation, and military aircraft. Moreover, the analysis will be considered for each of the airport's runways, as applicable, to determine sufficiency in later tasks.

Responsibilities:

Consultant: Determine current critical aircraft and projection of future critical aircraft by RDC and ARC.

Sponsor: Assist the Consultant in obtaining available airport records.

Product: Determination of existing and future critical aircraft for airfield design. This task will be coordinated with the FAA during the forecast review and approval process.

Task 3.4 Prepare Phase I Report

Description: Upon completion of the work tasks in Elements 2 and 3, working papers comprising the Phase I report will be prepared to outline the analysis, methodologies, and findings of the study efforts. Narrative prepared will highlight the history of the airport, the airport setting, and a definition of the airport's role in the state and national airport system, study process, goals and objectives, and methodology a well as an updated aviation demand forecasting chapter. A glossary and list of acronyms/abbreviations will be prepared and summarized in an appendix. Up to fifteen (15) hard copies and electronic (PDF) versions of the report will be submitted for review by the PAC, FAA, and Sponsor officials.

THIS TASK ALSO INCLUDES TIME REQUIRED TO COORDINATE, MAKE CHANGES, AND/OR MODIFY FINDINGS IN TASKS 3.2 AND/OR 3.3 BASED ON FAA REVIEW, COMMENT, AND APPROVALS.

Responsibilities:
Consultant: Develop complete narrative and graphics for the Phase I report. Responsible for the distribution of the Phase I report to the PAC, FAA, and Sponsor staff.
Sponsor: Review and comment.
Product: Up to Fifteen (15) hard copies of the Phase I report and electronic (PDF) versions of the report. The chapters comprising Phase I will also be posted to the project website.

Task 3.5 Conduct Planning Advisory Committee Meeting No. 2 and Public Workshop No.1

Description: Prepare graphic display and/or handout information necessary to adequately explain Phase I report which will include:

- Study Introduction
- Inventory (Element 2)
- Aviation Demand Forecasts (Task 3.1-3.4)

Meet with the PAC to review the Phase I report, as well as to review the project schedule, progress, and subsequent work efforts. This task will include holding an open−house style format public information workshop the evening of PAC meeting, if requested and desired by airport/city staff. The workshop will allow for interested public entities to review project materials and interact with the consultant.

Responsibilities:
Consultant: Provide presentation material and necessary graphics for the meeting. Also provide documentation allowing for the sponsor to publish notice of public meeting.
Sponsor: Distribute meeting notices and arrange for meeting room.
Product: Conduct second PAC meeting and first public workshop for master plan study. A virtual component for the PAC meeting and public coordination may be available, as necessary.

Task 3.6 Conduct Phase I City Council Meeting

Description: Provide a project update and presentation of the Phase I materials to City Council. A decision tree will be presented with options to move forward with commercial passenger air service facility requirements and alternatives, as an optional element (**see Element 11**). If City Council chooses not to pursue commercial passenger air service, facility requirements and alternatives for a new passenger terminal facility and its support facilities will be excluded from the remainder of the study.

Responsibilities:
Consultant: Provide presentation materials for the City Council meeting.
Sponsor: Coordinate the inclusion of the presentation on the City Council agenda.
Product: Presentation of Phase I materials to City Council.

ELEMENT 4 – FACILITY REQUIREMENTS

The purpose of this study element is to determine available capacities of various facilities at DTO, their conformance or non−conformance with FAA standards, and identify the facilities that will be needed to meet compliance requirements or projected demand over the next twenty years.

Task 4.1 Establish Physical Planning Criteria

Description: Identify physical facility planning criteria for use in assessing the adequacy of various airport facilities to meet forecast demands. These criteria shall be based upon the latest FAA requirements and standards as they apply to the level of activity identified, new technology, and role of the airport. These criteria shall include dimensional standards for safety including runway length, runway separation, height restrictions, etc. In addition, these criteria shall include requirements to maintain airspace/air traffic control including approach and runway protection zones, safety areas, and other general physical area requirements such as apron, terminal/operations, access circulation and parking, hangars and services, administrative, ARFF, and other airport service and support facilities.

Responsibilities:
Consultant: Develop physical planning criteria.
Sponsor: Review.
Product: Detailed criteria for airport physical planning.

Task 4.2 Determine Airfield Capacity and Delay

Description: Using the FAA's airfield capacity/delay model, estimate current and future levels of airfield capacity (annual service volume) and delay for DTO. These analyses will be based on the existing airfield configuration, aviation demand forecasts, and an analysis of airspace capacity potentials and constraints, and will involve the investigation of management and operational

procedures to optimize the use of the total airside (runway, taxiway, and apron).

The analysis in this task will determine if aviation demand factors generate a capacity rationale for runway eligibility.

Responsibilities:
Consultant: Estimate airfield capacity and delay utilizing FAA guidance.
Sponsor: Review and comment.
Product: Detailed description the airport annual service volume for the current, 5, 10, and 20−year time frames.

Task 4.3 Prepare Airfield Facility Requirements

Description: Using the results of the forecasts (Element 3), as well as relevant information from other tasks, determine and prepare a list of facility requirements needed to meet projected demands for the airport for existing, short term (1-5 years), intermediate term (6-10 years), and long term (11-20 years) time frames. These facility requirements will be used in the later comparative evaluations and will be based upon both the airport physical planning criteria and the aviation forecasts.

Facility requirements to meet aviation demand for the airfield will include (but not be limited to) runways, taxiways, lighting, navigational aids, and marking and signage. These facility requirements will be developed in the form of gross areas and basic units and will be compared to those that presently exist to identify the future development items needed to maintain adequate service, function, and operations of the airport. In addition, airfield design standards deficiencies will be identified, and corrective actions evaluated and recommended. In subsequent tasks, the above facility requirements will be translated into alternative plans for further evaluation in relation to established planning criteria.

Specifically, these tasks will be performed:

- Runway 18L-36R pavement length, width, and strength needs based on the established existing and ultimate critical design aircraft
- Runway 18R-36L pavement length, width, and strength needs based on the established existing and ultimate critical design aircraft
- Airfield geometry issue identification(s) to include taxiways and apron direct access issues which may exist.
- Airspace obstruction and/or RPZ incompatibility analyses

Responsibilities:
Consultant: Identify specific airfield facility needs, offer runway pavement minimum justification(s), and outline nonstandard airfield geometry.
Sponsor: Review.
Product: Detailed description of all airfield facilities required to meet aviation demands at

the airport through the 20-year planning period.

Task 4.4 Prepare Landside Facility Requirements

Description: Using information provided by the aviation planning criteria established under preceding tasks, develop a set of facility requirements addressing the landside facilities necessary to support the airfield and its related activity.

This work effort will outline cargo facility needs, as applicable based on the findings of projected cargo demands at DTO **(with input from HubPoint Strategic Advisors)**.

General aviation requirements will determine best location for the next generation of facilities at DTO. This work effort will outline the general spacing requirements for use in determining long term locations to be conducted in the alternatives chapter.

Requirements for facilities such as fuel/fuel farm areas, ARFF, airport maintenance, and automobile parking lots (public and rental cars) will be developed under this task. Additionally, an evaluation of the potential for an on-site U.S. Customs facility will be conducted.

Responsibilities:
Consultant: Identify specific landside area facility needs.
Sponsor: Review.
Product: Detailed description of facility requirements necessary for landside development to support forecast aviation demand through the 20-year planning period.

ELEMENT 5 – AIRPORT DEVELOPMENT ALTERNATIVES

The purpose of this study element is to develop those airport development alternatives that appear most feasible and evaluate them to determine the most prudent and feasible alternative concept available for the airport.

Task 5.1 Establish Alternative Development Issues

Description: Based upon the results of the facility requirements necessary to meet projected demand, identify those issues which will impact the development of alternatives for the various functional areas of the airport. This task will provide insights into the potentials for and policies constraining the development of specific land uses within the existing or future airport boundaries, including those areas which are unconstrained and meet current functional potential, thereby requiring no additional development.

Responsibilities:
Consultant: Establish alternative development issues.
Sponsor: Review and comment.
Product: Alternative development issues.

Task 5.2 Evaluate Potential Airside Alternatives

Description: The airside facility requirements developed in the previous evaluations will be translated into a series of alternative plans for comparative evaluation in relation to the established planning criteria. The analysis will address a maximum of three possible airfield alternatives (in addition to the "do nothing"). The alternatives with greatest potential for meeting airside demand in the most prudent order will be evaluated.

Responsibilities:
Consultant: Development of airside development alternatives.
Sponsor: Review.
Product: A series of development options, each of which will attempt to meet the forecast airfield facility demands as well as FAA airfield criteria.

Task 5.3 Identify Potential Landside Alternatives

Description: Based on the facility requirements determined under the previous element, formulate preliminary development alternatives. These alternatives will be based on concepts for development within or beyond existing airport boundaries which show all necessary development during the planning period and beyond. This task will be conducted simultaneously with other tasks in this element and result in a series of overall development options for the airport.

Specific landside alternative issues to examine will include:

- Commercial air cargo facility development siting options.
- General aviation development opportunities. The analysis of conceptual general aviation building site locations and design considerations at DTO to include specific airside master plan development designs for conformance with industry best practices needs and demand.
- Siting options for U.S. Customs facility.
- Non-aviation land development options for potential land use release

Responsibilities:
Consultant: Develop up to three (3) landside development options, one being the "no-build" concept alternative.
Sponsor: Review.
Product: A series of landside alternatives which fulfill the facility requirements to meet forecast demand levels.

Task 5.4 Prepare Phase II Report

Description: Upon completion of the work tasks in Elements 4 and 5, a report will be prepared to outline the analysis, methodologies, and findings of the study efforts. Narrative prepared as part of this Element will include detailed facility requirements and alternative concepts. Up to fifteen (15) hard copies and electronic (PDF) versions of the report will be submitted for review by the PAC, FAA, and Sponsor officials.

