

Chapter 4: Analysis of Alternatives

4.0 Introduction

The preceding portions of this report provided forecasts of aviation demand, results of the capacity analysis, and descriptions of the determinations of facility requirements for Pompano Beach Air Park (PMP). The estimates of facility requirements and conclusions concerning existing conditions that do not conform to FAA guidelines suggest the need for improvements. The purpose of this evaluation of alternatives is to identify various ways in which improvements to meet anticipated demand could be accomplished.

This analysis involves three broad approaches. The first establishes a baseline alternative that provides no capital improvements to the existing airport. The second considers upgrading the airport to meet FAA standards and guidelines for airports serving the types of aircraft currently using and forecast to continue using the airport. Under the third category, selected improvements are considered for areas such as airfield capacity enhancements that would improve the overall efficiency of the airfield, both from an operational perspective and in terms of cost considerations. Accompanying this examination of airfield alternatives, options for landside facilities are identified and evaluated.

The process used involved an initial definition of alternatives on an unconstrained basis; the options identified were based totally upon airport planning guidelines and criteria. These conceptual alternatives were based upon a goal of responding to aviation demand using the FAA guidelines. In the second step of the process, a preliminary screening of the alternatives was performed by introducing site specific considerations such as community compatibility/acceptability, site limitations, etc. In that preliminary screening, certain aspects of alternatives could be refined or individual alternatives could be eliminated from further consideration.

4.1 Identification of Airfield Alternatives

This section presents an analysis of alternative airfield concepts for PMP based upon existing and future airside facility requirements identified earlier in this study. The main purpose of this analysis is to develop and evaluate long-range alternatives for the airfield that focus on the ability to: standardize and meet FAA dimensional criteria for the runways and taxiways; satisfy projected demand and facility requirements; enhance airfield capacity thereby keeping pace with demand; address runway line-of-sight issues; and protect surrounding airspace by addressing potential obstructions and hazards to air navigation.

Four alternatives were developed that fulfill the main purpose of the analysis stated above, to various degrees. All of the alternatives were designed to standards in accordance with an Airport Reference Code (ARC) of B-II as determined in chapter 3.2 of Interim Report No. 1 and presented in Table 3.2. As an exception, the Runway Protection Zone (RPZ) for Runway 10-28 reflects the use of the runway by small aircraft only. For purposes of comparison and use as a baseline reference, an additional scenario, Maintain Existing Conditions, was included in the

analysis.

Three alternatives apply the use of “declared distances” to meet certain design standards. The FAA developed this design method for cases where it is impractical to meet certain design standards without shifting landing thresholds and or/departure points of a runway. This method treats aircraft performance distances independently by “declaring” the distances available on a specific runway to satisfy an airplanes takeoff run, takeoff distance, accelerate stop distance, and landing distance requirements. The elements of declared distances are outlined below:

- **Takeoff Run Available (TORA)** - Runway length declared available for ground run of aircraft from break release to liftoff.
- **Takeoff Distance Available (TODA)** - Length declared available for ground run of aircraft through start of takeoff climb.
- **Accelerate Stop Distance Available (ASDA)** - Distance declared available for aircraft to accelerate to V_1 and then decelerate to a full stop.
- **Landing Distance Available (LDA)** - Distance declared available from the landing threshold to complete the approach, touchdown, and decelerate to a stop.

The use of this design method is runway specific and must be approved by the FAA. The printing of applicable information is required in all appropriate pilot information materials and navigational charts.

4.1.1 Alternative 1 – Maintain Existing Conditions

Alternative 1, Maintain Existing Conditions, is illustrated in Figure 4-1. In this alternative, no future airfield improvements are planned other than the proposed interim helipad identified on the Figure. An FAA Form 7480-1, Notice of landing Area Proposal, was submitted to the FAA on November 2, 2007 for this helipad in support of modified helicopter operations. The location of this helipad is considered temporary. A new location for the helipad will be identified as part of the selection of the preferred airside alternative. An area is identified west of Runway 15 for potential landside aviation development that encompasses 61 acres. Also identified in Figure 4-1 is 190 acres of land east of Runway 15-33 with the potential for future aviation related use.

This scenario does not address existing conditions that are nonstandard such as the runway to parallel taxiway centerline-to-centerline separations and the Federal Aviation Regulations (FAR) Part 77 approach surface clearance requirements for existing runway ends. This alternative would be inclusive of routine airfield repair and maintenance projects necessary to ensure continual operations.

Figure 4-1N illustrates the potential aviation noise impacts to on- and off-airport land uses based upon activity levels anticipated in 2027. Under this alternative scenario, a small portion of the DNL 65 extends beyond airport boundaries and into adjoining commercial and recreational land uses to the southeast. These uses are considered compatible within DNL 65. (Chapter 5.15 of this report presents additional detail regarding the development of the noise exposure contours and FAA standards in place regarding land use compatibility around airports.)

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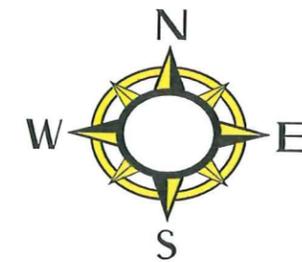
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sheet title		sheet	
MAINTAIN EXISTING CONDITIONS		FIGURE 4-1	



Figure 4-1N
Pompano Beach Air Park
Master Plan Update
Alternative 1 DNL Noise Contour
Maintain Existing Conditions

Legend

- 65 DNL
- 70 DNL
- 75 DNL



The main benefits and issues associated with this alternative are:

- Negligible or no capital costs associated with airfield improvements;
- 190 acres of land east of Runway 15-33 identified for future aviation-related use;
- 61 acres of land west of Runway 15 identified for aviation landside development;
- Nonstandard separation between Runway 6-24 and Taxiway M;
- Nonstandard separation between Runway 10-28 and Taxiway K;
- Penetration of the object free area of Taxiway L by the aircraft parking positions located south of the taxiway;
- Inadequate clearance (less than 15 feet) of the Part 77 approach surface to Runway 33 at NE 10th Street;
- Penetration of the Part 77 approach surface to Runway 6 by street lights located on NE 5th Avenue;
- Line-of-sight between the Runway 15 and Runway 24 ends is obscured by trees; and
- Increased operating and maintenance costs associated with runway pavements that are wider than required.

4.1.2 Alternative 2 – Upgrade to FAA Design Standards

Figure 4-2 depicts Alternative 2, Upgrade to FAA Design Standards, which addresses the existing airfield conditions that are nonstandard and provides limited enhancement to airfield capacity. In accordance with ARC B-II standards, this alternative proposes that Runways 6-24 and 10-28 are reduced to a width of 75 feet. Additionally, the alternative proposes that the width of Runway 15-33 be reduced from 150 feet to 100 feet. This width provides a level of flexibility should either of the runway approaches be upgraded to a precision instrument approach in the future.

This alternative proposes relocation of Taxiway M and Taxiway K to maintain a 240-foot runway to parallel taxiway centerline-to-centerline separation. The object free area of Taxiway L will be maintained at a total width of 131 feet by relocating the aircraft parking positions approximately 20 feet to the south.

The approach threshold to Runway 33 will be displaced by approximately 340 feet to the northwest providing the required 15-foot height clearance beneath the FAR Part 77 approach surface above NE 10th Street. Runway 15-33 is currently 4,418 feet long. The application of declared distances results in a reduction in the Landing Distance Available (LDA) for arrivals on Runway 33 to 4,078 feet as outlined in Table 4.1.

Two street lights located on NE 5th that penetrate the approach to Runway 6 by approximately 5 feet should be removed, relocated, or lowered. The trees that obscure the line-of-sight between the Runway 15 and Runway 24 ends will require clearing.

Table 4.1: Runway 15-33 Declared Distances – Upgrade to FAA Design Standards		
Operation	Runway Direction	
	Runway 15	Runway 33
Takeoff Run Available (TORA)	4,418'	4,418'
Takeoff Distance Available (TODA)	4,418'	4,418'
Accelerate-stop Distance Available (ASDA)	4,418'	4,418'
Landing Distance Available (LDA)	4,418'	4,078'

Source: Kimley-Horn and Associates, Inc. analysis, 2008

Airfield capacity will be enhanced by the provision of two additional exit taxiways for primary Runway 15-33 located approximately 3,000 to 3,500 feet from each runway end. An additional exit taxiway will be provided for secondary Runway 6-24, approximately 3,500 feet from the Runway 6 end.

Figure 4-2N illustrates the potential aviation noise impacts to on- and off-airport land uses based upon activity levels anticipated in 2027. While this scenario calls for the relocation of the landing threshold on Runway 33 to be moved 340 feet toward the northwest, the start of takeoff roll for aircraft departing on the runway remains unchanged. This results in almost no change in the shape or location of the noise contours on the southeast area of the airport. Like alternative 1, a small portion of the DNL 65 may extend beyond airport boundaries and into adjoining commercial and recreational land uses in this area. These uses are considered compatible within DNL 65 noise levels.

The main benefits and issues associated with this alternative are:

- Standardization of taxiway and runway separations;
- A reduction in future operating and maintenance costs associated with reduced runway widths;
- 190 acres of land east of Runway 15-33 identified for future aviation-related use;
- 61 acres of land west of Runway 15 identified for aviation landside development;
- Adequate clearance of approach surfaces to Runway 33 and Runway 6;
- Enhancement of airfield capacity through the provision of additional exit taxiways; and
- Application of declared distances on Runway 15-33 resulting from a 340-foot reduction in the landing distance available for aircraft arriving on Runway 33.

4.1.3 Alternative 3 – Noise-Safety Alternative

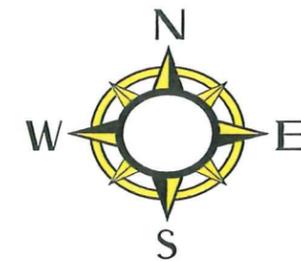
The Noise-Safety alternative is depicted in Figure 4-3. This alternative proposes all of the features of the Upgrade to FAA Design Standards alternative and in addition proposes a 500-foot extension of Runway 15 to the northwest. The landing threshold of Runway 15 will be maintained in its existing location for noise mitigation. The result of the application of declared distances is outlined in Table 4.2.



