

Chapter 5.0 Preliminary Alternatives



BROOKSVILLE - TAMPA BAY REGIONAL AIRPORT
& TECHNOLOGY CENTER



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INTERNATIONAL

5.0 PRELIMINARY ALTERNATIVES

5.1 Introduction

This chapter introduces the preliminary alternatives for the Brooksville-Tampa Bay Regional Airport (BKV), which are intended for discussion purposes between the various stakeholders including the Technical Advisory Committee (TAC) for this Master Plan Update, airport tenants, and the public. The individual components of each preliminary alternative were evaluated to aid in the selection of a preferred alternative that represents the desired development plan for the 20-year planning period. For that reason, the preliminary alternatives should be viewed as flexible development plans that may be refined or combined to best satisfy the needs of the airport's stakeholders. The main intent of the preliminary alternatives is to evaluate realistic airfield development options that would satisfy the facility requirements identified in the previous chapter and to analyze the development and redevelopment possibilities for vacant parcels on the airport property. The preferred alternative, as presented in **Chapter 6**, illustrates the recommended layout of all landside developments, such as corporate hangars, aprons, and support facilities. The preliminary alternatives should subsequently be viewed as a broad examination of relationships between required and desired airfield and landside developments in order to provide a clear understanding of the airport's possibilities and limitations.

The following elements are covered within this chapter:

- ➔ Development Constraints
- ➔ Previously Designed Development Concepts
- ➔ Airfield Alternatives
- ➔ Instrument Approach Alternatives
- ➔ Land Use Analysis
- ➔ Landside Development Alternatives
- ➔ Support Facilities

5.2 Development Constraints

Land uses on the airport property consist of transportation-related infrastructure, commercial and industrial developments, institutional features, and open space. There are few land uses surrounding BKV that would be incompatible with the continued expansion of the airport's airfield and landside facilities (e.g., residential development). However, the ultimate expansion potential of Runway 9-27 is constrained by the presence of roads such as the Suncoast Parkway, Aerial Way, and Broad Street (U.S. Route 41). There are also vehicular and utility access limitations to some portions of the airport property that would need to be addressed in order to maximize the development potential of the property. Many of those factors were analyzed in conjunction with the Business Plan effort that was conducted for this Master Plan Update and are illustrated on the preferred alternative. As shown in **Figure 5-1**, there are several wetlands on the airport property that mostly consist of drainage features. If possible, new development should be avoided within the wetland areas and expansion of some of the drainage features would likely be necessary in order to maintain sufficient stormwater capacity. All airport development actions must also avoid floodplain impacts whenever there is a practicable alternative. In addition, the design must also minimize the adverse impacts to the floodplain's natural and beneficial values and minimize the likelihood of flood-related risk to human life, health, and welfare. Based on a review of the current FEMA Federal Insurance Rate Maps (refer to Figure 5-1), portions of the airport property are located within a 100-year floodplain with Base

Flood Elevations (BFEs) of 64.3 feet (i.e., Floodplain AE) and much of the southern and eastern portions of the property are located within a 500-year floodplain (i.e., Floodplain X). Efforts to minimize impacts to those floodplain areas must be considered with any proposed development action. A more in depth analysis of potential environmental impacts is provided in conjunction with the preferred alternative.

