

**Work Order No. 5
ATTACHMENT A
SCOPE OF SERVICES
Leesburg Regional Airport
Runway 13-31 Extension**

Part I - Basic Services

Preliminary Project Engineering Activities

1. Collect existing information for Runway 13-31, parallel Taxiway A, airport electrical service and similar that is on file at the Leesburg Regional Airport. Collect utility information that is available from the City of Leesburg. Collect existing relevant water management permits from the City of Leesburg.
2. Conduct visual and photographic reconnaissance of Runway 13-31, Taxiway A and safety areas for site and pavement conditions.
3. Coordinate the design survey and design geotechnical work for Runway 13-31 and Taxiway A extensions. The scopes for the design survey and geotechnical work are included as Attachments C and D, respectively.
4. Develop the preliminary geometric layouts for the runway and taxiway extensions, safety areas, object free areas, and declared distances. The general project is expected to follow Alternate 5 of the Environmental Assessment. Also establish the work limits associated with each of the three bid packages (Runway 13 extension, Runway 31 extension, and Taxiway A Extension).
5. Coordinate and attend the Pre-Design Conference at Leesburg Regional Airport.

Preliminary Design

1. Attend a meeting with the Owner and with airport users to discuss construction phasing, runway and taxiway closures, temporary relocated thresholds and other operational issues. Owner will invite users to attend. Keep and distribute meeting minutes. Prepare preliminary Safety and Operational Plans for the work based on the meeting.
2. Conduct preliminary analysis and design of the water management system to meet water quality and quantity management criteria of St. John's River Water Management District. Alternative criteria to meet the Conditions of Issuance for an Environmental Resource Permit and simultaneously satisfy FAA Advisory Circular 150/5200-33A are anticipated.
3. Complete the pavement section design for the runway and taxiway extensions following AC 150/5320-6D.
4. Prepare outline specifications for the project. The standard specifications of AC 150/5370-10B, including latest changes, will be used.

5. Prepare a list of modifications to FAA/FDOT design or specification standards that are known or anticipated. Provide a justification for each and coordinate with FAA/FDOT on the request for deviations as applicable.
6. Conduct a review of technical calculations and design approach.
7. Prepare a Preliminary Opinion of Probable Construction Cost based on the Preliminary Design. Owner recognizes and agrees that Engineer does not have control over Contractor's pricing strategies or costs and that estimate may vary from actual bid or construction costs. Owner also recognizes and agrees that estimate is based on preliminary, not complete, plans and that quantities and items will likely change as design progresses.

Final Design

1. Complete design plans for Runway 13-31 and Taxiway A extensions, including appropriate Runway Safety Areas, Object Free Areas, lighting, signage, visual approach slope indicators, declared distances and ancillary features following the guidance in AC 150/5300-13, 150/5340-18D, 150/5340-30, 150/5320-5B and other Advisory Circulars, latest changes, as applicable. Any modifications to criteria will be noted with justifications for same. Complete the Safety Plans for Runway 13 extension, Runway 31 extension and Taxiway A extension following the guidance in AC 150/5370-2E, latest change. The plans will be designed for three stand alone projects.

Electrical design will include:

- a. Design of Runway and Taxiway Edge Lighting System, Runway Guard Light system, and signage system along the new edge of new pavement including the following:
 - i. Lighting Layout Plans
 - ii. Lighting Circuit Plans
- b. Demolition of existing airfield lighting systems along the pavement demolition area
- c. Design of a counterpoise system
- d. Relocate VASI or upgrade to PAPI
- e. Modification of the airfield signage in the project area, as required
- f. Design new electrical ducts in new pavement area
- g. Installation Details for electrical equipment associated with the airfield lighting systems and the above Scope of Work
- h. Provide Engineer's Estimate of Probable Construction Cost
 - i. Load calculations for new and modified lighting systems
 - j. Modification to the vault
 - k. Installation of Runway Distance Remaining Signs
 - l. Re-installation of a REIL

Furnish 5 (five) sets of plans to the Owner for review.

2. Complete the specifications for Runway 13-31 and Taxiway A extensions using the standard specifications of AC 150/5370-10B, latest change, adapted to the project including all FAA and/or FDOT approved deviations to standards. Contract documents will be included in the specifications along with 3 (three) suggested "Invitation to Bid" sections and advertisements. Furnish 5 (five) copies of specifications for each of the three (3) stand alone projects to the Owner for review.

