Appendix A

Acronyms and Definitions

Acronyms

AC	Advisory Circular
ADG	Airplane Design Group
ADO	Airport District Office
AGL	Above Ground Level
AIM	Aeronautical Information Manual
AIP	Airport Improvement Program
ALP	Airport Layout Plan
ANM	FAA Northwest Mountain Region
ARC	Airport Reference Code
ARFF	Airport Rescue and Fire Fighting
ARP	Airport Reference Point
ARTCC	Air Route Traffic Control Center
ASDA	Accelerate-Stop Distance Available
ASV	Annual Service Volume
ATC	Air Traffic Control
ATCT	Air Traffic Control Tower
AVGAS	Aviation Gasoline
AWOS	Automated Weather Observing System
CFR	Code of Federal Regulations
CIP	Capital Investment Plan
CWY	Clearway
dB	Decibel
dBA	A-weighted Decibels
DH	Decision Height
DME	Distance Measuring Equipment
DOT	Department of Transportation
EA	Environmental Assessment
EIS	Environmental Impact Statement
FAA	Federal Aviation Administration
FAR	Federal Aviation Regulations
FAR Part 77	Objects Affecting Navigable Airspace
FBO	Fixed Based Operator
GA	General Aviation

GPS	Global Positioning System
IFR	Instrument Flight Rules
INM	Integrated Noise Model
LDA	Landing Distance Available
LIRL	Low Intensity Runway Lights
LL	Low Lead
MIRL	Medium Intensity Runway Lights
MITL	Medium Intensity Taxiway Lights
MSL	Mean Sea Level
NAVAIDS	Navigational Aids
NDB	Non-Directional Beacon
NEPA	National Environmental Policy Act
OFA	Object Free Area
OFZ	Obstacle Free Zone
RPZ	Runway Protection Zone
RSA	Runway Safety Area
RW	Runway
SAVASI	Simplified Abbreviated Visual Approach Slope Indicator
SEPA	State Environmental Protection Act
SY	Square Yards
SWY	Stopway
TH	Threshold
TL	Taxilane
TODA	Take-Off Distance Available
TORA	Take-Off Run Available
TSA	Taxiway Safety Area
TW	Taxiway
VASI	Visual Approach Slope Indicator
VFR	Visual Flight Rules
WSCASP	Washington State Continuous Airport System Plan
WSDOT	Washington State Department of Transportation

Definitions

Aeronautical Activity ..... Any activity commonly performed at airports involving, required for, or permitting the operation of aircraft, or required for or contributing to the safety of aircraft operations. Aeronautical activities include, but are not limited to: pilot training, aircraft rental, air taxi, charter operations, sightseeing, air carrier operations, aircraft repair and maintenance, sale of aircraft parts, sale of aviation fuels and petroleum products, air cargo, aerial crop applications, aerial photography, aerial surveying, aerial advertising, aircraft sales, aircraft storage, ultralight operations, skydiving, and power assisted hang gliding or parasailing.

Aeronautical Service ..... Any service involving, required for or permitting the operation of aircraft or required for or contributing to the safety of aircraft operations. These services are commonly conducted on the airport by persons or businesses who lease facilities or have permission from the airport operator to provide such services.

Air Taxi ..... An air carrier certificated in accordance with FAR Part 135 and authorized to provide, on demand, public transportation of persons and property by aircraft. Air taxi operators generally operate small aircraft "for hire" for specific trips.

Aircraft Approach Category ..... A grouping of aircraft based on a speed of 1.3 times the stall speed in the landing configuration at maximum gross landing weight. The aircraft approach categories are:

Category A - Speed less than 91 knots;
Category B- Speed 91 knots or more but less than 121 knots;
Category C - Speed 121 knots or more but less than 141 knots;
Category D - Speed 141 knots or more but less that 166 knots; and
Category E - Speed 166 knots or more.

Aircraft Mix ..... The classification of aircraft into groups which are similar in

size, noise, and operational characteristics. (Also see Fleet Mix.)

