

CHAPTER EIGHT: ALP DRAWING SET



NEWPORT MUNICIPAL AIRPORT

AIRPORT MASTER PLAN UPDATE

FINAL REPORT – FEBRUARY 2018

INTRODUCTION

The Airport Layout Plan (ALP) drawings are a depiction of the development solutions derived throughout the master planning process. A major purpose of the ALP drawing set is to establish funding eligibility for the Federal Aviation Administration's (FAA's) Airport Improvement Program (AIP), as capital projects must appear on an FAA-approved ALP to receive AIP grant funding. As such, the approval of this ALP is a required element of this master plan.

The ALP has been developed with input from the Planning Advisory Committee (PAC), as well as from the public and City of Newport. Alternative concepts were introduced at the third PAC meeting (August 2016), with the Preferred Alternative being determined during the special PAC meeting (January 2017). The Preferred Alternative is reflected in the Airport Layout Plan and subsequent drawings.

AIRPORT LAYOUT PLAN DRAWINGS

The following paragraphs provide an overview of major required elements found on each sheet within the ALP drawing set. The ALP drawing set was developed utilizing ARP SOP 2.00 – Standard Procedures for FAA Review and Approval of Airport Layout Plans (ALPs).

Cover Sheet (Sheet 1)

The cover sheet is an index to the airport layout plan drawing set. It also provides pertinent information such as the airport sponsor, airport name, grant number the project is funded through, location and vicinity maps, and date the plan was completed.

Airport Data Sheet (Sheet 2)

The Airport Data Sheet is a companion to the ALP that contains detailed information relative to the Airport, including:

- Windrose and wind data tables, consisting of wind coverage for all-weather flight conditions.
- Airport, runway, and taxiway data tables that identify relevant design criteria at the Airport, along with existing and future conditions.
- Existing and future instrument approach components and lowest approach minimums for each runway end.

Airport Layout Plan (Sheet 3)

The ALP depicts the current airport layout and proposed improvements to the Airport for the 20-year planning period and beyond. Detailed descriptions of the improvements and expected capital costs over the next 20 years are included in Chapter 9, Capital Improvement Plan. The Preferred Alternative, derived from forecasted facility needs and requirements, was the basis for determining the proposed improvement at the Airport. The ALP is a development guide; the timing of development depends upon when it is needed and can be funded.

Some noteworthy items reflected on the ALP include, but are not limited to:

- Upgrading Runway 16-34 Runway Design Code (RDC) from B-II to C-I
- Upgrading Runway 16-34 RSA, OFA, and longitudinal grade to meet C-I standards
- Relocating A taxiway 10 feet away from Runway 16-34 to meet the RDC C-I standard

- Correcting non-standard geometry for intersection of Taxiway A/Taxiway D/Runway 2 and non-standard tie-down apron
- Shifting Runway 2-20 1,100 feet to the northeast to disconnect it from Runway 16-34
- Expanding the current cargo apron to accommodate a third cargo aircraft
- Constructing a modestly-sized cargo facility with an apron area for the exclusive use of cargo aircraft
- Replacing and moving the Fuel Tanks to an area of easier access

Terminal Area Plan (Sheet 4)

The Terminal Area Plan drawing provides a large-scale view of the terminal area depicted on the ALP (Sheet 3), so that features such as aprons, buildings, hangars, and parking lots are easier to discern. For ONP, the terminal area plan shows future airfield pavements and future buildings which include hangars, aprons, and the new cargo facility.

Obstruction Data Tables (Sheet 5)

The obstruction data tables present the data depicted in the Airport Airspace Plan (Sheet 6), along with data depicted in the approach plan and profile drawings. The data typically includes the object identification number, description, top elevation, affected PART 77 surface elevation, and a future disposition for the object. The data was obtained from an Airport Geographic Information System (AGIS) Survey conducted in 2014. Obstruction data for the approach surfaces are further detailed and depicted on Sheets 7-14.

Airport Airspace Plan (Sheet 6)

This drawing shows the Part 77 Imaginary Surfaces for the future layout of the Airport with a USGS topographic map as the background. The Part 77 surfaces are the basis for protecting airspace around an airport; therefore, it is ideal to keep these surfaces clear of obstructions whenever possible. The FAA decides if any of the obstructions to Part 77 surfaces are hazardous to aviation.

Part 77 defines five distinct surfaces, each with a different size and shape. The dimensions of these surfaces are based on the type of runway and the type of approach ultimately planned for the Airport. The imaginary surfaces are defined below.

Primary Surface: The primary surface is rectangular, is centered on the runway, extends 200 feet beyond each end of the runway, and has a width that varies according to airport-specific criteria. The elevation of the primary surface corresponds to the elevation of the nearest point of the runway centerline. The current width of the primary surface for Runway 16-34 is 1,000 feet; as is required for a runway with a precision instrument approach procedure and it is planned for the width to remain the same throughout the planning period. Runway 2-20, however, currently has a primary surface width of 500' that will be downsized to 250' when the runway is downgraded from B-II to B-I (small).

Approach Surface: Each runway end has an approach surface. The approach surface is centered on the extended runway centerline, starts at the end of the primary surface (200 feet beyond each end of the runway), and has a width equal to that of the primary surface. Approach surfaces slope upward and outward from the runway ends. Please refer to Sheets 7-13 for detailed descriptions and discussion of obstructions within those surfaces.