3. Prepare Final Opinions of Probable Construction Costs for the Runway 13-31 and Taxiway A extensions projects. Owner recognizes and agrees that Engineer does not have control over Contractor's pricing strategies or costs and that estimate may vary from actual bid or construction costs. Include in the engineering report.
4. Prepare estimates of required construction times to extend Runways 13-31 and Taxiway A. The time estimate will be done using the Critical Path Method (CPM). It will be used to establish the contract time in the bid documents. Make any minor adjustments to the Safety and Operational Plan indicated by the CPM schedule. Include the estimate in the Engineer's Report.
5. Prepare the Engineer's Report for Runway 13-31 and Taxiway A extensions. A single Engineer's Report addressing all three bid packages will be prepared. The report will discuss design criteria, specific design solutions, modifications to standards, copies of design calculations, construction time and cost estimates, and information used to estimate liquidated damages. Furnish 5 (five) copies of the Engineer's Report to the Owner for review.
6. Conduct reviews for coordination of construction documents for Runway 13-31 and Taxiway A extensions. These reviews will be done prior to document submittal.
7. Conduct on-site constructability reviews for Runway 13-31 and Taxiway A extensions.
8. Complete and submit 7 (seven), hard copy, record sets of the Construction Documents.

Bidding or Negotiation Phase

1. Bidding and Negotiation Phase Services are excluded from this contract but will be added as separate Work Orders for negotiated fees as Federal and state funding become available.

Construction Phase Services

1. Construction Phase Services are excluded from this contract but will be added as separate Work Orders for negotiated fees as Federal and state funding become available.

Part II - Additional Services

Additional Services

1. Provide grant application assistance to include: assistance with the grant narratives, exhibits, and forms. [Required]
2. Conduct design surveys needed for design purposes. [Required]. See Attachment C.
3. Conduct design geotechnical exploration needed for design purposes. [Required]. See Attachment D.
4. Assist with Environmental Permitting for the project. A single Environmental Resource Permit application covering all three bid packages is included in this scope. Two primary tasks that will proceed in parallel are required.
 - a) Task 1 will be the permitting activities associated with Water Management for the project. This includes water quality, water quantity and floodplain issues and permitting.
 - b) Task 2 is the permitting activities associated with wetlands and species, which is further defined as follows:

01. Wetland Delineation and Preliminary Listed Species Review

PBS&J ecological sciences staff will field delineate the limits of wetlands within the LEE Runway 13/31 Extension and associated improvements site pursuant to 62-340 F.A.C. for St. Johns River Water Management District (SJRWMD) and the 1987 Wetland Delineation Manual for the Department of the Army, Corps of Engineers (ACOE). The line will be field flagged and recorded using a Trimble Global Positioning System (GPS) with sub-meter accuracy. This method allows us to create a digital file identifying the flag points which can be submitted to the surveyor. Additionally, the GPS line can be submitted with an Environmental Resource Permit application as graphic support to allow the agency verification.

A preliminary survey for the occurrence of listed species will be conducted during the field visits necessary for delineating the wetlands and preparing the mitigation assessments. Based upon preliminary information from the Environmental Assessment, it is not likely that listed species, or their habitat, will be adversely affected by the proposed project. Therefore, these services have not been included in this cost estimate. If listed species or their habitats are discovered, additional surveys may be required and the appropriate permits will need to be obtained which will require an addendum to this scope and budget.

02. UMAM Assessment

Under 62-345, F.A.C., the SJRWMD requires a Unified Mitigation Assessment Method (UMAM) analysis be completed for wetlands proposed for impact. PBS&J scientists will complete a UMAM assessment for the delineated wetlands to facilitate agency review of the wetland areas. This will consist of required literature review and onsite analysis to complete the UMAM assessment sheets for inclusion in the ERP application package. Because the ACOE has recently agreed to accept modified UMAM assessments for review of impacts and mitigation proposals, no Wetland Rapid Assessment Procedure (WRAP) analyses or data sheets are proposed under this scope.

03. Agency Verification

PBS&J will coordinate with state and federal permitting agencies in an attempt to verify the wetland lines. The policy for these agencies has been that staff will usually not review wetland lines on site until a permit application for the project has been submitted. Therefore, the timing of the agency field review depends upon the availability of SJRWMD and ACOE staff for site meetings. If the agency verification is not possible prior to permit application submittal, it will be accomplished once the application has been submitted to SJRWMD and the ACOE.

04. Provide Environmental Support for ERP Application

PBS&J ecological sciences staff will assist the project engineer by providing environmental discussion and UMAM analyses for the Joint Application for ERP package.

Mitigation will be required to offset the impacts proposed to wetlands onsite. PBS&J will prepare a mitigation proposal and coordinate with the agencies for acceptance of the mitigation plan. This will include preparation of the mitigation proposal, assessment of the mitigation area (UMAM or other approved methodology), and coordination with the agencies to assure concurrence and approval of the plan.

