



AGREEMENT FOR PROFESSIONAL SERVICES

City of Killeen

Killeen, Texas

Project No. 15181081

THIS AGREEMENT FOR PROFESSIONAL SERVICES is made by and between the **City of Killeen** of Killeen, Texas hereinafter referred to as "Owner," and **GARVER, LLC**, hereinafter referred to as "GARVER".

The Owner intends to make the following improvements:

Generally, the scope of services includes developing a new airport master plan at Killeen-Fort Hood Regional Airport.

GARVER will provide professional services related to these improvements as described herein. Project improvements shall be in accordance with planning for the project, and applications for Federal Funds prepared by the Owner.

The Owner and GARVER in consideration of the mutual covenants in this contract agree in respect of the performance of professional services by GARVER and the payment for those services by the Owner as set forth below. GARVER will begin work under this Agreement within ten (10) days of a Notice to Proceed and will complete the work on a mutually agreeable schedule.

SECTION 1 - EMPLOYMENT OF GARVER

The Owner agrees to engage GARVER, and GARVER agrees to perform professional services in connection with the proposed improvements as stated in the sections to follow. These services will conform to the requirements and standards of the Owner and the Federal Aviation Administration, in accordance with regulations and procedures established for Federal Aid Projects. GARVER's services will be coordinated with the Owner, the FAA, and others required in the accomplishment of the work and conform to the standards of practice ordinarily used by members of GARVER's profession practicing under similar conditions. For having rendered such services, the Owner agrees to pay GARVER compensation as stated in the sections to follow.

SECTION 2 - SCOPE OF SERVICES

GARVER's scope of services is described in attached Appendix A.

SECTION 3 - PAYMENT

For the work described under SECTION 2 - SCOPE OF SERVICES, the Owner will pay GARVER based on progress payments for the lump sum amounts shown in Table 1. The Owner represents that funding sources are in place with the available funds necessary to pay GARVER.

If any payment due GARVER under this agreement is not received within 60 days from date of invoice, GARVER may elect to suspend services under this agreement without penalty or liquidated damages assessed from the Owner.



The table below presents a summary of the fee amounts and fee types for this contract.

Table 1

WORK DESCRIPTION	FEE AMOUNT	FEE TYPE
Administration, Initiation, and Introduction	\$66,650	Lump Sum
Airport Inventory	\$89,910	Lump Sum
Forecasts of Aviation Demand	\$42,200	Lump Sum
Facility Requirements	\$107,580	Lump Sum
Alternatives	\$151,620	Lump Sum
Recommended Development and Environmental Overview	\$66,520	Lump Sum
Capital Improvement Plan and Financial Plan	\$119,110	Lump Sum
Airport Layout Plan	\$65,220	Lump Sum
Aeronautical Survey and Geographic Information System Data/Tools	\$175,500	Lump Sum
Final Documentation/Coordination Meetings	\$109,230	Lump Sum
TOTAL FEE	\$993,540.00	Lump Sum

The total amount to be paid under this agreement is \$993,540. For informational purposes, a breakdown of GARVER's estimated costs is included in Appendix B.

GARVER will request progress payments, and the Owner will pay GARVER on a monthly basis, based upon statements submitted by GARVER to the Owner indicating the estimated proportion of the work accomplished. Payments not received within 60 days of invoice date will be subject to a one percent monthly simple interest charge.

As directed by the Owner, some billable work may have been performed by GARVER prior to execution of this agreement. Payment for this work will be made in accordance with the fee arrangement established herein, as approved by the Owner.

Additional Services (Extra Work). For work not described or included in Section 2 – Scope of Services but requested by the Owner in writing, the Owner will pay GARVER, for time spent on the project, at the rates for each classification of GARVER's personnel (may include contract staff classified at GARVER's discretion) plus reimbursable expenses including but not limited to printing, courier service, reproduction, and travel. The rates will be increased annually with the first increase effective on or about July 1, 2016.

SECTION 4 - OWNER'S RESPONSIBILITIES

In connection with the project, the Owner's responsibilities shall include, but not be limited to, the following:

1. Giving thorough consideration to all documents presented by GARVER and informing GARVER



of all decisions within a reasonable time so as not to delay the work of GARVER.

2. Making provision for the employees of GARVER to enter public and private lands as required for GARVER to perform necessary preliminary surveys and other investigations.
3. Furnishing GARVER such plans and records of construction and operation of existing facilities, available aerial photography, reports, surveys, or copies of the same, related to or bearing on the proposed work as may be in the possession of the Owner. Such documents or data will be returned upon completion of the work or at the request of the Owner.
4. Furnishing GARVER a current boundary survey with easements of record plotted for the project property.
5. Paying all plan review and advertising costs in connection with the project.
6. Providing legal, accounting, and insurance counseling services necessary for the project and such auditing services as the Owner may require.
7. Giving prompt written notice to GARVER whenever the Owner observes or otherwise becomes aware of any defect in the project or other events which may substantially alter GARVER's performance under this Agreement.

SECTION 5 – MISCELLANEOUS

5.1 Instruments of Service

GARVER's instruments of service provided by this agreement consist of the printed hard copy reports, drawings, and specifications issued for the Assignment or Project; whereas electronic media, including CADD files, are tools for their preparation. As a convenience to the Owner, GARVER will furnish to the Owner both printed hard copies and electronic media. In the event of a conflict in their content, however, the printed hard copies shall take precedence over the electronic media.

GARVER's electronic media are furnished without guarantee of compatibility with the Owner's software or hardware, and GARVER's sole responsibility for the electronic media is to furnish a replacement for defective disks within thirty (30) days after delivery to the Owner.

GARVER retains ownership of the printed hard copy drawings and specifications and the electronic media. The Owner is granted a license for their use, but only in the operation and maintenance of the Project or Assignment for which they were provided. Use of these materials for modification, extension, or expansion of this Project or on any other project, unless under the direction of GARVER, shall be without liability to GARVER and GARVER's consultants. The Owner shall, to the extent allowed by law, indemnify, defend, save harmless GARVER, GARVER's consultants, and the officers and employees of any of them from and against any and all claims, liabilities, damages, losses, and costs, including but not limited to costs of defense, arising out of the Owner's use of these materials for modification, extension, or expansion of this Project or on any other project not under the direction of GARVER.

Because data stored in electronic media form can be altered, either intentionally or unintentionally, by transcription, machine error, environmental factors, or by operators, it is agreed that the Owner shall, to the extent allowed by law, indemnify, defend, save harmless GARVER, GARVER's consultants, and the officers and employees of any of them from and against any and all claims, liabilities, damages,



losses, and costs, including but not limited to costs of defense, arising out of changes or modifications to the data in electronic media form in the Owner's possession or released to others by the Owner and for any use of the electronic media and printed hard copy drawings and specifications outside the license granted by this provision.

5.2 Opinions of Cost

Since GARVER has no control over the cost of labor, materials, equipment, or services furnished by others, or over the Contractor(s)' methods of determining prices, or over competitive bidding or market conditions, GARVER's Estimates of Project Costs and Construction Costs provided for herein are to be made on the basis of GARVER's experience and qualifications and represent GARVER's best judgment as an experienced and qualified professional engineer, familiar with the construction industry; but GARVER cannot and does not guarantee that proposals, bids or actual Total Project or Construction Costs will not vary from estimates prepared by GARVER.

The Owner understands that the construction cost estimates developed by GARVER do not establish a limit for the construction contract amount. If the actual amount of the low construction bid exceeds the construction budget established by the Owner, GARVER will not be required to re-design the project without additional compensation.

5.3 Underground Utilities

GARVER will not provide research regarding utilities and survey utilities located and marked by their owners as provided for in this agreement. Additionally, since many utility companies typically will not locate and mark their underground facilities prior to notice of excavation, GARVER is not responsible for knowing whether underground utilities are present or knowing the exact location of utilities for design and cost estimating purposes. Additionally, GARVER is not responsible for damage to underground utilities, unmarked or improperly marked, caused by geotechnical, potholing, construction, or other subconsultants working under a subcontract to this agreement.

5.4 Insurance

GARVER currently has in force, and agrees to maintain in force for the life of this Contract, the following minimum schedule of insurance:

Worker's Compensation	Statutory Limit
Automobile Liability (Combined Property Damage and Bodily Injury)	\$500,000.00
General Liability (Combined Property Damage and Bodily Injury)	\$1,000,000.00
Professional Liability	\$2,000,000.00

5.5 Records

FAA, Owner, Comptroller General of the United States or any of their duly authorized representatives shall have access to any books, documents, papers and records of GARVER which are directly pertinent to a specific grant program for the purpose of making audit, examination, excerpts, and transcription. GARVER shall maintain all required records for 3 years after the Owner makes final



payment and all other pending matters are closed.

GARVER shall submit to the Owner deliverables identified for each Task as described in Appendix A.

5.6 Indemnity Provision

Subject to the limitation on liability set forth in Section 5.8, GARVER agrees, to the extent allowed by law, to indemnify the Owner for damages, liabilities, or costs (including reasonable attorneys' fees) to the extent the damages and costs are caused by the negligent acts, errors, or omissions of GARVER, its subconsultants, or any other party for whom GARVER is legally liable, in the performance of their professional services under this contract.

The Owner agrees, to the extent allowed by law, to indemnify GARVER for damages, liabilities, or costs (including reasonable attorneys' fees) to the extent the damages and costs are caused by the negligent acts, errors, or omissions of the Owner, its agents, or any other party for whom the Owner is legally liable, in the performance of their professional services under this contract.

In the event claims, losses, damages, or expenses are caused by the joint or concurrent negligence of GARVER and the Owner, they shall be borne by each party in proportion to its own negligence.

Owner agrees that any claim or suit for damages made or filed against GARVER by Owner will be made or filed solely against GARVER or its successors or assigns and that no member or employee of GARVER shall be personally liable to Owner for damages under any circumstances.

5.7 Design without Construction Phase Services

Not used.

5.8 Limitation of Liability

In recognition of the relative risks and benefits of the project to both the Owner and GARVER, the risks have been allocated such that the Owner agrees to limit the liability of GARVER and its subconsultants to the Owner and to all construction contractors and subcontractors on the project for any and all claims, losses, costs, damages of any nature whatsoever or claims for expenses from any cause or causes, so that the total aggregate liability of GARVER and its subconsultants to all those named shall not exceed GARVER's collectable insurance proceeds for services rendered on this project. Such claims and causes include, but are not limited to negligence, professional errors or omissions, strict liability, breach of contractor warranty, and indemnity obligations.

Notwithstanding any other provision to the contrary in this Agreement or a Work Authorization and to the fullest extent permitted by law, neither Owner nor Garver shall be liable, whether based on contract, tort, negligence, strict liability, warranty, indemnity, error and omission, or any other cause whatsoever, for any consequential, special, incidental, indirect, punitive, or exemplary damages, or damages arising from or in connection with loss of power, loss of use, loss of revenue or profit (actual or anticipated), loss by reason of shutdown or non-operation, increased cost of construction, cost of capital, cost of replacement power or customer claims, and Owner hereby releases Garver, and Garver releases Owner, from any such liability.

SECTION 6 - CONTROL OF SERVICES

This is a Texas Contract and in the event of a dispute concerning a question of fact in connection with



the provisions of this contract which cannot be disposed of by mutual agreement between the Owner and GARVER, the matter shall be resolved in accordance with the Laws of the State of Texas, and venue shall be in Bell County.

This Agreement may be terminated by either party by written notice in the event of substantial failure to perform in accordance with the terms hereof by the one (1) party through no fault to the other party or for the convenience of the Owner upon delivery of written notice to GARVER. If this Agreement is so terminated, GARVER shall be paid for the time and materials expended to accomplish the services performed to date, as provided in SECTION 3 - PAYMENT; however, GARVER may be required to furnish an accounting of all costs.

SECTION 7 - SUCCESSORS AND ASSIGNS

The Owner and GARVER each bind themselves and their successors, executors, administrators, and assigns of such other party, in respect to all covenants of this Agreement; neither the Owner nor GARVER shall assign, sublet, or transfer their interest in this agreement without the written consent of the other. Nothing herein shall be construed as creating any personal liability on the part of any officer or agent of any public body which may be a party hereto.

SECTION 8 – OTHER

Independent Contractor. Contractor shall act as an Independent Contractor. Under no circumstances shall Contractor be deemed an employee or partner of Owner.

Standard of Care. The standard of care for all professional engineering and related services performed or furnished by Contractor under this Agreement will be the care and skill ordinarily used by members of the Contractor's profession practicing under similar circumstances at the same time and in the same locality.

Severability. If any provision of this Agreement shall, for any reason, be held to violate any applicable law, then the invalidity of such a specific provision in this Agreement shall not be held to invalidate the remaining provisions of this Agreement.

Survival. Any provision of this Agreement providing for indemnity, insurance or a duty that necessarily will not be completed until after the expiration or termination of this Agreement shall continue in full force and effect until such a time as all duties have been fully performed.

Non-waiver. Failure to enforce any provision of this Agreement by either party shall not constitute a waiver of that provision for purposes of the subsequent enforcement of that provision or the remainder of this Agreement.