Responsibilities:

Consultant: Develop complete narrative and graphics for the Phase II report. Responsible for the distribution of the Phase II report to the PAC, FAA, and Sponsor staff.

Sponsor: Review and comment.

Product: Up to Fifteen (15) hard copies of the Phase II report and electronic (PDF) versions of the report.

Task 5.5 Conduct Planning Advisory Committee Meeting No. 3 and Public Workshop No.2

Description: Prepare graphic display and/or handout information necessary to adequately explain Phase II report. Meet with the PAC to review the Phase II report, as well as to review the project schedule, progress, and subsequent work efforts. This task will include holding an open−house style format public information workshop the evening of PAC meeting. The workshop will allow for interested public entities to review project materials and interact with the consultant.

Responsibilities:

Consultant: Provide presentation material and necessary graphics for the meeting. Also provide documentation allowing for the sponsor to publish notice of public meeting.

Sponsor: Distribute meeting notices and arrange for meeting room.

Product: Conduct second PAC meeting for Master Plan study. A virtual component for the PAC meeting and public coordination may be available, as necessary.

ELEMENT 6 – RECOMMENDED MASTER PLAN CONCEPT

The purpose of this study element is to establish a capital implementation program to provide the airport development requirements necessary to meet aviation activity demands during the forecast period.

Task 6.1 Recommended Master Plan Concept

Description: Based on the information developed in the airport alternatives element as well as comments provided by airport staff, PAC members, and the general public, a single recommended master plan concept for development of the airport facilities will be prepared. The recommendation for the most prudent and feasible master plan concept will become the

basis for the development of airport plans, costs, and scheduling.

Responsibilities:
Consultant: Develop a refined Master Plan concept for review by the Sponsor, PAC and other interested parties.
Sponsor: Review.
Product: A recommended master plan concept.

Task 6.2 Prepare Aircraft Noise Exposure Contours

Description: Compile computer batch files for development of existing and future noise exposure contours using FAA's Airport Environmental Design Tool (AEDT) Provide computer plot of 65 DNL and higher contours, at 5 DNL increments, and areas (in square miles and acres) within each contour. Lt is envisioned that two computer modeling runs will be developed – one for existing conditions and one for future conditions. The noise contours will be plotted on base maps utilizing aerial photography, if available, and/or best available mapping. No population impact counts will be developed under the task. Information on forecast operations will be obtained from the forecast analysis in the master plan. Information on traffic patterns and runway utilization rates will be reviewed with the airport sponsor. The results of the analysis will be included in the airport plans/land use compatibility working paper. Digital copies of the AEDT analysis can be provided to the sponsor at the conclusion of the analysis, if requested.

Responsibilities:
Consultant: Develop existing and future noise exposure contours.
Sponsor: Review traffic pattern and runway utilization assumptions.
Product: Existing and future noise exposure contours for the airport.

Task 6.3 Land Use Controls and Plans

Description: Review and summarize existing zoning ordinances, subdivision regulations, building codes, and land use and transportation plans, and land use management documentation in the study area. Prepare tables and exhibits of the zoning, future land planning designation, and improvements.

Responsibilities:
Consultant: Review reports and documents from area planning agencies and prepare summary tables and exhibits.
Sponsor: Review.
Product: Tables and exhibits for analysis in later tasks.

Task 6.4 Non-compatible Development Analysis

Description: Based on information collected in Task 6.3, areas with the greatest potential for non−compatible development when compared to updated noise exposure contours and Part 77

approach surfaces will be identified. It is anticipated that this area will not extend beyond one mile from each runway end. Additionally, land use control inconsistencies will be identified. Growth−risk areas will be categorized by type of land use.

Responsibilities:
Consultant: Responsible for this task.
Sponsor: Review.
Product: Growth risk analysis including mapping of non−compatible growth areas.

Task 6.5 Land Use Management Techniques

Description: ldentify various land use management techniques that could be applied in the airport vicinity. These techniques may include, but not necessarily be limited to changes in existing zoning districts, creation of new zoning classifications, modification of other development regulations and building codes, property and easement acquisition, and other mitigation measures.

Responsibilities:
Consultant: Responsible for this task.
Sponsor: Review.
Product: A list of recommended land use management techniques that may be effective in promoting land use compatibility.

Task 6.6 Environmental Overview (NEPA)

Description: The purpose of this task is to identify potential environmental issues associated with the airport development alternatives and recommended development concept, including mitigation measures that may be needed for proposed projects.

Once a recommended master plan concept has been developed, a preliminary environmental overview will be conducted using the information collected to identify any potential environmental concerns that must be addressed prior to program implementation. This evaluation will be structured in a table format and will include an analysis of potential impacts on environmental resources as defined within FAA's Order 1050.1F and its accompanying Desk Reference. Projects which may require further NEPA analysis (i.e., Environmental Assessment or Environmental Impact Statement) will be identified. This evaluation is not intended to serve as a formal Environmental Assessment under NEPA.

Responsibilities:
Consultant: Assemble data based on latest information available.
Sponsor: Assist in collection of data.
Product: Input to later analysis.

Task 6.7 Recycling Plan

Description: The FAA Modernization and Reform Act of 2012 includes a new requirement for Airport Master Plans to address recycling by:

- Evaluating the feasibility of solid waste recycling,
- Minimizing the generation of waste,
- Identifying operations & maintenance requirements,
- Reviewing of waste management contracts, and
- Identifying the potential for cost savings or revenue generation.

To develop a recycling plan that meets this FAA requirement, the Consultant will align with the following guidance (as applicable):

- Reauthorization Program Guidance Letters (R-PGL) 19-02, *Planning and Project Eligibility,* Section 148(a)(1-2) *Recycling Plans*
- FAA Memorandum *Guidance on Airport Recycling, Reuse, and Waste Reduction Plans.*
- FAA Modernization and Reform Act of 2012 (49 U.S.C. 47102(5) and 47106(a)
- FAA Synthesis Document: Recycling, Reuse, and Waste Reduction Plans at Airports

The Consultant will do the following:

Collect baseline information on the airport's waste management program. Meet with DTO staff to understand how waste is managed at the airport and what current education efforts for passengers, employees, contractors, and tenants are already in place. In addition, collect information such as waste collection contracts, monthly waste/recycling invoices, and the waste-related costs for waste and recycling (containers, hauling, disposal, and labor).

Assess existing waste management program. To understand the sources, composition, and quantities of waste generated at the airport, conduct a facility walk-through, and an examination of monthly waste/recycling invoices.

Assess opportunities for expansion of recycling program. Review current waste collection contracts and conduct research on current market conditions to determine whether there are any logistical limitations to expanding the recycling program.

Develop recommendations for improving the recycling program. Based on the above assessment of the airport's waste and recycling program, develop recommendations for improving the airport's recycling program as well as minimizing waste generated at the airport. Recommendations will include identification of potential cost savings or revenue generation.

Responsibilities:
Consultant: Develop Recycling Plan
Sponsor: Assist in collection of data

Product: Recycling Plan

ELEMENT 7 – FINANCIAL MANAGEMENT AND DEVELOPMENT PROGRAM

The purpose of this element is to analyze benefits and costs that may be associated with the recommended plan as well as determine and set out the assumptions, terms, and conditions by which agreed−upon capital improvement programs can be financially implemented for the airport.

Task 7.1 Prepare Airport Development Schedules and Cost Estimates

Description: Prepare the airport development schedules and cost estimates (in current dollars) for the selected master plan concept for DTO, thereby ensuring that logical staging of improvements are given proper consideration in the development of a financial plan and capital improvement program. Items that are eligible for funding under the Airport Improvement Program will be identified in accordance with FAA Order 5100.38D, *Airport Improvement Program (AIP) Handbook*.

Responsibilities:
Consultant: Prepare an airport development schedule and estimated costs.
Sponsor: Review.
Product: Development schedules and cost for the improvements proposed as a part of the selected master plan concepts.

Task 7.2 Prepare Capital Program and Financial Plan

Description: Develop a recommended 20−year airport capital improvement program and a condensed financial plan suitable for DTO. The airport capital improvement program will identify individual projects for each year through the first five years of the plan, then prioritize projects through the intermediate (6−10 year) and long term (11−20 year) periods.

This task will be assisted by Jordan Aviation Strategies and Ambrogio Consulting Services.

Responsibilities:
Consultant: Develop a detailed capital program.
Sponsor: Provide review and input.
Product: Capital program for the 20−year planning period.

Task 7.3 Perform Financial Analysis

Description: The financial plan of the master plan presents the financial assumptions which will ultimately impact facility and funding requirements. Initial assumptions and project objectives are revised to reflect changes in activity forecasts and collateral development alternatives. Elements to be refined include the types of facilities to be built or rehabilitated, the total costs of

these facilities, the timing of cash flows associated with the construction of planned facilities, and financing sources and terms.

The estimated demand on operating revenues and the impact on tenant rates and charges will be identified and analyzed and recommended strategies for completing and funding the proposed projects will be presented. The preferred alternative will reflect a financial management structure in combination with a physical plan which accomplishes DTO's objectives for strategic growth, economic development, air and ground transportation services, and environmental mitigation.

The following components of the financial analysis will be conducted:

- Sources and uses of funds analysis – Reviewing design cost and phasing to determine the various sources of funding for the recommendations including any portion that must be financed through bonds.

- Debt service analysis – Determining the par amounts required for construction and or refinancing; calculation of required reserve funds, capitalized interest, and debt service coverage per the bond resolution.

- Revenue forecasting analysis – Projecting amount and timing of additional revenues from increased facilities and from activity forecasts, as well as reviewing concession tenant leases to determine if rates can be increased during the projection period.

- Operating expense projections – Analyzing historical trends and the impact of new facilities on projections.

- Cash flow analysis – Calculating net revenue projections, including the effects of economic and financial constraints on project viability.

This task will be the primary work effort to be completed by Jordan Aviation Strategies and Ambrogio Consulting Services.

Responsibilities:

Consultant:	Prepare a financial analysis.
Sponsor:	Provide information on lease income and review analysis.
Product:	Financial analysis to be used in the preparation of the capital improvement program.

