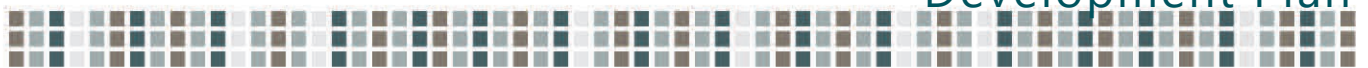


## **Chapter 5**

### Alternatives Analysis and Recommended

### Development Plan



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## 5. Alternatives Analysis and Recommended Development Plan

A key objective of the master planning process is to identify alternative development strategies to accommodate forecast aviation activity.

Section 3 of this MPU provides a summary of forecast aviation activity at EYW. The forecasts were based primarily on continued incremental growth in passenger, cargo, and GA activity. Section 4 provides information on how the forecasts of aviation activity were translated into facility requirements for the master planning period (through 2035). The following requirements are key to developing alternatives that will adequately accommodate future needs:

- **Airfield requirements** include the need to consider options to increase the existing runway length and several airfield geometry improvements to meet the latest FAA design standards
- **Passenger terminal and apron requirements** consist of maximizing the efficiency of the aircraft apron parking plan and providing passenger loading bridges. Additional apron space is also required.
- **Landside access and parking requirements** consist of expanding the private vehicle parking area in front of the passenger terminal, as well as reducing congestion in front of the terminal curbside. Additional public parking is also required.
- **Air cargo requirements** are considered adequate to meet the existing and future demand. As the terminal building and apron are expanded to accommodate future demand, it may be necessary to relocate FedEx's operation.
- **GA requirements** consist of providing additional aircraft parking and storage facilities.
- **Aviation support requirements** consist of a new airfield maintenance facility, an ATCT replacement, and a phased CBP expansion program.

The overall goal of this MPU is to identify a development strategy that provides the specific facility requirements that align with forecast activity. This section has been guided by comments obtained from the Technical Review Committee (TRC), Airport leadership, and Monroe County.

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## 5.1 Airfield Facilities

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Several airfield deficiencies were identified in Section 4; they were evaluated for potential mitigation herein. These deficiencies include runway length, RSA, ROFA, runway centerline to parallel taxiway centerline separation, runway-end access, and airfield geometry.

### 5.1.1 RUNWAY LENGTH

A 5,400-foot-long runway is required to accommodate the flights anticipated to serve the EYW market through the planning horizon. Several alternatives were developed, which are described in the following subsections.

#### 5.1.1.1 Alternative 1 – Extend Runway to the West

Alternative 1, depicted on **Exhibit 5.1-1**, proposes a 325-foot extension of Runway 9-27 to the west, to a total length of 5,400 feet. This alternative would require the mitigation of a World War II bunker, an Airport service road, and approximately 7 acres of salt ponds in the RSA. Additionally, the extended ROFA would also require the relocation of a public roadway. The proposed RPZ would have several incompatible land uses, including two residential structures and a public roadway.

#### 5.1.1.2 Alternative 2 – Extend Runway to the East

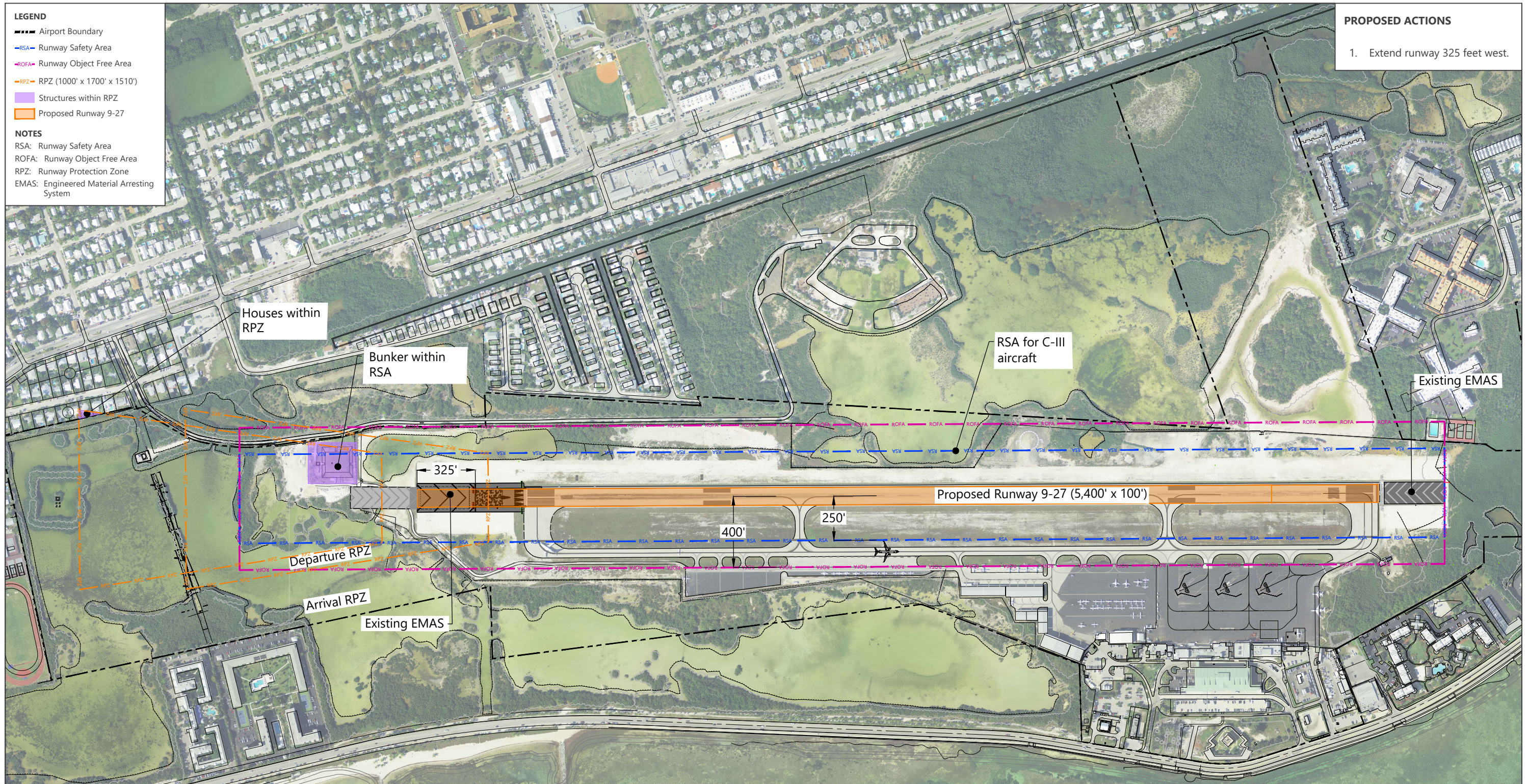
Alternative 2, depicted on **Exhibit 5.1-2**, proposes to extend Runway 27 to the east 325 feet, to a total length of 5,400 feet. The existing EMAS on the Runway 9 approach end will satisfy RSA requirements; however, the Runway 27 approach RSA would impact Florida State Route A1A, a salt pond, the Atlantic Ocean, and approximately 10 acres of vegetation. The extended ROFA would also impact State Route A1A, a pool, tennis courts, and a hotel.

#### 5.1.1.3 Alternative 3 – Extend Runway to the East

Alternative 3, depicted on **Exhibit 5.1-3**, is similar to Alternative 2, but it proposes a 200-foot extension of Runway 9-27 to the west to a total length of 5,275 feet and the construction of a new EMAS bed beyond the Runway 27 end. The proposed EMAS would provide a level of overshoot/overrun safety equivalent to a standard RSA. This alternative may require the acquisition of property north of the proposed EMAS to satisfy the ROFA requirements associated with the extended runway. When compared to Alternative 2, however, the proposed EMAS would eliminate impacts to Florida State Route A1A and the Atlantic Ocean. The extension of the runway by 200 feet to the east would also allow for the construction of a bypass taxiway to help mitigate potential delay at the Runway 27 end. In this scenario, the Runway 27 RPZ would shift 200 feet to the east.

#### 5.1.1.4 Alternative 4 – Convert Naval Air Station Key West into a Joint-Use Airport

Alternative 3, depicted on **Exhibit 5.1-4**, proposes the conversion of Naval Air Station Key West (NQX), located on neighboring Boca Chica Key, from a military airport to a joint-use airport. NQX has three runways that could each accommodate the anticipated EYW aircraft fleet through the planning horizon: Runway 8-26 is 10,000 feet long by 200 feet wide and Runways 4-22 and 14-32 are 7,000 feet long by 150 feet wide. All the runway ends have at least one instrument approach procedure. The Joint-Use evaluation study that is included in **Appendix D** further defines the challenges to convert NQX to a joint-use airport.



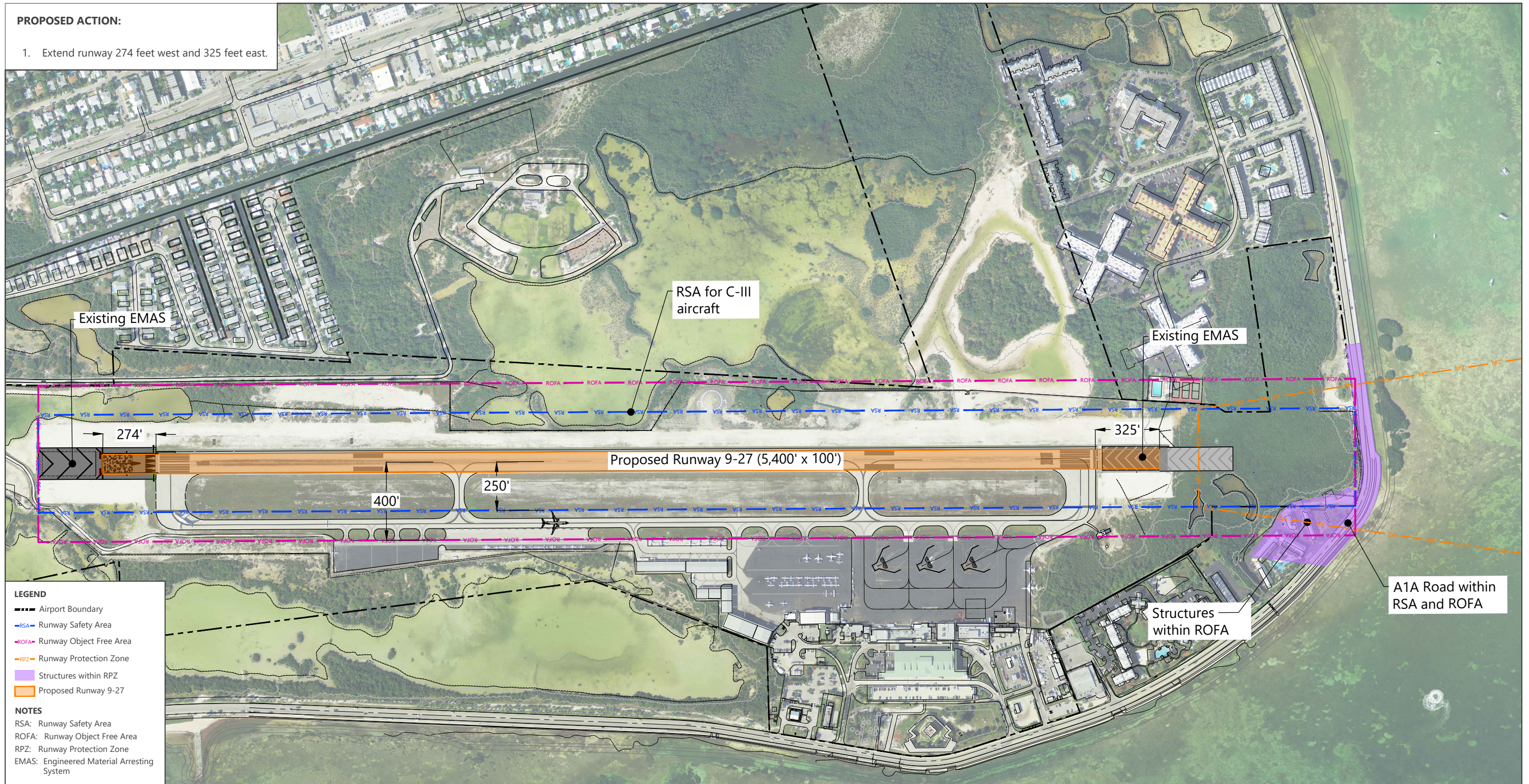
SOURCE: Jacobs, September 2015 (Basemap and Aerial Photography).  
PREPARED BY: Ricondo & Associates, Inc., November 2016.

EXHIBIT 5.1-1



### Extend Runway to the West Runway Extension - Alternative 1

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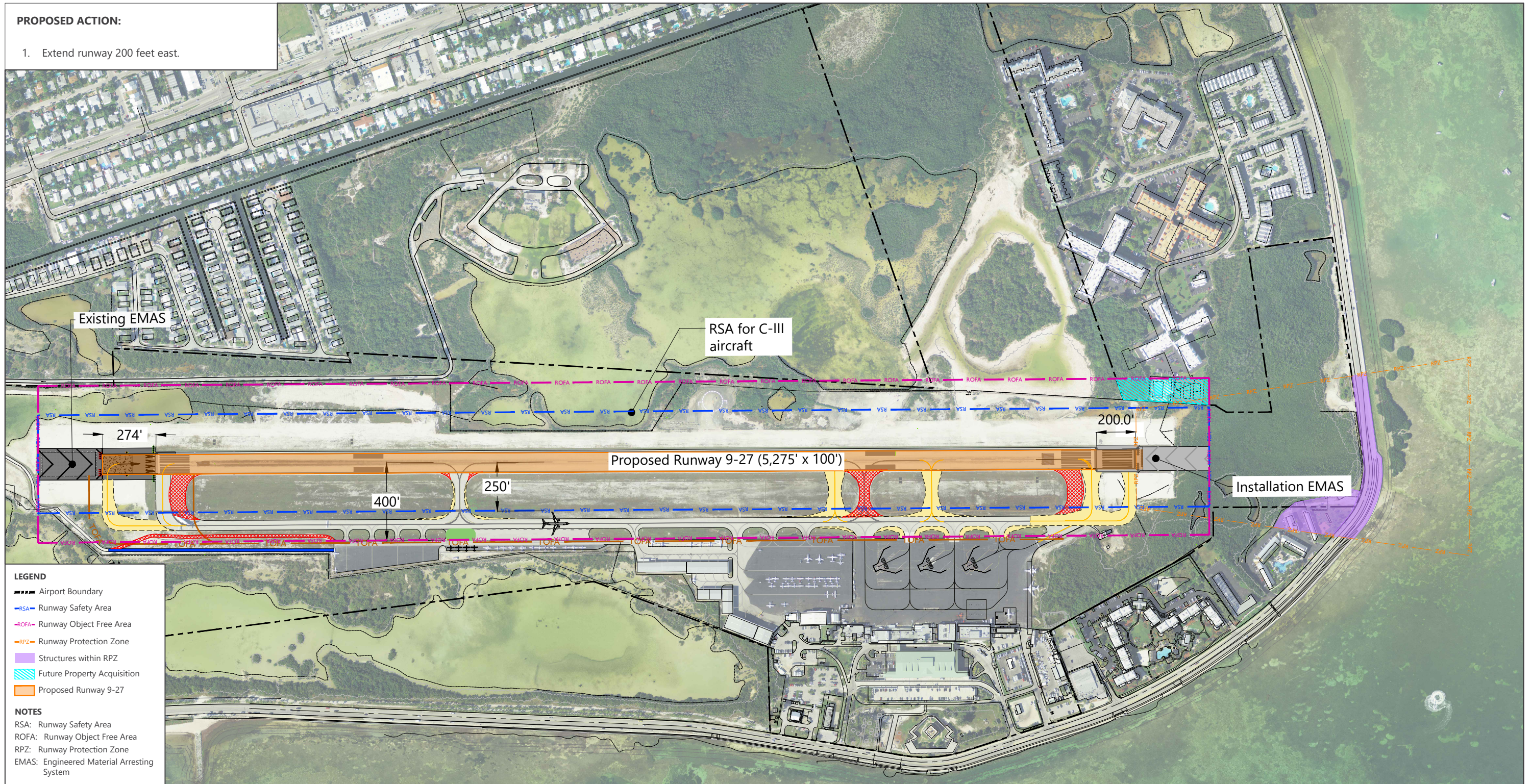
SOURCE: Jacobs, September 2015 (Basemap and Aerial Photography).  
PREPARED BY: Ricondo & Associates, Inc., November 2016.