SECTION 9 – APPENDICES AND EXHIBITS

- 9.1 The following Appendices and/or Exhibits are attached to and made a part of this Agreement:
 - 9.1.1 Appendix A – Scope of Services
 - 9.1.2 Appendix B – Fee Summary
 - 9.1.3 Appendix C – Certification of Engineer
 - 9.1.4 Appendix D – Mandatory Federal Contract Provisions For Professional Services Contracts



9.2 This Agreement (consisting of pages 1 to 7, inclusive) together with the appendices and exhibits identified above constitute the entire agreement between the Owner and GARVER and supersede all prior written or oral understandings. This Agreement and said appendices and exhibits may only be amended, supplemented, modified or canceled by a duly executed written instrument.

This Agreement may be executed in two (2) or more counterparts each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

IN WITNESS WHEREOF, Owner and GARVER have executed this Agreement effective as of the date last written below.

City of Killeen

GARVER, LLC

By: _____
Signature

By: Frank McIlwain
Signature

Name: Glenn Morrison
Printed Name

Name: FRANK McILWAIN
Printed Name

Title: City Manager

Title: VICE PRESIDENT

Date: _____

Date: 10/26/15

Attest: _____

Attest: [Signature]



APPENDIX A
SCOPE OF SERVICES
Killeen-Fort Hood Regional Airport
Airport Master Plan

GENERAL

In accordance with the requirements of the Federal Aviation Administration (FAA) and for the City of Killeen, Aviation Department (Airport Sponsor), this Scope of Services outlines the tasks necessary to conduct an Airport Master Plan (AMP) for the Killeen-Fort Hood Regional Airport (GRK). The airfield is a joint-use military facility owned by the United States Department of Defense (DoD), operated as Robert Gray Army Airfield; however, the Killeen-Fort Hood Regional Airport is owned by the City of Killeen. This AMP will entail the determination of trends and activities affecting GRK, and the preparation of a plan to guide future airport development. It will be developed in accordance with FAA guidance found in the pertinent and applicable Advisory Circulars (AC).

Development of an AMP is a step toward achieving continuity in the development of community services for residents and commercial/industrial interests in the City of Killeen and the Killeen-Temple Metropolitan Statistical Area (KTMSA). Proper planning and timely development at GRK will ensure the continued viability of the facility from a functional, social, and environmental perspective. The master plan will provide the Airport Sponsor and GRK with a comprehensive overview of the airport's needs for the next 20-year time period, including a preferred development plan, costs for this development, methods of financing, management options, and a clear plan of action.

The AMP will act to define the current and future role of the GRK facilities within the local, regional, and national aviation system. The master planning activities will also provide a capital improvement program for future airport development, as well as an environmental overview delineating the relationship of GRK with the surrounding environment. This planning effort will result in the development of a computerized Airport Layout Plan meeting FAA criteria.

The approach to undertake the Master Plan Study has been outlined in the following elements of this Scope of Services.

ELEMENT 1 - PROJECT ADMINISTRATION, INITIATION, AND INTRODUCTION

Task 1.1 – Project Administration and Support

Garver (Consultant) will serve as the Airport Sponsor's representative throughout the AMP and furnish consultation and advice to the Airport Sponsor during the performance thereof. The Consultant will coordinate funding options with the FAA and will prepare and E-File all necessary documentation required to fulfill project programming and air spacing requirements. The Consultant will prepare all necessary grant applications and supporting documents for the Airport Sponsor's submission to the FAA. The Consultant will prepare and submit all FAA project documents/working papers, project tracking documents, and quarterly performance reports. The Consultant will prepare and submit all required project close-out documents to the FAA and other agencies, as appropriate.

Task 1.2 – Prepare Scope of Work, Budget, and Schedule

In accordance with FAA guidelines and in coordination with GRK and FAA instructions, the Consultant will prepare an outline of the basic elements of the AMP and identify respective individual work tasks



necessary to meet both the requirements set by the Airport Sponsor and FAA for each element of the work scope. A detailed description of each individual work task describing specific work effort involved and resultant work product/deliverables of the work effort will be prepared.

Task 1.3 - Establish Project Committees

Two committees will be established to guide the study process and provide review and input to draft reports and working documents throughout the planning process. The first committee, titled the Executive Committee (EC), will be comprised of staff from the Airport, City of Killeen, and FAA. The EC will provide project review, oversight, and direction for the Consultant and the Master Plan Steering Committee (MPSC). The EC will appoint the members of the MPSC and direct them in their efforts during project development. The MPSC will serve in the capacity of a sounding board and linkage to airport users, including local, state, and federal agencies and the general public. The MPSC will be composed of the EC and other local community and planning agency representatives from the KTMSA, and tenants and other affected airport users. In addition, the EC may opt to include representation from neighborhood or homeowner's associations, economic development corporations, school districts, environmental groups, and Chamber of Commerce from the various cities within the KTMSA. The MPSC will provide technical and community review, as well as input and guidance to the GRK AMP.

Task 1.4 – Kick-off Meeting – Sponsor, Airport, and Committees

A formal Kick-off Meeting will be held with the EC and MPSC to review the vision, mission, and attributes of GRK through a strengths, weakness, opportunities and threats (SWOT) analysis process and to review the project schedule, goals, and objectives. The SWOT analysis will be used to guide the study process. The MPSC will receive instruction and direction for their involvement and time commitment during the airport master planning process.

Task 1.5 – Killeen Fort Hood Regional Introduction Narrative

An introduction chapter to the master plan will be prepared to include an introduction to the purpose and need for the master plan and process. It will document the public involvement process and project committees, and discuss the SWOT analysis completed with the project committees. The airport locality within the community and region will be documented along with an overview of Airport Sponsor hierarchy and management for GRK.

Study workbooks will be developed with twenty-five (25) standard three-ring notebooks provided for distribution to the Sponsor, Consultant Team, FAA, and committee members for use during the AMP study. A workbook cover will be designed and the workbook format will be developed with sections for inserting working papers, notes, and other pertinent project information.

Task 1.6 – Killeen City Council Briefing

The Killeen City Council will be briefed by the Consultant during a regular workshop session. This briefing will ensure Council is aware of the project schedule and major objectives and milestones.

Task 1.7 – Tenant/Public Open-House

As the initial part of a public involvement campaign during the GRK AMP process a tenant/public open-house meeting will be held. The purpose of this meeting will be to inform GRK tenants and the general public about the project scope and schedule, and to solicit public/tenant input. This meeting



will be conducted at an appropriate location within the City of Killeen. This meeting will be an informal, open-house meeting designed around a two-hour block of time after normal working hours. As an open-house meeting attendees will be invited to attend at their leisure anytime during the meeting period. GRK and Consultant staff will be in attendance to answer any questions and receive specific comments that could help guide/impact the AMP process.

ELEMENT 2 - INVENTORY OF EXISTING CONDITIONS

Task 2.1 - Review and Evaluate Existing Documents

Existing reports and studies pertaining to airport and surrounding area planning and development will be collected. These studies will provide essential background and reference information to enhance understanding of existing and projected airport activities, as well as provide insight into relevant planning issues and constraints. Each relevant study will be reviewed for all pertinent civilian and military records that may impact the master planning process. This task will be completed through a physical inventory of existing facilities, personal on-site interviews of key stake-holders, and other resource gathering techniques. This task will also include the acquisition of relevant property information to be used in the study but will not include a new property survey.

Task 2.2 - Inventory Airport Physical Facilities

The facilities inventory will consist of an on-site review of existing airfield and landside facilities with attention focusing on their size, condition, use, and configuration. Included in this inventory will be the identification of property owned/leased by the Airport Sponsor and its existing use. Following is an outline of key elements to be inventoried:

- **Airfield** – Runway/taxiway configuration including pavement strength and condition, marking, signage, lighting, navigational aids, aircraft circulation, and access to airport operational areas will be reviewed;
- **Terminal Building** – Airside and landside components of the current terminal building facility will be inventoried. Externally, on the airside, attention will be focused on the number and configuration of aircraft ramp positions and boarding bridges. On the landside, the external focus will be on automobile circulation, parking, and access. Internally, the focus will be on passenger circulation within the terminal building, distribution of space by functional use, number of gates, facility utilization, and age and condition of the terminal building. The terminal building analysis will include the extent of compliance relative to basic building codes. A general building code and regulatory review will be conducted for the existing terminal building. The adequacy/utilization and condition of the security screening facilities and procedures will be addressed as well;
- **Corporate Aviation Facilities** – Structures devoted for the use of corporate aviation and fixed base operator (FBO) operations will be identified and evaluated as to their ownership, size, use (maintenance hangar, storage hangar, office, etc.), age and/or condition, and tenant lease information. These facilities including ramp areas and number of tiedowns will be identified and quantified by area or other appropriate measure. Age or condition of the facility will be identified as will the utilization and location;



- **Land Holdings** – Airport Sponsor land interests for GRK, including areas owned in fee simple and easement interests, will be identified. Lease holdings by the Airport Sponsor from the DoD will be documented within the master plan. This information will be incorporated into the ALP Update, as appropriate;
- **Airport Automobile Access and Parking Facilities** – The following parking components will be inventoried: geometrics of short-term, long-term, employee parking, cell phone lots, parking access/revenue control equipment, operating methodologies, signage, and rate structure;
- **Support Facilities** – Utilities supporting GRK civilian operations will be reviewed. The water system, sewer system, storm water system, gas distribution system, electrical distribution system, and telephone service will be identified and evaluated. This information is of particular importance in the assessment of alternative airport development options and the recommendations relating to the future aeronautical and non-aeronautical land use patterns. Airport support facilities to be inventoried will include, but not necessarily be limited to, airport rescue and firefighting (ARFF) facilities and equipment, rental car services and facilities, airport administration, fueling facilities, and airport maintenance shops and equipment; and,
- **Airport Recycling, Reuse, and Waste Reduction** – The following tasks will be completed as a part of the inventory process for airport recycling program:
 - Collect baseline information on GRK's waste management program;
 - Assess existing waste management program;
 - Assess opportunities for expansion of recycling program;
 - Develop recommendations for improving the recycling program; and,
 - Measure performance through development of a spreadsheet to enable continuous monitoring of recycling performance at GRK.

Task 2.3 – Airspace/Air Traffic Control

Air traffic control facilities responsible for handling traffic into and out of GRK will be identified and their procedures, as they relate to GRK, will be analyzed. An inventory of the area airspace will be undertaken with emphasis on the identification of airways, restricted areas, intersections, and obstructions. This task will identify operational limitations due to traffic interactions with other airports, reserved airspace, noise abatement procedures, airfield facilities and design, air traffic control towers, and existing or programmed NAVAIDS.

Task 2.4 – Airport Service Area and Commercial Catchment Zone

Identification of area airports with an evaluation of services to compare these to GRK will be completed to establish a specific area the airport serves for general aviation (GA)/corporate traffic. Factors considered in the evaluation and establishment of a service area for GRK include: FBO type services, fuel availability, hangar storage, tiedowns, roadway access, and professional judgement. A review of aircraft registration information within local zip codes will be completed to identify a corporate airport service area.

A geographic commercial service catchment area for GRK and surrounding commercial service airports will be reviewed to identify the potential market size and GRK's region and total source of



demand for air carrier and cargo operations. The GRK catchment area will be based on population centers, highway access, numbers of carriers serving a specific airport, other commercial airport locations and distances to population centers, historic enplanements, origin versus destination considerations, nonstop service destinations, and cargo facilities/services.

Task 2.5 - Vicinity Land Use/Land Use Controls

Existing land use mapping, aerial photography, comprehensive/thoroughfare plans, floodplain maps, and other documentation pertaining to current and future land use in the vicinity of GRK will be obtained and reviewed. Existing zoning districts will be reviewed to determine locations where potential noncompatible land uses could develop. Further, local planning agencies will be interviewed to identify the potential for future residential, commercial, and industrial development in the GRK vicinity. Existing FAR Part 77 controls, zoning ordinances, subdivision regulations, building codes, and other documentation pertaining to land use management in the GRK vicinity will also be reviewed. Particular attention will be paid to identifying those requirements that could affect, both in a positive and negative fashion, future GRK development.

Task 2.6 - Aerial Photography/Mapping

A rectified aerial photograph will be taken of GRK, providing complete coverage of airfield boundary and property lease to the City of Killeen. This will be used as the basis for digital aerial mapping of airport facilities and areas within its approaches. This photo will be of scale, clarity, and coverage to be used as the basis for subsequent analyses and as a base for Airport Layout Plan (ALP) development. Digital mapping of the airport will be conducted in conjunction with the aerial photography with more specific details described in Element 9.

Task 2.7 - Inventory of Waivers

A listing of existing waivers that have been granted at GRK will be prepared. FAA files will be obtained (if applicable) to identify the item waived by the FAA, its location, when it was granted, and other relevant information. This information will be incorporated into the Airport Layout Plan set as well as being used in subsequent analyses in the AMP.