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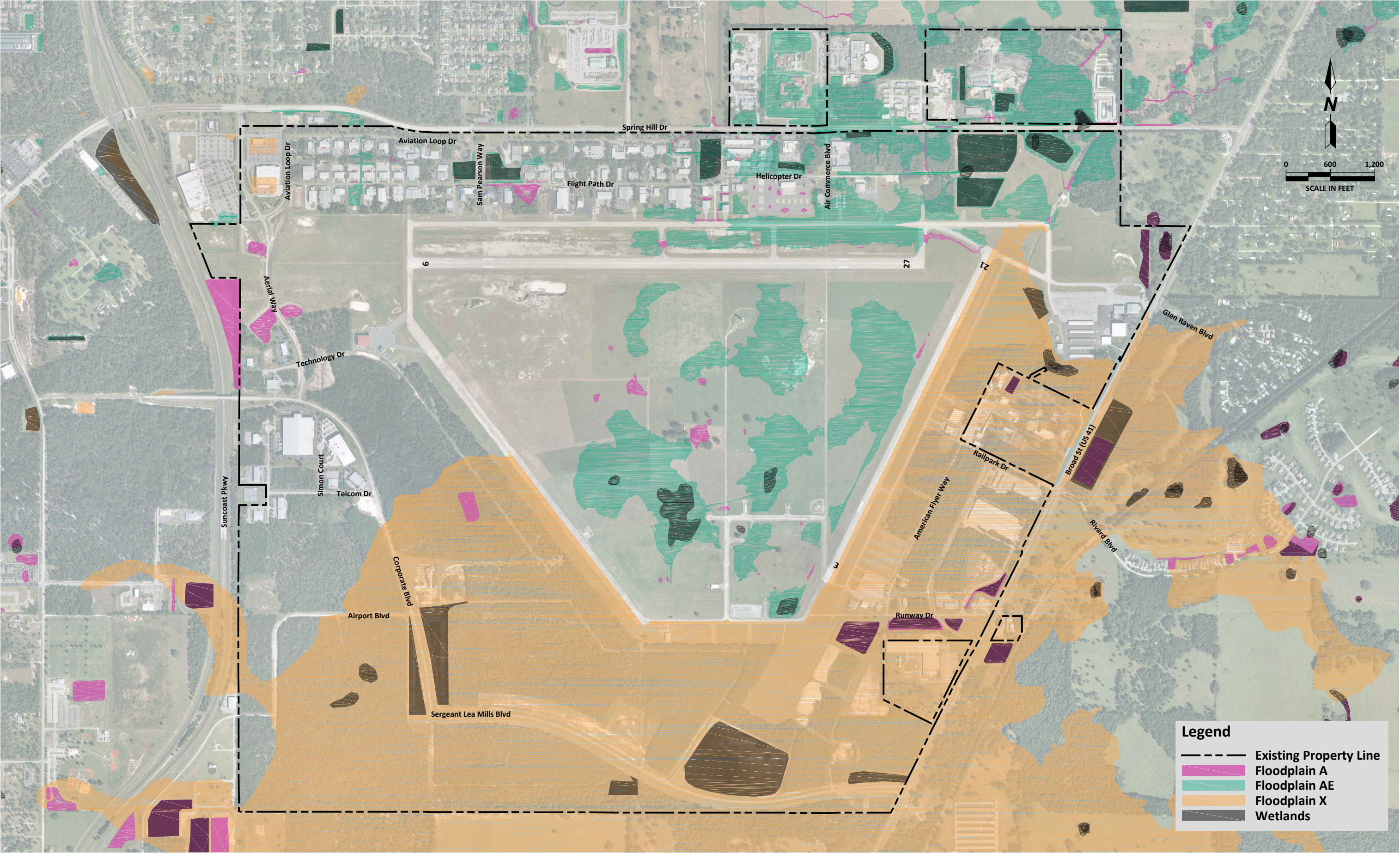


Figure 5-1 Development Constraints
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5.3 Previously Designed Development Concepts

The figures throughout this chapter illustrate development concepts that have been previously designed for BKV. These are facilities that have been designed or proposed for development in order to encourage specific users to the airport such as a large cargo apron, a Maintenance Repair and Overhaul (MRO) facility for commercial aircraft, a corporate hangar development area, additional T-hangars, and a U.S. Customs and Border Protection (CBP) facility for processing international passengers and their cargo. **Table 5-1** includes a description and cost estimate for these various facilities, all of which are illustrated on preferred alternative and the Airport Layout Plan (ALP).

Table 5-1 Previously Designed Development Concepts	
Project Description (See Figures for Project ID)	Estimated Cost
Ⓐ Air Cargo Apron – The proposed air cargo apron covers 137,600 square yards and is located on the south side of Runway 9-27 near the west end of the runway (Runway 9 end). The apron was designed with asphalt pavement and concrete hardstands for aircraft parking. A partial parallel taxiway would need to be constructed on the south side of Runway 9-27 in order to access the facility.	\$16,782,984
Ⓑ MRO Facility – The proposed MRO facility is located along Helicopter Drive near the end of Runway 27. The plans call for a 25,600 square foot hangar with a 6,400 square foot attached office with the ability to expand the entire facility to the east (apron and new hangar) to provide additional maintenance capacity. The facility could accommodate most medium-sized commercial aircraft.	\$5,000,000
Ⓒ Corporate Hangar Development Area – This proposed development is located in the northeast corner of the airport property and includes the construction of an apron for corporate hangars to be constructed around. The facility would be accessible by a new connection to Spring Hill Drive and could accommodate approximately 10 new hangars with varying capacities (ranging in size from 6,000 square feet to 15,000 square feet). It is anticipated that this area would be utilized primarily to store aircraft with wingspans less than 79 feet (i.e., Airplane Design Group (ADG) II aircraft and smaller).	\$6,862,000
Ⓓ T-Hangars – The construction of four additional T-hangar buildings is planned adjacent to the existing T-hangars in the southeastern portion of the airport property. The four buildings would increase the airport's T-hangar capacity by 40 bays and could accommodate a mix of ADG I and smaller ADG II aircraft. In order to satisfy the identified requirement of 50 T-hangar bays during the 20-year planning period, additional buildings are planned in the same southeastern portion of the airport property.	(2) 13 Bay - \$793,800 (2) 7 Bay - \$793,800 (4) Total - \$2,942,100
Ⓔ U.S. CBP Facility – The proposed CBP facility is located where the dome hangars are currently located directly to the east of the Florida Army National Guard's facilities. This would be a "User Fee Airport" CBP facility that would be used to process general aviation passengers and their cargo. The apron would be constructed to accommodate ADG III and smaller corporate jets such as the Gulfstream G550.	\$1,295,350
Source: Michael Baker Jr., Inc., 2014.	