Runway Protection Zones (RPZs) are not Part 77 surfaces, but mirror the inner portions of approach surfaces on the ground. The future Runway 16 RPZ dimensions are similar to the existing RPZ dimensions of 1,000 feet (inner width) by 1,700 feet (length) by 1,510 feet (outer width) for approaches with minimums greater than or equal to $\frac{3}{4}$ statute mile (sm). Due to the upgrade from RDC B-II to C-I the future Runway 34 RPZ dimension is longer than currently exists. The future Runway 34 RPZ dimensions for RDC C-I are 500 feet (inner width) by 1,700 feet (length) by 1,010 feet (outer width) for approaches with minimums greater than or equal to 1 statute mile (sm). The future Runway 2-20 RPZ dimensions are based on the reduced standards of B-I(small) RDC that result in RPZ dimensions of 250 feet (inner width) by 1,000 feet (length) by 450 feet (outer width) to accommodate visual approaches.

Transitional Surface: The transitional surface is 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 from the sides of the approach surfaces. It extends outward and upward until intersecting the horizontal surface.

Horizontal Surface: The horizontal surface is a flat, elliptical surface at an elevation 150 feet above the established airport elevation. The extent of the horizontal surface is determined by swinging arcs of a 10,000-foot radius from the center of each end of the primary surface.

Conical Surface: The conical surface extends outward and upward from the horizontal surface at a slope of 20:1 for a horizontal distance of 4,000 feet.

Runway 16-34 Airport Approach Profile (Sheet 7)

This drawing presents a larger scale plan and profile view of the Runway 16-34 approach surfaces shown in the Airport Airspace Drawing. The highest composite terrain, along with known features, is shown in the profile view. Notable objects of height are identified in both the plan and profile views in each plan and are tabulated with object height and penetration information as well as future mitigation efforts if required. These drawings are supplemental to the Part 77 Airspace Surface drawings. Details of the inner and outer approach surfaces are shown on Sheets 8, 9, and 10, as indicated on the plan view.

Runway 16 Extended Approach Surface (Sheet 8)

This drawing presents a plan and profile view of the extended approach surface for Runway 16. This sheet is developed to depict the full extents of the 50,000 foot long Precision Approach Surface which slopes at 50:1 for the inner 10,000 feet and 40:1 for the outer 40,000 feet. It is the outer 40,000 feet depicted on this sheet.

Inner Portion of Runway 16 Approach Surface Plan and Profile (Sheet 9)

This drawing is a close-in view of the inner approach area of Runway 16 depicted on Sheet 7. This sheet provides a larger scale view of the inner Runway 16 approach surface and the objects/obstructions up to 100' above the runway end or to the extents of the RPZ.

Inner Portion of Runway 34 Approach Surface Plan and Profile (Sheet 10)

This drawing is a close-in view of the inner area of Runway 34 depicted on Sheet 7. This sheet provides a larger scale view of the inner Runway 34 approach surface and objects/obstructions up to 100' above the runway end or to the extents of the RPZ.

Runway 2-20 Airport Approach Profile (Sheet 11)

Similar to Sheet 7, this drawing presents a larger scale plan and profile view of the Runway 2-20 approach surfaces shown in the Airport Airspace Drawing.

Inner Portion of Runway 2 Approach Surface Plan and Profile (Sheet 12)

A close-in view of the Runway 2 approach surface depicted in Sheet 11, this sheet provides a large scale view of the inner Runway 2 approach surface and objects/obstructions up to 100' above the runway end or to the extents of the RPZ.

Inner Portion of Runway 20 Approach Surface Plan and Profile (Sheet 13)

A close-in view of the Runway 20 approach surface depicted in Sheet 11, this sheet provides a large scale view of the inner Runway 2 approach surface and objects/obstructions up to 100' above the runway end or to the extents of the RPZ.

Runway 16-34 Departure Surface Plan & Profile (Sheet 14)

The Runway Departure Surface drawing depicts the plan and profile views of the Runway 16-34 departure surfaces, which apply to runways with instrument departure procedures. Each departure surface at the Airport begins at the departure end of the runway at a width of 1,000 feet, extends outward 10,200 feet to an outer width of 6,466 feet, and slopes up at 40:1.

Land Use Plan (Sheet 15)

The purpose of the land use plan is to identify the land uses currently surrounding the Airport along with the proposed land use overlay zones associated with the future FAA Part 77 surfaces so as to inform future local discussions about airport growth and development as well as the growth and development of properties surrounding the Airport. This drawing also includes the noise contours (55 – 75 dnl) developed using future scenarios based on type of aircraft and the number of annual operations. The land surrounding the Newport Airport that falls under the proposed airport overlay zones is currently a mix of uses including residential, commercial, and industrial use.

Exhibit “A” Property Map (Sheets 16)

The airport Exhibit “A” property map is intended to depict the areas of existing airport sponsor ownership and areas proposed for ownership or release. The map also shows easement, buildings, aprons, fences, roads, and other features of concern. Parcels are shown for depiction purposes only and this map is not intended to be used for survey or land acquisition purposes. Property information typically includes known and recorded information including ownership, date of acquisition, and federal involvement if applicable.

Utilities Map (Sheet 17)

The airport utilities map shows the existing utility lines at the Airport. These include drainage, water, and power. The map also depicts the proposed extension of some of these lines to serve the future airport development projects within the 20-year planning period and beyond.