Task 7.4 Prepare Phase III Report

Description: Upon completion of the work tasks in Element 6 and 7, a report will be prepared to outline the analysis, methodologies, and findings of Elements 6 and 7. Up to fifteen (15) hard copies and electronic (PDF) versions of the report will be submitted for review by the PAC, FAA, and Sponsor officials.

Responsibilities:
Consultant: Develop complete narrative and graphics for the Phase III report. Responsible for the distribution of the Phase III report to the PAC, FAA, and Sponsor.
Sponsor: Review and comment.
Product: Up to fifteen (15) hard copies of the Phase III report and electronic (PDF) versions of the report. The chapters will be published on the project website.

Task 7.5 Conduct Planning Advisory Committee Meeting No. 4 and Public Information Workshop No. 3

Description: Prepare graphic display and/or handout information necessary to adequately explain the Phase III report. Meet with the PAC to review the Phase III report, as well as to review the project schedule, progress, and subsequent work efforts. This task will include holding an open−house style format public information workshop the evening of PAC meeting. The workshop will allow for interested public entities to review project materials and interact with the consultant.

Responsibilities:
Consultant: Provide presentation and necessary graphics at the meeting.
Sponsor: Distribute meeting notices and arrange for meeting room.
Product: PAC and public workshop meetings for master plan study. A virtual component for the PAC meeting and public coordination may be available, as necessary.

ELEMENT 8 – GEOGRAPHICAL INFORMATION SYSTEM (GIS) AND DATA COLLECTION SERVICES

Data collection for the airport will be conducted to comply with table 2-1 of Advisory Circular 150/5300-18B, column Airport Layout Plan for ADIP submission and used for development of the Airport Layout Plan set defined in Element 10. The process includes collection of high-resolution aerial photography, high precision surveys of safety critical airport data, (runway ends, NAVAIDS, airport elevation, airspace, obstructions and others), and additional feature collection such as pavement areas, paint markings, and fencing used to describe the airport. The objective of this element is for the Consultant to provide the sponsor with a digital dataset of the airport and its surrounding environment in conformance with current Federal Aviation Administration (FAA) standards set forth in the Advisory Circulars 150/5300- 13A, -16B, -17C, and -18B. To provide an updated aerial image, and to conduct airspace analysis for the appropriate 18B and Part 77 surfaces. The data collected in this element will be used for ALP development and submission

into the ADIP portal. This will be a complete data collection of the airport environment.

Task 8.1 FAA AIRPORTS-GIS

Description: Table 2-1 of Advisory Circular 150/5300-18B, column Airport Layout Plan will guide the collection of data for the Airports-GIS portion of the project. The dataset is a high precision, digital model of the features of the airport as defined in 18B table 4-1 for Airport Layout Plans. This task includes working with the sponsor to create the project in the ADIP system, submitting and gaining approval of the SOW and all other necessary plans required by ADIP. Next is to collect and format the data, then submit the data and final report to the ADIP site and gain FAA Approval. Compliance with current Federal Aviation Administration (FAA) standards set forth in the Advisory Circulars 150/5300- 16B, -17C, and -18B will be adhered to.

Responsibilities:

Consultant: Ensure FAA and airport standards are met for all survey activity on and off airport and aerial photography acquisition. Provide oversight and review as needed. ***Martinez Geospatial will be responsible for performing the airspace analysis, conducting the ground survey, providing current orthophotography, and assisting in development of a GIS dataset that is acceptable to the FAA.***

Sponsor: Liaison with survey team to provide access to airport property. Assist in providing any needed information to survey and aerial photography teams. Direct consultants as required to any safety or operational requirements for survey and aerial photography team.

Product: Approved FAA Airports-GIS Airspace project.

Task 8.2 – ALP DATA COLLECTION AND PART 77 AIRSPACE ANALYSES

Description: This task utilizes the safety critical data collected in task 8.1 and adds to it those features required to complete the Airport Layout Plan per the SOP 2.0 checklist. This includes, but is not limited to, additional features such as paint markings, fencing, and pavement boundaries. It also includes obstacle collection so that Part 77 airspace analysis can be conducted on the future condition of the airport as a result of the planning effort.

If any obstacles are found to penetrate the obstruction standard surfaces or VFR traffic pattern surfaces, and no previous study has been done on the obstacle, then the obstacle will need to be submitted for airspace evaluation (via OEAAA) and the mitigation and aeronautical study number included in the obstacle data tables on this and the inner approach surface drawings.

It is assumed that OEAAA will involve up to three days of data entry and follow-up.

Responsibilities:

Consultant: Provide oversight and review as needed. ***Martinez Geospatial will be responsible for performing the airspace analysis and providing planimetric data.*** Coffman Associates will add to data collection as needed to comply with FAA regulations.

Sponsor: Assist project team in collection of attribution of data. Work with planning team to establish future condition. Review drawings and data.
Product: First phase provides topographic and planimetric data. Second phase provides obstruction analyses.

ELEMENT 9 – AIRPORT PLANS

The purpose of this study element is to prepare a new Airport Layout Plan (ALP) set for DTO. All plans will be prepared in a format which complies with the content contained within FAA's current guidelines for the preparation of an airport layout plan as defined by the FAA Airports ARP SOP 2.00 *Standard Procedure for FAA Review and Approval of Airport Layout Plans (October 1, 2013)*, and which is readily acceptable to the FAA and can be utilized by the Sponsor in carrying out implementation. All plans will be produced digitally using the data collected in element 8 and any additional data the sponsor may have or want to include. Element 8 collects all new airport data. The digital plans and PDF files of each sheet will be a deliverable item to the Sponsor at the completion of this project in CAD or GIS format at the sponsors discretion. The ALP will be included as an appendix in the draft master plan documents. A narrative will also be included in the appendix to better describe the intended functions of the proposed development items.

Task 9.1 Airport Layout Plan Drawing

Description: Following the recommended airport master plan concept developed under the preceding elements and FAA AC 150/5070-6B, an ALP drawing for the airport will be prepared. The ALP will reflect updated physical features, location of airfield facilities (runways, taxiways, navigational aids), and existing landside development. Development of recommended landside and airfield facilities, including runways and taxiways; property and runway protection zone boundaries; and revenue support areas will also be shown. Guidelines for the preparation of an airport layout plan as defined by the FAA Airports ARP SOP 2.00 *Standard Procedure for FAA Review and Approval of Airport Layout Plans (October 1, 2013)* will be followed. A Title Sheet and Airport Data Sheet will also be prepared and included with the full Airport Layout Plan set.

Responsibilities:
Consultant: Prepare a new ALP for the airport.
Sponsor: Review and comment.
Product: A new ALP drawing for the airport which meets federal guidelines.

Task 9.2 Terminal Area Drawing(s)

Description: Prepare Terminal Area Drawing(s) reflecting development resulting from the recommendations of this study. Depending on the future recommended development for the general aviation areas, more than one drawing may be required to adequately reflect the detail of development within the area. The drawing(s) will include detailed planning level information

such as access taxiways, apron areas, hangar layouts, aircraft tie-down areas, customer and employee parking areas, and vehicular circulation and access for the short, intermediate, and long-term planning periods.

Responsibilities:
Consultant: Prepare Terminal Area Drawing(s).
Sponsor: Review and comment.
Product: Terminal Area Drawing(s) reflecting the selected development alternative for these facilities at the airport.

Task 9.3 Part 77, Approach and Inner Approach Surface Plans

Description: Prepare Part 77, Approach and Inner Approach Surface plans in conformance with FAR Part 77 and FAA Airports ARP SOP 2.00 *Standard Procedure for FAA Review and Approval of Airport Layout Plans (October 1, 2013)*. As necessary, height of potential obstructions will be researched and identified on the drawing along with an obstruction chart/table indicating the obstruction description, their top elevation, affected Part 77 surface, the penetration, and disposition or corrective action to eliminate or mitigate the obstruction.

Responsibilities:
Consultant: Prepare a new Part 77, Approach and Inner Approach Surface plans for the airport.
Sponsor: Review and comment.
Product: Part 77, Approach and Inner Approach Surface plans for the airport to meet federal guidelines. Product will include aerial photography of the inner approach surfaces and runway protection zones.

Task 9.4 Departure Surface Drawings

Description: Prepare new departure surface drawings in accordance with guidelines as defined by the FAA Airports ARP SOP 2.00 *Standard Procedure for FAA Review and Approval of Airport Layout Plans (October 1, 2013).* Obstruction information will be obtained from the Part 77 obstruction analysis completed in Task 10.2, approach plans, and the current Airport Obstruction (OC) chart (as available).

Responsibilities:
Consultant: Prepare new departure surface drawings for the airport.
Sponsor: Review and comment.
Product: Departure surface drawings for the airport which meet federal guidelines.

Task 9.5 Exhibit A – Airport Property Inventory Map

Description: The primary intent of the drawing is to identify and/or delineate all designated airport property owned or to be acquired by the airport owner. The drawing will inventory all parcels, which currently make up the airport, or are proposed for acquisition by the airport

sponsor. In addition, the drawing will also show any property that has been disposed of by the Sponsor in the past. Details will be limited to the depiction of existing and future facilities (i.e., runways, taxiways, runway protection zones, and terminal facilities) which would indicate aeronautical need for airport property. This work effort will utilize information obtained from the current – Exhibit A – Airport Property Inventory Map as well as other sources. The Airport Property Map will be updated in conformance with the guidelines outlined in FAA Airports ARP SOP 3.00 *Standard Operating Procedure (SOP) for FAA Review of Exhibit 'A' Airport Property Inventory Maps (October 1, 2013).* Sponsor will assist Consultant in providing recorded deeds of its property. Additional information requested by the FAA may be added as needed if available and provided by the airport.

Responsibilities:
Consultant: Update the Exhibit A – Airport Property Inventory Map for the airport.
Sponsor: Provide appropriate historical data and review Airport Property Map.
Product: Updated Exhibit A – Airport Property Inventory Map for the airport.