EXHIBIT 5.1-2



Extend Runway to the East  
Runway Extension - Alternative 2

Drawing: P:\Project-Orlando\Monroe County\Task 200 - EYW Master Plan\206 - Alternatives\Airfield\CAD\Exhibit 5.1-2\_Runway Extension Alternative 2 20171218.dwg; Layout: 5.1.2 Plotted: Mar 6, 2019, 04:58PM



SOURCE: Jacobs, September 2015 (Basemap and Aerial Photography).  
 PREPARED BY: Ricondo & Associates, Inc., November 2016.

**EXHIBIT 5.1-3**



Extend Runway to the East  
 Runway Extension - Alternative 3

Drawing: P:\Project-Orlando\Monroe County\Task 200 - EYW Master Plan\206 - Alternatives\Airfield\CAD\Exhibit 5.1-3\_Runway Extension Alternative 3.dwg Layout: 5.1.3 Plotted: Mar 5, 2019, 04:29PM





SOURCE: Esri, Digital Globe, GeoEye, et al., 2016 (Aerial Imagery - may not be to scale, for visual reference only).  
 PREPARED BY: Ricondo & Associates, Inc., November, 2016.

**EXHIBIT 5.1-4**



Runway Extension  
Alternative 4

Drawing: P:\Project-Orlando\Monroe County\Task 200 - EYW Master Plan\206 - Alternatives\Airfield\CAD\Exhibit 5.1-4\_Runway Extension Alternative 4 (NAS).dwg; Layout: 5.1.4 Plotted: Mar 6, 2019, 11:06AM

### 5.1.1.6 Preferred Alternative

Although extending Runway 9-27 to 5,400 feet in length, as described for Alternatives 1 and 2, meets the runway length determination, these alternatives are not practical from an environmental, constructability, or financial standpoint. These alternatives also create new incompatible land uses in the RPZ. Alternative 3, which provides for the extension of the runway by 200 feet while minimizing impacts to the environment and surrounding land uses by providing an EMAS in lieu of a standard RSA, is the preferred development concept.

In the future, as commercial passenger traffic continues to increase and the requirements to establish a joint-use agreement become better defined, consideration will be given to converting Naval Air Station Key West, from a military airport to a joint-use airport (Alternative 4).

## 5.1.2 RUNWAY SAFETY AREA

The presence of wetlands and salt ponds precludes the existing RSA from meeting FAA lateral dimensional standards. To assist the FAA Orlando Airports District Office (ADO) with making an informed decision as part of its RSA Determination<sup>1</sup> process, a report was prepared to identify existing RSA deficiencies at EYW, as well as to evaluate various RSA improvement alternatives.<sup>2</sup> The RSA mitigation alternatives considered were:

- No Action Alternative
- Alternative 1 – Full Runway Safety Area Compliance
- Alternative 2 – Full-Length Widening of Runway Safety Area South and Partial-Length North
- Alternative 3 – Partial-Length Runway Safety Area Widening South and North
  - Alternative 4 – Partial-Length Runway Safety Area Widening South

The available RSA is 400 feet wide (200 feet on either side of the Runway 9-27 centerline, except for approximately 2,000 feet at the center of the runway, where it is only 350 feet wide). Per FAA AC 150/5300-13A, *Airport Design*, the RSA for C-III aircraft should be 500 feet wide.

The No Action Alternative would essentially consist of maintaining the status quo with the current available RSA width. The proposed RSA transverse grade, however, would be improved to provide a 1.5-inch drop between the runway shoulder and the grassed safety area, a continuous RSA transverse grade of 0.8 percent beyond the pavement edge south of Runway 9-27, and a continuous RSA transverse grade of 1.5 to 3.0 percent beyond the pavement edge north of Runway 9-27. These improvements would bring the overall RSA condition closer to compliance with FAA standards.

To achieve full compliance with FAA standards (Alternative 1), existing wetlands and salt ponds would need to be filled in and graded to increase the RSA width. This would trigger the need for various environmental reviews to analyze and disclose the potential impacts prior to construction. These improvements would require lengthy permitting processes, wetland mitigation, mangrove tree removal, and the development of a multiyear

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<sup>1</sup> Per FAA Order 5200.8, *Runway Safety Area Program*.

<sup>2</sup> Ricondo & Associates, Inc., *DRAFT Key West International Airport, Runway Safety Area Determination Supporting Documentation*, March 2017.

monitoring plan to document wetland mitigation success. Full compliance would also require the runway to be raised by 28 inches to meet FAA transverse grade requirements. However, development costs to achieve full RSA compliance are not considered financially viable.

Since increasing the elevation of the runway to meet FAA transverse grade requirements is not considered financially viable, all other options assume the approval of the Modification of Standards (MOS) request for the RSA transverse grade that was submitted by the BOCC in February 2017. Alternatives 2 and 3 both propose extending the RSA to the south, while also improving areas north of Runway 9-27. Alternative 4 proposes widening the RSA to the south only. These alternatives would require various levels of wetland mitigation, earth fill to bring the RSA to grade, and tree/vegetation clearing.

Considering the research and analyses completed as part of the Runway Safety Area Determination, and due to the extent of operational and/or cost implications, the No Action Alternative is the BOCC's preferred alternative. The following is a summary of the reasons that support this decision:

- The EMAS beds installed beyond the runway ends provide a level of safety equivalent to a standard RSA; as such, the RSA meets FAA longitudinal dimensional standards.
- Data on historical landing and takeoff veer-off accidents show that an aircraft veering off a runway is most likely to remain within 100 feet of the runway edge (or 150 feet from the runway centerline, assuming a 100-foot-wide runway). Thus, an aircraft veering off the runway at EYW is most likely to remain within the available RSA.
- Impacts to existing wetlands and salt ponds would trigger the need for various environmental reviews, wetland mitigation, and the development of a multiyear monitoring plan to document wetland mitigation success. Clearing mangrove trees would also require environmental mitigation. Complying with National Environmental Protection Agency (NEPA) regulations has become extremely lengthy, and this could postpone any proposed RSA improvement projects for many years.
- Construction work within the RSA would require the closure of the runway, resulting in significant operational impacts.
  - Considering the variability of aircraft veer-off events and locations, partial improvements to the RSA would provide limited safety benefits. Achieving full compliance, however, is not considered financially viable.

### 5.1.3 RUNWAY OBJECT FREE AREA

For runways serving Approach Category C aircraft, ROFAs must be 800 feet wide (i.e., 400 feet on either side of the runway centerline). The ROFA is a rectangular area centered on the runway centerline; it is required to be clear of objects protruding above the RSA edge elevation, except for those objects that are essential to air navigation or aircraft ground maneuvering. Objects that are nonessential for either air navigation or aircraft ground maneuvering are not permitted within the ROFA. At EYW, however, several objects/structures are currently located inside the standard ROFA. These objects include a section of service road located near the Runway 9 end, a section of AOA fence along the north boundary of the Airport, a private swimming pool and

tennis courts adjacent to the northeast corner of the Airport, and a former National Weather Service (NWS) Balloon Launch Facility located south of the Runway 27 end.

Based on the unique local conditions, Monroe County believes the existing ROFA penetrations do not adversely impact the Airport's ability to safely accommodate the existing and future aircraft fleet mix at the Airport. Given the costs of improvements to comply with the FAA ROFA requirements, the BOCC believes that a MOS request warrants consideration. The following is a summary of the reasons that support a MOS request to allow object penetrations to the Runway 9-27 ROFA at the Airport:

- Aircraft Operations:
  - The Airport has been serving C-III aircraft since 2002. Since then, no accidents at the Airport have been attributed to the objects penetrating the standard C-III ROFA. The only recorded incident involved a Piper PA31 (A-I aircraft), which experienced a landing gear collapse during landing, resulting in the aircraft veering off the runway after hitting a runway light.<sup>3,4</sup>
  - At the Airport, 98.9 percent of aircraft operations occur in VMC, allowing pilots to fly while maintaining visual separation from terrain and other aircraft.
  - Operations by aircraft that fall into Approach Category C only accounted for 18.0 percent of all Airport operations in CY 2016. Of these, 83.0 percent were conducted by air carriers (Part 121 operators). Accidents by air carrier operators only represent 1.6 percent of all aircraft accidents that have been reported by the National Transportation Safety Board (NTSB) since 1983.
- Airspace Surfaces:
  - At the Airport, the 14 CFR Part 77 primary surface is 500 feet wide, which is consistent with the ROFA dimensions for A-I, B-I, A-II, and B-II aircraft (the majority of aircraft that operate at EYW).
  - The OFZ remains clear of obstacles, except for a section of the AOA fence along the north side of the runway.
  - None of the objects that penetrate the ROFA lie within the footprint of the instrument departure surface.
  - None of the objects that penetrate the ROFA encroach the missed approach surfaces.
- Risk Analysis:
  - Based on the location of the ROFA penetrations, the likelihood of a collision in the event that an aircraft veers off the runway during the landing roll out or takeoff roll is either remote or extremely remote. As such, the existing ROFA penetrations do not warrant any restrictions or operational limitations.

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<sup>3</sup> Transportation Research Board, ACRP Report 51, *Risk Assessment Method to Support Modification of Airfield Separation Standards*, 2011.

<sup>4</sup> Federal Aviation Administration, *Accident and Incident Data System (AIDS)*, <http://www.asias.faa.gov/pls/apex/f?p=100:11:0::NO> (accessed February 7, 2017).

- The sections of AOA fence that are the closest to the runway represent a risk that is higher than 1 in 10 million operations, but lower than 1 in 100,000. The highest risk of collision if an ADG III aircraft veers off the runway during the landing roll out is 1 in 4.0 million landings.
- When an ADG III aircraft completes its landing roll out on Runway 9-27, the private swimming pool and tennis courts represent a risk that is higher than 1 in 10.0 million operations, but lower than 1 in 100,000. The risk of collision if an ADG III aircraft veers off the runway during the landing roll out is 1 in 7.7 million landings.
- All other penetrations to the ROFA represent a risk that is lower than 1 in 10 million operations.

A MOS request is currently under review by the FAA to modify the C-III ROFA to allow the Airport security fence, service road, Airport storage building, and private swimming pool/tennis courts to remain within the ROFA. In addition, the Airport staff is taking proactive steps to address the object free area penetrations as discussed below:

#### *Airport Service Road:*

As an interim mitigation, the Sponsor has proposed to enforce the following procedures:

- Aircraft Design Group III and/or Approach Category C Operations on Runway 9-27:
  - All vehicles are required to contact Air Traffic Control prior to entering the ROFA.
  - No vehicles shall operate on the service road while aircraft Design Group III and/or Approach Category C operate on Runway 9-27.
  - Vehicles may operate on the service road while aircraft Design Group II and/or Approach Category B operate on Runway 9-27 after obtaining clearance to enter the ROFA from Air Traffic Control.
  - No vehicles shall operate on the service road while aircraft operate on Taxiway A.
- Vehicle on Non-Public Service Road:
  - No commercial aircraft shall arrive or depart on Runway 9-27 while a vehicle is operating on the service road.

The Sponsor also proposes the service road to be relocated outside of the Taxiway OFA in the short-term future. To initiate this process, the Airport will complete an environmental assessment in CY2019 that will include the relocation of the service road.

#### *Existing Fence on the North Side of the Airport:*

To the extent practical (considering the existing environmental constraints), the existing fence will be relocated outside the OFA. To initiate this process, the Airport will complete an environmental assessment in CY2019 that will include the relocation of the existing fence.

#### *Former NWS Weather Balloon Facility:*

The former NWS Weather Balloon facility will be demolished in CY2019 as part of the taxiway pavement rehabilitation project.

#### *Tennis Court and Swimming pool:*

As noted in the FAA's comments received on October 17, 2018, the aircraft vertically clears the tennis court and swimming pool within the C-III standard ROFA. "Therefore, this becomes an acceptable mitigation for FAA acceptance." Ultimately, the land parcels where the swimming pool and tennis court are located will be acquired when the runway is ultimately relocated to meet ADG III runway to taxiway separation distance.

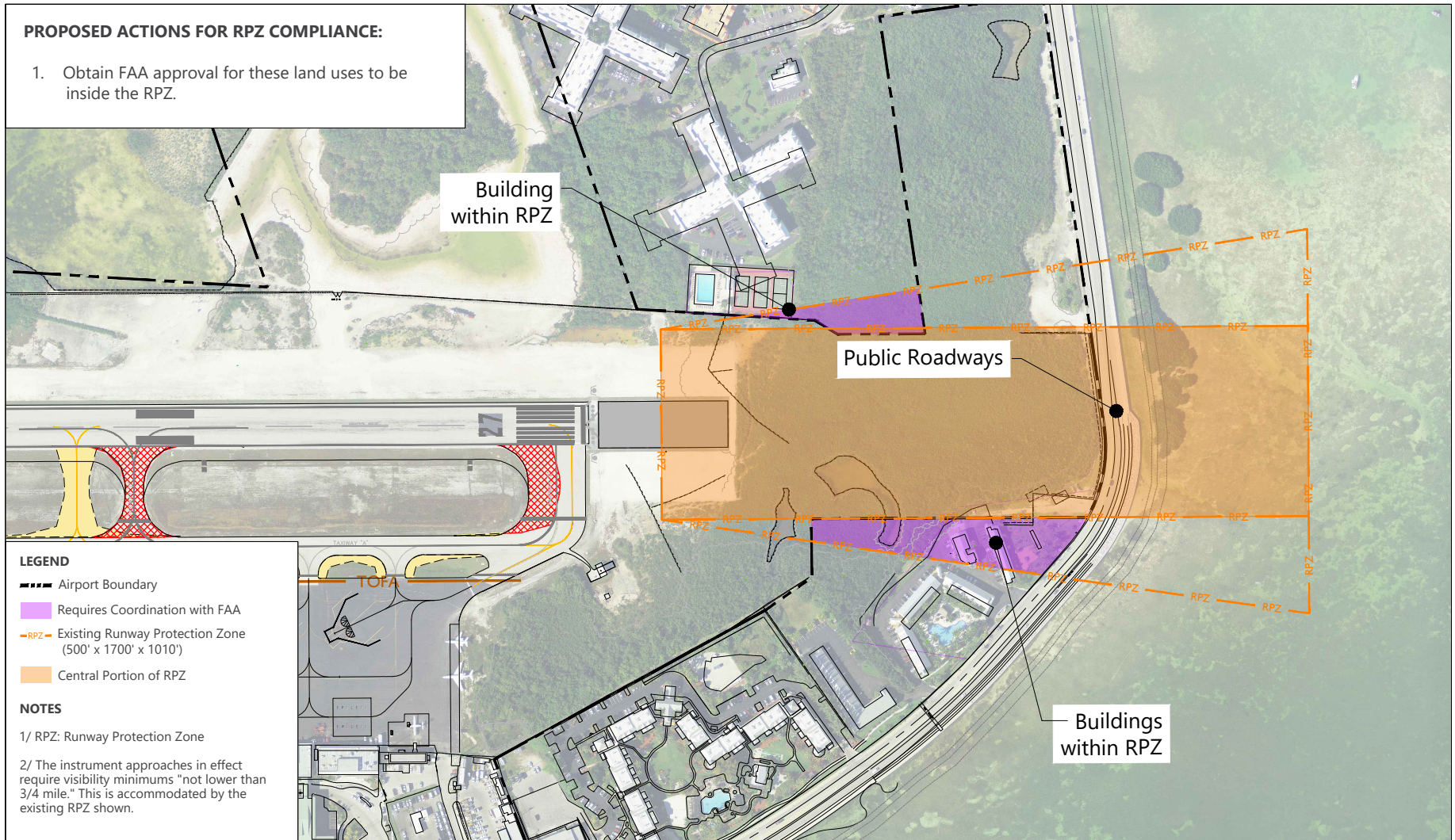
### 5.1.4 RUNWAY PROTECTION ZONES

During the development of this MPU, the instrument approach procedure to Runway 27 was updated by the FAA to lower the visibility minimum from 1.0 statute mile (sm) to 0.75 sm. A lower approach visibility minimum requires a larger RPZ, which increases in size from 29.47 acres to 49.98 acres. The larger RPZ encompassed several incompatible land uses, including a residential tower, a hotel, and approximately 300 additional linear feet of roadway. At the request of Monroe County, the FAA has increased the approach visibility minimum back to 1.0 sm, which requires the smaller RPZ. The approach visibility minimums to Runway 9-27 should remain 1.0 sm throughout the planning horizon and beyond to prevent the introduction of additional incompatible land uses.

