Working Paper #3

DeKalb Peachtree Airport
2020-2040 Airport Master Plan

Chapter 5 – Airport Alternatives

December 8, 2020

Prepared by Michael Baker International

Contact: Jim Duguay
Manager, Aviation Planning
Michael Baker International
jduguay@mbakerintl.com
678-966-6611

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Chapter 5 – Airport Alternatives

5.1 Introduction

The airport alternatives, development and analysis component of this Master Plan Update considers the facility requirements determined in the previous section, accepted airport standards, and the ultimate goals of the Airport, to produce long-range development alternatives. This process is iterative in nature in that it includes evaluation, in some cases, of multiple alternatives in an effort to identify the best overall improvement program for the Airport. Once the long-range development program has been determined, short-range improvements can be readily implemented without jeopardizing the ultimate concept. The program will evaluate how to best expand and improve existing Airport facilities in terms of overall efficiency and aesthetic quality, meeting demand and Airport's goals and visions while also accommodating the logical and efficient development of a future expanded Airport facility. The goal of this alternatives analysis is to optimize on-airport land use, maximize the capacity and economic viability of the existing facilities, and identify the facilities and practical stages of future development. Although the projects outlined in this chapter are designed to meet demand over the next 20 years, they provide growth opportunities beyond the planning period. The following areas will be addressed in this section of the report.

- Airfield,
- Instrument Approach Improvements,
- General Aviation,
- Support Facilities.

5.1 Airfield Improvement Alternatives

Airfield facility developments (runways and taxiways) create the most impact on the overall airport layout since they generally account for the largest land use and serve as the focal point for all other developments. Therefore, it is important to first identify the possible airfield alternatives while keeping in mind other needed improvements, such as terminal and hangar developments. Doing so leads to an airport layout that enhances the general working environment at the airport.

5.1.1 Runway 3R-21L Improvements

Previously, the *Facility Requirements* chapter identified several airfield developments for consideration herein. A primary recommendation dealt with the suggesting incremental improvements to the RSA, installing a MALSR approach lights and upgrading instrument approaches, and lastly RPZ modifications.

RSA Improvements

The RSA is defined by the FAA as:

Runway Safety Area (RSA) - A defined surface surrounding the runway prepared or suitable for reducing the risk of damage to airplanes in the event of an undershot, overshoot, or excursion from the runway. The RSA needs to be: (1) cleared and graded with no potentially hazardous ruts, humps, depressions, or other surface variations; (2) drained by grading or storm sewers to prevent water accumulation; and (3) capable, under dry conditions of supporting snow removal equipment, aircraft rescue and firefighting equipment, and the occasional passage of aircraft without causing structural damage to the aircraft.

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Finally, the RSA must be free of objects, except for those that need to be located in the safety area because of their function.

The size of the RSA is a function of the Approach Category and Design Group as well as the minimums associated with the most critical approach to the runway. As mentioned in, Chapter 4, the current RSA at both approach ends of Runway 21L-3R requires 1,000 feet safety area beyond end of runway. The RSA at Runway 3R is limited to 500 feet, due to incompatible land use located south of Airport property. In efforts to combat RSA deficiencies to Runway 3R and increase the level of safety, the Airport has installed an Engineering Material Arresting System (EMAS) at Runway 3R in efforts to mitigate aircraft overruns. EMAS is a bed of crushable concrete used to decelerate and aircraft during a failed takeoff. The RSA at the approach end of Runway 21L also does not meet design standards, it is limited to 410 feet beyond the displaced threshold due to the County sanitation facility located on airport property and Chamblee Tucker Road. The ultimate determination for incremental improvements to the RSA was based on the following criteria: 1) no road relocations were considered appropriate to provide compliant RSA, 2) it is desired to maintain as much runway length as possible, and 3) installation of EMAS to Runway 21L is not feasible due to Chamblee Tucker Road north of Runway 21L. It is recommended to relocate the Country's sanitation facility out of RSA and respectively the ROFA.

The previous ALP airport reference code for Runway 3R-21L is C-II which requires an RSA width of 500-feet however, according to the AC design standards, for ARC C-II aircraft an RSA width of 400-feet is permissible. Today, the ARC for Runway 3R-21L is D-III, which requires an RSA width of 500-feet. In order to be compliant with FAA AC 150/5300-13A, the RSA should expand 50 feet on each side to satisfy 500-foot required width. Due to plan to relocate the County sanitation facility, the RSA should also extend north to front Chamblee Tucker Road.

Instrument Approach Improvements

The capability of the Airport to service aircraft traffic, especially corporate and business aircraft would be significantly improved with improvements to instrument approaches at PDK. The facility requirements along with Airport users have identified the desire to utilize Global Position System (GPS) and Wide Area Augmentation System (WAA) signals to establish a Localizer Performance with Vertical Guidance (LPV) instrument approach to Runway 21L. WAAS is a GPS-based non-precision navigation system, which augments the existing GPS signals with additional information, providing the user with highly accurate position and tracking information. Localizer Precision with Vertical Guidance (LPV) instrument approaches utilizes WAAS technology to provide both vertical and horizontal course guidance to aircraft receivers. Similar to RNAV GPS navigation, LPV approaches are available in all weather and all terrain conditions.

Further input from Airport users is the desire to improve instrument approach minimums. The lowest instrument approach minimums at PDK are ⅞ mile visibility and 400 feet descent height using the ILS approach. For the ILS, these minimums could be as low as ½ mile visibility and 200 feet descent height if obstacles are clear and suitable approach lighting is clear. If an LPV approach is developed, similar minimums of ½ mile visibility and 250-foot descent height may be achievable.

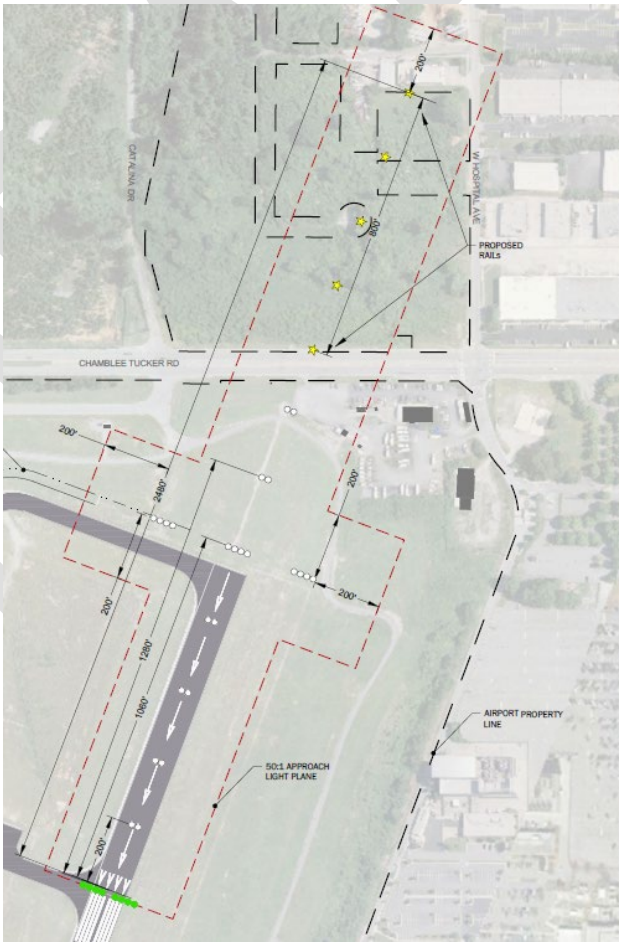
The improvements to instrument approaches could contribute to the reduction in the number of weather-related aborted landings, thus increasing airfield's overall annual service volume and/or throughput capacity. In wind conditions favoring Runway 21L when the reported weather visibility is less than ⅞ mile and/or below 400 feet ceiling height, aircraft currently may be required to redirect to another airport or

cancel flight until weather improves. An ILS and/or LPV having ½ mile visibility minimums would increase the required runway to taxiway separation to 400 feet. PDK's runway to taxiway separation for Runway 3R-21L surpasses the minimum separation requirements.

Runway 21L MALSR Upgrade

Runway 21L currently has an ILS approach complete with medium intensity approach lighting system with sequenced lights (MALSF). MALSF are commonly installed on runway ends with precision approaches to compliment an instrument landing system (ILS). MALSF lights provide visual guidance which aids pilots in identifying the approach end of a runway during times of reduced visibility such as inclement weather and nighttime conditions. Light beams are radiated in the directional pattern by which the pilot aligns the aircraft with the extended centerline of the runway on the approach for landing. The existing MALSF could be improved by adding five additional "lead-in" strobe lights to the system which would then upgrade the system to a medium intensity approach lighting system with runway alignment indicator lights (MALSR) displayed in **Figure 5-1**. By adding these lights, visibility minimums could potentially be lowered to ½ mile minimums if other factors such as obstruction clearing are satisfied. Further, installing the lead-in lights would improve situation awareness during nighttime hours when the runway lights compete with surrounding city lights.

Figure 5-1: Upgrade Approach Lights to MALSR



Source: Michael Baker International, 2019.

North RPZ Adjustments

As mentioned, RPZs, are trapezoidal areas beyond each runway which follow strict land use criteria. FAA AC 150/5300-13A, defines the RPZ as, "An area at ground level prior to the threshold or beyond the runway end to enhance the safety and protection of people and property on the ground. Furthermore, the two-dimensional trapezoidal area should maintain free of items that attract grouping of people or property on the ground. The ideal situation is for the airport to own the entire footprint of the RPZ."

As mentioned in Chapter 4, dimensions of the Runway 21L north RPZ have changed from the previous ALP due to changes in airport design standards over time. Since Runway 21L has a 1,000-ft displaced landing threshold, two RPZs are required: an Approach RPZ and a Departure RPZ. As a result of this change in standards, the trapezoidal boundary of the Approach RPZ begins 200-ft from the landing threshold rather than 200-ft from the pavement edge. The reconfiguration of these boundaries results in 19.31 acres of land being removed from inside the RPZ. This potentially frees this land of the FAA RPZ land use guidelines described above and raises the potential to redevelop this land for non-aeronautical purposes. GDOT approval of the updated ALP, specifically the RPZ boundaries would be required prior any official revision of these boundaries.

RPZ Land Development

The potential adjustment of the 21L RPZ boundaries allows for approximately 19.31 acres of existing airport property to be removed from the RPZ. Refer to **Figure 5-2**. The land owned by the Airport was previously purchased in the 1990's during a noise and safety buyout of residential properties in this area. Existing land uses within the vicinity include vacant airport property, as well as neighboring industrial and commercial uses. The relocation of the sanitation site has been considered for a portion of this area should the RPZs boundaries be revised but ultimately the use of the property will be decided in the future. Since the Airport land was originally purchased using federal funds, the land is subject to FAA grant assurances and the Airport would require approval by GDOT to reuse this land for other purposes. That approval would not occur before the completion of the Master Plan. Therefore, this land will be designated on the ALP and future non-aeronautical land use and its ultimate use will be determined once a land release is approved by GDOT. Any future use would be subject to the terms of its release as well as existing noise and height restrictions.