Task 9.6 On-Airport Land Use Plan

Description: A Land Use Plan for the area within the boundaries of the airport will be developed based on the identified overall development concept. This will include general aviation areas, terminal complex, air cargo complex, ground access and vehicular circulation system service areas, industrial/commercial development areas, and distinctions between aeronautical and non-aeronautical uses. *The drawing will outline any non-aeronautical land use plans so that future revisions to the ALP are not required should a land use release is requested.*

Responsibilities:
Consultant: Prepare On-Airport Land Use Plan.
Sponsor: Review and comment.
Product: On-Airport Land Use Plan and Off-Airport Land Use Plan.

Task 9.7 Preparation of Draft ALP and Draft ALP Drawing Set

Description: Preparation of up to four (4) copies of the "Draft" ALP drawing set for submission to the Sponsor, and subsequent comprehensive agency review by the FAA. The ALP Drawing Set will be prepared in conformance with FAA Airports ARP SOP 2.00 *Standard Procedure for FAA Review and Approval of Airport Layout Plans (October 1, 2013).* Drawings will be a minimum size of 24" x 36". FAA review will be concurrent. Drawings will be submitted with or prior to publication of the Draft Final Master Plan.

THIS TASK INCLUDES TIME REQUIRED TO MAKE CHANGES DURING SPONSOR AND FAA REVIEW AND APPROVAL PROCESS.

Responsibilities:
Consultant: Provide up to four (4) copies of the full Airport Layout Plan drawing sets, depicting

the sponsor selected Recommended Plan for sponsor and FAA use. Per direction from the FAA, the Consultant will also initiate the submittal of the draft ALP set to Obstruction Evaluation/Airport Airspace Analysis (OE/AAA) for FAA Line of Businesses (LOB) review/comment.

Sponsor: Provide up to four (4) unsigned copies of ALP drawing set to FAA for review. Include signed transmittal letter indicating the changes from the last approved ALP drawing. Provide two (2) full set of drawings to FAA for review.

Product: Up to four (4) copies of the full ALP drawing set as well as a completed FAA ALP Checklist.

Task 9.8 Preparation of Final ALP and Final ALP Drawing Set

Description: Revise the Draft Airport Layout Plans and Drawings prepared in the previous task to reflect comments received from the FAA review. Upon approval from the Sponsor, provide four (4) copies of the revised full ALP drawing sets to the Sponsor for their signature. The Sponsor will forward the signed drawings to the FAA for final approval.

Responsibilities:

Consultant: Provide up to four (4) revised copies of the full Airport Layout Plan drawing sets.

Sponsor: Review and sign all drawings. Forward all drawings to the FAA for final approval.

Product: Up to four (4) copies of full ALP drawing set.

ELEMENT 10 – FINAL REPORTS

Task 10.1 Prepare Draft Final Master Plan Report

Description: Following the final review period for the Phase III report of the master plan report, a Draft Final Master Plan Report document will be prepared. This document will incorporate appropriate comments and corrections received during the review period. Up to ten (10) hard copies of the Draft Final Report and an electronic (PDF) version will be provided. The FAA will receive one (1) print copy.

Responsibilities:

Consultant: Prepare and print up to ten (10) hard copies of the Draft Final Master Plan study and an electronic (PDF) version.

Sponsor: Review and comment.

Product: Ten (10) Draft Final Master Plan Reports.

Task 10.2 Obtain Master Plan Approvals

Description: Coordinate final approval of master plan with airport administration. This task will include a presentation to the Airport Advisory Board and/or City Council seeking approval of the master plan. The ALP approval will be coordinated with Sponsor and the FAA.

Responsibilities:
Consultant: Coordination of final master plan approval.
Sponsor: Review and comment on final documents.
Product: Final master plan and airport layout drawing approvals.

Task 10.3 Prepare Final Master Plan Report

Description: Following the final review period for the Draft Final Master Plan Report, a Final Master Plan Report document will be prepared. This document will incorporate appropriate comments and corrections received during the review period. Ten (10) printed copies of the Final Report will be provided, in addition to digital copies of the entire plan (text and graphics) in a PDF format. Two (2) printed copies (and a PDF copy) will be provided to the FAA.

The FAA will also be sent four (4) full sized ALP drawing sets, signed by the sponsor, for signature and circulation. A flash drive containing an electronic (PDF) version of the ALP will also be submitted to the FAA, if requested.

Responsibilities:
Consultant: Prepare and print ten (10) copies of the final report (provide two copies to the FAA). Also develop digital copies of the final report in PDF/Word formatfor submittal to the sponsor and for the FAA.
Sponsor: Coordinate distribution of the final report.
Product: Ten (10) Final Master Plan Reports and electronic (PDF/Word) copies.

ELEMENT 11 – OPTIONAL COMMERCIAL PASSENGER TERMINAL TASKS

The project scope includes a presentation of the Phase I study materials, including the potential demand for commercial passenger air service, to City Council. If City Council chooses to move forward with an evaluation of commercial passenger air service facility requirements and alternatives in the master plan, this element covers the necessary tasks.

Task 11.1 Commercial Passenger Terminal Facility Requirements

Description: This work effort will consist of a capacity need analysis of a potential passenger service terminal and evaluate potential support (aircraft parking apron, public/employee parking, rental car facilities, administration office, etc.) facility needs based on the new demand forecasts. Facility needs will be based on forecasted potential passenger traffic and peaking characteristics of that traffic. Terminal space modeling will be based on the Airport Cooperative Research Program (ACRP) Report 25, *Airport Passenger Terminal Planning and Design* and FAA AC 150/5360-13A, *Airport Terminal Planning*.

Responsibilities:
Consultant: Development of passenger terminal building development facility requirements.

Sponsor: Review.
Product: Passenger terminal facility needs broken out by functional area, which will be included within the Phase II report.

Task 11.2 Commercial Passenger Terminal Alternatives

Description: This task will identify potential sites for the development of a new passenger terminal facility and support facilities, including vehicle parking lots, access roads, terminal apron and taxilanes, and rental car services.

Responsibilities:
Consultant: Development of passenger terminal building development alternatives.
Sponsor: Review.
Product: A series of development site options, which will be included within the Phase II report.

ATTACHMENT 1
SUBCONSULTANT SCOPE
(HubPoint Strategic Advisors)

Denton Enterprise Airport - Air Cargo Market Analysis & Air Cargo Forecasts

In recent years, the air cargo industry has experienced transformative changes that have impacted supply chains and the way goods are shipped. These include structural changes related to e-commerce and episodic changes due to the pandemic. With these changes, air cargo has taken on a new level of importance and emphasis at airports. The growth in e-commerce has been particularly impactful to the air cargo industry and has led to increasing activity by new and existing operators at U.S. airports of all types. Meanwhile, some smaller airports have proven that they are capable of handling cargo beyond their traditional levels and, therefore, can be viable alternatives to larger airports.

As Denton Enterprise Airport (DTO) considers its development priorities, assessing the feasibility of growing its air cargo business will be important. Airport management must understand how both the internal and external environments influence DTO's air cargo opportunities. An Air Cargo Market Analysis will be designed to assess relevant factors for air cargo at DTO, including the airport's infrastructure, industry trends, the regional market and competitive airports. This analysis will identify any potential air cargo opportunities for DTO and provide advice on the feasibility of growing the airport's air cargo activity from a planning perspective.

Based on the findings and synthesis from the Air Cargo Market Analysis, long-term 20-year air cargo forecasts will be developed for utilization in the Denton Enterprise Airport Master Plan. Given the limited historic air cargo operations at DTO, the consulting team will employ a scenario-based approach for the air cargo forecasts. This approach relies on the definition of specific cargo-related scenarios at airports (including assumptions of operational details and service development over time) and the cargo volumes associated with those scenarios. While this approach can be seen as somewhat prospective, its value from a planning perspective lies in quantifying possible levels of cargo activity should those types of scenarios come to fruition. From this standpoint, it is important to ensure that the scenarios are as realistic as possible, but for planning purposes, also encompass a range of possible air cargo development environments that could be experienced by an airport during the forecast period.

PROPOSED SCOPE OF WORK

1. Overview of air cargo industry trends
2. Review DTO current situation and air cargo capabilities
    a. DTO historic aviation / air cargo activity and current service providers
    b. Existing infrastructure (facilities, runways, apron, equipment, road & highway access)
3. Assess regional air cargo market
    a. Demand drivers and inbound/outbound shipment activity relevant to DTO
    b. Competitive airport analysis (AFW, DFW, DAL), including cargo capabilities, services and strategies
4. Synthesis and Conclusions
    a. Summarize key findings and implications for DTO
    b. SWOT analysis
    c. Feasibility assessment
5. DTO 20-year air cargo demand forecasts
    a. Scenario development for potential DTO cargo services
    b. Annual air cargo tonnage
    c. Annual all-cargo aircraft operations
6. Planning Considerations and Recommendations

ATTACHMENT 2
SUBCONSULTANT SCOPE
(Jordan Aviation Strategies & Ambrogio Consulting Services)

Denton Enterprise Airport
Master Plan Scope of Work
Jordan Aviation Strategies LLC (JAS) Financial Services

Jordan Aviation Strategies (JAS) will support Coffman Associates with financing the Preferred Alternative Scenario determined through the planning process and outline the significant capital and operating funds needed to realize the Master Plan's vision.

To complete this task, JAS will take full advantage of all potential sources of funds and minimize financial gaps by identifying all alternative revenue sources available to support the Preferred Alternative Scenario of the master plan. The financial feasibility analysis would also include a forecast of expenses and revenues that can be used to determine whether a baseline level of funds will be available to pay for the local share of the capital development program over the planning period. The initial forecast will determine if the current tenant rents, fees and charges are sufficient to keep pace with inflation and revenues and expenses projected into the future based upon a combination of short historical trends and City policy objectives.