Aircraft Operations ..... The airborne movement of aircraft. There are two types of operations: local and itinerant, defined as follows:

1. Local Operations are performed by aircraft which:
   a… operate in the local traffic pattern or within sight of the airport;
   b. . are known to be departing for or arriving from a local practice area.
2. Itinerant operations are all others.

Airfield ..... A defined area on land or water including any buildings, installations, and equipment intended to be used either wholly or in part for the arrival, departure, or movement of aircraft.

Airplane Design Group ..... A grouping of airplanes based on wingspan. The groups are as follows:

Group I:	Up to but not including 49 feet (15 m).
Group II:	49 feet (15 m) up to but not including 79 feet (24 m).
Group III:	79 feet (24 m) up to but not including 118 feet (36 m).
Group IV:	118 feet (36 m) up to but not including 171 feet (52 m).
Group V:	171 feet (52 m) up to but not including 214 feet (65 m).
Group VI:	214 feet (65 m) up to but not including 262 feet (80 m).

Airport ..... All of the property, buildings, facilities and improvements within the property boundaries of the airport as it now exists or will exist in the future. This area is defined on the Airport Layout Plan or Exhibit A.

Airport Elevation ..... The highest point on an airport's usable runway expressed in feet above mean sea level (MSL).

Airport Layout Plan (ALP) ..... The plan of an airport showing the layout of existing and proposed airport facilities.

Airport Owner ..... The City of Auburn and/or its designee who is charged with the operation and administration of the airport.

Airport Reference Point (ARP) ... The latitude and longitude of the approximate center of the airport.

Airside ..... The runways, taxiways, aprons, ramps, buildings and facilities located inside the security fencing.

Airspace ..... The area above the ground in which aircraft travel. It is divided into corridors, routes, and restricted zones for the control and safety of aircraft.

Ambient Noise Level ..... Background noise level, exclusive of the contribution made by aircraft.

Annual Service Volume ..... A reasonable estimate of an airport's annual capacity. It accounts for differences in runway use, aircraft mix, weather conditions, etc., that would be encountered over a year's time.

Approach End of Runway ..... The near end of the runway as viewed from the cockpit of a landing aircraft.

Approach Surface ..... An imaginary surface longitudinally centered on the extended runway centerline and extending outward and upward from each end of the primary surface. An approach surface is applied to each end of the runway based upon the planned approach. The inner edge of the approach surface is the same width as the primary surface and expands uniformly, depending upon the planned approach.

Approved Instrument Approach . Instrument approach meeting the design requirement, equipment specifications, and accuracies, as determined by periodic FAA flight checks, and which are approved for general use and publication by the FAA.

Apron ..... A defined area where aircraft are maneuvered and parked, and where activities associated with the handling of flights can be carried out.

Automated Weather Observing System (AWOS)	An automatic recording instrument for measuring cloud height, visibility, wind speed and direction, temperature, and dew point.
Aviation Gasoline (AVGAS)	Fuel used in reciprocating (piston) aircraft engines. Avgas is manufactured in the following grades: 80/87; 100LL; 100/130; and 115/145.
Avigation Easement	A form of limited property right purchase that establishes legal land-use control prohibiting incompatible development of areas required for airports or aviation-related purposes.
Based Aircraft	Aircraft stationed at an airport on an annual basis.
Circling Approach	An instrument approach procedure in which an aircraft executes the published instrument approach to one runway, then maneuvers visually to land on a different runway. Circling approaches are also used at airports that have published instrument approaches with a final approach course that is not aligned within 30 degrees of any runway.
Clear Zone	See Runway Protection Zone.
Clearway	A clearway is an area available for the continuation of the take-off operation which is above as clearly defined area connected to and extending beyond the end of the runway. The area over which the clearway lies need not be suitable for stopping aircraft in the event of an aborted take-off. Clearways are applicable only in the take-off operations of turbine-engined aircraft.
Commercial Service or Activity	Any commerce, trade or business involved in the exchange of goods, property or services of any kind.
Conical Surface	A surface extending outward and upward from the horizontal surface at a slope of 20:1 for a horizontal distance of 4,000 feet.
Controlled Airspace	Airspace designated as continental control area, control area, control zone, or transition area within which some or all aircraft may be subject to air traffic control.

