

8. ALP Summary

8.1. AIRPORT LAYOUT PLAN DRAWING SET

The ALP Drawing Set has been prepared in accordance with generally accepted airport planning practices and FAA guidance materials, including the following:

- FAA Advisory Circular 150/5070-6B, *Airport Master Plans*
- FAA Advisory Circular 150/5300-13A, *Airport Design*
- FAA Advisory Circular 150/5360-9, *Planning and Design of Airport Terminal Facilities at Non-Hub Locations*
- FAA Advisory Circular 150/5360-13, *Planning and Design Guidelines for Airport Terminal Facilities*
- Code of Federal Regulations (CFR) Part 77, *Safe, Efficient Use, and Preservation of the Navigable Airspace*
- FAA Standard Operating Procedures (SOP) ALP Checklist

The ALP Drawing Set for Wilkes-Barre/Scranton International Airport consists of a Title Sheet and 14 drawings as follows:

<u>Sheet No.</u>	<u>Title</u>
1	Existing Airport Layout
2	Airport Layout Plan
3	Airport Data
4	Terminal Area Plan
5	Airport Airspace Plan
6	Outer Airport Airspace Plan
7	Inner Approach Plan Runway 04
8	Inner Approach Plan Runway 22
9	Inner Approach Plan Runway 10
10	Inner Approach Plan Runway 28
11	Departure Surface Plan Runway 4
12	Departure Surface Plan Runway 22
13	Airport Land Use and RPZ Control Plan
14	Airport Property Map

Reduced size versions of each ALP sheet are presented at the end of this chapter.

8.1.1. Title Sheet

The Title Sheet provides identifying information for the ALP Set. This information includes a drawing index listing each of the sheets within the set, as well as the specific FAA project number and information on the preparer of the document. Two maps are also placed on the cover sheet to identify the location of the Airport within the context of the State of Pennsylvania (location map) and the area immediately adjacent to the airport (vicinity map).

8.1.2. Existing Airport Layout

The *Existing Airport Layout* provides the current configuration and existing airport facilities at Wilkes-Barre/Scranton International Airport (AVP or the Airport). Details shown include airport buildings, airport infrastructure, local roads and neighborhoods, property lines, and water bodies on or adjacent to AVP. These details are based on aerial photography and photogrammetric mapping obtained as part of this study effort.

This sheet also serves as a base upon which development proposed within this Master Plan Update is placed. The current dimensions of the airside and landside facilities are depicted within the sheet, as well as the dimensions of applicable FAA safety and object free areas, protection zones, and other dimensions relevant to airport design. The sheet also includes a facilities table and a title and revision block, as required.

8.1.3. Airport Layout Plan

The *Airport Layout Plan (ALP)* illustrates the recommended proposed development at AVP over the twenty-year planning period. The ALP sheet is the culmination of the Master Plan Update processes and is the most important sheet in the ALP Drawing Set. The ALP is a legal document used by the FAA to allocate federal grant funding and approve the use of Passenger Facility Charges (PFC) for projects depicted. The document is approved by the FAA, Pennsylvania Department of Transportation, and the Luzerne and Lackawanna Counties.

The projects depicted on the ALP are intended to cover a twenty-year period and are phased over this period based on the sponsor's priority and forecasted demand. Three time periods have been defined; Phase I (2017 – 2021), Phase II (2022 – 2026), and Phase III (2027 – 2036).

8.1.4. Airport Data Sheet

The *Airport Data Sheet* displays several tables that are typically placed on the ALP. However, due to size constraints and the need to clearly show the existing facilities and proposed development on the ALP, these tables have been placed on a dedicated sheet within the ALP Set. Tables on the sheet include the Runway Data Table, Airport Data Table, Runway Safety Area Determination, Wind Coverage, and Declared Distances.

8.1.5. Terminal Area Plan

Due to the significant number of changes proposed within the terminal area, a *Terminal Area Plan* has been included at a scale to clearly illustrate all of the changes that have been proposed within vicinity. The *Terminal Area Plan* depicts the proposed terminal area development at a scale of 1":100', as opposed to the scale of the ALP at 1":400'.