JAS can further assist DTO in their goal to promote aviation growth and development by providing comprehensive financial and strategic business-related airport consulting services that may include:

Strategic Financial and Business Planning – JAS will work with airport management to identify financial metrics that are most relevant for the market that is served by the airport and are achievable given the business structure of key leases and agreements. This task would outline long-term financial trends and potential risk factors that may impact overall financial sustainability, thereby allowing the airport to proactively address these issues. Key components of this task would include:

- Preparation of Financial Feasibility Studies
- Implementing Best Industry Practices
- Generating Peer Airport Comparative Statistics
- Developing A Long-term Financial Plan

Federal Funding Programs - In recent years, the federal funding programs including the Airport Rescue Grants (CARES, CRRSA, ACRGP) and the Bipartisan Infrastructure Law (BIL) programs have offered significant alternative funds to airports who can appropriately justify project funding through stringent grant applications. JAS will work with planners and staff to maximize alternative funding sources including preparation of federal loan and grant applications, and assist in the implementation of processes that are required under federal grant programs.

Commercial Air Service - DTO's desire to explore commercial service aviation which is dependent on the population base and level of economic activity that would generate sufficient passenger demand to make them profitable to air carriers. JAS can assist DTO with key components of the decision-making process including:

- Assist in Airline Discussions
- Developing a Suitable Airline Incentive Program
- Identifying a Rate-Setting Methodology

Cargo and Other Aviation Related Development – JAS can also help DTO explore opportunities for other aviation use services including Cargo and other third-party development. Key components of the task would include:

- Assist DTO with Tenant Negotiations
- Generate Financial Plans with Specific Goals and Key Performance Indicators
- Outline Financial Risk-Sharing Alternatives with Private Parties

Eric Pfeifer

From: Sylvia Ambrogio <Sambrogio57@outlook.com>
Sent: Monday, January 23, 2023 12:32 PM
To: Mike Dmyterko; Paula Jordan
Cc: Eric Pfeifer
Subject: RE: JAS scope of work for DTO

Below is our estimate for the MP Task budget. Please review and comment.

Task List	Estimated Hours to Complete	Estimated Fees
Airport Data Gathering and Analysis	35	8,750
Develop Financial Forecast Model	10	2,500
Evaluate Alternative Sources of Funding	10	2,500
Draft Master Plan Financial Section	40	10,000
Staff Interview / Strategy Meetings	10	2,500
TOTAL	**105**	**$ 26,250**

**Fees at $250/hour*

-spa

Sent from Mail for Windows

ATTACHMENT 3
SUBCONSULTANT SCOPE
(Martinez Geospatial)

MARTINEZ GEOSPATIAL

A GEOSPATIAL SERVICE PROVIDER

Scope and Fee Proposal

Survey, Photogrammetry & Airports-GIS Services

Denton Enterprise Airport (DTO)

01/05/2023

2915 Waters Road Suite 100 Eagan, Minnesota 55121

Tel: 651-686-8424 • www.mtzgeo.com

PROJECT SUMMARY

CLIENT	Coffman Associates
CLIENT CONTACT	Tim Kahmann
CLIENT ADDRESS	12920 Metcalf Ave, Suite 200 Overland Park, KS 66213
PROJECT LOCATION	Denton Enterprise Airport (DTO)

Martinez Geospatial, Inc. (MTZ) will provide **Coffman Associates** with remote-sensing and photogrammetry services in support of a Master Plan/ALP and Obstacle Action Plan at **Denton Enterprise Airport (DTO)**. The main objective of this effort will be to fulfill the geospatial data-collection requirements for supporting the update of the ALP.

This proposal also includes tasks required to comply with FAA Airports-GIS program standards. All survey and photogrammetry work will be accomplished in accordance with the following Advisory Circulars:

AC-150/5300-16B (16B)
AC-150/5300-17C (17C)
AC-150/5300-18B (18B)

The Airports-GIS objective for this project includes the collection/survey of both *Safety-Critical* and *Non-Safety-Critical* Data. The Safety-Critical element of the project includes Runway Ends/Thresholds & Profiles Survey, NAVAID Survey, and Airport Airspace Analysis/Obstruction Survey. The Non-Safety-Critical element of this project includes the generation of a planimetric & topographic GIS basemap of the Airport Environment and the generation of ortho-rectified aerial imagery of the Project Area.

MTZ will fulfill the data collection, formatting, and delivery requirements of the FAA Airports-GIS program. In general, MTZ's approach to fulfilling the GIS requirements will be accomplishing those required tasks as outlined in **Table 2-1 (Survey Requirements Matrix)** of **18B, Column "Airport Layout Plan."**

MTZ will make maximum use of existing data within the ADIP Portal for DTO, including Obstacle Data with FAA-assigned Identifiers.

PROJECT SPECIFICATIONS

STATE	TEXAS
COUNTY	DENTON
PROJECT TYPE	AVIATION (AIRPORTS-GIS INCLUDED)
COORDINATE SYSTEM	TEXAS STATE PLANE – NORTH CENTRAL
HORIZONTAL DATUM	NAD83
VERTICAL DATUM	NAVD88 (GEOID18)
FIELD-SURVEY PROVIDED BY	MARTINEZ GEOSPATIAL
MAPPING SCALE	1"=100' & 2' CONTOURS
MAPPING FORMATS REQUIRED	STANDARD CAD w/ DTM and AIRPORTS-GIS
ORTHO RES & PHOTO FORMAT	0.5' GSD, TIF & SID FORMAT

PROJECT AREA DEFINITION

The total project area consists of four major components:

AREA A	**Planimetric & Topographic Mapping Limit** - This area defines the limit for the generation of an AGIS Basemap.
AREA B	**Part 77/OCS Airspace Analysis Limits -** Horizontal Limits of the applicable Obstruction Identification Surfaces (OIS) as defined by FAR Part 77 and AC-150/5300-13B.
AREA C	**Airports-GIS Airspace Analysis Limits -** Horizontal Limits of the applicable Obstruction Identification Surfaces (OIS) as defined in AC-150/5300-18B.
AREA D	**Raw Obstacle Collection Limit –** This area defines the limit for the collection and reporting of all prominent obstacles in support of the Obstacle Action Plan (OAP).

PROJECT TASKS

Project Planning/Project Management/FAA Airports-GIS Coordination/Field-Survey Consultation

MTZ will assist Coffman in developing, submitting, and gaining approval of the "Statement of Work" for the project through the ***FAA Texas ADO*** and the ***FAA's Airport Data Information Portal (ADIP)***. MTZ will develop, submit, and gain approval of the "Aerial Photography Acquisition Report" required by the FAA Airports-GIS Program.

Aerial Imagery Acquisition

New color aerial imagery will be captured for all areas defined in the **PROJECT AREA DEFINITION** section of this proposal utilizing a high quality digital photogrammetric camera. The aerial imagery acquisition flight mission will be executed in accordance with all guidelines and specifications within FAA AC 150/5300-17C.

The aerial imagery acquisition flight mission will consist of a single "block" of imagery, collected to the following specifications:

IMAGERY RESOLUTION	PURPOSE/USE
10cm	- Raw Obstacle Data Collection - Part 77/OCS Obstruction Survey - AGIS Airport Airspace Analysis - Generation of 0.50' GSD orthophotos - Planimetric/Topographic Mapping

Upon completion of the flight mission, the imagery will be reviewed through in-house Quality Assurance procedures for photogrammetric acceptability and compliance with AC 150/5300-17C requirements.

Establish Geodetic Control / Validate Existing PACS & SACS (Field-Survey)

There are one PACS monument and two SACS monuments published by NGS for the airport. This project will validate/utilize these monuments to serve as the project tie to the National Spatial Reference System (NSRS). If the existing PACS/SACS monuments are determined to be damaged or the validation is unsuccessful the surveyors will establish temporary geodetic control points, as required. Geodetic data will be tied to the NSRS using the latest published adjustment (2011).

Following are the specific PACS & SACS locations to be used:

Station Type	Designation	PID	Horizontal Datum	Vertical Datum	GEOID
PACS	*DTO D*	*AB2789*	*NAD83(2011)*	*NAVD88*	*GEOID18*
SACS	*DTO B*	*AB5965*	*NAD83(2011)*	*NAVD88*	*GEOID18*
SACS	*DTO C*	*AB5964*	*NAD83(2011)*	*NAVD88*	*GEOID18*

Survey Imagery Photo Control (Field-Survey)

Photo-identifiable control points and/or artificial targets will be selected or set/surveyed for use as imagery ground control. Imagery Control will be set, surveyed (properly tied to NSRS), and documented in accordance with AC-150/5300-17C and FAA Airports-GIS requirements. Ground Control data and documentation will be submitted to FAA Airports-GIS along with the AP Acquisition Report. It is anticipated that approximately **28** imagery control points will be required, along with **6** independent OPUS Checkpoints.

Aero Triangulation

The digital aerial imagery will be imported onto a digital photogrammetric workstation where it will be oriented with field-surveyed ground control. This procedure will establish both horizontal and vertical control for orienting individual photogrammetric models. This orientation will be accomplished using Soft Copy Aerial Triangulation methods.

Create Digital Ortho Imagery

Digital orthophotos will be produced to meet the requirements of Coffman and the Airport as well as to comply with the requirements of the FAA Airports-GIS Program and AC 150/5300-17C. One set of ortho imagery will be produced, covering the following defined areas and meeting the following specifications:

RESOLUTION	COVERAGE LIMIT
0.50’ GSD	AREA C

Runway Survey (Field-Survey)

Field Surveyors will accomplish survey of both runways at DTO (18R/36L & 18L/36R); survey tasks will include survey of runway-end-points and runway-profiles. For each runway-end-point/threshold a monument will be set (if one is not already present), surveyed, and documented in accordance with AC-150/5300-18B. Runway-centerline profiles will be surveyed utilizing mobile-RTK methodology; final profile data will be extracted at 50-foot stations for FAA Airports-GIS submission. Runway survey data will be utilized for the Obstruction Surveys/Airport Airspace Analysis task. Furthermore, MTZ will indentify Airport Reference Point, Airport Elevation, High & Low Elevations of each Runway, and

Touchdown Zone Elevations for each runway utilizing the newly surveyed Runway Data. Runway survey data will be properly formatted by MTZ and reported in the FAA Airports-GIS deliverable.

