
Executive Summary

WILL ROGERS WORLD AIRPORT MASTER PLAN UPDATE

Will Rogers World Airport, located in Oklahoma City, Oklahoma is one of the busiest small-hub commercial service airports in the national airspace system and is the busiest commercial service airport in the State of Oklahoma. The Airport accommodates all aviation types, from large commercial service, air cargo, and military aircraft, to the smallest single engine general aviation aircraft. It is recognized as a critical component of the regional and national transportation system, as well as an important element in the transportation infrastructure of the Oklahoma City metropolitan area.

Oklahoma City is the state capital and is the thriving hub of central Oklahoma – an economic region alive with progress and vitality. The metropolitan area encompasses an economy made up of over one million people.

The previous master planning effort for Will Rogers World Airport was completed in 1992. Since 1992, many changes have transpired on a local, regional, and national level that have influenced and will continue to influence the aviation facilities and services provided at the Airport. Due to the continued population growth and economic expansion occurring within the region, it is necessary to reevaluate the Airport’s current and forecast operational characteristics and facilities, as well as updating the goals, objectives, and assumptions that will guide future airport development.

The purpose of this Master Plan Update is to determine the long-range airport development needs, examine viable and reasonable alternatives, recommend a realistic plan, and identify potential environmental considerations.

The preparation of the Master Plan Update has been conducted under the direction of the Oklahoma City Department of Airports staff, with financial assistance from the Federal Aviation Administration (FAA). Like any long-term development plan, the Airport’s master plan should reserve room for potential facilities (including associated and compatible commercial and industrial activities). However, those potential future facilities for which a site has been reserved are only constructed when actual demand occurs. Thus, the Airport Master Plan Update is not a decision document on whether or not an improvement will be



built; it is a planning tool that indicates how the land at the Airport might best be used in consideration of anticipated future demand.

The proposed long-term development plan for the Airport is described in the following paragraphs and is graphically depicted in the figure, entitled *CONCEPTUAL AIRPORT DEVELOPMENT PLAN*, at the end of this document.

Development Considerations and Assumptions

The aircraft types projected to be used at Will Rogers World Airport during the next 20 years are the same types that presently use the Airport. The wide variety of aircraft types include narrow-body commercial service aircraft (e.g., the MD-80, the Boeing 737, the Boeing 757, and Airbus A318/319/320/321), all sizes of business-use aircraft (even the very large business jets such as the Gulfstream V), military training aircraft (C-130, T-1, T-6, T-37, T-38, and C-21), and small single engine prop-aircraft used for flight training purposes. In addition, the airport is utilized by wide-body aircraft (e.g., the Boeing 747, the MD-11, the Boeing 767, and the Airbus A310) for non-scheduled charter activity. The number of annual aircraft operations (landings and takeoffs) at the Airport is forecasted to increase from approximately 108,300 in 2006 to just over 132,600 by the end of the 20-year planning period encompassed in the Master Plan Update. Also of significance is the fact that commercial passenger activity at the Airport is forecasted to increase by over 32% over the next two decades (an average 2% annual increase), from approximately 1.8 million enplaned passengers in calendar year 2006 to almost 2.6 million in 2023.

Several basic assumptions have been established that are intended to direct the development of the Airport in the future. These assumptions include:

Assumption One. The Airport will be developed and operated in a manner that is consistent with local ordinances and codes, federal and state statutes, and federal grant assurances, as well as Federal Aviation Administration (FAA) and Transportation Security Administration (TSA) rules and regulations.

Assumption Two. The Airport's primary role will remain as a commercial passenger service facility, with secondary roles of accommodating general aviation activity, cargo activity, and military activity.



Assumption Three. The Airport will be designed to the appropriate dimensional standards. Airport Reference Code (ARC) D-V will continue to be used as the basis for the layout of airport facilities and for determining setback and safety criteria. ARC D-V airports are designed to regularly accommodate aircraft as large as the Boeing 747.

Assumption Four. In order to accommodate aircraft operations with the greatest possible reliability, the Airport’s runway system should be developed with instrument approach guidance capabilities and the maximum runway length necessary to accommodate the forecast operations as efficiently as possible under all weather conditions.

