

New Facility Programming

Document for

McMinnville Municipal Airport FBO Building

Prepared by



STEELE ASSOCIATES ARCHITECTS

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Executive Summary

Introduction

This programming document represents the results of the combined work efforts of the Engineering Services Manager, Rich Spofford, the Airport Manager, Judy Newman, FBO Operator Robbie Sturm, and their selected architect team. The material contained herein reflect the result of the first “big step” (Phase I) required in order to determine specific project requirements (building space program, conceptual diagrams of the building(s) and site, consideration of site challenges) as well as the “soft” and “hard” costs associated with the projects ultimate planning, design and construction (Phase II).

Project Summary

The project is designed to replace the existing McMinnville Municipal Airport Building and FBO, as the building in which they are currently located are grossly inefficient, outdated, and inadequate in function and size to accommodate the growth of air traffic to the airport. The existing structure which is cobbled together with former portable wooden military barrack buildings as well as newer temporary buildings encompasses about 1,375 sq ft.

The desired mission of the new facility is to serve to alleviate the crowded, inefficient and potentially unsafe conditions at the existing facility, and provide a modern, efficient, pleasant and expandable facility to serve the City, its visitors and its constituents well into the future.

Project Scope

1. Interviews of city officials and key staff to determine space needs and design expectations;
2. Site reconnaissance including review of the existing Airport Building, as well as the former FAA Automated Flight Services Building;
3. Work product to include:
 - Architectural space program for the project,
 - Conceptual cost estimate to include both hard and soft costs,
 - Integration of the building footprint(s), required parking, and other hardscape and landscape features into the proposed site, as well as relating into the future proposed site elements contained in the Airport Master Plan
4. A final document (this document) and presentation to include a colored plan on the conceptual site plan with likely footprints/plans of the new Airport Building and FBO within the site. An electronic .pdf version of this presentation (on CD) to be furnished to the City.
5. A written report describing the architect’s initial (and, if requested, revised) work product including who was interviewed, observations, explanations and other information that will be helpful for the City. The architect shall provide 12 copies of the final report, also in electronic format as described above.

It is important to note that early in the project, key airport staff identified the Madras General Aviation Building as a desirable solution to the project. That project, which was completed in 2006, was employed as a starting point, both in terms of program (space layout) as well as budget. It was indicated to the architectural team that the cost of the project would be of concern, as there was currently no money scheduled for the project. In response to this information, the team worked to

Executive Summary

provide a flexible, cost-effective program that could be inexpensively constructed to form the “seed” of an expandable solution the City and Airport could build on and develop further into the future than a single phase “Full Option” construction. It is recognized that the initial proposed structure, while an enlargement of the existing facilities, does not contain all of the desired program spaces. These additional spaces can be added to the project with ease in the future, as the demand for those spaces increase, and money becomes available. The solution currently proposed is put forth as a “minimum” suggested solution for new construction; given the cost of a construction project, this solution provides the best level of improvement and expansion to the airport facilities at the lowest initial cost.

Upon request, the team also developed two additional conceptual floor plan layouts. The smaller of these two demonstrates the approximate size of the building in order to satisfy the today’s needs, space which would be useful today, if it were available. This layout would serve for the immediate future, within the next 10 years.

The larger conceptual layout would be generous for today’s needs and would maintain the facility’s needs beyond 10 years.

Upon acceptance of the final document, and as allowed by funding resources, the City may elect to continue directly into Phase II of the project, starting with Schematic and subsequent design phases, and continuing through to bidding, project construction and completion, and move-in.

Schedule Summary

The City published a “Request for Qualifications” on January 23rd, 2007, in order to seek the most qualified team available to assist them in the programming, planning and design of new or renovated space for the City of McMinnville Municipal Airport FBO and related uses. Qualifications were submitted by a number of teams by February 16th, 2007, and the selection process culminated with an award letter delivered to Steele Associates Architects on July 26th, 2007. The team of Steele Associates Architects began initial work in the form of staff interviews facility tours and general information gathering on August 1, 2007. The Professional Services Agreement was signed by the City of McMinnville on December 10, 2007. The final report is due December 31st, 2007.