Critical Aircraft	The aircraft which controls one or more design items based on wingspan, approach speed and/or maximum certificated take-off weight. The same aircraft may not be critical to all design items.
Cross wind	When used concerning wind conditions, the word means a wind not parallel to the runway or the path of an aircraft.
dBA	Decibels measured on the A-weighted scale to factor out anomalies.
Decibel (dB)	The standard unit of noise measurement relating to a logarithm scale in which 10 units represents a doubling of acoustic energy.
Displaced Threshold	Actual touchdown point on specific runway designated due to obstructions which make it impossible to use the actual physical runway end.
Effective Runway Gradient	The maximum difference between runway centerline elevations divided by the runway length, expressed as a percentage.
Environmental Assessment (EA)	A report prepared under the National Environmental Policy Act (NEPA) analyzing the potential environmental impacts of a federally funded project.
Environmental Impact Statement (EIS)	A report prepared under NEPA fully analyzing the potential significant environmental impacts of a federally-funded project.
FAR Part 77	Federal Aviation Regulations which establish standards for determining obstructions in navigable airspace.
Federal Aviation Administration (FAA)	A branch of the US Department of Transportation responsible for the regulation of all civil aviation activities.
Final Approach	The flight path of an aircraft which is inbound to the airport on an approved final instrument approach course, beginning at the point of interception of that course and extending to the airport or the point where circling for landing or missed approach is executed.

Fixed Base Operation (FBO)	An individual or business property licensed and authorized by written agreement with the airport owner to provide specified aeronautical services at the airport, and who rents or leases facilities on the airport to conduct these services. These operators commonly occupy an office, hangar or shop on the airport, and are required to comply with the written agreements and referenced rules and regulations.
Fixed Wing	For the purposes of this report, any aircraft not considered rotorcraft.
Flying Club	A non-commercial organization established to promote flying. Activities include, but are not limited to, development of aeronautical skills such as pilotage, navigation, airmanship, and the awareness and appreciation of aviation requirements and techniques.
Fuel	Aviation gasoline, jet fuel, automotive fuel or diesel.
Full Service FBO	A fixed base operator who provides a full range of services. This range of services generally includes aircraft rental, flight instruction, aircraft maintenance and repair, and pilot supplies.
General Aviation	All civil aviation operations other than scheduled air services and non-scheduled air transport operations for remuneration or hire.
Global Positioning System (GPS)	A system of US satellites orbiting the earth which is used to instantly and accurately determine the navigational position of users on or above the earth's surface.
Hazard to Air Navigation	An object which, as a result of an aeronautical study, the FAA determines will have a substantial adverse effect upon the safe and efficient use of a navigable airspace by aircraft, operation of air navigation facilities, or existing or potential airport capacity.
Horizontal Surface	An elliptical surface at an elevation 150 feet above the established airport elevation created by swinging 5,000-foot radius arcs from the center of each end of the primary surface. Tangent lines then connect these arcs.

Independent Flight Instructor ..... A single individual, working alone and without employees, partners, or facilities on the airport who provides professional, licensed/certified flight instruction.

Independent Mechanic ..... A single individual, working alone and without employees, partners, or facilities on the airport who provides professional, certificated repair and/or maintenance services for aircraft or aeronautical components.

Instrument Flight Rules (IFR) ..... Instrument Flight Rules governing the procedures for conducting instrument flight. Pilots are required to follow these rules when operating in controlled airspace with visibility of less than three miles and/or ceiling lower than 1,000 feet.

Itinerant Operation ..... All aircraft operations at an airport other than local.

Landside ..... All buildings and surfaces on the airport used by pedestrian or surface vehicular traffic located outside the airport security fence. The entire Auburn airport is fenced, so this designation is not applicable here.

Large Airplane ..... An airplane of more than 12,500 pounds (5,700 kg) maximum certificated takeoff weight.