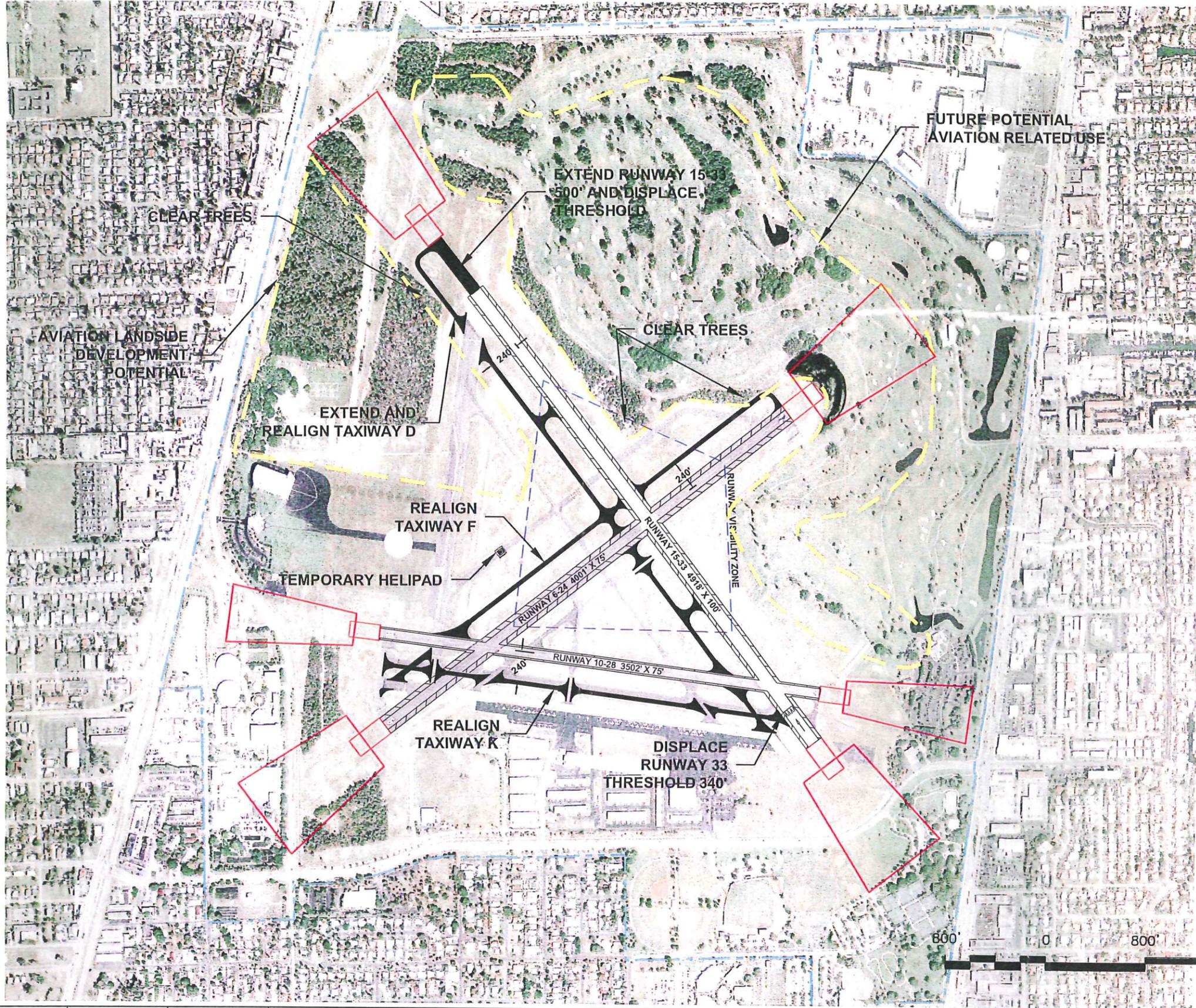
Figure 4-2N
Pompano Beach Air Park
Master Plan Update
Alternative 2 DNL Noise Contour
Upgrade to FAA Standards

Legend

- 65 DNL
- 70 DNL
- 75 DNL



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NOISE SAFETY ALTERNATIVE

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FIGURE 4-3

Table 4.2: Runway 15-33 Declared Distances – Noise-Safety Alternative		
Operation	Runway Direction	
	Runway 15	Runway 33
Takeoff Run Available (TORA)	4,918'	4,918'
Takeoff Distance Available (TODA)	4,918'	4,918'
Accelerate-stop Distance Available (ASDA)	4,918'	4,918'
Landing Distance Available (LDA)	4,418'	4,578'

Source: Kimley-Horn and Associates, Inc. analysis, 2008

Taxiway D will also be extended west to provide access to the new runway end and will be realigned to maintain a 240-foot centerline-to-centerline separation with Runway 15-33. This extension will require that some trees in the conservation area and arboretum be cleared to protect the required taxiway object free area and future approach areas. Taxiway F will be realigned to maintain a 240-foot centerline-to-centerline separation with Runway 6-24 as shown on Figure 4-3. This realignment will also require that trees in the adjacent golf course be cleared to protect the required taxiway object free area.

The potential aviation noise impacts to on- and off-airport land uses are illustrated Figure 4-3N. This contour incorporates the displaced landing threshold on Runway 33 and the extension of the start of takeoff roll location 500 feet to the northwest on Runway 15. The landing threshold location on this runway will remain unchanged. Aircraft will follow the same arrival profile to the runway threshold as they do today. This scenario results in a shift of the noise contours on the Runway 15 end to the northwest, but they remain within the airports boundaries. No noticeable change is expected to occur on the southeast end (Runway 33), despite the 500 foot runway extension on the opposite end. Like alternative 1 and 2, a small portion of the DNL 65 may extend beyond airport boundaries and into adjoining commercial and recreational land uses in this area. These uses are considered compatible within the DNL 65 noise contour.

The primary benefits and issues associated with this alternative are:

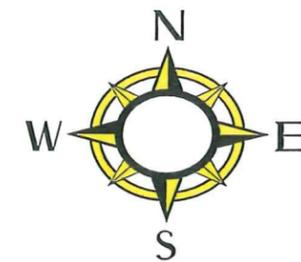
- Standardization of taxiway and runway separations excluding Taxiway K;
- A reduction in future operating and maintenance costs associated with reduced runway widths;
- 190 acres of land east of Runway 15-33 identified for future aviation-related use;
- 73 acres of land west of Runway 15 identified for aviation landside development;
- Adequate clearance of approach surfaces to Runway 33 and Runway 6;
- Enhancement of airfield capacity through the provision of additional exit taxiways;
- Displacement of the Runway 33 threshold by 340 feet to the northwest balanced out by the 500-foot Runway 15 extension to the northwest;
- A potential reduction in departure noise exposure for areas southeast of Runway 15-33;
- Increased capital costs associated with the runway and taxiway extension.



Figure 4-3N
Pompano Beach Air Park
Master Plan Update
Alternative 3 DNL Noise Contour
Noise-Safety

Legend

-  65 DNL
-  70 DNL
-  75 DNL



4.1.4 Alternative 4 – Runway 6-24 Closure

The Runway 6-24 Closure alternative is depicted in Figure 4-4. This alternative proposes all of the elements of the Noise-Safety alternative along with the closure of existing Runway 6-24. In order to fulfill FAA requirements that the crosswind runway provide 80 percent of the length of the primary runway, this alternative would require the extension of Runway 10-28 by 500 feet to the west. The approach threshold to Runway 10 is displaced by approximately 320 feet to the east providing the required 15-foot height clearance beneath the Part 77 approach surface above NE 5th Street. The application of declared distances results in a reduction in the LDA for arrivals on Runway 10 from 4,000 feet to 3,680 feet as outlined in Table 4.3. Two street lights located on NE 5th that will penetrate the approach to Runway 10 by approximately 15 to 20 feet should be removed, relocated, or lowered.

Table 4.3: Runway 10-28 Declared Distances – Runway 6-24 Closure		
Operation	Runway Direction	
	Runway 10	Runway 28
Takeoff Run Available (TORA)	4,000'	4,000'
Takeoff Distance Available (TODA)	4,000'	4,000'
Accelerate-stop Distance Available (ASDA)	4,000'	4,000'
Landing Distance Available (LDA)	3,680'	4,000'

Source: Kimley-Horn and Associates, Inc. analysis, 2008

The closure of Runway 6-24 will open up approximately 78 acres of land for development in the midfield area west of Runway 15 and 14 acres of land south of Runway 10.

The potential noise impacts to on- and off-airport land uses based upon this alternative scenario are illustrated Figure 4-4N. This contour incorporates the displaced landing threshold on Runway 33 and the extension of the start of takeoff roll location 500 feet to the northwest on Runway 15. The landing threshold remains unchanged. This scenario also includes the extension of the Runway 10 end and 320 foot displaced threshold. This scenario results in a shift of the noise contours on the Runway 15 end to the northwest, but they remain within the airports boundaries. No noticeable change is expected to occur on the southeast end (Runway 33), despite the 500 foot runway extension on the opposite end. The closure of Runway 6-24 reduces noise impacts near the golf course and in the airports southwest quadrant, but grows the contours to the west off the end of Runway 10. The DNL 65 may extend beyond airport boundaries and into adjoining commercial and recreational land uses in areas southeast and west of the airport. These uses are considered compatible within the DNL 65 noise contour.

The main benefits and issues associated with this alternative are:

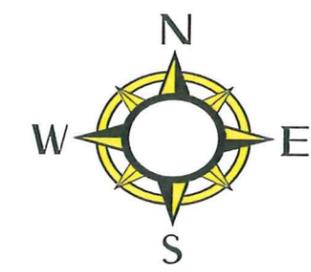
- Standardization of taxiway and runway separations;
- A reduction in future operating and maintenance costs associated with reduced runway widths;



Figure 4-4N
Pompano Beach Air Park
Master Plan Update
Alternative 4 DNL Noise Contour
Closure of Runway 6-24

Legend

-  65 DNL
-  70 DNL
-  75 DNL



- 190 acres of land east of Runway 15-33 identified for future aviation-related use;
- 73 acres of land west of Runway 15 identified for aviation landside development;
- 14 acres of land south of Runway 10 identified for aviation landside development;
- Adequate clearance of approach surfaces to Runway 33 and Runway 10;
- Displacement of Runway 33 threshold by 340 feet to the northwest balanced out by the 500-foot Runway 15 extension to the northwest;
- A potential reduction in departure noise exposure for areas southeast of Runway 15-33;
- A potential reduction in departure noise exposure for areas northeast and southwest of Runway 6-24;
- Increased area for potential development and long-term revenue generation; and
- Increased capital costs associated with the runway and taxiway extension and new parallel runway and taxiway system.