NAVAID Survey (Field-Survey)

Surveyors will accomplish field-survey of NAVAIDs serving the DTO airport. Each NAVAID will be surveyed and documented in accordance with AC-150/5300-18B. NAVAID survey data will be properly formatted by MTZ and reported in the FAA Airports-GIS deliverable. The NAVAID Survey will include the following:

Airport Rotating Beacon	*18L PAPI*
36R PAPI	*18L MALSR*
18R PAPI	*36L PAPI*
18L LOC	*18L GS*
18L OM	*PINCK NDB*
ASOS	*Windcones*

Airport Airspace Analysis/Obstruction Surveys

18B/AGIS
An Airport Airspace Analysis will be performed in accordance with AC 150/5300-18B. This task will be performed in order to comply with the requirements of the FAA Airports-GIS Program for projects involving Airport Layout Plans. All available existing obstacle data for DTO will be obtained & downloaded from ADIP; existing obstacle data (relevant to the AGIS Airspace Analysis) will be validated or updated as necessary and incorporated into this project. Existing obstacle data will be reported back to FAA through ADIP, identifiable by assigned FAA-Obstacle-ID.

The Airport Airspace Analysis will meet the following specifications:

RUNWAY	ANALYSIS TYPE
18L/36R	Runways-With-Vertical-Guidance
18R/36L	Runways-With-Vertical-Guidance

GIS Formatting of final reported 18B/AGIS obstacle data will adhere to the specifications of AC 150/5300-18B, Chapter 5 *Airport Data Features.*

Part 77/Obstacle Clearance Surface (OCS)
An FAR Part 77 and an OCS Obstruction Survey will be performed for all runway ends. Utilizing the digital 3D stereo imagery, the prescribed Part 77 & OCS Obstruction-Identification-Surfaces will be examined and analyzed to identify natural and manmade objects penetrating the surfaces. The Part 77 Obstruction Survey will meet the following specifications:

RUNWAY	PART 77 ANALYSIS TYPE
18L	Precision-Instrument-Runway (PIR)
36R	Non-Precision-Instrument-D (NPI-D)
18R	Non-Precision-Instrument-D (NPI-D)
36L	Non-Precision-Instrument-C (NPI-C)

The OCS Obstruction Survey will meet the following specifications (OCS Numbers are taken from AC-13B, Tables 3-2, 3-3, 3-4. and 3-5).

RUNWAY	OCS ANALYSIS TYPE
18L	OCS 5 *(< 3/4sm Visibility Minimums)*
18L	OCS 6 *(Vertical Guidance Surface)*
18L	OCS 7 *(Departure Surface)*
36R	OCS 5 *(≥ 3/4sm Visibility Minimums)*
36R	OCS 6 *(Vertical Guidance Surface)*
36R	OCS 7 *(Departure Surface)*
18R	OCS 5 *(≥ 3/4sm Visibility Minimums)*
18R	OCS 6 *(Vertical Guidance Surface)*
18R	OCS 7 *(Departure Surface)*
36L	OCS 5 *(≥ 3/4sm Visibility Minimums)*
36L	OCS 6 *(Vertical Guidance Surface)*
36L	OCS 7 *(Departure Surface)*

Part 77/OCS Collection Criteria

The obstruction-identification-surfaces, defined in the previous section, will be digitally referenced with the 3D Stereo Imagery. Utilizing the 3D imagery, trained technicians will visually examine all surfaces and collect X-Y-Z point data for objects meeting collection criteria. Collected data will then be mathematically analyzed against the surfaces using custom processes to produce a final dataset. Multiple Quality-Assurance processes are performed for obstruction data through the project life cycle to ensure accuracy and completeness. Data will be collected to fulfill the following criteria:

1) A single X-Y-Z point will be collected / analyzed for any manmade or natural object penetrating a surface. The point will be placed on the highest point of the object. The X-Y location will correspond to the horizontal position of the highest portion of the object, not necessarily the geometric center or middle of the object.

2) Occasionally with Obstruction Surveys, large group of trees or terrain (obstruction area) are found to penetrate a surface and it is not feasible or possible to collect each individual penetration. In these cases, the obstruction area will be outlined with a bounding polygon in order to represent the horizontal extents of the area. A grid will then be overlaid on the obstructing area. Within each grid sector, the highest object will be collected. Within the primary surface, the transitional surface, and within the first 5,000 feet of the approach surface, 100-foot grid spacing will be used. Within 10,000 feet of the approach surface, but outside 5,000 feet, 200-foot grid spacing will be used. 200-foot grid spacing will also be used within the horizontal surface. Within the conical surface, 500-foot grid spacing will be used.

Raw Obstacle Collection – AC-18B Vertically-Guided Approach Surface *(OPTIONAL TASK)*

In support of an Obstacle Action Plan (OAP), MTZ will complete raw obstacle data collection for each runway, beyond the reporting requirements of AC 150/5300-18B. The horizontal extents of the collection area are based on the dimensions of the AGIS/18B Vertically-Guided Obstruction Surfaces.

Within the AGIS/18B Vertically-Guided Approach Surface and within the Transitional Surfaces, MTZ will collect all prominent manmade and natural objects with no regards to penetration value. For manmade objects, all buildings, utility poles, antennas, towers, and prominent objects will be collected (small objects, such as mailboxes, posts, and utility boxes will be ignored). For vegetation, singular trees/shrubs will be collected to the extent possible/feasible. In large areas of dense vegetation, a bounding polygon will be drawn to show the extents of the area. When necessary to reduce data congestion, a 100-foot grid will be applied and the highest vegetation point within each grid-sector.

Deliverable Format for Obstacle Data

DELIVERABLE	DESCRIPTION
Shapefile and CAD File	These files will contain the following pieces of data: 1) Obstruction Surface Linework 2) Obstruction X-Y-Z Points 3) Obstruction Area Polygon (if applicable) 4) Obstruction Area Grid (if applicable)
Attributes will be included in the Shapefile as Object Data. For the CAD version, attributes will be provided in Spreadsheet Format and can be cross-referenced with the CAD file by Object Number.	Shapefiles will contain the following pieces of object data: • Object type • Northing / Easting / Elevation (MSL) • Latitude/Longitude • AGL Height (as able, for penetrating objects only) • Height-Above-Runway-End • Height-Above-Touchdown-Zone • Height-Above-Airport-Elevation • Distance-to-Runway-End • Distance-From-Runway-Centerline (and direction) • Penetration Value (if applicable) • Surface Affected & Slope (if applicable)

Planimetric & Topographic Mapping Compilation

Utilizing the aerotriangulated digital imagery, photographic stereo pairs will be oriented and compiled on digital photogrammetric workstations within **AREA A**. Mapping data will be compiled meeting the following specifications:

PLANIMETRIC DATA SCALE	1"=100' SCALE (CLASS II STANDARDS)
TOPOGRAPHIC DATA SCALE	2' CONTOUR INTERVAL (CLASS II STANDARDS)

MAPPING DELIVERABLE	FORMAT
PLANIMETRIC FILE	AUTOCAD (Other formats available upon request)
CONTOUR FILE	AUTOCAD (Other formats available upon request)
DIGITAL-TERRAIN-MODEL FILE	AUTOCAD (Other formats available upon request)

The CAD products defined above will be delivered directly to **Coffman** for the updating of ALP drawings.

Mapping Edit and GIS Formatting

In addition to generating mapping data in CAD formats, all collected data will be edited and formatted in the appropriate AGIS format. In terms of GIS-attributes, MTZ will be responsible for populating all geospatial-related and/or critical attributes required for upload. In general terms, the final AGIS file created by MTZ will include both Safety-Critical and Non-Safety-Critical Data. This includes the following:

1) **SAFETY-CRITICAL**

   a. **Airspace**

AC-18B Feature	AC-18B Section
Obstacle	5.5.2
Obstruction Area (if applicable)	5.5.3
Obstruction ID Surface	5.5.4

   b. **Runway**

AC-18B Feature	AC-18B Section
Runway End	5.4.26
Runway Profile Points	5.8.6
Centerline Perpendicular Points	5.8.3
Touchdown Zone Elevation	5.8.7
Airport Elevation	5.8.2

   c. **NAVAIDs**

AC-18B Feature	AC-18B Section
Navigational Aids	All Applicable - Group 5.10

2) **NON-SAFETY-CRITICAL**

   a. **Planimetric**

AC-18B Feature	AC-18B Section
Airfield	All Applicable - Group 5.4
Manmade Structures	All Applicable - Group 5.10
Surface Transportation	All Applicable - Group 5.13
Utilities	All Applicable – Group 5.14

   b. **Topographic**

AC-18B Feature	AC-18B Section
Elevation Contour	5.8.10

Final GIS data will meet the following specifications**:**

GIS DATA-MODEL UTILIZED	FAA Airports-GIS (*AC 150/5300-18B, Chapter 5)*
GIS DELIVERY FORMAT	ArcGIS Shapefile

Airports-GIS Data Submission and Final Reporting

All data will be formatted into compliant Airports-GIS format and prepared for submission. Prior to submission, the survey-files will be tested using the FAA's survey-file-test tool in order to ensure acceptability. A "Final Report" will be generated in accordance with Advisory Circular 150/5300-18B and submitted with the final project file. Project close-out will also consist of ensuring receipt and acceptance of the obstruction survey and digital mapping data by Coffman, the FAA and NGS.