Executive Summary

Team Introduction:

City of McMinnville

The consultant team would like to acknowledge the following individuals for their cooperation and communication during the execution of this project effort:

City Staff

Rich Spofford, Engineering Services Manager
Mike Bisset, Community Development Director
Judy Newman, Airport Manager

Cirrus Aviation, LLC

Robbie Sturm, Owner/Manager

Consultant Team

The consultant team assigned to the McMinnville FBO feasibility project is composed of the following firm and key individuals:

Steele Associates Architects, Bend, OR – Architect-Of-Record

Scott Steele, AIA, LEED – Principal-In-Charge
Stacey Stemach – Architect, LEED

Narrative

<u>Owner</u>	City of McMinnville Contact Person: Rich Spofford, Engineering Services Manager
<u>Prepared by</u>	Steele Associates Architects LLC
<u>Project Location</u>	McMinnville Municipal Airport, McMinnville, Oregon
<u>Zoning</u>	The site is currently zoned as M-2. Airport related occupancies are allowed in this zone.
<u>Building Use</u>	The building will be constructed to replace the current FBO and airport terminal building at the McMinnville Municipal Airport.
<u>Project Description</u>	This project is split into (2) phases: Phase I which includes space programming, conceptual cost estimating and master planning. Upon acceptance of the Phase I programming and a approved version of the master plan, Phase II will include design and construction services for the new FBO Airport Building.
<u>Facility Goals/ Objectives</u>	Overall, the site design and building architecture must be “timeless” and welcoming, an iconic and identifiable gateway to McMinnville, be designed and constructed with honesty (cost control), integrity, and further stand with precedence as a civic icon of the city’s community. Aside from designing a structure that creates pride in the community, the building’s design must be durable, flexible, and expandable. In addition, the project should incorporate sustainable design features to encourage energy efficiency, reduction in waste and water usage, and provide a healthy working environment.
<u>Site Description</u>	The site under prime consideration for the new FBO Airport building is located on the airport property, on a plot of land that currently forms an “island” within a roadway loop currently serving as access to the existing FBO, the former FAA Flight Services Building and the airport apron. The site is approximately 168’-9” long (roughly east-west), by 80’-4” wide (roughly north-south). This equates to 13,556.25 sq ft (0.31 acres). The site is flat and currently contains a few street lights in good condition as well as fire hydrant infrastructure, and storm drainage infrastructure that serves other portions of the airport. The site is currently bounded on 4 sides by

Narrative

roadway.

In addition to the new FBO Airport building site, it is proposed to include in this project an expansion of the existing aircraft parking ramp in order to take advantage of space which can be freed by the removal of the existing FBO structures. This will also provide an increased efficiency in fueling procedures by removing structures and obstructions around the existing fueling facility, thereby allowing aircraft to approach and be directly serviced in close proximity.

Building Description

The building is envisioned as a single story edifice which will serve as a new municipal gateway for the City of McMinnville with requisite parking and other site appurtenance, such as landscaping, walkways and fencing. The dimensions and size of the new structure will be determined as part of the initial conceptual design phase.

Systems Description

This building is expected to incorporate the following mechanical, electrical and plumbing systems:

- Efficient heating and ventilation for freeze protection.
- Water efficient plumbing to include sanitary sewer and rough plumbing for break rooms, restrooms and general water use.
- Electrical service to include site electrical and site lighting. Building electrical to be basic services to building and special equipment that is flexible to partition into each of the departments. Energy efficient “Energy Star” rated appliances will be specified where possible.
- Fire protection system is expected to be a wet system that will serve the entire building.
- Additional information can be found in the New Facility Program.

Sustainable Design

As part of our standard services, Steele Associates Architects reviews the potential for the building to use sustainable design strategies to ensure energy efficiency, reduce water and waste consumption and emphasize raising the standard of conventional building design and construction. It is unknown at this time if this project will elect to pursue LEED certification.

