

# Department of Public Works



## COUNTY OF SAN MATEO

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DIRECTOR

October 27, 2011

Mr. James M. Harris, Principal  
Coffman Associates  
4835 E. Cactus Road, Suite 235  
Scottsdale, AZ 85254

Dear Mr. Harris:

***Re: Task Order No. 8 (2009 Consultant Services Agreement) and Notice to Proceed for Airport Layout Plan Update and Narrative Report at the Half Moon Bay Airport under FAA AIP 3-06-0097-13***

Pursuant Section 2. (a) of the omnibus consultant services agreement between Coffman Associates and the County of San Mateo, awarded by the Board of Supervisors under Resolution No. 070016, on March 31, 2009, we are hereby issuing the following task order for work under the agreement:

**Task Order No. 8: Update the Airport Layout Plan (ALP) drawing set and provide a narrative report at the Half Moon Bay Airport under FAA Airport Improvement Grant No 3-06-0097-13, and as further described in the attached Scope of Services and from Coffman Associates dated October 14, 2011.**

The total not-to-exceed amount for work under this task order shall be: Two Hundred Thirty Two Thousand Eight Hundred (\$232,800). Your receipt of this letter will serve as your Notice to Proceed.

Please direct all correspondence dealing with the project to the attention of Mark Larson, Airport Manager, San Carlos Airport, 620 Airport Drive, San Carlos, CA 94070.

Very truly yours,

A handwritten signature in black ink, appearing to read "James C. Porter".

James C. Porter  
Director of Public Works

Attachment: Copy of Scope of Services from Coffman Associates dated October 14, 2011.

cc: Mark Larson, Airports Manager  
Theresa Yee, Airport Construction Projects Manager

**TASK ORDER #8  
OCTOBER 14, 2011**

**SCOPE OF SERVICES**

**AIRPORT LAYOUT PLAN UPDATE  
AND  
NARRATIVE REPORT  
FOR  
HALF MOON BAY AIRPORT  
HALF MOON BAY, CALIFORNIA**

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***INTRODUCTION***

The objective of this effort is to update the Half Moon Bay Airport, Airport Layout Plan (ALP) drawing set (ALP) and provide a narrative report (Narrative Report) supporting the proposed changes to the Half Moon Bay Airport ALP. The narrative report will focus on the facility changes and development direction of the airport that has occurred since the preparation of the 1997 "Draft" Master Plan.

The ALP Narrative Report shall include forecasts of aviation demand, the identification of future facility needs, and capital improvement scheduling and costs. The ALP Narrative Report and the updated ALP will also reflect new policies and development direction provided by the County of San Mateo. The ALP Update and Narrative Report is being prepared prior to an update to the Half Moon Bay Airport Land Use Compatibility Plan (ALUCP) which is being funded separately by Caltrans.

The Consultant shall prepare the Narrative Report, including the ALP update, in accordance with Federal Aviation Administration (FAA) requirements, including Advisory Circular (AC) 150/5070-6B, *Airport Master Plans*, AC 150/5300-13 (as amended), *Airport Design*, and guidelines for the preparation of an airport layout plan as defined by the FAA Western Pacific Region (February 10, 2006).

**ELEMENT 1.0 - NARRATIVE REPORT**

**Task 1.1 - Inventory Airport Physical Facilities**

**Description:** Perform complete inventory of physical facilities and land uses which presently exist within the boundaries of the airport. The inventory will include an examination of plans and documents as well as a thorough on-site inspection of each physical facility to determine its type, size, and use with specific emphasis on facilities that have changed since the 1997 "Draft" Master Plan. The work effort will make maximum use of existing information available in the

airport and County of San Mateo offices. The following relevant areas are included as a minimum:

Airfield: Record of pavement strengths and conditions (all runways, taxiways, and aprons); lighting and NAVAID systems.

FBO/GA Services Complex: Square footage of structures and use; fuel storage capacity (by fuel grade) and location of tanks.

Ancillary Facilities: Other businesses on airport (define type of business and building size); ARFF and maintenance facilities and description of equipment.