Limited Service FBO ..... A fixed base operator whose services are confined to less than full service. Examples of Limited Service include FBOs who provide specialty services such as aircraft sales, painting or upholstery, avionics repair, or other specialty services, or who provide only aviation fuel, or only aircraft maintenance and repair, or only aircraft rental and charter.

Local Operation ..... Aircraft operation in the traffic pattern or within sight of the tower, or aircraft known to be departing or arriving from flight in local practice areas, or aircraft executing practice instrument approaches at the airport.

Minimum Standards ..... Standards established by the airport owner as the minimum requirements to be met as a condition for the right to provide commercial services on the airport.

Navigational Aid (NAVAID) ..... Any visual or electronic device airborne or on the surface which provides point-to-point guidance information or position data to aircraft in flight.

Non-Aeronautical Service ..... Any service conducted on the airport that provides products or services that are not associated with aviation. These services are provided by persons or businesses who lease facilities or have permission from the airport operator to provide such services on the airport.

Non-Directional Beacon (NDB) .. Non-Directional Beacon which transmits a signal on which a pilot may "home" using equipment installed in the aircraft.

Object ..... Includes, but is not limited to above ground structures, NAVAIDs, people, equipment, vehicles, natural growth, terrain, and parked aircraft.

Object Free Area (OFA) ..... An area on the ground centered on a runway, taxiway, or taxilane centerline provided to enhance the safety of aircraft operations by having the area free of objects, except for objects that need to be located in the OFA for air navigation or aircraft ground maneuvering purposes.

Obstacle Free Zone (OFZ) ..... The OFZ is the airspace below 150 feet (45 m) above the established airport elevation and along the runway and extended runway centerline that is required to be clear of all objects, except for frangible visual NAVAIDs that need to be located in the OFZ because of their function, in order to provide clearance protection for aircraft landing or taking off from the runway, and for missed approaches. The OFZ is subdivided as follows:

Runway OFZ - The airspace above a surface centered on the runway centerline.

Inner-approach OFZ - The airspace above a surface centered on the extended runway centerline. It applies to runways with an approach lighting system.

Inner-transitional OPZ - The airspace above the surfaces located on the outer edges of the runway OFZ and the inner-approach OFZ. It applies to runways with approach visibility minimums lower than ¾-statute mile (1,200 m).

Obstruction to Air Navigation	An object of greater height than any of the heights or surfaces presented in Subpart C of the Code of Federal Regulation (14 CFR), Part 77. (Obstructions to air navigation are presumed to be hazards to air navigation until an FAA study has determined otherwise).
Primary Surface	A rectangular surface with a specified width, based on the type of approach existing or planned (centered on the runway centerline) and a length that extends 200 feet beyond each end of the runway. The elevation of the primary surface corresponds to the elevation of the nearest point of the runway centerline.
Precision Approach Path Indicator (PAPI)	A lighting system located along side of a runway which provides the pilot with position information related to the desired glide path to the runway. PAPIs contain red and white light units which are configured in a single row.
Rotorcraft (Helicopter)	A heavier-than-air aircraft supported in flight by the reactions of the air on one or more power-driven rotors on substantially vertical axis.
Runway (RW)	A defined rectangular surface on an airport prepared or suitable for the landing or takeoff of airplanes.
Runway Blast Pad	A surface adjacent to the ends of runways provided to reduce the erosive effect of jet blast and propeller wash.
Runway Protection Zone (RPZ) ..	An area off the runway end to enhance the protection of people and property on the ground.
Runway Safety Area (RSA)	A defined surface surrounding the runway prepared or suitable for reducing the risk of damage to airplanes in the event of an undershoot, overshoot, or excursion from the runway.
Segmented Circle	A system of visual indicators designed to provide traffic pattern information at airports without operating control towers.
Self-Fueling Operator	A person who dispenses aviation fuel to aircraft owned by that person, or leased from others and operated by that person.