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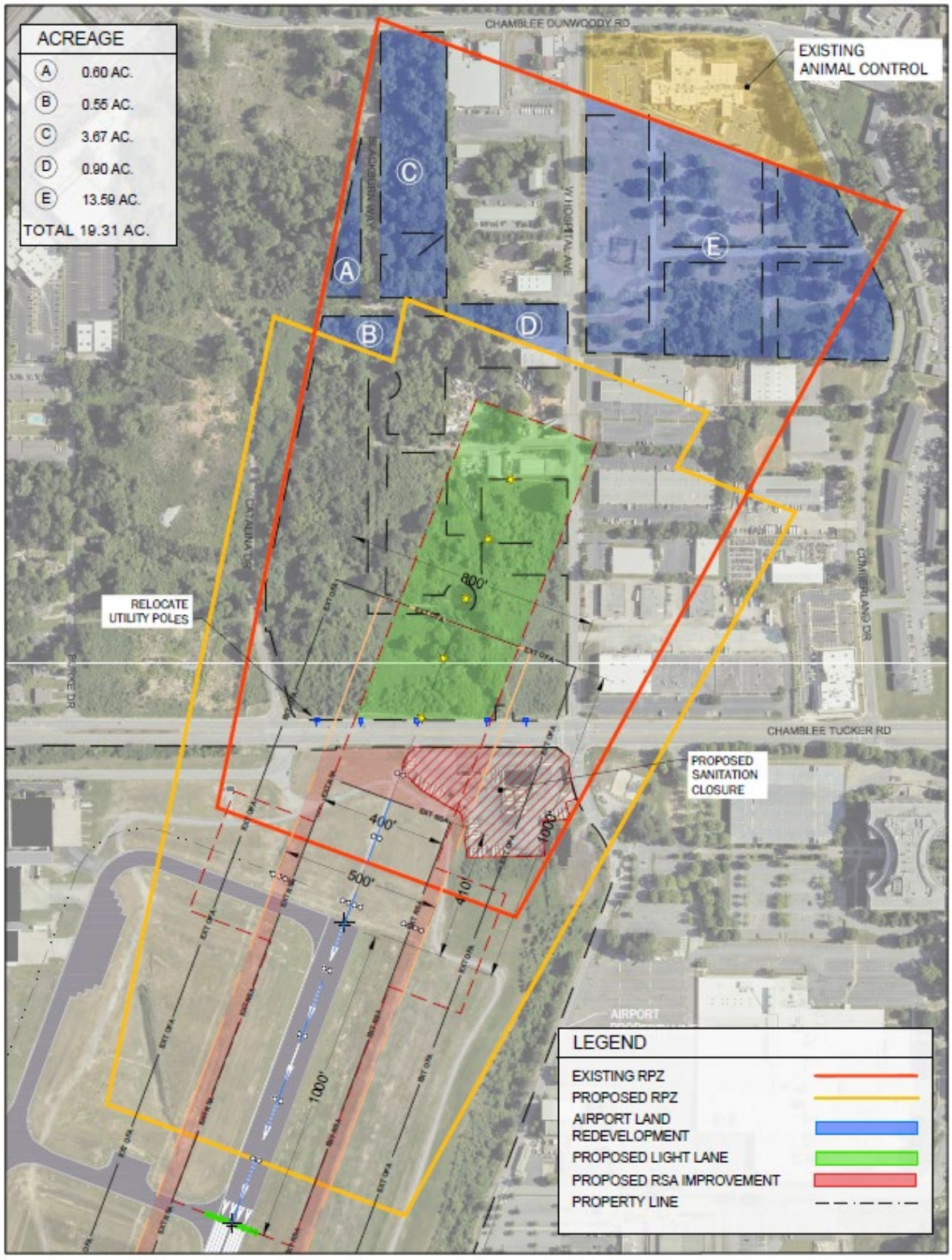
Figure 5-2: RPZ Developable Land



Source: Michael Baker International, 2019.

County Sanitation Site Relocation

DeKalb County Sanitation Facility has a long-standing history of being at the Airport and is used to house empty sanitation trucks and trash bins that service the north portion of DeKalb County. As mentioned in the previous section, this facility is currently located within the RSA and ROFA of Runway 21L and poses as both an eye-sore and a safety concern for aircraft operations. It is suggested to relocate the approximately 3.06-acre County sanitation facility to another location on airport property. Five potential airport sites shown on both **Figure 5-3** and **Figure 5-4** were evaluated for the future location of the DeKalb County Sanitation.

Sanitation Alternative Site A

Alternative A sits south fronting Chamblee Dunwoody Road and directly east of Blackburn Way within the existing RPZ (see potential RPZ adjustments mentioned later). The site accounts for approximately 3.67 acres of highly vegetated land. A vacant single-family residence sits approximately 629 feet south of Chamblee Dunwoody Road, taking up .26 acres of land. Beyond the residential property, the raw land continues south 131 feet and extends 206 feet wide.

Sanitation Alternative Site B

Alternative site B is an undeveloped parcel of land also located within the existing RPZ of Runway 21L. The approximate 3.36-acre site is bounded to the west by W Hospital Avenue, to the north the DeKalb County Animal Shelter, to the east Beverly Drive, and Sport Imports Collision to the south.

Sanitation Alternative Site C

The approximately 4.16-acre site C, sites east of decommissioned Runway 27 and west of Buford Highway. This site has hilly topography with an approximate 59-foot slope and is highly vegetated.

Sanitation Alternative Site D

Alternative Site D is located on Airport property which has been leased to American Car Center. The site encompassed approximately 3.47 acres and is wedged between PDK, Buford Highway on the east, and Diamond LT car dealership on the south which is also the airport leased land.

Sanitation Alternative Site E

Site E is a heavily wooded and unleveled site that follows Braggs Street and wraps around Amigo Auto Sales lot on Buford Highway. The size of lot is approximately 2.35 acres.

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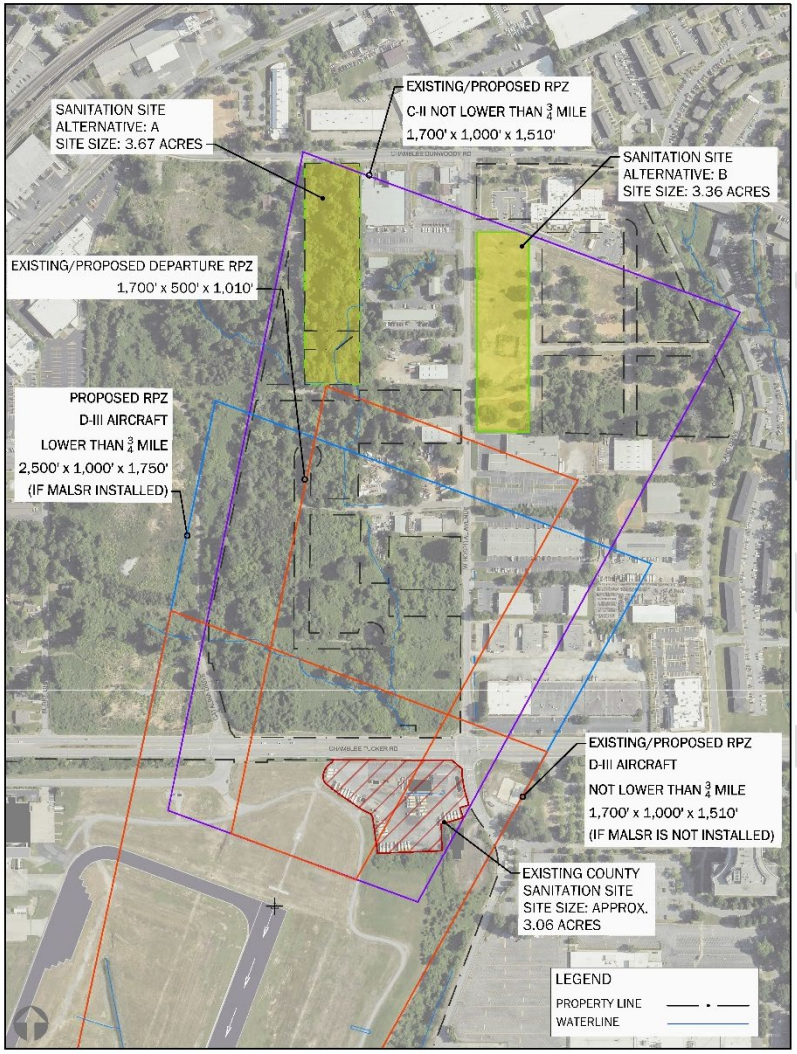
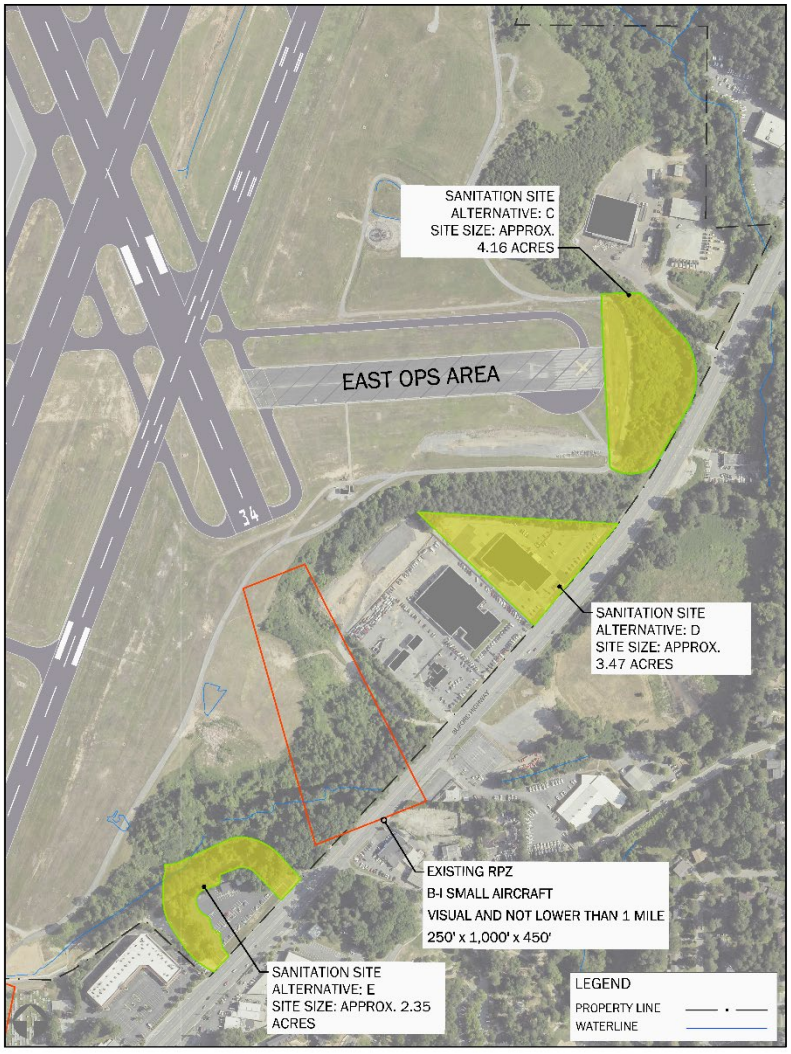
Figure 5-3: North RPZ Protentional Developable Land



Souce: Michael Baker International, 2020.