It is recommended that Monroe County pursue the acquisition of properties not currently under County control by fee-simple acquisition or through an aviation easement. **Exhibit 5.1-5** depicts the RPZs and the existing property line.

### 5.1.5 RUNWAY-TO-TAXIWAY SEPARATION

The existing runway centerline to taxiway centerline separation distance does not meet FAA standards. Several mitigation alternatives were developed and are described in the following subsections. A preferred alternative was selected through the evaluation of each alternative's impacts.



SOURCE: Jacobs, September 2015 (Basemap and Aerial Photography).  
 PREPARED BY: Ricondo & Associates, Inc. October, 2016.

**EXHIBIT 5.1-5**



Runway Protection Zones

#### 5.1.5.1 No Action Alternative

The No Action Alternative, depicted on **Exhibit 5.1-6**, proposes to maintain the existing conditions, as it would be impractical to relocate Taxiway A. Based on the low occurrence of operations by aircraft with wingspans over 100 feet, the low risk of a collision, the anticipated aircraft fleet mix, and the lack of incident or accidents involving aircraft taxiing on Taxiway A and aircraft operating on Runway 9-27 at EYW, a MOS is requested allowing the non-standard runway-to-taxiway separation.

#### 5.1.5.2 Alternative 1 – Shift Taxiway A South

Alternative 1, depicted on **Exhibit 5.1-7**, proposes shifting Taxiway A 86 feet south to meet the current runway-to-taxiway separation standard of 400 feet. As a result, a significant portion of the existing apron areas would become unusable.

#### 5.1.5.3 Alternative 2 – Shift Runway North

Alternative 2, depicted on **Exhibit 5.1-8**, proposes to shift Runway 9-27 86 feet north to provide a 400-foot runway-to-taxiway separation. This would require significant grading and earthwork to fill in the salt ponds to meet RSA standards.

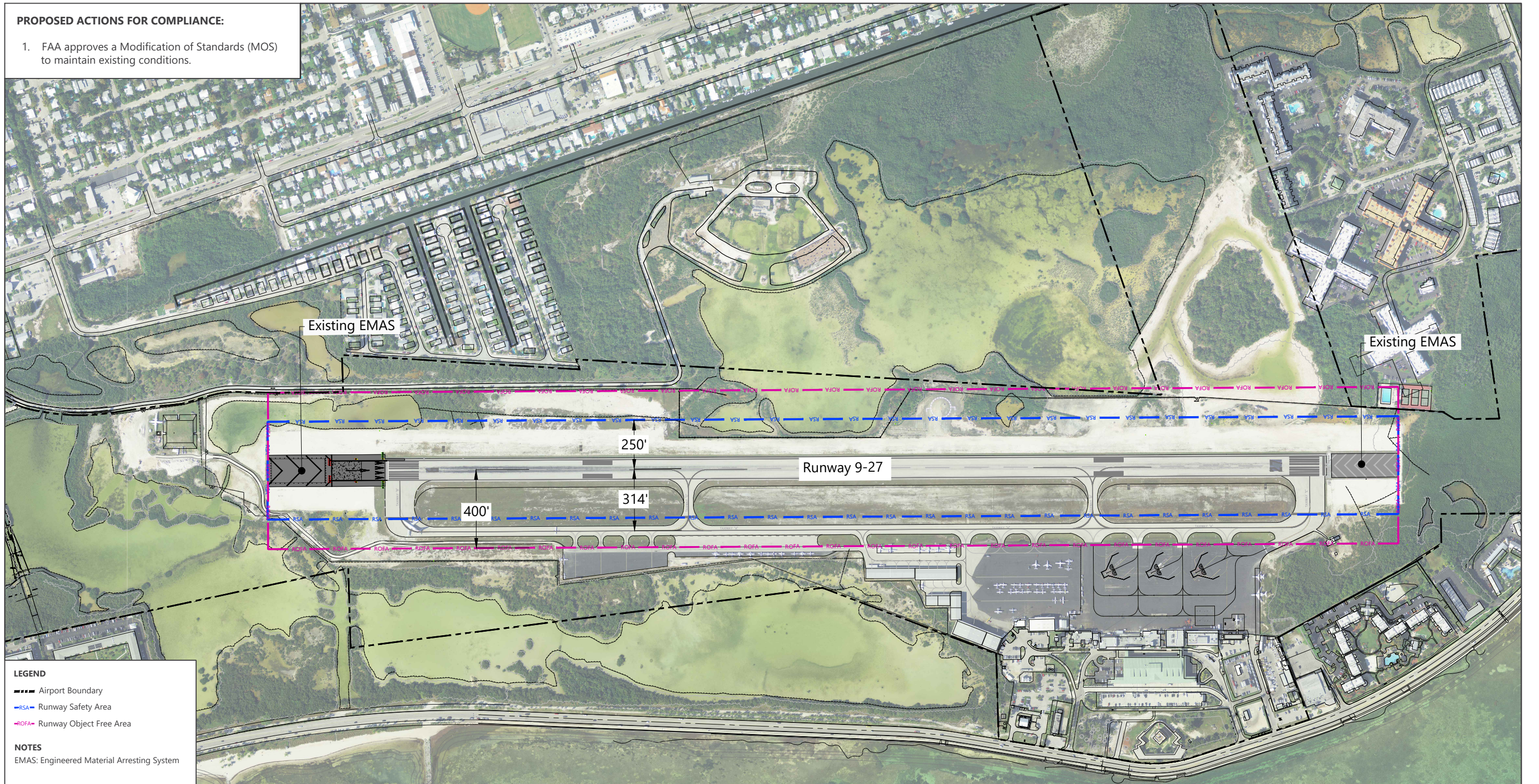
#### 5.1.5.4 Preferred Alternative

Alternative 2 is the preferred alternative because it would preserve the existing commercial ramp. However, until funding is available, the environmental process is completed, and mitigation plans are available to minimize impacts during and after construction, Monroe County will request to continue operating with the current runway-to-taxiway separation (No Action Alternative). To allow aircraft operations at the current runway-to-taxiway separation, a MOS request is currently under review by the FAA. Ultimately, when funding is available, Runway 9-27 will be shifted to the north to comply with Runway Design Code (RDC) C-III criteria.

The relocation of the runway to the north will require the following:

- Fill of salt ponds: To meet the RSA grading requirements, approximately 10 acres of existing inland salt ponds would need to be filled. Environmental mitigation would also be required.
- Property acquisition: To comply with design standards associated with the relocated runway, property would need to be acquired to allow the Airport to construct a RSA and control land uses within the ROFA and RPZ.
- Government Road relocation: The relocation of Runway 9-27 would require the realignment and/or closure of Government Road.
- Environmental impacts assessment: The FAA would be required to conduct an Environmental Impact Statement (EIS), in accordance with the National Environmental Policy Act (NEPA), to evaluate the potential direct, indirect, and cumulative environmental impacts that may result from the proposed runway relocation. The EIS would consider a range of reasonable alternatives that could potentially meet the purpose and need of the proposed project.
- Evaluation of airspace impacts: The relocation of Runway 9-27 would require the evaluation of potential impacts to flight procedures and aircraft operations, the assessment of obstructions in the approach/departure surfaces, and development and/or modification of associated arrival and departure procedures.





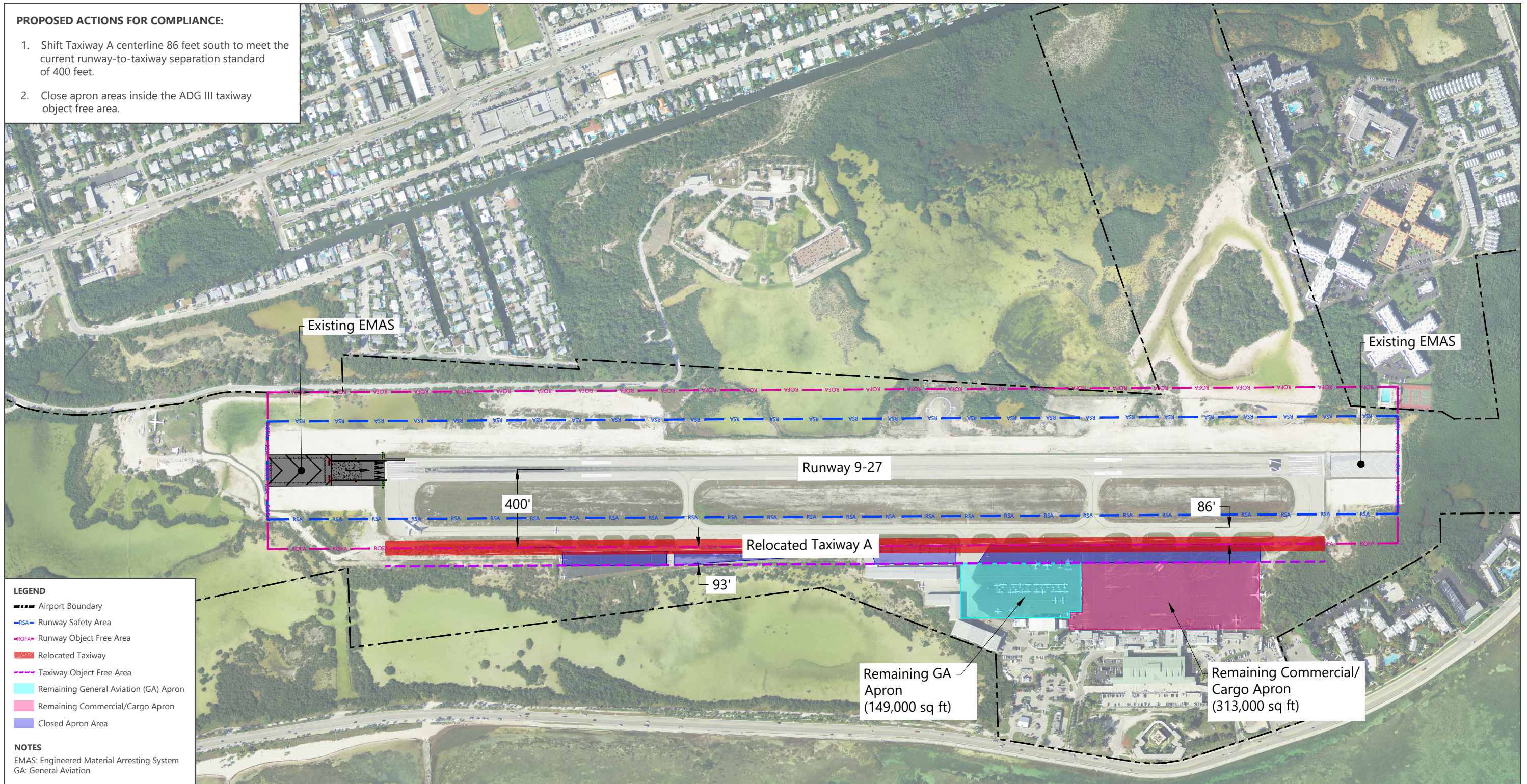
SOURCE: Jacobs, September 2015 (Basemap and Aerial Photography).  
 PREPARED BY: Ricondo & Associates, Inc., October 2016.

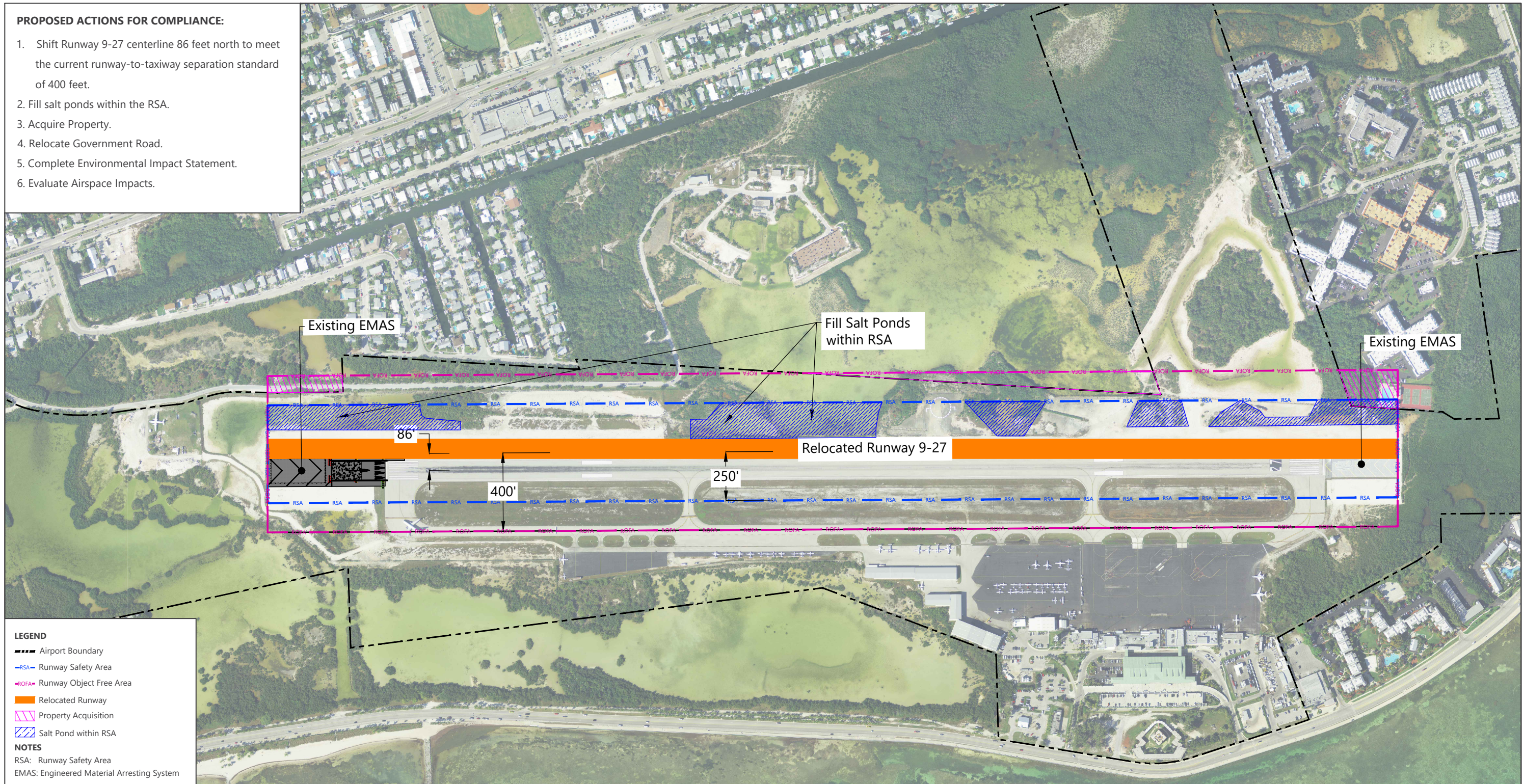
EXHIBIT 5.1-6



Runway-to-Taxiway Separation - No Action Alternative

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SOURCE: Jacobs, September 2015 (Basemap and Aerial Photography).  
PREPARED BY: Ricondo & Associates, Inc., October 2016.

EXHIBIT 5.1-8



Runway-to-Taxiway Separation Alternative 2

- Taxiway improvements and EMAS installation: The existing taxiway connectors would need to be extended to support the relocated Runway 9-27 and EMAS would need to be installed at both ends of the relocated runway.

### 5.1.7 RUNWAY 9 END EXTENSION ACCESS

Taxiway A is proposed to be extended west to provide full-length taxiway access to the extended Runway 9 end, as shown on **Exhibit 5.1-9**. This taxiway extension would require the relocation of the service road south of Taxiway A and the filling of some salt ponds.