Shoulder ..... An area adjacent to the edge of paved runways, taxiways, or aprons providing a transition between the pavement and the adjacent surface; support of aircraft running off the pavement; enhanced drainage; and blast protection.

Small Airplane ..... An airplane of 12,500 pounds (5,700 kg) or less maximum certificated takeoff weight.

Stopway (SWY) ..... A defined rectangular surface beyond the end of a runway prepared or suitable for use in lieu of runway to support an airplane, without causing structural damage to the airplane, during an aborted takeoff.

Taxilane (TL) ..... The portion of the aircraft parking area used for access between taxiways and aircraft parking positions.

Taxiway (TW) ..... A defined path established for the taxiing of aircraft from one part of an airport to another.

Taxiway Safety Area (TSA) ..... A defined surface alongside the taxiway prepared or suitable for reducing the risk of damage to an airplane unintentionally departing the taxiway.

Threshold (TH) ..... The beginning of that portion of the runway available for landing. In some instances, the landing threshold may be displaced.

Touch and Go Operation ..... Practice flight performed by a landing touch down and continuous take-off without stopping or exiting the runway.

Transitional Surface ..... A sloping 7:1 surface that extends outward and upward at right angles to the runway centerline from the sides of the primary surface and the approach surfaces.

Ultralight ..... An aeronautical vehicle operated for sport or recreational purposes which does not require FAA registration, an airworthiness certificate, nor pilot certification. They are primarily single occupant vehicles, although some two-place vehicles are authorized for training purposes.

Utility Runway ..... A runway that is constructed for, and intended to be used by, aircraft of 12,500 pounds maximum gross weight and less.

Visual Approach Slope Indicator (VASI)	A lighting system located along side of a runway which provides the pilot with position information related to the desired glide path to the runway. VASIs are configured in bars (versus a single row like PAPIs)
Visual Flight Rules (VFR)	Visual Flight Rules by which aircraft are operated by visual reference to the ground. Weather conditions for flying under these rules must include a ceiling greater than 1,000 feet, three miles visibility, and standard cloud clearance.
Visual Runway	A runway without an existing or planned straight-in instrument approach procedure.
Wind Coverage	Wind coverage is the percent of time for which aeronautical operations are considered safe due to acceptable crosswind components.
Wind Rose	A scaled graphical presentation of wind information.

Appendix B

Zoning Ordinances

Chapter 17.36 B-2 ZONE--GENERAL COMMERCIAL

17.36.010 Purpose.

This district is intended for several commercial uses including those requiring outdoor activity and storage. Uses of a less attractive nature and requiring less visibility are intended for this district; however, no use causing any pollution, nuisance, hazard, blight, odor or congestion will be permitted. (Ord. 136 § 3.16 (part), 1974)

17.36.020 Uses and regulations--Exceptions.

Uses and regulations for the B-2 zone are the same as those permitted, prohibited and required for the R-1, R-2, R-3, R-4, R-5, R-7, R-8, R-9 and B-1 zones with the following agencies:
A. Permitted uses include light manufacturing, storage, equipment rental or sales, auto, truck and recreational vehicle sales, fuel storage, travel trailer parks (special district required), repair shops, kennels, marinas, boat repair and storage, and other uses and structures of a similar and compatible nature and on-site and off-site hazardous waste treatment and storage facilities, provided that such facilities comply with the state siting criteria adopted in accordance with RCW 70.105.210, or its successor;
B. Permitted accessory uses to include any use or structure customarily accessory to permitted uses;
C. Conditional use criteria for this district is that any use or structure not allowable in other districts may be considered for location in this district with the provision that no use which would cause any pollution, nuisance, hazard, blight, odor or traffic congestion will be permitted. In cases where the nuisance causing character of the proposal is questionable, the applicant shall provide sufficient proof, bonds or other guarantees to protect the city.
D. As of July 1, 2013, single-family residential structures are not permitted in the B-2 Zone. Family living units are allowed as a mixed occupancy in commercial structures; and
E. As of August 1, 2006, camping, as defined in Ocean Shores Municipal Code Section 15.12.020, is not permitted.
(Ord. 760 § 2, 2003; Ord. 759 § 12, 2003; Ord. 477 § 3, 1989: Ord. 216 § 1.05, 1977: Ord. 136 § 3.16(a), 1974)