4.1.5 Alternative 4A – Runway 6-24 Closure Alternate

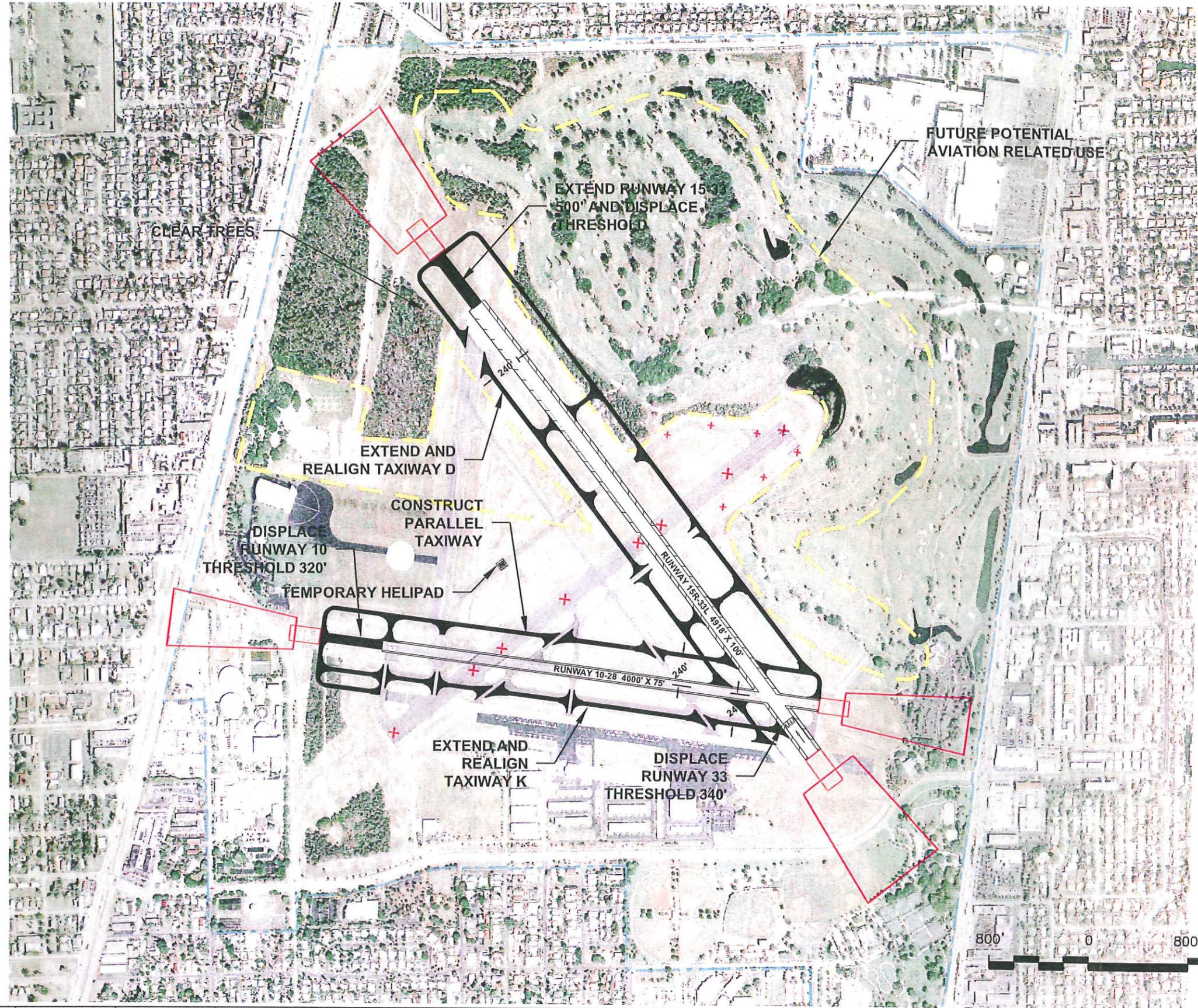
The Runway 6-24 Closure Alternate concept is depicted in Figure 4-4A. This proposes all of the elements of the Runway 6-24 Closure alternative, but assumes the arboretum and conservation area will not be available for future aviation use. Instead, this alternative assumes that the City will make use of certain areas of the golf course for future aviation development as described in the FAA Memorandum of Agreement. This alternative therefore includes a new taxiway parallel to Runway 15-33 on the east side to allow access to the airfield.

The potential aviation noise impacts to on- and off-airport land uses based upon this alternative scenario are illustrated Figure 4-4N, and are the same as impacts associated with Alternative 4.

The main benefits and issues of this concept are:

- Standardization of taxiway and runway separations;
- A reduction in future operating and maintenance costs associated with reduced runway widths;
- 190 acres of land east of Runway 15-33 identified for future aviation-related use;
- 41 acres of land west of Runway 15 identified for aviation landside development;
- 14 acres of land south of Runway 10 identified for aviation landside development;
- Adequate clearance of approach surfaces to Runway 33 and Runway 10;
- Displacement of Runway 33 threshold by 340 feet to the northwest balanced out by the 500-foot Runway 15 extension to the northwest;
- Preservation of the arboretum and conservation areas west of Runway 15;
- A potential reduction in departure noise exposure for areas southeast of Runway 15-33;
- A potential reduction in departure noise exposure for areas northeast and southwest of Runway 6-24; and
- Increased capital costs associated with the runway and taxiway extension and new parallel runway and taxiway system.

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sheet title
**RUNWAY 6-24
 CLOSURE
 ALTERNATE**

sheet
**FIGURE
 4-4A**

4.1.6 Alternative 5 – Runway 10-28 Closure

Figure 4-5 depicts the Runway 10-28 Closure alternative which proposes all of the elements of the Noise-Safety alternative as well as the closure of Runway 10-28. The closure of Runway 10-28 will provide approximately 14 acres of land for development north of the existing general aviation terminal area.

The potential noise impacts to on- and off-airport land uses based upon this alternative scenario are illustrated Figure 4-5N. This contour incorporates the displaced landing threshold on Runway 33 and the extension of the start of takeoff roll location 500 feet to the northwest on Runway 15. The landing threshold location remains unchanged. This scenario results in a shift of the noise contours on the Runway 33 end to the southeast, bringing the DNL 65 noise contour well within the airports boundaries. A significant shift in the DNL 65 occurs to the northeast and in the golf course area due to the increased use of Runway 6. This scenario results in a shift of the noise contours on the Runway 15 end to the northwest, but they remain within the airports boundaries.

The closure of Runway 10-28 reduces noise impacts in the commercial areas east of Federal Highway and near recreational areas south of 10th Street. In this scenario, the DNL 65 remains entirely within airport boundaries.

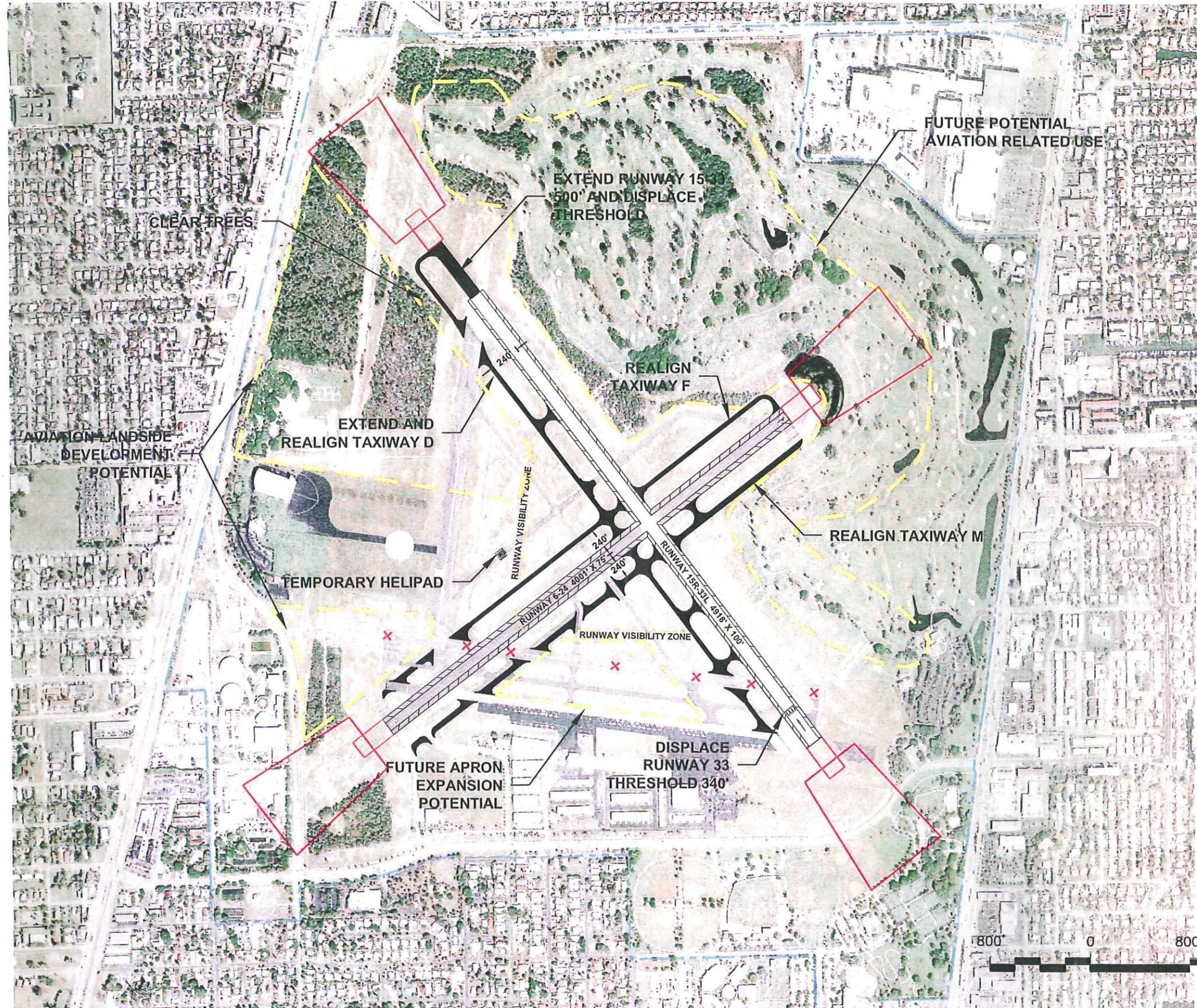
The principal benefits and issues associated with this alternative are:

- Standardization of taxiway and runway separations;
- A reduction in future operating and maintenance costs associated with reduced runway widths;
- 190 acres of land east of Runway 15-33 identified for future aviation-related use;
- 73 acres of land west of Runway 15 identified for aviation landside development;
- 16 acres of land northwest of Runway 6 identified for aviation landside development;
- 14 acres of land north of general aviation terminal identified for apron expansion;
- Adequate clearance of approach surfaces to Runway 33 and Runway 6;
- Displacement of Runway 33 threshold by 340 feet to the northwest balanced out by the 500-foot Runway 15 extension to the northwest;
- A potential reduction in departure noise exposure for areas southeast of Runway 15-33;
- A potential reduction in departure noise exposure for areas east and west of Runway 10-28;
- Increased area for potential development and long-term revenue generation; and
- Increased capital costs associated with the runway and taxiway extension and new parallel runway and taxiway system.