8.1.6. Airport Airspace Plans

Title 14 of the Code of Federal Regulations (CFR), Part 77, *Safe, Efficient Use, and Preservation of the Navigable Airspace*, regulates the airspace surrounding airports through the development of five "Imaginary Surfaces." These surfaces include the Primary Surface, the Approach Surface, the Transitional Surface, the Horizontal Surface, and the Conical Surface. *Airport Airspace Plan*

depicts the existing and future 14 CFR 77 imaginary surfaces based on the existing and proposed conditions at AVP, as modifications proposed on the ALP and throughout the Master Plan Update will not cause any changes to the location or dimension of the surfaces.

Primary Surface

This surface is a rectangle aligned with the centerline of the runway and extends 200 feet from each runway end. The width of the primary surface varies depending on the type of runway and could be anywhere from 250 to 1,000 feet. At AVP, Runway 4-22 has a primary surface with a width of 1,000 feet while Runway 10-28 has a width of 500 feet.

Transitional Surface

The transitional surface is constructed to join the primary, approach, and horizontal surfaces. It starts at the edges of the primary surface and extends outwards and upwards from the primary surface along the approach surfaces to an elevation 150 feet above the airport elevation at a slope of 7:1, where it meets the horizontal surface.

Approach Surface

The approach surfaces are aligned longitudinally with each runway end starting at the edge of the primary surface (200 feet from each runway end) and extending outward and upward in a trapezoidal fashion. The following approach surfaces apply to AVP's runways:

- Runway 4: Runway 4 has a precision instrument approach. Therefore, the approach surface extends from the primary surface out 50,000 feet to a width of 16,000 feet. The first 10,000 feet climb at a slope of 50:1 (50 feet horizontally for one foot vertically) and the next 40,000 feet climb at a slope of 40:1.
- Runway 22: Runway 22 has a precision instrument approach. Therefore, the approach surface extends from the primary surface out 50,000 feet to a width of 16,000 feet. The first 10,000 feet climb at a slope of 50:1 (50 feet horizontally for one foot vertically) and the next 40,000 feet climb at a slope of 40:1.
- Runway 10: Runway 10 has a visual only approach. Therefore, the Runway 10 approach surface extends 5,000 feet from the primary surface to a width of 1,500 feet. The approach slope is 20:1.
- Runway 28: Runway 28 has a visual only approach. Therefore, the Runway 28 approach surface extends 5,000 feet from the primary surface to a width of 1,500 feet. The approach slope is 20:1.

Horizontal Surface

The horizontal surface is a horizontal plane at 150 feet above the airport elevation. It is constructed by swinging arcs around the end of the primary surface, which are connected via tangential lines. The horizontal surface radius is 5,000 feet for visual runways or for non-precision instrument runways serving only utility aircraft (small aircraft less than 12,500 pounds). For all larger runways, the horizontal surface has a radius of 10,000 feet. AVP's horizontal surface will extend 10,000 feet from the ends of Runway 4-22, which will fully encapsulate the 5,000-

foot arcs modeled from the ends of Runway 10-28. The Airport's horizontal surface elevation is 1,112 feet above mean sea level.

Conical Surface

The conical surface extends beyond the horizontal surface for 4,000 feet at a slope of 20:1.

8.1.7. Inner Approach Plans Runway 4-22

Inner Approach Plan Runway 4 and *Inner Approach Plan Runway 22* depict close-in obstructions to the existing and proposed 14 CFR 77 Primary, Approach, and Transitional Surfaces, as well as surfaces #7 and #8 defined in the Approach/Departure Standards Table as published in Table 3-2 of FAA Advisory Circular 150/5300-13A (Change 1), *Airport Design*. These sheets both incorporate the existing precision approach procedures for both Runway 4 and 22. As no significant changes are recommended with regards to the approach procedures or to the longitudinal dimensions of the runway, the existing surfaces will be maintained through the planning period. Tables are provided on each sheet that present information regarding the obstructions identified, including the type of obstruction, elevation of the object, elevation of the surface at the object, amount of penetration into the surface, and the proposed mitigation action.