Figure 5-4: North RPZ Protentional Developable Land



Souce: Michael Baker International, 2020.

Evaluation of Alternatives

Alternatives A and B provide the most accessible land for relocation of the sanitation facility; however, these areas are currently within the RPZ. To the extent feasible, the Airport must control land uses within these area to avoid congregations of people in accordance with FAA land use guidelines. Potential adjustments to the RPZ boundaries are discussed later in this chapter which could eliminate the land use concern. Alternatives C, D, and E are located on airport-owned land that is not being used for aeronautical purposes; however, each of these sites poses challenges regarding terrain and access that make them less likely to realistically support a sanitation facility.

5.1.2 Runway 16-34 Improvements

The *Facility Requirements* chapter identified a couple of airfield developments for consideration herein. A primary recommendation dealt with the suggesting incremental improvements to the non-standard RSA.

RSA Improvements

The airfield design standards alternative includes improvement to correct non-standard and non-preferential conditions for Runway 16-34 which include the RSA. The RSA beyond the end of Runway 34 currently extends 220 feet which is non-standard for RDC B-I Small with visibility minimums as low as not lower than 1 mile. According to AC 150-5300-13A, Airport Design, the FAA once issued Modification to Standards (MOS) "if actual, graded and constructed RSA that could not meet dimensional standards." Since then, applying modification to standards to non-standard RSA no longer proves valid. FAA recommends the Airport offers continuous effort in analyzing and addressing incremental improvements to the RSA.

Therefore, it is necessary to resolve the non-standard RSA. The county also proposes to expand the Runway Safety Area (RSA) located at the Runway 34 End of Runway 16-34. The dimensions of the existing RSA are 150 feet by 220 feet, and the standard dimensions would be 150 feet by 240 feet. The proposed improvements would include safety area grading and drainage adjustments within the limits of the safety area, as well as along its perimeter, to meet current FAA requirements. The RSA expansion portion of the project is necessary in order to relocate the existing airport perimeter road outside of the RSA / Runway Object Free Area (ROFA) limits.

Instrument Approach Upgrades

There are no existing published instrument approach procedures to Runway 16-34; only visual approaches. Based upon user input, a preliminary evaluation of the feasibility of implementing instrument approaches to Runway 16-34 was conducted by the FAA upon submittal of an aeronautical survey. Based on the results of the FAA feasibility analysis, an instrument approach to Runway 34 is not feasible due to obstructions and conflicts with ATL Class B Airspace. An approach to Runway 16 was found feasible from an obstruction and airspace perspective; however, changes to RPZ dimensions, traffic patterns and location of noise sensitive land uses make an approach to Runway 16 undesirable by the Airport.

5.1.3 Runway 3L-21R Improvements

There are no immediate improvements needed for Runway 3L-21R other than routine pavement maintenance and marking, signage and lighting upgrades.

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5.2 General Aviation Development Options

An increase in general aviation activity at the Airport is projected over the next 20 years. Despite fluctuation in the number of general aviation operations over the years, the number of based aircraft at the Airport is expected to increase.

According to the information found within the, Inventory Chapter, 355 aircraft are currently stored in the various hangar facilities at the Airport. Therefore, based on the previous chapter, an additional 132 hangar spaces will be needed at PDK by the end of the planning period to meet the expected demand. Because the Airport lacks any facilities to accommodate based corporate aircraft growth the greatest need is anticipated to be for corporate hangars.

Several options exist to meet this demand for aircraft storage. Rectangular hangars such as FulFab and Erect-A-Tube provide pre-fabricated, lower cost solutions for aircraft storage that could be located on available airport property. Though it is projected that the Airport will need additional t-hangar units and corporate hangar space, actual demand could be significantly greater based on the level of growth. It is difficult to predict with certainty which type of hangars will be used for each aircraft type in the future. However, it is safe to assume that all the additional jet or rotor aircraft based at the Airport will be accommodated in either an FBO or corporate hangars. A development approach for general aviation development opportunities is proposed for two areas, Southwest Quadrant (ongoing) and the East Area Development. Both combine totals roughly 42.5 acres of existing Airport property. The following section explores in detail the opportunities presented in both project site locations.

5.2.1 Southwest Quadrant Improvements

This project in which was planned prior to the Master Plan is located in the southwest quadrant of the airport bounded by Taxiway A on the east, Clairmont Road on the west, West Hardee Avenue on the north, and West Bragg Street on the south. Shown in **Figure 5-5**, this undeveloped area of airport land would largely address general aviation storage demand at PDK.

The project generally consists of development of eight corporate size hangars: two 10,000 square foot hangars, five 12,000 square foot hangars and one 24,000 square foot hangar along with a new ARFF station and four detention ponds for runoff. The number of aircraft expected to be housed in these corporate hangar is largely dependent on the size of the aircraft however, at minimum sixteen jets can be accommodated with this configuration. Aircraft access is granted by two ADG III taxilanes. Vehicular access to this area of the airport will be given by means of West Hardee Avenue to the north and Bragg Street to the south. Auto parking is found along the perimeter road of the project site.

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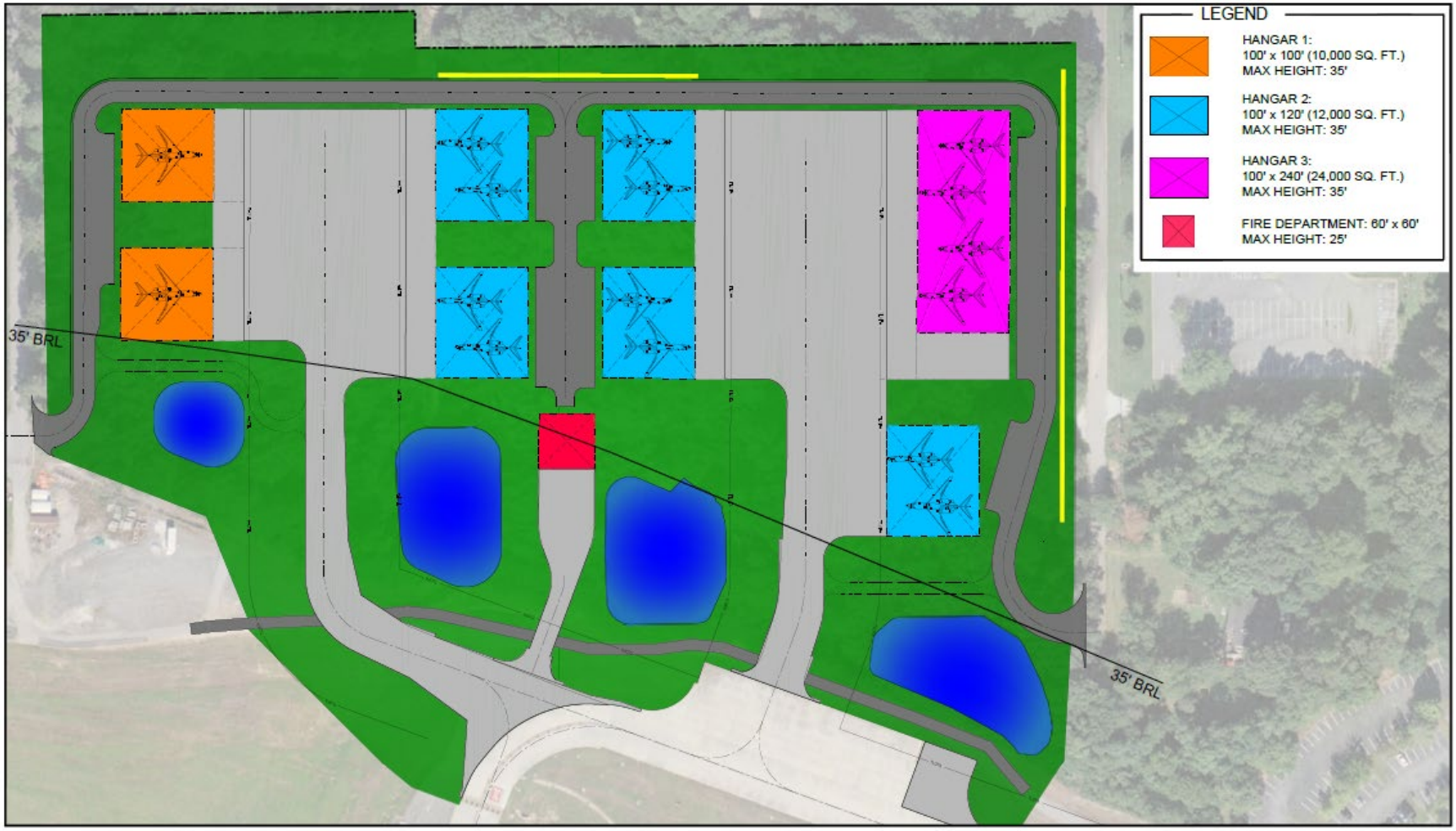
Figure 5-5: Southwest Quadrant Improvements



Source: Michael Baker International, 2019

The City of Chamblee has reviewed the proposed development and determined that the proposed development exceeded some of the City's Code Enforcement guidelines. To satisfy, the City of Chamblee code enforcement guidelines a variance application addressing the following matters (1) to remove the requirement to provide streetscaping on public street abutting the proposed development, (2) to increase the allowable height of the retaining walls in a front yard from 4 feet to 24 feet, (3) to allow barbed wire to be installed atop fencing, were required in order for City approval. To address the streetscaping issues, the Airport has agreed to improve streetscaping along Dresden Drive as part of this development illustrated in **Figure 5-6**.

Figure 5-6: Dresden Drive Streetscape

Michael Baker International, 2020.

5.2.2 VOR Development Area

As mention in the previous chapter, FAA is moving opposite of ground-based navigation systems (VOR) to a satellite-based system. For this reason, PDK VOR is on the FAA list to be decommissioned, or removed from service within the short-term planning period. In this regard, a large area east of Runway 3R-21L and north of the Ops Area would subsequently be available to expand general aviation infrastructure and to include a site for an aviation museum. Several alternatives have been established to investigate feasibility options to achieve the spaces needed in order to accommodate the anticipated based aircraft demand.