4.2 Preliminary Screening of Airfield Alternatives

These alternatives were subjected to a preliminary evaluation on the basis of several site specific factors, particularly prospective local acceptance of the proposals incorporated in each alternative. On a subjective basis, the conclusions reached are as follow:

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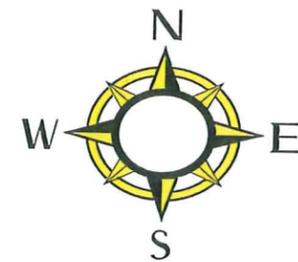
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sheet title RUNWAY 10-28 CLOSURE		sheet 4-5		FIGURE 4-5	



Figure 4-5N
Pompano Beach Air Park
Master Plan Update
Alternative 5 DNL Noise Contour
Closure of Runway 10-28

Legend

-  65 DNL
-  70 DNL
-  75 DNL



- Alternatives 1 and 2, Maintain Existing Conditions and Upgrade to Standards respectively, may be considered the most favored alternatives by the community because they do not include new or lengthened runways. Alternatives 3, 4, 4A, and 5 do include additional length in the interest of exploring the effects upon noise exposure and airfield safety and in response to the recommendation of the FAA outlined in the City-FAA Memorandum of Agreement. The additional length on Runway 15-33 is minimal (500 feet) and is partially offset by a 340-foot displacement of the threshold on Runway 33. Because the runway length has been proposed for noise and safety considerations, the conclusion was reached to include this feature in the alternatives.
- Alternatives 4 and 5 include the extension to Runway 15-33 and also introduce closure of Runway 6-24 or 10-28 primarily because of considerations related to future maintenance costs and lack of FAA funding support for three intersecting runways. This feature of the alternatives was also retained for future evaluation.

4.3 Airside Alternatives Evaluation

The alternative airside concepts were evaluated with respect to various criteria in an effort to assess the general advantages and disadvantages of each concept in comparison to the others. The criteria, analyses, and results of the evaluation are outlined in the following paragraphs and summarized in Table 4.4.

4.3.1 Runway Length Requirements

The operational effectiveness and functionality of the airfield alternatives was evaluated with respect to their ability to meet the required runway lengths and accommodate critical/design aircraft operations, determined in Section 3 of this study. A minimum runway length requirement of 4,300 feet for the primary runway and 3,440 feet for the crosswind runways was recommended. All of the alternatives, including the Maintain Existing Conditions scenario, meet this requirement. Concepts 3, 4, 4A and 5 provide additional runway length to Runway 15-33 in an effort to enhance departure and landing safety factors in the event of possible pilot error or aircraft malfunction.

4.3.2 FAA Design Standards

An examination of compliance with FAA standards that may have an influence on the safe movement of aircraft was conducted for each alternative. The Maintain Existing Conditions alternative does not conform to FAA design standards. Parallel Taxiway K has a nonstandard centerline-to-centerline separation of 200 feet from Runway 10-28 which is 25 feet less than the separation required for an ARC of B-I. With the stipulation that Runway 10-28 be limited to use by small aircraft (less than 12,500 pounds), it is determined that this will not severely impact the safety of airfield operations. With this exception, the Upgrade to FAA Design Standards and Noise-Safety alternatives propose development that meets FAA design standards for an ARC of B-II. In comparison, the Runway 6-24 Closure and Runway 10-28 Closure alternatives meet all FAA standards including dimensional criteria, separation standards and runway line-of-sight.

4.3.3 Long-range Airfield Capacity and Flexibility

The alternatives were evaluated with respect to the ability to provide long-range airfield capacity and the flexibility to satisfy levels of demand higher than anticipated. Section 3 of this study determined an annual Service Volume (ASV) for the airfield of 230,000 operations based on certain assumptions. Some of the assumptions include full parallel taxiways or equivalent for all runways, ample exit taxiways, and an ILS for at least one runway. The existing airfield lacks an ILS and Runway 15-33 has insufficient exit taxiways. Therefore, the Maintain Existing Conditions scenario may not have the ability to provide the estimated long-range capacity of 230,000 operations. In terms of flexibility, the alternative also does not address future circumstances in which demand may be higher than anticipated.

While none of the other alternatives propose an ILS, they do propose taxiway improvements to ensure long-range capacity requirements are met. The Upgrade to FAA Design Standards and Noise-Safety alternatives propose two additional exit taxiways for Runway 15-33 and an additional exit taxiway for Runway 6-24. The Runway 6-24 Closure and Runway 10-28 Closure alternatives also provide ample taxiway exits and in addition provide for flexibility to accommodate demand that may be higher than forecast. It is estimated that the closure of runways under concepts 4, 4A, and 5 will not have a measurable impact on long-range airfield capacity.

4.3.4 Revenue Generating Potential

The revenue generating potential of the alternatives was assessed in terms of the opportunity for land development and associated leases. The Maintain Existing Conditions scenario, the Upgrade to FAA Design Standards, and Noise-Safety alternatives all provide similar land area that may be developed as aviation or non-aviation revenue producing property for the Airport. The potential for revenue generation is further expanded in the Runway 10-28 Closure and Runway 6-24 Closure alternatives, alternatives 4, 4A, and 5. The Runway 10-28 Closure alternative provides 14 additional acres of land north of the existing general aviation ramp and another 16 acres northwest of Runway 6, both of which may be used for apron construction. This may allow existing apron areas to be converted to hangar development. Comparatively, the Runway 6-24 Closure alternative provides 55 additional acres of land, including approximately 14 acres in vicinity of the Runway 6 end, that may be used for apron and hangar expansion. The impacts upon the golf course operations and revenues should have a negligible affect on the airport's long-term financial health.

4.3.5 Operating and Maintenance Costs

The cost of operating and maintaining airfield pavement was both qualitatively and quantitatively assessed by considering pavement reduction, construction of new airfield pavement and/or replacement. The Maintain Existing Conditions scenario maintains the current runway widths which exceed FAA design criteria and maintains the existing taxiway pavements. In comparison, the Upgrade to FAA Design Standards alternative reduces Runway 6-24, Runway 15-33 and Runway 10-28 pavements by 50, 33 and 25 percent respectively. Moreover, this alternative does not substantially increase taxiway pavement by relocating Taxiway M and

providing three additional taxiway exits. The net pavement reduction under this alternative is approximately 63,400 square yards.

The Noise-Safety Alternative is similar to the Upgrade to FAA Design Standards alternative with the exception that it does provide 5,600 square yards of additional runway pavement. The additional taxiway pavement provided in the Noise-Safety alternative is also not considered significant. The net pavement reduction under the Noise-Safety alternative is approximately 50,310 square yards.

In comparing the Runway 6-24 Closure and Runway 10-28 Closure alternatives to the Upgrade to FAA Design Standards and Noise-Safety alternatives, slight variances are calculated. Alternative 4A, Runway 6-24 Closure, the level of pavement reduction is virtually identical to the Upgrade to FAA Design Standards alternative at 63,890 square yards; however, the Runway 10-28 Closure alternative and the Alternative 4, Runway 6-24 Closure, point to a more significant reduction of approximately 87,550 and 89,310 square yards, respectively. The main differences arise with the provision of new parallel, connecting and exit taxiways. In the Runway 10-28 Closure alternative a portion of Taxiway K is closed. The Runway 6-24 Closure alternative proposes an additional parallel taxiway north of Runway 10-28. This new taxiway pavement is partially balanced out by the closure of portions of Taxiways C, F, D and M.

4.3.6 Constructability

The airfield alternatives were evaluated with respect to the order-of-magnitude construction costs required for new airfield pavement construction, retired pavement demolition, and the ability to phase development considering airfield operations that will take place during the time of construction. The Maintain Existing Conditions scenario does not propose any construction and therefore has no costs or phasing difficulty associated with it. In terms of relative order-of-magnitude construction costs, the Upgrade to Standards will incur the second least cost followed by the Noise-Safety, the Runway 10-28 Closure, and the Runway 6-24 Closure alternative (4). The remaining Runway 6-24 Closure alternative (4A) is anticipated to cost approximately 30-35 percent more than the other runway closure alternatives, based on new airfield pavement and pavement demolition requirements. Given the airfield is equipped with multiple runways, no significant difficulty in the ability to phase construction is expected in any of the alternatives.

4.3.7 Operational Issues

The compatibility with existing or planned facilities, impacts to airspace, FAR Part 77 surfaces was assessed. None of the alternatives will have a direct impact on the operation of existing or planned facilities. The operational issues that have been identified are related to airspace, FAR Part 77 requirements and runway crossings. Fort Lauderdale Executive Airport (FXE) is located within 4 nautical miles of PMP and has two active runways, Runway 8-26 and Runway 13-31. Due to the proximity of FXE, operations to and from Runway 6-24 have a higher potential to conflict with traffic at FXE. This issue is addressed by the Runway 6-24 Closure alternatives and not by the others.

With respect to compatibility with FAR Part 77, the Maintain Existing Conditions scenario does not address the inadequate clearance (less than 15 feet) of the Part 77 approach surface to Runway 33 at NE 10th Street and the penetration of the Part 77 approach surface to Runway 6 by two street lights located on NE 5th Avenue. These issues are addressed in all of the other alternatives by displacing the Runway 33 threshold by 340 feet and by lowering or relocating the street lights located on NE 5th Avenue.

The airfield's operational effectiveness is impacted by the need for runway crossings, or incursions¹. Due to the existing airfield geometry, the potential for runway crossings is highest in the Maintain Existing Conditions scenario, the Upgrade to FAA Design Standards and Noise-Safety alternatives. The potential for runway crossings is reduced in the Runway 10-28 Closure alternative and even further in the Runway 6-24 Closure alternatives.

4.3.8 Environmental Considerations

Each alternative was evaluated with respect to potential impacts on the surrounding communities including land use compatibility, aircraft noise and other environmental considerations. All of the proposed development lies within airport property. Therefore, no off-airport communities are directly impacted and fee simple property acquisition is not required for development purposes in any of the alternatives. With respect to noise, none of the alternatives will result in noncompatible land uses within the 65 DNL. Other environmental considerations reviewed include the presence of Local Areas of Particular Concern (LAPCs), protected wildlife species, wellfield protection and related issues, and stormwater runoff.

There are LAPCs located on the Airport centered on the arboretum and conservation areas as well as other wooded areas on the property. These areas potentially harbor protected wildlife species and native plant species/ trees. The extension of Taxiway D in Noise-Safety, Runway 6-24 Closure and Runway 10-28 Closure alternatives requires less than 0.2 acres of tree clearing to maintain the extended taxiway's object free area. Tree clearing will be subject to Broward County's Tree preservation Regulations and City Code 155.128. The area to be cleared also has the potential for providing nominal Gopher Tortoise and commensal species habitat. It has been determined by Hanson (in association with KABA Inc.) that it is unlikely that these species appear in any appreciable numbers. It is anticipated that small populations may exist as a result of clearing and development in adjacent lands or actively developed areas on the airpark property. Coordination with and approvals from the appropriate governmental bodies such as the US Fish and Wildlife Services, Florida Fish and Wildlife Conservation Commission, and Broward County Environmental Protection Department will be required prior to the initiation of any development activities in this area.

¹ The prevention of runway incursions, which have the potential to lead to accidents or unintended incidences, is a priority for FAA. Airfield design projects that reduce the potential for runway incursions and improve safety are strongly encouraged by FAA and FDOT.

