PORT OF LOPEZ

Lopez Island Airport Master Plan Update

Public Meeting – June 15, 2017

Master Plan Update Team

- Reid Middleton/Everett, WA
  - Shannon Kinsella, Project Manager
  - Melania Haagsma, Project Engineer
- Mead & Hunt/Tulsa, OK
  - Kelly Maddoux, Project Manager
- Federal Aviation Administration/Renton, WA
  - Jennifer Kandel, Airport Planner

Master Plan Update Purpose/Outcomes

- Purpose
  - Identify existing and future demand needs
  - Ensure approach and airfield safety
  - Accommodate long-term needed physical development
  - Evaluate facility needs
  - Provide comprehensive assessment
- Outcomes
  - Document the Issues (AGIS Survey, Facility Requirements, Environmental Factors)
  - Determine preferred alternative
  - Update Airport Layout Plan drawing set
  - Feasibility plan for implementation and update Capital Improvement Program
  - Satisfy Local, State, Federal Regulatory Requirements
  - Preserve the operational integrity and safety of the Airport while minimizing impacts to the surrounding areas

Master Plan Update Process

- Project Initiation
- Inventories
- Aviation Activity Forecasts
- Facility Requirements
- Alternatives Evaluation (Conceptual Plan Development)
- Airport Plans
- Implementation Plan/Program

Existing Conditions/Inventory

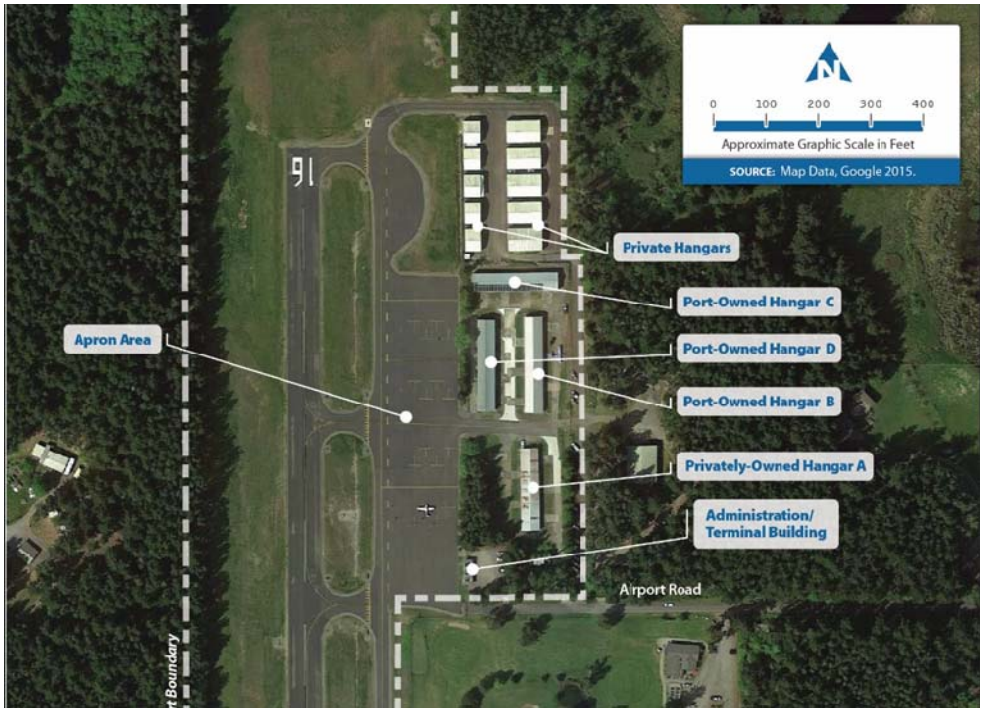
Airfield Facilities

RUNWAY 16/34	
Dimensions	2,904’ x 60’
Surface Treatment	Asphalt/grooved, good condition
Weight Bearing Capacity	Single Wheel, 12,500 lbs.
Edge Lighting	Medium intensity, pilot controlled

	RUNWAY 16	RUNWAY 34
Elevation	209.0’	163.0’
Gradient	-1.6%	+1.6%
Traffic Pattern	Right	Left
Markings	Basic, good condition	Basic, good condition
Visual Slope Indicator	2-light PAPI, left side (4.00 degree glide path)	2-light PAPI, left side (4.00 degree glide path)
Runway End Identifier Lights	Yes	Yes

Existing Conditions/Inventory

Hangar Areas & Land Use



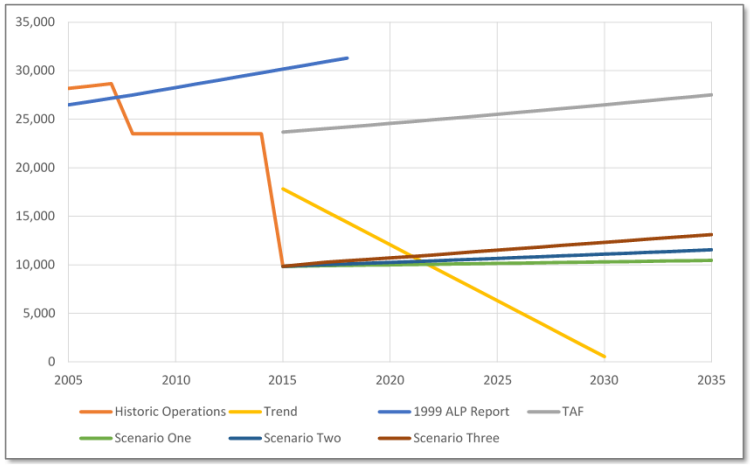
- T-Hangars
  - Building A – 5 Aircraft Spaces (Airport land lease)
  - Buildings B, C, D 14 Aircraft Spaces
- Box Hangars
  - 10 buildings, 15 Aircraft Spaces (Airport land lease)
- Apron
  - 16 Tiedowns, 8 reserved for transient aircraft