Assumption Five. Future airport development should strive to make the most efficient use of the available area for aviation-related activities, including general aviation facilities, passenger terminal facilities, air cargo activity, industrial aviation, and other airport-support uses, while ensuring compatibility with surrounding land uses.

Assumption Six. The priority to focus on the relationship of airport facilities to off-airport land uses will continue, which will help to ensure compatible development in the vicinity of the Airport. To the maximum extent possible, future facilities will be designed to enhance the compatibility of the operation of the Airport with the surrounding environs, as well as strive to promote the continued compatible development of off-airport land uses.

Assumption Seven. Previous planning documents have established several long-term airside development recommendations, which will likely not be needed during the 20-year planning horizon of this Master Plan Update. These features are critical to maintain as part of the overall development plan for the Airport so that appropriate areas can be reserved to accommodate long-term demands, even if activity levels that would justify construction are not expected to be reached during the planning period covered by this Master Plan Update. The following section, entitled *Summary of Established Airside Development Recommendations*, provides a written description of these features.

Assumption Eight. Will Rogers World Airport plays a significant role in the economic vitality of the Oklahoma City area, Central Oklahoma, and the State at-large. Future airport development will focus on superior airport facilities, air service, industrial and institutional aviation uses while preserving economic prosperity for the region.

Assumption Nine. General Aviation (GA) development at Will Rogers World Airport should focus on accommodating the largest GA aircraft – aircraft that might not be suitable for Wiley



Post Airport. Wiley Post Airport is the primary GA “Reliever” airport for Will Rogers World Airport and does an excellent job taking care of the aviation needs of the majority of private, business and corporate aircraft operators, while Will Rogers World Airport is better suited for operators of larger corporate aircraft.

Development Recommendations

Following an examination of several alternatives, a recommended development plan was determined. The recommended plan is illustrated graphically in the following illustration entitled CONCEPTUAL DEVELOPMENT PLAN, and has the following major features:

Airside Facilities

The following long-term airside development recommendations have been established in previous planning studies for Will Rogers World Airport, and, although demand may not justify construction during the 20-year planning horizon of this Master Plan Update, maintaining them as future recommendations is critical to reserve adequate space for implementation when required.

- **Extension of the existing parallel runways from their existing lengths of 9,800 feet to future lengths of 12,000 feet. The extensions are programmed to be placed on the south ends of the existing runways.**
- **The construction of a third parallel runway is programmed. The new runway would be placed west and south of the existing west parallel runway (Runway 17R/35L). It is programmed to be 9,500 feet in length, ultimately, but would initially be developed to accommodate the business jet fleet, along with regional jet commercial service aircraft, which would require a length of approximately 7,500 feet.**
- **Extension of the crosswind runway (Runway 13/31) from its existing length of 7,800 feet to an ultimate length of 10,000 feet. The extension would be placed on the northwest end of the runway.**

Other Airside Recommendations

- **Runway 18/36 (a section of Taxiway B) has historically been used for operational training by C-130 crews. Since the Air National Guard (ANG) mission re-alignment, C-130s are no longer based at the ANG facility and Runway 18/36 is less utilized, however the runway will remain operational in the short-term planning period. In the long-term, the taxiway system on the west side the airport is programmed to be reconfigured, including the relocation of Taxiway B. When Taxiway B is relocated, Runway 18/36 will be decommissioned and closed.**