The proposed extension of Runway 10 and Runway 15 will potentially impact the location of three wellfields on the airport. (See Figure 4.5A.) Well No. 10 is located approximately 500 feet west and 65 feet south of the existing Runway 10 end. Well No. 13 is located 650 feet west



Figure 4.5A – Selected Wellfield Sites

the existing Runway 15 end and Well No. 14 is located approximately 1,150 feet north and 360 feet west of the runway end. It is not anticipated that the extension of these runways will have a significant impact on the wellfields if they are relocated to suitable sites prior to the

commencement of construction activities. KABA recommends that a review of proposed plans along with pertinent wellfield regulations be conducted prior to construction to determine any need for plan modification. The Airport should also work closely with Broward County’s Environmental Protection Department to understand water resource obligations.

Runoff from the existing runways or proposed runway extensions is a potential source of groundwater contamination. KABA concludes that the impact to the adjacent soils and underlying groundwater from these sources is typically minimal. During construction a temporary increase in water turbidity in drainage areas is anticipated when excavated areas are exposed prior to paving. It is recommended that during the construction of runway extensions best management practices and AC 150/5370-10A “Standards for Specifying Construction of Airports” are adhered to in order to fully mitigate this source of contamination.

4.3.9 Evaluation Matrix

The consultants preliminary qualitative evaluation described in the preceding paragraphs was translated into an evaluation matrix to yield quantitative results for ease of comparison. A numerical scoring system was set-up for this purpose. Ratings were assigned to alternatives for each criterion as follows: 1 - Poor; 2 – Satisfactory; 3 – Good; 4 – Very Good; 5 – Excellent. The results of the analysis are presented in Table 4.4.

Table 4.4: Consultants Airfield Alternatives Evaluation Matrix

Evaluation Criteria	Alt. 1 Maintain Existing Conditions	Alt. 2 Upgrade to FAA Design Standards	Alt. 3 Noise-Safety Alternative	Alt. 4 Close Rwy 6-24	Alt. 4A Close Rwy 6-24	Alt. 5 Close Rwy 10-28
Runway Length Requirements	4	4	5	5	5	5
FAA Design Standards	1	3	3	4	4	4
Long-range Airfield Capacity and Flexibility	3	4	4	4	4	4
Revenue Generating Potential	3	3	3	4	3	4
Operating and Maintenance Costs	1	4	3	5	4	5
Constructability	5	4	3	3	2	3
Order of Magnitude Costs	\$0.0M	\$2.6M	\$4.3M	\$5.1M	\$6.5M	\$4.8M
Operational Issues	1	3	3	5	5	4
Environmental Considerations	4	4	3	3	4	3
Total Evaluation Score	22	28	26	33	31	32

Notes: 1 - Poor, 2 - Satisfactory, 3 - Good, 4 – Very Good, 5 - Excellent

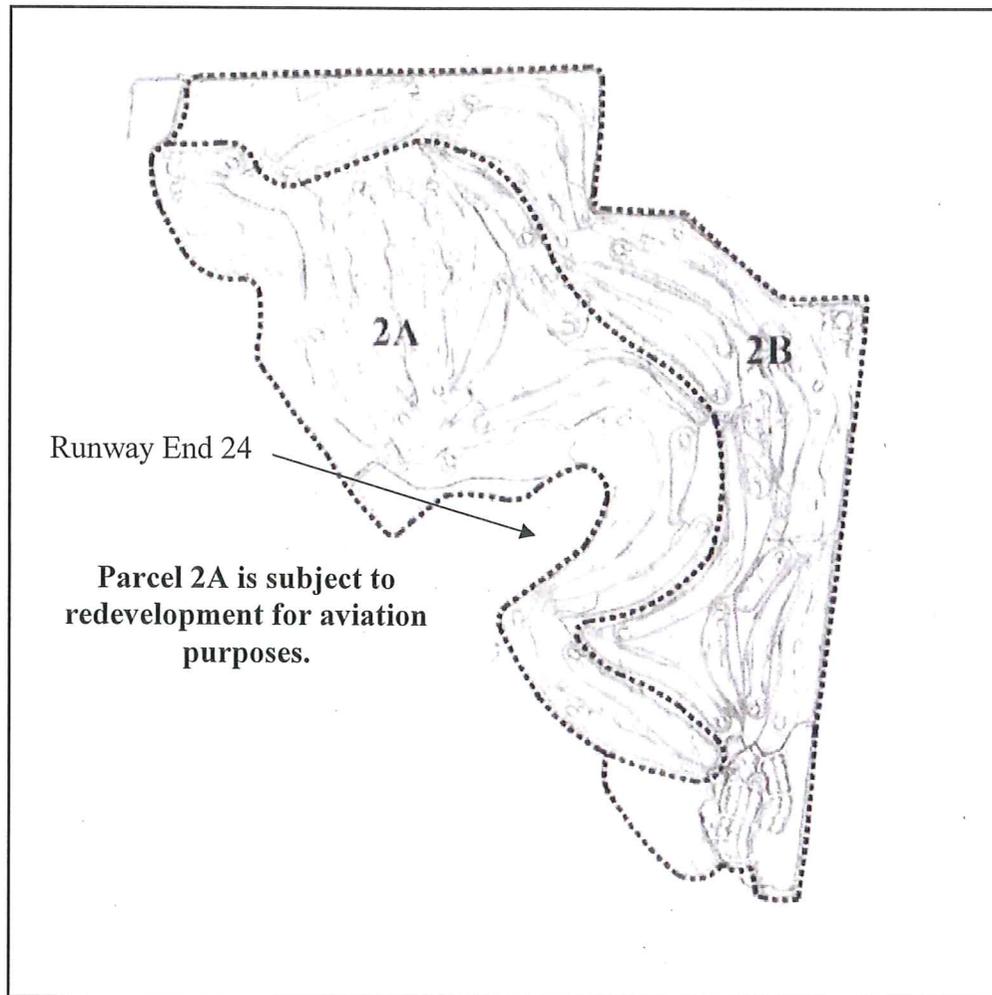
Source: Kimley-Horn and Associates, Inc. analysis, 2007.

4.4 Landside Alternatives

The identification and evaluation of landside alternative development scenarios is necessarily linked to the airfield alternatives because airfield facilities comprise the majority of land typically used for overall aviation purposes and airport operations require that landside facilities be located in a manner intended to maximize airport safety and enhance efficient operations. For these reasons, the identification of alternatives for landside development is derived from specific airfield alternatives and their effects upon the availability and location of land not needed for

airside purposes. Implicit in the definition of landside alternatives is the availability aviation and aviation-related development of land to the northeast of Runway 15-33 (Golf Course Parcel 2A) that is to remain part of Air Park Property as provided in the City-FAA Memorandum of Agreement. That land is outlined in general fashion in Figure 4-6.

Figure 4.6
Golf Course Area Subject to Aviation Development



Four alternatives were considered for landside development. These are summarized below:

- **Landside Alternative 1 – Maintain Existing Facilities.** This alternative would provide no expansion of existing landside facilities. As a result, no additions to hangar, apron, and ramp areas would be constructed, and other facilities, such as the administration/tower building and auto parking would remain as they currently exist.
- **Landside Alternative 2 – Expand Existing Areas and Upgrade to Meet FAA Standards.** This alternative would provide additional facilities in areas currently undeveloped or used for nonaviation purposes on the south and west sides of the airport. As needed, additional expansion could be accommodated on the northeast side of

Runway 15-33. These areas are depicted in Figure 4-7.

- **Landside Alternative 3 – Expand Landside Facilities into Areas Available from Closure of Runway 6-24.** This option provides additional opportunities for landside expansion on the west side and northeast sides of the airfield. Consideration would also be given to closing certain taxiways to increase further the areas made available. The areas for potential landside development are indicated in Figure 4-8.
- **Landside Alternative 4 – Expand Landside Facilities into Areas Available from Closure of Runway 10-28.** Alternative 4 provides additional opportunities for landside expansion on the south side of the airfield. Consideration would also be given to closing certain taxiways to increase further the areas made available. The areas affected by these landside alternatives are depicted in Figure 4-9.

4.5 Evaluation of Landside Alternatives

The landside alternatives were evaluated using several criteria. These included:

- Compatibility with airside development alternatives
- Safety and Consistency with FAA Standards
- Ability to serve future demand
- Environmental effects
- Surface access considerations
- Costs

The results of the evaluation of landside alternatives are discussed below.

4.5.1 Compatibility with Airfield Development Alternatives

The landside alternatives are not universally independent of the airfield alternatives. Table 4.5 indicates the results of an examination of the compatibility of landside and airfield alternatives. The results indicate that Landside Alternative 2 is the most consistently compatible with the differing airside alternatives.

Alternative 1 is compatible only with Airfield Alternative 1 because both fail to address PMP's lack of conformance to FAA design standards and guidelines, especially with respect to the Taxiway Object Free Area for Taxiway L. Landside Alternatives 3 and 4/4A are in part contingent upon closure of Runways 10-28 and 6-24 respectively; therefore, their compatibility is linked to the airside alternatives that feature those closures.

Figure 4.7: Landside Alternative 2 Potential Development Areas (Upgrade to Meet FAA Standards)