Task 2.8 – Environmental Overview

Existing baseline environmental conditions at the airfield will be documented and carried into the evaluation of preferred airfield and landside development alternatives. Factors to be reviewed includes: Noise and land use; Biotic resources; Water quality; Wetlands; Floodplain and floodway data; Geology and soils; Solid and hazardous waste sites; and Historic and cultural resources. This effort will primarily be from existing and readily available environmental data. This process will update the inventory of potential environmental sensitivities.

Task 2.9 – Socioeconomic Conditions

Statistical data on historic and forecast socioeconomic factors for the KTMSA and other locations within the GRK air service area will be obtained and documented. These items will include, at minimum, employment, income, and population characteristics. The Consultant will obtain and review local and regional forecasts of socioeconomic activity that analyze projected growth for the service area. The socioeconomic conditions of the KTMSA will be presented to provide foundational data guiding the impacts to any econometric based forecasts of based aircraft, operations, and commercial enplanements.



Task 2.10 – Airport Existing Financial Statements, Tenant Agreements/Leases and Other Financial Data

GRK's basic financial model will be analyzed and summarized. This summary will describe the financial operations of the airport including how airport revenues and costs are attributed to airport users/tenants and how any surplus or deficit is managed. The existing financial management plan will show how the airport funds capital improvement projects. Interviews with airport management will be conducted to gain an overall picture of how financial functions. Financial data to be gathered includes:

- Historical, detailed (account-by-account) financial statements and audit reports (CAFRs) for the past three years
- Detailed year-to-date financial statements for the current year with budget remaining amounts
- FAA #127 and #126 reports for the last three years
- Current operating and capital budgets (internal as well as the CIP submitted to the FAA ADO)
- Official statements/loan agreements for any outstanding debt issues
- City ordinances, resolutions, administrative rules, regulations and policies establishing the Airport and affecting its financial management
- Airline operating and terminal building lease agreements
- Rental car (on- and off-airport) and other ground transportation agreements
- Restaurant/Lounge, gift shop and specialty retail concession agreements;
- FBO agreements, large hangar leases, typical T-hangar leases by size, improved & unimproved ground leases, cargo facility leases and other general aviation agreements;
- Other Airport lease, concession, use and privilege agreements;
- FAA, state and local grant records;
- PFC quarterly reports for the most recently submitted quarter and the same report submitted one year earlier; and,
- Historical aviation activity statistics for the past three years and current year-to-date by air carrier by month including enplanements, aircraft operations, landed weight, fuel flowage gallons and air cargo statistics.

Airport revenue and operating expenses will be summarized in broad categories. Airport revenues to be inventoried include both airline and non-airline dollars. Non-airline revenues to be examined include terminal concessions, rental car, fuel sales, land leases, and other incomes as well as tax revenues. An inventory of the various airport lease agreements will be examined to document this source of airport revenue. Airport fueling records will be examined. Expenses to be documented include personnel, maintenance, utilities/supplies, debt service, and capital funding.

A closer review of capital funding will be provided to summarize GRK's ongoing airport improvement program. The various different funding sources will be identified and could include: airlines, tenants, tax levies, passenger facility charges, grants, other state/federal aid, and airport revenue bonds, as applicable.

Task 2.11 – Prepare Draft Report

Using raw data and information obtained and evaluated during the course of the inventory process, a draft report will be prepared. This report will present information, in both narrative and graphic format, including GRK background/history, GRK physical characteristics, GRK service area, local land use/controls, existing GRK financials and management structure, MSA demographics, and historical



and forecast levels of activity. Copies of the draft report will be prepared for distribution to the Sponsor/GRK/EC/MPSC/FAA.

ELEMENT 3 - AVIATION ACTIVITY FORECASTS

Task 3.1 - Inventory Historical and Current Air Traffic Activity

Historic and current air traffic activity at GRK will be assembled and organized. Information concerning passenger airline activity, air taxi enplanements and operations, air mail and air cargo volumes, commercial operations, corporate aviation operations by local and itinerant categories, military operations, and based aircraft by aircraft type will be sought. Information concerning peak hour, daily, monthly, and annual activity will be obtained and quantified, as available. Data will be obtained from GRK records, air traffic control tower (ATCT) records, military operators, airline records, the FAA, and previous planning efforts for GRK.

Task 3.2 - Prepare Aviation Forecasts

Commercial, corporate aviation, air cargo, and military activity forecasts will be developed, taking into consideration forecasts from other sources, including the FAA. The methodology used in this analysis will involve a variety of techniques that will identify national and regional trends and their influence on GRK activity. Historic activity data will be organized to identify peaking characteristics, local and itinerant mix, military and civilian mix, and civilian aviation fleet mix. Forecasts of aviation activity will be prepared for the five, ten, and twenty year planning horizon and will provide projections of the following:

- Operations
 - Itinerant
 - Air Carrier
 - Air Taxi / Commuter
 - Air Cargo (including tonnage shipped/received)
 - Corporate Aviation
 - Instrument Approaches
 - Military
 - Local
 - Corporate Aviation
 - Military
- Passengers (annual enplanements)
 - Enplanements
 - Air Carrier
 - Air Taxi / Commuter
 - Origination
 - Destination
 - Aircraft
 - Based Aircraft
 - Aircraft Fleet Mix
 - Critical Aircraft Determination

Based on the fleet mix forecasts, determine the most demanding scheduled commercial service aircraft (passenger or cargo) and the most demanding corporate aviation aircraft reference code with 500 or more annual operations at GRK.

Task 3.3 - Prepare Draft Report

Using raw data and information obtained and evaluated during the course of the forecast process, a draft report will be prepared. The report will document assumptions and methodologies used in preparing the aviation demand forecasts and serve as the basis for later tasks in the study. Forecasts will be submitted for approval by the FAA prior to finalizing any subsequent forecast-dependent task. Copies of the draft report will be prepared for distribution to the Sponsor/GRK/EC/MPSC/FAA.



Task 3.4 – Airport Planning Meetings

A project meeting (Sponsor/Airport/EC/Consultant/FAA) will be held to present and discuss the findings, assumptions and recommendations of the aviation demand forecasts contained in the draft report. The Sponsor/Airport/EC/FAA will deliver comments on the draft report and provide direction for the Consultant. Revisions to the working paper will be completed based on comments received.

A project meeting (Sponsor/Airport/EC/MPSC/Consultant/FAA) will be held to present and discuss the findings, assumptions and recommendations of the aviation demand forecasts. Comments and input will be provided by the Sponsor/Airport/MPSC/FAA. Revisions to the working paper will be completed based on comments received.

ELEMENT 4 - DEMAND CAPACITY/FACILITY REQUIREMENTS

Task 4.1 - Analyze Airport Capacity and Delay

Using the FAA's methodology for assessing airfield capacity and delay, as described in the FAA Advisory Circular 150/5060-5, an assessment of the current and future level of airfield capacity and associated aircraft delay will be developed. This analysis will consider the airfield configuration, including runway orientation, parallel taxiways and exit taxiways, weather conditions, aircraft fleet mix, current and forecast operations for the five, ten, and twenty year planning horizon, and the percentage of local touch and go operations. The result of the assessment will be expressed in terms of the hourly and annual service volume of the airfield, minutes of delay per aircraft operation, and total estimated annual delay. This assessment will evaluate the existing airfield configuration in terms of its adequacy to meet the anticipated operational demand and design group and approach categories of aircraft forecast to operate at GRK.

Task 4.2 – Evaluate Airfield Facility Requirements

Based on the findings of Element 3, air service objectives for scheduled commercial airline, charter flights, and corporate aviation operators at GRK will be identified. In addition, GRK objectives for accommodating future air cargo operators will be identified. Service objectives will address the determination of markets that would be desirable to serve out of GRK and what restrictions (i.e., weight restrictions) on that service would be acceptable.

A runway length analysis will be performed to determine the maximum range and payload capability for the identified design/critical commercial aircraft, operating under the following conditions at the Airport:

- Existing runway gradients;
- 95th percent hottest day temperature of the year; and,
- 85th percent probability wind conditions.

For various runway lengths, the maximum range and payload capability will be calculated based on aircraft manufacturer's data. Various runway length alternatives will be evaluated for each design aircraft and will include the following:

- Existing runway length; and,
- Any potential runway extension (based on the specific aircraft and markets identified).



For each aircraft type, a table will be produced indicating:

- Gross takeoff weight that could be accommodated by each runway length alternative;
- Approximate distance in nautical miles that the aircraft could travel, assuming a typical load of passengers, payload, and fuel; and
- Estimated frequency of payload penalties that may occur under specific operating conditions in serving particular markets or stage lengths.

Based on the critical aircraft and service objectives identified, other improvements to the runway will also be reviewed, including:

- Runway width/shoulders;
- Pavement strength;
- Taxiway requirements;
- FAA Separation standards; and,
- Navigational Aids (NAVAIDS).

Airfield improvements will be reviewed and compared to the design standards contained in FAA Advisory Circular (AC) 150/5300-13, *Airport Design*. A matrix will be developed comparing the Airport's existing airfield facilities and dimensions to the standards recommended in the AC 150/5300-13A (current version). As part of this analysis, the airfield recommendations contained in any of the Airport Sponsor's long-term planning documents will be reviewed and updated as necessary.

Task 4.3 - Corporate Aviation Facility Requirements

Corporate aviation facility requirements will be identified as needed to meet projected levels of demand for the five, ten, and twenty year time frames. These facility requirements will be based upon airport planning criteria, input from GRK staff, and the forecast of aviation activity for GRK. Airfield and corporate aviation facility needs to be assessed include:

- Fixed Base Operator (FBO) facilities;
- Aircraft storage facilities (hangars);
- Aircraft storage hangar positions by hangar type;
- T-Hangar positions;
- Conventional hangar facilities;
- Based and itinerant apron/ramp and parking area including number and configuration of tiedowns ;
- GA terminal building/amenities;
- Fuel storage and delivery; and,
- Automobile access and parking.

Facility requirements will be expressed in terms of gross area, linear feet or other basic units, and will be compared to existing facilities to identify excess or deficient capacity by facility. This assessment will quantify future development items needed to maintain an adequate level of service, function, and operation at the Airport.

Task 4.4- Determine Commercial Terminal Facility Requirements

The commercial terminal facilities extend from the ramp/gate area on the airside out through the automobile entrance, circulation, and parking facilities. The analysis of commercial facility



requirements will be based on multiple factors including but not limited to available land, state/condition of existing facilities, existing and forecast activity levels (enplanements and operations), catchment area demographics, and airport goals and objectives. The following airside, passenger terminal, and landside facilities will be examined and evaluated:

- Airside
 - Aircraft gates and parking (number and type)
 - Aircraft parking for remain-overnight situations
 - Ground service equipment/vehicle storage/parking
- Landside
 - Airport entrance road and ground access
 - Airport roadway management practices
 - Terminal curb length, passenger drop off/pickup
 - Automobile parking – short-term, long-term, and cell phone lot
 - Wayfinding signage location and message
- Passenger Terminal
 - Ticket counter/kiosk areas
 - Security screening checkpoints
 - Gates/hold rooms/departure lounges
 - Concessions
 - Airline operations
 - Baggage claim area
 - Passenger circulation and public space
 - Restrooms
 - Wayfinding signage
 - Airport administration/operation offices
 - Mechanical space

Automobile parking needs will be assessed based on peaking demand analysis as related to airport passenger volume history and projections, parking volume and financial performance of the parking system, and significant operational changes. The mix of traveler categories and their impact on parking needs will be evaluated. Using all requested and available data a model of current parking demand will be developed and used to project future parking demand, linking demand to projections fo future passenger volumes during the 10-year forecast period.

Task 4.5 - Prepare Draft Report

Using raw data and information obtained and evaluated during the course of the Demand Capacity and Facility Requirements process, a draft report will be prepared. This report will present information, in both narrative and graphic format about GRK's existing capacity and the required facilities necessary to meet forecast aviation demand. Copies of the draft report will be prepared for distribution to the Sponsor/GRK/EC/MPSC/FAA.

Task 4.6 – Airport Planning Meetings

A project meeting (Sponsor/Airport/EC/Consultant/FAA) will be held to present and discuss the findings, assumptions, and recommendations of the demand capacity and facility requirements analysis contained in the draft report. The Sponsor/Airport/EC/FAA will deliver comments on the draft



report and provide direction for the Consultant. Revisions to the working paper will be completed based on comments received.

A project meeting (Sponsor/Airport/EC/MPSC/Consultant/FAA) will be held to present and discuss the findings, assumptions and recommendations of the demand capacity and facility requirements analysis. Comments and input will be provided by the Sponsor/Airport/MPSC/FAA. Revisions to the working paper will be completed based on comments received.

ELEMENT 5 - AIRPORT ALTERNATIVES

Task 5.1 - Identify Potential Airfield Alternatives

On the basis of the facility requirements established in preceding elements, preliminary airfield development alternatives will be developed. Airfield alternatives will be based on schemes for development within existing or expanded airport boundaries and will show necessary major runway and taxiway development during the 20-year planning period. This task will be conducted simultaneously with the following tasks and will result in a series of overall development options for the Airport. Airfield alternatives will be analyzed based on their ability to satisfy the identified facility requirements, environmental considerations, engineering factors, costs, and ease of implementation.