17.36.030 Uses located in Lot 61, Division 15.

The zoning classification of Lot 61, Division 15, Plat of Ocean Shores, is changed from B-1 to B-2 subject to compliance by the owner with the following conditions:
A. Site screening landscaping must be planted and maintained along the boundary of Lot 61, Division 15, Plat of Ocean Shores, on Silver King Avenue.
B. Cyclone fencing must be installed along Silver King Avenue.

C. No permanent structure not normally permitted in the B-1 zone shall be allowed on Lot 61, Division 15, Plat of Ocean Shores.
D. If the use of this parcel is changed from RV storage the zone will revert to its original classification of B-1.
(Ord. 382 § 1, 1984)

Appendix D

Instrument Designation Report

INSTRUMENT RUNWAY DESIGNATION REPORT

Ocean Shores Municipal Airport
Ocean Shores, Washington
November, 2005

INTRODUCTION

Ocean Shores Municipal Airport is a general aviation airport located in Ocean Shores, Washington. The Airport currently has one runway: Runway 15-33, which is 2,700 feet long and 50 feet wide. A vicinity map is shown in **Figure 1**, below.

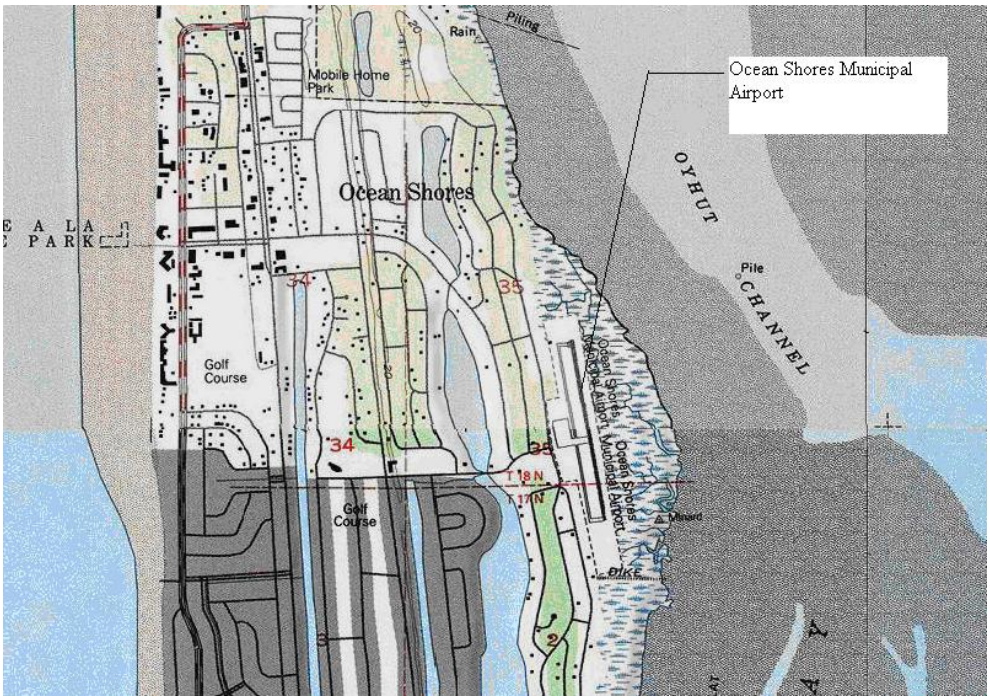

Figure 1: Airport Vicinity Map

The purpose of this report is to evaluate the eligibility of Ocean Shores Municipal Airport to receive a Global Positioning System (GPS) approach procedure, and provide the information required for approval. The FAA Flight Procedures Office (FPO) has performed a feasibility test on both runway ends to determine if a straight-in, non precision approach with visibility minimums greater than or equal to one mile, would be possible at the Airport. The FPO concluded that this type of approach and visibility minimum would be feasible on both runway ends; however, because it would be necessary to increase the width of the primary surface from 250' to 500' if a straight-in

approach was implemented, the airport has decided to preserve the existing 250' width and request a circling GPS approach with visibility minimums greater than or equal to one mile.