- Taxiway H is located on the east side of Runway 17L/35R (the east side parallel runway). The separation distance of Taxiway H from Runway 17L/35R (centerline to centerline) currently does not meet the standard for taxiways serving Airplane Design Group V runways with an instrument approach having visibility minimums less than ½-mile. The dimensional standard is 500 feet, with the existing distance of Taxiway H being 450 feet between Taxiways H-1 and H-2 (the center portion of the taxiway). In the long-term, the relocation of the taxiway 50 feet to the east will be identified on the Airport Layout Plan.
- The Runway Object Free Area (ROFA) length beyond the Runway 35L threshold is penetrated by the existing airport perimeter road (the private-use on-airport service road used by airport maintenance personnel). In the long-term, the road's relocation will be programmed as a capital improvement project.
- The line-of-sight along Runway 17L/35R line does not meet current FAA standards. The line-of-sight standard is set by the requirement that two points located five feet above the runway centerline are mutually visible for a distance of one-half the runway length. This deficiency will be noted on the Airport Layout Plan as a non-standard condition. In the long-term, it will be resolved with the next runway reconstruction/reconfiguration project.
- Currently, Will Rogers World Airport is supplied with an excellent array of instrument approaches. Runway 35R is equipped with a Category II precision instrument approach and Runways 17L, 17R, and 35L are equipped with Category I approaches. These approach minimums should be maintained in the future, with a Category II approach being programmed for Runway 17L. Runways 13 and 31 are equipped with instrument approaches providing visibility minimums of 1½ miles and one mile, respectively. It is recommended that the Airport continue to protect for the ability to implement a precision instrument approach providing Category I minimums. Continued protection for the ability to implement a non-precision instrument approach providing visibility minimums less than one mile should remain in place for Runway 31.



Landside Development Concepts

INTRODUCTION. The overall objective of landside development planning at the Airport is the provision of facilities, conveniently located and accessible to the community, which accommodate the specific requirements of airport users.

Summary of Landside Facility Development Needs and Influences

Terminal and Support Services. Centered on the terminal building, this category of land use describes those functions dependent on the flow of passengers through the Airport. The terminal building, parking facilities, rental car facilities, roadway network, curbside drop-off and pick-up lanes, hotels, and air cargo facilities are all vital components of this land use category. A more detailed examination of the potential development of this area is presented in the *Passenger Terminal Development Area* section of this Executive Summary.

Summary of Development Needs and Influences:

The existing development area for passenger terminal facilities is relatively compact and future terminal area support facilities are expected to consume existing undeveloped areas over the 20-year planning period covered by this Master Plan Update. The relatively narrow development footprint of the terminal loop road limits the width of development within the terminal area, as well as restricts the landside elevations and view plane of the terminal building improvements.

- **Planning for the next phase (Phase III) of terminal building expansion is in progress. A new nine-gate concourse is programmed for the east end of the existing terminal building.**
- **Important comments received during the process to develop the Phase III recommendations have been considered in the development of the Airport Master Plan's terminal area recommendations include:**
 - ✓ Consider the customers' needs first.
 - ✓ Maintain a plan for future expansion so that we are always ready to meet demand (easy expansion).
 - ✓ There should be a special emphasis on the provision of customer service amenities.
 - ✓ The terminal experience at Will Rogers World Airport should set the community apart from others.
 - ✓ Curbside signage and process needs improvement.
 - ✓ The Ground Transportation Plaza may need expansion.



- **The forecast number of passenger enplanements at the end of the 20-year planning period (2026) is approximately 2.6 million. At full build-out, rule-of-thumb estimates indicate that with the Phase III expanded terminal building could accommodate approximately 3.4 million annual enplanements. Post-planning period estimates indicate the Airport could have as many as 4.0 million enplanements by the year 2046. This indicates that some thought should be given to where additional boarding gates might be accommodated in the very long-term.**
- **The Phase III expansion of the passenger terminal building will require the relocation of some air cargo facilities, including the existing air cargo building. Consideration should be given to new/expanded cargo facilities in the existing location and to other locations outside of the terminal area.**
- **General aviation development area within the terminal area is close to being fully occupied. Consideration should be given to general aviation development potentials that exist outside of the terminal area. In addition, in the very long-term, consideration should be given to the relocation of the general aviation facilities on the west side of the terminal area, to make room for passenger terminal support facilities.**
- **Conceptual programming for a Consolidated Rental Car Facility is underway. If this facility is constructed, the existing rental car area on the west side of the entry roadway will be available for passenger terminal support facilities.**
- **Passenger, rental car, and employee parking demands are expected to continue to increase throughout the 20-year planning period. The recommendations of a parking study that is currently being prepared will continue to be incorporated into the Airport’s planning documents as they become available.**