Summary of Aviation Forecast

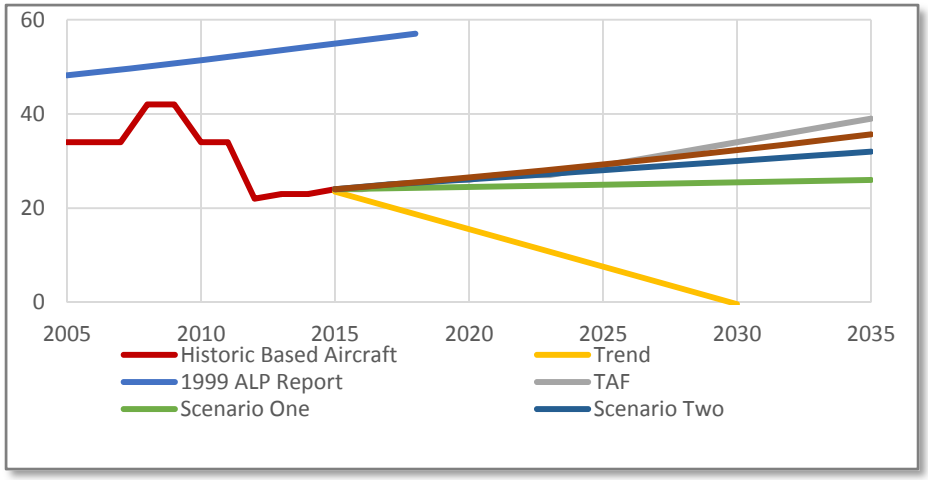
2015-2035

	2015	2020	2025	2030	2035
Aircraft Operations					
Air Taxi	3,760	3,809	3,859	3,909	3,960
Single Engine	3,760	3,809	3,859	3,909	3,960
General Aviation	9,850	10,250	10,667	11,101	11,552
Single Engine	9,520	9,900	10,300	10,691	11,112
Multi-Engine Piston	100	105	97	90	80
Multi-Engine Turboprop	100	115	140	190	230
Helicopter	130	130	130	130	130
Military	24	24	24	24	24
Helicopter	24	24	24	24	24
Total Operations	13,634	14,083	14,550	15,033	15,536
Local Operations	1,084	1,127	1,237	1,353	1,554
Itinerant Operations	12,550	12,956	13,313	13,680	13,982
Critical Aircraft (Cessna 206)	400	420	440	450	460
Based Aircraft	24	26	28	30	32
Single Engine	24	26	28	29	31
Multi-Engine Turboprop	---	---	---	1	1

General Aviation Aircraft Operations Forecasts



Based Aircraft Forecasts



Critical Aircraft

- Beech Super King Air 200/350 most demanding aircraft occasionally using Lopez Island Airport
  - Operations not sufficient to satisfy 500 annual operations to be considered the "Critical Aircraft"
- Cessna 206 considered "Critical Aircraft"
- RDC B-I (Small) appropriate RDC

Operations By RDC 2015-2035

RDC	2015	2020	2025	2030	2035
A-I	12,759	13,174	13,581	14,000	14,442
A-II	15	20	30	40	50
B-I	600	620	650	670	690
B-II	106	115	135	170	200
Total	13,480	13,929	14,396	14,880	15,382