VOR Development Area Alternative 1

Southeast Development Alternative 1 is depicted in **Figure 5-7**. The features of this alternative are described below.

Alternative 1 proposes a node of corporate hangars directly north and south of the Ops Area. Four 12,000 square-foot corporate hangars north of the Ops Area and seven 12,000 square-foot immediately south of the Ops Area. The Ops Area will be converted to an ADG III taxiway to provide aircraft access to this area. T-hangar development is proposed along the east side of Runway 3R-21L where six 13-unit T-hangars, one 10-unit T-hangar, one 4-unit T-hangar and aircraft parking and tie-down area totaling 184,393 square-yard combined would be planned north and south of the T-hangar configuration. South of Runway 34, and east of Runway 3R-21L, is the site of 150,000 square-foot aviation museum. The proposed site for the aviation museum is bordered by the RPZ of Runway 34 towards to north, a proposed parallel taxiway to the west, Buford Highway and Independent Plaza shopping center on the south. A total of 11 acres is allocated for the proposed museum site.

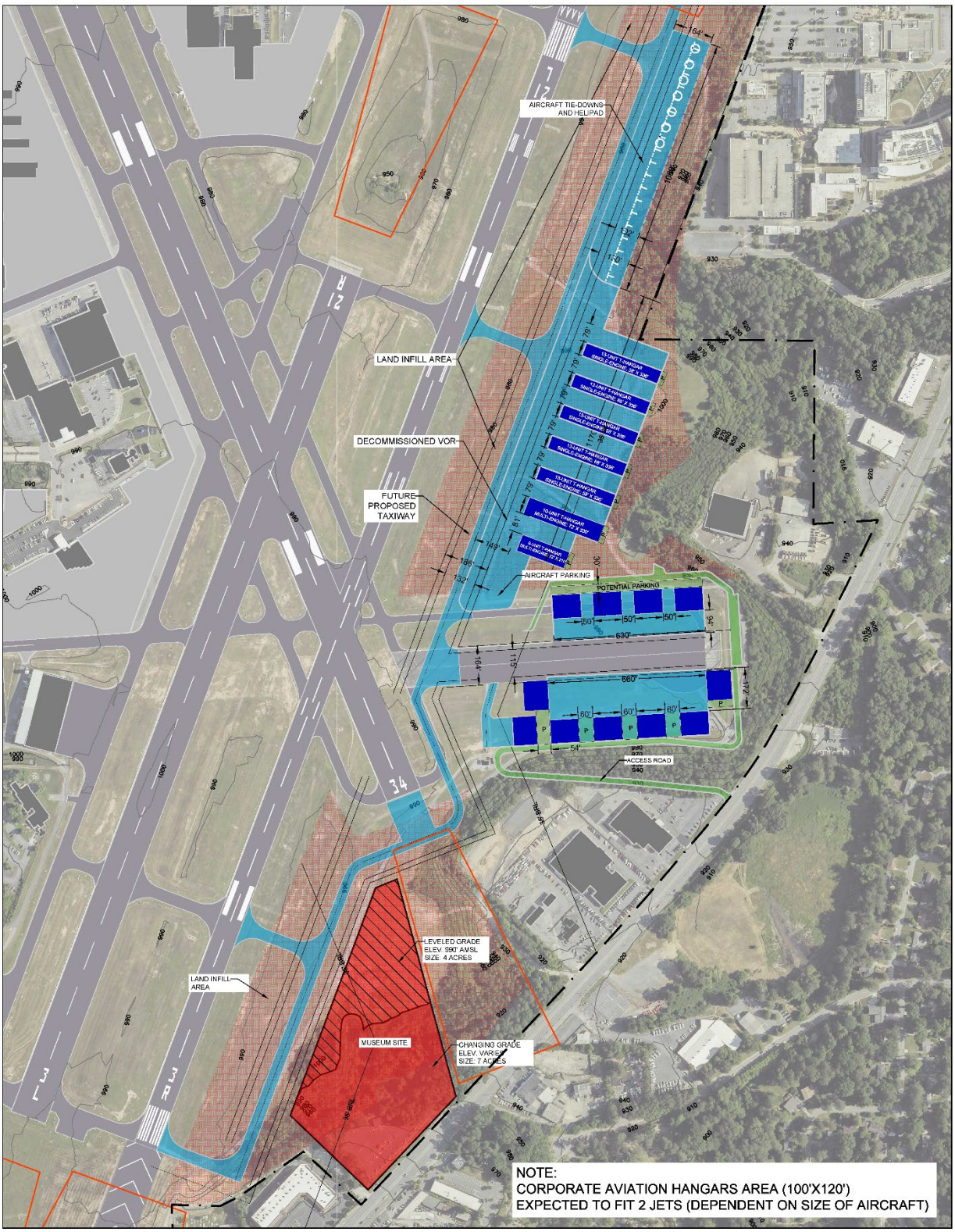
The table below highlights the number of aircraft hangar spaces that East Area Alternative 1 would be able to accommodates.

Table 5-1: East Area Alternative 1 Aircraft Hangar Space Count

Aircraft Type	Single Engine	Multi-Engine	Jet	Heli
Objective	**85 spaces**	**13 spaces**	**28 spaces**	**6 spaces**
Meets Objective	**x**	✓	**x**	✓
Difference	20 spaces needed	-	8 spaces needed	-

Note:
This table considers the expected number of jets (approximately 16) anticipated to be accommodated in the Southwest Quadrant development.
Helicopter assumes tie-down.

Figure 5-7: East Area Development Area Alternative 1



Source: Michael Baker International, 2019

VOR Development Area Alternative 2

Southeast Development Alternative 2 is depicted on **Figure 5-8**. The features of this alternative are described below.

Alternative 2, includes ten corporate hangars developed immediately around the Ops Area. Provided access by a new taxiway; five additional corporate hangars and aircraft/heli tie-down are proposed north of the Ops Area and parallel to Runway 3R-21L. A 150,000 square-foot aviation museum is proposed south of the Ops Area with access from Buford Highway. An additional 12,000 square foot hangar located south of the Ops Area would be included and used as hangar space for the aviation museum. Unlike the previous alternative, T-hangar development would occur east of Runway 3R-21L where five 13-unit single-engine T-hangars, are planned. Vehicular access to this area is provided by an access road connected to Buford Highway.

The table below highlights the number of aircraft hangar spaces that East Area Alternative 2 would be able to accommodate

Table 5-2: East Area Development Alternative 2 Aircraft Hangar Space Count

Aircraft Type	Single Engine	Multi-Engine	Jet	Heli
Objective	**85 spaces**	**13 spaces**	**28 spaces**	**6 spaces**
Meets Objective	**x**	**x**	✓	✓
Difference	20 spaces needed	13 spaces needed	-	-

Note:
This table considers the expected number of jets (approximately 16) anticipated to be accommodated in the Southwest Quadrant development.
Helicopter assumes tie-down.

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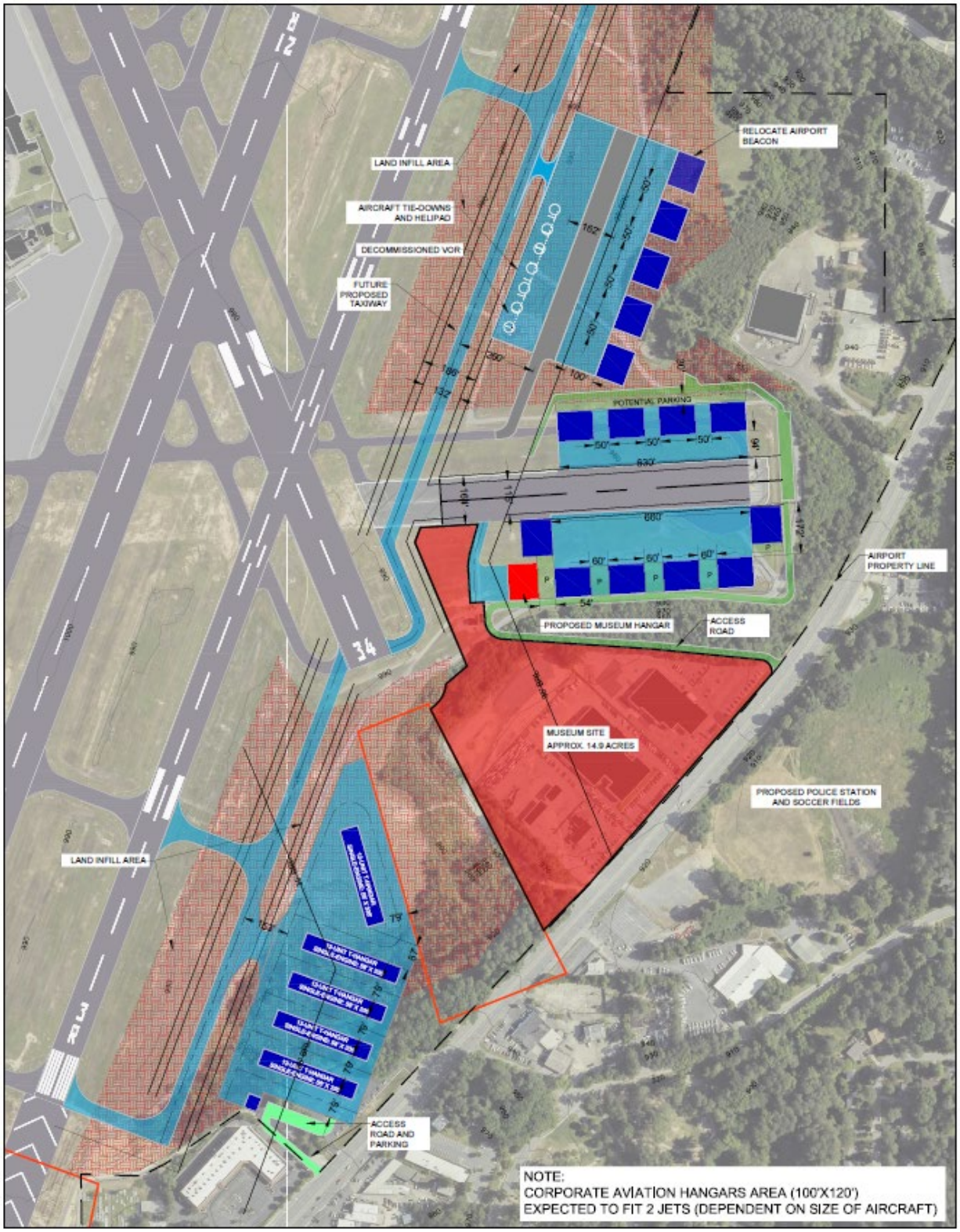
Figure 5-8: East Area Development Alternative 2



Source: Michael Baker International, 201

VOR Development Area Alternative 3

Southeast Development Alternative 3 is depicted on **Figure 5-9**. The features of this alternative are described below.