5.4 Airfield Alternatives

The intent of the airfield alternatives analysis was to satisfy the identified length requirements for Runway 9-27, to improve the efficiency and safety of aircraft movements throughout the airfield, and to maximize aviation development opportunities on the airport property. As mentioned in the previous chapter, a recommended length of 8,000 feet was identified for Runway 9-27 in addition to paved shoulders and blast pads. Therefore, two extension options were explored for Runway 9-27 in order to provide an additional 998 feet for the larger jet activity that is anticipated to regularly operate at BKV during the planning period. No overall improvements were recommended for Runway 3-21, with the exception of maintaining the current length of 5,015 feet and preventing any conflicts with aircraft activity on Runway 9-27.

Airfield Alternative 1 (Runway 9 Extension)

Airfield Alternative 1 is illustrated in **Figure 5-2** and summarized in **Table 5-2**. This alternative includes a 998-foot extension of Runway 9-27 to the west (Runway 9 extension) and relocation of all navigational aids and approach lighting, as well as relocation of Aerial Way because of Runway Safety Area (RSA) conflicts. Due to the provision of the precision Instrument Landing System (ILS) approach to Runway 9, the MALSR would have to be relocated outside the current airport property boundary and would extend across the Suncoast Parkway. Furthermore, the Runway Protection Zone (RPZ) beyond the Runway 9 end would also extend further outside the airport property and over the Suncoast Parkway, which may require relocation of the highway within the RPZ in order to prevent the introduction of any new incompatible land uses. Table 5-1 includes a detailed assessment of all features associated with Airfield Alternative 1 including cost estimates.

Airfield Alternative 2 (Runway 27 Extension)

Airfield Alternative 2 is illustrated in **Figure 5-3** and summarized in **Table 5-3**. This alternative includes a 998-foot extension of Runway 9-27 to the east (Runway 27 extension) as well as relocation of all navigational aids. Because this alternative would create an overlapping “V” intersection at the ends of Runways 27 and 21, the FAA would require a decoupling of the two runway ends at the time when Runway 27 is extended. Therefore, Alternative 2 includes an 815 foot shift of Runway 3-21 to the south and a reconfiguration of the taxiway geometry near the new ends of Runways 27 and 21.

Preferred Runway 9-27 Extension Alternative

Due to the property impacts associated with the MALSR relocation and RPZ shift that would occur under Airfield Alternative 1, Airfield Alternative 2 is considered the preferred extension option for Runway 9-27. Airfield Alternative 2 would not require any property acquisition and would not result in any major impacts to existing airport facilities; however, it would still be necessary to shift Runway 3-21 to the south in order to prevent creating an overlapping “V” intersection at the ends of Runway 27 and 21. The 998-foot extension of the Runway 27 end was carried forward as part of the preferred alternative for this Master Plan Update and is illustrated on the ALP.

Table 5-2 Airfield Alternative 1				
Action	Runway 9 Extension	Parallel Taxiway (South of Runway 9-27)	Parallel Taxiway (West of Runway 3-21)	Miscellaneous Projects
Identified Requirement	Extend to 8,000 Feet	Construct as Needed to Support Development	Construct as Needed to Support Development	Construct Paved Shoulders and Blast Pads
Alternative Description	Includes a 998-foot extension of Runway 9-27 to the west (i.e., Runway 9 end). The project would also include an extension of parallel Taxiway A to the new runway end and relocation of the PAPI, glide slope antenna, MALSR, and RPZ. Both the MALSR and the RPZ would extend off the airport property and would require property acquisition and a potential relocation of the Suncoast Parkway. Aerial Way would also have to be relocated because of the extended RSA.	Includes the construction of a parallel taxiway on the south side of Runway 9-27. This taxiway would be constructed to support development between the two runways. Such a project may be needed during the planning period because there is limited space remaining for development on the other sides of the runways. Near the Runway 9 end, a small shift in the taxiway is shown in order to prevent the need to relocate the glide slope antenna.	Includes the construction of a parallel taxiway on the west side of Runway 3-21. This taxiway would be constructed to support development between the two runways. Such a project may be needed during the planning period because there is limited space remaining for development on the other sides of the runways.	Paved runway shoulders, taxiway shoulders, and blast pads are recommended for airfield facilities that serve ADG III aircraft and are required for facilities that serve ADG IV and higher aircraft. Therefore, this alternative includes the construction of blast pads at each end of Runway 9-27, shoulders along Runway 9-27, and shoulders along Taxiway A.
Cost Estimate	To be determined in conjunction with the preferred alternative.	To be determined in conjunction with the preferred alternative.	To be determined in conjunction with the preferred alternative.	To be determined in conjunction with the preferred alternative.
Operational Performance	The extension would satisfy the identified runway length requirement during the planning period.	The project would be constructed as necessary to support development between the two runways. It would provide aircraft access to the areas.	The project would be constructed as necessary to support development between the two runways. It would provide aircraft access to the areas.	The construction of these projects would provide resistance to blast erosion, prevent the ingestion of foreign objects into aircraft engines, and could accommodate emergency vehicles.
Environmental	The MALSR and RPZ extension outside of the current airport property would require property acquisition and potentially a large scale road relocation project for the Suncoast Parkway. Such a roadway relocation project would impact several nearby properties and may produce some environmental impacts.	Minimal environmental impacts would be anticipated from the proposed parallel taxiway, with the exception of some floodplain impacts.	Minimal environmental impacts would be anticipated from the proposed parallel taxiway, which the exception of some impacts to floodplains.	Minimal environmental impacts would be anticipated.
Feasibility	Due to the off airport impacts and high costs associated with this alternative, other extension options should be explored. Any extension of Runway 9-27 to the west has the potential to shift the RPZ and MALSR outside the airport property and would therefore create undesired impacts and costs.	Such a project would be feasible as needed, but the small shift near Runway 9 may be preventable if the glide slope antenna can be relocated. Also, as explored later in this chapter, there would be development restrictions along the parallel taxiway due to line of sight issues from the ATCT.	Such a project would be feasible as needed, but there would be development restrictions along the parallel taxiway due to line of sight issues from the ATCT.	Airport activity and development priorities should be monitored to determine when the construction of such features would be warranted.
Source: Michael Baker Jr., Inc., 2014.				