Beech Super King Air 200

Cessna 206

Facility Requirements

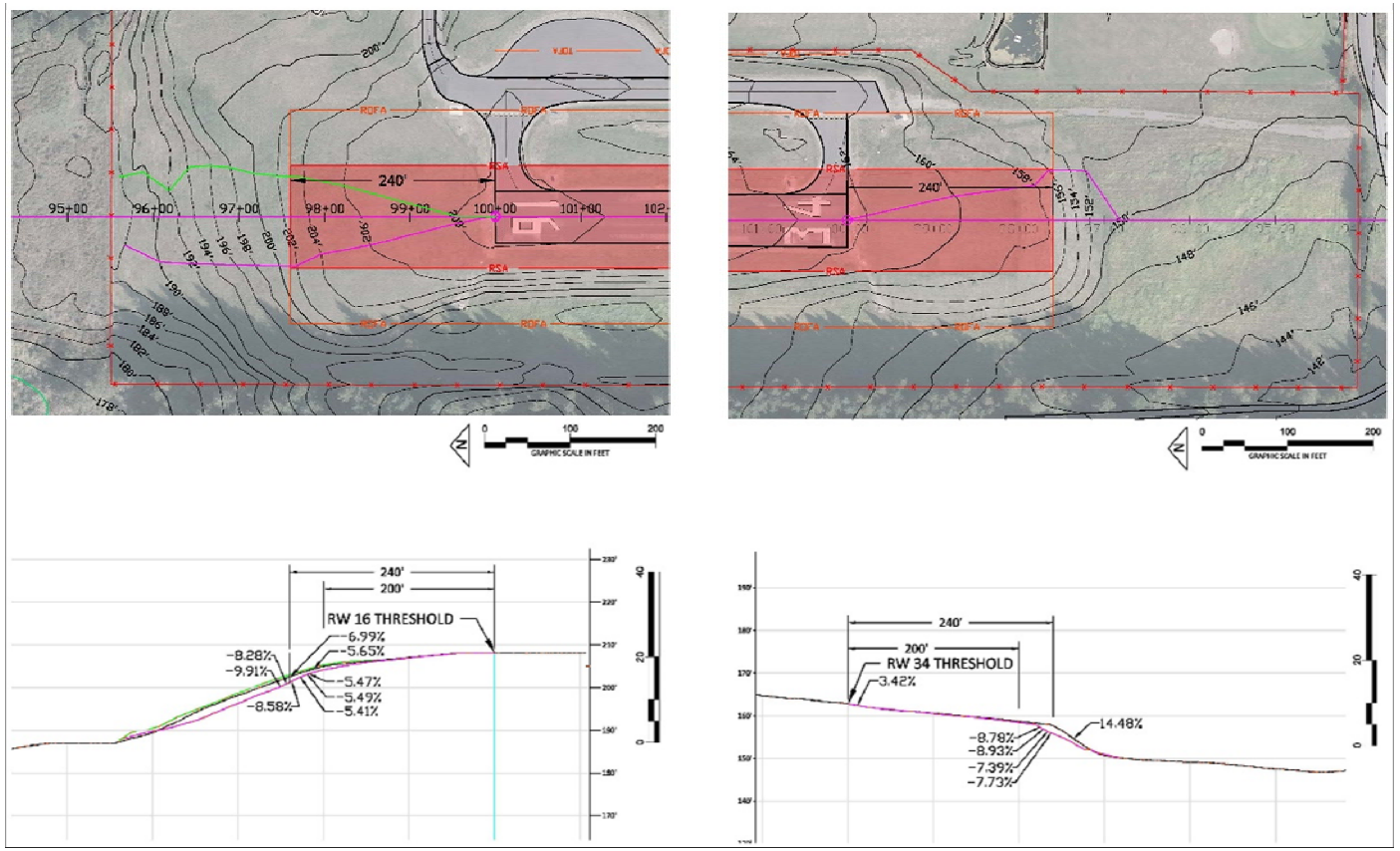
- Airside Analysis
  - Airfield Dimensional Standards
  - Runway Length
  - Runway Protection Zone (RPZ)
  - Runway End Siting
  - Taxiway System Standards
- Landside Analysis
  - Dimensional Standards

B-I (Small) Design Criteria

Item	Existing Dimension	B-I-VIS
Runway Width	60’	60’
Runway Safety Area		
Width	120’	120’
Length Beyond Runway End:		
Runway 16	200’	240’
Runway 34	200’	240’
Length Prior to Landing Threshold		
Runway 16	240’	240’
Runway 34	240’	240’
Runway Object Free Area		
Width	250’	250’
Length Beyond Runway End		
Runway 16	240’	240’
Runway 34	240’	240’
Runway Obstacle Free Zone		
Width	250’	250’
Length		
Runway 16	200’	200’
Runway 34	200’	200’
Runway Centerline To:		
Parallel Taxiway	150’	150’
Aircraft Parking	190’	125’
Holding Position Line	125’	125’

Airport Design Standards Compliance

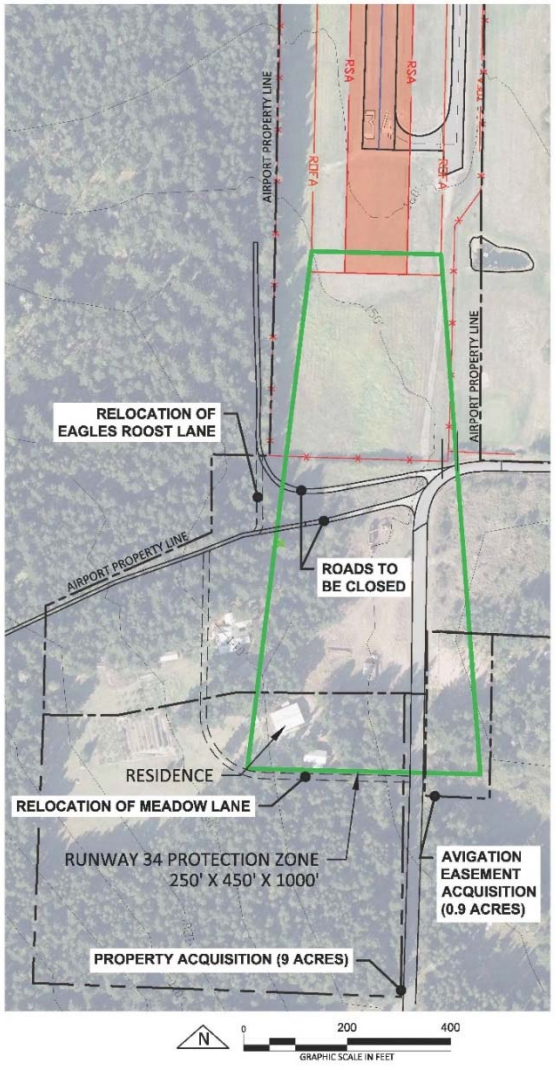
Runway Safety Area Conditions/Alternatives



- FAA Order 5300.1F does not allow a Modification of Standards (MOS) for Runway Safety Areas
- Recommendation: Extend Runways 16 and 34 RSAs to the full length of 240 feet.

