

Scope of Work

Airport Site Selection Study

Esmeralda County

This scope of work outlines tasks to complete an Airport Site Selection Study for Esmeralda County. The Airport Site Selection Study will be divided into three phases:

- **Phase I – Airport Requirements**
 - Wind Analysis
 - Inventory of Existing Conditions,
 - Environmental Baseline,
 - Forecasts of Aviation Demand,
 - Site Design for Proposed Airport,
 - Stakeholder and Public Coordination and Participation.

- **Phase II – Alternatives Analysis**
 - Identification of Airport Sites,
 - Site Screening,
 - Selection of Preferred Site,
 - Stakeholder and Public Coordination and Participation.

- **Phase III – Implementation Plan**
 - Airport Layout Plan,
 - Terminal Area Plan,
 - Approach and Obstruction Plan,
 - Airport Airspace Drawing,
 - Land Use and Ground Access Plan,
 - Airport Property Map,
 - Financial Plan (CIP).

Phase I – Airport Requirements

Task 1.1 Wind Analysis

- Install a recording anemometer near the site and collect wind data over a period of one year.
- Analyze and compare new wind data to historical wind data from nearby weather stations.
- The Wind Study Element will adhere to FAA Advisory Circular (AC) 150/5300-13 Change 6, Appendix 1, for Wind Analysis Criteria and proper 36 Point Wind Quadrant formatting.
- If crosswind exceeds 10.5 knots more than 5% of the time a crosswind component will also be analyzed.

Task 1.2 – Inventory of Existing Conditions

Data to be collected and analyzed:

- Community demographics; population growth, income, economy, industry growth.
- Previous studies; local, county, region, state.
- Physical inventory of existing site facilities and surrounding airport facilities, and type of aircraft served;
 - airside facilities (all aeronautical surfaces whereupon aircraft operations are carried out: airspace, runways, taxiways, and aprons, airport instrumentation, lighting and markings).
 - landside facilities (those parts of the airport designed to serve passengers, tenants, airport workers, and airport administration: vehicle access roads, vehicle parking, fuel facilities, airport utilities, aircraft maintenance areas, and buildings).
 - services offered by surrounding airports, airport activity, and opportunities and constraints.

Task 1.3 – Environmental Baseline

An environmental baseline describes the general environmental conditions of a study area. It identifies environmentally sensitive areas that may require special management, conservation and/or preservation during the planning, design, or construction phases of any proposed airport development projects. This baseline is not an Environmental Assessment (EA) or Environmental Impact Statement (EIS).

FAA Order 1050.1E, *Environmental Impacts: Policies and Procedures* lists the following 18 categories of potential impact areas:

- Air Quality
- Coastal Resources
- Compatible Land Use
- Construction Impacts
- Department of Transportation Act, Section 4(f)
- Farmland
- Fish, Wildlife, and Plants
- Floodplains
- Hazardous Materials, Pollution Prevention, and Solid Waste
- Historic, Architectural, Archeological, and Cultural Resources
- Light Emissions and Visual Impacts
- Energy Supply and Natural Resources
- Noise
- Secondary (Induced) Impacts
- Socioeconomic Impacts, Environmental Justice, and Children’s Environmental Health and Safety Risks
- Water Quality
- Wetlands
- Wild and Scenic Rivers

Task 1.4 - Forecasts of Aviation Demand

Forecasts of aviation demand will define the site requirements for new airport development by determining the type of aircraft anticipated to use the airport and the amount of air traffic activity expected at a facility. Forecasts are provided for the short (5-year), intermediate (10-year), and long-range (20-year).

Data used in creating forecasts includes national trends, historical aviation activity, activity at surrounding airports, county demographics, and competitive position. Forecast methodology will be discussed with the FAA and approved by the FAA.

Forecasts of aviation demand will be determined for:

- Based Aircraft
- Based Aircraft Fleet mix
- Annual Airport Operations (local and itinerant)
- Peak Period Activity (peak month, design day, and design hour)
- Instrument Approaches

Task 1.5 - Site Design for Proposed Airport

Create a conceptual site design (design) that estimates an overall contour of the proposed airport. The design will include airspace requirements, airside and landside facility requirements, design standards for critical aircraft and suitable navigational approach visibility minimums, and airport access requirements. The design will be used for initial site screening.

The amount of land an airport will require is influenced by: 1) the performance characteristics and size of aircraft anticipated to use it, 2) the expected volume of traffic, 3) meteorological conditions - average temperatures, prevailing wind speeds and direction, and 4) the elevation of the site (from available topographical data such as USGS).

Task 1.6 - Stakeholder and Public Coordination and Participation

During Phase I an advisory committee will be created to provide input and address issues during the site selection study. If the stakeholders determine that there will be significant technical issues a technical advisory committee will be created.