Runway 4-22 was found to have several obstructions to its primary and transitional surfaces. Runway 4 has no identified obstructions to its approach surface or either of its airport design surfaces. Runway 22 was identified to have multiple penetrations to its 50:1 Part 77 approach surface, none of which however penetrate either of the airport design surfaces.

8.1.8. Inner Approach Plans Runway 10-28

Inner Approach Plan Runway 10 and *Inner Approach Plan Runway 28* depict close-in obstructions to the existing and proposed 14 CFR 77 Primary, Approach, and Transitional Surfaces, as well as surface #3 as published in Table 3-2 of FAA Advisory Circular 150/5300-13A (Change 1), *Airport Design*. These sheets both incorporate the existing visual approach procedures for both Runway 10 and 28. As no significant changes are recommended with regards to the approach procedures or to the longitudinal dimensions of the runway, the existing surfaces will be maintained through the planning period. Tables are provided on each sheet that present information regarding the obstructions identified, including the type of obstruction, elevation of the object, elevation of the surface at the object, amount of penetration into the surface, and the proposed mitigation action.

Runway 10-28 was found to have several obstructions to its primary and transitional surfaces. Runway 10 has no identified obstructions to its approach surface or its airport design surface. Runway 28 was identified to have multiple penetrations to its 20:1 Part 77 approach surface and 20:1 airport design surface. Some vegetative obstructions are found on airport property, while both vegetative and terrain obstructions are found off airport property.

8.1.9. Departure Surface Plans

The *Departure Surface Plan Runway 4* and *Departure Surface Plan Runway 22* reveal obstructions to the 40:1 slope departure surface as defined by line #9 of Table 3-2 of FAA Advisory Circular 150/5300-13A (Change 1), *Airport Design*. These plans are required for each runway that is designated for instrument departures. When departure surfaces are clear of obstructions pilots can follow standard departure procedures. Obstacles, however, frequently penetrate the departure surface and may dictate non-standard climb rates, and/or higher departure minimums. Therefore, it is important for airports to identify and remove these obstacles whenever possible. Based on existing mapping the Runway 4 departure surface has several vegetative obstructions originating from two tree groupings in residential communities off airport property. The Runway 22 departure surface is free from obstructions.

8.1.10. Airport Land Use and RPZ Control Plan

The *Airport Land Use and RPZ Control Plan* provides general guidance for future land development on-airport as well as in the vicinity of airport property. Since aircraft noise is a major factor influencing land use compatibility, the FAA's Advanced Environmental Design Tool (AEDT) was used to predict noise levels in the year 2035 based upon aviation activity included within the approved forecasts. These forecasts estimate up to 60,658 total annual aircraft operations by the end of the forecast period, and the INM noise modeling accounts for each of these operations.

The INM estimates aircraft noise levels in decibels (dB) at ground level. Noise levels are quantified according to the A-weighted scale (which approximates the range of human hearing) using the Day-Night Average Level (DNL). A DNL of 65 dB is considered by the FAA to be the threshold of impact for noise sensitive areas. The INM output includes noise contours, which are lines of equal loudness, with the highest levels centered on the runway and the quieter levels expanding outward. As shown on Sheet 13, the future noise contours for Runways 4-22 and 10-28 at 70 and 75 dB DNL levels remain within airport property, while the 65 DNL is shown off airport property in two small areas in the approach zone of Runway 4 and Runway 22.

Additionally, this sheet of the ALP set details all parcels not currently owned by the airport but within the limits of any of the Airport's four runway protection zones (RPZ) and expresses the preferred action for each in the future. In total 52 parcels were reviewed totaling approximately 60.5 acres representing multiple land uses. Of these parcels, 13 are recommended for aviation easement, 22 for acquisition and 17 for first right of refusal agreements. Here the first right of refusal classification indicates the Airport's desire to acquire the property, but only when the current land owner is ready and willing to sell the property.