ELIGIBILITY

The general requirements for establishing eligibility for a GPS Approach Procedure are as follows:

- The airport must be open for public use.
- The sponsor must show a reasonable need for the instrument approach. A reasonable need can be established by showing that the airport is used by a certified air carrier, air taxi, or commercial operator. If the airport is not served by these groups, the sponsor should solicit letters from at least two aircraft operators whose aviation activities relate to the commerce of the community.
- The establishment of controlled airspace from 700 feet above ground level (AGL) for approximately 5 miles around the airport; and, acknowledging that the political subdivision is aware and concurs that if the Federal Aviation Administration (FAA) provides a GPS Approach Procedure for the airport, controlled airspace of approximately five nautical miles, 700 feet above the ground, will be established around the airport.

Ocean Shores Municipal Airport is open for public use. The Airport is not currently served by an air carrier, air taxi, or commercial operator; however the City of Ocean Shores has regional business owners that use the Airport to visit their branch stores. The owner of Shilo Inns frequently flies into Ocean Shores with a Lear Jet. Implementation of an approach procedure would be a significant benefit to the airport users. Advances in technology have made implementing an approach procedure much more of a reality at smaller airports. According to the Washington State System Plan all public-use airports in the state of Washington were expected to have GPS approaches by 2005. Due to the tragedy of September 11, 2001, this goal was not met; however, the forecast chapter of the attached ALP Narrative Report anticipates that a GPS approach procedure will be in place at the Airport by 2010.

AIRPORT INFORMATION

This report is being submitted along with the current draft version of the Ocean Shores Municipal Airport Layout Plan (ALP) and narrative report. Additional airport information pertinent to the application of a GPS approach system is included below.

Airport Landing Surface: The airport landing surface consists of asphalt pavement. The existing pavement section has been designed to accommodate 12,500 pound single wheel gear (SWG) aircraft, Airport Reference Code (ARC) A-I (small).

Runway Gradient: Runway 15-33 has an approximate gradient of 0.0%

Runway Safety Areas (RSA): The RSA width is currently non-standard at 80’ wide. As part of the proposed runway project, the RSA will be brought to standard.

Runway Lighting: Runway 15-33 is currently lighted with a Low Intensity Runway Lighting (LIRL) system. As part of the Ocean Shores Capital Improvements Project, a new Medium Intensity Runway Lighting (MIRL) System is proposed to be installed in conjunction with a runway extension during the first phase of projects.

Runway Markings: The existing runway markings consist of visual (basic) markings. These markings will need to be upgraded to non-precision markings once a straight-in GPS approach procedure is obtained.

Hold Markings: There are currently hold markings on both turnaround pads as well as on the midfield connector taxiway, however they are non-standard. The proposed taxiway project will include standard hold markings.

Signage: The Airport has informational signs at both runway ends.

Weather Information: A Super Unicom is proposed to be installed during the first phase of the Airport’s Capital Improvement Projects.

Wind Coverage: It is assumed that Runway 15-33 provides 95% wind coverage.

Communications: Phone service is available at the Airport, but there is currently not a public phone available.

Obstacle Free Zone (OFZ): The existing OFZ is 150’ wide and 200’ long. Vegetation in the wetland area between the runway and taxiway is causing the OFZ to be non-standard. Once the vegetation is pruned back, OFZ will meet full 250’ width recommendation.

Obstructions: There are existing and proposed obstructions to the Part 77 and threshold siting surfaces. These obstructions have been identified and their dispositions recommended; see attached Airport Layout Plan drawing set.

Noise Analysis: A formal noise analysis has not been conducted, however, the approaches to both Runways 15 and 33 would primarily be over the waters surrounding the peninsula.