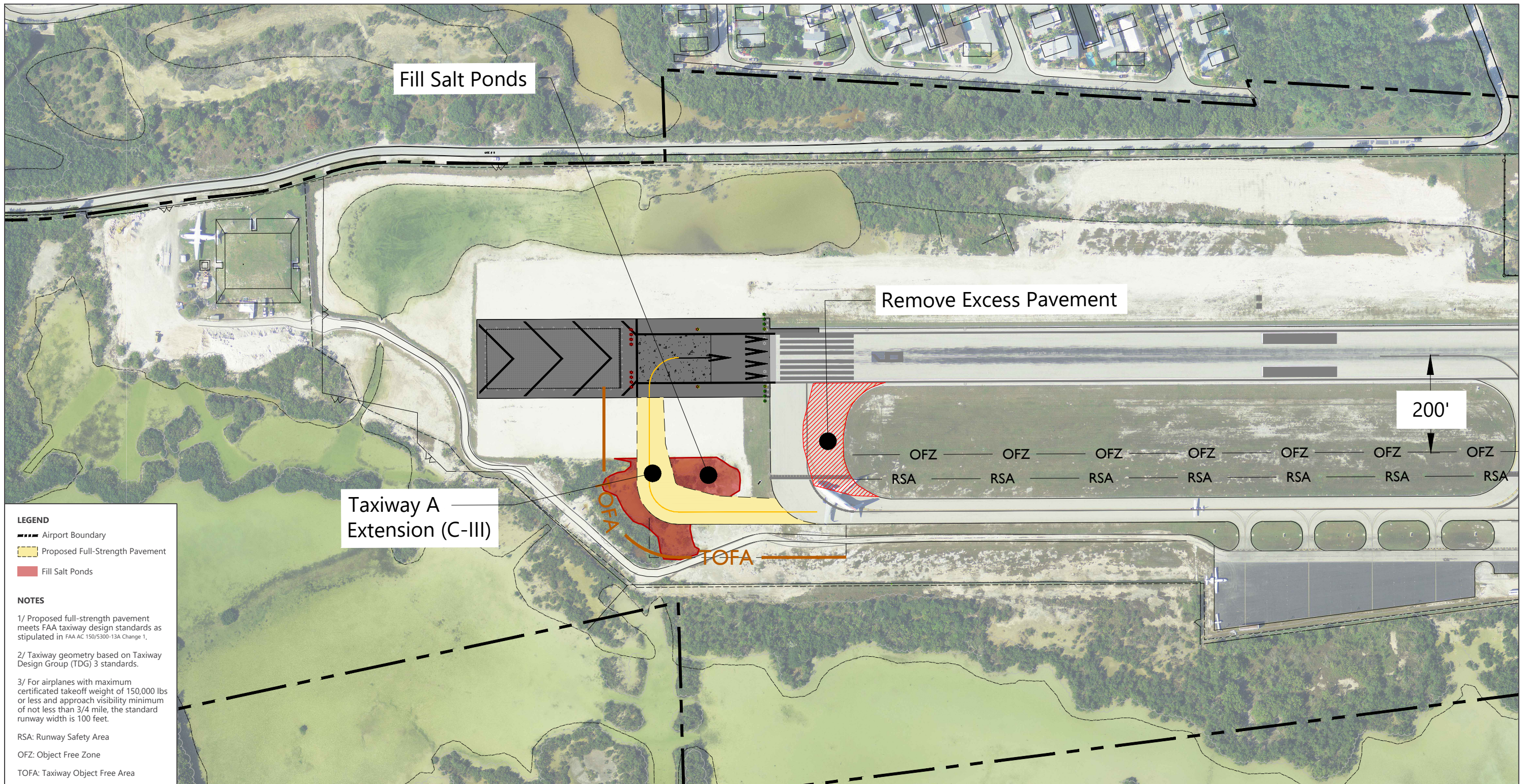
### 5.1.8 RUNWAY 27 END EXTENSION ACCESS

Taxiway A is proposed to be extended east to provide full-length taxiway access to the extended Runway 27 end, as shown on **Exhibit 5.1-10**. In addition, a bypass taxiway is proposed to help mitigate potential delay at the Runway 27 end.

### 5.1.9 AIRFIELD GEOMETRY COMPLIANCE

Based on the areas of airfield geometry noncompliance identified in Section 4, the following improvements are proposed and illustrated on **Exhibit 5.1-11**:

- Area 1 – increase runway shoulders' width from 10 feet to 20 feet
- Area 2 – obtain MOS for nonstandard runway-to-taxiway separation (currently 315 feet instead of 400 feet)
- Area 3 – obtain RSA Determination from FAA, allowing existing conditions to remain (RSA width less than 500 feet)
- Area 4 – widen Taxiway A connectors into apron to allow cockpit-over-centerline taxiing
- Area 5 – remove excess pavement on Taxiway B
- Area 6 – install a no-taxi island south of Taxiway C to prevent direct access from the apron to the runway
- Area 7 – do nothing (Per the FAA ADO, since no operational issues were identified nor runway incursions recorded at Area 7, mitigating this direct access from the apron to the runway is not a priority, and Taxiway D may remain in its current location. If issues arise and mitigation is needed in the future, then the proposed connector closest to the runway end would be the preferred alternative.
- Area 8 – remove excess pavement on Taxiway E
- Area 9 – relocate the existing service road outside the Taxiway A object free area
- Areas 10/11 – extend Runway 9-27 by 200 feet to the west, install a new EMAS beyond the extended runway end, and construct a bypass taxiway to help mitigate potential delay at the Runway 27 end



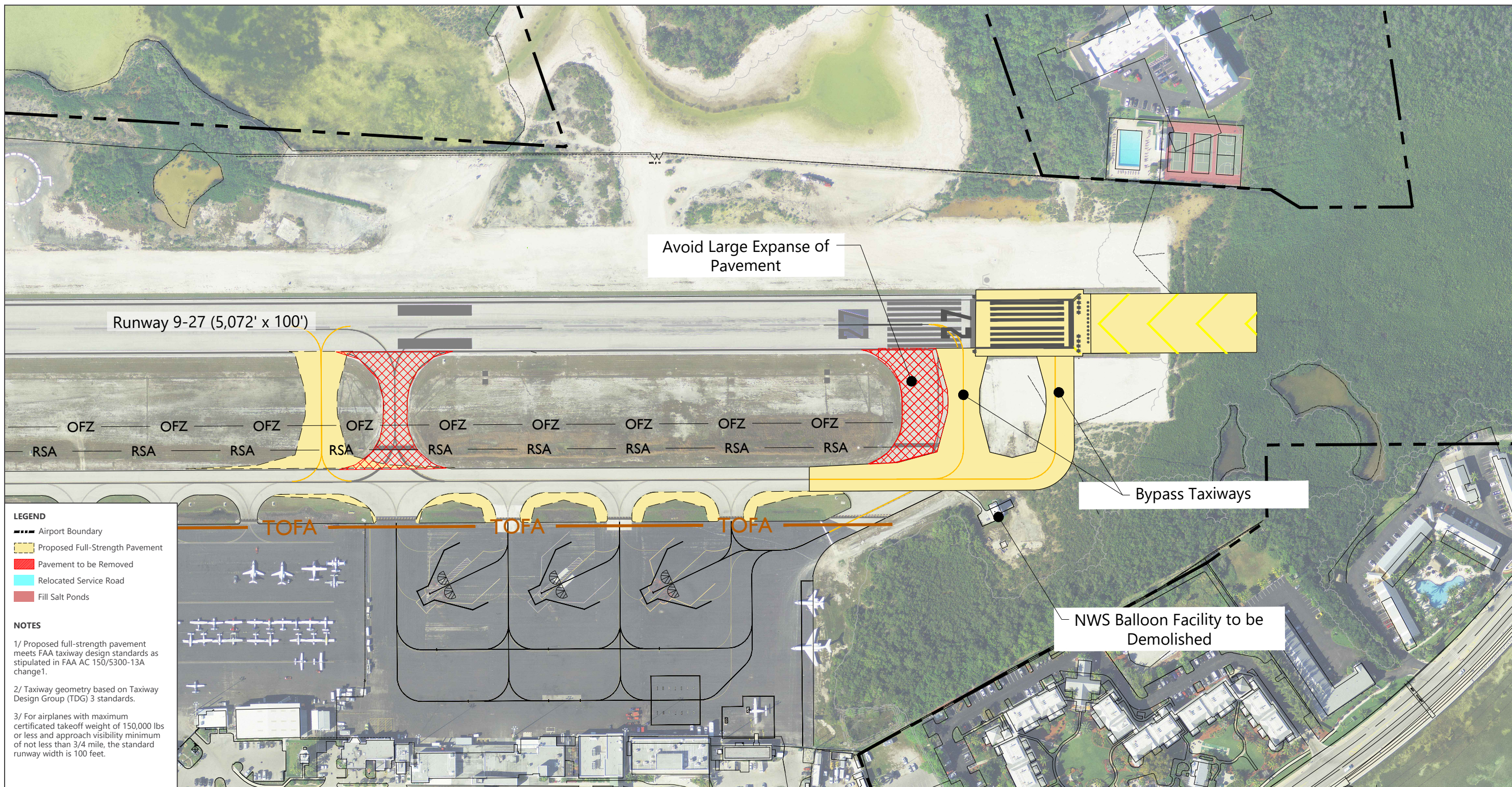
SOURCE: Jacobs, September 2015 (Basemap and Aerial Photography).  
PREPARED BY: Ricondo & Associates, Inc., November 2016.

EXHIBIT 5.1-9



Runway 9 End Extension  
Access Improvements

Drawing: P:\Project-Chicago\EYW\2015 Master Plan\5-Alternatives\Airfield\CAD\Exhibit 5.1-8\_Access to 9 End 20171201.dwg\Layout: 5.1-8 Plotted: Mar 6, 2019, 11:44AM



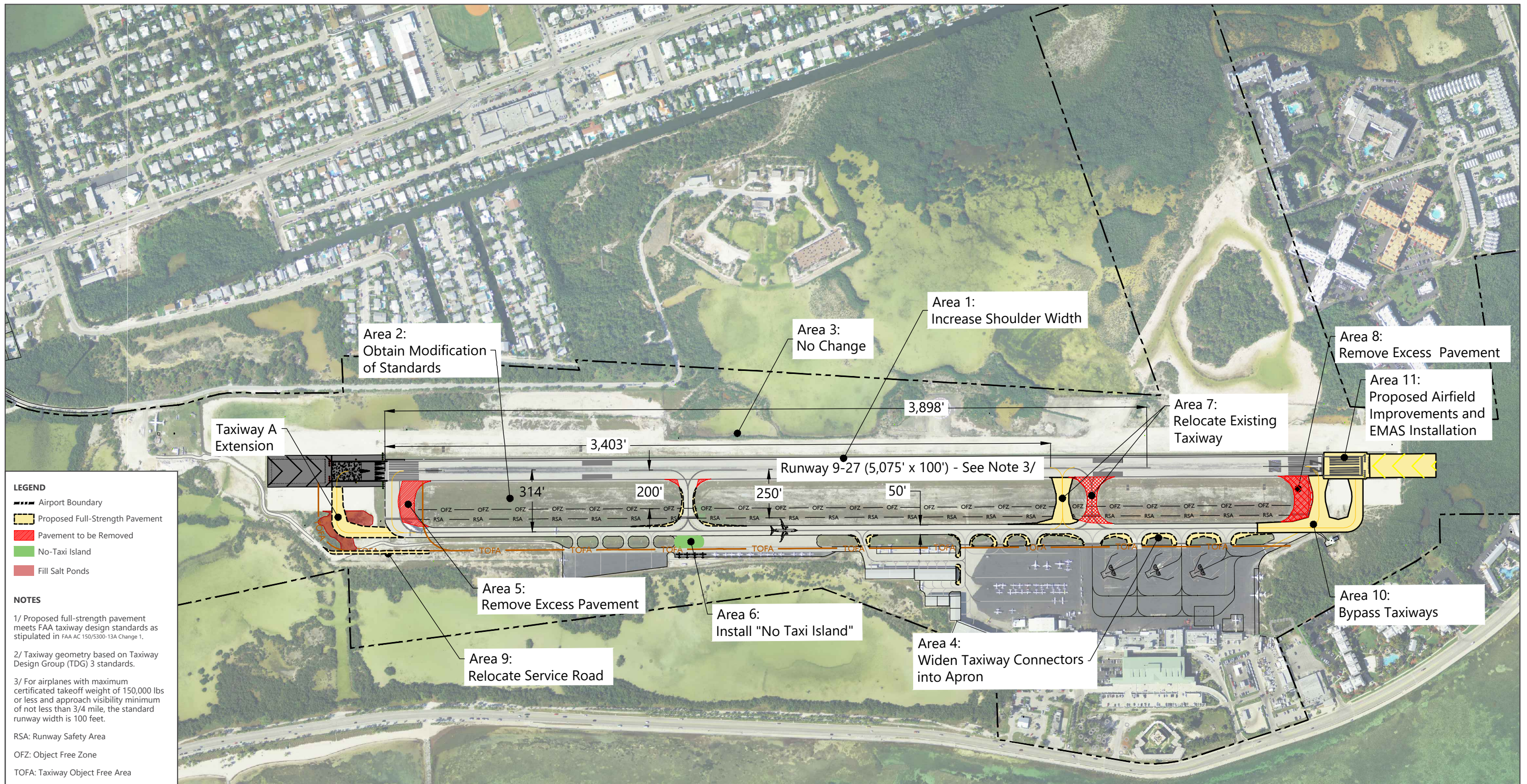
SOURCE: Basemap and Aerial Photography, Jacobs, September, 2015  
PREPARED BY: Ricondo & Associates, Inc., November, 2016.

EXHIBIT 5.1-10



Access Improvements to Runway 27 End

Drawing: P:\Project-Orlando\Monroe County\Task 200 - EYW Master Plan\206 - Alternatives\Airfield\CAD\Exhibit 5.1-X\_Access to 27 End.dwg Layout: 5.1.13 Plotted: Mar 6, 2019, 11:48AM



**LEGEND**

- Airport Boundary
- Proposed Full-Strength Pavement
- Pavement to be Removed
- No-Taxi Island
- Fill Salt Ponds

**NOTES**

1/ Proposed full-strength pavement meets FAA taxiway design standards as stipulated in FAA AC 150/5300-13A Change 1.

2/ Taxiway geometry based on Taxiway Design Group (TDG) 3 standards.

3/ For airplanes with maximum certificated takeoff weight of 150,000 lbs or less and approach visibility minimum of not less than 3/4 mile, the standard runway width is 100 feet.

RSA: Runway Safety Area  
 OFZ: Object Free Zone  
 TOFA: Taxiway Object Free Area

SOURCE: Jacobs, September 2015 (Basemap and Aerial Photography).  
 PREPARED BY: Ricondo & Associates, Inc., November 2016.

EXHIBIT 5.1-11



Airfield Geometry Improvements

Drawing: P:\Project-Orlando\Monroe County\Task 200 - EYW Master Plan\206 - Alternatives\Airfield\CAD\Exhibit 5.1-11\_Proposed AF Geometry Improvements-20171201.dwg Layout: 5.1-11 Plotted: Mar 20, 2019, 01:49PM

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## 5.2 Passenger Terminal/Aircraft Apron Facilities

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This section discusses passenger terminal development alternatives that would address the requirements identified in Section 4. The following is a summary of these terminal facility requirements, as organized by functional element:

- **Check-in facilities:** The check-in facility can accommodate demand levels beyond the 2035 DDFS requirements.
- **Passenger security screening checkpoints:** Passenger security screening checkpoint lanes can accommodate passenger demand levels forecast in the 2015 and 2020 DDFS. Between 2020 and 2025, an additional lane is required.
- **Holdrooms:** The current holdroom areas are deficient at today's passenger levels.
- **Apron:** Based on the 2035 DDFS, during peak activity, a total of five gates are required, including:
  - two aircraft parking positions capable of accommodating narrowbody aircraft (e.g., Boeing 737-700W)
  - one aircraft parking position capable of accommodating large regional aircraft (e.g., Embraer 175)
  - two aircraft parking positions capable of accommodating turboprop aircraft (e.g., ATR 42)The commercial apron must also accommodate up to seven RON aircraft, either at the terminal or at remote parking positions, including:
  - one aircraft position capable of accommodating large regional aircraft (e.g., Embraer 175)
  - one aircraft position capable of accommodating regional aircraft (e.g., CRJ 700)
  - five aircraft parking positions capable of accommodating turboprop aircraft (e.g., ATR 42)The possibility of direct docking to aircraft parked at or near the terminal using passenger boarding bridges was considered in the development of the commercial apron alternatives. As such, the terminal alternatives propose utilizing passenger boarding bridges to enhance the passenger experience.
- **Outbound baggage makeup:** The outbound baggage makeup carousel has sufficient length and capacity for all DDFS demand levels. However, additional area for physical cart staging will be required after 2020.
- **Domestic baggage claim:** The current domestic baggage claim retrieval area is deficient, and the existing devices are undersized to support future planned aircraft.
- **Commercial areas:** Commercial areas require modernization, with potential relocation/expansion into the new holdroom areas.
- **Restrooms:** The restroom facilities are adequate through the planning horizon.