Alternative 3 illustrates ten corporate hangars located around the Ops Area. Four 12,000 square foot hangar to the north while six 12,000 square foot hangars are planned to the south of Ops Area. The Ops Area will be refitted as an ADG III taxiway for aircraft movement. Parallel to Runway 3R-21L an additional five 12,000 square foot corporate hangars and a total of four T-hangars are expected. Aircraft entry to this area will be by way of Taxiway C as well as a proposed new parallel taxiway. Five T-hangars to accommodate single-engine aircraft is located south of Runway 34 and east of Runway 3R. A new access road from Buford Highway will be the point of entry for vehicular traffic. The proposed site for the aviation museum encompasses 14.9 acres of land east of Runway 34 and south of the Ops Area. Similar to Alternative 2, an additional 12,000 square foot hangar located south of the Ops Area will be incorporated and used for the aviation museum.

The table below highlights the number of aircraft hangar spaces that East Area Alternative 3 would be able to accommodate

Table 5-3: East Area Alternative 3 Aircraft Hangar Space Count

Aircraft Type	Single Engine	Multi-Engine	Jet	Heli
Objective	**85 spaces**	**13 spaces**	**28 spaces**	**6 spaces**
Meets Objective	✓	✓	✓	✓
Difference	6-unit surplus	7-unit surplus	-	-

Note:
This table considers the expected number of jets (approximately 16) anticipated to be accommodated in the Southwest Quadrant development.
Helicopter assumes tie-down.

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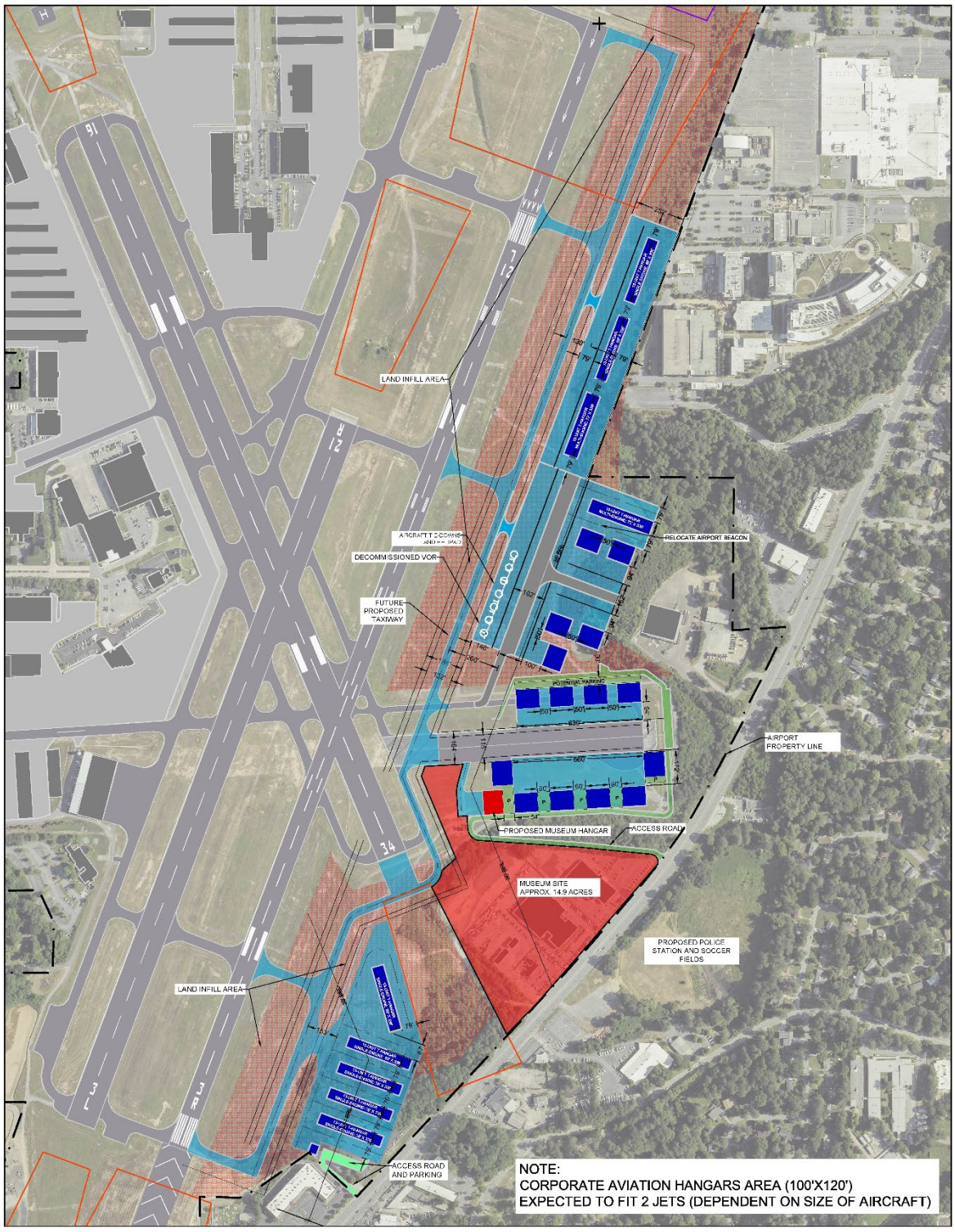
Figure 5-9: East Area Development Alternative 3



Source: Michael Baker International, 2019

Preferred VOR Development Area Alternative

Southeast Development Alternative 2 is depicted on **Figure 5-8**.

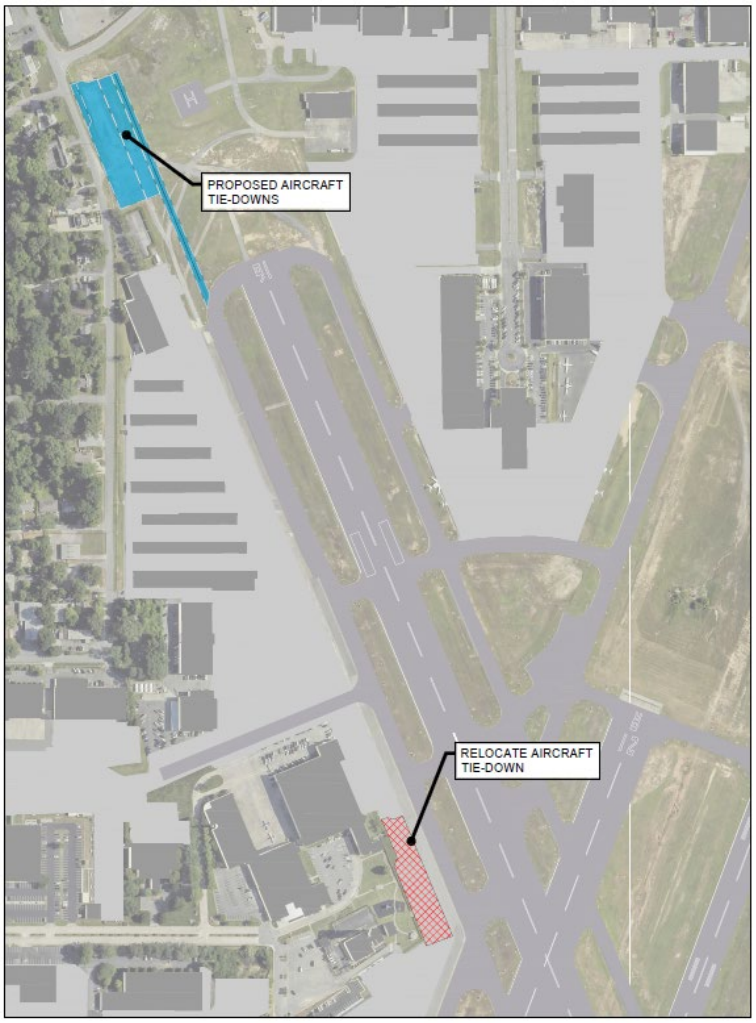
5.3 Northeast Quadrant Improvements

Previously, the *Facility Requirements* chapter identified two areas for consideration herein. A primary recommendation dealt with replacing providing additional storage for aircraft using tie-downs in addition to replacing County T-Hangars.

5.3.1 County Tiedown Relocation

Relocation of existing aircraft tie-downs located adjacent to the Airport Administration Building is proposed north of Airport County Hangars parallel to Runway 16. Shown in **Figure 5-10**, the proposed 13,535 square yard tie-down ramp is approximately 985 square-yards larger and is expected to accommodate roughly 20 single-engine aircraft. The major disadvantage of relocating the ramp to this location would be lack of flight training facilities and proximity to off airport land uses.

Figure 5-10: Relocated Tiedown Ramp

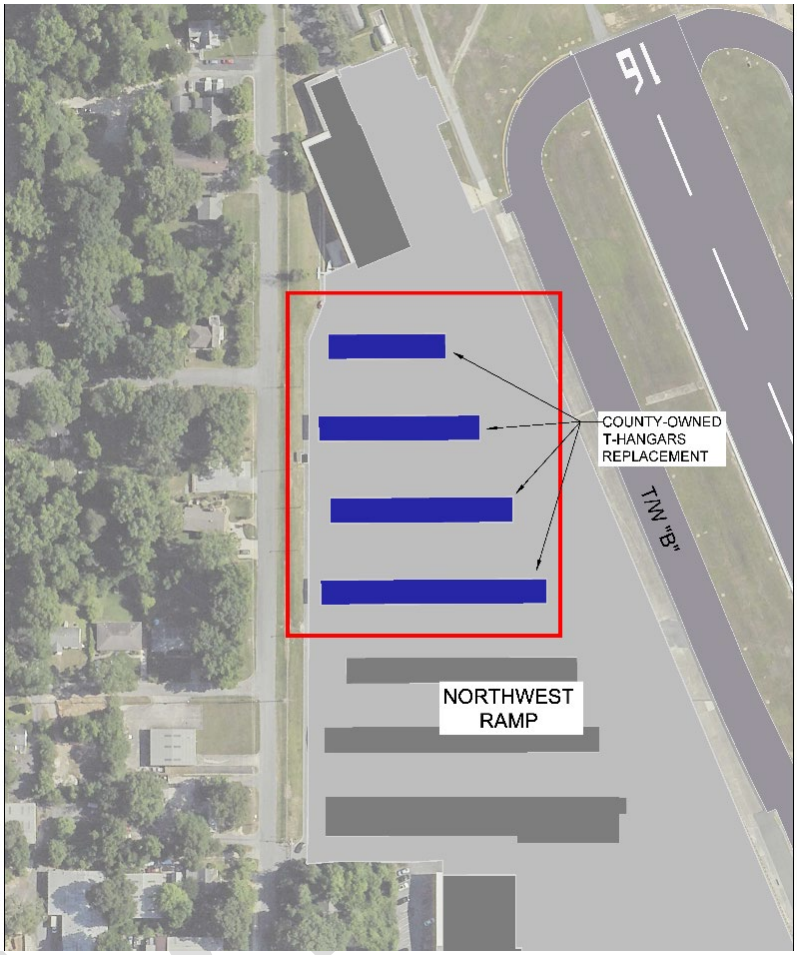


Source: Michael Baker International, 2020

5.3.2 County T-hangar

Figure 5-11 displays four T-hangars located northern portion of the Northwest ramp at PDK. These T-hangar have serviced well beyond their useful life. According to the previous chapter, the T-hangar should be replaced.

