Section 11 – DBO+20 Airport Concept

This section describes the major airfield and landside elements envisioned for the intermediate phase of SSA, from DBO+6 through DBO+20. These facilities are representative in nature and may change during the course of the airport development process to meet the operational needs of future tenants.

11.1 DBO+20 Airfield Layout

The high long-range projections anticipate that by DBO+20 a second runway would be needed to accommodate the projected air traffic demand.[1,2] The facility requirements section recommends that any future air carrier runways should be parallel to the primary inaugural runway and spaced at least 4,300 feet apart from the inaugural runway, to achieve simultaneous independent arrivals.

The DBO+20 airfield plan recommends that the second runway should be located 7,400 feet north of the inaugural runway in an east-west orientation, consistent with the preferred ultimate airfield concept (see **Exhibit 5-1**). The north runway would be 10,800 feet long and 200 feet wide to accommodate the projected aircraft fleet mix, which would include ADG V aircraft such as B-767-300ER and MD-11.[3] Although the largest aircraft forecasted to operate at SSA in DBO+20 are in ADG V category, runway/taxiway separation standards corresponding to ADG VI are suggested in planning the north runway. A full-length parallel taxiway 100 feet wide with 40-foot wide taxiway shoulders is also recommended for the north runway. Connecting taxiways 100 feet wide in a north-south orientation would link the second runway to the inaugural primary runway 09-27.

Exhibit 11-1 depicts the preferred runway alternative for the intermediate phase of development. To correspond with the preferred ultimate concept, the second runway should be constructed to the north of runway 09-27, north of the passenger terminal facility. This location would allow the continued use of crosswind runway 05-23 during this phase of development.

11.2 DBO+20 Airport Landside Access

The I-57 interchange and the airport entrance road constructed during the IAP will be planned to freeway standards to accommodate the DBO+20 projected vehicular traffic. The airport access road will be planned to provide a Level of Service (LOS) C and provide access to all public areas, including parking and rental car facilities. However, if airport activity increases and the terminal is expanded, a two-level terminal curb front would be expected to replace the inaugural one-level curb front road at DBO+20. The high long-range projections estimate that at DBO+20 approximately 1,450 feet of terminal curb front road would be required to handle the vehicular demand.[4]

[1] Draft *Projections of Aeronautical Activity for the Inaugural Airport Program, South Suburban Airport,* prepared for the Illinois Department of Transportation, May 2004.
[2] Draft *Demand/Capacity Analysis & Facility Requirements for the Inaugural Airport Program, South Suburban Airport,* prepared for the Illinois Department of Transportation, March 21, 2005.
[3] Ibid.
[4] Draft *Demand/Capacity Analysis & Facility Requirements for the Inaugural Airport Program, South Suburban Airport,* prepared for the Illinois Department of Transportation, March 21, 2005.

Beyond DBO+20, the LOS of the I-57 interchange with the west airport access road is expected to decline. Planning for an east airport access road should be considered, consistent with the preferred ultimate landside access shown in **Exhibit 5-1**. The east airport access road system would consist of a dedicated roadway from Illinois Route 1 west into the passenger terminal area with additional roads accessing the cargo terminal and other support facilities. Depending on traffic levels, either an at-grade intersection with Illinois Route 1 or a full interchange could be developed. Graphic depictions of this roadway system are included in the terminal facility alternative concepts discussed in the next section.

11.3 DBO+20 Terminal Facility Alternative Concepts

The DBO+20 passenger terminal facility concepts are based on a straightforward, modular expansion of the linear passenger terminal concept proposed for the Inaugural Airport passenger terminal facility (see Section 8). The terminal facility is based on the DBO+20 demand forecast[5] and facility requirements[6]. The DBO+20 passenger terminal facility concept provides potential for a range of possible concepts that may be developed from the Inaugural Airport passenger terminal facility without restricting or limiting the possible development of the passenger terminal facility beyond DBO+20.

In DBO+20, annual passenger enplanements are estimated to range from 2,226,000 in the low long-range projections to 6,679,000 annual enplaned passengers in the high long-range projections. For the planning day peak hour activity, passenger enplanements are expected to range from 1,190 in the low long-range projections to 3,150 in the high long-range projections.

In DBO+20 under the low long-range projections, the passenger terminal facility is assumed to require 3-4 regional aircraft gates and 9-11 narrow body aircraft gates for a total of 12-15 aircraft gates. In the high long-range projections, the passenger terminal facility is planned for 8-10 regional jet aircraft and 22-27 narrow body jet aircraft for a total 30-37 aircraft gates.

