

CHAPTER ONE INTRODUCTION

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Introduction

The Port of Shelton prepared this Airport Master Plan Update for Sanderson Field (SHN). Funding for the project was provided through an FAA Airport Improvement Program (AIP) grant (95%) with a local match (5%) provided by the Port of Shelton and WSDOT Aviation Division. The AIP is a dedicated fund administered by FAA with the specific purpose of maintaining and improving the nation's public use airports. The AIP is funded exclusively through fees paid by users of general aviation and commercial aviation.

The purpose of the master plan project is to define the current, short term and long term needs of the airport through a comprehensive evaluation of conditions and Federal Aviation Administration (FAA) airport planning and design standards. The master plan provides specific guidance in making the improvements necessary to maintain a safe and efficient airport that is economically, environmentally, and socially sustainable. The master plan:

- *Provides an updated assessment of existing facilities and activity;*
- *Forecasts airport activity measures (based aircraft, aircraft operations, etc.) for the current 20-year planning period.*
- *Examines previous master plan recommendations as appropriate, to meet the current and projected airport facility needs, consistent with FAA airport design standards;*
- *Determines current and future facility requirements for both demand-driven development and conformance with FAA design standards.*



- *Updates/prepares the airport layout plan, airspace plan, land-use plan and supporting drawings for the airport to reflect updated planning; and*
- *Develops an Airport Capital Improvement Program (ACIP) that prioritizes improvements and estimates project development costs and funding eligibility for the 20-year planning period.*

The most recent FAA-approved airport master plan and Airport Layout Plan (ALP) for Sanderson Field Airport was completed in 1997. The 1997 Master Plan, ALP, project design drawings, and aerial photography flown specifically for this project were used as primary information sources for this master plan update.

National Airport System

Sanderson Field Airport is included in the National Plan of Integrated Airport Systems (NPIAS). Participation in the NPIAS is limited to public use airports that meet specific FAA activity criteria. NPIAS airports are eligible for federal funding of improvements through FAA programs such as the current Airport Improvement Program (AIP). Currently, there are more than 3,300 NPIAS airports, of which more than 75 percent are general aviation airports similar to Sanderson Field. There are no other NPIAS airports located in Mason County.

The FAA has recognized NPIAS airports as being vital to serving the public needs of air transportation. In doing so, the FAA recognizes that access to the nation's air transportation system is not limited to commercial air service. The FAA requires that all NPIAS airports periodically update their airport plans to maintain effective long term planning. This project will enable the Port to meet the FAA's requirement to maintain an up-to-date plan.

State Airport System

Sanderson Field Airport is identified as a public-use "General Aviation" airport in the Washington Aviation System Plan. Sanderson Field is one of 18 general aviation airports in Washington with a proposed "Regional Service" designation in the 2007 Washington State Long Term Air Transportation System (LATS) study.¹ The LATS provides the following description: *"Regional Service airports serve a large to medium market area, or remote communities such as the San Juan Islands. They may include air cargo service and reliever airports. They are capable of accommodating all general aviation aircraft, facilities and services, including business jets. Airports preliminarily assigned to the Regional Service classification can accommodate high aviation activity levels, can accommodate nearly all types of general aviation aircraft, and are capable of supporting business jets and charter flights. Regional Service Airports were determined by the following threshold criteria:*

¹ LATS Study Phase I Technical Report, September 30, 2006

- *Accommodate aircraft in inclement weather.*
- *Have at least 40 based aircraft and a runway at least 4,000 feet long.*
- *Have a 90-minute (driving time) service area coverage.”*

Public Involvement

The public involvement element of the planning process provided opportunities for all interested individuals, organizations, or groups to participate in the project. A planning advisory committee was formed for the project, which performed a local review function and provided input into the planning process. The advisory committee reviewed and commented on draft work products and provided local knowledge and expertise to the planning process. Advisory committee meetings were held at key points during the study in conjunction with public informational meetings.

At the beginning of the project, kickoff meetings were held to provide information to interested citizens and allow the Sanderson Field Advisory Committee, Port, Consultant, FAA and WSDOT to meet and discuss key project issues. Subsequent meetings were held at key project milestones.

SUMMARY OF FINDINGS

1. Sanderson Field is owned and operated by the Port of Shelton in Shelton, Washington.
2. The Airport is located on the west side of US Highway 101, approximately 2.5 miles northwest of Shelton city center. The Airport is located within the Shelton Urban Growth Area (UGA), outside the Shelton city limits.
3. Sanderson Field Airport (including the non-directional beacon located at Johns Prairie) is an essential public facility. (RCW 36.70/200)
4. The Airport consists of approximately 1021 acres. The land base includes the runway-taxiway system, landside facilities (fixed-base operator, fuel storage, hangars, aircraft parking apron, etc.) and large areas of non-aviation uses, including the Mason County Fairgrounds, and Airport Industrial Park.
5. The Airport is included in the National Plan of Integrated Airport System (NPIAS), making it eligible for federal funding through the Federal Aviation Administration (FAA).
6. The Airport has a “General Aviation” service level designation in the Washington State Aviation System Plan and is included in the Regional Service category of general aviation airports. The Airport has one active runway that is oriented in a northeast-southwest direction. This runway



(5/23) is paved and lighted (5,000 feet by 100 feet). Runway 5/23 is served by a full-length parallel taxiway on the north side.