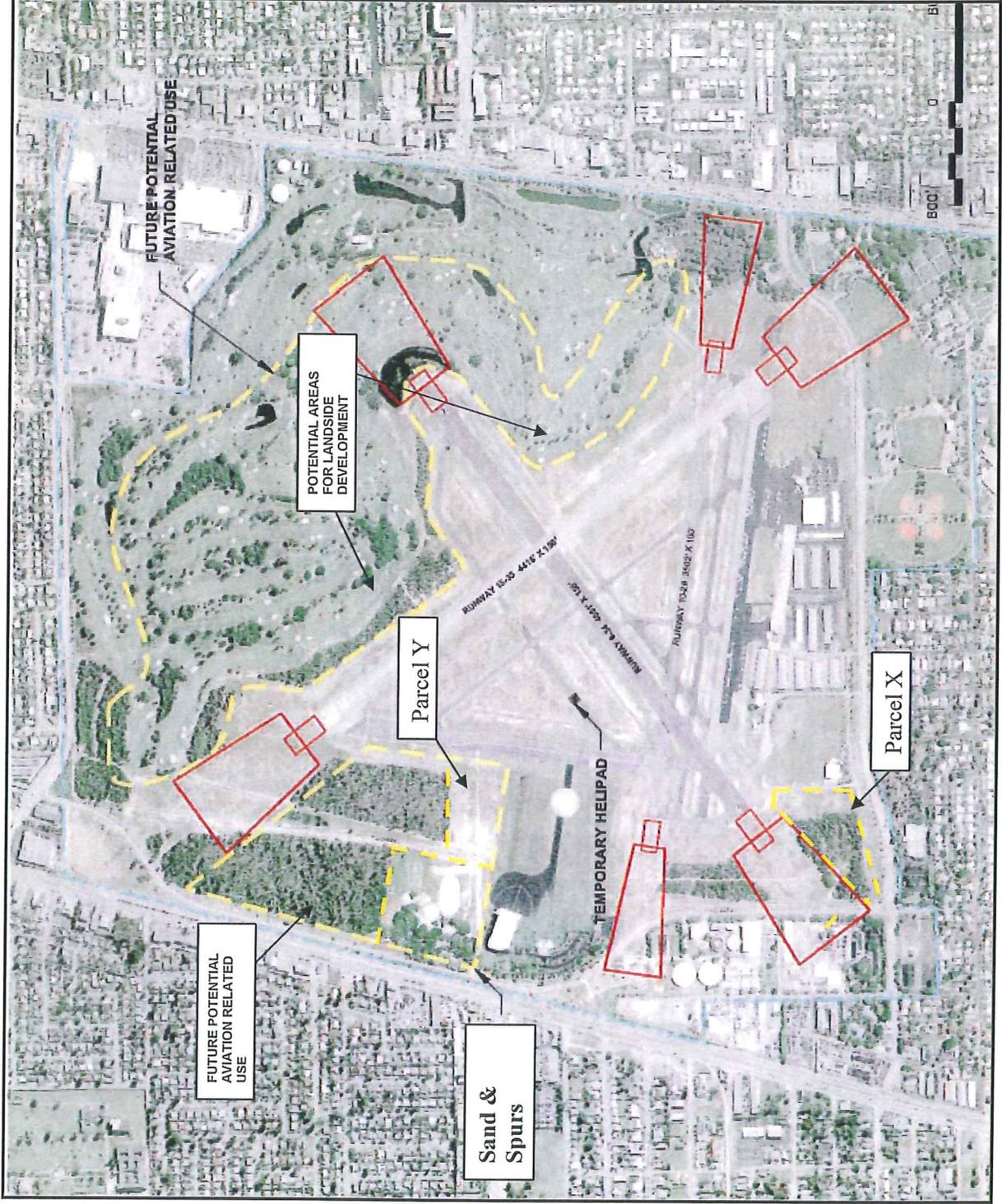


Figure 4.8: Landside Alternative 4 Potential Development Areas (Runway 6-24 Closure)

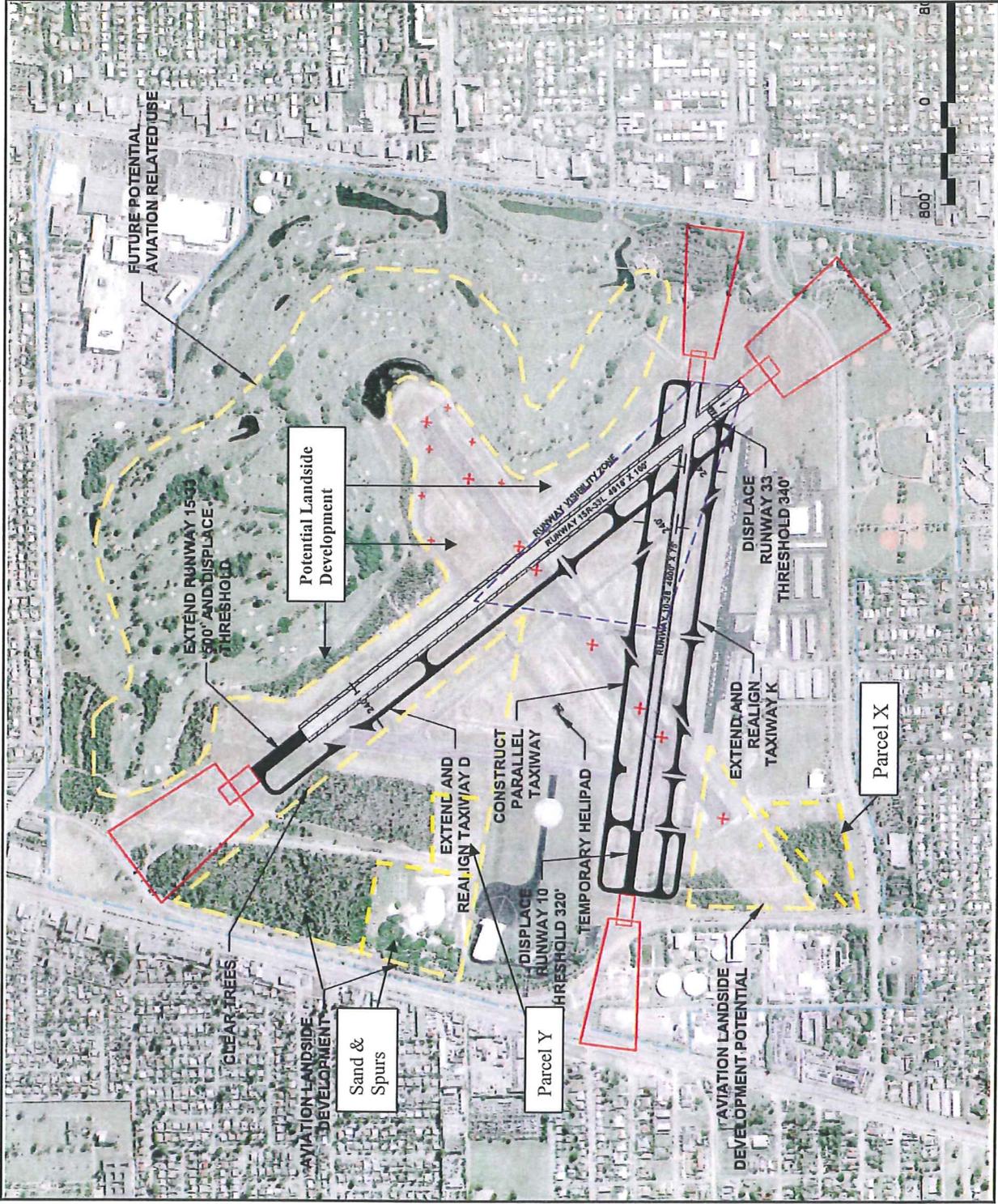


Figure 4.9: Landside Alternative 4 Potential Development Areas (Runway 10-28 Closure)

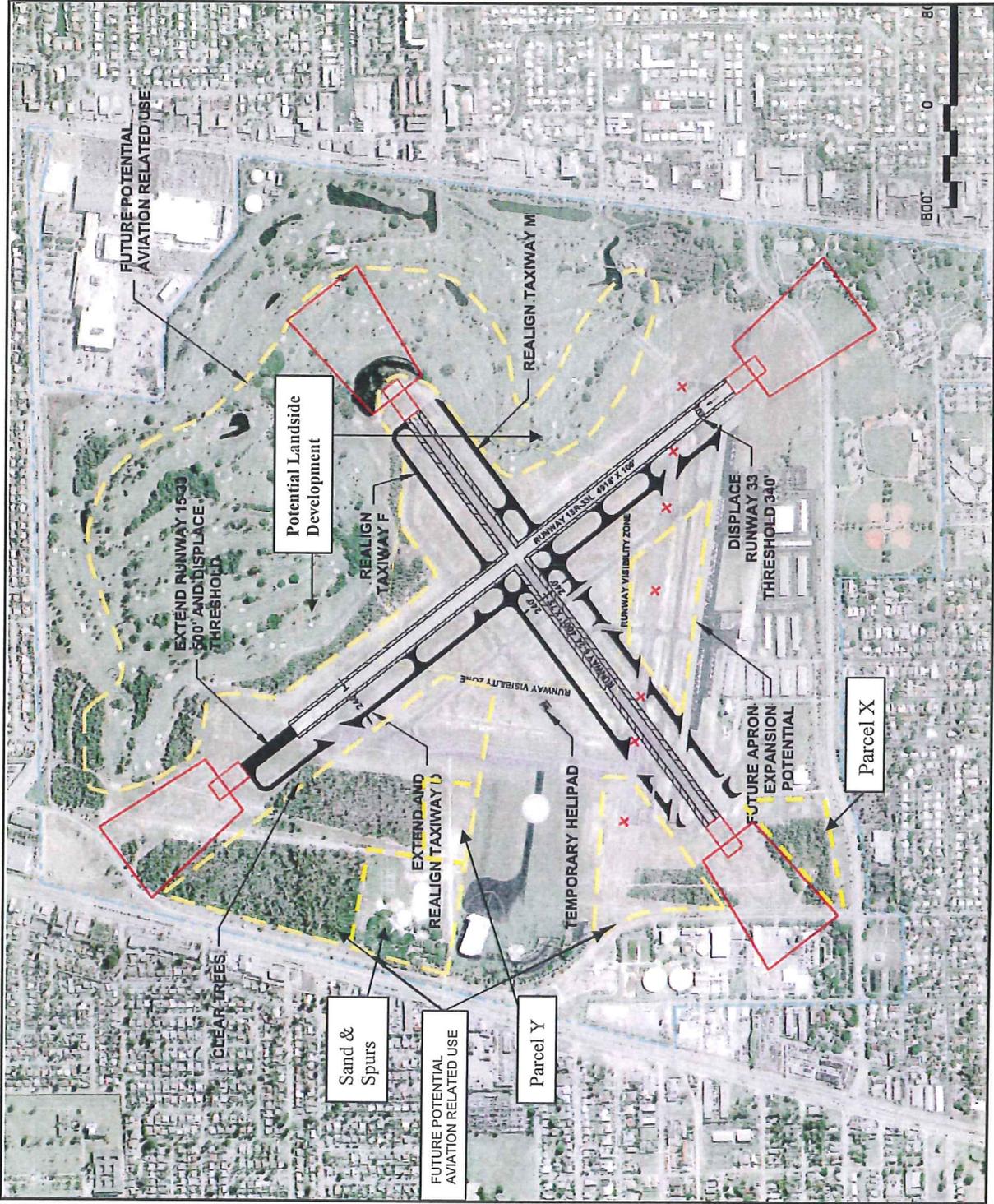


Table 4.5: Compatibility of Landside Alternatives

Landside Alternatives	Is Landside Alternative Compatible with Airfield Alternative?				
	Alt. 1 Maintain Existing Conditions	Alt. 2 Upgrade to FAA Design Standards	Alt. 3 Noise-Safety Alternative	Alt. 4/4A Close Rwy 6-24	Alt. 5 Close Rwy 10-28
Alt. 1 Maintain Existing Conditions	Yes	No	No	No	No
Alt. 2 Expand/Upgrade to FAA Standards	No	Yes	Yes	Yes	Yes
Alt. 3 Expand Based Upon Closure of Rwy. 6-24	No	No	No	Yes	No
Alt. 4 Expand Based Upon Closure of Rwy. 10-28	No	No	No	No	Yes

4.5.2 Safety and Consistency with FAA Standards

Landside Alternative 1 does not address resolving inconsistencies with FAA planning and design standards and guidelines. Although responding to this criterion in different ways, Alternatives 2, 3, and 4 do provide for improvements to correct these inconsistencies.