Figure 5-2 Airfield Alternative 1
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Table 5-3 Airfield Alternative 2					
Action	Runway 27 Extension	Runway 3-21 Shift	Parallel Taxiway (South of Runway 9-27)	Parallel Taxiway (West of Runway 3-21)	Miscellaneous Projects
Identified Requirement	Extend to 8,000 Feet	Prevent Intersecting Runway Ends	Construct as Needed to Support Development	Construct as Needed to Support Development	Construct Paved Shoulders and Blast Pads
Alternative Description	Includes a 998-foot extension of the Runway 9-27 to the east (i.e., Runway 27 end). The project would also include relocation of the localizer outside the RSA. In order to prevent the creation of an overlapping “V” intersection of two runway ends, this alternative includes a shift of Runway 3-21 to the south.	This alternative includes a shift of Runway 3-21 by 815 feet to the south in conjunction with the extension of Runway 9-27. The project would be necessary in order to prevent the creation of a “V” intersection with the extended Runway 27 end and the existing Runway 21 end. The FAA discourages such an intersection because it can result in confusion for pilots navigating the airfield.	Includes the construction of a parallel taxiway on the south side of Runway 9-27. This taxiway would be constructed to support development between the two runways. Such a project may be needed during the planning period because there is limited space remaining for development on the other sides of the runways. Near the Runway 9 end, a small shift in the taxiway is shown in order to prevent the need to relocate the glide slope antenna.	Includes the construction of a parallel taxiway on the west side of Runway 3-21. This taxiway would be constructed to support development between the two runways. Such a project may be needed during the planning period because there is limited space remaining for development on the other sides of the runways.	Paved runway shoulders, taxiway shoulders, and blast pads are recommended for airfield facilities that serve ADG III aircraft and are required for facilities that serve ADG IV and higher aircraft. Therefore, this alternative includes the construction of blast pads at each end of Runway 9-27, shoulders along Runway 9-27, and shoulders along Taxiway A.
Cost Estimate	To be determined in conjunction with the preferred alternative.	To be determined in conjunction with the preferred alternative.	To be determined in conjunction with the preferred alternative.	To be determined in conjunction with the preferred alternative.	To be determined in conjunction with the preferred alternative.
Operational Performance	The extension would satisfy the identified runway length requirement during the planning period.	This project would be needed in order to increase situational awareness for pilots navigating the airfield.	The project would be constructed as necessary to support development between the two runways. It would provide aircraft access to the areas.	The project would be constructed as necessary to support development between the two runways. It would provide aircraft access to the areas.	The construction of these projects would provide resistance to blast erosion, prevent the ingestion of foreign objects into aircraft engines, and could accommodate emergency vehicles.
Environmental	The extension and associated navigational aids and RPZ would remain on the airport property; therefore, limited environmental impacts would be anticipated with the exception of minor floodplain impacts.	Minimal environmental impacts would be anticipated from this project, although closure of a portion of Runway Drive would be needed to construct the new portion of the runway pavement on the south end (i.e., Runway 3 end).	Minimal environmental impacts would be anticipated from the proposed parallel taxiway, with the exception of some floodplain impacts.	Minimal environmental impacts would be anticipated from the proposed parallel taxiway, which the exception of some impacts to floodplains.	Minimal environmental impacts would be anticipated.
Feasibility	It is anticipated that this is the most feasible option for extending Runway 9-27 to 8,000 feet. Such a project could occur as justified by aircraft activity.	If the extension of Runway 27 is constructed, the FAA would require a decoupling of the new end of Runway 27 and the existing Runway 21 end.	Such a project would be feasible as needed, but the small shift near Runway 9 may be preventable if the glide slope antenna can be relocated. Also, as explored later in this chapter, there would be development restrictions along the parallel taxiway due to line of sight issues from the ATCT.	Such a project would be feasible as needed, but there would be development restrictions along the parallel taxiway due to line of sight issues from the ATCT.	Airport activity and development priorities should be monitored to determine when the construction of such features would be warranted.
Source: Michael Baker Jr., Inc., 2014.					