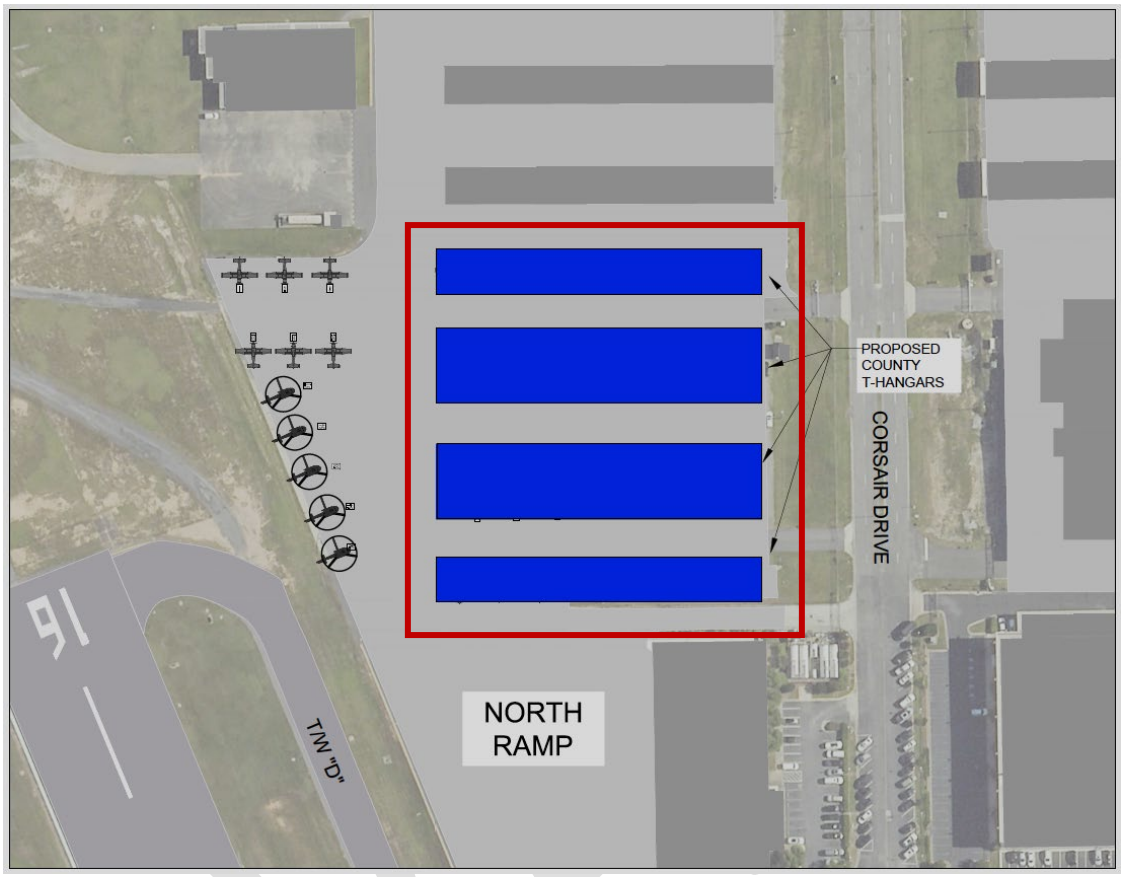
Figure 5-11: County T-Hangar Replacement



Source: Michael Baker International, 2019

In addition, a portion of the North Ramp is typically used for storing smaller single and multi-engine aircraft parked on tie-downs. The owners of these aircraft are typically owned by personal or small business owner who prefer individual space in T-hangars. The TAC along with other users of the Airport have disclose the desire for sheltered aircraft storage; therefore, the development of four County T-hangars is proposed for the North Ramp area east of Runway 16. The T-hangars will replace the existing 46 aircraft tie-down positions located on the ramp shown in **Figure 5-12**.

Figure 5-12: Proposed County T-Hangars



Source: Michael Baker International, 2019

5.4 Administration Building

This 22,000 square foot facility was constructed during World War II and was originally used for military offices. When DeKalb County gain acquisition over the Airport in 1959, the building was converted into the Airport's Administration facilities which once included the Airport's control tower. The Administration Building has undergone various incremental upgrades over the past decades. These upgrades have allowed the Airport to remain functional and for the Administration Building to remain within the same basic footprint. However, this World War II building has not only surpassed its useful life but inherited and adapted many significant issues over the decades such as:

- Non-ADA compliant - No elevators,
- Evidence of asbestos in areas of the building,
- No sprinkler system, a violation of Fire Code,
- Lack of central HVAC, relying solely on window units.

The Administration building, and its immediate vicinity have undergone a feasibility plan in order to evaluate and determine the future of the existing PDK Airport Administration facility building and surroundings given the needs and anticipated growth of the airport. The information gained from the study will be a catalyst to assist DeKalb County in making informed and thoughtful decisions on the building's fate. The findings from study are outlined below.

- **Site and Parking**: An above-ground parking deck is envisioned to accommodate administrative spaces displaced by renovation and new construction as well as creating a secure central location for people to park when visiting or working at the airport campus.
- **Structural**: The existing structure can be generally characterized to be in good condition. More investigation would be required if full renovation of the existing structure is preferred. If a vertical expansion of the building is desired, structural reinforcing would be required.
- **Roofing**: The roof appears to be approaching the end of its usable life and should be replaced.
- **Exterior Architecture**: If the building is renovated, windows should be replaced. Sound isolation strategies should be investigated. Weather barriers and drainage layers of the building facade should be tested to ensure future performance.
- **Mechanical**: All PTAC units should be removed. A new HVAC system should be installed. Steam boiler and steam radiators should be removed. Restroom exhaust systems should be brought up to current code.
- **Electrical**: A new 3-phase electrical service and distribution panelboard should be installed. Existing electrical panels and services are outdated.
- **Plumbing**: Existing plumbing should be scoped to evaluate its current condition. If they are free of breaks or clogs and in working order, they can remain in service. Portions of the domestic hot/cold water systems are beyond life expectancy and corroding. They should be replaced. All water heaters are beyond life expectancy and should be replaced.
- **Fire Protection**: No sprinkler system is present in the building. A new automatic wet pipe sprinkler system should be installed. No fire alarm is present. A code compliant fire alarm system should be installed.
- **Hazardous Materials**: Asbestos Containing Materials (ACM) and Lead Based Paint (LBP) were found throughout the building. These materials should be properly abated.
- **Interior Architecture**: All loadbearing walls should be re-finished. All non-loadbearing walls should be replaced during a renovation. All flooring should be replaced. All acoustical ceiling tile should be replaced. All light fixtures should be replaced with LED fixtures. Any damaged doors should be replaced.
- **Life Safety**: An enclosed fire-rated stairway should be created. An accessible area of refuge should be created in conjunction with rated stairway. All egress lighting should be checked and updated as needed. All egress paths should be verified as brought up to current code.
- **Accessibility**: The building does not meet all accessible building standards. The inclusion of an elevator would allow unrestricted access to the second floor. All toilet rooms do not meet current ADA standards and should be brought up to compliant levels.

Taken from the Administration Building Feasibility Study, the concepts below examine three possible alternatives for the Administration Building.

Administration Building Alternative 1: Full Building Renovation with New Addition

The 2-story, approximately 22,000 SF existing structure would be completely renovated. Shown in, **Figure 5-13**, this renovation

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would bring the existing facility up to current building code standards as well as meet ADA compliance for all spaces and floors. This would entail, but not be limited to, the following:

- Abatement of all hazardous materials as noted in this report
- Removal of all non-load bearing walls
- Removal of all windows and vinyl siding infill, and replace with new storefront-type windows with sound-proof glazing
- Remove and replace all electrical systems
- Remove and replace all plumbing lines, abandoning lines under the slab
- Core and trench for new plumbing as needed
- Replacement of roofing membrane, insulation, roof decking if deficient, gutters and downspouts
- All new interior walls would be constructed of metal stud framing with painted gypsum wallboard
- Installation of new central heating and air conditioning system
- Installation of new fire sprinkler and fire alarm system

The addition would be approximately 14,000 SF to meet the overall requirements of the new program as defined by the current manager and staff of the facility. The addition would have the following spaces or features:

- Two-story to three-story structure Type II-B, steel and concrete construction
- Two elevators (one passenger and one freight)
- Two new egress stairways
- Office spaces for PDK staff
- Tenant space
- Large conference room

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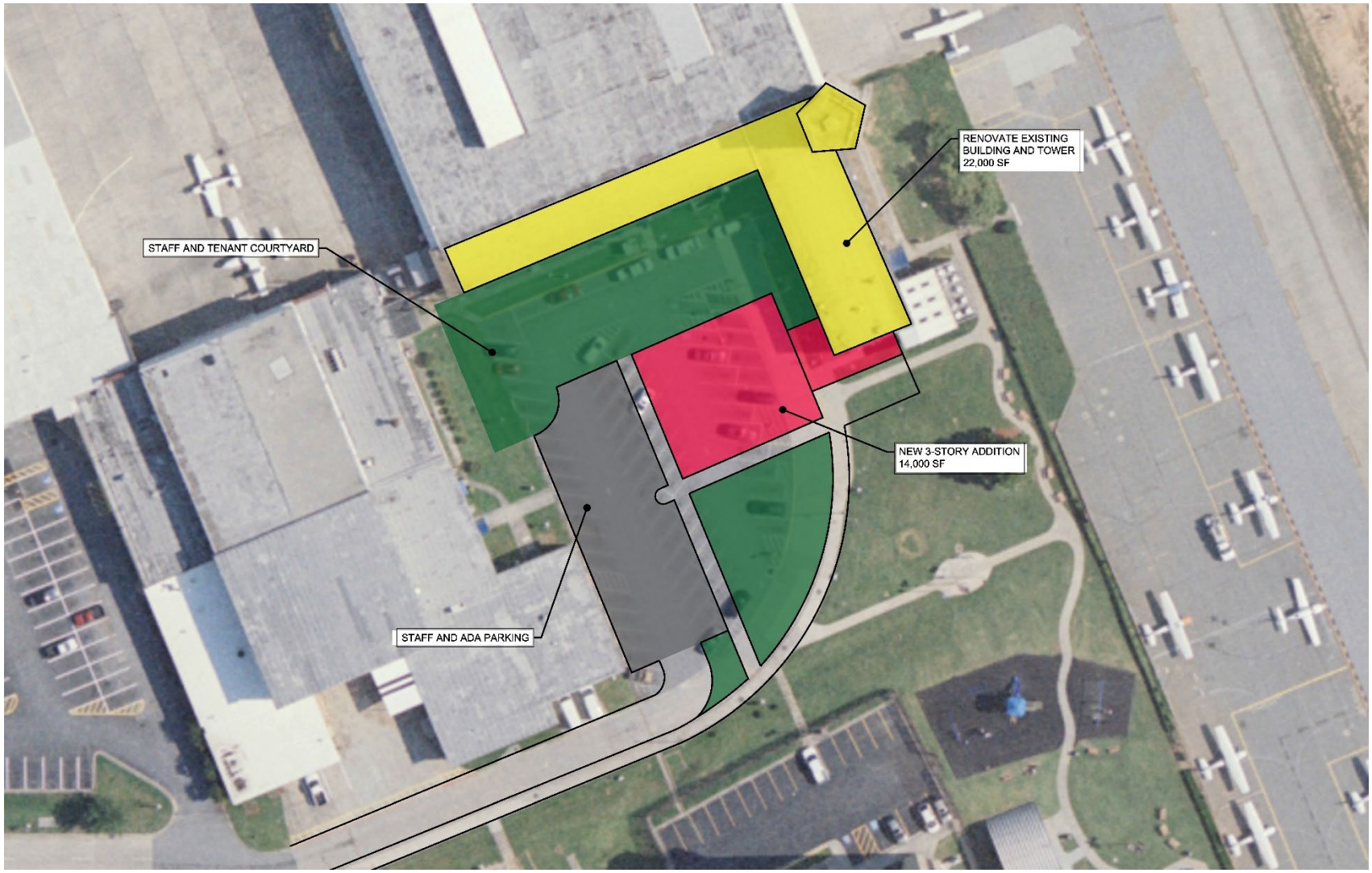
Figure 5-13: Full Building Renovation with New Addition