4.5.3 Ability to Serve Future Demand

Chapter 3 of this report provided calculations and estimates of future airport facility requirements including landside facilities such as apron/ramp, hangars, terminal facilities, and auto parking. Notable among these were projected need for 64 additional T-hangars during the planning period as well as additional aircraft apron and ramp. Based upon current practices at PMP, the new T-hangars would require approximately eight acres with additional land needed for surface access and a taxiway connection to the airfield. Landside Alternative 1 does not respond to these future needs but landside Alternatives 2, 3, and 4 provide expanded capabilities consistent with forecasts of requirements. Alternatives 2-4 could include the potential for development of Parcel 2A, which is currently part of Pompano Beach Municipal Golf Course; in that event, these three alternatives are all capable of supporting future landside development. The question becomes one of where future landside development would best occur rather than the absolute availability of sufficient land to accommodate future construction of landside facilities.

If the development of Parcel 2A (the golf course parcel) is not considered, further comparison of Alternatives 2, 3, and 4 indicates that Alternatives 2 and 3 have more limited capability to respond to future requirements. According to the draft Pompano Beach Air Park Business Plan, only two currently defined parcels are not under lease. The first, Parcel X, located south of Runway 10-28 and west of the American Flyers hangar, is estimated to consist of 7.4 acres. Parcel Y, consisting of an estimated 5.5 acres, is located between the Goodyear Blimp Base and Sand and Spurs. Neither parcel alone is sufficient to accommodate projected expansion requirements as outlined in the preceding. Sand and Spurs, located on the west side and north of the blimp facilities, consists of approximately 15 acres. In correspondence to the City in 1996 the FAA emphasized that the use of this parcel for the equestrian center is interim only and subject to conversion to aeronautical purposes. (FAA Orlando Airports District Office correspondence to Pompano Beach City Manager, dated March 29, 1996.) Inclusion of these 15 acres as part of Alternative 2 would provide it full capability to meet projected needs.

Alternatives 3 and 4 extend this capability to respond to aviation demand. Closure of either

Runway 6-24 or 10-28 could make significant additional land available for aviation development. Decommissioning Runway 6-24 would make approximately 17 acres available on the west side of the airport with access provided from 5th Avenue. An additional 14 acres would be made available south of Runway 10-28. Closure of Runway 10-28 and replacement and/or reconfiguration of its parallel taxiway system would make approximately 16 acres of land northwest of Runway 6 and 14 acres north of the existing general aviation area available for aviation related uses.

From the perspective of flexibility in future development, the consultant concluded that Landside Alternatives 4 and 4A are the superior options followed by Alternatives 3, 2, and 1 in that order. It should be noted that this judgment is also influenced by the potential ability to develop a substantial area on the west side of the airport if Sand and Spurs and other nonaviation uses, i.e., the arboretum and conservation area, are removed or relocated to other parts of the Air Park such as the newly available land northeast of Runway 15-33. Such an approach could substantially increase the leasable area and revenue generating capability of the airport. As portions of the golf course are decommissioned, per the City/FAA agreement, this re-use of the property in questions would provide for a buffer between the remaining golf course and the airfield. Environmental limitations to this approach are discussed in the next section.

4.5.4 Environmental Effects

Chapter 5 provides a detailed review of environmental conditions at PMP. The landside alternatives were reviewed within the context established by that information. The factors examined in this comparative evaluation of landside alternatives included:

- Endangered and Threatened Species and Environmentally Sensitive Areas
- Water Quality
- Natural Resources and Energy

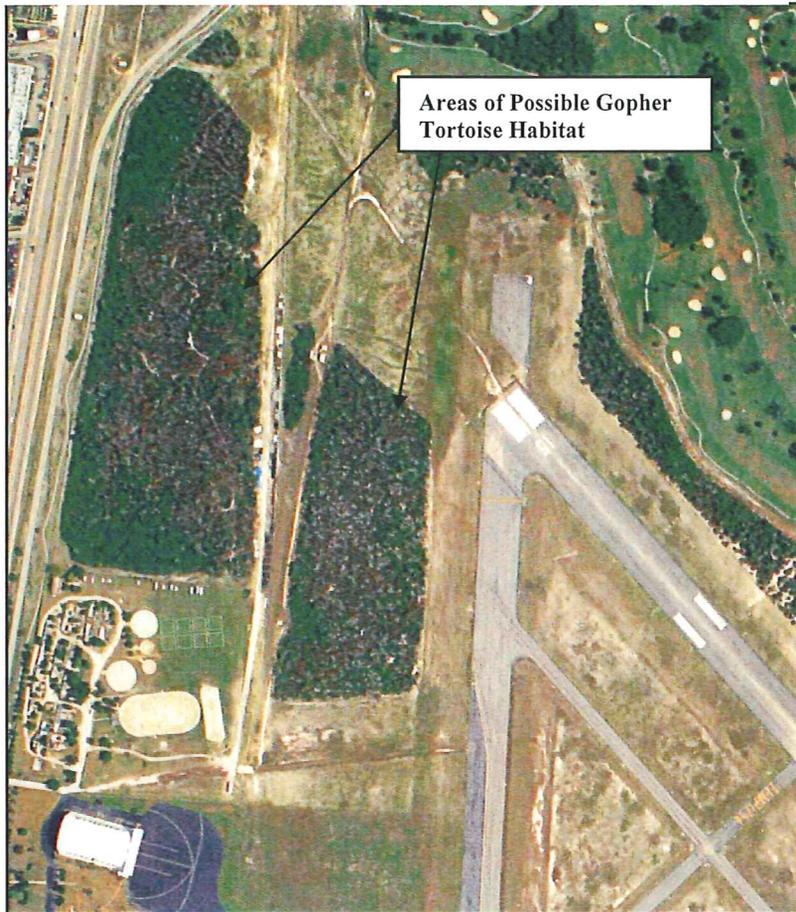
Each of these subjects is discussed below.

4.5.4.1 Endangered and Threatened Species and Environmentally Sensitive Areas

The environmental review did not document the presence of any endangered or threatened species on airport property; however, the potential for occurrence of Gopher Tortoise and burrow commensals in undeveloped areas of the property was noted. These areas comprised the Arboretum and Conservation Easement. The review also indicated a “remote possibility” that a plant known as Tiny Polygala might exist on the property, but this potential could not be identified as to portions of the property on which it might occur. The review further noted that the plant is rare with only 11 known populations; therefore, given the nature of the locations in which it is typically found, for the purposes of the landside evaluation it was not considered significant.

The areas identified as having potential for the presence of Gopher Tortoises are shown in Figure 4-10.

Figure 4-10: Areas of Possible Gopher Tortoise Habitat



Based upon this information, it was concluded that Alternatives 1 and 2 would not affect this possible habitat while Alternatives 3 and 4 could impact the areas.

For Alternatives 3 and 4, resolution of this potential impact would initially involve a field survey to determine whether Gopher Tortoises (or burrow commensals) are present. If they are not, then all alternatives would be equal in their lack of impact. If the survey shows that these species are present, a mitigation program, including appropriate permits and relocation of the animals would likely resolve the concern.

As noted above, the areas considered potential habitat for endangered or threatened species were the Arboretum and Conservation Area. The former was the subject of controversy in 1980 when clearing of a right-of-way occurred for a road. In August 1980, the FAA Airports District Office noted that any proposed use of the remaining Arboretum property, other than areas subject to clear zone purposes for Runway 15 would require an environmental assessment. The Conservation Area was designated by local ordinance and the setting aside of this area was agreed to by the FAA. Use of these areas other than the referenced clear zone purposes would require an environmental assessment, redrafting of the local resolution relative to the conservation area, and probable mitigation. The mitigation could be accomplished on Air Park

property but would be expensive and locally controversial.

On this basis, all alternatives were considered feasible but Alternatives 3 and 4 would require additional study and potential mitigation.

4.5.4.2 Water Quality

The principal effects of landside alternatives upon water quality would result from surface runoff. Landside Alternative 1 would not increase paved areas or buildings; therefore, it would not increase surface runoff. Landside Alternative 2 includes additional areas of pavement for apron/ramp and other facilities as well as additional buildings. All would contribute to some increased runoff. Alternatives 3 and 4 are linked airfield alternatives featuring runway closures. Considered independently of the future of the decommissioned runway pavements, Alternatives 3 and 4 would increase runoff; however, if the runway pavement is removed as part of the landside development, these alternatives could be part of overall development actions that would reduce runoff.

The primary potential adverse effect of the expansion of landside development concerns wellfields. As shown in Figure 4.5A, Well #9 is located on undeveloped land termed Parcel X, and Well # 11 is located on or adjacent to Parcel Y, east of the Goodyear hangar. Development of landside facilities in these areas must be done with consideration of the potential limitations imposed by wellfield regulations. Mitigation, such as drilling of replacement wells may be required. In all cases, it would be possible to address issues of surface runoff through design and construction of appropriate stormwater drainage facilities and potential replacement of impacted wellfields; therefore, the alternatives were considered effectively equal in this regard.

4.5.4.3 Natural Resources and Energy

Natural resources, including those necessary to produce building and paving materials, would be nominally impacted by Landside Alternatives 2, 3, 4, and 5, because these alternatives include improvements to the airport's landside facilities. The nature and extent of the improvements proposed in any of these alternatives are not sufficient to consider their effects upon natural resources to be significant on a national scale. Because Alternative 1 maintains existing conditions and makes no improvements to the airport, its effects upon natural resources would nominally remain the same as currently.

Similarly, Landside Alternatives 2, 3, 4, and 5 would have minor impacts upon energy consumption principally from the use of energy during construction. A nominal increase in consumption of electricity would also result from these alternatives' inclusion of new buildings that would have heating, cooling, and lighting systems as well as additional lighting associated with new apron and ramp. On balance, Landside Alternative 1 enjoys a small advantage in energy consumption but the differences are minor.

4.5.5 Surface Access

Implementation of any landside alternative except Landside Alternative 1 will require construction of new access roads in varying degrees. Because the final length of these roads will

be dependent upon the location on site of new facilities, the actual length required will vary. As a result, in this evaluation consideration was given to the relative, not actual, requirements for surface access to serve each of these alternatives.

Landside Alternative 1 would not include improvements to existing surface access. Its requirements, then, would be low but, as with other criteria, it would not respond to opportunities and existing deficiencies. Landside Alternative 2, by virtue of its upgrading to standards, would make improvements as needed to surface access by extending on-airport roads and increasing auto parking as necessary to accommodate existing and future needs. Landside Alternative 3, which includes closure of Runway 10-28, would have surface access requirements similar to those of Landside Alternative 2 because, like Landside Alternative 2, it continues to concentrate landside facilities to the south of the existing airfield. Landside Alternative 3 would, however, be limited in its flexibility to respond to surface access requirements because the additional land made available by runway closure would be an infield area access to which would require traversing existing development areas. By building upon the closure of Runway 6-24, Landside Alternative 4 would require additional access from the west.