Following input from the TRC, the passenger terminal development alternatives were narrowed to two alternatives: Alternatives 1 and 2. These were shortlisted due to their moderate impacts to the aircraft apron:



- Alternative 1 proposes to construct a new concourse to the north of the existing facility on the existing apron.
- Alternative 2 proposes to construct a new concourse as a second floor above the existing terminal, resulting in a smaller impact to the apron.

Both alternatives are connected to the existing facility via the current departure bridge, and they both retain use of the vertical circulation core. The Arrivals Hall would be reconfigured, and a new domestic bag-claim device would be added to improve the LOS. The following subsections provide an overview of each passenger terminal alternative.

### 5.2.1 ALTERNATIVE 1

**Exhibit 5.2-1** depicts the proposed Alternative 1 apron layout. **Exhibit 5.2-2** and **Exhibit 5.2-3** depict the corresponding proposed terminal layouts. Exhibit 5.2-2 provides an overview of the passenger terminal second floor, including the existing Departures Hall and the proposed terminal expansion above the existing apron. Exhibit 5.2-3 provides an overview of the passenger terminal first floor, including the existing Arrivals Hall and its proposed improvements.

The following subsections provide an overview of each functional element of Alternative 1.

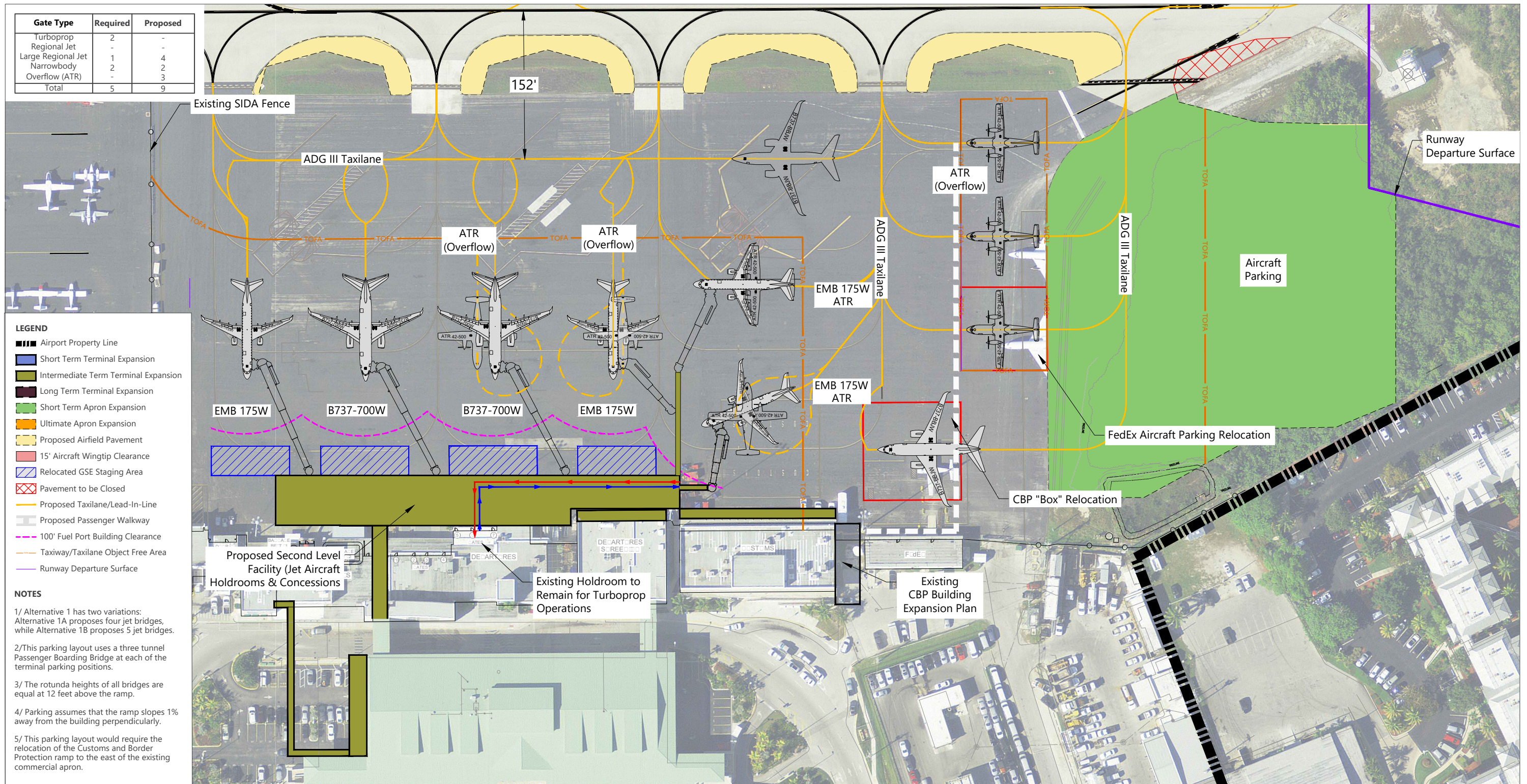
#### 5.2.1.1 Apron

Alternative 1 proposes an expansion of the terminal to accommodate aircraft directly at or near the terminal via passenger boarding bridges. This alternative provides a total of six jet aircraft parking positions at the terminal and three remote power-in/power-out turboprop/regional jet positions, accessible via enclosed walkways, for a total of nine aircraft parking positions at or near the terminal. When not being utilized by jet aircraft, two of the aircraft positions at the terminal facing south would accommodate independent power-in/power-out turboprop operations. Alternative 1 would satisfy the 2035 DDFS gate and remain overnight (RON) requirements and would provide the opportunity for future expansion of the terminal, if needed to accommodate additional aircraft.

Any future expansion of the terminal building to the east would result in an additional displacement of aircraft parking positions and an additional apron expansion to the east to accommodate the impacted parking positions and other on-Airport facilities that require direct access to the apron, including the CBP facility.

#### 5.2.1.2 Check-in Facilities

The current check-in facilities, depicted on Exhibit 5.2-2, are sufficient to accommodate passenger demand levels through the planning horizon (2035). However, to modernize the process, additional kiosks would be needed. There is adequate space within the existing check-in hall to accommodate the 14 total kiosks required by 2035. These kiosks could be remote self-service common-use devices open to passengers of any airline, or they could replace in-line counter positions and remain staffed by airline agents.



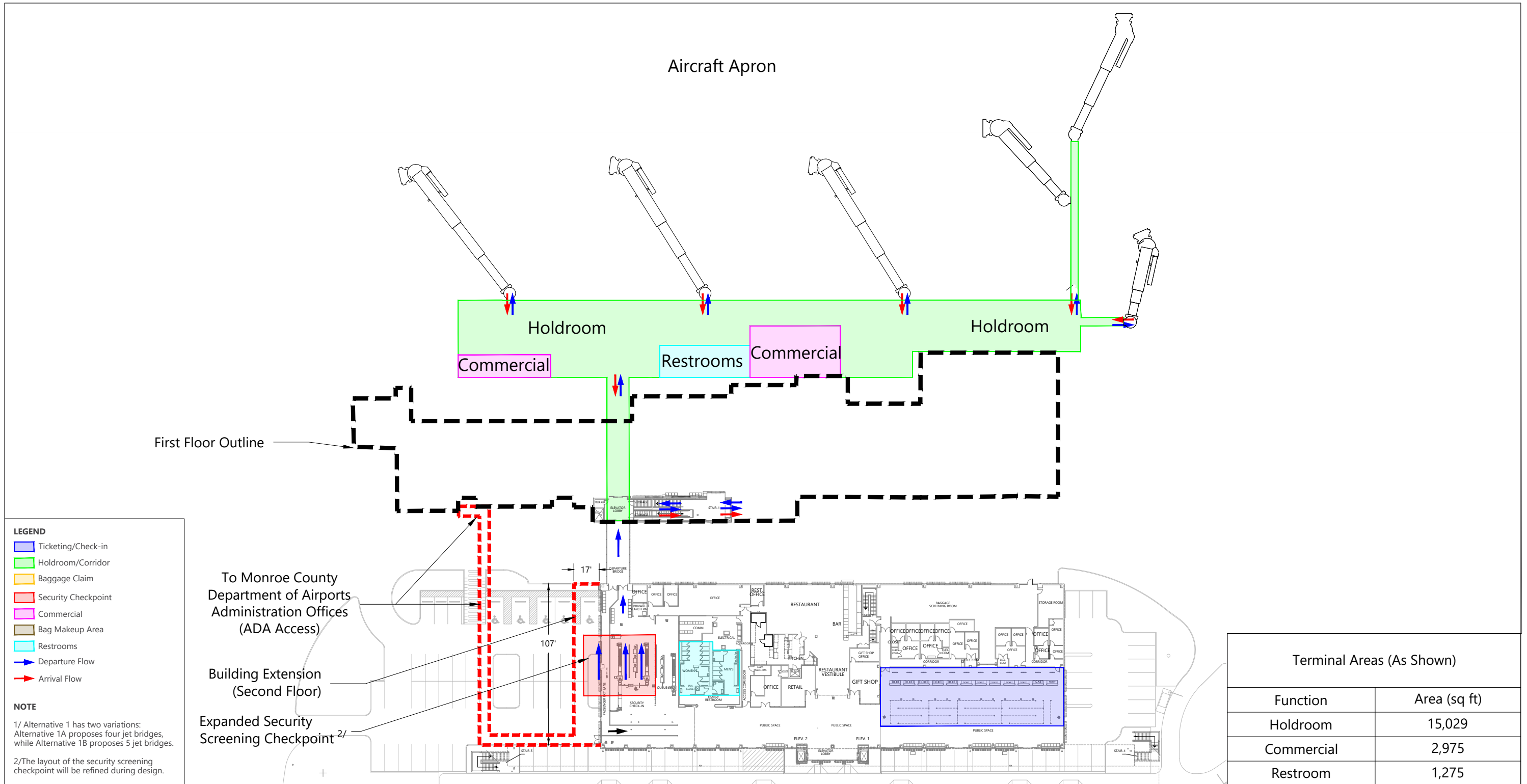
SOURCES: Monroe County Aviation Department, Ameribridge Radial Drive PBB EYW Concepts, September 2016; Ricondo & Associates, Inc., June 2017.  
 PREPARED BY: Ricondo & Associates, Inc., July 2017.

Exhibit 5.2-1



Proposed Terminal Apron Layout  
 Alternative 1

Drawing: P:\Project-Orlando\Monroe County\Task 200 - EYW Master Plan\206 - Alternatives\CAD\Commercial Apron\_Alternative Extended Taxilane\_20190206.dwg Layout: Long Term Plotted: Mar 19, 2019, 04:22PM

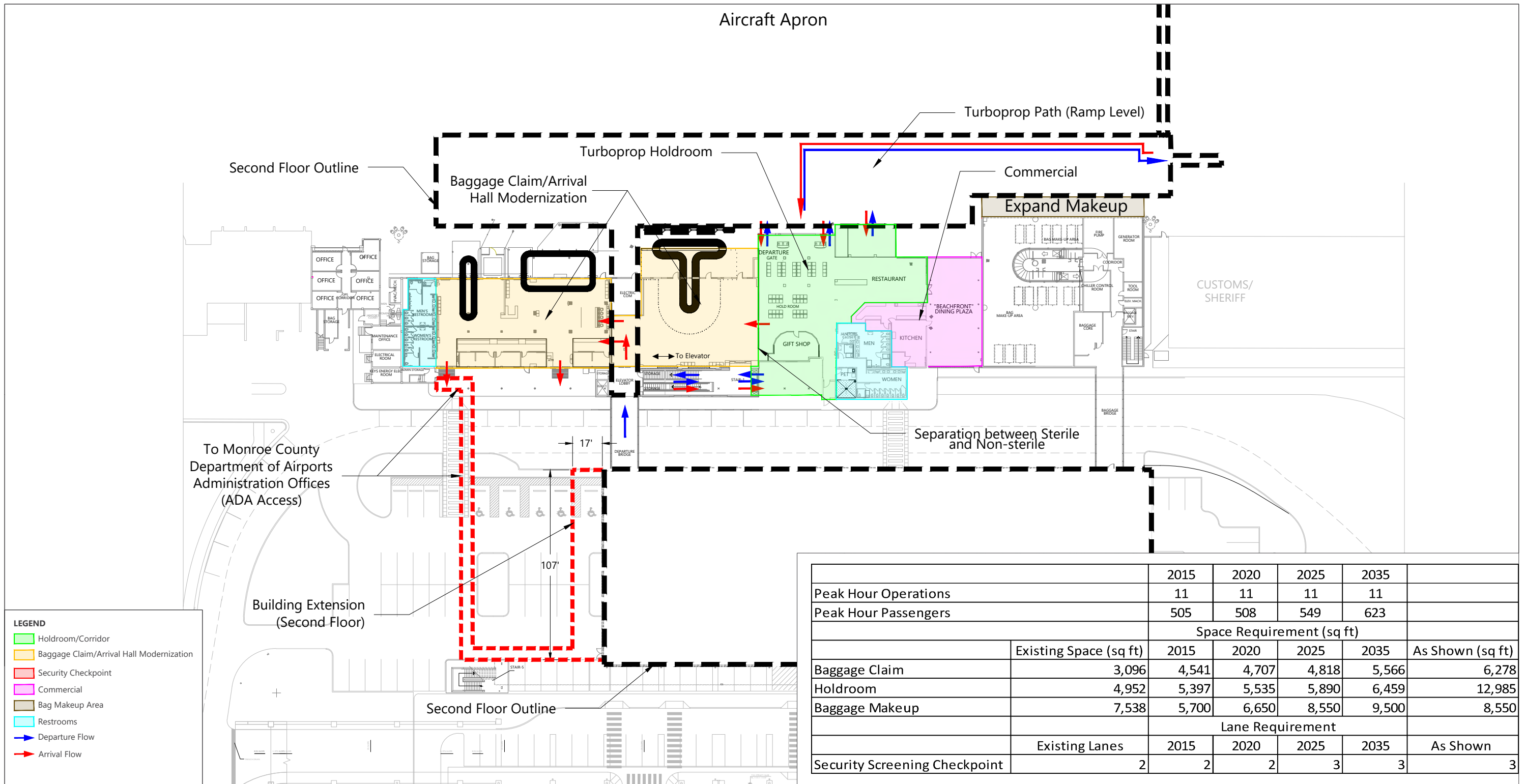


SOURCES: American Infrastructure Development, Inc., April 2016; Ricondo & Associates, Inc., June 2017.  
 PREPARED BY: Ricondo & Associates, Inc., July 2017.

**EXHIBIT 5.2-2**



Proposed Terminal Layout  
 Alternative 1 Second Floor



SOURCES: American Infrastructure Development, Inc., April 2016; Ricondo & Associates, Inc., June 2017.  
 PREPARED BY: Ricondo & Associates, Inc., July 2017.

EXHIBIT 5.2-3



Drawing: P:\Project-Orlando\Monroe County\Task 200 - EYW Master Plan\206 - Alternatives\Terminal Alternatives\CAD\Terminal Alternative 4a-Lower\_20171024.dwg Layout: 11X17 Plotted: Mar 20, 2019, 01:02PM

#### 5.2.1.4 Passenger Security Screening Checkpoint

Alternative 1 proposes the construction of an 1,800-square-foot building extension to the west of the existing security checkpoint to contain the third checkpoint lane and to retain the exit lane corridor (depicted on Exhibit 5.2-2). This third lane should be capable of functioning either as a dedicated Pre✓ lane or a standard lane. The TSA has protocol to allow Pre✓ passengers to use standard lanes, which can be planned into the expansion. Additional reconfiguration or improvements of corollary space may be necessary to meet current TSA design guide requirements. This building extension would be raised on columns/stilts/pillars and would be open-air underneath.

#### 5.2.1.5 Holdrooms

The following holdroom improvements, depicted on Exhibit 5.2-2, are proposed for Alternative 1:

- Second floor: A 7,100-square-foot dual holdroom configuration would be constructed to support larger aircraft, as depicted on Exhibit 5.2-2. This slightly exceeds the stated space requirements; however, it includes circulation space and queueing areas around agent podiums adjacent to the new passenger boarding bridge doors to alleviate potential conflicts in cross-circulation. The departure bridge would extend to the north beyond the vertical circulation core.
- First floor: Passengers traveling via turboprop aircraft would utilize the existing departures bridge and vertical circulation core to descend to the apron level, as depicted on Exhibit 5.2-3. Three doors in the north wall of the holdroom would continue to support three gates and a walkway on the apron to service ground-loaded aircraft.