General Aviation Development Influences:

- **The Oklahoma City Department of Airports operates a three facility system of airports. The airports in the system are Will Rogers World Airport, Wiley Post Airport, and Clarence E. Page Airport. Understanding the general aviation role of the airports within the system is an important aspect of the programming for appropriate types of future facilities.**

With its four runways (two of which are approximately 9,800 feet in length) Will Rogers World Airport will remain the only commercial service airport in the system, and is designed to accommodate aircraft with wingspans up to 214 feet (Airplane Design Group V). The general aviation users at Will Rogers World Airport will primarily be larger general aviation aircraft operating Airport Design Group II and III aircraft (wingspans of between 49 feet and 118 feet). Although there will be no restrictions related to how large



an aircraft must be to operate at Will Rogers World Airport, the general aviation facilities development focus will continue to be on larger corporate and institutional operators.

Wiley Post Airport will continue to accommodate a wide range of general aviation users; however, it receives a significant and frequent amount of activity from large corporate users, operating aircraft with wingspans up to 79 feet (Airplane Design Group II) and less frequent use by aircraft with wingspans up to 118 feet (Airplane Design Group III).

Clarence E. Page airport will continue to service smaller general aviation users, with facilities that cater to flight training, pleasure flying, and business operators using aircraft primarily propeller-driven aircraft, but up to, and including, the smaller business jets.

Overall Airport Development Concept. With an understanding of the ultimate airfield configuration, as well as the anticipated needs and influences associated with the major airport user categories, a development concept can be established for the Airport. As noted in Figure 1 at the end of this Executive Summary entitled *CONCEPTUAL DEVELOPMENT PLAN*, the program provides for the following:

- **The ultimate layout of airside facilities (i.e., runways, taxiways, and associated safety/object clearing setback requirements are identified as airside reserve);**
- **The layout of existing on-airport landside facilities;**
- **An inventory of on-airport developable property (i.e., all airport land that is outside of the “Airside Reserve”);**
- **A designation of land that should be reserved for aviation use in consideration of the development needs and influences provided above; and,**
- **A designation of land that should be utilized for indirect aviation or non-aeronautical facilities (facilities that do not require taxiway access).**

The overall theme for the formulation of the Conceptual Development Plan is to ensure that enough land is reserved for airside and landside aviation-use facilities to accommodate potential activity even beyond the demands predicted in the 20-year forecast.



Passenger Terminal Development Area

The terminal area of an airport is the front door to the community. No other place on the airport will be more closely identified with the community it serves. Well-integrated airport passenger terminal areas reflect the character and spirit of their cities and towns in both form and function. As such, great care should be given to the development of this area. At present, three important studies are taking place to deal with development considerations within the existing terminal area: this Airport Master Plan Update, a study of parking and rental car needs, and a terminal building study focusing on demand for Phase III terminal building development.

In its current configuration, the existing terminal area represents a significant investment in facilities. Commercial passenger service facilities, corporate, institutional, and industrial aviation uses reside within this development area and are primarily accessed from Meridian Road. Varied land uses are competing for space within the terminal development area.

Following review of the terminal area alternatives, the best program for the continued development of the terminal area was to maintain the basic framework provided by the terminal building, the existing roadway system, and the existing passenger parking facilities.

Terminal Area Development Concept

Overall Configuration. The recommended development concept for the terminal area represents a traditional development approach and is an extension of the existing development theme. This concept maximizes the existing infrastructure and leaves the terminal loop road in its present condition.