### **Task 1.2 - Evaluate Existing Documents**

**Description:** Evaluate in detail existing documents and previous planning efforts for their adaptability or use in developing the Narrative Report. These documents will include previous master plans, area development plans, regional aviation forecasts and planning, comprehensive land use plans, and such other documentation as available. Consultant shall obtain and review the previous ALP, Exhibit A – Property Map, obstruction surveys and other available plans, drawings, specifications, etc. applicable to the airport.

### **Task 1.3 - Obtain new Color Aerial Photograph and Mapping**

**Description:** The Consultant will assemble new digital electronic color aerial photography and new topographic and planimetric mapping of the Airport and its environs in accordance with FAA Advisory Circular 150/5070-6B, Airport Master Plans (Section 1005). Topographic and planimetric mapping of the surrounding area and aerial photography of the airport including existing and potential future airport property, as well as the inner approach surface areas, will be obtained by the Consultant. The digital color aerial photography will be used for base mapping and exhibits. As part of this task, existing Permanent Survey Marks (PSM), consisting of a single Primary Airport Control Station (PACS) and two Secondary Airport Control Stations (SACS) will be used as controls for the mapping. The horizontal datum will be NAD83 and the vertical datum will be NAVD88.

### **Task 1.4 - Inventory Air Traffic Activity**

**Description:** Air traffic activity data for the airport will be assembled and organized from various sources. Relevant data on general aviation (private and corporate), air taxi, and military activity will be collected. Data will be obtained from the County of San Mateo, the FAA Regional Office, CALTRANS, and Fixed Base Operators. The assembled data will include, as available:

- a) Historical operations, including local (touch and go) and itinerant operational splits.
- b) Based aircraft by type, as available.

### **Task 1.5 - Inventory Socioeconomic Data**

**Description:** Obtain available statistical data on historical and forecast socioeconomic factors for the Half Moon Bay Airport service area. These factors will include, at a minimum, employment, income, and population, with emphasis placed upon the identification of specific socioeconomic characteristics of the developed areas in the local environs, as well as trends that have been established for future development and habitation.

### **Task 1.6 - Review Regional Aviation and Socioeconomic Forecasts**

**Description:** Review and analyze current local and regional socioeconomic forecasts obtained in the inventory element. Similarly, review the forecasts and assumptions of the aviation forecasts prepared by California Department of Transportation - Aeronautics Division (CALTRANS) for the *California Aviation System Plan*, and by FAA for its *Terminal Area Forecasts*. The forecasts prepared for the most recent Master Plan will also be reviewed and analyzed.

### **Task 1.7 - Prepare Aviation Demand Forecasts**

**Description:** Develop aviation demand forecasts using both simple and more complex methodologies, taking into consideration forecasts from other sources such as the FAA. Historical aviation activity statistics for the airport will be organized to evaluate airport peaking characteristics and fleet mix ratios. The methodology used in this analysis will involve a variety of techniques that will factor in national transportation statistics, local socioeconomic factors as well as the independent airport data. Correlation analysis techniques will include relatively simple graphical comparisons, as well as more complex regression analysis. Within the forecast chapter, the Consultant will provide a discussion and analysis of the methodologies which are chosen for use in this study and how they have been applied. A final refinement of activity forecasts will be conducted to integrate the effects of changing technology and will result in estimates of aviation demand for 2015, 2020, and 2030, which will be presented as follows:

- a) Based aircraft totals and mix.
- b) Annual operations by type (local, itinerant).
- c) Operational Mix By Type and Airport Reference Code
- d) Critical Design Aircraft

### **Task 1.8 - Establish Airport Physical Planning Criteria**

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

terminal/operations, access circulation and parking, hangar and services, administrative, ARFF, rent-a-car, cargo and other airport service and support facilities.

#### **Task 1.9 - Prepare Airfield Facility Requirements**

**Description:** Determine and prepare a list of facility requirements needed to meet projected demands for the airport for existing, short term, intermediate term, and long term time frames. These facility requirements will be used in the later comparative evaluations and will be based upon both the airport physical planning criteria and the aviation forecasts.