Existing Facility

Existing Facilities Information

There are several issues with the existing facilities that mandate the design of a new Airport Terminal Building and FBO facility. The existing facility does not benefit the community of McMinnville's stature and fails to represent an image of strong economic development or historical significance. There is little connection between the existing facilities and the growing collection of significant aviation history at the Evergreen Aviation Museum, and the surrounding environment of the City of McMinnville. Contrary to the purpose of the building, the facility completely lacks "civic stature". The environment is spare, worn, and haphazard. There are several rampant inefficiencies throughout the facility, such as inadequate personnel and storage space, minimal control over security, inefficient electronic capabilities, and lack of ADA accessibility. Due to the unplanned and cobbled together nature of the existing facilities, the users are constantly challenged with difficult weather events and ongoing maintenance issues. In addition, safety, code, and security issues abound. These issues include narrow openings/doorways, questionable structural soundness, inadequate space for flight planning and weather services, flight instruction and testing space, inadequate and uncomfortable waiting space for the existing air traffic and inadequate and uncomfortable facilities for waiting pilots. The grossly inadequate facility also hampers the users' ability to conduct their work in an efficient and proud manner.

The staff of the McMinnville Airport have recognized that many of the deficiencies of the current facility is due to the fact that the structures being used are simply what was available. The existing facility is a study in structure recycling, and while it has served the purpose, it is rapidly approaching the end of useful life. Further renovation or alteration of the current facility will do little to solve many of the issues raised by the operators and visitors of the airport.

<u>Room</u>	<u>Dimensions</u>	<u>Approx.</u>	<u>Description</u>
<i>FBO</i> <u>Employees</u> <ul style="list-style-type: none">• 1 office manager• 2-3 employees			
Lobby	18'x15'	270 SF	Lobby is cramped, too small for its use. Limited space for sitting or waiting. Limited space for display and sales. FBO Office has limited oversight of entries. 5-8 people maximum for comfort, but space is regularly expected to host more (up to 30 people at a time).

Existing Facility

Teaching / multi-purpose room	27'x15'	405 SF	This space is currently used for holding flight instruction classes, pilot flight planning and weather checking, flight simulation and overflow from the lobby. This space is cramped and inadequate for holding classes. There is no separation or privacy for pilots working on flight plans, or people using the flight simulator. 10 people maximum for instruction. This limits class
Breakroom/kitchen	9'-4"x13-6"	126 SF	Cramped space. Older out of date equipment and poor access. Very limited cabinet and storage space.
FBO Office	11'-0"x12'-0"	132 SF	Cramped space. Constrained layout due to given spaces as dictated by the building and uses. Little view control over ramp and parking entries.
FBO Manager's Office and Testing	10'-0"x18'-6"	185 SF	Added on temporary building provides separate office for FBO Manager. Also provides 3 spaces for computer based testing and certification. FBO Manager acts as test proctor and oversees the testing candidates. Privacy is an issue. Testing oversight is an issue. Poor visible connection between office and rest of building.
Unisex Restroom			Restroom is accessed only by the exterior. Not accessible.

The total square footage of the existing building about 1,375 sq ft.

Also under consideration for this project is the airport facilities concerning aircraft approach, access and parking at the FBO and fueling station.

The current arrangement allows for several light aircraft to be parked directly in front of the FBO building. Larger aircraft are held away from the buildings and fueling to allow aircraft and vehicular access. Because of the proximity of the fueling station to other structures and parked aircraft, direct fueling of the aircraft from the fueling station is not possible, requiring the use of fueling trucks for almost all aircraft.

The parking ramp area is tight and limits the maneuvering room of aircraft at the facility. The airport currently receives a high volume of air traffic, including many large corporate jets.

New Facility Program

FACILITY SPACE PROGRAM

PREFACE

As described in the Executive Summary, Steele Associates Architects began the original programming layout based on input from the airport staff identifying the Madras General Aviation Building as a desirable layout to use as a starting point, both in terms of space layout and budget.

Upon reviewing this starting point, it was determined that we should also document a proposed layout which would address all of the spatial requirements as identified by the airport staff as being needed in the present and the future. Thus, two additional schematic floor plans were developed to demonstrate possible building layouts. The larger of the two plans would address the needs of the airport for the foreseeable future, the smaller of the plans would address today's needs and the immediate future (less than 15 years).