As presented in the Figure 2, entitled *RECOMMENDED TERMINAL AREA DEVELOPMENT CONCEPT*, the elements of this planning concept are graphically illustrated. Major points of recommended development include:

- **Plan for the expansion of the terminal building, per the recommendations of the Phase III Terminal Expansion Plan Update (i.e., 9-gate concourse expansion on the east side of the terminal building).**
- **Beyond the 20-year planning period considered in the Master Plan Update, it is recognized that additional gates and a third concourse south of the existing Terminal may be required. If a third concourse were to be constructed, the size of the terminal's core building area, which contains the ticketing, bag claim, security, and a variety of other functions, will also likely need to be larger.**



- **Continue the use of and expansion of the existing air cargo buildings and aprons on the east side of the terminal development area. The existing cargo facilities should be expanded/ revised to accommodate demand generated by the demolition of the air cargo building and cargo annex buildings, which will be required as a product of the Phase III Terminal Expansion. A better location for the long-term, ultimate development of air cargo facilities at Will Rogers World Airport may be east of Runway 17L/35R, east of Taxiway H.**
- **The existing parking structures will remain in place.**
- **Provides for consideration of the placement of architecturally significant structures on the north side of the terminal building to provide an “airport arrival/OKC image” statement.**
- **Recommends that the aesthetic (landscaping) and wayfinding (signage) improvement program for the terminal access roadway system be continued.**
- **Recommends that a landscape screen be provided between the terminal loop road and industrial aviation facilities on the west side of the terminal area.**
- **Recommends that future general aviation facilities located in the terminal area should be focused on high-end transient aircraft operations, large corporate based aircraft, and institutional users. Heavy aircraft maintenance operations should transition to the east side of the Airport. It is also recognized that general aviation space within the terminal area is almost entirely developed. Future general aviation facility development area is programmed for both the east and west sides of the Airport.**
- **The potential to place a consolidated rental car facility is on the west side of Meridian Avenue, north of S.W. 54th Street. This will not only free up room in the existing passenger parking garage, which is currently being utilized as a ready/return area for rental cars; it will also allow for the removal of old rental car service facilities on the west side of the terminal entry road. This would free up room to accommodate other terminal support functions.**
- **Future terminal area development planning should consider continued aesthetic enhancements of Meridian Road as the primary access to the terminal development area. Consideration should be given to provide the opportunity to create architecturally significant structures, or image statements, to reflect the character of Oklahoma City.**

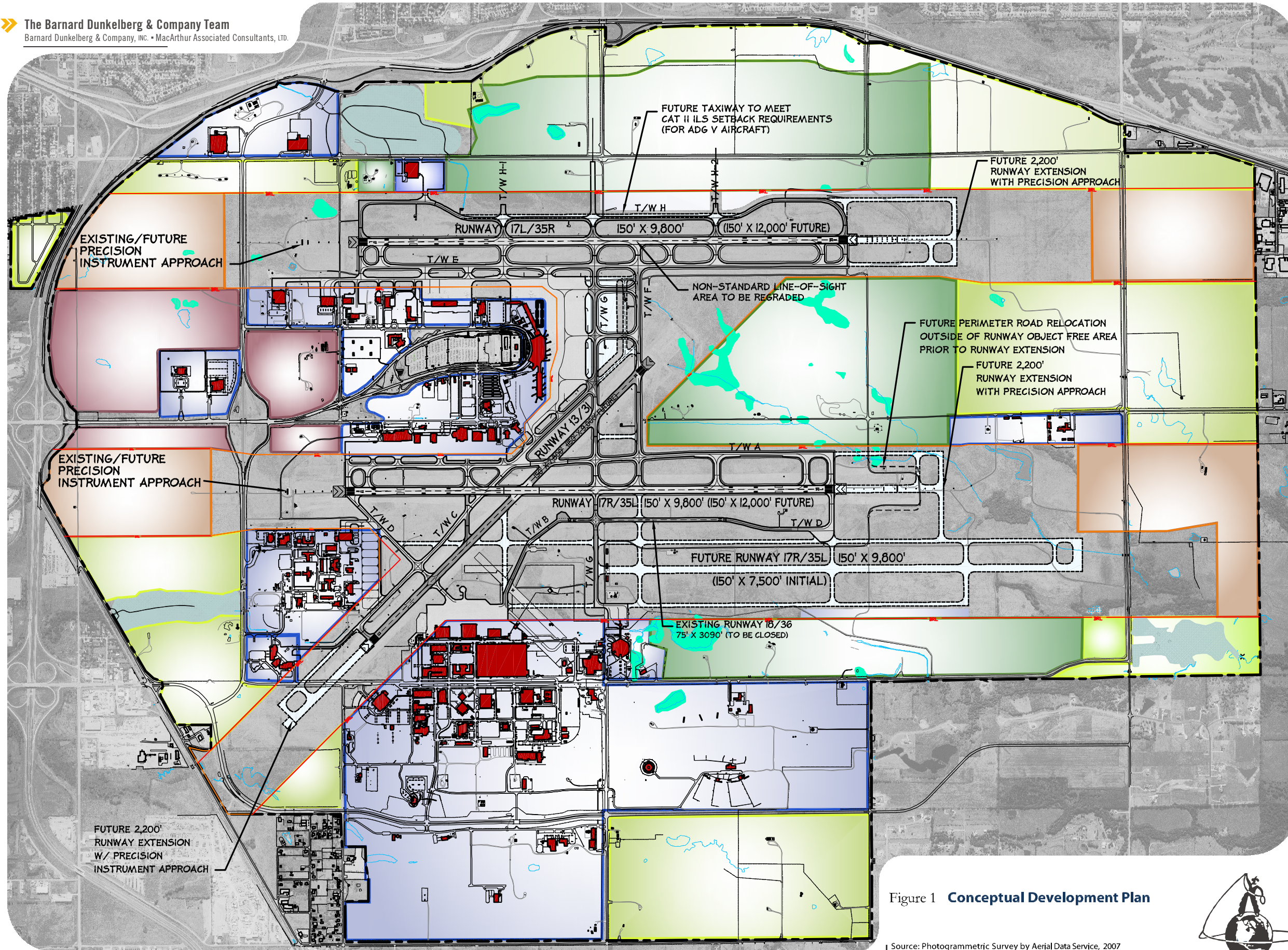
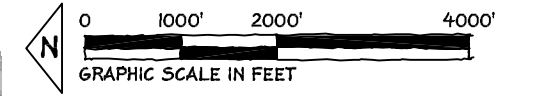