7. Runway 17/35 was closed years ago. The Sanderson Field Advisory Committee discussed maintaining the closed runway for emergency landings or potential activation to reduce over flight impacts to residences. For FAA funding, data would need to show that Runway 5/23 has compatible wind direction for takeoffs & landings less than 95% of the time. It would also require City, County and Port evaluation for land use compatibility and to identify any needed changes to the Airport Overlay Zone and underlying zoning.
8. Sanderson Field has a designated parachute operations area (drop zone) on the north side of Runway 5/23.
9. The airport traffic pattern is located on the south side of Runway 5/23, with left traffic on Runway 23 and right traffic on Runway 5. The south traffic pattern was developed to increase separation between runway operations and skydivers landing at the drop zone on the north side of the runway.
10. The current FAA Airport Record Form 5010-1 data indicates runway pavement weight bearing capacity at 55,000 pounds for aircraft with single wheel (SW) landing gear and 72,000 pounds for aircraft with dual wheel (DW) landing gear.
11. Airfield lighting currently includes solar-powered medium-intensity runway edge lighting (MIRL) and threshold lights (operating from dusk until dawn); Runway 23 is equipped with a 4-light precision approach path indicator (PAPI) and runway end identifier lights (REIL); the airport has a rotating beacon located adjacent to the FBO and T-hangars. Runway 5 is not equipped with a PAPI or REIL.
12. All landside facilities (aircraft parking, hangars, etc.) at the airport are located north of Runway 23. Two major access taxiways (A1 and B) extend from the runway-parallel taxiway and connect to the south end of the main apron. The paved aircraft apron accommodates aircraft parking, access to the fuel area, FBO and hangars.
13. The Airport currently has instrument approach capabilities with three published non-precision instrument approach procedures (IAP). Special Take-off Minimums (cloud ceiling and visibility) apply due to numerous trees located in the vicinity of the runway.
14. Aviation fuel (AVGAS, Jet Fuel) is available at the Airport. Olympic Air is the fixed base operator (FBO), providing aviation fuel, aircraft charters, aircraft maintenance, pilot supplies, etc.

15. In 2007, updated airport activity data included 95 based aircraft (airport count) and an estimated 35,650 annual operations.
16. All federally-funded projects are subject to the environmental regulations contained in the National Environmental Policy Act (NEPA), including property acquisition, major facilities rehabilitation, and new construction. State Environmental Policy Act (SEPA) requirements also apply to specific types of projects. The nature of the required environmental review ranges from minimal documentation to comprehensive analysis depending on each project's potential for impact.

SUMMARY OF RECOMMENDATIONS

1. A regular schedule of pavement maintenance (vegetation control, crack filling, fog seals, slurry seals, patching, etc.) should be conducted on airfield pavements to maximize the useful life and optimize life cycle maintenance expenditures. Runway and taxiway markings should be periodically repainted to maintain good visibility.
2. Master planning analyses result in the following recommendations:
 - a. Current and future design standards for Runway 5/23 are based on FAA airport reference code (ARC) B-II.
 - b. Current FAA runway design standards are based on approach visibility minimums not lower than 3/4-mile for both runway ends; future design standards are based on approach visibility minimums lower than 3/4-mile for Runway 23 and not lower than 3/4-mile visibility for Runway 5.
 - c. Airspace planning for Runway 5/23 is based on ultimate precision instrument approach capabilities for Runway 23 and non-precision instrument approach capabilities for Runway 5.
3. An airport obstruction survey will be conducted to support evaluation and development of a new instrument approach procedure, per the requirements of FAA. The objective of upgrading existing instrument approach capabilities is to reduce current approach minimums (minimum descent altitudes and approach visibility requirements). Upon completion of the obstruction survey, updated obstruction data should be incorporated into the Airport Layout Plan drawing set. [Survey completed in 2011]