5.5 Instrument Approach Alternatives

As part of the airfield alternatives analysis, the associated instrument approach procedures were evaluated for the existing ends of all runways as well as the extended ends of Runway 9-27 and the shifted ends of Runway 3-21. The analysis focused on identifying any existing or potential Threshold Siting Surface (TSS) obstructions. Unlike the Federal Aviation Regulations (FAR) Part 77 surfaces that are primarily used to adopt building height and land use restrictions around airports, the TSS is the surface that is evaluated to determine if one or more of the following actions are necessary:

- ➔ Obstacle clearing, marking, or lighting is necessary within the TSS.
- ➔ Displacement of the runway threshold is necessary because obstacles cannot be cleared from the TSS, which results in a shorter landing distance.
- ➔ Modification of the approach glide path and/or threshold crossing height is necessary.
- ➔ Prohibition of nighttime operations may be necessary unless an approved Visual Glide Slope Indicator (VGSI) is in use.

At BKV, the only runway end that currently contains TSS penetrations is the Runway 3 end. A portion of Runway Drive traverses the Runway 3 TSS and vehicles traveling on the road may penetrate the road by up to four feet. However, Runway Drive is a private road in that location and drivers are instructed to contact the Airport Traffic Control Tower (ATCT) prior to proceeding on the section directly beyond the Runway 3 end. Under Airfield Alternative 1, Runway 9-27 is extended by 998 feet to the west (Runway 9 end) and the associated TSS would have penetrations that include Aerial Way and one or more light posts in the Target parking lot. Consequently, Aerial Way not only poses RSA conflicts under Airfield Alternative 1, but also obstruction concerns for the potential TSS. Under Airfield Alternative 2, Runway ends 27, 3, and 21 are relocated, none of which would have TSS penetrations.

5.6 Land Use Analysis

Considering the airfield developments shown under Airfield Alternative 2, the remaining vacant sections of the airport property were analyzed in terms of their potential use, aircraft and automobile access, and feasibility of development. The intent was to evaluate the highest and best use for the vacant parcels, as well as to determine if additional property should be acquired to accommodate the airport's growth initiatives. Furthermore, this land use analysis should provide the airport with a plan to maximize development opportunities on the property and to generate additional revenues. The information included in this analysis places priority on reserving as much space as possible for aviation development and expansion. The results of the Business Plan should be viewed in conjunction with this analysis in order to determine practicable methods of encouraging both aviation and non-aviation development on the airport property. The parcels are illustrated in **Figure 5-4** and evaluated in **Table 5-4**.

There are dashed red lines shown in Figure 5-4 that project from the ATCT and show the line of sight to the airfield. Buildings that are constructed along the dashed line to the north and to the east of the dashed line could physically block the view of the airfield from the ATCT and/or could create shadows that block the view of the airfield. **Figure 5-5** illustrates a hypothetical shadow analysis for the airfield. The figure shows the shadows that would be produced if 30-foot tall structures were constructed along the 30-foot Building Restriction Line (BRL) for each runway and arbitrarily

spaced at each exit taxiway. It might be possible for some structures to block the view of the proposed taxiway near the Runway 9 end due to the curve in the taxiway and it is likely that most structures that are developed along the west side of Runway 3-21 would produce shadows over the runway. Therefore, it would be necessary to conduct a thorough evaluation of any proposed developments in order to prevent blocking the view of the airfield from the ATCT. The following equation was used to determine the dimensions of the shadows that were created:

$$\text{Shadow Length} = \frac{(\text{Proposed Structure El.} \times \text{Distance from ATCT})}{(\text{ATCT Cab El.} - \text{Proposed Structure El.})}$$