Summary

The long-term development program for Will Rogers World Airport is a comprehensive proposal that calls for the retention of the basic layout of facilities as they presently exist, with programmed improvements to maximize efficient and safe aircraft operational activity, along with providing adequate area for future landside facilities. It is intended to establish a strategy for funding airport improvements and maximizing the potential for receiving federal matching funds, while also establishing a financially prudent plan for funding at the local level. This capital improvement programming effort is a critical component of the Master Plan Update for the FAA and the Sponsor (the Oklahoma City Airport Trust).

If aviation demands continue to indicate that improvements are needed, and if the proposed improvements prove to be environmentally acceptable, the capital improvement financial implications discussed in the Master Plan Update are likely to be acceptable to the FAA and the Trust. However, it must be recognized that this is only a programming analysis and not a commitment on the part of the Sponsor or the FAA.





- BRL- BUILDING RESTRICTION LINE (35' STRUCTURE HEIGHT/TAXIWAY OFA, EXTENDED APPROACH INCLUDING FUTURE RUNWAY FACILITIES)
- AIRPORT PROPERTY LINE
- EXISTING ON-AIRPORT DEVELOPMENT AREAS
- DIRECT AVIATION-AERONAUTICAL
- INDIRECT AVIATION & NON-AERONAUTICAL
- INDIRECT AVIATION & NON-AERONAUTICAL/ TERMINAL SUPPORT FACILITIES
- APPROACH PROTECTION - DEVELOPMENT RESTRICTED (SOME TYPES OF DEVELOPMENT ACCEPTABLE; E.G., AUTO PARKING)
- AIRSIDE RESERVE (RUNWAYS, TAXIWAYS, RUNWAY PROTECTION ZONES)
- STORMWATER DETENTION AREA
- POTENTIAL WETLANDS

Figure 1 **Conceptual Development Plan**

Source: Photogrammetric Survey by Aerial Data Service, 2007
 US Fish & Wildlife Service National Wetlands Inventory