4.5.6 Costs

In this evaluation of alternatives the consideration of costs focused upon variable items, i.e., those changes or improvements that were unique to specific landside alternatives. Review of these costs suggested that the primary variable costs were surface access and utilities (water, sewer, and storm drainage). Planning level cost estimates for these capital improvements were prepared and are presented below:

- Landside Alternative 1 – \$ 0
- Landside Alternative 2 – Approximately \$760,000 (includes development of access to Parcel Y (east of Sand and Spurs) and Parcel X (west of American Flyers))
- Landside Alternative 3 – Approximately \$1,405,000 (includes development in Landside Alternative 2 plus area north of current general aviation and administration area)
- Landside Alternative 4 – Approximately \$1,400,000 (includes development in Landside Alternative 2 plus Parcel X and additional land east of Sand and Spurs)
- These estimated variable costs should be considered within the context of the amount of land, or the differentials in land, made available for development. If the Arboretum and Conservation areas are not considered available, Landside Alternative 2 would be limited to approximately 13 acres made available at a cost of approximately \$58,000 per acre. (Landside Alternative 2 assumes that the parallel taxiway for Runway 15-33 would be relocated to a position 240 feet from the runway measured centerline-to-centerline.) Landside Alternative 3 would add increase the total acreage to be developed to the amount available under Alternative 2 by about 30 acres. Costs per acre would amount to approximately \$33,000. Landside Alternative 4 would add approximately 22 acres to the total for Landside Alternative 2. Cost per acre would be approximately \$40,000.

4.6 Summary of Landside Alternatives Evaluation

The evaluation criteria for the landside alternatives were subjected to a review and summary of results. Table 4.6 presents the consultants findings of that evaluation. As would be expected Alternative 1 – Maintain Existing Conditions ranks high in the environmental and costs areas but does not rank well in other areas. The converse is also true for Alternatives 2-4. They rank well in responding to demand and meeting FAA standards but less well in costs and environmental effects. Overall, Alternatives 2-4 are nearly equal with a slight advantage to Alternative 2.

Table 4.6: Summary Matrix for Evaluation of Landside Alternatives

Evaluation Criteria	Landside Alternative			
	Alt. 1 Maintain Existing Conditions	Alt. 2 Upgrade to FAA Design Standards	Alt. 3 Expand Based Upon Closure of Rwy. 6-24	Alt. 4 Expand Based Upon Closure of Rwy. 10-28
Compatibility with Airfield Alternatives	2	4	2	2
Meets FAA Design Standards	1	4	4	4
Serves Demand	1	5	5	5
Environmental Effects	5	3	3	3
Access	3	4	3	4
Costs	5	2	4	3
Total Evaluation Score	17	22	21	21

Notes: 1 - Poor, 2 - Satisfactory, 3 - Good, 4 – Very Good, 5 - Excellent

4.7 Selection of the Recommended Alternative

The analysis of alternatives (documented in Interim Report No. 2) was presented to the Air Park Advisory Board (APAB) at their meeting on March 13, 2008 followed by a Public Workshop to consider community input. The consultant team compiled the comments and input received by the APAB and citizens attending the workshop and presented the information to the Air Park Advisory Board at its April 1, 2008 meeting. The meeting was advertised and well attended by airport users and citizens of adjoining neighborhoods and the City of Pompano Beach. (Appendix B includes copies of meeting memorandums, presentation materials and meeting minutes.)

The APAB discussed each element of Alternatives 1 through 5, and the evaluation criteria. Citizen participants and APAB members’ raised the following points as principal consideration in the selection of a recommended alternative:

- Any combination of runways including Runway 15-33 provides 95% wind coverage, which is a criterion of the FAA for runway safety. Under such circumstances, FAA, and possibly FDOT, will not participate in funding maintenance and other capital improvement costs associated with three intersecting runways.
- Existing and future aviation demand and fleet mix projections do not warrant the need for three runways. Intersecting “V” versus midfield intersecting runways provides improved airfield layout from a capacity and land use planning standpoint.
- Air Traffic Control Tower and Air Park users report that Runway 6-24 is the least used runway (less than 15%) and conflicts with Fort Lauderdale Executive Airport (FXE) traffic.
- Closure of 6-24 provides improved opportunities for landside aviation expansion.
- Based on the Agreement between the City of Pompano Beach and the Federal Aviation

Administration the future long term needs of the Air Park would be greatly enhanced by the use of land made available with the closure of Runway 6-24 for revenue generating purposes.

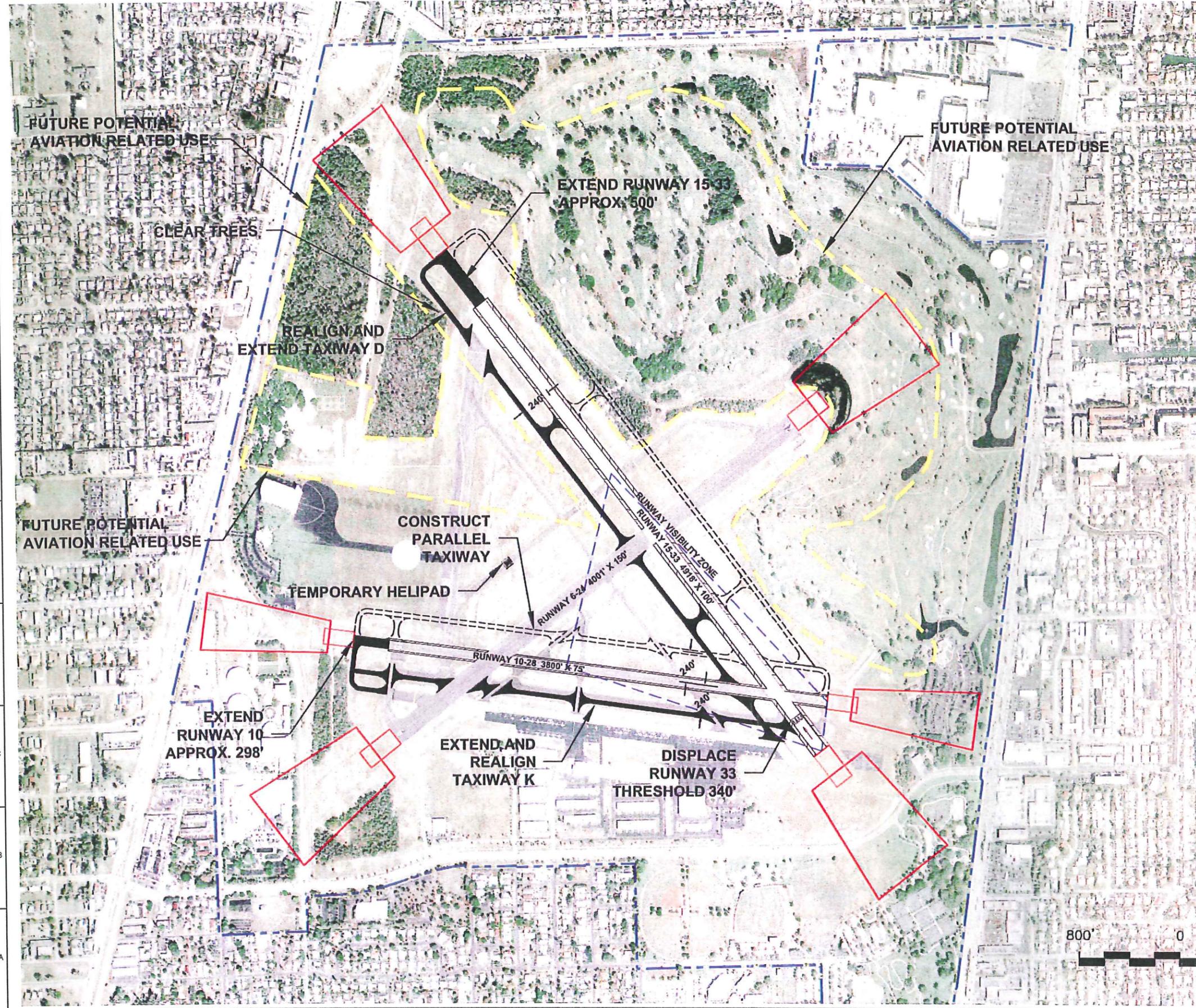
Table 4-7 illustrates the results of the APAB's evaluation of the airfield and landside alternatives utilizing the evaluation criteria described in section 4.3 and 2.6, and in consideration of community input.

Table 4.7: APAB Airfield and Landside Alternatives Evaluation Matrix						
Evaluation Criteria	Alt. 1 Maintain Existing Conditions	Alt. 2 Upgrade to FAA Design Standards	Alt. 3 Noise-Safety Alternative	Alt. 4 Close Rwy 6-24	Alt. 4A Close Rwy 6-24	Alt. 5 Close Rwy 10-28
Airfield Alternatives						
Runway Length Requirements	4	4	5	5	5	5
FAA Design Standards	1	3	3	4	4	4
Long-range Airfield Capacity and Flexibility	3	4	4	5	5	3
Revenue Generating Potential	3	3	3	5	5	3
Operating and Maintenance Costs	1	4	3	5	4	5
Constructability	5	4	3	3	2	3
Order of Magnitude Costs	\$0.0M	\$2.6M	\$4.3M	\$5.1M	\$6.5M	\$4.8M
Operational Issues	1	3	3	5	5	3
Environmental Considerations	4	4	3	3	3	3
Total Evaluation Score	22	28	26	35	33	29
Landside Alternatives						
Compatibility with Airfield Alternatives	2	4	NA	2	2	2
Meets FAA Design Standards	1	4	NA	4	4	4
Serves Demand	1	5	NA	5	5	5
Environmental Effects	5	3	NA	3	3	3
Access	3	4	NA	3	3	4
Costs	5	2	NA	4	4	3
Total Evaluation Score	17	22	NA	21	21	21
COMBINED SCORE	39	50	NA	56	54	50
Notes: 1 - Poor, 2 - Satisfactory, 3 - Good, 4 - Very Good, 5 - Excellent						

Following their consideration, the APAB voted to recommend adoption of a substitute alternative - Alternative 6. Alternative 6 is generally consistent with Alternative 4 but explicitly notes that Runway 6-24 would not be closed until additional land is required for landside development or until maintenance and costs dictate. It was further indicated in the Board's adopted motion that the parallel taxiway east of Runway 15-33 would be developed when development in that area was needed, and that land currently making up the Arboretum and conservation easement would not be utilized for aviation purposes until such time that demand for such use exists.

On May 13, 2008, staff and consultant team presented the alternatives to the Pompano Beach City Commission. Upon completion of questions and answers including public comments and questions, the City Commission approved the APAB's recommended Alternative 6.

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- NOTES:**
1. Runway 6-24 shall remain open until such time that a need arises for developable property or maintenance costs exceed runway use benefit.
 2. The future parallel taxiway shown north of Runway 10-28 will be developed as the need dictates.
 3. The future parallel taxiway shown east of Runway 15-33 will be developed as the need dictates.

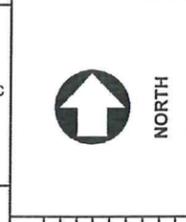
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RECOMMENDED ALTERNATIVE
FIGURE 4-11

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LAYOUT	RM/AG	UJ/UF
DRAWN		
REVIEWED		



DATE	REVISION