#### 5.2.1.6 Outbound Baggage Makeup Facilities

The existing outbound baggage makeup carousel has sufficient length and capacity to accommodate all DDFS demand levels. However, additional area for physical cart staging will be required after 2020. This expansion can be covered and unenclosed, and it is recommended to extend to the north of the existing makeup area, as depicted on Exhibit 5.2-3. To provide redundancy while the primary device is undergoing maintenance, a second outbound bag makeup device is also recommended in the intermediate/long-term.

#### 5.2.1.7 Domestic Baggage Claim

Alternative 1 recommends the construction of a new domestic baggage claim device in the western portion of the existing holdroom, as depicted on Exhibit 5.2-3. The capacity of this device would be sufficient to support demand through the planning horizon. The existing devices in the Arrivals Hall would be retained and modernized for continued use during irregular operations.

Rental car counters currently operating out of the existing Arrivals Hall would be relocated to a consolidated rental car customer service area. The reclaimed area would enable the expansion of the waiting area in the Arrivals Hall for meeters and greeters. Windows could also be added in the Arrivals Hall to increase visual connections to the curb.

#### 5.2.1.8 Commercial Areas

Concessions areas within the landside and airside of the passenger terminal would continue to operate from the existing kitchen; although, some equipment may need to be upgraded. The new commercial area adjacent

to the new holdroom could include a restaurant to replace the previous facility. Additional HVAC equipment would likely be required.

Rental car customer service counter improvements are also planned:

- In the short term, improvements would include right-sizing and modernizing the rental car customer service areas in the Arrivals Hall.
- In the long term, the rental car customer service counters may be relocated to a potential long-term consolidated rental car facility in a new two-level structure, which would be located where the existing 1-hour parking site is currently located.

### 5.2.1.9 Construction Phasing

The immediate action would be to construct a two-story facility with the second floor raised on columns, stilts, or pillars and open-air underneath. The second floor would encompass holdrooms, commercial area, and restrooms. This first phase would provide four passenger boarding bridges. A fifth jet bridge would be added during Phase 2, when necessary.

## 5.2.2 ALTERNATIVE 2

The proposed Alternative 2 apron layout is depicted on **Exhibit 5.2-4**. The corresponding proposed terminal layouts are depicted on **Exhibit 5.2-5** and **Exhibit 5.2-6**. Exhibit 5.2-5 provides an overview of the passenger terminal second floor, including the existing Departures Hall and the proposed terminal expansion above the existing facilities. Exhibit 5.2-6 provides an overview of the passenger terminal first floor, including the existing Arrivals Hall and its proposed improvements.

The following subsections provide an overview of each functional element of Alternative 2.

### 5.2.2.1 Apron

Alternative 2 proposes an expansion of the terminal to accommodate aircraft directly at or near the terminal via passenger boarding bridges, as depicted on Exhibit 5.2-4. Alternative 2 would provide a total of four jet aircraft parking positions at the terminal and up to two remote power-in/power-out turboprop/regional jet positions accessible via enclosed walkways, for a total of six aircraft parking positions at or near the terminal. When not being utilized by jet aircraft, three of the four aircraft positions at the terminal could accommodate independent power-in/power-out turboprop operations. Alternative 2 would satisfy the 2035 DDFS gate and RON requirements.

### 5.2.2.2 Check-in Facilities

The current check-in facilities, depicted on Exhibit 5.2-5, are sufficient to accommodate passenger demand levels through the planning horizon (2035). However, to modernize the process, additional kiosks would be required. There is adequate space within the existing check-in hall to accommodate the 14 total kiosks required by 2035. These kiosks could be remote self-service common-use devices open to passengers of any airline, or they could replace in-line counter positions and remain staffed by airline agents.

### 5.2.2.3 Passenger Security Screening Checkpoint

Similar to Alternative 1, Alternative 2 proposes the construction of an 1,800-square-foot building extension to the west of the existing security checkpoint to include the third checkpoint lane and to retain the exit lane corridor (depicted on Exhibit 5.2-5). This third lane should be capable of functioning either as a dedicated Pre ✓ lane or a standard lane. This portion of the building would be raised on columns/stilts/pillars and would be open-air underneath.

### 5.2.2.4 Holdrooms

The following holdroom improvements are proposed for Alternative 2:

- Second floor: Construction of an 8,300-square-foot single holdroom for jet aircraft passengers, directly adjacent to the vertical circulation core, as depicted on Exhibit 5.2-5. This holdroom would consolidate the seating areas, which would minimize cross-circulation conflicts around agent podiums adjacent to the new jet bridge doors.
- First floor: Passengers traveling via turboprop aircraft would utilize the existing departure bridge and vertical circulation core to descend to the apron level, as depicted on Exhibit 5.2-6. Three doors in the north wall of the holdroom would continue to support three gates and a walkway on the apron to service ground-loaded aircraft.

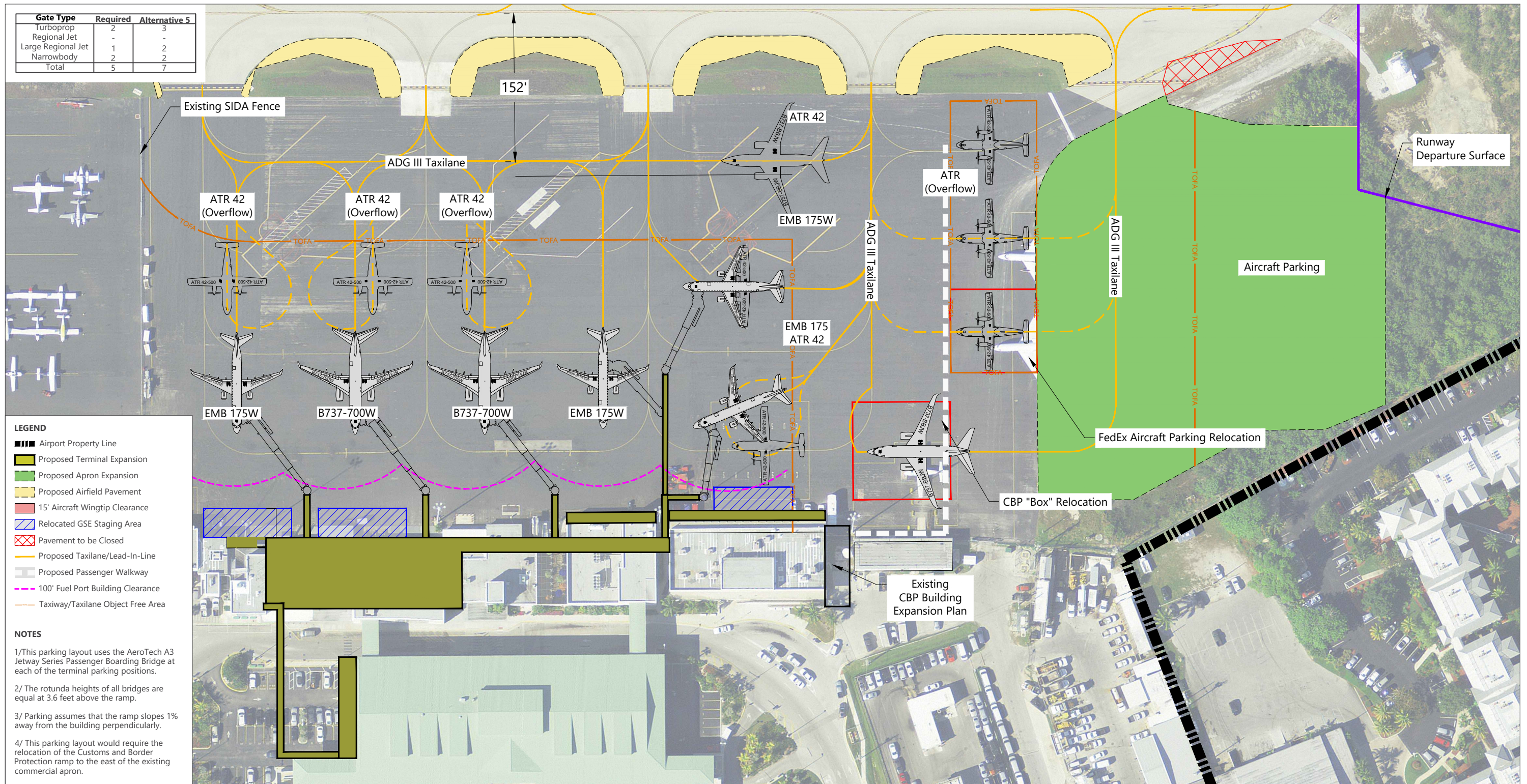
### 5.2.2.5 Outbound Baggage Makeup Facilities

The existing outbound baggage makeup carousel, depicted on Exhibit 5.2-6, has sufficient length and capacity for all DDFS demand levels. However, additional area for physical cart staging will be required after 2020. This expansion can be covered and unenclosed, and it is recommended to extend to the north of the existing makeup area (also depicted on Exhibit 5.2-6). Airport activity levels should be periodically monitored to ensure the availability of outbound baggage makeup facilities. Should traffic continue to increase during peak times, a second outbound baggage makeup carousel may be required in the future. This carousel would also provide redundancy while the primary device is undergoing maintenance.

### 5.2.2.6 Domestic Baggage Claim

Similar to Option 1, Alternative 2 recommends the construction of a new domestic baggage claim device in the western portion of the existing holdroom, as depicted on Exhibit 5.2-6. The capacity of this device would be sufficient to accommodate demand through the planning horizon. The existing devices in the Arrivals Hall would be retained and modernized for continued use during irregular operations.

Rental car counters currently operating out of the existing Arrivals Hall could be relocated to a consolidated rental car customer service area. The reclaimed area would enable the expansion of the waiting area in the Arrivals Hall for meeters and greeters. Windows could also be added in the Arrivals Hall to increase visual connections to the curb.



SOURCES: Monroe County Aviation Department, AmeriBridge Radial Drive PBB EYW Concepts, September 2016; Ricondo & Associates, Inc., June 2017.  
 PREPARED BY: Ricondo & Associates, Inc., July 2017.

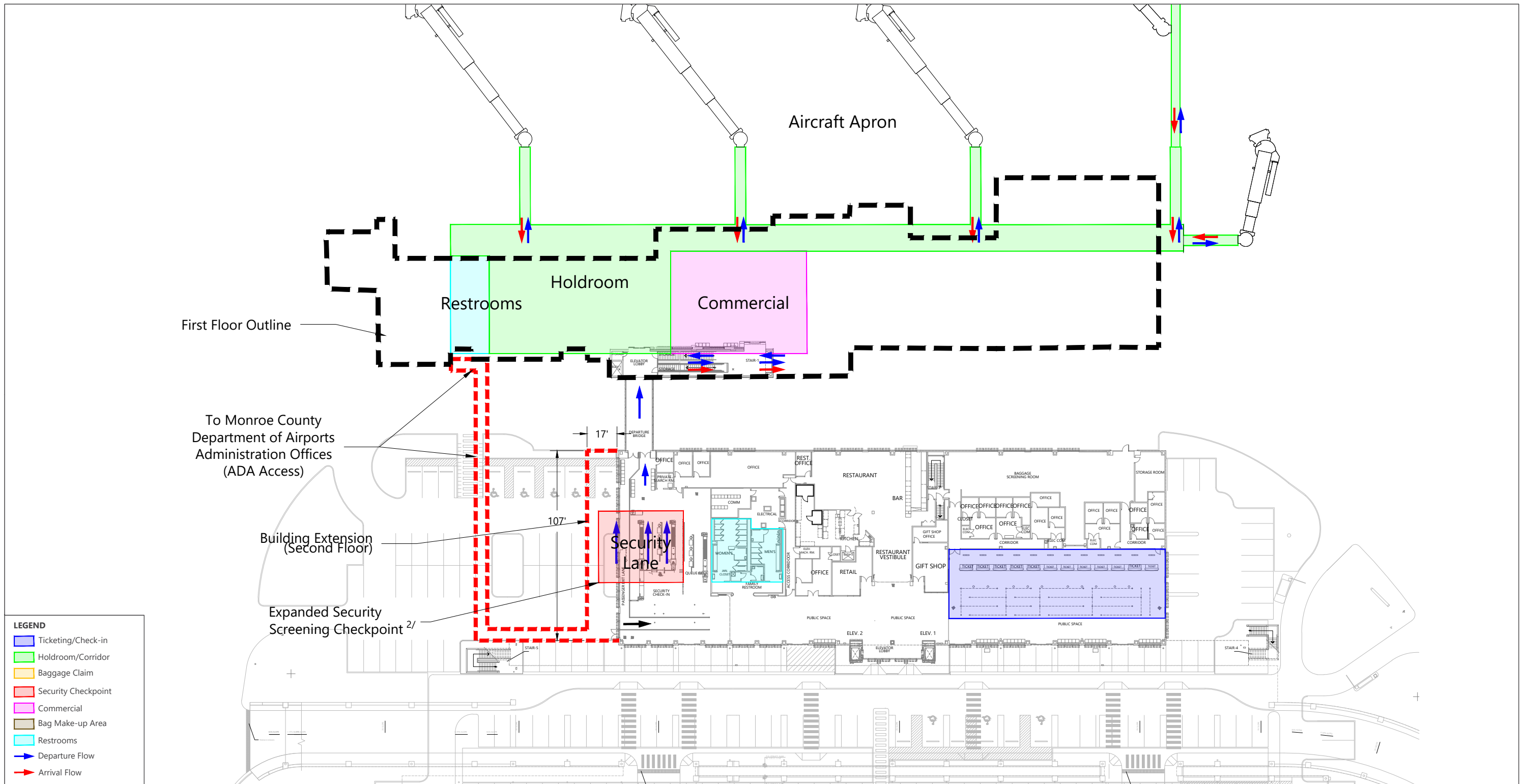
EXHIBIT 5.2-4



Proposed Terminal Apron Layout  
 Alternative 2

Drawing: P:\Project-Orlando\Monroe County\Task 200 - EYW Master Plan\206 - Alternatives\CAD\Commercial Apron\_Alternative 5\_20170706.dwg Layout: Option 5 Plotted: Mar 20, 2019, 09:29AM





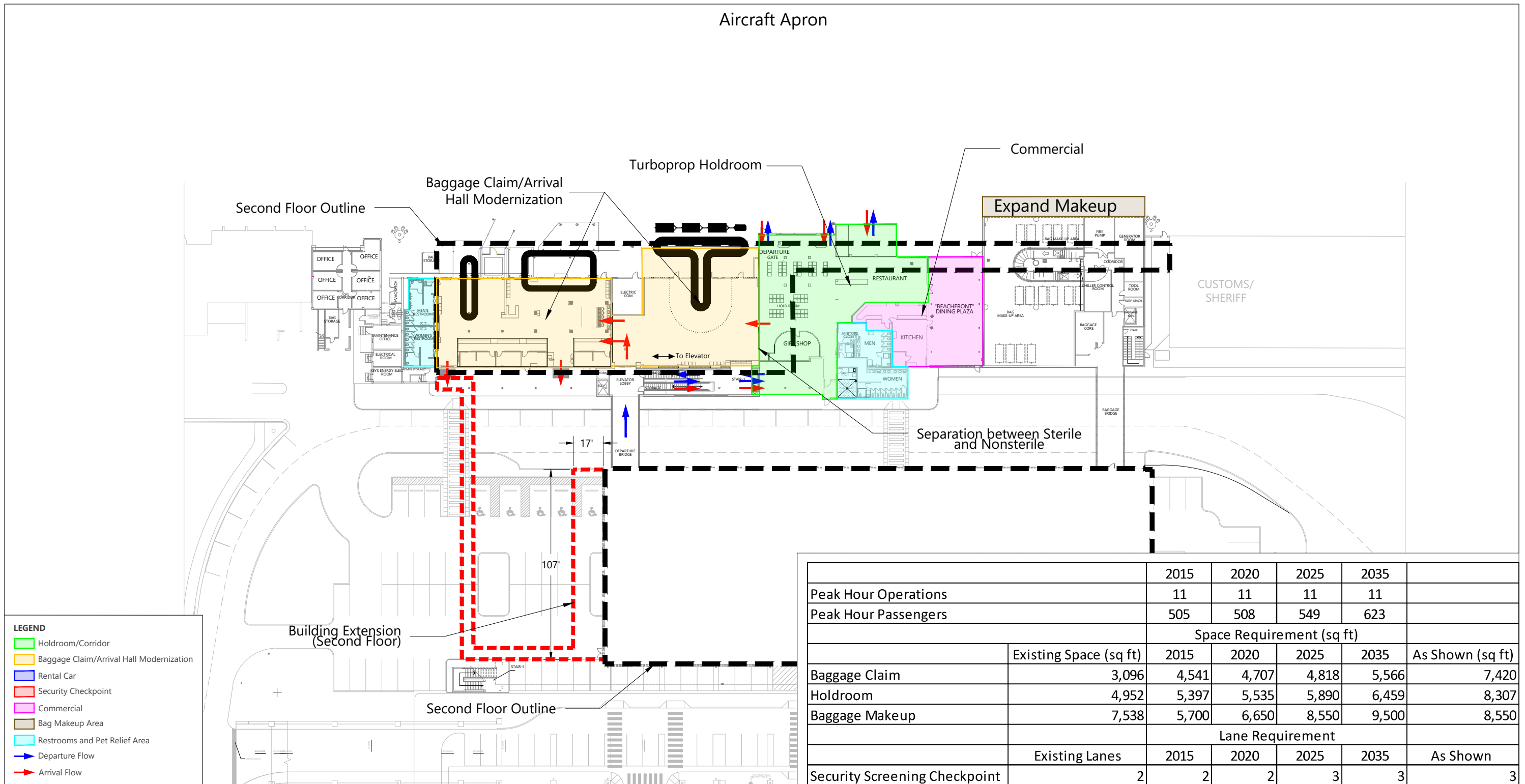
SOURCES: American Infrastructure Development, Inc., April, 2016; Ricondo & Associates, Inc., June 2017.  
 PREPARED BY: Ricondo & Associates, Inc., July 2017.