The reality of today's construction market, both nationally and locally, mandates that we do not over-program our buildings. To check, we place an appropriate valuation on the construction of each square foot of a building of this type (in this case, between \$200 and \$250), including escalation of that number into the mid-point of the construction of the facility. Thus, it becomes a simple exercise to conduct preliminary projections to ascertain the cost and therefore, the constructability, of a building. Thus:

OPTION 'A' (Present needs)

Revised Program Square Footage:	3,230 SF
Projected Cost per Square Foot:	<u>\$160 PSF (average)</u>
Estimated Construction Cost:	\$516,800

OPTION 'B' (Future anticipated)

Revised Program Square Footage:	4,821 SF
Projected Cost per Square Foot:	<u>\$160 PSF (average)</u>
Estimated Construction Cost:	\$771,360

The estimated costs listed here are the hard building construction costs and do not include site costs and soft costs such as financing, design fees, legal fees etc. These additional costs can run 20-25% more.

The existing facility is currently located at a line separating the existing parking ramp and the public. Based on comments from airport staff suggesting congestion in airport parking and maneuvering difficulties around the fueling facilities, it is recommended that the new FBO facility be located further back from the existing parking ramp, closer to the FAA Automated Flight Services Building. This will accomplish a number of goals with minimal overall costs: It will allow additional aircraft parking to become available in an extended ramp area, it will free up space around the existing fueling facility allowing more efficient fueling procedures and it will allow the existing FBO facility to continue to function as it currently is during the construction of the new facility.

Another potential site includes a larger triangular site further from the airfield across the entry drive from the existing FAA Automated Flight Services Building. While the site is entirely suitable for use as a future FBO building, we feel its location is not ideal for its roll as a gateway to the McMinnville Airport. Its visibility to the airfield is limited due to existing hangars and other structures, it does not sit prominently on the access drive, clearly identifying its role.

If the new facility were to be constructed at the current location of the existing FBO, typical site and infrastructure costs would be expected. Existing utilities would need to be evaluated for continued use for the new facility, and no savings in site development costs would be realized due to the fact the proposed building footprints exceed the existing building. Expense of relocating the FBO and operating it at an alternate location would need to be included in the soft costs. Close proximity to the fueling facility could cause some complications during construction, for both construction activities and fueling procedures.

Locating the new FBO building at the end of Cirrus drive would require some additional site work, paving and landscaping, however the additional cost would be directly serving goals identified as current needs.

New Facility Program

SECTION 1- ARCHITECTURAL SPACE PROGRAM

Department	PROGRAM OPTION 'A'		PROGRAM OPTION 'B'		General Remarks
	Total Net S.F.	Total Gross	Total Net S.F.	Total Gross	
1.00 SHARED AREAS		1,481		2,137	Visual Access: Strong and clear visual access from lobby and instruction spaces to airfield and aircraft parking.
1.01 Public Areas	745	1,006	1,005	1,357	
1.02 Support Area	380	475	624	780	Lobby: Clearly identifiable entry from both parking lot and airfield.
2.00 CITY AIRPORT SPACE		125		206	•Equipment Assist.: Radio communication equipment, antennae on building roof.
2.01 Public Areas	0	0	16	18	
2.02 Staff Areas	100	125	150	188	•Site Design: Provide clear view of building from drive approach, logical siting in relation to existing airport structures
					•Site Design: Provide 20-30 parking spots, passenger drop-off area, direct delivery entry to vending/break room, clear truck access to airfield, parking for 5-8 planes adjacent to building,
3.00 FBO SPACE		1,044		1,613	•Site Design Consideration: Large, outdoor party 2 times per year, 100+ visitors.
3.01 All Areas	835	1,044	1,290	1,613	
Subtotal Department Gross Area		2,650		3,955	
Department to Building Grossing Factor @ 1.15		397		593	
Building Gross Area		3,047		4,548	
Mechanical/Electrical Factor @ 1.06		183		273	
TOTAL BUILDING GROSS AREA		3,230		4,821	