The mitigation plan/proposal is based upon the assumption that wetland impacts will be mitigated through the use of a mitigation banking credits. The work under this scope does not include design surveys and plans for the creation of a new wetland site.

MEA Group and our subconsultant, PBS&J, will also provide responses to agency comments in up to 2 (two) Requests for Additional Information from each agency (SJRWMD and ACOE) and attend up to three meetings with the client and/or regulatory staff as part of this task.

- 5. Prepare Construction Management Program Manuals for each of the three (3) stand alone projects. This summarizes project responsibilities, reporting and testing requirements. It supplements, but does not supercede, the Project Plans and Specifications. It does not relieve the Contractor of responsibility for a Quality Control Plan. [Required - AIP Grant Conditions - III General Conditions Subsection K - but may be deferred until Bidding and Negotiation or Construction Phase at Owner Option]

COMPENSATION

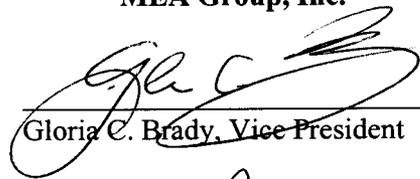
Compensation to complete the Basic and Additional Services will be a lump sum fee of Six Hundred Eighty One Thousand Five Hundred Thirty Eight (\$681,538.00) Dollars. Monthly billing will be based on percentage of the work complete.

AGREED AS TO SCOPE OF SERVICES AND FEE:

City of Leesburg

MEA Group, Inc.

By: MAYOR


Gloria C. Brady, Vice President

ATTEST: _____
CITY CLERK

ATTEST: 

DATE: _____

DATE: 11/3/06

**WORK ORDER No. 5
ATTACHMENT B - ENGINEERING FEE
RUNWAY 13-31 and TAXIWAY A EXTENSION
LEESBURG REGIONAL AIRPORT**

MAY 31, 2006

Task	Task Description	Total Cost	Total Hours	Senior Consultant Grade IX	Project Manager/Engineer Grade VII	Senior Designer Grade III	Staff Engineer Grade II	Tech Grade III	Clerical Grade II	Sub-Consultant Fees	Sub Fee + Handling & Profit @
				\$170	\$125	\$85	\$70	\$70	\$55		15%
BASIC SERVICES:											
PRELIMINARY PROJECT ENGINEERING ACTIVITIES											
1	Collect and Review Existing Information	\$ 14,146	72		24		48			\$ 6,771	\$ 1,016
2	Conduct Visual and Photo Reconnaissance	\$ 12,647	60		12		48			\$ 6,771	\$ 1,016
3	Coordinate Design Survey and Geotechnical	\$ 9,920	96	16	40				40		\$ -
4	Preliminary Geometric Layout and Bid Package Work Limits	\$ 8,400	80		40	40					\$ -
5	Pre-design Conference	\$ 12,466	48	8	16				24	\$ 6,771	\$ 1,016
	Sub-Total:	\$ 57,579	356	24	132	40	96	0	64	\$ 20,312	\$ 3,047
PRELIMINARY DESIGN PHASE											
1	Preliminary Operational Safety Plan & Meeting	\$ 11,440	112	16	32	40			24		\$ -
2	Preliminary Water Management Design	\$ 27,760	280	40	80	64	80	64	16		\$ -
3	Pavement Design	\$ 3,360	24	8	16						\$ -
4	Outline Specifications	\$ 12,623	88	16	24				48	\$ 3,707	\$ 556
5	Identify and Request Modifications to Standards	\$ 8,360	88	16	24				48		\$ -
6	Conduct QA/QC Technical Review	\$ 20,073	64	16	16	16	16			\$ 11,194	\$ 1,679
7	Preliminary Opinion of Cost	\$ 6,053	18		8	8			2	\$ 3,707	\$ 556
	Sub-Total:	\$ 89,670	674	112	200	64	96	64	138	\$ 18,608	\$ 2,791
FINAL DESIGN											
	Prepare Construction Plans (Includes Option for up to 3 Bid Packages)										
1	Cover Sheet	\$ 685	9		1			8			\$ -
	Quantity Sheet	\$ 1,930	26		2			24			\$ -
	Project Layout Plan	\$ 1,890	22		2	16		4			\$ -
	Operational Safety Plans	\$ 2,370	23	3	4	16					\$ -
	Horiz. & Vertical Control Plans	\$ 1,430	18		2	4		12			\$ -
	Clearing, Grubbing and Demolition Plans	\$ 1,495	19		3			16			\$ -
	Paving, Grading & Drainage Plans Key Sheet	\$ 1,495	19		3			16			\$ -