Airport Design Standards Compliance

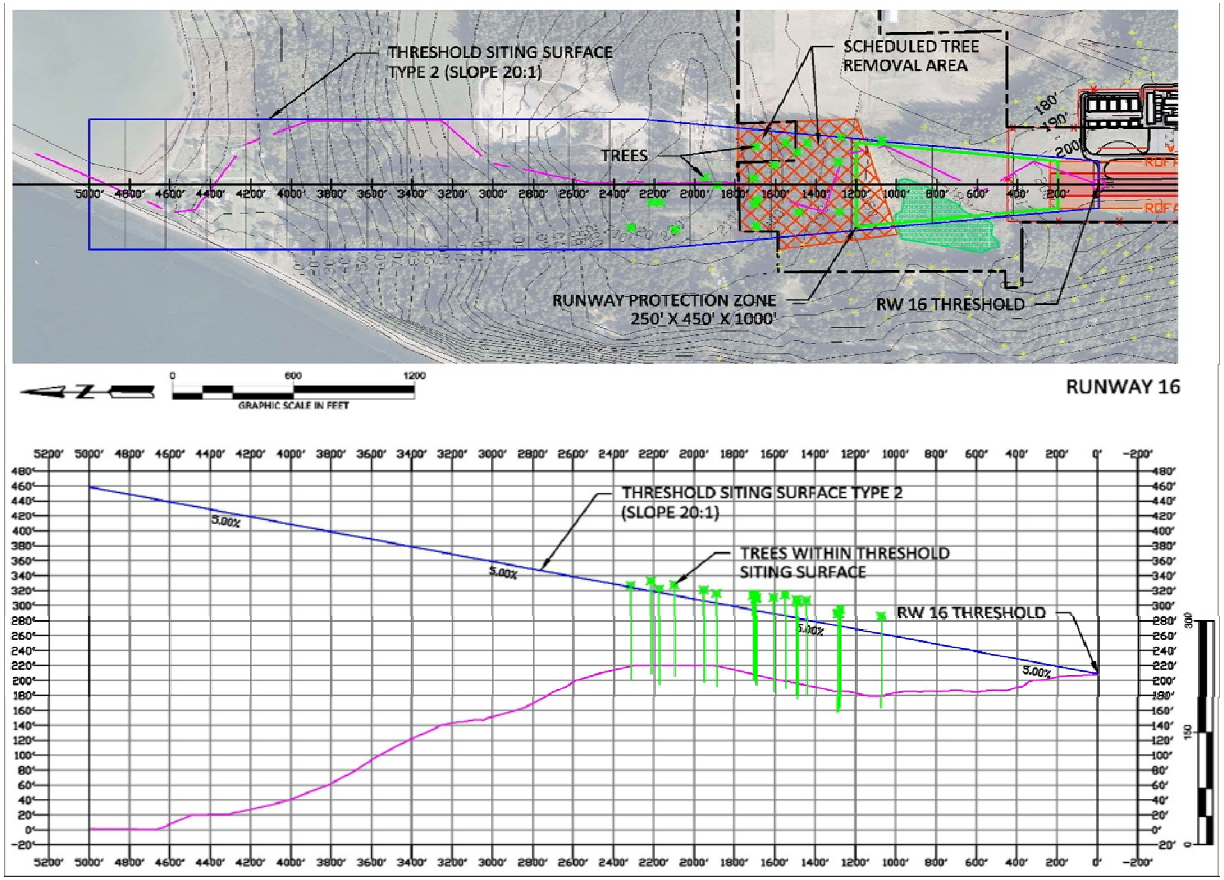
Runway 34 Runway Protection Zone/Alternatives



- PRZ extends beyond airport property to the south
  - A residence, a county road, and two private lanes contained within the Runway 34 RPZ
- Alternative One
  - Purchase fee simple land acquisition for property west of Shark Reef Road
  - Purchase RPZ easement for property east of Shark Reef Road
  - Close portions of Meadow Lane and Eagles Roost Lane within RPZ
  - Construct new road connecting Meadow Land with Shark Reef Road
- Alternative Two
  - No land acquisition or road closures/relocations proposed