Source: Michael Baker International, 2019

Administration Building Alternative 2: Partial Building Renovation, Partial Building Demolition with New Addition

This scenario displayed in, **Figure 5-14**, envisions part of the existing building being salvaged and renovated while part of it is demolished. Because the north wing is integral to the existing airplane hangar construction and contains the structure for the old control tower, it seems appropriate that this two-story section remain while the east wing could be demolished to make way for a new and larger addition. This option recognizes and understands the nostalgic worth of the historic building while seeking to improve upon the limitations inherent with its construction and current condition.

The renovated portion/wing of the building would correspond to the criteria and parameters laid out in Option A above. The renovated area would be approximately 10,400 SF. The new wing/addition would be approximately 26,000 SF.

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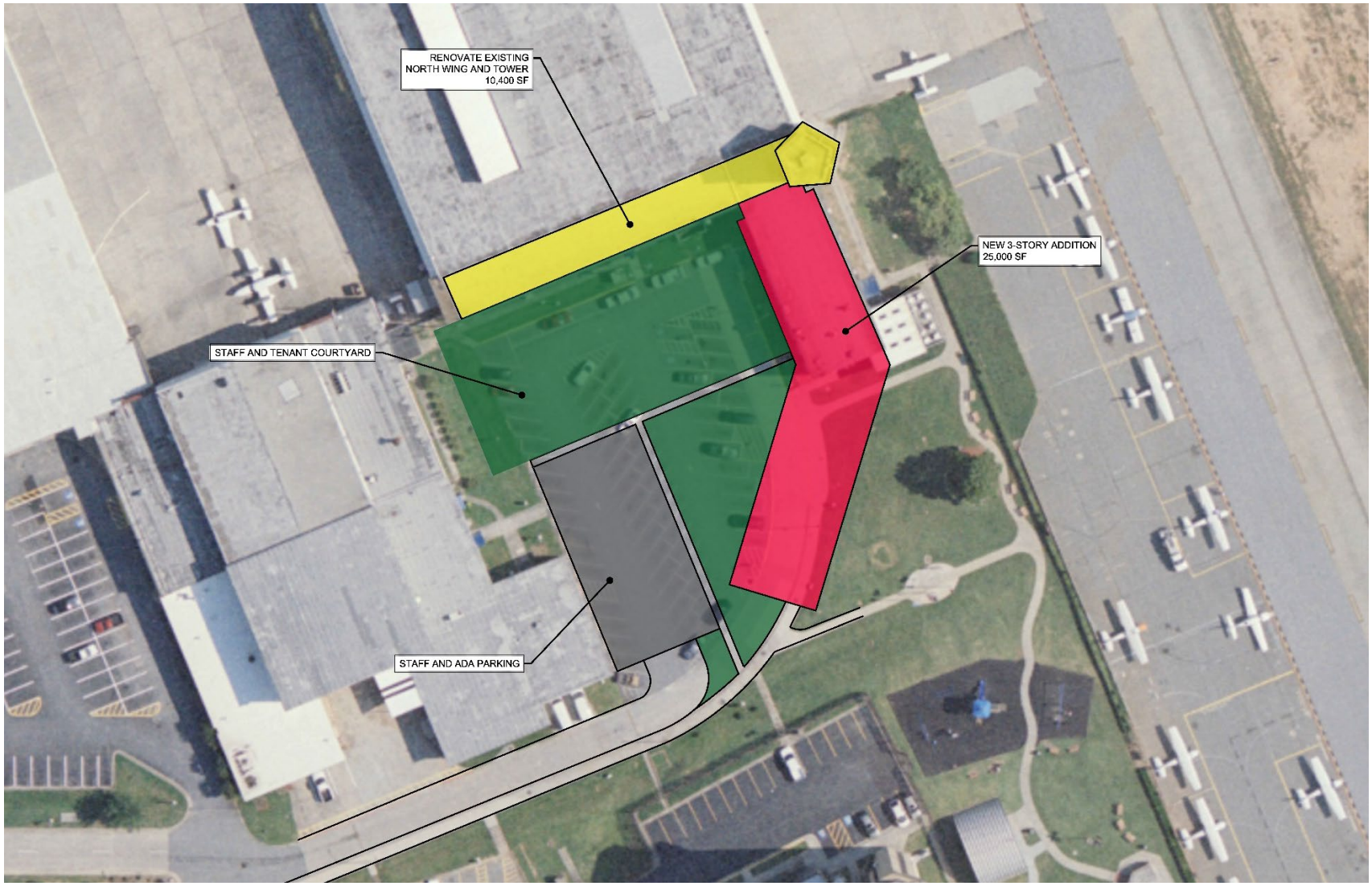
Figure 5-14: Partial Building Renovation, Partial Building Demolition with New Addition



Source: Michael Baker International, 2019

Administration Building Alternative 3: Full Building Demolition and New Building Construction

Because of the limitations of the existing structure and the increase in programmatic needs, a full demolition and rebuild of a new facility should be considered illustrated in **Figure 5-15** as well despite the nostalgic and historic value of the existing building. Each previous section has attempted to document and define the existing conditions and made specific recommendations for solutions to current issues, but there remain many deficiencies with the existing building. A new administration facility would meet the current and future needs as documented in the proposed program of spaces of the PDK airport administration, its tenants, and visitors to the site.

An entirely new, ground-up facility would be potentially three stories and approximately 36,000 SF.

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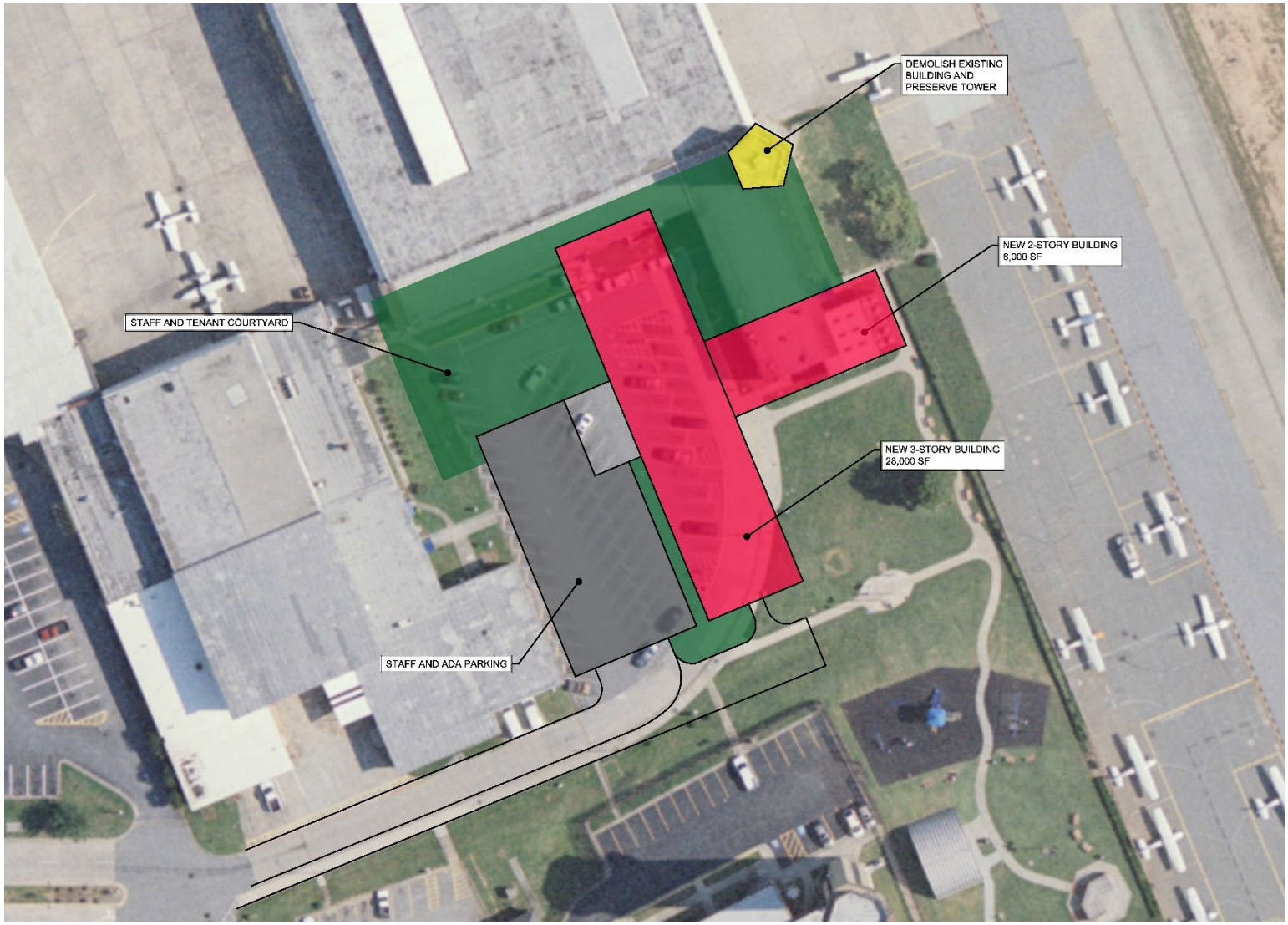
Figure 5-15: Full Building Demolition and New Building Construction



Source: Michael Baker International, 2019

5.4.1 Administration Vehicle Parking/Public Space

Parking will also be addressed in support of the provided for the Administration building scenarios. The existing parking options are two lot that total 147 usable spaces. The more utilized lot is located directly in front of the Administration building and contains 61 general use spaces, while the less utilized lot is further away from the Administration building and contains 71 general spaces. The remainder of parking spaces is split between handicap accessible, electric charging station and staff parking. Both lot are public and available for visitors of the PDK Administration building or the Doc Manget Memorial Aviation Park.