1.00 - SHARED SPACES - Airport and FBO

1.01 PUBLIC AREAS

ID	Function	No. of Rooms Capacity		PROGRAM OPTION 'A'		PROGRAM OPTION 'B'		Remarks
				Unit Space S.F.	Total Net S.F.	Unit Space S.F.	Total Net S.F.	
1	Weather Vestibule	1		0	0	120	120	
2	Main Lobby (Shared)	1	30	585	585	585	585	Functional, warm, inviting, fireplace, proper spatial layout
3	Vending/Breakroom	1	5	160	160	300	300	Coffee, Vending Machine, Refrigerator, Freezer, Storage/cabinets, dishwasher, microwave, sink, counter space. Provide direct access to exterior for deliveries.
Department Net Area					745		1,005	
Grossing Factor @ 1.35					261		352	
Department Gross Area					1,006		1,357	

1.00 - SHARED SPACES - Airport and FBO

1.02 SUPPORT AREAS

ID	Function	No. of Rooms Capacity		PROGRAM OPTION 'A'		PROGRAM OPTION 'B'		Remarks
				Unit Space S.F.	Total Net S.F.	Unit Space S.F.	Total Net S.F.	
1	Conference Room	1	10	150	150	200	200	Room large enough for about 10 people. Mixed-purpose room, can be shared with instruction uses.
2	Janitor's Closet/Utility Room	1		30	30	64	64	Shared by whole facility. Provide mop sink, mop and broom hooks, shelves and some storage space. Larger room shall also provide space for clothes washer and dryer.
3	Public Toilets - Unisex	2		60	120	100	200	Accessible from main lobby
4	Public Shower- Unisex	1		50	50	80	80	Can be incorporated with Toilet Room
5	Telephone/Electrical	1		30	30	80	80	Ample room w/ air conditioning
Department Net Area					380		624	
Grossing Factor @ 1.25					95		156	
Department Gross Area					475		780	

2.00 - AIRPORT USES

2.01 PUBLIC AREAS

ID	Function	No. of Rooms Capacity		PROGRAM OPTION 'A'		PROGRAM OPTION 'B'		Remarks
				Unit Space S.F.	Total Net S.F.	Unit Space S.F.	Total Net S.F.	
1	Information Kiosk	1		0	0	16	16	Incorporate awards display (plaques & pictures)
Department Net Area					0		16	
Grossing Factor @ 1.15					0		2	
Department Gross Area					0		18	

2.00 - AIRPORT USES

2.02 STAFF AREAS

ID	Function	No. of Rooms Capacity		PROGRAM OPTION 'A'		PROGRAM OPTION 'B'		Remarks
				Unit Space S.F.	Total Net S.F.	Unit Space S.F.	Total Net S.F.	
1	Airport Manager	1	1-2	100	100	150	150	Provide quiet location. Needs adequate wall space for maps, desk and file cabinets.
Department Net Area					100		150	
Grossing Factor @ 1.25					25		38	
Department Gross Area					125		188	

3.00 FBO USES

3.01 ALL AREAS

ID	Function	No. of Rooms Capacity		PROGRAM OPTION 'A'		PROGRAM OPTION 'B'		Remarks
				Unit Space S.F.	Total Net S.F.	Unit Space S.F.	Total Net S.F.	
1	Reception Counter	1	2	100	100	160	160	Attached or In main Lobby. Provide visual access over entire lobby, and out to airfield/aircraft parking. Provide display space in countertop and or display cases.
2	FBO Administration Office	1	2	100	100	160	160	Primary office space for FBO manager. Typically for 1 person, but sized for 2 during bookkeeping, etc.
3	Test Proctor Room	1	4	160	160	220	220	Room for 4 (at the most) test taking stations. Must have visual adjacency to FBO Admin Office and/or Instructor's room. 3 stations to start.
4	Simulator Room	1	3	85	85	100	100	Room for 2 simulators and instructor. 1 Single and 1 double, plus instructor space.
5	Instructors Room	1	5	100	100	120	120	Room for up to 5 instructors. Provide 2 desks and 4 double drawer file cabinets (8 drawers). Room serves as instructor's office and file storage. Provide visual access to parked aircraft.
6	Classroom	1	13	180	180	250	250	Provide flexible space, can be joined with shared Conference Room. Provide at least 3 tables and acoustic treatment to allow multiple discussions at once. 10 students max, 3 instructors max.
7	Sleep Room	1	2	80	80	120	120	Sleep Room for pilots. With TV and up to 2 recliners.
8	Pilot Toilet Room	1		0	0	100	100	Toilet Room with Shower. If included, Public Shower to be deleted.
9	Weather and Flight Planning	1		30	30	60	60	Toilet Room with Shower. If included, Public Shower to be deleted.
10	FBO Storage Room	1		50	50	100	100	Toilet Room with Shower. If included, Public Shower to be deleted.
Department Net Area					835		1,290	
Grossing Factor @ 1.25					209		323	
Department Gross Area					1,044		1,613	