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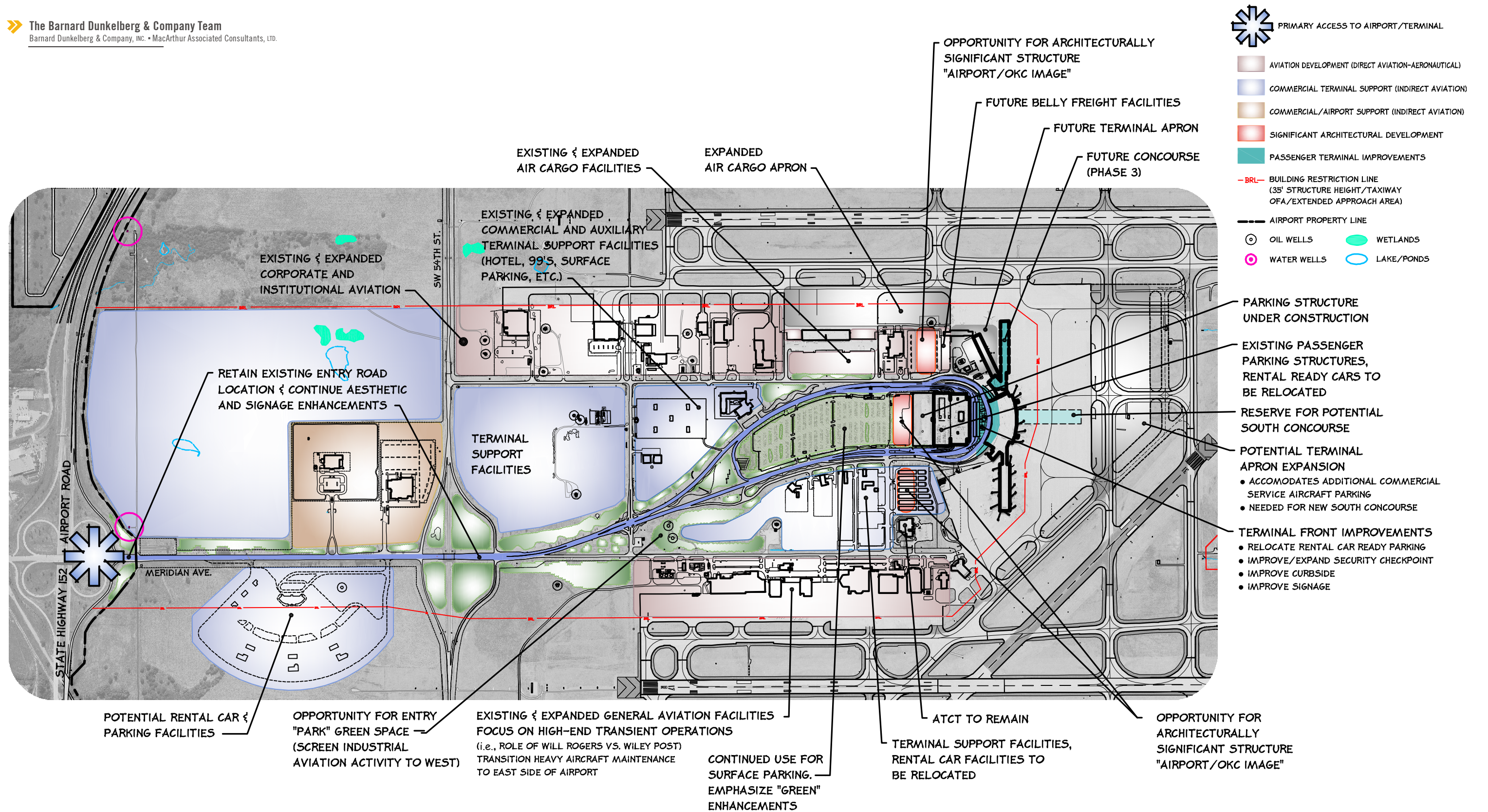


Figure 2 **Recommended Terminal Area Development Concept**

Source: Photogrammetric Survey by Aerial Data Service, 2007
 US Fish & Wildlife Service National Wetlands Inventory



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