EXHIBIT 5.2-5



Proposed Terminal Layout  
 Alternative 2-Second Floor

Drawing: P:\Project-Orlando\Monroe County\Task 200 - EYW Master Plan\206 - Alternatives\Terminal Alternatives\CAD\Terminal Alternative 5b-Upper\_20170706.dwg Layout: 11X17 Plotted: Mar 20, 2019, 01:03PM



SOURCES: American Infrastructure Development, Inc., April 2016; Ricondo & Associates, Inc., June 2017.  
 PREPARED BY: Ricondo & Associates, Inc., July 2017.

EXHIBIT 5.2-6



Proposed Terminal Layout  
 Alternative 2 First Floor

Drawing: P:\Project-Orlando\Monroe County\Task 200 - EYW Master Plan\206 - Alternatives\Terminal Alternatives\CAD\Terminal Alternative 5a-Lower\_20171219.dwg\Layout: 11X17 Plotted: Mar 20, 2019, 01:03PM

### 5.2.2.8 Commercial Areas

The commercial area improvements in Option 2 would be similar to Option 1.

### 5.2.2.9 Construction Phasing

This alternative has fewer implications on the apron; however, additional testing would need to be performed on the existing structure to confirm it can carry the load of a second level during and after construction. Additional costs may be incurred to reinforce columns and to increase structural capacity of the existing terminal prior to the construction of new holdroom areas.

## 5.2.3 PREFERRED ALTERNATIVE SELECTION

Based on input from the TRC and discussions with Airport Management, Alternative 1 has been selected as the preferred alternative. Alternative 1 is anticipated to offer advantages in terms of constructability, cost, and continuity of operations.

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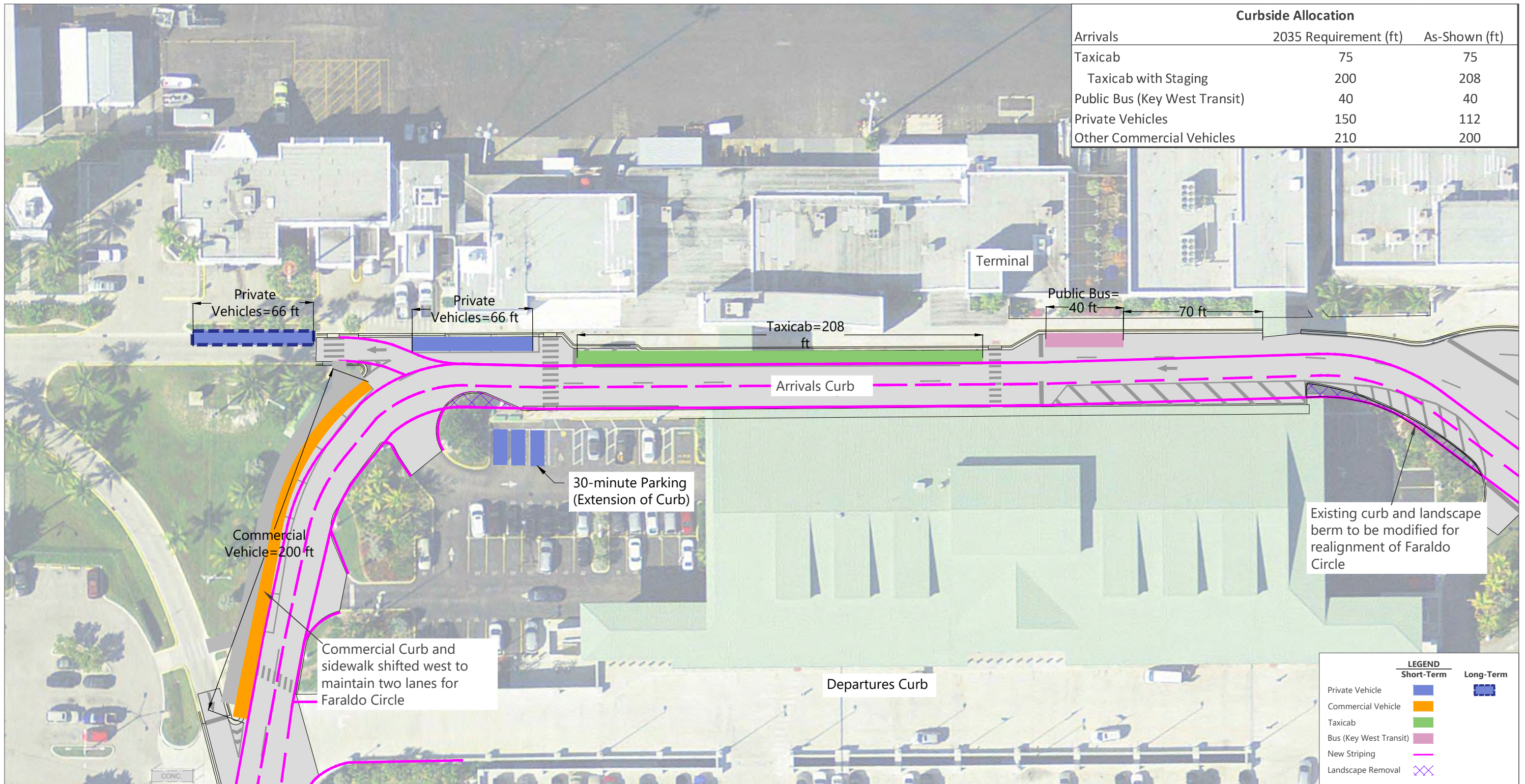
## 5.3 On-Airport Curbsides and Roadways

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This section discusses alternatives to ease congestion at and in front of the passenger terminal curbside.

### 5.3.1 TERMINAL ARRIVALS CURBSIDES

Curbside improvement alternatives were prepared for the Arrivals Curbside only, since the Departures Curbside can accommodate demand through 2035. **Exhibit 5.3-1** presents the proposed short-term (2025) and long-term (2035) Arrivals Curbside configuration. Designated curbside areas were provided for the following modes of transportation:



SOURCES: Jacobs, September 2015 (Basemap and Aerial Photography); Ricondo & Associates, Inc., June 2017.  
 PREPARED BY: Ricondo & Associates, Inc., July 2017.

EXHIBIT 5.3-1



Proposed Arrivals Curb Layout

Drawing: M:\Monroe County\Task 200 - EYW Master Plan\206 - Alternatives\CAD\IEYW-Landside\_Alts\_v7(2035 Curb)\_20170710.dwg Layout: Ex\_5.3-2 Plotted: Oct 24, 2017, 12:30PM

- **Taxicabs:** The taxicabs curb is proposed to be extended west in the short term, from a length of 184 feet to 208 feet.
- **Private Vehicles:** There is a lack of private vehicle parking bays at the passenger terminal Arrivals Curbside. Currently, only three parking bays are provided, while ten private vehicle parking bays of curbside are required in 2015. The short-term curbside layout proposes a 66-foot-long parking curbside for private vehicles, in the same location as the existing three parking bays, at the western end of the terminal curbside. This private vehicle curbside is proposed to be extended west by another 66 feet in the long term, for a total of six parking bays. Additionally, three 30-minute parking bays are proposed across the street from the short-term private vehicle parking bays.
- **Commercial Vehicles:** The commercial vehicle curb is proposed to be shifted west in the short term to allow Faraldo Circle to maintain two lanes of traffic; it will also be lengthened from 177 feet to 200 feet.
- **Public Bus:** Public transit bus (Key West Transit) loading is proposed to be relocated from the taxicab curbside to an area east of the taxicab curbside. A 40-foot-long curbside would become available in the short term.

### 5.3.2 ROADWAY FACILITIES

This section describes the proposed roadway improvements to ease congestion in front of the passenger terminal building.

#### 5.3.2.1 Faraldo Circle Realignment

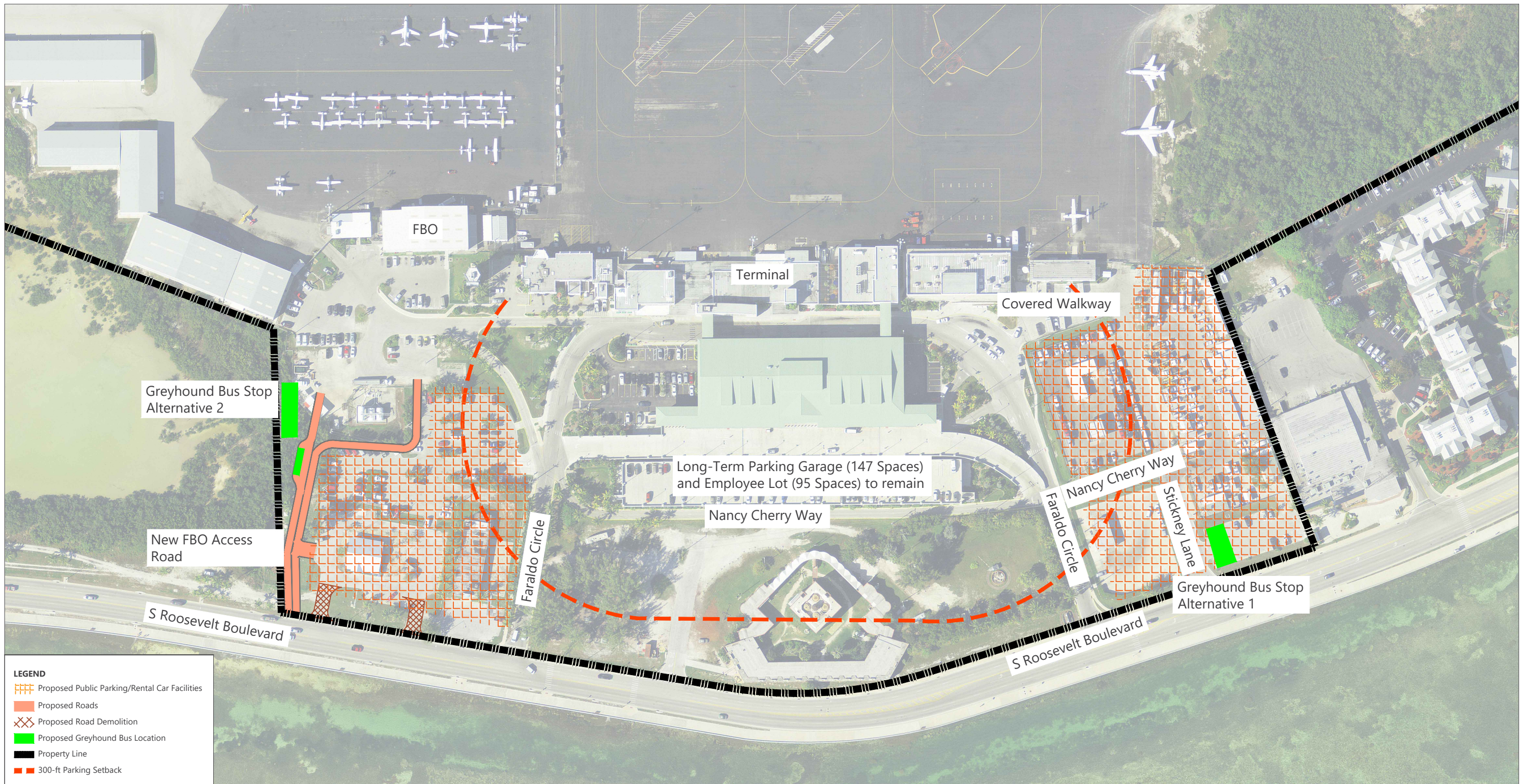
Faraldo Circle is proposed to be realigned, as shown on Exhibit 5.3-1, to allow the roadway to maintain two lanes along its entire length. Enabling projects for this realignment would include the modification of curbsides and landscaping, as well as roadway pavement construction and striping.

#### 5.3.2.2 Fixed-Base Operator Facilities Access

To remove FBO-bound traffic from the terminal curbside area, an alternate landside access road to the FBO facilities is proposed, as illustrated on **Exhibit 5.3-2**. This new access roadway would provide a direct connection between S. Roosevelt Boulevard and the FBO automobile parking lot.

### 5.3.3 GREYHOUND BUS FACILITIES

To keep Greyhound buses from using Faraldo Circle and to further ease congestion in front of the passenger terminal building, the Greyhound bus stop and office is proposed to be relocated. Two sites were identified, which are depicted on Exhibit 5.3-2. The first site, Alternative 1, is at the intersection of S. Roosevelt Boulevard and Stickney Lane, east of Faraldo Circle. The second site, Alternative 2, is located along the proposed FBO access road, west of Faraldo Circle.



SOURCES: Jacobs, September 2015 (Basemap and Aerial Photography); Ricondo & Associates, Inc., June 2017.  
 PREPARED BY: Ricondo & Associates, Inc., July 2017.

EXHIBIT 5.3-2



Proposed Landside Access and Parking Facilities  
 Long Term

Drawing: P:\Project-Orlando\Monroe County\Task 200 - EYW Master Plan\206 - Alternatives\CAD\EYW-Landside\_Altis\_v7(2025 Curb)\_CM\_20170710.dwgLayout: Ex\_5.4-1 Plotted: Mar 6, 2019, 12:46PM

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## 5.4 Public Parking and Consolidated Rental Car

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### 5.4.1 PUBLIC PARKING FACILITIES

Additional public parking capacity will be provided in a location east or west of Faraldo Circle. The location of the proposed parking facilities will be established once the location for a proposed consolidated rental car center has been confirmed. Exhibit 5.3-2 depicts the general location of the proposed public parking facilities.

### 5.4.2 CONSOLIDATED RENTAL CAR CENTER

A consolidated rental car center is being proposed to provide the necessary space for the on-Airport rental car companies to accommodate ready/return and quick turnaround (QTA) facilities in a single location at the Airport. The QTA facilities will include fueling, car wash, and support facilities allowing vehicles to be returned to service quickly and reducing the amount of storage space needed for rental cars. The ready/return facilities will include the areas required to allow customers to pick up and return rented vehicles. This facility would provide an opportunity to consolidate the customer service areas currently located in the Arrivals Hall, the ready and return functions for each vehicle, and potential overflow storage.

The preliminary space program and operating requirements for the rental car companies at the Airport will be established as part of a standalone study based upon information provided by the rental car facilities. This study will also include the development of a functional layout and the identification of a preferred site for the proposed consolidated rental car center. Exhibit 5.3-2 depicts the general location for the proposed consolidated rental car center.