**WORK ORDER No. 5
ATTACHMENT B - ENGINEERING FEE
RUNWAY 13-31 and TAXIWAY A EXTENSION
LEESBURG REGIONAL AIRPORT**

MAY 31, 2006

Task	Task Description	Total Cost	Total Hours	Senior Consultant Grade IX	Project Manager/ Engineer Grade VII	Senior Designer Grade III	Staff Engineer Grade II	Tech Grade III	Clerical Grade II	Sub-Consultant Fees	Sub Fee + Handling & Profit @ 15%
				\$170	\$125	\$85	\$70	\$70	\$55		
	Paving, Grading & Drainage Plans	\$ 11,430	124	10	10	80		24			\$ -
	Cross Sections	\$ 10,250	130		10	40		80			\$ -
	Paving Details	\$ 1,960	22	2	4			16			\$ -
	Drainage Details	\$ 7,000	82	6	12		40	24			\$ -
	Temporary Erosion, Sedimentation and Dewatering Control Plans	\$ 1,360	8	8							\$ -
	Temporary Erosion, Sedimentation and Dewatering Control Details	\$ 1,360	8	8							\$ -
	Fencing Layout Plan	\$ 2,055	27		3		24				\$ -
	Fencing Details	\$ 1,245	17		1			16			\$ -
	Marking Plans	\$ 3,650	42		2	40					\$ -
	Marking Details	\$ 1,370	18		2			16			\$ -
	Electrical Notes and Legend	\$ 6,764	0							\$ 5,882	\$ 882
	Electrical Layout Plans	\$ 13,528	0							\$ 11,763	\$ 1,764
	Electrical Circuits	\$ 16,910	0							\$ 14,704	\$ 2,206
	Electrical Details	\$ 16,910	0							\$ 14,704	\$ 2,206
	VASI Relocation	\$ 6,764	0							\$ 5,882	\$ 882
	Electrical Vault Modifications	\$ 6,764	0							\$ 5,882	\$ 882
	Miscellaneous Details (NTS)	\$ 1,430	18		2	4		12			\$ -
2	Specifications & Contract Documents	\$ 18,397	102	8	46			8	40	\$ 7,415	\$ 1,112
3	Final Opinion of Cost	\$ 9,248	8		4				4	\$ 7,416	\$ 1,112
4	CPM Schedule	\$ 1,740	16	4	4		8				\$ -
5	Engineer's Report	\$ 18,156	94	4	32		16		42	\$ 8,736	\$ 1,310
6	QA/QC Coordination Review	\$ 24,793	112	24	24	24	24	16		\$ 11,194	\$ 1,679
7	On-site Constructability Review	\$ 4,000	32	32							
	Sub-Total:	\$ 198,378	996	77	205	224	112	292	86	\$ 93,577	\$ 14,037
	BASIC SERVICES SUB-TOTAL	\$ 345,627	2,026	213	537	328	304	356	288	\$ 132,497	\$ 19,875

**WORK ORDER No. 5
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RUNWAY 13-31 and TAXIWAY A EXTENSION
LEESBURG REGIONAL AIRPORT**

MAY 31, 2006

Task	Task Description	Total Cost	Total Hours	Senior Consultant Grade IX	Project Manager/Engineer Grade VII	Senior Designer Grade III	Staff Engineer Grade II	Tech Grade III	Clerical Grade II	Sub-Consultant Fees	Sub Fee + Handling & Profit @
DIRECT COSTS											
	Direct Costs including telephone, copies and mailing										
	1 at 5.84% of basic service professional fees	\$ 4,500								\$ 1,290	
	2 Travel costs	\$ 4,500								\$ 1,350	
	BASIC SERVICES DIRECT COSTS TOTAL:	\$ 9,000								\$ 2,640	
	BASIC SERVICES TOTAL	\$ 354,627	2,026	213	537	328	304	356	288	\$ 135,137	\$ 19,875
ADDITIONAL SERVICES											
	1 Grant Application Assistance	\$ 6,280		1						2 \$ 6,000	
	2 Design Survey	\$ 105,800	0							\$ 92,000	\$ 13,800
	3 Design Geotechnical	\$ 53,650	250	80			90	40	40	\$ 25,000	\$ 3,750
	3a Laboratory Testing	\$ 27,885								\$ -	\$ -
	4 Environmental Permitting	\$ 126,097	264	64	80		40	40	40	\$ 84,710	\$ 12,707
	5 Construction Quality Assurance Manuals (3)	\$ 7,200	80		40				40		\$ -
	OTHER SERVICES PHASE TOTAL:	\$ 326,912	594	145	120	0	130	80	122	\$ 207,710	\$ 30,257
	TOTAL FEE:	\$ 681,538	2620.0	358.0	657.0	328.0	434.0	436.0	410.0	\$ 342,847	\$ 50,131