8.1.11. Airport Property Map

The *Airport Property Map* illustrates the airport's current property boundaries. The property map depicts the existing land area that currently comprises the entire airport. Additionally, all properties and easements surrounding the airport that have been acquired to date are provided in their respective tables and include a numerical identifier, tax parcel number, book and page information, acreage, acquisition date (if available), the AIP number (for land acquired using AIP



funds), as well as the AIP acreage and the date of the AIP grant. The plan also depicts the proposed land to be acquired in fee, as well as the parcels where the acquisition of aviation easements is proposed. The proposed acquisitions are listed in separate tables.

WILKES-BARRE/SCRANTON INTERNATIONAL AIRPORT AIRPORT MASTER PLAN

AVOCA, PENNSYLVANIA

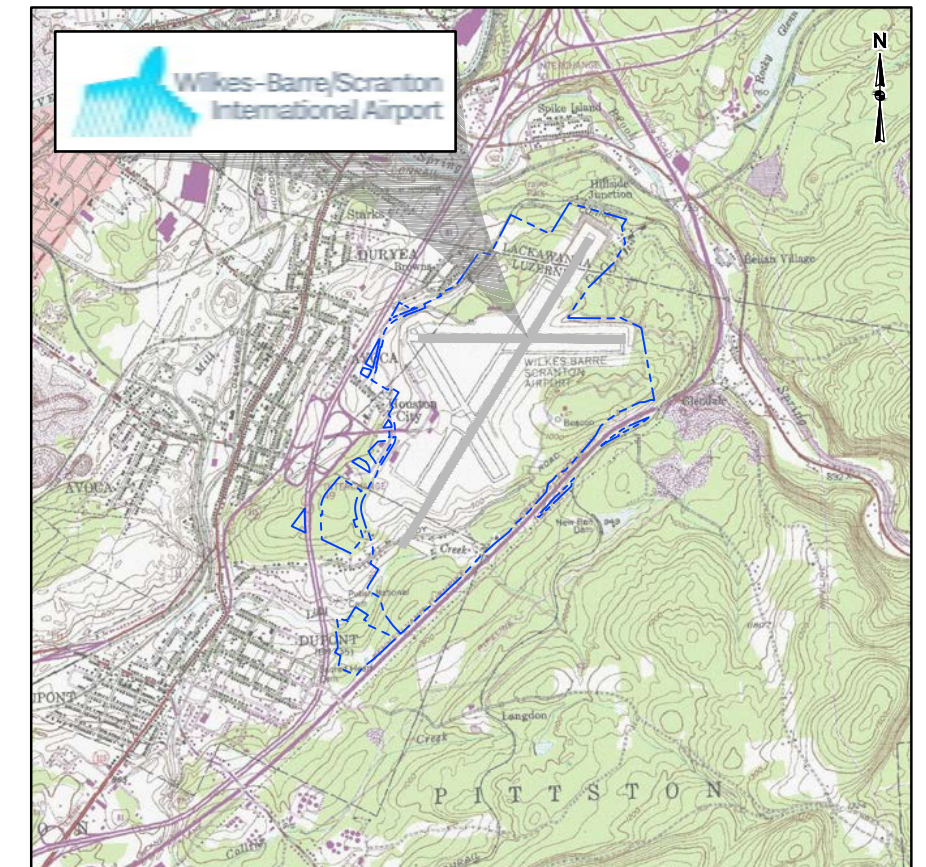
JUNE 2019

DRAWING INDEX

SHEET NO.	TITLE
1	EXISTING AIRPORT LAYOUT
2	AIRPORT LAYOUT PLAN
3	AIRPORT DATA
4	TERMINAL AREA PLAN
5	AIRPORT AIRSPACE PLAN
6	OUTER AIRPORT AIRSPACE PLAN
7	INNER APPROACH PLAN RUNWAY 4
8	INNER APPROACH PLAN RUNWAY 22
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10	INNER APPROACH PLAN RUNWAY 28
11	DEPARTURE SURFACE PLAN RUNWAY 4
12	DEPARTURE SURFACE PLAN RUNWAY 22
13	AIRPORT LAND USE AND RPZ CONTROL PLAN
14	EXHIBIT "A" AIRPORT PROPERTY INVENTORY MAP