New Facility Program

SECTION 2 - SITEWORK/SITE IMPROVEMENTS

1. Parking:
 - Employees: 2-4 full time
 - Up to 5 part time instructors
2. Storage and Unloading:
 - Should provide easy access to vending/break area for deliveries
3. Access/ Drive Ramps: Concrete drive aprons with standard grade asphalt at parking areas
4. Landscaping: Enhanced landscape to integrate with existing
5. Utilities: Basic Services (Water, Sewer, Elec. Gas, Cable, Phone, fiber)
6. Aircraft Ramp Parking: 5-8 light plans immediately adjacent to building. View requirements from Lobby and Instruction Areas for observance of pre-flight procedures.
7. Site lighting: Code compliant decorative fixtures with cut off guards for no light trespass
8. Signage: Building mounted ornate signage
9. Flagpole: Flagpole located at front near pedestrian drop-off area.
10. Fencing: Security fencing for airport perimeter.

SECTION 3 - CONCRETE

1. Concrete shall be slab on grade at building first floor
2. Finish: Possible stained concrete or terrazzo finish at lobby

SECTION 4 - EXTERIOR

1. Material Palette: Anticipated mix of stone and/or CMU block for durability and strength
2. Aesthetics: Timeless architecture that is pleasing, inviting and makes a statement.

SECTION 5 - STRUCTURAL SYSTEM

1. Concrete floor at first floor
2. Stud walls with stone or CMU veneer
3. Clear stained exposed wood post and beam construction

SECTION 6 - CARPENTRY

1. Casework: Reception areas, conference rooms, council chambers, break room, other areas TBD

SECTION 7 - THERMAL AND MOISTURE PROTECTION

1. High Energy Performance

- a. Reduce operating costs
- b. Design for comfort
- 2. Need good insulation values in the walls and roof
- 3. Membrane roof “white color” at areas of flat roof

SECTION 8 - DOORS, WINDOWS AND GLASS

- 1. Windows/ Skylights
 - Must be energy efficient
 - View to airport very important
- 2. Doors:
 - Sizes 3’-0”x7’-0” HM or aluminum at exterior, solid core wood at interior
 - Doors with glass lights and/or sidelights desirable
- 3. Day lighting:
 - Incorporate where possible for added natural light
- 4. Views:
 - Visual connection to airport high priority
 - Views from Instruction to parked aircraft important
 - Views from Lobby to aircraft parking ramp important

SECTION 9 - FINISHES

- 1. Safe, Healthy work environment
 - a. Low VOC products important
 - b. Special ventilation needs to ensure worker health
- 2. Wall Finishes:
 - a. Offices/ Lobby/ Reception: Gypsum Wall Board (GWB) possibly with troweled finish & accent color or upgraded to specialty panels
 - b. Training, Conference Rooms, GWB
 - c. Restrooms: tile wainscot, GWB
 - d. Storage areas: GWB
- 3. Floor finishes:
 - a. Offices, Training and Conference Rooms: Carpet
 - b. Lobby: Stained Concrete or tile
 - c. Vending/Snack areas, VCT or Linoleum
 - d. Restrooms: Linoleum or tile
- 4. Ceilings:
 - a. Offices, Training and Conference Rooms: ACT
 - b. Lobby: GWB articulated trim and soffits or wood slat system to create warmth
 - c. Restrooms: Moisture. Resistant GWB
- 5. Acoustics:
 - a. Separation between common and private areas and admin office space important
 - b. Restroom/ Conference and Training Room acoustic separation desired

SECTION 11 - EQUIPMENT

- 1. Computer and office equipment will be supplied by City/FBO.