Airport Design Standards Compliance

Runway Threshold Siting/Alternatives

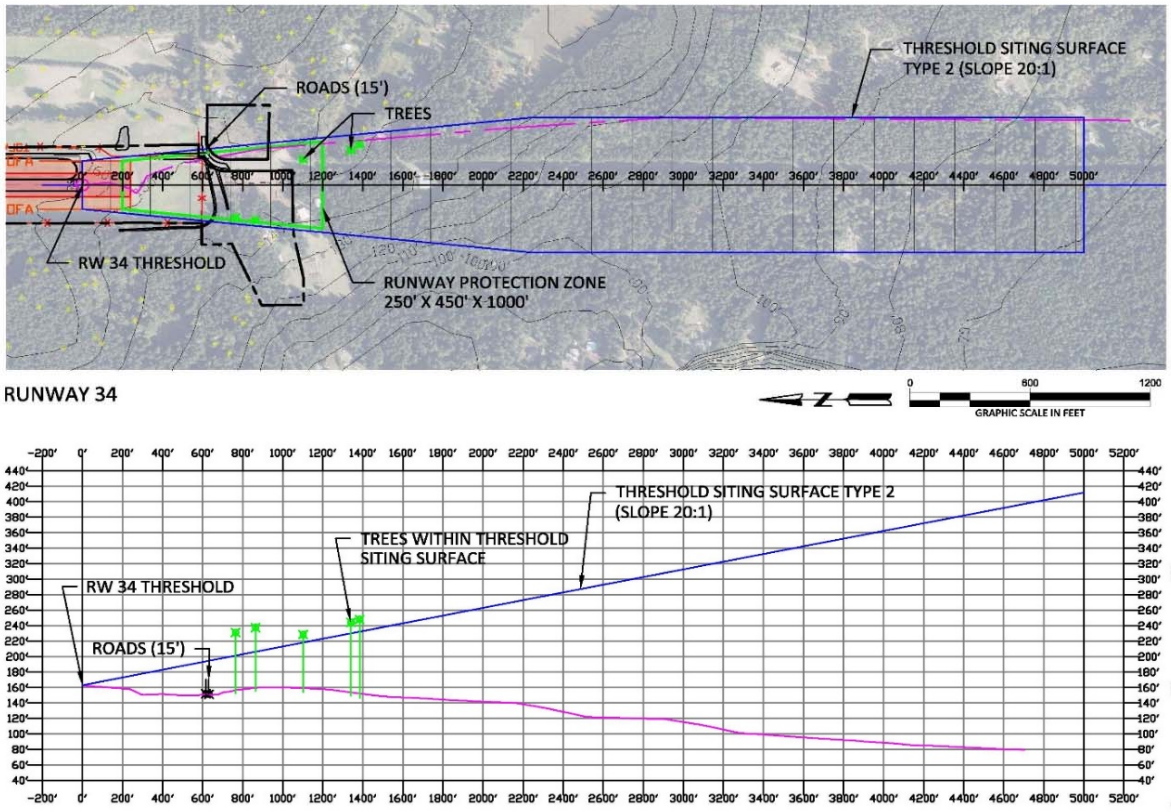


Note: As previously planned, many of the marked obstacles in the hatched area north of Runway 16 have been removed since the aerial survey was conducted.

- Multiple trees penetrate the Runway 16 & 34 Threshold Siting Surfaces
- Alternative One
  - Displace the runway thresholds
  - Provides adequate tree clearance
  - Shortens runway landing length

Airport Design Standards Compliance

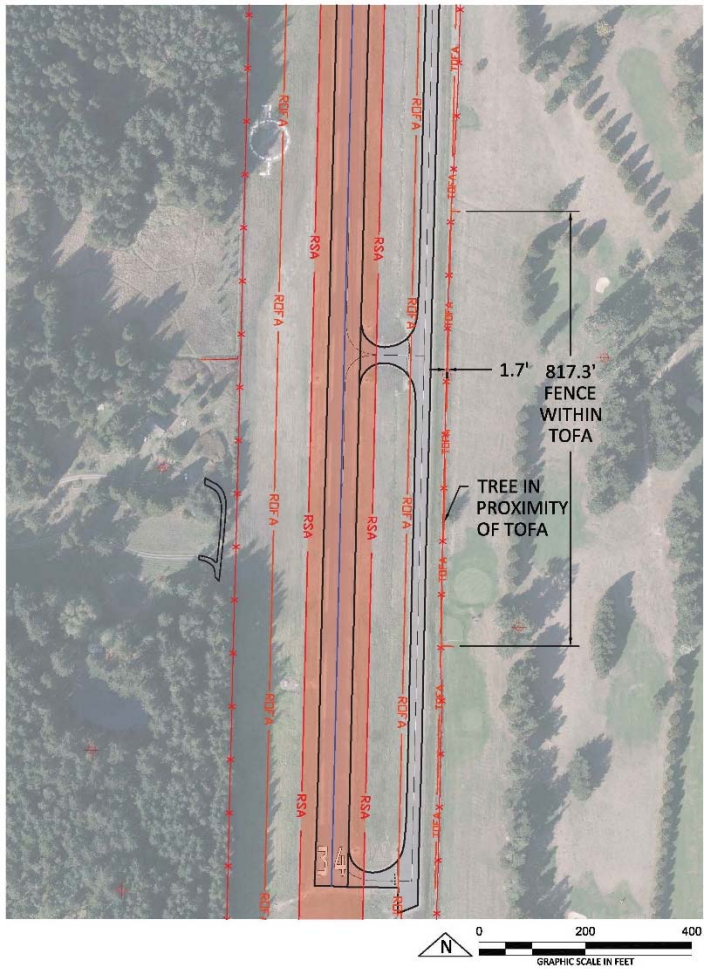
Runway Threshold Siting/Alternatives



- Multiple trees penetrate the Runway 16 & 34 Threshold Siting Surfaces
- Alternative Two
  - Continue tree removal on airport property, and
  - Acquire easements granting the Port the right to remove trees off airport property