Work Order No. 5
Attachment C
Design Survey Program
Runway 13-31 and Taxiway A Extensions
Leesburg Regional Airport

Subconsultant PBS&J will perform a detailed topographical field survey, with 0.01-foot and 0.10-foot precision for paved and unpaved areas respectively. The survey will cover these areas as follows:

1. Control

- a. Establish horizontal control network using conventional and GPS methods.
 - i. Tie existing horizontal control and tie to previously airport control.
 - ii. Establish baseline of survey, referenced at 1000' intervals in infield beyond clear zone.
- b. Establish vertical control network throughout project limits.
 - i. Benchmarks will be established or recovered at 1200' intervals.

Both horizontal and vertical control will be referenced outside work zone in order to maintain control throughout project.

2. Profiles and Cross Sections

- a. Existing Runway 13-31
 - i. Profiles at 100' intervals along 5000 lf of entire runway.
 - ii. 400' wide cross sections on each side of the centerline of the runway at 50' intervals at the northwest end for 400 lf and at the southeast end for 1600 lf.
- c. Existing Taxiway 'A'
 - i. 100' wide cross sections on each side of the centerline of the taxiway at 50' intervals for 3000 lf, including connectors within the project area.
- d. Proposed Runway 13-31 Extension
 - i. Profiles and cross sections will be obtained at 100'(±) intervals and DTM created.
 - (1) Cutting
 - (2) Profile
 - (3) Cross sections for a 400' wide area from each side of the runway centerline
- e. Proposed Taxiways 'A & K'
 - i. Profiles and cross sections will be obtained at 100'(±) intervals and DTM created.
 - (1) Cutting
 - (2) Profile
 - (3) Cross sections for a 100' wide area from each side of the taxiway centerline

3. Topography

- a. Runway/Taxiway
 - i. Lighting for entire runway and physical features at the northwest end for 400 l.f. and at the southeast end for 1600 l.f. for a 400' wide area on each side of the runway centerline (500' where the parallel taxiway either exists or is proposed).

- b. Drainage
 - i. Outfalls within at the northwest end for 400 l.f. and at the southeast end for 1600 l.f. for a 400' wide area on each side of the centerline of the runway (500' where the parallel taxiway either exists or is proposed).
- c. Proposed Runway
 - i. Ditches and storm structures
 - ii. Topography will extend 1000' past ends of the existing runway at the northwest and southeast ends for a 400' wide area each side of the proposed runway centerline (500' where there is a proposed parallel taxiway).

4. Geotechnical

Soil borings X, Y and Z values will be obtained and provided to geotechnical engineer.

5. Utilities

Underground utilities will be located as marked by others in the existing and proposed areas in which topography is to be performed.

Work Order No. 5
Attachment D
Design Geotechnical Program
Runway 13-31 and Taxiway A Extensions
Leesburg Regional Airport

Std	Description	Unit	Quantity
	Mobilization including mobilization of equipment, lodging and per diem for field crews	LS	1
ASTM D 1586	Standard Penetration Test Borings with initial water table measurements (30 borings to 15 ^{ft} depths)	EA	30
	Difficult Moving	Day	5
	Backhoe excavated test pits to 10 ^{ft} depth (10 test pits) including bulk samples of possible fill soils	EA	10
	Pavement Cores and Base Thickness on existing pavement including cold patching	EA	15
Mil Std 621A Method 101	Field CBR on Existing Base and/or Subgrade Materials under existing pavement	EA	8
WES Bulletin 36	Rising Water Level Field Permeability Tests in 3 ^{ft} slotted section, 2 ⁱⁿ PVC pipe at various depths 5 to 15 ^{ft} including PVC installation	EA	10
ASTM D3385	Double Ring Infiltrometer Tests	EA	10
	Field Tensiometer Tests	EA	10
Mil Std 621A Method 101	Laboratory CBR on possible on-site fill materials	EA	10
ASTM D 2488	Visual Classification and Stratification of split spoon and bulk samples	EA	150
ASTM D 422	Grain Size Analysis	EA	50
ASTM D 4318	Atterberg Limits	EA	30
ASTM D 2216	Natural Moisture Contents of split spoon samples	EA	70