Facility requirements to meet aviation demand for the airfield will include (but not be limited to) runways, taxiways, lighting, navigational aids, and marking and signage. These facility requirements will be developed in the form of gross areas and basic units and will be compared to those that presently exist to identify the future development items needed to maintain adequate service, function, and operations of the airport.

#### **Task 1.10 - Prepare Landside Area Facility Requirements**

**Description:** Using information provided by the aviation planning criteria established under preceding tasks, develop a set of facility requirements addressing the landside facilities necessary to support the airfield and its related activity. Requirements for facilities such as the general aviation terminal building, fuel/fuel farm, ARFF, airport maintenance, hangers, FBO areas, rent-a-car ready and remote lots, and revenue support facilities will be developed under this task.

#### **Task 1.11 -- Prepare Recommended Development Concept**

**Description:** Based on the information developed in previous tasks as well as considering the input of the County of San Mateo, a single recommended development concept for the airport facilities will be prepared. The recommendation for the most prudent and feasible development concept will become the basis for the development of airport plans, costs, and scheduling.

#### **Task 1.12 - Prepare Airport Development Schedules and Cost Estimates**

**Description:** Based upon the previous evaluations, prepare the airport development schedules to reflect economic feasibility and operational requirements of the recommended development concept. In addition, prepare airport development cost estimates to reflect the requirements and schedule of development associated with the recommended airport concept.

#### **Task 1.13 - Prepare Capital Improvement Program**

**Description:** Prepare a recommended airport capital improvement program which includes estimates of the amount of funds available from federal grant-in-aid programs to determine the net amount of capital funds required by the County of San Mateo to accomplish each proposed stage of improvements for the airport.

#### **Task 1.14 – Draft Narrative Report**

**Description:** A Narrative Report will be prepared in conformance with and meet the standards of FAA Advisory (AC) 150/5070-6B, *Airport Master Plans*. Information prepared in the preceding tasks will be incorporated into the narrative report. A draft copy of the report will be provided for the County's review. Fifteen (15) copies of the draft narrative report will be provided for this preliminary review.

#### **Task 1.15 – Coordination Meetings**

**Description:** Four (4) coordination meetings are budgeted for the project. The meetings can be used for coordination with, or presentations to, the County of San Mateo, Airport users, and/or FAA or other agencies as necessary. One meeting is anticipated to review the Draft Narrative Report.

#### **Task 1.16 – Final Narrative Report**

**Description:** Review comments received from the County of San Mateo will be incorporated into a final Narrative Report. Twenty (20) copies of the final Narrative Report will be provided. Up to five (5) full-size black line copies of the ALP drawing set and up to eight (8) additional copies of the ALP drawing will also be provided for review.

### **ELEMENT 2.0 - AIRPORT LAYOUT PLAN DRAWING SET**

The purpose of this study element is to develop an updated set of Airport Layout Plans and Drawings for Half Moon Bay Airport. All plans will be prepared in a format that is acceptable to the FAA and CALTRANS, and can be utilized by the County staff in carrying out implementation. All plans will be produced utilizing AutoCAD software. The AutoCAD drawing files will be a deliverable item to the County, FAA, and CALTRANS at the completion of this project. These draft drawings will be included as an appendix to the final Narrative Report.

#### **Task 2.1 – Prepare Airport Layout Drawing and Data Sheet**

**Description:** Following the recommended development concept prepared under Task 1.11, and FAA AC 150/5070.6B, "Airport Master Plan", update the existing Airport Layout Plan (ALP) and Data Sheet for the airport utilizing AutoCAD Software. Guidelines for the preparation of an airport layout plan as defined by the FAA Western Pacific Region (February 10, 2006) will be followed. The ALP will follow guidance in Appendix F of FAA AC 150/5070-6B, *Airport Master Plans*.

#### **Task 2.2 - Update Airspace Drawing**

**Description:** Update the existing and ultimate Airport Airspace Drawing in conformance with 14 CFR Part 77. The set will include an identification of obstructions and an obstruction data table. Obstruction information will be obtained from existing approach plans, obstruction

surveys, new aerial surveys, and the current Airport Obstruction (OC) chart (as available). U.S.G.S. base maps will be superimposed on the airspace drawing. A plan for the disposition of the obstructions, as identified, will also be included as part of the obstruction data table.