Airport Design Standards Compliance

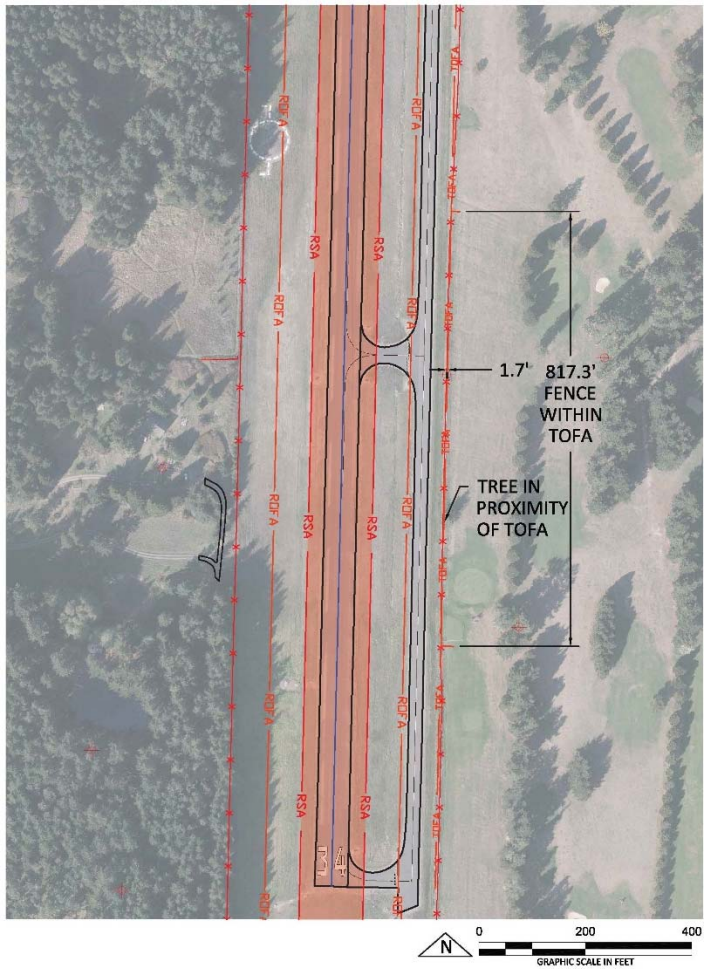
Taxiway A Object Free Area/Alternatives



- Taxiway A Object Free Area width deficient by approximately 1.7’ for a length of roughly 817’
- Alternative One
  - Remove/trim tree on golf course
  - Survey property line/fence line for accuracy
  - Relocate portion of fence if adequate airport property available
  - Acquire property and relocate portion of fence if inadequate airport property available

Airport Design Standards Compliance

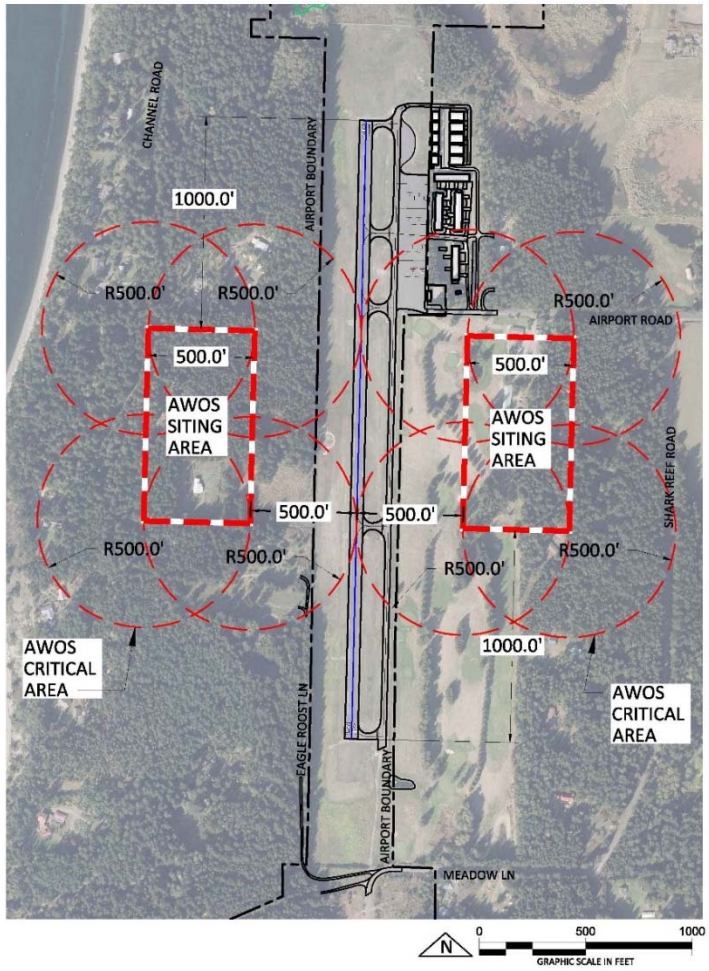
Taxiway A Object Free Area/Alternatives



- Taxiway A Object Free Area width deficient by approximately 1.7' for a length of roughly 817'
- Alternative Two
  - Port request a MOS from the FAA
  - Must be justified by unusual local conditions
  - Must assure an acceptable level of safety will be provided
  - Apply taxilane dimensional standards
  - Limit taxiing speeds to 10 mph or less
- Recommendation: Request MOS from FAA; initiate property boundary/fence line survey to determine property acquisition needs