Based on existing available data, this task will identify and review various constraints and potential impacts on improvement projects for both runways, as necessary, to its desired runway length, including:

- Environmental constraints (i.e., wetlands, prime and unique farmland, endangered species, etc.);
- Residential and/or business impacts;
- Road relocation, power line, and utility impacts; and,
- Geographical constraints.

Potential constraints will be identified based on site reviews and on reviews of aerial photography, USGS maps, and other similar documents. As necessary, relevant local and State agencies will be contacted to identify potential environmental impacts associated with each major airfield improvement alternative.

Based on the previous findings, an evaluation matrix will be developed to compare the following factors associated with each runway and taxiway alternative:

- The ability of particular runway lengths to satisfy the air service objectives;
- The level of environmental, residential/business, and utility line impacts associated with each improvement project;
- The amount of required land acquisition; and
- Order-of-magnitude costs associated with each of the major airfield improvement alternative and potential funding sources.

Based on the evaluation of the various alternatives, as well as meetings with Sponsor and GRK staff, a preferred airfield improvement plan will be selected.



Task 5.2 - Identify Potential Terminal Building and Auto Parking Alternatives

Based on the forecast of demand and terminal area facility requirements at GRK, future terminal building alternatives will be developed. This task will be conducted simultaneously with other tasks in this element and result in a series of overall development options. Roadway access and auto parking to the existing terminal will be evaluated based on anticipated activity levels and terminal area usage. Terminal alternatives will be evaluated on the basis of their ability to satisfy the identified facility requirements, ease of implementation, environmental considerations, and costs leading to the selection and discussion of the best option for meeting identified GRK needs. The need and location of a new customs facility at GRK will be evaluated during this task. These options will include the no-action, expansion, and layout redesign for specific areas inside the terminal building.

Using the analysis of parking needs and other information related to the terminal design, the Consultant will develop recommendations related to the sizing of various parking offerings in the terminal area to meet identified parking needs and provide the desired level of customer service. Review and discuss the vision for the future terminal area and develop concept configurations for short-term, long-term, employee parking areas along with integration of rental car ready/return area and access to and from each parking area.

Task 5.3 - Identify Potential Corporate Aviation Facility Alternatives

Based on the corporate aviation area facility requirements determined under a previous element, preliminary aviation area development within or beyond existing airport boundaries will be formulated and necessary major development during the 20-year planning period will be shown. This task will be conducted simultaneously with other tasks in this element and will result in a series of overall development options. These alternatives will be evaluated on the basis of their efficiency in meeting identified facility requirements, engineering factors, implementation ease, costs, and environmental considerations. This will lead to the selection of the option best satisfying the identified need and in line with GRK's vision and mission.

Task 5.4 – Landside support Alternatives for Revenue Generation

Utilize land use techniques to identify property development plan that will include aviation and non-aviation land use opportunities. The purpose of this analysis will be to identify those opportunities that will bolster GRK's long-term economic condition and cash flow.

Task 5.5 – Future Corporate Facility Grading/Utility Analysis

Using data available from the Airport Sponsor and the survey performed during the project, complete a discovery of all utilities in the vicinity of the future corporate area south of the commercial terminal facilities. Review all contour data from aeronautical survey data and make recommendations based on this information for the grading required in this area and a more in-depth analysis, as needed.

Task 5.6 - Determine Preliminary Development Schedule and Costs

Using labor and materials price data from recent airport construction projects, preliminary cost estimates for each airport development option will be developed. These preliminary cost estimates will assist in selecting preferred development alternatives.



Task 5.7 – Prepare Draft Report

Using raw data and information obtained and evaluated during the course of the alternatives analysis process, a draft report will be prepared. This report will present information, in both narrative and graphic format about GRK's development options necessary to meet forecast aviation demand and increase utilization and functionality of the existing terminal building and existing/potentially available development property. Copies of the draft report will be prepared for distribution to the Sponsor/GRK/EC/MPSC/FAA.

Task 5.8 – Airport Planning Meetings

A project meeting (Sponsor/Airport/EC/Consultant/FAA) will be held to present and discuss the findings, assumptions, and recommendations of the alternatives analysis process and options contained in the draft report. The Sponsor/Airport/EC/FAA will deliver comments on the draft report and provide direction for the Consultant. Revisions to the working paper will be completed based on comments received.

A project meeting (Sponsor/Airport/EC/MPSC/Consultant/FAA) will be held to present and discuss the findings, assumptions and recommendations of the alternatives analysis process. Comments and input will be provided by the Sponsor/Airport/MPSC/FAA. Revisions to the working paper will be completed based on comments received.

ELEMENT 6 – RECOMMENDED DEVELOPMENT AND ENVIRONMENTAL OVERVIEW

Task 6.1 - Recommended Airport Master Plan Concept

Utilizing the information evaluated in previous tasks, prepare a detailed comparative evaluation and the supporting rationale that systematically eliminates those alternatives with the least potential and establishes a single recommended program for development of GRK facilities. The recommendation for the most prudent and feasible AMP concept will become the basis for the final refinement of concepts, costs, and scheduling. This recommended concept is considered preliminary in nature at this point in order to allow further input from the Airport Sponsor, Consultant Team, EC, MPAC, FAA, and the public.

Task 6.2 – Environmental Overview of Recommended Development

An Environmental Overview will be prepared in accordance with paragraphs 47 and 49, Federal Aviation Administration Order 5050.4B (Airport Environmental Handbook – current revision) and Order 1050.1E. Projects which may require further NEPA analysis will be identified at this time.

Noise exposure Maps (NEM) will be developed using the FAA's Integrated Noise Modeling software and be based on the FAA approved aviation demand forecasts for GRK. Noise contours will be presented for the day-night average sound level (DNL) 60, 65, 70, and 75 and overlaid on an appropriate base map. Noise exposure contours will be prepared for the current year, as well as for the five and ten year forecast activity for the preferred airfield development plan to include considerations of any runway expansions.

Following the inventory of the airport recycling program, the Consultant will develop recommendations for refinement and improvements of the recycling program. Additionally; a



spreadsheet tracking tool will be developed that will enable continuous monitoring of recycling performance measures at GRK.

Task 6.3 – Prepare Draft Report

Using raw data and information obtained and evaluated during the course of the recommended development and environmental overview, a draft report will be prepared. This report will present information, in both narrative and graphic format about GRK’s recommended development plan and environmental overview. Copies of the draft report will be prepared for distribution to the Sponsor/GRK/EC/MPSC/FAA.

Task 6.4 – Airport Planning Meetings

A project meeting (Sponsor/Airport/EC/Consultant/FAA) will be held to present and discuss the findings, assumptions, and recommendations of the recommended development plan and environmental overview contained in the draft report. The Sponsor/Airport/EC/FAA will deliver comments on the draft report and provide direction for the Consultant. Revisions to the working paper will be completed based on comments received.

A project meeting (Sponsor/Airport/EC/MPSC/Consultant/FAA) will be held to present and discuss the findings, assumptions and recommendations of the recommended development plan and environmental overview. Comments and input will be provided by the Sponsor/Airport/MPSC/FAA. Revisions to the working paper will be completed based on comments received.

Task 6.4 – Killeen City Council Briefing

The Killeen City Council will be briefed by the Consultant during a regular workshop session. This briefing will ensure Council is aware of the project schedule, progress, and recommendations.

Task 6.5 – Tenant/Public Open-House

As part of the public involvement campaign during the GRK master planning process a tenant/public open-house meeting will be held. This meeting will be conducted at an appropriate location in the City of Killeen. The purpose of this meeting will be to communicate the work product generated to this point of the AMP and provide the community with an opportunity for direct and indirect feedback on the process and outcomes of the AMP. It will be an informal, open-house meeting designed around a two-hour block of time during the early evening hours. As an open-house meeting attendees will be invited to attend at their leisure anytime during the meeting period. Airport Sponsor, GRK, and Consultant staff will be in attendance to answer any questions and receive specific comments that could help guide/impact the GRK master planning process and outcomes.

ELEMENT 7 – COST ESTIMATES/FINANCIAL PLAN

Task 7.1 - Refine Airport Development Schedules and Cost Estimates; Update GRK CIP

Based on the previous evaluations and technical meetings, the airport development schedule will be refined to reflect economic feasibility and operational requirements of the preferred development plan, based on inclusion in the capital improvement program. The development schedules will include development of new facilities, land acquisition, pavement evaluations and rehabilitation, fuel farms, and airport support facilities.



Based on the previous evaluations and technical meetings, cost estimates will be developed to reflect the recommended facility requirements and schedule of development associated with the preferred airport development plan. An updated capital improvement plan will be developed and utilized as input into the financial modeling for GRK.

Within the existing and potential auto parking areas a general financial feasibility assessment will be completed that includes: parking revenue forecast model based on existing and projected parking volumes, duration-of-stay patterns, and prospective rate structure. A general estimate for parking facility improvements will be developed. Potential revenue enhancement measures will be evaluated and reported with recommendations.

Task 7.2 - Conduct Preliminary Financial Analysis and Prepare Financial Implementation Plan

The purpose of the Financial Plan will be to develop an implementable strategy for financially undertaking the airport's development program. It will provide the framework for the Sponsor/Airport to use as it proceeds with future development. Included in the financial plan will be the identification of specific funding sources, projections of revenues and expenses, development of a preferred strategy for use of passenger facility charges (PFCs), and identification of bonding requirements, both in terms of amounts and timing. The output will consist of a final report that the City/Airport can use as a basis to implement its capital program. The overall feasibility of the plan will be measured by specific airline rates and charges, airline cost per enplanement, cash flow, and the Airport's ability to meet its other financial requirements.

As the initial step in the financial analysis, baseline airport expenses and revenues will be projected. These projections will be based on a number of factors including:

- Historical operating results;
- Anticipated inflationary impacts;
- Tenant lease provisions and terms; and,
- Anticipated operational changes affecting the Airport's financial performance.

In addition to projecting baseline revenues and expenses, the anticipated "incremental" revenues and expenses that may result from the implementation of specific projects in the Airport's Capital Improvement Program will be estimated. These revenue and expense projections will provide the foundation of the debt capacity analysis described in the following sections.

The Airport's capital improvement plan will be identified and reviewed with airport staff for each project under consideration, and in particular, the proposed runway extension project. Costs will be determined for each project, which will include all design, engineering, and actual construction costs, as applicable. Also, project timing will be estimated to produce the project cost drawdown schedule. Project costs will be inflated to represent cost increases assumed from 2015 to the year in which each respective project is undertaken.

For the capital projects identified, available funding sources will be determined and applied as appropriate to the respective projects. These funding sources may include federal discretionary and entitlement grants, passenger facility charge (PFC) proceeds, Sponsor/Airport funds, private/third-



party funds, and other potential sources of funding for the identified projects. For the remaining “non-funded” portion of the development program, revenue bonds will be assumed. For the revenue bond requirement(s), specific assumptions will be identified regarding interest rates, debt service reserve requirements, capitalized interest, financing costs, and timing of issuance(s).

Based on the projection of airport revenues and expenses, the capital program funding assumptions will be incorporated to determine the initial feasibility of undertaking the program. Basic feasibility will be measured primarily by calculating the impacts on airline rates and charges, the rate covenant, and airport cash flow.

Workshop sessions with Airport officials will be conducted to review and discuss the preliminary financing schedules. These workshops will guide resolving any funding shortfalls identified in the initial capital program by revising the CIP schedule, CIP scope and/or capital funding sources. The process will aid in identification of funding preferences, potential debt requirements and other funding resources that the Airport may want to utilize.

In order to either enhance feasibility or even achieve it, specific projects will be reviewed with the Airport to confirm project costs and timing as well as to review the strategy for available funding sources. As may be necessary, capital projects will be prioritized to arrive as a group of projects that are essential to the Airport. The Consultant will assist the Airport in developing the specific criteria for prioritizing projects based on the Airport’s goals and objectives for implementing the capital development program.

The objective of the financial plan development will be to prepare a detailed financial plan for implementation of the selected Master Plan CIP alternative. The Financial Implementation Plan resulting from this task will present reasonable guidelines, on a preliminary basis, for matching projected financial resources with financial needs. Airline rates and charges and costs per enplaned passenger resulting from the capital program will be calculated at a summary level using the Airport’s current methodology and airline lease agreements for determining user fees. Potential revenue enhancement opportunities for non-airline revenues will be identified.

Task 7.3 - Prepare Draft Report

Using the results of preceding tasks, a draft report, presented in both narrative and graphic format, will be prepared. This report will include the recommended CIP and financial program for GRK. The report will present a financial chapter outlining the overall airport capital improvement program and sources of funding for the selected airport master plan concepts.

Task 7.4 – Airport Planning Meetings

A project meeting (Sponsor/Airport/EC/Consultant/FAA) will be held to present and discuss the findings, assumptions, and recommendations of the CIP and financial program contained in the draft report. The Sponsor/Airport/EC/FAA will deliver comments on the draft report and provide direction for the Consultant. Revisions to the working paper will be completed based on comments received.

A project meeting (Sponsor/Airport/EC/MPSC/Consultant/FAA) will be held to present and discuss the findings, assumptions and recommendations of the CIP and financial program. Comments and input



will be provided by the Sponsor/Airport/MPSC/FAA. Revisions to the working paper will be completed based on comments received.