### **Task 2.3 - Update Inner Approach Surface Drawings**

**Description:** Update the existing inner portion of the approach surface drawings in accordance with Appendix F of FAA AC 150/5070-6B, *Airport Master Plans*. Obstruction information will be obtained from existing approach plans, obstruction surveys, new aerial surveys, and the current Airport Obstruction (OC) chart (as available).

### **Task 2.4 – Prepare New Departure Surface Drawings**

**Description:** Prepare new departure surface drawings in accordance with Change 1 of FAA AC 150/5070-6B, *Airport Master Plans*. Obstruction information will be obtained from existing approach plans, obstruction surveys, new aerial surveys, and the current Airport Obstruction (OC) chart (as available).

### **Task 2.5 - Prepare Terminal Area Plan(s)**

**Description:** Prepare a Terminal Area Plan(s) reflecting recommended development on the landside development areas as resulting from the recommendations of this study.

### **Task 2.6 - Prepare On-Airport Land Use Plan**

**Description:** A land use plan for the area within the boundaries of the airport will be prepared, based on the identified overall development concept. This will include industrial/commercial development areas, general aviation areas, ground access and vehicular circulation system service areas, and distinctions between aeronautical and non-aeronautical uses.

### **Task 2.7 – Airport Property Map – Exhibit A**

**Description:** Prepare an Exhibit A - Airport Property Map, which will include the appropriate graphics and information to indicate the type of acquisition (i.e., federal funds, surplus property, local funds only, etc.) of various land areas within the airport's boundaries. The primary intent of the drawing is to identify and/or delineate all designated airport property owned or to be acquired by the airport owner. The drawing will inventory all of the parcels, which currently make up the airport or are proposed for acquisition by the airport. Requirements for the Exhibit A – Property Map will include the following:

- Each parcel making up the entire airport should be shown and numbered. Parcels of land owned by the airport, which are non-contiguous with the airport proper parcel, must also be shown. Include land(s) targeted for sale and leases (indicate the type of planned development).
- Depict both fee and easement interests.

- Runway Protection Zones and runway/taxiway configuration to be depicted. No landside facilities will be depicted.
- Building Restriction Lines to be depicted.
- Magnetic and True north arrows to be shown in accordance with standard drafting practices.
- Each line type, which identifies airport boundary, parcel boundary, RPZ's, BRL's, easements, etc. must be distinct in nature and shown within the "Legend" Box.
- An inventory of all parcels by number will be included. Information to be given is as follows: Grantor, grantee, type of interest, acreage, book and page, and date of recording. In remarks include the FAA project number if acquired under a federal grant, rate of participation, surplus property transfer, or AP-4 agreement if applicable, type of easement (clearing, aviation, utility, Right-of-Way, etc.) and if released, date of FAA approval.
- All information will be shown on one (1) sheet if possible.
- Must be dated and include a "Revision/Amendment" table to document updates and/or changes in order to maintain an historical record for both the FAA and the airport sponsor.

This work effort will utilize information obtained from the current "Exhibit A - Property Map" as well as other sources. At a minimum, the Property Map will be updated in conformance with the standards of FAA AC 150/5070-6B, *Airport Master Plans*, Appendix F. The County will provide historical information regarding the acquisition of existing airport property and easements, as well as boundary surveys, if needed.

**Task 2.8 - Preparation of Draft ALP and Draft ALP Drawing Set**

**Description:** Preparation of eight (8) blackline copies of the "Draft" ALP drawing and three (3) full drawing sets for submission to the County, and subsequent comprehensive agency review by FAA and CALTRANS. Drawings will be a minimum size of 24" x 36". The County will provide seven (7) unsigned copies of ALP drawing, along with one (1) full set of drawing plans to FAA for review. The County will also provide one (1) full set of drawings to CALTRANS for review.

**Task 2.9 - Preparation of Final ALP and Final ALP Drawing Set**

**Description:** Revise the Draft Airport Layout Plans and Drawings prepared in Task 2.8 to reflect comments received from the SFO-ADO review. Upon approval from the County, provide five (5) copies of the revised ALP drawing along with two (2) full sets of drawings to the County for their signature. The County will forward the signed drawings to the SFO-ADO for final approval.