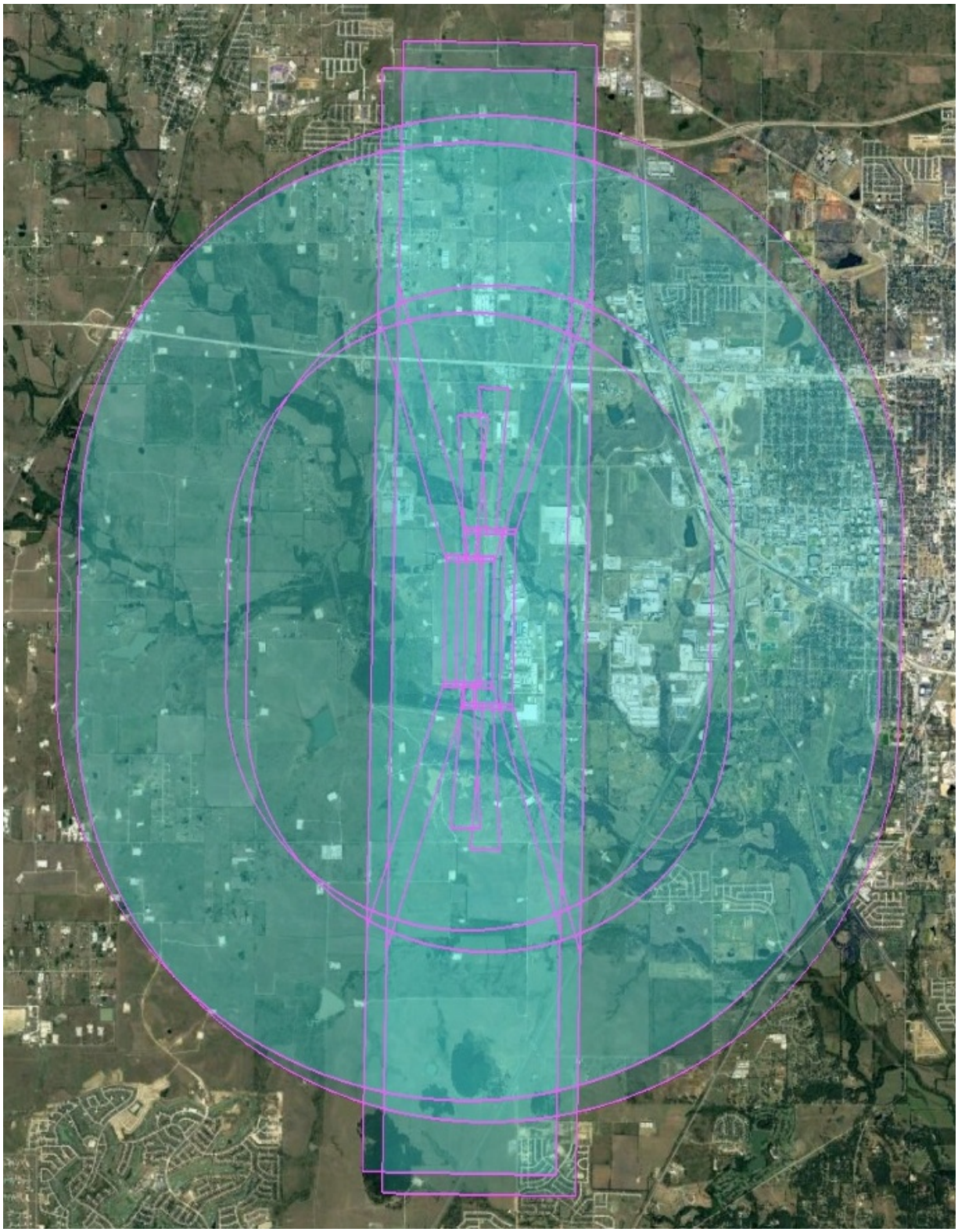
DELIVERABLE SUMMARY
1) Statement of Work Report (for FAA Airports-GIS approval)
2) Aerial Photography Acquisition Report (for FAA Airports-GIS approval)
3) Part 77 & AC-13B Obstacle-Clearance-Surface Obstruction/Penetration Data
4) Raw Obstacle Data ***(OPTIONAL TASK)***
5) Digital Ortho Imagery of AREA C (0.50' Resolution)
6) Comprehensive FAA Airports-GIS Deliverable, consisting of: A) Safety Critical Data (Runway, NAVAID, and Airport Airspace Analysis Data) B) Non-Safety Critical Data (Planimetric & Topographic Mapping)
7) Final Report (for FAA Airports-GIS approval)

FEE SCHEDULE

It is understood that compensation for this project will be on a **LUMP SUM** basis. MTZ will invoice Coffman Associates monthly based on percent-complete of each work category below. The following is a proposed fee schedule based on major production processes/work category:

WORK CATEGORY	FEE
Project Management	$ 7,046.72
Production Management	$ 5,550.53
Imagery Acquisition / Flight Mission	$ 10,974.00
Imagery Aero-Triangulation	$ 5,637.95
Ortho Imagery Production (0.50' GSD)	$ 8,672.50
Planimetric/Topographic Mapping – Airport Property	$ 25,130.74
Airspace Analysis / Obstruction Survey	$ 17,567.44
Data Edit / GIS Formatting / FAA Compliance	$ 13,259.87
Field-Survey Services	$33,766.30
TOTAL	**$ 127,606.05 (Call it $127,606)**
OPTIONAL TASK – Raw Obstacle Collection (in support of Obstacle Action Plan)	$7,215.69
TOTAL w/Optional Task	**$134,821.74 (Call it $134,821)**

Airports-GIS Airspace Analysis



Magenta Polygons - 18B/Airports-GIS Obstruction Identification Surfaces (VG)
Cyan Shaded Area - 0.50' GSD Ortho Imagery Coverage

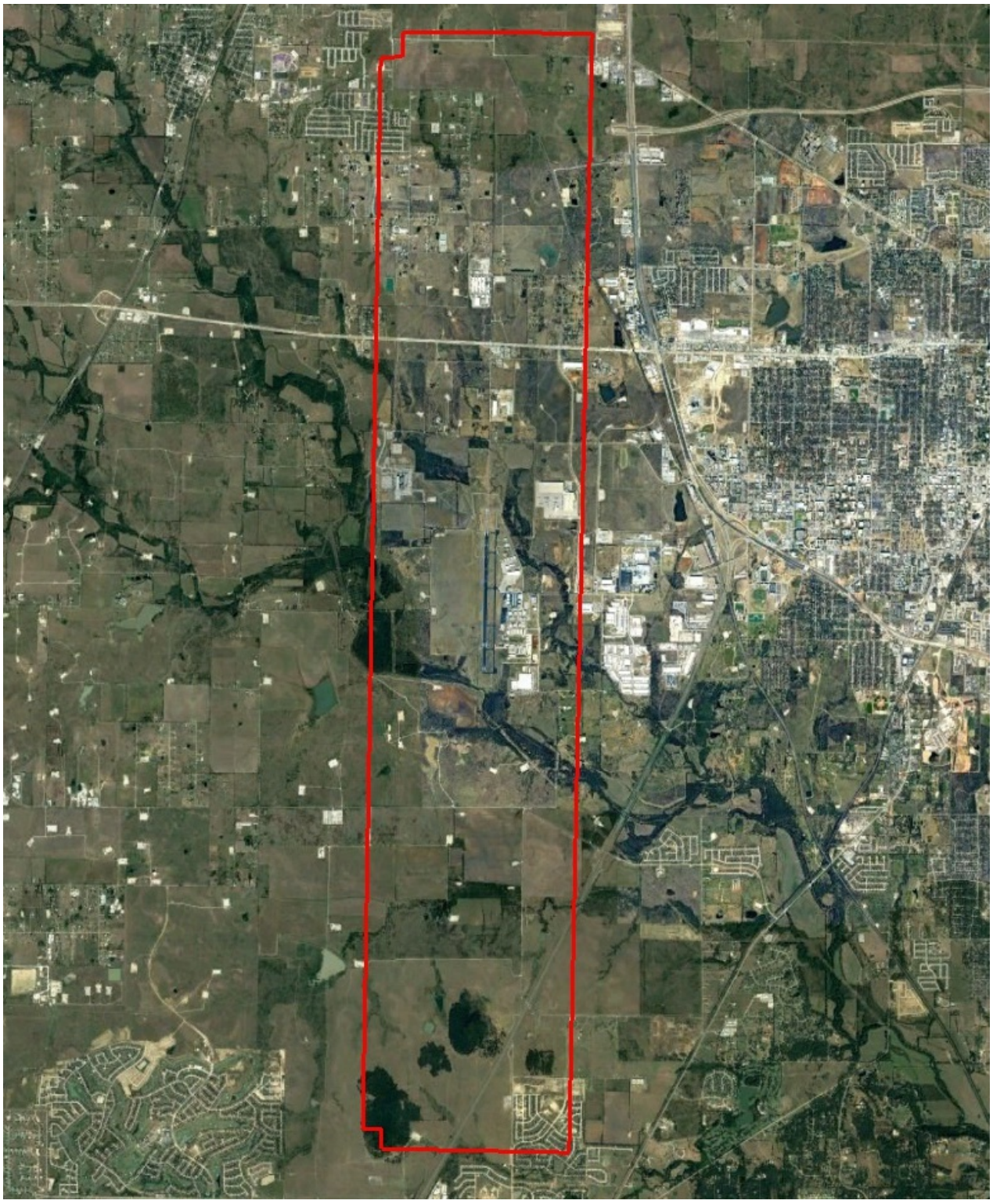
MTZ | Martinez Geospatial
2915 Waters Road Suite 100
Eagan, Minnesota 55121
Tel: 651.686.8424 Fax: 651.686.8389

Planimetric & Topographic Mapping

Red Polygon - Planimetric & Topographic Mapping Limit

MTZ | Martinez Geospatial
2915 Waters Road Suite 100
Eagan, Minnesota 55121
Tel: 651.686.8424 Fax: 651.686.8389

Raw Obstacle Data Collection



Red Polygon - Raw Obstacle Collection Area

MTZ | Martinez Geospatial
2915 Waters Road Suite 100
Eagan, Minnesota 55121
Tel: 651.686.8424 Fax: 651.686.8389