In accordance with the Draft *Demand/Capacity Analysis & Facility Requirements* report, the DBO+20 passenger terminal facility concept alternatives have been planned to provide a 256,300 square foot terminal facility in the Low Case and a 636,210 square foot terminal facility in the High Case.

The DBO+20 passenger terminal facility concept includes a two-level facility with a linear terminal approximately 600 feet in length, with an attached linear 2,500-foot long concourse. The 2,500-foot linear concourse has been planned to accommodate the required 30-37 aircraft gates for the high long-range projections.

[5] Draft *Projections of Aeronautical Activity for the Inaugural Airport Program, South Suburban Airport,* prepared for the Illinois Department of Transportation, May 2004.
[6] Draft *Demand/Capacity Analysis & Facility Requirements for the Inaugural Airport Program, South Suburban Airport,* prepared for the Illinois Department of Transportation, March 21, 2005.

11.4 DBO+20 Support and Ancillary Facilities

It is anticipated that the Inaugural Airport support facilities would expand incrementally to accommodate DBO+20 operational needs.

11.4.1 Air Cargo Facility

It is anticipated that the inaugural air cargo facilities will expand to accommodate the DBO+20 cargo activity projections. The facility requirements section[7] identified that an area between 27-74 acres (corresponding to low and high long-range projections[8]) would be required for cargo development at DBO+20. This area could logically expand from the inaugural facilities on the west side of the airport.

11.4.2 General Aviation Facility

The high long-range projections estimated an operational growth in GA activity to approximately 62,700 annual operations in DBO+20, with a total of 136-based aircraft.[9] This level of activity would require substantial expansion of the inaugural GA facility. The facility requirements planning analysis estimated that an area of approximately 245,000 square feet would be needed to accommodate the projected activity growth. It is anticipated that the GA facilities (apron, hangars, terminal/administrative office and public parking areas) could be developed incrementally from the inaugural facilities on the east side of the airport. However, they may change according to operational needs of any FBO present at the airport.

11.4.3 Parking, Rental Car Facility and Commercial Vehicle Staging Area

The demand for public parking is projected to increase to approximately 7,400 spaces in DBO+20 under the high long-range projections.[10] It is anticipated that a multi-level garage structure (approximately 700 feet by 900 feet) located in the vicinity of the terminal would provide for short-term parking. Long-term and economy public parking lots, as well as employee parking, would be located remotely in the southwest area of the airport.

The Draft *Demand/Capacity Analysis & Facility Requirements* report identified that an area of approximately 14-26 acres would be required for rental car facilities in DBO+20, under the high long-range projections.[11] These lots would be located remotely next to the long-term public parking lots in the southwest area of the airport. A commercial vehicle staging area would most likely be relocated from its inaugural location to an area adjacent to the employee parking lots.

11.4.4 Aircraft Rescue and Fire Fighting Facility (ARFF)

It is anticipated that in DBO+20, the inaugural ARFF facility will still meet the response time criteria for the second runway. However, the ARFF facility may need to expand to make room for additional equipment or to replace vehicles that met the Inaugural Airport ARFF requirements with new ones that would correspond to the future ARFF index requirements.

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[7] Draft *Demand/Capacity Analysis & Facility Requirements for the Inaugural Airport Program, South Suburban Airport,* prepared for the Illinois Department of Transportation, March 21, 2005.
[8] Draft *Projections of Aeronautical Activity for the Inaugural Airport Program, South Suburban Airport,* prepared for the Illinois Department of Transportation, May 2004.
[9] Ibid.
[10] Draft *Demand/Capacity Analysis & Facility Requirements for the Inaugural Airport Program, South Suburban Airport,* prepared for the Illinois Department of Transportation, March 21, 2005.
[11] Ibid.

11.4.5 Snow Removal Equipment Building

It is anticipated that the inaugural Snow Removal Equipment Building would be expanded in place, close to the central core of the airport. The Snow Removal Equipment building is projected to be between 51,750 and 75,600 square feet by DBO+20.[12]

11.4.6 Fuel Farm

It is expected that the inaugural fuel farm would be expanded to meet the capacity requirements for accommodating the DBO+20 demand for fuel, estimated to be between 948,000 and 2,350,000 gallons (7-day demand)[13].