**ATTACHMENT A**  
**COST SUMMARY**  
**AIRPORT LAYOUT PLAN UPDATE AND NARRATIVE REPORT**  
**HALF MOON BAY AIRPORT**  
**HALF MOON BAY, CALIFORNIA**  
**PREPARED BY: COFFMAN ASSOCIATES, INC.**  
**October 14, 2011**

ELEMENT/TASK	PERSON DAYS				COSTS		TASK TOTAL
	PRINCIPAL	PROFESSIONAL	TECHNICAL	TOTAL LABOR	EXPENSES		
<b>ELEMENT 1 - NARRATIVE REPORT</b>							
1.1 Inventory Airport Physical Facilities	2	3	1	\$ 8,040	\$ 2,500	\$	10,540
1.2 Evaluate Existing Documents	-	1	1	2,040	-	-	2,040
1.3 Obtain Aerial Photography and Mapping	1	1	1	3,840	85,000	-	88,840
1.4 Inventory Air Traffic Activity	1	2	1	5,040	-	-	5,040
1.5 Inventory Socioeconomic Data	-	1	1	2,040	-	-	2,040
1.6 Review Regional Aviation and Socioeconomic Forecasts	1	1	-	3,000	-	-	3,000
1.7 Prepare Aviation Demand Forecasts	1	5	1	8,640	-	-	8,640
1.8 Establish Airport Physical Planning Criteria	1	1	-	3,000	-	-	3,000
1.9 Prepare Airfield Facility Requirements	1	2	-	4,200	-	-	4,200
1.10 Prepare Landside Area Facility Requirements	1	2	-	4,200	-	-	4,200
1.11 Prepare Recommended Development Concept	2	3	1	8,040	-	-	8,040
1.12 Prepare Airport Development Schedules and Cost Estimates	-	1	1	2,040	-	-	2,040
1.13 Prepare Capital Improvement Program	1	2	-	4,200	-	-	4,200
1.14 Prepare Draft Narrative Report	1	5	5	12,000	1,500	-	13,500
1.15 Coordination Meetings	6	6	2	19,680	7,610	-	27,290
1.16 Prepare Final Narrative Report	1	3	2	7,080	2,000	-	9,080
<b>SUBTOTAL - ELEMENT 1</b>	<b>20</b>	<b>39</b>	<b>17</b>	<b>\$ 97,080</b>	<b>\$ 98,610</b>	<b>\$</b>	<b>195,690</b>
<b>ELEMENT 2 - AIRPORT LAYOUT PLAN DRAWING SET</b>							
2.1 Prepare Airport Layout Plan and Data Sheet	1	1	10	\$ 11,400	\$ 250	\$	11,650
2.2 Prepare Airspace Drawing	-	1	2	2,880	-	-	2,880
2.3 Prepare Inner Approach Surface Drawings	-	1	3	3,720	-	-	3,720
2.4 Prepare New Departure Surface Drawings	-	1	2	2,880	-	-	2,880
2.5 Prepare Terminal Area Plan(s)	-	1	2	2,880	-	-	2,880
2.6 Prepare On-Airport Land Use Plan	-	1	1	2,040	-	-	2,040
2.7 Prepare "Exhibit A" Property Map	-	1	2	2,880	-	-	2,880
2.8 Prepare Draft ALP and Draft ALP Drawing Set	1	1	1	3,840	250	-	4,090
2.9 Prepare Final ALP and Final ALP Drawing Set	1	1	1	3,840	250	-	4,090
<b>SUBTOTAL - ELEMENT 2</b>	<b>3</b>	<b>9</b>	<b>24</b>	<b>\$ 36,360</b>	<b>\$ 750</b>	<b>\$</b>	<b>37,110</b>
<b>PROJECT TOTAL</b>	<b>23</b>	<b>48</b>	<b>41</b>	<b>\$ 133,440</b>	<b>\$ 99,360</b>	<b>\$</b>	<b>232,800</b>