Table 5-4 Land Use Analysis				
Landside Zone	Approximate Acreage	Potential Use	Access	Feasibility of Development
1	12.7 Acres	Non-Aviation	Vehicle access could be provided from Spring Hill Drive or Helicopter Drive. Aviation access is cut off by Helicopter Drive.	This is one of the few remaining sites on the airport property with direct access to Spring Hill Drive. Located approximately 1,200 feet from the centerline of Runway 9-27, this area could accommodate a multi-story structure.
2	4.7 Acres	Aviation Development	Vehicle access would be provided from Helicopter Drive. Airfield access would be provided along Taxiway A.	This is one of the few sites along Taxiway A that has not been slated for development. It is anticipated that some sort of corporate hangar or commercial facility (e.g., maintenance) would be appropriate for this site.
3	4.0 Acres	Open Space	This site is accessible from Broad Street (U.S. 41).	Due to the location within the Runway 27 approach, there are limited development opportunities for this site.
4	9.5 Acres	FBO Expansion Area	Existing FBO facilities for vehicles and aircraft.	It is anticipated that this would be the next logical site for expanding the FBO facilities. However, it may be difficult to connect to the FBO facilities to the east due to the location of a retention pond and fuel tanks.
5	6.3 Acres	FBO Expansion Area	Existing FBO facilities for vehicles and aircraft.	Some modification of the existing FBO facilities may be needed in order to construct and access this site.
6	15.6 Acres	Rail Accessible Industrial	Vehicle access would be provided from American Flyer Way.	This is the only site on the airport property that has direct rail access and would therefore be appropriate for industrial development.
7	368.4 Acres	Aviation / Industrial	Vehicle access could be provided by extending Technology Drive and Telecom Drive and by providing a new connection to Sergeant Lea Mills Boulevard. Aviation access would be provided by constructing new parallel taxiways along the runways.	There are development restrictions on this site that are associated with line of site issues from the ATCT. Buildings that are constructed along and to the east of the dashed red lines shown on Figure 5-4 may physically block the view of the airfield from the ATCT and/or could produce shadows that block the view.
8	21.0 Acres	Non-Aviation	Vehicle access could be provided from Broad Street (U.S. 41) and Sergeant Lea Mills Boulevard.	This is the largest site with direct access to Broad Street (U.S. 41). This site could accommodate a multi-story structure.
9	5.8 Acres	Open Space	This site is accessible from Sergeant Lea Mills Boulevard.	This site contains a retention pond and should be left as open space.
10	14.6 Acres	Non-Aviation	Vehicle access could be provided by a new connection to Sergeant Lea Mills Boulevard.	Due to the proximity to the future Runway 3 end, there may be some development restrictions in this area (e.g., height and/or land use restrictions).
11	67.6 Acres	Corporate / Industrial Park	Vehicle access could be provided by from Sergeant Lea Mills Boulevard	To be developed as warranted by demand.
12	69.6 Acres	Corporate / Industrial Park	Vehicle access could be provided by extending Sergeant Lea Mills Boulevard to Downwind Way.	To be developed as warranted by demand.
13	11.6 Acres	Corporate / Industrial Park	Vehicle access could be provided by extending Sergeant Lea Mills Boulevard to Downwind Way and from Airport Boulevard.	To be developed as warranted by demand.
14	55.7 Acres	Corporate / Industrial Park	Vehicle access could be provided by extending Sergeant Lea Mills Boulevard to Downwind Way and from existing roads (Airport Boulevard and Corporate Boulevard).	To be developed as warranted by demand.
15	221.4 Acres	Corporate / Industrial Park	Vehicle access could be provided by Airport Boulevard and new road construction.	To be developed as warranted by demand.
16	8.8 Acres	Corporate / Industrial Park	Vehicle access could be provided by extending Technology Drive and from Aerial Way.	To be developed as warranted by demand. Some portion of this site is currently being developed by Micro Matic.
17	57.4 Acres	Corporate / Industrial Park	Vehicle access could be provided from Telecom Drive, Corporate Boulevard, and Airport Boulevard.	To be developed as warranted by demand. Some portion of this site is currently being developed by Micro Matic.
18	27.9 Acres	Aviation Development	Vehicle access could be provided by extending Technology Drive. Aviation access is provided along the closed runway.	If needed, this site could be used for aviation development. However, roadway access to the proposed aircraft facility could have the potential to cut off aviation access to this site..
19	36.4 Acres	Corporate / Industrial Park	Vehicle access could be provided from Aerial Way and an extended Technology Drive.	To be developed as warranted by demand.
20	12.2 Acres	Aviation Expansion Area	Vehicle access is currently provided along Aerial Way and Technology Drive.	Due to the proximity to the existing Runway 9 end, there may be some development restrictions in this area (e.g., height and/or land use restrictions). However, it would be suitable for expanding the existing facilities in that area.
21	13.8 Acres	General Aviation Expansion Area	Vehicle access is provided along American Flyer Way. Aircraft access is provided along Taxiway B.	It is anticipated that continued T-hangar and/or facilities for general aviation aircraft would continue to be constructed in this portion of the airport property.
22	9.3 Acres	General Aviation / Corporate Expansion Area	Vehicle access is provided along American Flyer Way. Aircraft access is provided along Taxiway B.	It is anticipated that facilities for general aviation and corporate aircraft would be constructed in this portion of the airport property.
23	18.6 Acres	Non-Aviation	Vehicle access could be provided from Spring Hill Drive.	This is one of the few remaining areas on the airport property that is located on a stand-alone site along Spring Hill Drive.

Source: Michael Baker Jr., Inc., 2014.