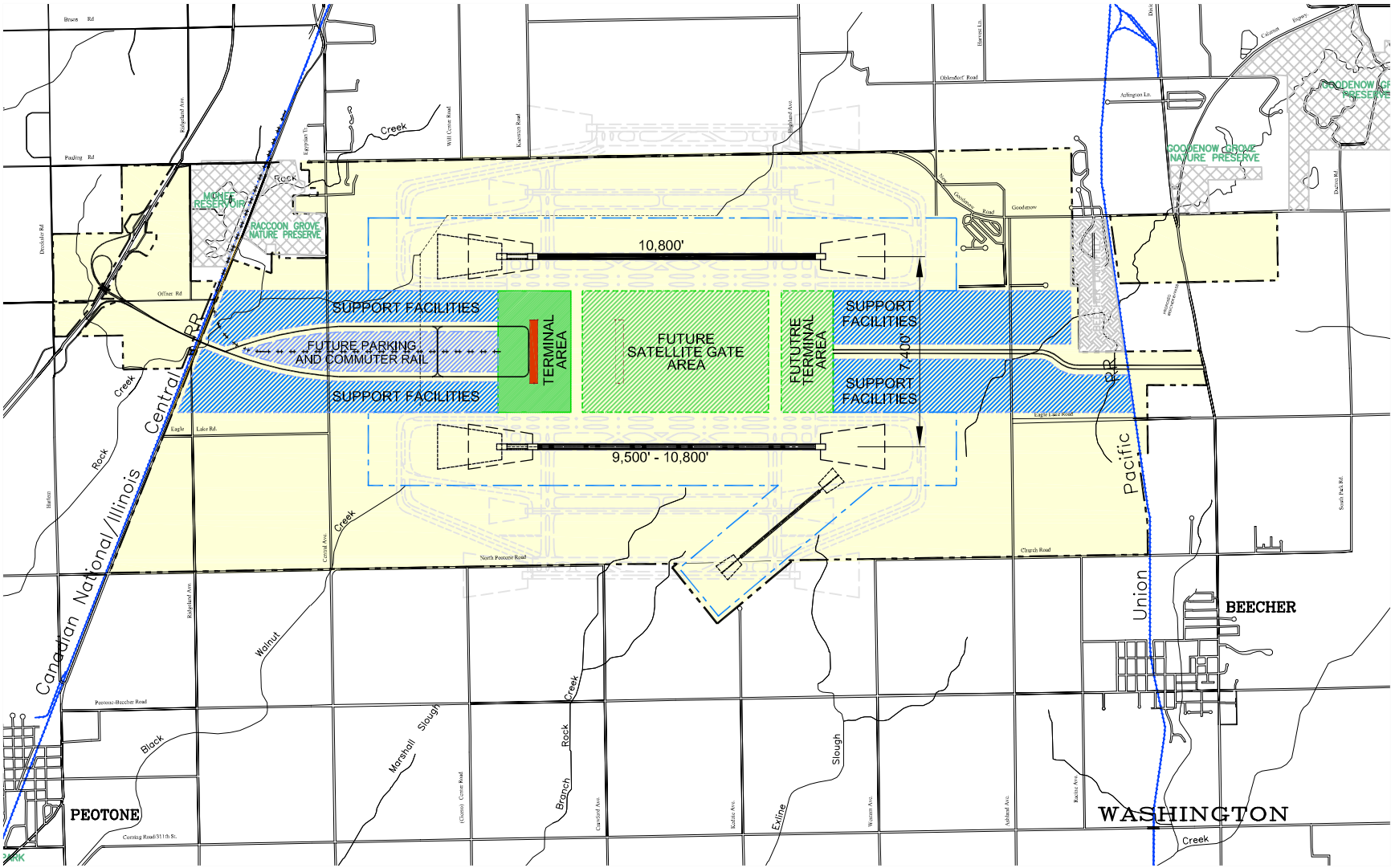
11.4.7 Other Facilities

The other support facilities for the DBO+20 airport are expected to utilize facilities constructed for the Inaugural Airport, with expansion as demand dictates. In general, they are expected to be located in the same place as constructed for the Inaugural Airport, although the potential exists that some may need to be relocated depending on the DBO+20 passenger terminal and access road system.

11.5 Preferred DBO+20 Airport Concept

The preferred DBO+20 airport concept (shown in **Exhibit 11-1**) was generated by combining the preferred concept alternatives for airfield, landside access, passenger terminal and support/ancillary facilities which evolved through logical expansion of the Inaugural Airport facilities while still maintaining compatibility with the preferred ultimate airport concept.

[12] Draft *Demand/Capacity Analysis & Facility Requirements for the Inaugural Airport Program, South Suburban Airport,* prepared for the Illinois Department of Transportation, November 2004.
[13] Ibid.



TAMS an Earth Tech Company

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Legend

- AIRPORT FOOTPRINT
- PROPOSED AIRPORT RUNWAY
- AIR OPERATION AREA (AOA)
- SUPPORT FACILITIES
- TERMINAL AREA
- FUTURE TERMINAL AREA
- PARK LAND
- LANDFILL (CLOSED)
- COMMUTER RAIL

Inaugural Airport Program
Preferred DBO+20 Airport Concept

Exhibit: 11-1