ELEMENT 8 - AIRPORT PLANS

Task 8.1 Draft Airport Layout Plan

Prepare an Airport Layout Plan (ALP) that meets the requirements of the latest FAA AC 150/5300-13A, (current edition), *Airport Design*, including the elements listed below. This ALP will include a title sheet, airport layout drawing, airspace drawing, inner portion of the approach surface drawings, departure surface drawings, terminal area drawing, land-use/utility drawing, and an airport property map as contained in AC 150/5070-6B, *Airport Master Plans*.

The ALP set will be completed to a level that will allow it to successfully complete the airspace review process by the FAA. It will be completed using the standardized paper size, layer structure, line types, and plot styles using AutoCAD 2015 or newer. Development of the ALP will comply with the checklist contained in the FAA, Airports Standard Operating Procedure (SOP) 2.0, *Standard Procedure for FAA Review and Approval of Airport Layout Plans* located at <http://www.faa.gov/airports/resources/sops/media/arp-SOP-200-ALP-Review.pdf>.

The completed checklist will be submitted with the ALP to the FAA. One paper copy of draft ALP will be submitted to the FAA and 5 copies to Sponsor for review and comments.

As a part of the ALP development an Exhibit "A" Airport Property Inventory Map will be completed. The tasks involved in the Exhibit "A" development include:

- Research of all title work necessary for property ownership, public rights-of-way, and easements;
- Development of a title opinion, as necessary;
- Verify/set monumentation on airport; and,
- Develop a boundary survey of the existing airport fee-simple property.

The Exhibit "A" Airport Property Map will be completed in accordance with the guidelines outlined in FAA, Airports Standard Operating Procedure (SOP) 3.0, *Standard Operating Procedure for FAA Review of Exhibit "A" Property Inventory Maps* located at <http://www.faa.gov/airports/resources/sops/media/arp-SOP-300-Exhibit-A-Review.pdf>. The SOP contains a checklist in Appendix B that will be completed and submitted with the Exhibit "A" for review by the FAA. In addition to the Exhibit "A" and SOP Checklist, any backup documentation such as land descriptions or title opinions will be submitted to the FAA for review.

Task 8.2 ALP Narrative

A brief chapter will be prepared that describes each of the drawings that comprise the Airport Layout Plan. Reduced size copies of each ALP sheet will be included in this chapter with the final approved ALP set included in the final report. In addition, a description of any deviations from FAA Standards will be prepared and presented as part of this chapter. This will describe deviations from a FAA Standards or from recommendations contained in AC/150-5300-13. The areas of key interest include standards deviations that include airport hazards within RPZ, RSA, BRL, ROFA, OFZs, TSA, TOFA, and the controlled activity area.



Task 8.3 Final Draft ALP

Following review of the draft ALP, the consultant will make any necessary changes or corrections to the ALP and Exhibit “A” Property Map and submit an appropriate number of copies of the final draft ALP to the FAA for airspace review.

Task 8.4 Final ALP

Following FAA airspace review, the consultant will make any necessary changes or corrections to final draft ALP and, upon authorization from the Sponsor/GRK/FAA, submit the eight (8) copies of the final ALP to the City of Killeen for approval signature. Upon final approval of the ALP set, deliverables will include:

- One (1) CD with data files of all ALP drawing sheets in AutoCAD 2015 or newer to FAA;
- One (1) CD with data files of all ALP drawing sheets in AutoCAD 2015 or newer to the Sponsor;
- Eight (8) copies of the complete ALP full-size to the Sponsor for signature/approval; and,
- Eight (8) copies of the Sponsor approved ALP set to the FAA.

Following approval and signature by the FAA, the eight (8) ALP sets will be distributed as follows:

- Two (2) sets to Sponsor/GRK;
- One (1) set to the Consultant; and,
- Five (5) sets retained by the FAA.

ELEMENT 9 – AERONAUTICAL SURVEY AND GIS DATA AND TOOLS

Task 9.1 – Aeronautical Survey Initiation and Coordination

The Consultant will complete new aerial imagery collection and an aeronautical obstruction survey in compliance with FAA – Airports Geographic Information Systems (AGIS) policies and will include an airport airspace analysis for vertically-guided approaches to Runway 17/35. The FAA Advisory Circulars (AC) identified below detail the data collection requirements and accuracies for the projects and the verification process by the FAA AGIS and National Geodetic Survey (NGS).

- AC 150/5300-16A *General Guidance and Specifications for Aeronautical Surveys: Establishment of Geodetic Control and Submission to the National Geodetic Survey;*
- AC 150/5300-17C *Standards for Using Remote Sensing Technologies in Airport Surveys;* and,
- AC 150/5300-18B *General Guidance and Specifications for Aeronautical Surveys: Airport Survey Data Collection and Geographic Information System Standards.*

The Consultant will develop and submit the Statement-Of-Work (SOW), required by the FAA AGIS Program. Following SOW approval, the Consultant will develop and submit the “*Imagery Plan*,” and the “*Survey and Quality Control Plan*” to be reviewed for approval by FAA-AGIS and NGS before beginning the remaining pieces within Task 9.1.

Aeronautical Survey and Data Collection: The purpose is to accomplish FAA Airport Airspace Analysis Survey for all surfaces defined in FAA Advisory Circular 150/5300 - 18B: Section 2.7.1.1 Runways with vertical guidance. This is inclusive of 2.7.1.1.1 through 2.7.1.1.7. This project will



acquire new vertical stereo aerial photography at a nominal scale of 1"=1,905' for obstruction surface areas and 1"= 509' for the airport property. The aerial photography will cover all of the Vertically Guided (VG) Airspace Analysis surfaces using natural color film during leaf-on conditions.

From the 1"=1,905' aerial photography, the following will be produced:

- Limited landmark feature planimetric mapping;
- Color digital orthophotos with a one (1) foot pixel resolution (VG); and,
- Identification and mapping of obstruction obstacles for all of the VG surfaces.

From the 1"=508' aerial photography, the following will be produced:

- 100 scale mapping with two (2) foot contours of the existing airport property;
- Identification and mapping of obstruction obstacles for the VGRPS, VGPCS, and VGPS surfaces; and,
- Color digital orthophotos with a 1/2 foot pixel resolutions.

Quality Standards: The project will conform to the National Map Accuracy Standards for 1"=100' scale planimetric feature collection, two foot contours and six and twelve inch orthophoto production. The photogrammetric mapping will meet all FAA and NGS standards. Reasonable care will be taken to conform to the standards of practice ordinarily used by the photogrammetric profession.

Project Area: The project area encompasses all of GRK inclusive of the obstruction surfaces as defined in AC 150/5300-18B. This will also include any portion of any approach to all existing and proposed threshold locations.

Control Surveying: The aerial photography will be completed with ABGPS control which will be used for the base control for the geo-referencing of the aerial imagery. The ABGPS data will be processed using COR stations and referenced to the project control datums:

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

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

On-site ground control surveys will include:

- Establish temporary airport control according to the guidelines established in AC 150/5300-16A;
- All necessary ground control photo identifiable control check points required to validate the ABGPS control;
- Control of all airport runway end positions;
- Collection of vertical profiles for all runways;
- Collection of the position, elevation, and where required, the appropriate navigational aid perpendicular point of all electronic and visual navigational aids (NAVAIDS) located on GRK and associated with any current instrument approach servicing GRK;
- Control of any obstruction obstacles or airport planimetric features that cannot be collected by photogrammetric methods;



- Complete map checks for feature attribute data and update the final map file attribution; and,
- All other tasks, not specifically listed above, as outlined in FAA AC 150/5300-18B, Table 2-1 “*Survey Requirements Matrix for Airport Layout Plan (ALP)*.”

Orthophoto Mapping: The control solution and scans of the aerial negatives will be used to generate a Digital Elevation Model (DEM) for the VG surfaces. The aerial scans will be processed into color digital orthophotos using the aforementioned DEM to rectify the images. Orthophotos for the entire project area will be developed with a one (1) foot pixel resolution and be delivered in a GeoTIFF file format via external hard drives. Orthophotos for the airport property will be developed with a 1/2 (0.5) foot pixel resolution and be delivered in a GeoTIFF file format via external hard drives.

VGA Obstruction Surveys: VGA Obstructions Surfaces will satisfy the following requirements of the AC 150/5300-18B:

- 2.7.1.2 Analysis of Runway 1/19 and Runway 14/32 with Vertically Guided Operations (Surfaces include the VGRPS, VGPCS, VGAS, VGPS, VGATS, VGHS and VGCS).

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

The obstruction deliveries will include the off-airport landmark planimetric mapping and the airport planimetric mapping and attribution data.

The final data will be delivered in a format to work with ESRI shape files. Feature attributes will be built into a spreadsheet (with key object identifiers).

Deliverables: All data collected and associated required deliverable will be submitted in the formats specified in the appropriate FAA ACs to the FAA AGIS Program. All data submissions to the FAA will be through the program’s web site at <http://airports-gis.faa.gov>. AC 150/5300-18B deliverables that will be uploaded to the AGIS website include:

- Statement of Work, Imagery Plan and Survey and Quality Control Plan;
- Image delivery;
- Digital limited landmark detail outside GRK boundaries;
- Color digital orthophotos with a one (1) foot pixel resolution (GeoTIFF format);
- Obstruction survey data (that covers VG surfaces);
- Surveyed centerline profile on VG runways;
- NAVAID data;
- Planimetric data and one (1) foot contours to AC 150/5300-18B specs (Shapefile format);
- Photogrammetrically derived and surveyed attributes in defined format;
- FGDC compliant metadata; and,
- Final Report.



AC 150/5300-17C project data deliveries that will not be submitted through the web site will be delivered on external hard drives or DVDs. Other than the AC 150/5300-18B delivery, we will deliver the following items to the Sponsor:

- Planimetric data and two (2) foot contours to AC 150/5300-18B specs in CAD;
- Color digital orthophotos with a one (1) foot pixel resolution in GeoTIFF (project area);
- Color digital orthophotos with a 1/2 (0.5) foot pixel resolution in GeoTIFF (airport property); and,
- Two (2) color enlargements (30"x40") covering GRK and surrounding area (mounted/laminated/framed).

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

Close-Out and Final Reporting: A "Final Report" will be generated in accordance with Advisory Circular 150/5300-18B. Project closeout will also consist of ensuring receipt and acceptance of the obstruction survey and digital mapping data by the Sponsor, the FAA, and NGS.

Task 9.2 – Airport GIS Data Base Mapping

The preparation of Geographic Information System (GIS) Data Tools for GRK will meet the needs of the Sponsor and allow for migration of existing airport data towards both Sponsor and FAA Airports GIS standards. The Consultant will prepare GIS data updates to the airport base mapping data for submission to and incorporation into the Sponsor's GIS and FAA Airports GIS. The Consultant will complete the following steps towards base map update development:

- Import existing GIS data provided by Sponsor and from aeronautical survey;
- Collect and review existing Sponsor GIS data identifying attribute and data needs;
- Collect data attributes not readily available through aerial imagery and make it available for the eventual publication of an electronic ALP (eALP) and incorporation into Sponsor's GIS; and,
- Obtain and compile all airport property and lease data into GIS shape files in preparation of the eALP process.

Task 9.3 – Airspace Analysis Tool

The Consultant will provide development of a GIS airspace analysis tool for GRK and City of Killeen. The tool will be developed on the foundational information derived from the obstruction survey and airspace requirements identified in FAR Part 77 Objects Affecting Navigable Airspace. Specifically all of the imaginary airspace surfaces will be developed in a 3-D model in GIS. The surfaces specific to existing and future conditions at GRK within the Terminal Instrument Procedures (TERPS) manual will be depicted in this same 3-D model along with the airspace surfaces outlined for vertically guided instrument approach procedures in FAA AC 150/5300-18B. The resultant GIS tool will allow Sponsor/Airport GIS users to conduct real-time obstruction evaluation of existing and proposed development.



ELEMENT 10 - FINAL DOCUMENTATION/COORDINATION MEETINGS

Task 10.1 – Final Draft Report

A final "draft" report will be assembled from the information developed in previous work tasks and comments from the Sponsor/Airport/EC/MPSC/FAA, edited, and printed for review by the Sponsor/Airport/EC/MPSC/FAA. All review comments will be incorporated into the final printed report, as appropriate.

Task 10.2 – Final Review Meeting

A final review meeting (Sponsor/Airport/EC/MPSC/Consultant/FAA) will be conducted to discuss the findings, assumptions and recommendations of the GRK Master Plan.

Task 10.3 Killeen City Council Briefing

The Killeen City Council will be briefed by the Consultant during a regular workshop session. This briefing will ensure Council is aware of the project schedule, progress, and recommendations.

Task 10.4 – Tenant Open House

As part of the public involvement campaign during the GRK master planning process a tenant meeting will be held. This meeting will be conducted at GRK in the airport administration conference room. This meeting will be an informal, open meeting designed around a two-hour block of time during the early evening hours. As an open meeting attendees will be invited to attend at their leisure anytime during the meeting period. Sponsor, GRK, and Consultant staff will be in attendance to answer any questions and receive specific comments that could help guide/impact the master planning process and outcomes.