EXHIBIT B - PROJECT COST
Denton Enterprise Airport (DTO)
Airport Master Plan

		Coffman Associates (Hourly Rates)						
		Principal	Senior Professional	Professional	Technical/ Support	Total Labor	Expenses	Total
		$303	$279	$166	$118			
ELEMENT 1 – STUDY INITIATION AND ORGANIZATION								
1.1	Study Design	4	4	8	8	$4,600	$0	$4,600
1.2	Establish Planning Advisory Committee and Kick-Off Meeting	16	16	0	8	$10,256	$1,820	$12,076
1.3	Develop Project Website	0	8	24	36	$10,464	$0	$10,464
1.4	Project Management	16	80	60	12	$38,544	$0	$38,544
	Element 1 Subtotal	***36***	***108***	***92***	***64***	***$63,864***	***$1,820***	***$65,684***
ELEMENT 2 - INVENOTRY OF EXISTING CONDITIONS								
2.1	Inventory Airport Facilities (On Site Visit Combined with Kick-off)	0	8	16	12	$6,304	$0	$6,304
2.2	Inventory Air Traffic, and Airspace	0	8	24	12	$7,632	$0	$7,632
2.3	Inventory Local Plans, Land Uses, and Demographic Data	0	8	16	8	$5,832	$0	$5,832
2.4	Obtain Tabulated Wind Data	0	0	0	8	$944	$0	$944
2.5	Environmental Inventory	0	0	24	8	$4,928	$0	$4,928
	Element 2 Subtotal	***0***	***24***	***80***	***48***	***$25,640***	***$0***	***$25,640***
ELEMENT 3 - AVIATION DEMAND FORECASTS								
3.1	Review Regional Aviation and Socioeconomic Forecasts	4	8	8	8	$5,716	$0	$5,716
3.2	Prepare Aviation Demand Forecasts	4	16	8	16	$8,892	$0	$8,892
3.3	Identify Existing and Future Airport Design Critical Aircraft	4	16	8	8	$7,948	$0	$7,948
3.4	Prepare Phase I Report (15 Copies with Workbooks)	4	8	8	16	$6,660	$1,500	$8,160
3.5	Conduct PAC Meeting #2 and Public Workshop #1	16	16	0	16	$11,200	$4,220	$15,420
3.6	Conduct Phase I City Council Meeting	16	16	0	8	$10,256	$1,820	$12,076
	Element 3 Subtotal	***48***	***80***	***32***	***72***	***$50,672***	***$7,540***	***$58,212***
ELEMENT 4 - FACILITY REQUIREMENTS								
4.1	Establish Physical Planning Criteria	4	8	0	0	$3,444	$0	$3,444
4.2	Determine Airfield Capacity and Delay	8	24	8	8	$11,392	$0	$11,392
4.3	Prepare Airfield Facility Requirements	8	24	8	8	$11,392	$0	$11,392
4.4	Prepare Landside Facility Requirements	8	24	8	8	$11,392	$0	$11,392
	Element 4 Subtotal	***28***	***80***	***24***	***24***	***$37,620***	***$0***	***$37,620***
ELEMENT 5 - AIRPORT DEVELOPMENT ALTERNATIVES								
5.1	Establish Alternative Development Issues	4	8	8	16	$6,660	$0	$6,660
5.2	Evalautate Potential Airside Alternatives	8	32	8	32	$16,456	$0	$16,456
5.3	Identify Potential Landside Altneratives	8	24	24	24	$15,936	$0	$15,936
5.4	Prepare Phase II Report (15 Copies)	8	32	0	32	$15,128	$1,500	$16,628
5.5	Conduct PAC Meeting #3 and Public Workshop #2	16	16	0	16	$11,200	$4,220	$15,420
	Element 5 Subtotal	***44***	***112***	***40***	***120***	***$65,380***	***$5,720***	***$71,100***
ELEMENT 6 - RECOMMENDED MASTER PLAN CONCEPT								
6.1	Recommended Master Plan Concept	4	24	8	24	$12,068	$0	$12,068
6.2	Prepare Aircraft Noise Exposure Contours	4	16	64	24	$19,132	$0	$19,132
6.3	Land Use Controls and Plans	4	16	8	12	$8,420	$0	$8,420
6.4	Non-compatible Land Use Analysis	4	16	8	16	$8,892	$0	$8,892
6.5	Land Use Management Techniques	4	16	8	12	$8,420	$0	$8,420
6.6	Environmental Overview (NEPA)	4	24	24	16	$13,780	$0	$13,780
6.7	Recycling Plan	0	16	24	16	$10,336	$0	$10,336
	Element 6 Subtotal	***24***	***128***	***144***	***120***	***$81,048***	***$0***	***$81,048***
ELEMENT 7 - FINANCIAL MANAGEMENT AND DEVELOPMENT PROGRAM								
7.1	Prepare Airport Development Schedules and Cost Estimates	4	16	16	16	$10,220	$15,000	$25,220
7.2	Prepare Capital Program and Financial Plan	0	16	8	8	$6,736	$0	$6,736
7.3	Perform Financial Analysis	0	8	0	8	$3,176	$0	$3,176
7.4	Prepare Phase III Report (15 Copies)	4	32	8	32	$15,244	$1,500	$16,744
7.5	Conduct PAC Meeting #4 and Public Workshop #3	16	16	0	16	$11,200	$4,220	$15,420
	Element 7 Subtotal	***24***	***88***	***32***	***80***	***$46,576***	***$20,720***	***$67,296***
ELEMENT 8 - GEOGRAPHICAL INFORMATION SYSTEM (GIS) AND DATA COLLECTION SERVICES								
8.1	FAA Airports-GIS	0	16	24	24	$11,280	$0	$11,280
8.2	ALP Data Collection and Part 77 Airspace Analyses	0	16	24	24	$11,280	$0	$11,280
	Element 8 Subtotal	***0***	***32***	***48***	***48***	***$22,560***	***$0***	***$22,560***
ELEMENT 9 - AIRPORT LAYOUT PLANS								
9.1	Airport Layout Plan Drawing	8	8	16	160	$26,192	$0	$26,192
9.2	Terminal Area Drawing(s)	0	0	8	24	$4,160	$0	$4,160
9.3	Part 77, Approach and Inner Surface Plan Drawings	0	0	8	64	$8,880	$0	$8,880
9.4	Departure Surface Drawings	0	0	8	16	$3,216	$0	$3,216
9.5	Exhibit A - Airport Property Inventory Map (FAA SOP 3.0)	0	0	8	36	$5,576	$5,000	$10,576
9.6	On-Airport Land Use Plan	0	0	8	16	$3,216	$0	$3,216
9.7	Preparation of Draft ALP Drawing Set	0	0	8	24	$4,160	$800	$4,960
9.8	Preparation of Final ALP Drawing Set	0	0	8	24	$4,160	$800	$4,960
	Element 9 Subtotal	***8***	***8***	***72***	***364***	***$59,560***	***$6,600***	***$66,160***
ELEMENT 10 - FINAL REPORTS								
10.1	Prepare Draft Final Master Plan Reports (10 Copies)	4	16	24	32	$13,436	$3,000	$16,436
10.2	Obtain Master Plan Approvals (On-site Presentation)	16	16	0	24	$12,144	$1,820	$13,964
10.3	Prepare Final Master Plan Reports (10 Copies)	4	16	24	24	$12,492	$3,000	$15,492
	Element 10 Subtotal	***24***	***48***	***48***	***80***	***$38,072***	***$7,820***	***$45,892***
ELEMENT 11 - OPTIONAL COMMERCIAL PASSENGER TERMINAL TASKS								
11.1	Commercial Passenger Terminal Facility Requirements	4	8	24	8	$8,372	$0	$8,372
11.2	Commercial Passenger Terminal Alternatives	4	8	16	16	$7,988	$0	$7,988
	Element 11 Subtotal	***8***	***16***	***40***	***24***	***$16,360***	***$0***	***$16,360***
COFFMAN ASSOCIATES PROJECT SUMMARY								
ELEMENT 1 - STUDY DESIGN AND ORGANIZATION		36	108	92	64	$63,864	$1,820	$65,684
ELEMENT 2 - INVENTORY		0	24	80	48	$25,640	$0	$25,640
ELEMENT 3 - FORECASTS		48	80	32	72	$50,672	$7,540	$58,212
ELEMENT 4 - FACILITY REQUIREMENTS		28	80	24	24	$37,620	$0	$37,620
ELEMENT 5 - ALTERNATIVES		44	112	40	120	$65,380	$5,720	$71,100
ELEMENT 6 - RECOMMENDED MASTER PLAN CONCEPT		24	128	144	120	$81,048	$0	$81,048
ELEMENT 7 - FINANCIAL PLAN		24	88	32	80	$46,576	$20,720	$67,296
ELEMENT 8 - AERIAL MAPPING AND OBSTRUCTION DATA		0	32	48	48	$22,560	$0	$22,560
ELEMENT 9 - ALP DRAWINGS		8	8	72	364	$59,560	$6,600	$66,160
ELEMENT 10 - FINAL REPORTS		24	48	48	80	$38,072	$7,820	$45,892
Coffman Associates, Inc. Subtotal		***236***	***708***	***612***	***1,020***	***$490,992***	***$50,220***	***$541,212***
ELEMENT 11 - OPTIONAL COMMERCIAL PASSENGER TERMINAL TASKS		8	16	40	24	$16,360	$0	$16,360
Coffman Associates, Inc. Total		***244***	***724***	***652***	***1,044***	***$507,352***	***$50,220***	***$557,572***
ELEMENT 11 - SUBCONSULTANTS								
JAS/ACS Consulting - Tasks 7.2, 7.3								$26,250
MTZ - Element 8								$127,606
MTZ - Element 8 (Optional Task)								$7,216
HubPoint Strategic Advisors - Tasks 3.2, 3.3, 4.4 (Optional Tasks)								$70,000
Subconsultant Total								***$231,072***
PROJECT TEAM TOTAL COSTS - EXCLUDING OPTIONAL TASKS								***$695,068***
PROJECT TEAM TOTAL COSTS - WITH OPTIONAL TASKS								***$788,644***