A kick-off meeting will be scheduled to provide information to the advisory committee(s) about the site selection process. After a Phase I Draft Report is completed and distributed a Phase I meeting will be scheduled to discuss comments.

Community support is essential to the development of any airport. A public participation program will be established to inform the community about the site selection process, update the community of significant findings, and address any local issues. This program could include informational pamphlets, public meetings, and/or any other public awareness forums the advisory committee feels necessary for its community. The extent of this program will be

discussed during the kick-off meeting for the project and finalized prior to contract signing.

Phase II – Alternatives Analysis

Task 2.1 – Identification of Airport Sites

An airport site selection requires analysis of alternative locations considering such features as physical characteristics, surrounding land-use development, flight path obstructions, land availability and cost, ground access, compatibility of surrounding airspace, and proximity to aeronautical demand.

Investigation of potential sites will rely on field visits, available topographical data, and computer tools such as Geographic Information System (GIS) to find preliminary sites for further screening.

Physical inspections of each site should record as much data as possible pertinent to the characteristics and conditions of each site.

Task 2.2 - Site Screening

After selection of potential sites has identified sites suitable for further screening, each site should be evaluated and compared to select the best new site to construct an airport.

Evaluation criteria will quantify each site against environmental impacts, costs and other variables. The following list provides examples of the type of criteria typically used.

- Physical characteristics,
- Development of surrounding area,
- Proximity to aeronautical demand,
- Airspace and airspace capacity,
- Obstructions,
- Airfield and ground access costs (including value of time),
- Land costs,
- Utilities,
- Aircraft operational costs,
- Environmental impacts;
- Financial feasibility;
- Long-term viability;
- Alternative roles for existing airport and transfer times to new airport.

Task 2.3 - Selection of Preferred Site

A preferred site for the location of the new airport is selected after evaluating the benefits against the costs of each alternative and engaging the stakeholders to maximize support for the preferred site.

Task 2.4 - Stakeholder and Public Coordination and Participation

A Phase II meeting will be scheduled after potential sites have been identified and evaluated to give the advisory committee and opportunity to comment on this phase of the site selection process and ensure the direction supports the goals and vision of the airport sponsor.

This phase may or may not include a public meeting to document the comments of the community.

Phase III – Implementation Plan

Task 3.1 – Airport Layout Plan

The Airport Layout Plan (ALP) illustrates and describes the overall development plan for the airport over three phases; short (5-year), intermediate (10-year), and long-range (20-year).

Airport Layout Plan Drawings will be drawn in accordance with the Western Pacific Region and San Francisco Airport District Office Airport Layout Plan Checklist.

Task 3.2 - Terminal Area Plan

Terminal Area development will be depicted on a separate large-scale graphic. This plan will include aircraft parking and maneuvering areas, terminal/administration building, hangars, support facilities, and airport access and service roads.

Task 3.3 - Approach and Obstruction Plan

This task presents obstruction information and depicts imaginary surfaces on and around the new airport. Obstruction information is presented for the primary surface, approach surfaces, transitional surfaces, horizontal surfaces, and conical surfaces as per FAR Part 77, *Objects Affecting Navigable Airspace*. Obstructions penetrating the Runway Protection Zone are also discussed.

This plan includes an obstruction treatment program to eliminate or mitigate any identified obstacles.

Task 3.4 - Airport Airspace Drawing

This drawing depicts the FAR Part 77 surfaces (based on ultimate development).

Task 3.5 - Land Use and Ground Access Plan

Existing land uses in the areas adjacent to and affecting airport development are documented as well as current zoning regulations for those parcels. Based on information from existing and planned land uses, a series of land use strategies aimed at reducing or eliminating incompatibil-

ities will be recommended to maintain the airport's ability to grow with forecast demand.

Existing patterns of ground access for airport users are described and analyzed to maintain simple accessibility to the airport. The ground access plan will identify specific improvements that are necessary to the highway system in the airport environs. The existing local highway network, in addition to recommended on-airport access improvements, will be depicted on the large-scale plan.

Task 3.6 - Airport Property Map

The Airport Property Map will be drawn to the same scale as the Airport Layout Plan and includes the following:

- Drafting symbols and legend table to indicate the types of acquisitions involved with each tract or area.
- Data table with a numbering system showing pertinent data applicable to property acquisitions.
- Airport property and easement boundary lines.

Task 3.7 - Financial Plan (CIP)

The financial plan identifies capital improvement projects for the three phases of development and the possible financial obligations to be assumed by the federal and state government, the airport sponsor, and private sources.

Task 3.8 - Stakeholder and Public Coordination and Participation

A Phase III Meeting will be scheduled to review of final development plan, cost schedule, and airport drawings.

This phase may or may not include a public meeting to inform the public of the final site selection and airport development plan.