Task 10.5 – Executive Summary Brochure

As a close-out product, the Consultant shall prepare an Executive Summary of the Airport Master Plan. The purpose of the Executive Summary will be to perform as an informational tool to existing and potential airport businesses and tenants. The Executive Summary will consist of 2-4 color pages of text and graphics portraying a report summary and future airport plans. The Consultant shall provide the airport with 25 color copies and an electronic versions of the Executive Summary in PDF and in native format for future use.

Task 10.6 – Final Report

Twelve (12) copies of the final report will be printed and submitted to the Sponsor/Airport. Each final report will contain reduced copies of the approved ALP set. In addition, an electronic copy of the study and associated drawings and GIS files will be provided on computer diskette to the Sponsor/Airport. Two (2) hard copies of the final report and one compact diskette containing AMP exhibits and ALP set will be submitted to FAA. The final report as recorded on the compact disc will be in PDF format and the exhibits will be in native format for narrative and graphics. The ALP will be in AutoCAD and PDF formats.

APPENDIX B

KILLEEN-FORT HOOD REGIONAL AIRPORT AIRPORT MASTER PLAN

FEE SUMMARY

Title I Services	Estimated Fees
Administration, Initiation, and Introduction	\$66,650.00
Airport Inventory	\$89,910.00
Forecasts of Aviation Demand	\$42,200.00
Facility Requirements	\$107,580.00
Alternatives	\$151,620.00
Recommended Development and Environmental Overview	\$66,520.00
Capital Improvement Plan and Financial Plan	\$119,110.00
Airport Layout Plan	\$65,220.00
Aeronautical Survey and Geographic Information System Data/Tools	\$175,500.00
Final Documentation /Coordination Meetings	\$109,230.00
Subtotal for Title I Services	\$993,540.00

APPENDIX B

**KILLEEN-FORT HOOD REGIONAL AIRPORT
AIRPORT MASTER PLAN**

ADMINISTRATION, INITIATION, AND INTRODUCTION

WORK TASK DESCRIPTION	E-6	E-4	E-1	P-2	P-3	D-3	T-1	T-2	T-3	X-1
	hr	hr	hr	hr	hr	hr	hr	hr	hr	hr
1.1 Aviation Planning - Project Administration and Initiation										
Project Administration and Support	2	8			8		1			1
Scope, Budget, and Schedule	2	8			8		1			1
1.2 Scoping Meeting	2	2			2					
1.3 Establish Project Committees	1	2			2					
1.4 "Kick-off" Meetings - City, Airport, Committees	2	2			2					
SWOT Analysis	2	2			2					
Travel time for meetings	5	2			5					
Subtotal - Project Initiation	16	26	0	0	29	0	2	0	0	2
1.5 Aviation Planning - Project Introduction										
Public Involvement and Project Committees	1	1								
SWOT Analysis Documentation		1			4					
Airport Location/History/Management		2			4				4	
Subtotal - Project Introduction	1	4	0	0	8	0	0	0	4	0
1.6 Aviation Planning - Council Briefing										
Council Briefing Preparation	1	2								
City Council Briefing - Project Scope/Schedule	2	2								
Travel Time for Meeting									2	
Administrative										
Subtotal - Project Introduction	3	4	0	0	0	0	0	0	2	0
1.7 Aviation Planning - Tenant Open House										
Open House Preparation	1	2			2		8		8	
Open House Meeting Execution	4	4			4					
Travel Time for Meeting										
Administrative									2	
Subtotal - Project Introduction	5	6	0	0	6	0	8	0	10	0
Hours	25	40	0	0	43	0	10	0	16	2
Salary Costs	\$6,900	\$7,240	\$0	\$0	\$7,740	\$0	\$840	\$0.00	\$2,000.00	\$126.00

SUBTOTAL - SALARIES: \$24,846.00

DIRECT NON-LABOR EXPENSES

Document Printing/Reproduction/Assembly	\$1,100.00
Postage/Freight/Courier	\$104.00
Office Supplies/Equipment	\$0.00
Communications	\$0.00
Survey Supplies	\$0.00
Aerial Photography	\$0.00
GPS Equipment	\$0.00
Computer Modeling/Software Use	\$0.00
Traffic Counting Equipment	\$0.00
Locator/Tracer/Thermal Imager Equipment	\$0.00
Travel Costs	\$2,400.00

SUBTOTAL - DIRECT NON-LABOR EXPENSES: \$3,604.00

SUBTOTAL: \$28,450.00

SUBCONSULTANTS FEE:

Coffman & Associates	\$13,900.00
Corgan	\$24,300.00
Quantum Spatial	\$0.00
Liebowitz & Horton	\$0.00
Carl Walker Parking	\$0.00

TOTAL FEE: \$66,650.00

	Identify Commercial Catchment Zone									
	Analysis of population centers									
	Transportation access									
	Historic enplanements									
	Origin versus desitination evaluation									
	QC Review		1			1				
	Administrative	1	1							
	Subtotal - Catchment Zone	1	2	0	0	1	0	0	0	0
2.5	Land Use and Controls									
	Review existing land use mapping, comprehensive plans, etc.									
	Zoning districts and land use controls									
	Height & Hazard Zoning									
	QC Review		2			1				
	Administrative		1							
	Subtotal - Land Use and Controls	0	3	0	0	1	0	0	0	0
2.6	Inventory of Waivers									
	FAA Waiver research and documentation		1		4					
	QC/Admin		1		1					
	Subtotal - Waiver Documentation	0	2	0	5	0	0	0	0	0
2.7	Environmental Overview									
	Assess Existing Environmental Conditions									
	Existing Noise Exposure Map									
	QC/Admin		1		2					
	Subtotal - Environmental Overview	0	1	0	2	0	0	0	0	0
2.8	Socioeconomic Conditions									
	Killeen Metropolitan Statistical Area Assessment									
	Population									
	Employment and Income									
	Business climate									
	Housing characteristics									
	QC/Admin		1		2					
	Subtotal - Socioeconomic Conditions	0	1	0	2	0	0	0	0	0
2.10	Airport Existing Financial Statements, Tenant Agreements/Leases and Other Financial Data									
	Financial data collection and analysis		1		4					
	Financial coordination		1		2					
	Subtotal - Existing Financials	0	2	0	6	0	0	0	0	0

APPENDIX B

**KILLEEN-FORT HOOD REGIONAL AIRPORT
AIRPORT MASTER PLAN**

FORECAST OF AVIATION DEMAND

WORK TASK DESCRIPTION		E-6	E-4	E-1	P-2	P-3	D-3	T-1	X-2
		hr							
3.1	Inventory Current and Historic Aviation Activity								
	Current Aviation Activity Data								
	Collect and Review Historic Activity Data								
	Review Existing Forecast Data								
	Subtotal - Historic Data	0							
3.2	Forecasts								
	Operations Forecasts								
	Itinerant								
	Air Carrier								
	Air Taxi/Commuter								
	General Aviation (Fleet Mix)								
	Instrument Approach Procedures								
	Military								
	Local								
	General Aviation (Fleet Mix)								
	Military								
	Passenger (annual enplanements)								
	Enplanements								
	Air Carrier								
	Air Taxi/Commuter								
	Origination								
	Destination								
	Aircraft Forecasts								
	Based Aircraft								
	Fleet Mix								
	Critical Aircraft								
	QA/QC		2		2				
	Administration	1	1						
	Subtotal - Forecasts	1	3	0	2	0	0	0	0
3.3	Working Paper/Review								
	Working Paper Development		1		2				
	QC/Admin	1	1						
	Subtotal - Working Paper/Review	1	2	0	2	0	0	0	0

APPENDIX B

**KILLEEN-FORT HOOD REGIONAL AIRPORT
AIRPORT MASTER PLAN**

FACILITY REQUIREMENTS

WORK TASK DESCRIPTION		E-6	E-4	E-1	P-2	P-3	D-3	T-1	T-2	T-3	X-1
		hr	hr	hr	hr	hr	hr	hr	hr	hr	hr
4.1	Analyze Airport Capacity and Delay										
	Assess Capacity										
	Airfield Characteristics										
	Runway Configuration										
	Aircraft Mix Index										
	Taxiway Configuration										
	Operational Characteristics										
	Meteorological Conditions										
	Hourly Capacity of Runways										
	Annual Service Volume										
	Subtotal - Working Paper/Review	0	0	0	0	0	0	0	0	0	0
4.2	Airfield Facility Requirements										
	Runway: Length, Width, Gradient		0.5			16				12	
	Taxiways		0.5			12				8	
	Safety Areas		0.5			18				8	
	Lighting and Marking		0.5			8				2	
	NAVAIDs		0.5			8				2	
	Subtotal - Working Paper/Review	0	2.5	0	0	62	0	0	0	32	0
4.3	Corporate Aviation Facility Requirements										
	Fixed Base Operator Type Facilities		0.5		16					4	
	Aircraft storage facilities (hangars)		0.5		8					4	
	Aircraft ramp/tiedown		0.5		8					4	
	Fuel Storage/Dispensing		0.5		4					2	
	Auto Access/Parking		0.5		4					2	
	QC		1			1					
	Admin		1					1			
	Subtotal - Working Paper/Review	0	4.5	0	40	1	0	1	0	16	0

4.4 Commercial Terminal Facility Requirements										
Airside										
Gates/parking										
RON parking										
GSE Equipment										
Landside										
Entrance road/access/parking										
Passenger drop off/pick-up										
Auto Parking (short-term, long-term, cell lot)										
Wayfinding signage										
Passenger Terminal										
Ticket counter/kiosk areas										
Security										
Gates/hold rooms/departure lounges										
Concessions										
Airline Operations										
Baggage Claim										
Passenger Circulation and Public Space										
Restrooms										
Wayfinding signage										
offices										
Mechanical Space										
QC		4		4						
Admin		1								
Subtotal - Working Paper/Review	0	5	0	4	0	0	0	0	0	0
4.5 Working Paper/Review										
Working Paper Development		2			4				16	1
QC/Admin	1	1								
Subtotal - Working Paper/Review	1	3	0	0	4	0	0	0	16	1
4.6 Airport Planning Meeting										
Meeting Preparation and Minutes		4		4						
Meeting Execution		2		2						
Travel for Meeting		2		5						
Subtotal - Airport Planning Meeting	0	8	0	11	0	0	0	0	0	0
Hours	1	23	0	55	67	0	1	0	64	1
Salary Costs	\$288	\$4,347	\$0	\$9,075	\$12,596	\$0	\$88	\$0.00	\$8,320.00	\$66.00

SUBTOTAL - SALARIES:

\$34,780.00

DIRECT NON-LABOR EXPENSES

Document Printing/Reproduction/Assembly	\$150.00
Postage/Freight/Courier	\$0.00
Office Supplies/Equipment	\$0.00
Communications	\$0.00
Survey Supplies	\$0.00
Aerial Photography	\$0.00
GPS Equipment	\$0.00
Computer Modeling/Software Use	\$0.00
Traffic Counting Equipment	\$0.00
Locator/Tracer/Thermal Imager Equipment	\$0.00
Travel Costs	\$350.00

SUBTOTAL - DIRECT NON-LABOR EXPENSES \$500.00

SUBTOTAL: \$35,280.00

SUBCONSULTANTS FEE:

Coffman & Associates	\$27,800.00
Corgan	\$26,600.00
Quantum Spatial	\$0.00
Liebowitz & Horton	\$0.00
Carl Walker Parking	\$17,900.00

TOTAL FEE: \$107,580.00

APPENDIX B

**KILLEEN-FORT HOOD REGIONAL AIRPORT
AIRPORT MASTER PLAN**

ALTERNATIVES ANALYSIS

WORK TASK DESCRIPTION	E-6	E-4	E-1	P-2	P-3	D-3	T-1	T-2	T-3	X-1
	hr	hr	hr	hr	hr	hr	hr	hr	hr	hr
5.1 Identify and Refine Airfield Alternatives										
Environmental Constraints			2							
Residential/Business/Military Impacts		1			4					
Roadway and Utility Impacts		1			4					
Geographical Constraints		1			4					
Runway Improvement Options (2)		16			16				30	
Taxiway Improvement Options (2)		16			16				20	
Evaluation Matrix	1	8			8					
Administrative										1
QA/QC	1	4			4					
Subtotal - Potential Alternatives	2	47	2	0	56	0	0	0	50	1
5.2 Terminal Area Alternatives										
Commercial Terminal Building Options		2			2					
Roadway access and auto parking options		2			2					
Subtotal - Terminal Area Alternatives	0	4	0	0	4	0	0	0	0	0
5.3 Corporate Aviation Facility Alternatives										
Option #1		4			8				30	
Option #2		4			8				20	
Administrative	1	1								
QA/QC		2			2					
Subtotal - GA Facility Alternatives	1	11	0	0	18	0	0	0	50	0
5.4 Landside Support Facilities										
Administrative	1	1								
QA/QC		2			2					
Subtotal - Alternatives	1	3	0	0	2	0	0	0	0	0
5.5 Future Corporate Facility Grading/Utility Analysis										
Identify utilities south of terminal apron		2	6							
Review contours fm aerial survey		4	4							
Recommendations for future grading project		2	4							
Administrative		1								
QA/QC		1						1		
Subtotal - Alternatives	0	10	14	0	0	0	0	1	0	0
5.6 Preliminary Development Schedule and Costs										
Airside Improvement Costs		6	40							
Landside Improvement Costs		6	40							
Terminal Building Improvement Costs		2	8							
Landside Support Alternatives Costs		2	8							
Airfield Master Grading Improvement Costs		6	40							
Administrative		1								
QA/QC	1	2			2			1		
Subtotal - Alternatives	1	25	136	0	2	0	0	1	0	0