2. Projection Screen at Training Rooms
3. Wall area for Maps in Airport Manager's Office and Training Rooms
4. Appliances (Energy Star) for common Break Room

SECTION 12 - FURNISHINGS

1. Offices: New desks and furniture, offices need room for file storage
2. Window treatments, vertical blinds

SECTION 13 - SPECIAL CONSTRUCTION

1. Room for Simulators (Single and double)
2. Room for computer testing.

SECTION 14 - CONVEYING SYSTEMS

1. Elevator Not anticipated

SECTION 15 - PLUMBING AND HVAC

HVAC Systems

Offices:

1. Design considerations: Zoned. Gas pack units to heat (12 hr vs. 24 hr zones).
2. Temperature: For thermal comfort Air Conditioning required.

Plumbing

1. Low flow plumbing fixtures for water reduction
2. Shower for pilots
3. Floor drains at restrooms, shower rooms
4. Hose bibs at exterior

SECTION 16 – FIRE PROTECTION SYSTEMS

1. Fire sprinkler system will be used throughout the facility
 - a. A wet system is anticipated

SECTION 17 - ELECTRICAL

1. Equipment
 - List to be determined by city and airport staff
2. Lighting
 - General illumination for office standards
 - Task lighting at desk tops
 - Fluorescent in offices, instruction/testing rooms with recessed can lights in Lobby/Reception
 - Occupancy Sensor lighting system
3. Data and telephone throughout office area and at each department
4. Building low voltage and security systems
5. Battery backup for lighting and computer systems
6. Communication antennae

SECTION 17 – LEED/ SUSTAINABLE STRATEGIES

1. Maximize Day lighting
2. Solar Hot Water
3. Photovoltaic panels possible on roof
4. Building Flushing (draw in cool night air and exhaust building heat)
5. Heat transfer from heat generating departments
6. Native vegetation
7. Controlled stormwater run-off from site
8. Permeable hardscape parking?
9. Low flow plumbing fixtures?

Conceptual Cost Analysis

This cost analysis is based upon a conceptual program without drawings, and includes many assumptions. Actual costs may vary greatly.

Option A (Present Needs Program)

<i>Department</i>	<i>SF</i>	<i>Cost/SF</i>	<i>Cost</i>	<i>Total</i>
Shared Areas				
• Public Areas	1,006	\$163	\$ 163,820	
• Support Areas	475	\$150	\$ 71,250	
	1,481SF			\$ 235,070
City Airport Space				
• Staff Areas	125	\$170	\$ 21,250	
	125			\$ 21,250
FBO Space				
• Staff Areas	1,044	\$170	\$ 177,480	
	1,044SF			\$ 177,480
Corridors/Common Space	397SF	\$140	\$ 55,550	
Mechanical/Electrical	183SF	\$150	\$ 27,450	
<hr/>				
Building Costs	3,230 sf	\$160/SF		\$ 516,800
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Site Development Costs	60,000sf	4.00/SF		\$ 240,000
(Includes estimated paving and potential utility relocation)				
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Subtotal				\$ 756,800
Contingency @ 10%				\$ 75,680
Owner's Soft Costs @15% (A/E Fees @ 9%)				\$ 113,520
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Total				\$ 946,000

Conceptual Cost Analysis

Option B (Future Needs Program)

<i>Department</i>	<i>SF</i>	<i>Cost/SF</i>	<i>Cost</i>	<i>Total</i>
Shared Areas				
• Public Areas	1,357	\$163	\$ 221,160	
• Support Areas	780	\$150	\$ 117,000	
	2,137SF			\$ 338,160
City Airport Space				
• Public Areas	18	\$170	\$ 3,060	
• Staff Areas	188	\$170	\$ 31,960	
	206SF			\$ 35,020
FBO Space				
• Staff Areas	1,613	\$170	\$ 274,210	
	1,613 SF			\$ 274,210
Corridors/Common Space	593SF	\$140	\$ 83,020	
Mechanical/Electrical	273SF	\$150	\$ 40,950	
Building Costs	4,821	\$160/SF		\$ 771,360
Site Development Costs (Includes estimated paving and potential utility relocation)	60,000sf	4.00/SF		\$ 240,000
Subtotal				\$ 1,011,360
Contingency @ 10%				\$ 101,136
Owner's Soft Costs @15% (A/E fees @ 9%)				\$ 151,704
Total				\$ 1,024,440