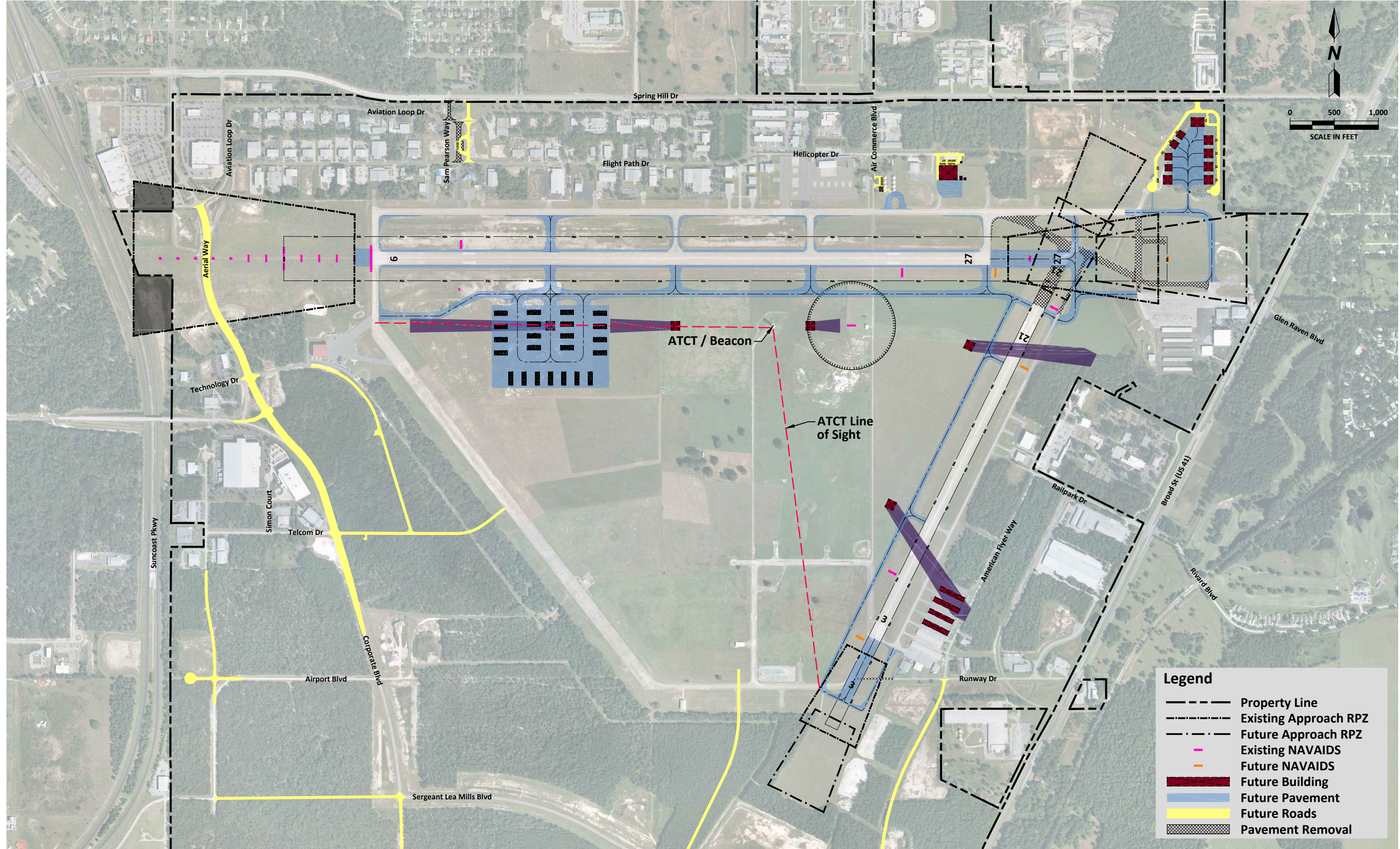


Figure 5-5 Sample Shadow Analysis
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5.7 Landside Development Alternatives

Figure 5-6 illustrates a potential landside development alternative for the vacant sites along Runway 3-21. As shown, the construction of several additional T-hangars could occur adjacent to the existing and planned T-hangar buildings. Six additional T-hangar buildings are shown which would double the existing and planned T-hangar storage capacity in the southeast corner of the airport. A small tiedown apron could also be constructed around that location to accommodate approximately 28 aircraft and an aircraft wash rack. The construction of these types of storage facilities for smaller based aircraft would help the FBO undertake some of the redevelopment plans at their current site to that cater to corporate aircraft. Near the proposed Runway 21 end, the construction of several corporate hangars could occur. The corporate hangars shown are 100 foot wide and 100 feet deep and could store a wide range of corporate jet sizes. The areas around the FBO are shown as reserved for expansion of their facilities and the area behind the potential T-hangar development is shown as reserved for industrial expansion due to the presence of the rail line. That is the only remaining parcel on the airport property that has direct access to a rail line and would be beneficial for an industrial development that would utilize the rail line. Other proposed landside development options are discussed and illustrated in conjunction with the preferred alternative.

As shown in **Figure 5-7**, several large hangar developments could be constructed on the west side of the airport property near the Runway 9 end. Besides the large cargo apron and processing facility that was previously proposed for BKV, additional corporate hangars and/or aircraft maintenance facilities could be constructed along the closed runway. Corporate hangars could be constructed along a shared taxilane to make use of the depth of the property behind the closed runway. Along the new parallel taxiway that is shown to the south of Runway 9-27, additional facilities could be constructed that would likely cater to larger commercial sized aircraft.

5.8 Support Facilities

The facility requirements analysis identified the need for several support facility and automobile access improvements at BKV including the following:

- ➔ A new airport maintenance facility capable of storing and fueling vehicles and equipment.
- ➔ A UFA CBP facility and apron.
- ➔ Construction of an aircraft wash rack.
- ➔ Construction of a cargo apron and support processing facilities.
- ➔ Realignment of Aerial Way and extension of Technology Drive in order to improve access to the west side of the airport and the Technology Center.
- ➔ Improve access from Spring Hill Drive to better define the main entrance to the airport.