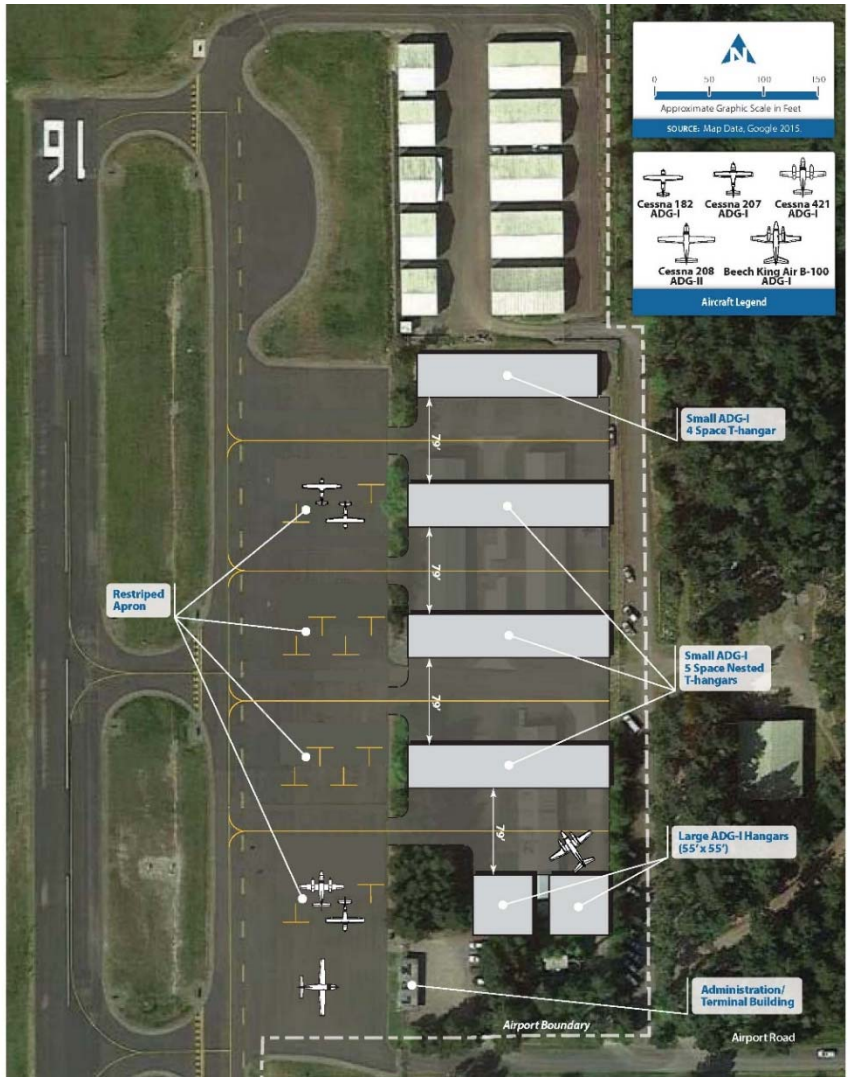
Airport Design Standards Compliance

Weather Station Installation



- AWOS III Siting criteria contained in FAA Order 6560.20B
- Alternative One
  - Between 500’ and 1,000’ from runway centerline
  - Between 1,000’ and 3,000’ from runway threshold
- Alternative Two
  - Install non-Federal, non-certified AWOS system
  - Siting criteria less restrictive
- Recommendation: Decision made when more detailed information gathered and analysis is conducted at project design

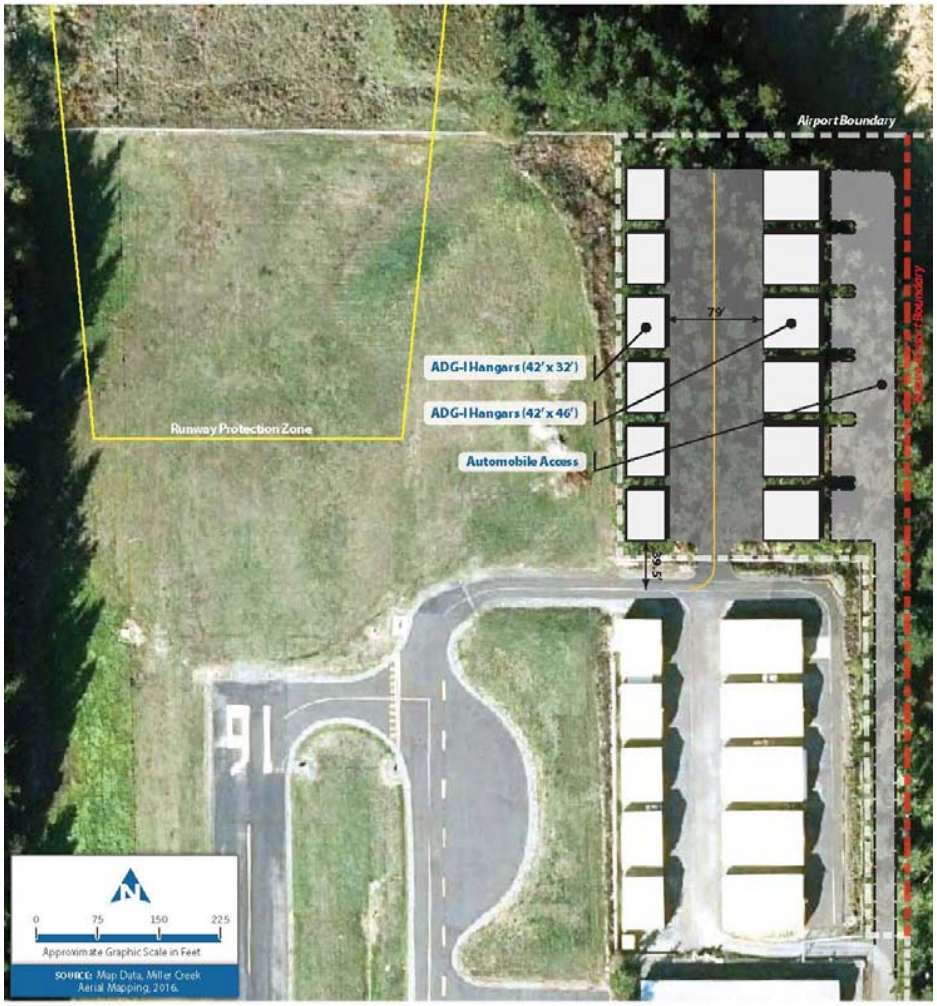
Concepts for Future South Hangar Development