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## 5.5 Air Cargo Facilities

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The existing air cargo facilities are adequate to accommodate the existing and future demand. As the terminal building and apron are expanded to accommodate future demand, it may be necessary to relocate the FedEx operation. During discussions with TRC, it was suggested that FedEx's landside operations could ultimately be relocated off-site, eliminating the need for a cargo facility at the Airport. Access to an AOA gate and ramp parking area would suffice.

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## 5.6 General Aviation Facilities

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This section discusses the development of GA facilities for accommodating the Airport's forecast GA demand and associated facility requirements. The existing GA areas support a variety of aircraft activity and storage needs. An expanded GA ramp is anticipated to be required by the end of the planning period (2035) to adequately accommodate forecast demand.

The proposed GA development plan was developed to accommodate GA facility growth, while remaining within the existing property boundary and minimizing environmental impacts. Given the spatial limitations at the

Airport, the need to protect Runway 9-27 and its airspace, and the inability to provide dedicated vehicular access to much of the land reserved for GA development, the GA development strategies presented in the following subsections may not fully meet the requirements established in Section 4. Short-term and long-term aircraft storage development plans were prepared.

### 5.6.1 SHORT-TERM APRON EXPANSION

**Exhibit 5.6-1** depicts the short-term GA development plan, which provides an additional 5,000 square yards of aircraft parking apron west of the existing west apron. This additional apron could accommodate an estimated 45 single-engine aircraft, 4 multi-engine aircraft, and 4 small jets.

### 5.6.2 LONG-TERM APRON EXPANSION

**Exhibit 5.6-2** depicts the long-term GA development plan, which proposes the expansion of the apron to be constructed in the short-term by 24,000 square yards (including the expansion of the existing west apron to the south).

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## 5.7 Airport Support Facilities

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As discussed in Section 4.7, the existing fuel facilities and ARFF station are adequate to accommodate the existing and forecast demand throughout the planning period. The U.S. CBP facility is currently being expanded from 9,392 square feet to 14,744 square feet. The following subsections discuss the proposed improvements to the Airport maintenance facility and ATCT.

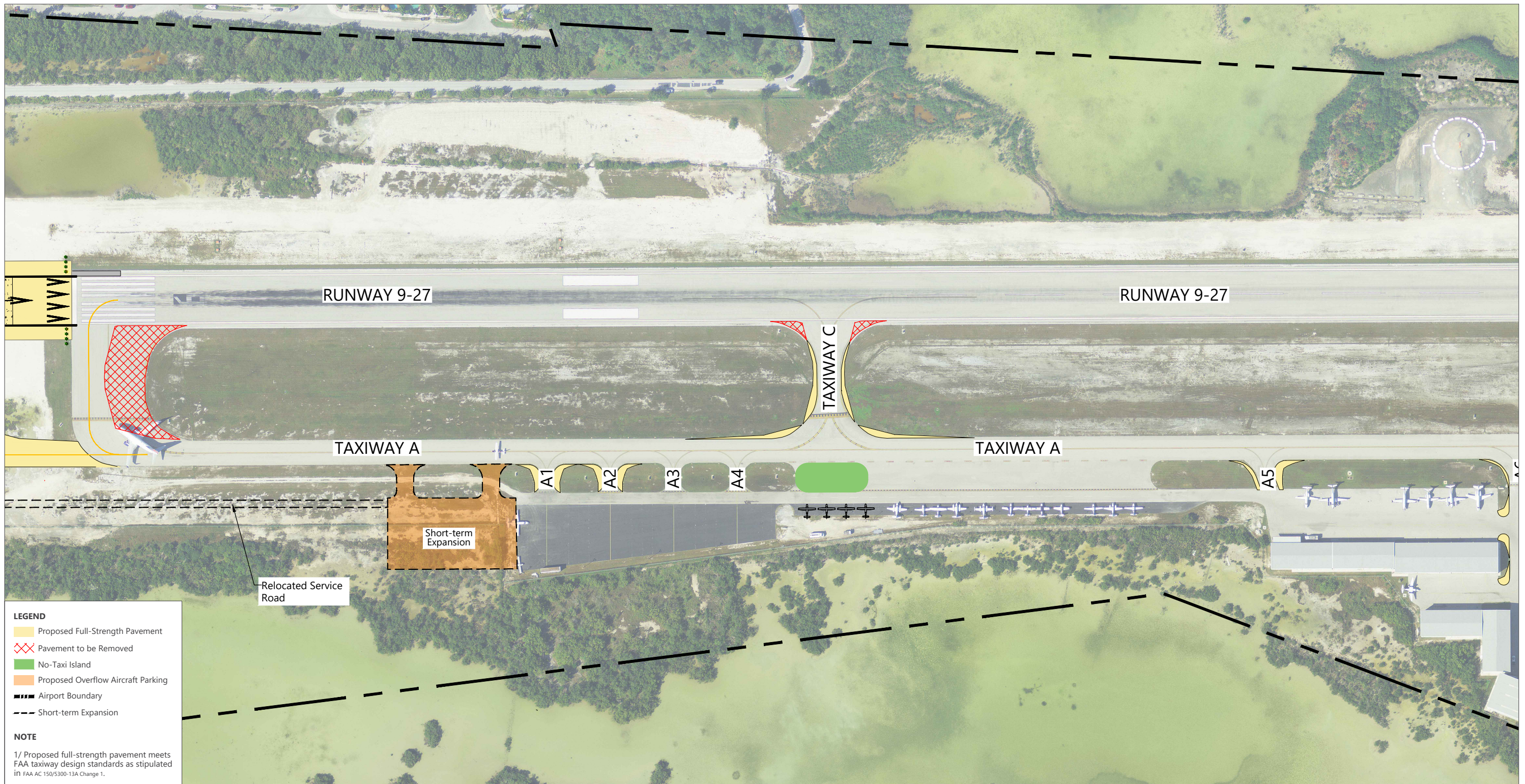
### 5.7.1 AIRPORT MAINTENANCE FACILITY

Functions of the maintenance department are housed in separate areas throughout the Airport property. To increase efficiency, the TRC suggested the consolidation of all maintenance functions into a centralized facility. **Exhibit 5.7-1** illustrates a proposed location, which includes an open-air maintenance building and storage area. This area will be in a newly constructed garage extension on the westside of the existing employee parking garage. The ground level will remain open to limit/avoid impacts to an existing retention area.

### 5.7.2 AIR TRAFFIC CONTROL TOWER

During conversations with the ATCT manager and staff, which took place for the preparation of Section 2, it was noted that the tower requires maintenance and repair. Further, the tower suffered considerable damage during Hurricane Irma in September 2017. The FAA dispatched its mobile ATCT as a temporary workaround to limit impacts to commercial operations. It is anticipated that a new tower will be constructed in the same area as the existing tower, and the height should be sufficient to mitigate any line-of-sight issues with Taxiway A5. **Exhibit 5.7-2** depicts the proposed tower location and the line of sight for each runway end.





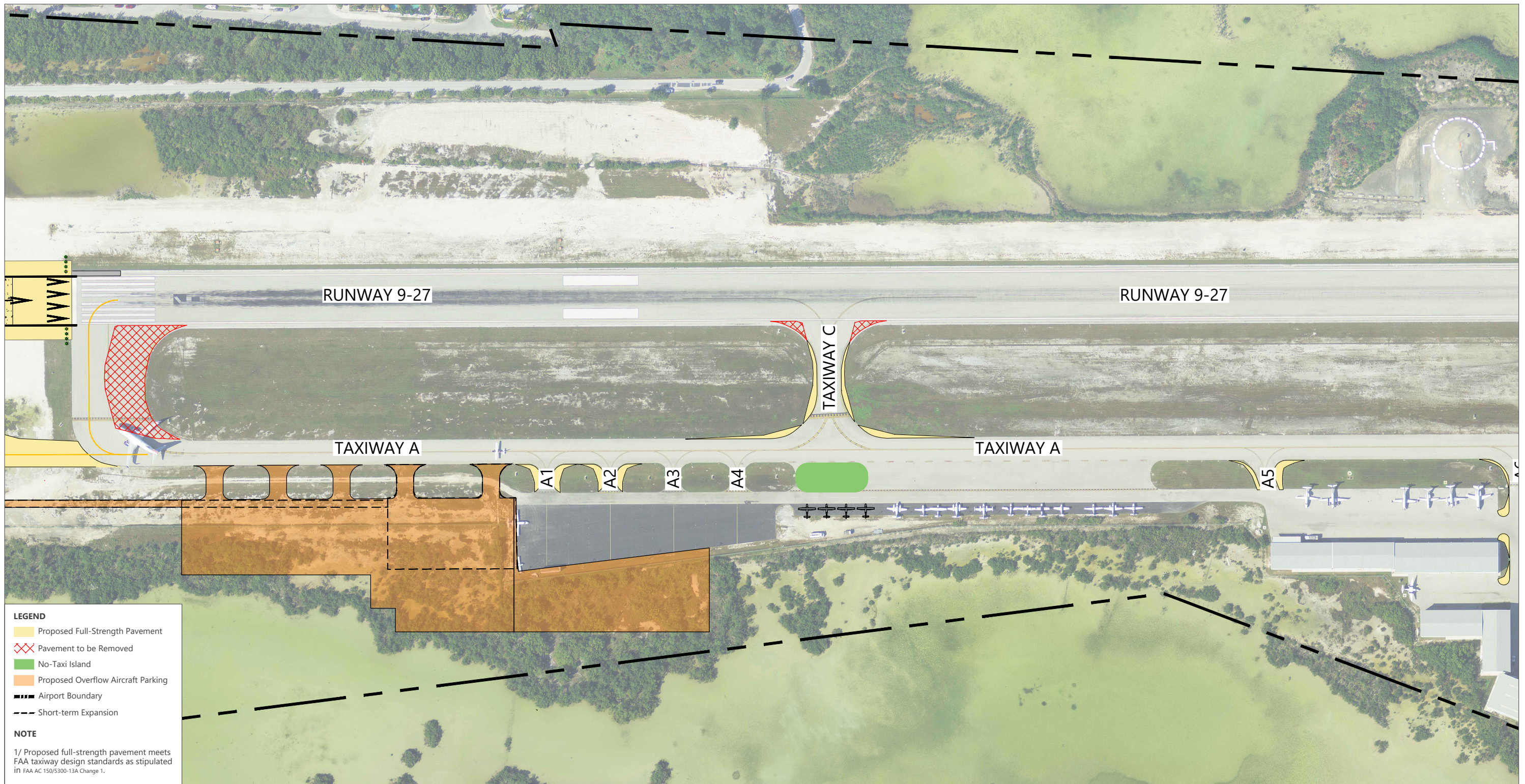
SOURCES: URS, Airport Layout Plan, June 2003; Ricondo & Associates, Inc., June 2017.  
 PREPARED BY: Ricondo & Associates, Inc., July 2017.

**EXHIBIT 5.6-1**



Proposed General Aviation Apron Expansion  
 Short Term

Drawing: P:\Project-Orlando\Monroe County\Task 200 - EYW Master Plan\214 - Supplemental Tasks\Airfield Geometry Assessment\CAD\Exhibit 5.6-1 & 2 GENERAL AVIATION ALTS 20190226.dwg\Layout: 5.6-1 Plotted: Mar 6, 2019, 01:01PM



SOURCES: URS, Airport Layout Plan, June 2003; Ricondo & Associates, Inc., June 2017.  
 PREPARED BY: Ricondo & Associates, Inc., July 2017.

EXHIBIT 5.6-2



Proposed General Aviation Apron Expansion  
 Long Term

Drawing: P:\Project-Orlando\Monroe County\Task 200 - EYW Master Plan\214 - Supplemental Tasks\Airfield Geometry Assessment\CAD\Exhibit 5.6-1 & 2 GENERAL AVIATION ALTS 20190226.dwg\Layout: 5.6-2 Plotted: Mar 6, 2019, 03:17PM



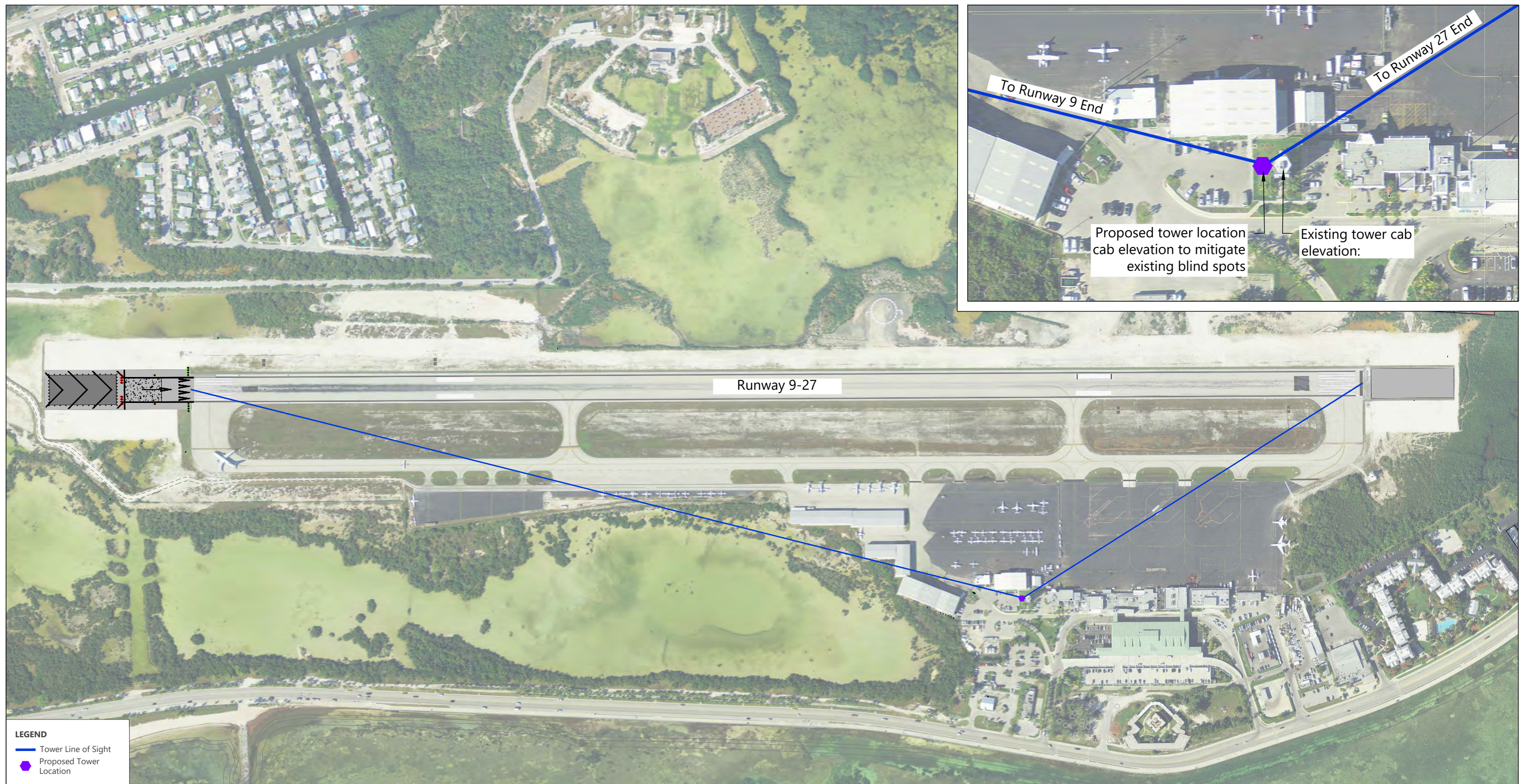
SOURCE: Basemap and Aerial Photography, Jacobs, September, 2015.  
PREPARED BY: Ricondo & Associates, Inc., October 2017.

EXHIBIT 5.7-1



### Proposed Maintenance Facility

Drawing: M:\Monroe County\Task 200 - EYW Master Plan\214- Supplemental Tasks\Airfield Geometry Assessment\CAD\EYW-Maintenane Consolidated 20171204.dwg Layout: Option 1 Revised Plotted: Dec 4, 2017, 09:09AM



SOURCE: Basemap and Aerial Photography, Jacobs, September, 2015.  
 PREPARED BY: Ricondo & Associates, Inc., December 2017.

EXHIBIT 5.7-2



Proposed New Tower Location

Drawing: C:\Users\blanco\Desktop\EYW New ATCT Tower\5.8-1 EYW-New ATCT Facility.dwg\Layout: 11x17L Plotted: Dec 4, 2017, 05:15PM