Although previous graphics show the preferred location for the many support facilities, some proposed improvements have yet to be addressed. Based on discussions with airport personnel, the new maintenance facility should be sited in a location that would not interfere with future aviation and non-aviation development opportunities. Figures 5-6 and 5-7 illustrate a potential site in the southern portion of the airport near the Runway 3 end, which is far from where any near-term development is expected and would not interfere with the line of site between the ATCT and the airfield. The facility would ideally include automobile fuel tanks and pumps so that airport equipment could be refueled on-site instead of having to drive off-site to the Hernando County fueling facility.

Regarding access, a conceptual plan was developed for realigning the main entrance to the airport. The plan includes removing the portion of Sam Pearson Way and having a single entrance along Airpark Boulevard. That would reduce the number of turns that is currently necessary when using the main entrance and would provide direct access to the Airport Administration Building. Other projects could be conducted to provide improved access to the western and southern portions of the airport property and include a partial relocation of Aerial Way and extensions of Technology Drive, Telecom Drive, and Sergeant Lea Mills Boulevard. The construction of new roads would be necessary in some locations in order to provide access when there is a demand for development.

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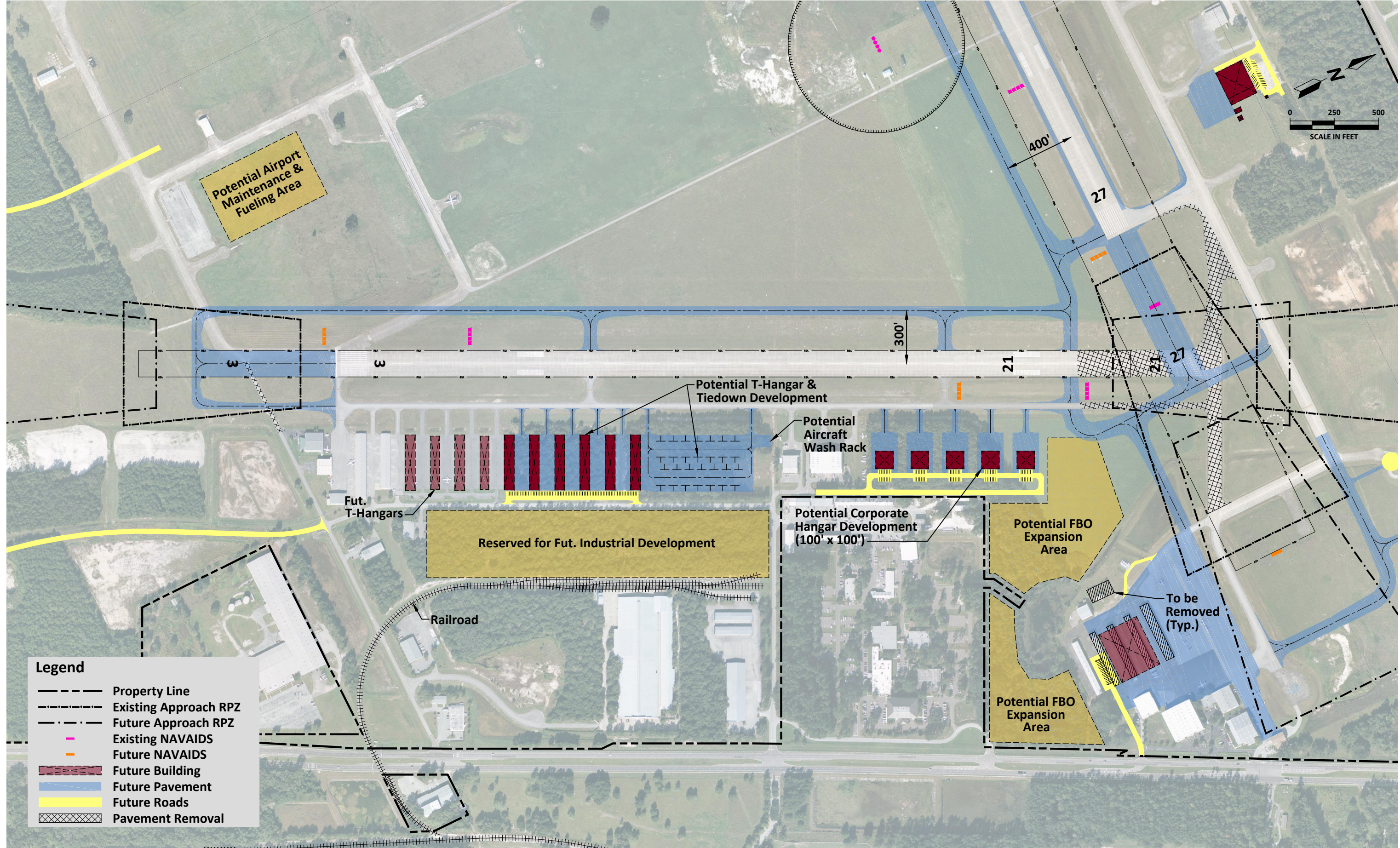


Figure 5-6 Eastside Development Alternative
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Figure 5-7 Westside Development Alternative
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