Location Map

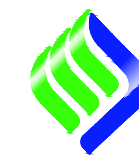


Vicinity Map

Prepared For:

THE COUNTIES OF LUZERNE AND LACKAWANNA

Prepared By:



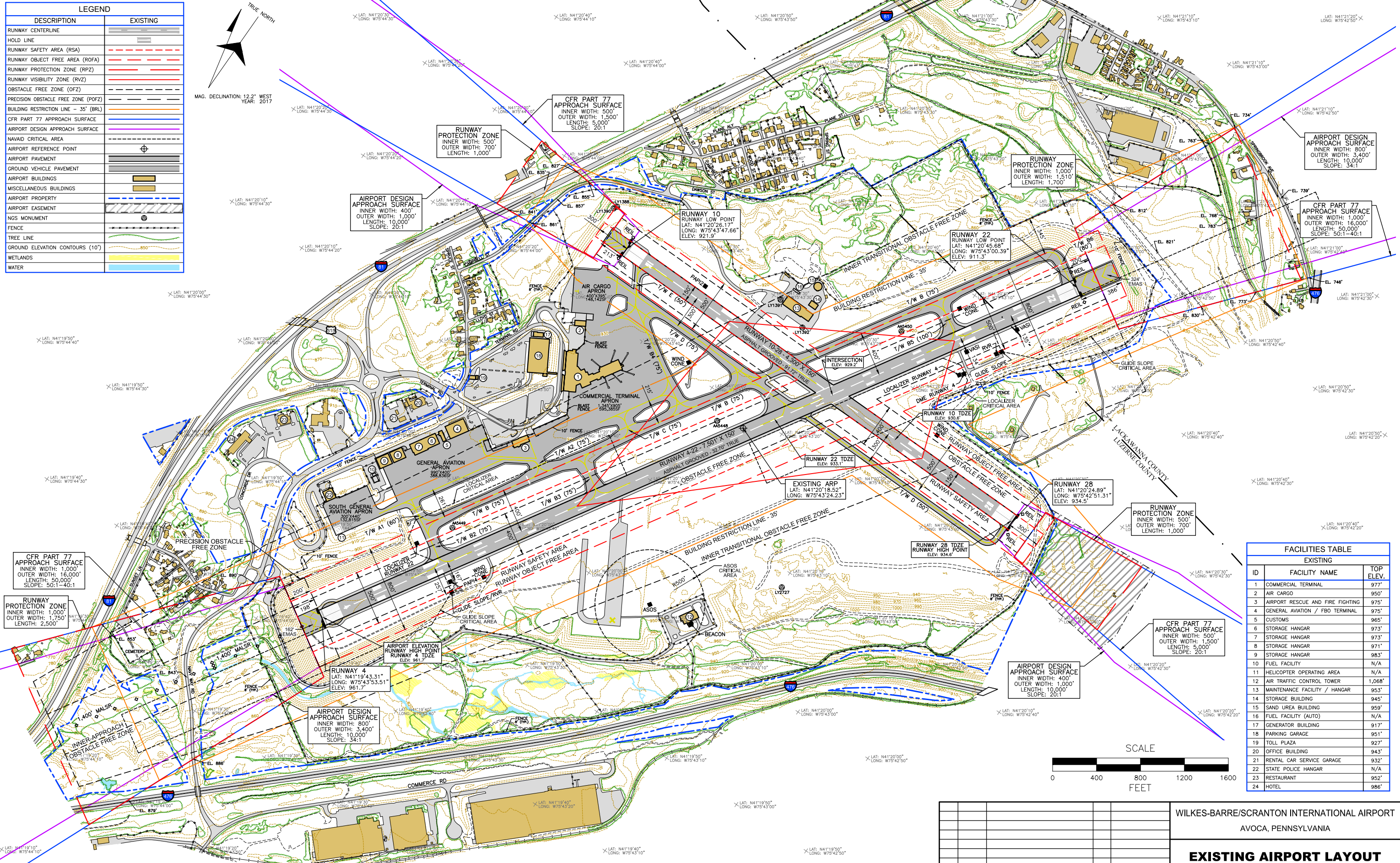
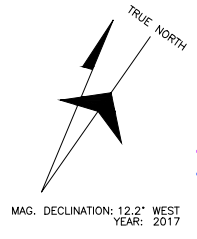
McFarland Johnson