APPENDIX B

**KILLEEN-FORT HOOD REGIONAL AIRPORT
AIRPORT MASTER PLAN**

RECOMMENDED DEVELOPMENT AND ENVIRONMENTAL OVERVIEW

WORK TASK DESCRIPTION	E-6	E-4	E-1	P-2	P-3	D-3	T-1	T-2	T-3	X-1
	hr	hr	hr	hr	hr	hr	hr	hr	hr	hr
6.1 Recommended Development Plan										
Administrative	1	1								
QA/QC	1	1			1					
Subtotal - Potential Alternatives	2	2	0	0	1	0	0	0	0	0
6.2 Development										
Administrative		1								
QA/QC	1	1			1					
Subtotal - Terminal Area Alternatives	1	2	0	0	1	0	0	0	0	0
6.3 Prepare Draft Report										
Administrative	1	1								
QA/QC	1	1			1					
Subtotal - GA Facility Alternatives	2	2	0	0	1	0	0	0	0	0
6.4 Working Paper/Review										
Working Paper Development		2			4					
QC/Admin	1	2			2					1
Subtotal - Working Paper/Review	1	4	0	0	6	0	0	0	0	1
6.5 Airport Planning Meeting										
Meeting Preparation and Minutes		1			1					1
Meeting Execution		4			4					
Travel for Meeting		2			5					
Subtotal - Airport Planning Meeting	0	7	0	0	10	0	0	0	0	1
6.6 Killeen City Council Briefing										
Council Briefing Preparation	4	4								
City Council Briefing - Project Scope/Schedule	2	2								
Travel time for meetings	5	2								
Administrative		1								1
Subtotal - Alternatives	11	9	0	0	0	0	0	0	0	1
6.7 Tenant/Public Open-House										
Open House Preparation	1	8			8				16	
Open House Meeting Execution	2	2			2					
Travel time										
Administrative	1	2								1
Subtotal - Alternatives	4	12	0	0	10	0	0	0	16	1
Hours	21	38	0	0	29	0	0	0	16	4
Salary Costs	\$6,048	\$7,182	\$0	\$0	\$5,452	\$0	\$0	\$0.00	\$2,080.00	\$264.00

SUBTOTAL - SALARIES: \$21,026.00

DIRECT NON-LABOR EXPENSES

Document Printing/Reproduction/Assembly	\$459.00
Postage/Freight/Courier	\$35.00
Office Supplies/Equipment	\$0.00
Communications	\$0.00
Survey Supplies	\$0.00
Aerial Photography	\$0.00
GPS Equipment	\$0.00
Computer Modeling/Software Use	\$0.00
Traffic Counting Equipment	\$0.00
Locator/Tracer/Thermal Imager Equipment	\$0.00
Travel Costs	\$700.00

SUBTOTAL - DIRECT NON-LABOR EXPENSES: \$1,194.00

SUBTOTAL: \$22,220.00

SUBCONSULTANTS FEE:

Coffman & Associates	\$26,000.00
Corgan	\$18,300.00
Quantum Spatial	\$0.00
Liebowitz & Horton	\$0.00
Carl Walker Parking	\$0.00

TOTAL FEE: \$66,520.00

APPENDIX B

**KILLEEN-FORT HOOD REGIONAL AIRPORT
AIRPORT MASTER PLAN**

CAPITAL IMPROVEMENT/PHASING PLAN AND FINANCIAL PLAN

WORK TASK DESCRIPTION	E-6	E-4	E-1	P-2	P-3	D-3	T-1	T-2	T-3	X-1
	hr	hr	hr	hr	hr	hr	hr	hr	hr	hr
7.1 Cost Estimates and CIP/Phasing Plan										
Refine Development/Phasing Schedules		4	40						16	
Update Preliminary Cost Estimates		4	40							
Capital Improvement Plan		4	24						16	
Administrative		2								
QA/QC	1	2			2					
Subtotal - CIP/Phasing Plan	1	16	104	0	2	0	0	0	32	0
7.2 Prepare Financial Plan										
Administrative		4			4					1
QC/Admin		2			2					
Subtotal - Financial Plan	0	6	0	0	6	0	0	0	0	1
7.3 Prepare Draft Report										
Working Paper Development		2			2					
QC/Admin		2			2					
Subtotal - GA Facility Alternatives	0	4	0	0	4	0	0	0	0	0
7.3 Working Paper/Review										
Working Paper Development			2		2				8	
QC/Admin	1		2		2					1
Subtotal - Working Paper/Review	1	0	4	0	4	0	0	0	8	1
7.4 Airport Planning Meeting										
Meeting Preparation and Minutes		4			4					1
Meeting Execution		2			2					
Travel for Meeting		2			5					
Subtotal - Airport Planning Meeting	0	8	0	0	11	0	0	0	0	1
Hours	2	34	108	0	27	0	0	0	40	3
Salary Costs	\$576	\$6,426	\$12,312	\$0	\$5,076	\$0	\$0	\$0.00	\$5,200.00	\$198.00

SUBTOTAL - SALARIES: \$29,788.00

DIRECT NON-LABOR EXPENSES

Document Printing/Reproduction/Assembly	\$222.00
Postage/Freight/Courier	\$0.00
Office Supplies/Equipment	\$0.00
Communications	\$0.00
Survey Supplies	\$0.00
Aerial Photography	\$0.00
GPS Equipment	\$0.00
Computer Modeling/Software Use	\$0.00
Traffic Counting Equipment	\$0.00
Locator/Tracer/Thermal Imager Equipment	\$0.00
Travel Costs	\$700.00

SUBTOTAL - DIRECT NON-LABOR EXPENSE **\$922.00**

SUBTOTAL: **\$30,710.00**

SUBCONSULTANTS FEE:

Coffman & Associates	\$21,500.00
Corgan	\$10,000.00
Quantum Spatial	\$0.00
Liebowitz & Horton	\$33,300.00
Carl Walker Parking	\$23,600.00

TOTAL FEE: **\$119,110.00**

APPENDIX B

**KILLEEN-FORT HOOD REGIONAL AIRPORT
AIRPORT MASTER PLAN**

AIRPORT LAYOUT PLAN

WORK TASK DESCRIPTION		E-6	E-4	E-1	P-2	P-3	D-3	T-1	T-2	T-3	X-1
		hr	hr	hr	hr	hr	hr	hr	hr	hr	hr
8.1	ALP Sheet Setup										
	Base Map, Topo, Surfaces, Geometry					2				24	
	Profiles									16	
	Title Sheet and Wind Rose Info									2	
	Airport Layout Drawings					2				20	
	Inner Approach Drawings					2				16	
	Departure Surface Drawings					2				16	
	Terminal Drawing					2				8	
	Land Use Drawing					2				24	
	Property Map					4				40	
	QC Review		1			4				8	
	ALP Revisions from Sponsor/FAA Review		1			8				24	
	Administration		1			2					1
	Subtotal - Existing ALP	0	3	0	0	30	0	0	0	198	1
8.2	ALP Narrative										
	ALP Overview						1				
	Airport Layout Drawing						1				
	Inner Approach Drawings						1				
	Departure Surface Drawings						1				
	Terminal Drawing						1				
	Land Use Drawing						1				
	Property Map						1				
	QC Review		1		4	4					
	Administration		1								1
	Subtotal - Final Draft ALP	0	2	0	4	4	7	0	0	0	1
8.3	Final Draft ALP										
	Title Sheet and Wind Rose Info									2	
	Airport Layout Drawing					1				8	
	Inner Approach Drawings					1				8	
	Departure Surface Drawings					1				8	
	Terminal Drawing					1				4	
	Land Use Drawing					1				4	
	Property Map					1				4	
	QC Review		1		4	4					
	ALP Revisions from Sponsor/FAA Review		1			8				24	
	Administration		1			2					1
	Subtotal - Final Draft ALP	0	3	0	4	20	0	0	0	62	1

8.4 Final ALP										
ALP Revisions from FAA Airspace Review					2				12	
Final ALP Plan Production		1			2				8	
QC Review		1			4				8	
Administration	1	1			2					1
Subtotal - Final ALP	1	3	0	0	10	0	0	0	28	1

Hours	1	11	0	8	64	7	0	0	288	4
Salary Costs	\$288	\$2,079	\$0	\$1,320	\$12,032	\$973	\$0	\$0.00	\$37,440.00	\$264.00

SUBTOTAL - SALARIES: \$54,396.00

DIRECT NON-LABOR EXPENSES

Document Printing/Reproduction/Assembly	\$599.00
Postage/Freight/Courier	\$125.00
Office Supplies/Equipment	\$0.00
Communications	\$0.00
Survey Supplies	\$0.00
Aerial Photography	\$0.00
GPS Equipment	\$0.00
Computer Modeling/Software Use	\$0.00
Traffic Counting Equipment	\$0.00
Locator/Tracer/Thermal Imager Equipment	\$0.00
Travel Costs	\$0.00

SUBTOTAL - DIRECT NON-LABOR EXPENSES: \$724.00

SUBTOTAL: \$55,120.00

SUBCONSULTANTS FEE:

Coffman & Associates	\$10,100.00
Corgan	\$0.00
Quantum Spatial	\$0.00
Liebowitz & Horton	\$0.00
Carl Walker Parking	\$0.00

TOTAL FEE: \$65,220.00

APPENDIX B

**KILLEEN-FORT HOOD REGIONAL AIRPORT
AIRPORT MASTER PLAN**

AERONAUTICAL SURVEY AND GEOGRAPHIC INFORMATION SYSTEM DATA/TOOLS

WORK TASK DESCRIPTION	E-6	E-4	E-1	P-2	P-3	D-3	T-1	T-2	T-3	X-1
	hr	hr	hr	hr	hr	hr	hr	hr	hr	hr
9.1 Quantum Spatial Coordination										
Approach Survey Coordination		2			2					
AGIS Coordination		2			2					
QC Review		1			1					
Administrative		1								1
Subtotal - Approach Survey/AGIS Data	0	6	0	0	5	0	0	0	0	1
9.2 Airport GIS Data Base Mapping										
Gather Existing GIS Data					2	8				
Identify Attribute Needs					2	8				
Collect Data Attributes not Available via Aerial Imagery			16		4	8			20	
Collect and Convert Property Data to GIS					4	8			20	
Subtotal - Airport GIS Base Mapping	0	0	16	0	12	32	0	0	40	0
9.3 Airspace 3-D Analysis										
FAR Part 77 Surfaces					2	24				
TERPs Surfaces					2	24				
150/5300-18B Surfaces					2	24				
QA/QC		2			2					
Subtotal - 3-D Airspace Analysis	0	2	0	0	8	72	0	0	0	0
Hours	0	8	16	0	25	104	0	0	40	1
Salary Costs	\$0	\$1,512	\$1,824	\$0	\$4,700	\$14,456	\$0	\$0.00	\$5,200.00	\$66.00

SUBTOTAL - SALARIES: \$27,758.00

DIRECT NON-LABOR EXPENSES

Document Printing/Reproduction/Assembly	\$257.00
Postage/Freight/Courier	\$35.00
Office Supplies/Equipment	\$0.00
Communications	\$0.00
Survey Supplies	\$0.00
Aerial Photography	\$0.00
GPS Equipment	\$0.00
Computer Modeling/Software Use	\$0.00
Traffic Counting Equipment	\$0.00
Locator/Tracer/Thermal Imager Equipment	\$0.00
Travel Costs	\$250.00

SUBTOTAL - DIRECT NON-LABOR EXPENSES: \$542.00

SUBTOTAL: \$28,300.00

SUBCONSULTANTS FEE:

Coffman & Associates	\$0.00
Corgan	\$0.00
Quantum Spatial	\$147,200.00
Liebowitz & Horton	\$0.00
Carl Walker Parking	\$0.00