- Replace T-hangars as age and condition dictate
- Reorient east-west
- Designed to Airplane Design Group (ADG) I dimensional standards
  - 79' Taxilane OFA width between hangars
  - Apron restriping eliminates direct apron to runway connection

Concepts for Future North Hangar Development

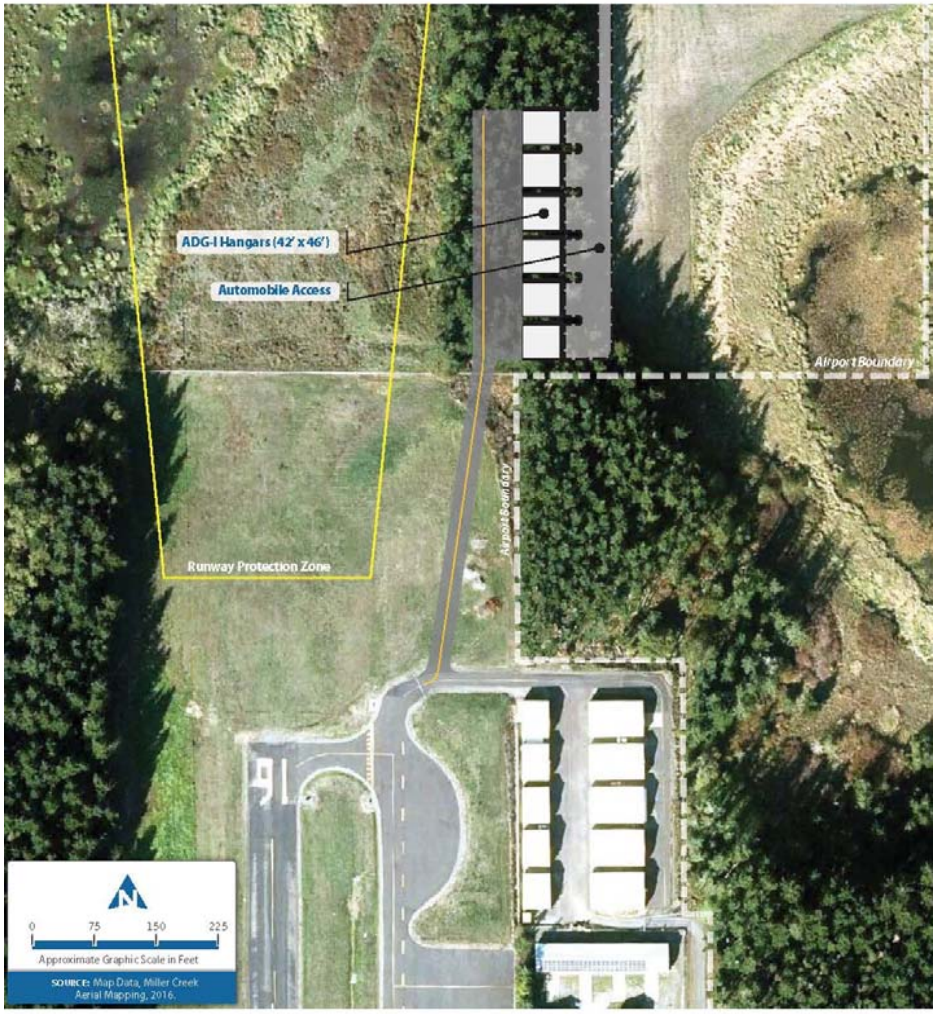
Alternative One



- Designed to Airplane Design Group (ADG) I dimensional standards
  - 79' Taxilane OFA width between hangars
  - 79' Taxilane OFA width between hangars and existing taxiway
- Building Restriction Line (BRL) setback retained
- Requires approximate 2.3 acres of property acquisition
- Steep topography and retained water make development challenging and potentially expensive

Concepts for Future North Hangar Development

Alternative Two



- Designed to Airplane Design Group (ADG) I dimensional standards
  - 79' Taxilane OFA width
- Building Restriction Line (BRL) setback retained
- No property acquisition required

Questions & Comments

Next Steps

- Identify Conceptual Development Plan
- Finalize Alternatives chapter
- Prepare implementation schedule and cost estimates
- Prepare draft Airport Layout Plan set
- Prepare draft Airport Master Plan Update report
- Submit draft Airport Layout Plan set to FAA for review and approval
- Prepare final Airport Layout Plan and Airport Master Plan report

Questions/Contact Information

- Helen Cosgrove
  - Port of Lopez
    PO Box 907
    Lopez Island, WA 98261
    Phone: (360) 468-4116
    Email: helenc@portoflopez.com
- Kelly Maddoux
  - Mead & Hunt
    1616 East 15th Street
    Tulsa, OK 74120
    Phone: (918) 585-8844
    Email: kelly.maddoux@meadhunt.com
- Shannon Kinsella
  - Reid Middleton
    728 134th Street SW, Suite 200
    Everett, WA 98204
    Phone: (425) 741-5012
    Email: skinsella@reidmiddleton.com

Thank You!