4. Runway 5/23 and the parallel taxiway (Taxiway A) should be extended 300 feet at the west end based on current and forecast demand and the requirements of the design aircraft (turboprop and business jet above 12,500 pounds takeoff weight).
5. An aircraft holding area should be added near the end of Runway 23, adjacent to Taxiway A1.
6. In the preferred alternative, the majority of new landside facilities at the Airport would be developed in the existing terminal area that includes the main apron and adjacent hangar areas on the east side of Taxiway A1. Improvements should follow a logical sequence of development based on demand, funding availability and the ability to integrate new and existing facilities. As currently planned, the landside areas and development reserves provide capacity for aircraft parking and hangars that exceeds 20-year forecast demand by a wide margin. Recommended improvements include:
 - a. Reconfigure main apron to meet FAA standards, improve taxiway efficiency and add business aircraft parking;
 - b. Construct two itinerant helicopter parking pads;
 - c. Develop conventional hangar and T-hangar sites based on demand;
 - d. Remove several older hangars and redevelop sites based on preferred alternative;
 - e. Construct aircraft wash pad;
 - f. Maintain fixed base operator (FBO) apron and hangar development reserve; and
 - g. Upgrade airport security fencing and automated gates in landside area.
7. Acquisition of approximately 51 acres of property is recommended based on the preferred alternative defined in the master plan update. The majority of the property is located adjacent to and beyond the west end of the runway to accommodate development reserves for runway extension and control of the runway protection zone (RPZ). Two small areas of property acquisition are recommended within the future RPZ for Runway 23 to provide airport control of the area. One parcel is located on the west side of U.S. Highway 101, near the southeast corner of the airport and the West Fairgrounds Road connection to the highway. The second parcel is located in the outer southeast corner of the future RPZ.
8. Medium intensity taxiway edge lighting (MITL) will be added to the main access taxiways on the airfield (Taxiway A and numbered exits, Taxiway B and Taxiway A1).

9. An approach lighting system is recommended for Runway 23 in conjunction with a precision instrument approach. Installation of runway end identifier lights (REIL) is recommended for Runway 5 based on current and planned instrument approach capabilities.
10. The closed north/south runway and adjacent infield area is designated as aviation reserve with plans to accommodate large scale commercial aviation-related tenants. Development of this area is dependent on market demand and would be expected to occur incrementally over a long period of time. Specific elements include:
 - a. Development of a north/south taxiway from Taxiway A to the commercial lease area on the former north/south runway. Initial improvements should include slurry seal and taxiway edge markers; future asphalt overlay requirement will be based on pavement condition. The initial phase of taxiway is planned to be 900 feet long and 35 feet wide, although the length can be adjusted based on specific design features of the lease area. The remainder of the former runway is reserved as taxiway and will be used to provide vehicle access until it is needed as a taxiway and converted;
 - b. Extend water and sewer utilities to the lease area.
11. Develop surface access to the lease area from West Sanderson Way, initially on the former runway with new roadways added based on long term demand
12. The Mason County Fairgrounds complex is planned for relocation off the airport during the current twenty year planning period. The buildings are planned for demolition and the site will be redeveloped based on market conditions. The portion of the site directly fronting the airfield should be reserved for aeronautical use exclusively (space to accommodate a parallel taxiway, apron and hangar development). Other portions of the site may be developed to accommodate mixed uses that are compatible and complementary to airport operations, with approval of FAA.
13. Long term development reserves are identified for a 1,480-foot runway and north parallel taxiway extension to the west and full length south parallel taxiway.
14. The existing vehicle access roadways that extend from U.S. Highway 101 to the fairgrounds site should be reconfigured or relocated to eliminate potential obstructions to the Runway 23 approach and other protected areas located along the south side of Runway 5/23.
15. The City of Shelton and Mason County should update their overlay zone mapping and ordinance language, as needed to reflect the updated airport layout plan drawings.



16. The City of Shelton and Mason County should maintain and update as needed, comprehensive plan policies and development regulations to protect the airport from incompatible land uses.
17. Development of new residential areas, or increasing the densities of existing residential areas within the boundaries of the traffic pattern should be discouraged to ensure the long term viability of the airport.
18. The Port of Shelton and FAA should approve/adopt the Airport Master Plan and Airport Layout Plan drawings in a timely manner to guide future airport development.
19. The Port of Shelton should require that applicants for all leases or development proposals involving construction of structures on the airport demonstrate compatibility with the airport's protected airspace surfaces. The applicant should be required to provide all documentation necessary for the sponsor to obtain "no objection" finding by FAA resulting from the review of FAA Form 7460-1 – Notice of Proposed Construction or Alteration, prior to approval of ground leases. Any proposal that receives an objection by FAA should not be approved without first addressing FAA concerns.
20. Mason County and City of Shelton planning and building officials should require that applicants for all proposed development within the boundaries of the airport's FAR Part 77 imaginary surfaces demonstrate a finding of "no objection" by FAA resulting from review of proposed development (FAA Form 7460-1) prior to approval/issuance of building permits, approval of plats, binding site plans, etc.
21. The Port of Shelton should initiate the recommended improvements and major maintenance items in a timely manner, requesting funding assistance under FAA and other federal or state funding programs for all eligible capital improvements.
22. Obtain updated wind coverage information for Sanderson Field.