TOTAL FEE: \$175,500.00

APPENDIX B

**KILLEEN-FORT HOOD REGIONAL AIRPORT
AIRPORT MASTER PLAN**

FINAL DOCUMENTATION/COORDINATION MEETINGS

WORK TASK DESCRIPTION		E-6	E-4	E-1	P-2	P-3	D-3	T-1	T-2	T-3	X-1
		hr	hr	hr	hr	hr	hr	hr	hr	hr	hr
10.1	Final Draft Report										
	Final Draft Report		4		8	8				20	
	QC Review	2	8		8	8					
	Administrative		1								1
	Subtotal - Final Draft	2	13	0	16	16	0	0	0	20	1
10.2	Airport Planning Meeting										
	Meeting Preparation, Execution, and Minutes	1	4			4					
	Meeting	4	4			4					
	Travel for Meeting	5	2			5					
	Subtotal - Airport Planning Meeting	10	10	0	0	13	0	0	0	0	0
10.3	Aviation Planning - Council Briefing										
	Council Briefing Preparation	1	4								
	City Council Briefing Execution	2	2								
	Travel time	5	2								
	Administrative		1								1
	Subtotal - Council Briefing	8	9	0	0	0	0	0	0	0	1
10.4	Aviation Planning - Tenant Open House										
	Open House Preparation	2	8			4				16	
	Open House Meeting Execution	4	4			4					
	Travel time					5					
	Administrative	1									1
	Subtotal - Tenant Open House	7	12	0	0	13	0	0	0	16	1
10.5	Executive Summary Brochure										
	Brochure development										
	QA/QC	1	2			2					
	Administrative		1			1					1
	Subtotal - Executive Summary	1	3	0	0	3	0	0	0	0	1
10.6	Final Report										
	Final Report		4		4			8		8	
	QC Review	1	2		2						
	Administrative		8		2						1
	Subtotal - Final Report	1	14	0	8	0	0	8	0	8	1
Hours		29	61	0	24	45	0	8	0	44	5
Salary Costs		\$8,352	\$11,529	\$0	\$3,960	\$8,460	\$0	\$704	\$0.00	\$5,720.00	\$330.00

SUBTOTAL - SALARIES: \$39,055.00

DIRECT NON-LABOR EXPENSES

Document Printing/Reproduction/Assembly	\$300.00
Postage/Freight/Courier	\$25.00
Office Supplies/Equipment	\$0.00
Communications	\$0.00
Survey Supplies	\$0.00
Aerial Photography	\$0.00
GPS Equipment	\$0.00
Computer Modeling/Software Use	\$0.00
Traffic Counting Equipment	\$0.00
Locator/Tracer/Thermal Imager Equipment	\$0.00
Travel Costs	\$1,150.00

SUBTOTAL - DIRECT NON-LABOR EXPENSE: \$1,475.00

SUBTOTAL: \$40,530.00

SUBCONSULTANTS FEE:

Coffman & Associates	\$49,400.00
Corgan	\$19,300.00
Quantum Spatial	\$0.00
Liebowitz & Horton	\$0.00
Carl Walker Parking	\$0.00

TOTAL FEE: \$109,230.00



APPENDIX C

AIRPORT IMPROVEMENT AID PROJECT: 3-48-0361-024-2015
STATE: Texas

CERTIFICATION OF ENGINEER

I hereby certify that I am Frank McIlwain and duly authorized representative of the firm of GARVER, LLC, whose address is 3755 S. Capital of Texas Highway, Suite 105, Austin, Texas 78704, and that neither I nor the above firm I here represent has:

(a) Employed or retained for a commission, percentage, brokerage, contingent fee, or other consideration, any firm or person (other than a bona fide employee working solely for me of the above consultant) to solicit or secure this contract;

(b) Agreed, as an express or implied condition for obtaining this contract, to employ or retain the services of any firm or person in connection with carrying out the contract; or

(c) Paid or agreed to pay to any firm, organization, or person (other than a bona fide employee working solely for me or the above consultant) any fee, contribution, donation, or consideration of any kind, for, or in connection with, procuring or carrying out the contract; except as here expressly stated (if any).

I acknowledge that this certificate is to be furnished to the Federal Aviation Administration of the United States Department of Transportation, in connection with this contract involving participation of Airport Improvement Program (AIP) funds and is subject to applicable State and Federal laws, both criminal and civil.

GARVER, LLC

By: 
Frank McIlwain, P.E.

DATE: 10/26/15



APPENDIX D

MANDATORY FEDERAL CONTRACT PROVISIONS FOR PROFESSIONAL SERVICES CONTRACTS

1. CIVIL RIGHTS ACT OF 1964, TITLE VI – CONTRACTOR CONTRACTUAL REQUIREMENTS

During the performance of this contract, the Engineer, for itself, its assignees, and successors in interest (hereinafter referred to as the "Engineer") agrees as follows:

- 1.1 Compliance with Regulations. The Engineer (hereinafter includes consultants) will comply with the Title VI List of Pertinent Nondiscrimination Statutes and Authorities, as they may be amended from time to time, which are herein incorporated by reference and made a part of this contract.
- 1.2 Nondiscrimination. The Engineer, with regard to the work performed by it during the contract, will not discriminate on the grounds of race, color, or national origin in the selection and retention of subconsultants, including procurements of materials and leases of equipment. The Engineer will not participate directly or indirectly in the discrimination prohibited by the Acts and the Regulations, including employment practices when the contract covers any activity, project, or program set forth in Appendix B of 49 CFR part 21.
- 1.3 Solicitations for Subcontracts, Including Procurements of Materials and Equipment. In all solicitations, either by competitive bidding, or negotiation made by the Engineer for work to be performed under a subcontract, including procurements of materials, or leases of equipment, each potential subconsultant or supplier will be notified by the Engineer of the Engineer's obligations under this contract and the Acts and the Regulations relative to Non-discrimination on the grounds of race, color, or national origin.
- 1.4 Information and Reports. The Engineer will provide all information and reports required by the Acts, the Regulations, and directives issued pursuant thereto and will permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the sponsor or the Federal Aviation Administration to be pertinent to ascertain compliance with such Acts, Regulations, and instructions. Where any information required of an engineer is in the exclusive possession of another who fails or refuses to furnish the information, the Engineer will so certify to the sponsor or the Federal Aviation Administration, as appropriate, and will set forth what efforts it has made to obtain the information.
- 1.5 Sanctions for Noncompliance. In the event of an engineer's noncompliance with the Non-discrimination provisions of this contract, the sponsor will impose such contract sanctions as it or the Federal Aviation Administration may determine to be appropriate, including, but not limited to:
 - 1.5.1. Withholding of payments to the Engineer under the contract until the Engineer complies, and/or
 - 1.5.2. Cancellation, termination, or suspension of the contract, in whole or in part.



1.6 Incorporation of Provisions. The Engineer will include the provisions of paragraphs one through six in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Acts, the Regulations and directives issued pursuant thereto. The Engineer will take action with respect to any subcontract or procurement as the sponsor or the Federal Aviation Administration may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, that if the Engineer becomes involved in, or is threatened with litigation by a subconsultant, or supplier because of such direction, the Engineer may request the sponsor to enter into any litigation to protect the interests of the sponsor. In addition, the Engineer may request the United States to enter into the litigation to protect the interests of the United States.

2. AIRPORT AND AIRWAY IMPROVEMENT ACT OF 1982, SECTION 520 - GENERAL CIVIL RIGHTS PROVISIONS

The Engineer agrees that it will comply with pertinent statutes, Executive Orders and such rules as are promulgated to ensure that no person shall, on the grounds of race, creed, color, national origin, sex, age, or handicap be excluded from participating in any activity conducted with or benefiting from Federal assistance.

This provision binds the Engineers from the solicitation period through the completion of the contract. This provision is in addition to that required of Title VI of the Civil Rights Act of 1964.

This provision also obligates the tenant/concessionaire/lessee or its transferee for the period during which Federal assistance is extended to the airport through the Airport Improvement Program, except where Federal assistance is to provide, or is in the form of personal property; real property or interest therein; structures or improvements thereon.

In these cases the provision obligates the party or any transferee for the longer of the following periods:

- (a) the period during which the property is used by the airport sponsor or any transferee for a purpose for which Federal assistance is extended, or for another purpose involving the provision of similar services or benefits; or
- (b) the period during which the airport sponsor or any transferee retains ownership or possession of the property.

3. DISADVANTAGED BUSINESS ENTERPRISES

3.1 Contract Assurance (§26.13): The Engineer or subconsultant shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The Engineer shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT assisted contracts. Failure by the Engineer to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy, as the recipient deems appropriate.

3.2 Prompt Payment (§26.29): The Engineer agrees to pay each subconsultant under this prime contract for satisfactory performance of its contract no later than 30 days from the receipt of each payment the Engineer receives from the Sponsor. The



Engineer agrees further to return retainage payments to each subconsultant within 30 days after the subconsultant's work is satisfactorily completed. Any delay or postponement of payment from the above referenced time frame may occur only for good cause following written approval of the Sponsor. This clause applies to both DBE and non-DBE subconsultants.

4. LOBBYING AND INFLUENCING FEDERAL EMPLOYEES

The Engineer certifies by executing this contract, to the best of his or her knowledge and belief, that:

- 1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the Engineer, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
- 2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

5. ACCESS TO RECORDS AND REPORTS

The Engineer must maintain an acceptable cost accounting system. The Engineer agrees to provide the Sponsor, the Federal Aviation Administration, and the Comptroller General of the United States or any of their duly authorized representatives access to any books, documents, papers, and records of the Engineer which are directly pertinent to the specific contract for the purpose of making audit, examination, excerpts and transcriptions. The Engineer agrees to maintain all books, records and reports required under this contract for a period of not less than three years after final payment is made and all pending matters are closed.

6. BREACH OF CONTRACT TERMS

Any violation or breach of terms of this contract on the part of the Engineer or its subconsultants may result in the suspension or termination of this contract or such other action that may be necessary to enforce the rights of the parties of this agreement. The duties and obligations imposed by the Contract Documents and the rights and remedies available thereunder are in addition to, and not a limitation of, any duties, obligations, rights and remedies otherwise imposed or available by law.



7. RIGHTS TO INVENTIONS

All rights to inventions and materials generated under this contract are subject to requirements and regulations issued by the FAA and the Sponsor of the Federal grant under which this contract is executed.

8. TRADE RESTRICTION CLAUSE

The Engineer or subconsultant, by submission of an offer and/or execution of a contract, certifies that it:

- 8.1. is not owned or controlled by one or more citizens of a foreign country included in the list of countries that discriminate against U.S. firms published by the Office of the United States Trade Representative (USTR);
- 8.2. has not knowingly entered into any contract or subcontract for this project with a person that is a citizen or national of a foreign country on said list, or is owned or controlled directly or indirectly by one or more citizens or nationals of a foreign country on said list;
- 8.3. has not procured any product nor subcontracted for the supply of any product for use on the project that is produced in a foreign country on said list.

Unless the restrictions of this clause are waived by the Secretary of Transportation in accordance with 49 CFR 30.17, no contract shall be awarded to an engineer or subconsultant who is unable to certify to the above. If the Engineer knowingly procures or subcontracts for the supply of any product or service of a foreign country on said list for use on the project, the Federal Aviation Administration may direct through the Sponsor cancellation of the contract at no cost to the Government.

Further, the Engineer agrees that, if awarded a contract resulting from this solicitation, it will incorporate this provision for certification without modification in each contract and in all lower tier subcontracts. The Engineer may rely on the certification of a prospective subconsultant unless it has knowledge that the certification is erroneous.

The Engineer shall provide immediate written notice to the sponsor if the Engineer learns that its certification or that of a subconsultant was erroneous when submitted or has become erroneous by reason of changed circumstances. The subconsultant agrees to provide written notice to the Engineer if at any time it learns that its certification was erroneous by reason of changed circumstances.

This certification is a material representation of fact upon which reliance was placed when making the award. If it is later determined that the Engineer or subconsultant knowingly rendered an erroneous certification, the Federal Aviation Administration may direct through the Sponsor cancellation of the contract or subcontract for default at no cost to the Government.

Nothing contained in the foregoing shall be construed to require establishment of a system of



records in order to render, in good faith, the certification required by this provision. The knowledge and information of an engineer is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

This certification concerns a matter within the jurisdiction of an agency of the United States of America and the making of a false, fictitious, or fraudulent certification may render the maker subject to prosecution under Title 18, United States Code, Section 1001.

9. TERMINATION OF CONTRACT

- 9.1. The Sponsor may, by written notice, terminate this contract in whole or in part at any time, either for the Sponsor's convenience or because of failure to fulfill the contract obligations. Upon receipt of such notice services must be immediately discontinued (unless the notice directs otherwise) and all materials as may have been accumulated in performing this contract, whether completed or in progress, delivered to the Sponsor.
- 9.2. If the termination is for the convenience of the Sponsor, an equitable adjustment in the contract price will be made, but no amount will be allowed for anticipated profit on unperformed services.
- 9.3. If the termination is due to failure to fulfill the Engineer's obligations, the Sponsor may take over the work and prosecute the same to completion by contract or otherwise. In such case, the Engineer is liable to the Sponsor for any additional cost occasioned to the Sponsor thereby.
- 9.4. If, after notice of termination for failure to fulfill contract obligations, it is determined that the Engineer had not so failed, the termination will be deemed to have been effected for the convenience of the Sponsor. In such event, adjustment in the contract price will be made as provided in paragraph 2 of this clause.
- 9.5. The rights and remedies of the sponsor provided in this clause are in addition to any other rights and remedies provided by law or under this contract.

10. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

By executing this contract, the Engineer certifies that at the time the Engineer executes this contract that neither it nor its principals are presently debarred or suspended by any Federal department or agency from participation in this transaction.