While some parking spaces, assumed to be staff and ADA-compliant will remain as surface spaces adjacent to the Administration building, a new 200-space above-ground parking deck is envisioned to accommodate administrative space displaced by renovation and new construction as well as creating a secure central location for people to park when visiting or working at the Airport. The new deck would be situated where the existing south surface lot is currently located. The geometry and space required for an efficient parking deck is well suited in this location. In order to provide adequate parking for the capacity determined within the study, the deck would likely be a two and a half story structure.

5.5 Aircraft Rescue Fire Fighting

Improvements to the Airport's existing ARFF station will be addressed within short-term planning. This hangar converted into an ARFF station is located north of the Airport south of Flightway Drive. Since the building wasn't originally designed as an ARFF station, users have expressed some issues regarding the building which include, inefficient access to the airfield along with inadequate crew quarters and vehicle storage. Because the existing ARFF station at the Airport services both the Airport and DeKalb County, it is expected for the existing station to remain at the Airport.

In conjunction with a previous project this master plan plans to provide an additional ARFF station on the Southwest Quadrant of the Airport. This project will improve incident response times to the southern portion of the airfield. Unlike the ARFF Station #15 located in the north portion of the Airport which is a joint use County and Airport Fire Station, this project represents a development of a new 3,600 SF aircraft rescue firefighting station which will be used exclusively for PDK's airfield.

5.6 Airport Security

Airport security is important in order to identify and reduce existing or potential risks, threats, targets and vulnerabilities to the airport facility. DeKalb County provides 24-hour security personnel for PDK. Security facilities at PDK are in the administration building located in the west basing area. It is expected for new administration building to include space for airport security

5.7 Environmental Considerations

During preparation of the Master Plan, environmental factors should be considered to determined potential environmental impacts of airport development alternatives and the identification of environmentally related permits that may be required for recommended development projects. Chapter 2, Inventory of Existing Conditions provides an overview of potential considerations at the Airport. These considerations generally fall into environmental categories in the FAA Order 1050.1F and the FAA 1050.1F Desk Reference. These categories include:

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- Air quality,
- Biological resources,
- Determination of Transportation Act, Section 4(f),
- Hazardous materials, solid waste, and pollution prevention,
- Historical, architectural, archeological, and cultural resources,
- Land use,
- Natural resources and energy supply,
- Noise,
- Environmental Justice,
- Lighting Emissions and Visual effects, and
- Water resources.

Table 5-4 and **Table 5-5** provide a preliminary assessment of potential environmental factors of each proposed development concept and alternative divided into airside and landside projects. Airside project includes those projects most directed associated with aeronautical activities. Landside projects include those most directly association with airport support functions.

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Table 5-4: Potential Environmental Considerations of Airside Improvements

NEPA Impact Categories	Potential Impact								
	Rehab Airfield Pavements	VOR Development Area (Alts 1-3)	Runway 34 RSA Improvement	Proposed Landfill Removal	Proposed Eastside Parallel Taxiway	Proposed Lighting System Upgrade	Remove/Relocate Aircraft Tie-Downs	NW T-Hangar Replacement	Convert County Tie-Downs to T-Hangar
Air Quality	N	Y	N	N	Y	N	N	N	N
Biological Resources	N	Y	Y	N	Y	N	N	N	N
Land Use Impacts	N	N	N	N	N	N	N	N	N
Construction Impacts	Y	Y	Y	Y	Y	Y	Y	Y	Y
Section 4(f) Resources	N	N	N	N	N	N	N	N	N
Endangered Species	N	N	N	N	N	N	N	N	N
Energy Supplies, Natural Resources and Sustainability	N	Y	N	N	Y	Y	Y	N	N
Environmental Justice	N	N	N	N	N	N	N	N	N
Farmlands	N	N	N	N	N	N	N	N	N
Hazardous Materials	N	Y	N	Y	Y	N	Y	Y	Y

Historical, Archaeological and Cultural Resources	N	Y	N	N	N	N	N	N	N
Induced Socioeconomic Impacts	N	N	N	N	N	N	N	N	N
Light Emissions and Visual Effects	N	Y	N	N	N	N	N	N	N
Noise	N	Y	N	N	Y	N	Y	N	N
Social Impacts	N	N	N	N	N	N	N	N	N
Solid Waste	Y	Y	Y	Y	Y	N	N	N	N
Water Quality	Y	Y	Y	Y	Y	N	Y	Y	N
Wetlands	N	Y	N	Y	Y	N	N	N	N
This table represents an initial opinion of potential environmental considerations not a final determination of impacts. Evaluation of federally funded projects occurs during the NEPA process prior to implementation of the project.									

Source: Michael Baker International, 2020.

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Table 5-5: Potential Environmental Considerations of Landside Improvements

NEPA Impact Categories	Potential Impact			
	Rehab Interior Roads (Airport, Corsair, Flightway)	Admin Building and Parking Deck (Alts 1-3)	Relocate Flightway Drive Entrance	Remove County Sanitation
Air Quality	N	N	N	N
Biological Resources	N	N	Y	Y
Land Use Impacts	N	N	N	N
Construction Impacts	Y	Y	Y	Y
Section 4(f) Resources	N	Y	N	N
Endangered Species	N	N	N	N
Energy Supplies, Natural Resources and Sustainability	N	N	N	N
Environmental Justice	N	N	N	N
Farmlands	N	N	N	N
Hazardous Materials	N	Y	N	Y
Historical, Archaeological and Cultural Resources	N	Y	N	N
Induced Socioeconomic Impacts	N	N	N	N
Light Emissions and Visual Effects	N	N	N	N
Energy Supply & Natural Resources	N	N	N	N
Noise	N	N	N	N

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Social Impacts	N	N	N	N
Solid Waste	Y	Y	Y	Y
Water Quality	Y	Y	Y	Y
Wetlands	N	N	Y	N
This table represents an initial opinion of potential environmental considerations not a final determination of impacts. Evaluation of federally funded projects occurs during the NEPA process prior to implementation of the project.				

Source: Michael Baker International, 2020.

5.2 Preferred Alternative

Figure 5-16 presents the preferred alternative for airfield improvements at DeKalb Peachtree Airport.

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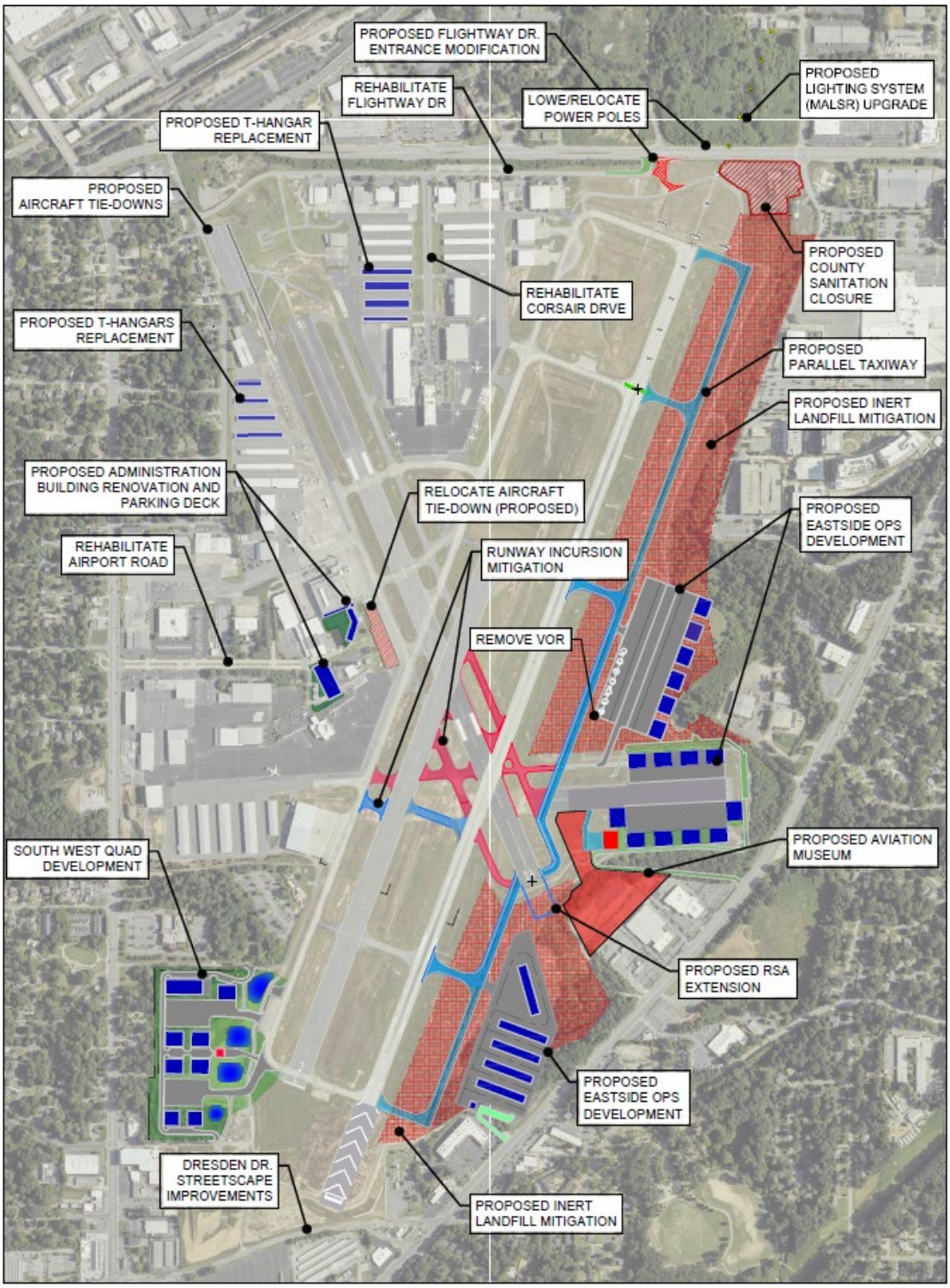
Figure 5-16: PDK Improvements



Source: Michael Baker International, 2020