49 COURT STREET, METROCENTER, PO BOX 1980
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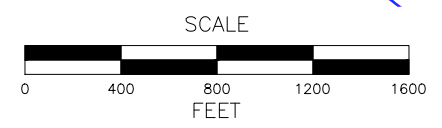
FAA AIP: 61-2015 MP
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LEGEND	
DESCRIPTION	EXISTING
RUNWAY CENTERLINE	
HOLD LINE	
RUNWAY SAFETY AREA (RSA)	
RUNWAY OBJECT FREE AREA (ROFA)	
RUNWAY PROTECTION ZONE (RPZ)	
RUNWAY VISIBILITY ZONE (RVZ)	
OBSTACLE FREE ZONE (OFZ)	
PRECISION OBSTACLE FREE ZONE (POFZ)	
BUILDING RESTRICTION LINE - 35' (BRL)	
CFR PART 77 APPROACH SURFACE	
AIRPORT DESIGN APPROACH SURFACE	
NAVAID CRITICAL AREA	
AIRPORT REFERENCE POINT	
AIRPORT PAVEMENT	
GROUND VEHICLE PAVEMENT	
AIRPORT BUILDINGS	
MISCELLANEOUS BUILDINGS	
AIRPORT PROPERTY	
AIRPORT EASEMENT	
NGS MONUMENT	
FENCE	
TREE LINE	
GROUND ELEVATION CONTOURS (10')	
WETLANDS	
WATER	



FACILITIES TABLE		
EXISTING		
ID	FACILITY NAME	TOP ELEV.
1	COMMERCIAL TERMINAL	977'
2	AIR CARGO	950'
3	AIRPORT RESCUE AND FIRE FIGHTING	975'
4	GENERAL AVIATION / FBO TERMINAL	975'
5	CUSTOMS	965'
6	STORAGE HANGAR	973'
7	STORAGE HANGAR	973'
8	STORAGE HANGAR	971'
9	STORAGE HANGAR	983'
10	FUEL FACILITY	N/A
11	HELICOPTER OPERATING AREA	N/A
12	AIR TRAFFIC CONTROL TOWER	1,068'
13	MAINTENANCE FACILITY / HANGAR	953'
14	STORAGE BUILDING	945'
15	SAND UREA BUILDING	959'
16	FUEL FACILITY (AUTO)	N/A
17	GENERATOR BUILDING	917'
18	PARKING GARAGE	951'
19	TOLL PLAZA	927'
20	OFFICE BUILDING	943'
21	RENTAL CAR SERVICE GARAGE	932'
22	STATE POLICE HANGAR	N/A
23	RESTAURANT	952'
24	HOTEL	986'



NOTES:
 • ALL POSITIONAL DATA REFERENCES NORTH AMERICAN DATUM OF 1983 (NAD83) AND NORTH AMERICAN VERTICAL DATUM 1988 (NGVD88).
 • AERIAL MAPPING BY WOOLPERT, 2016.
 • ROAD ELEVATIONS AS INDICATED INCLUDE CONSIDERATION OF VEHICLES PER CFR PART 77.
 (15' FOR ROAD, 17' FOR INTERSTATE, 23' FOR RAILROAD)

				WILKES-BARRE/SCRANTON INTERNATIONAL AIRPORT AVOCA, PENNSYLVANIA	
				EXISTING AIRPORT LAYOUT	
REV	DATE	DESCRIPTION	BY	SPONSOR	SCALE: 1" = 400'
					DESIGN: ZEN
					PROJECT: 18085.00
					DATE: JUNE 2019
					SHEET: 1

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