Welcome. If you wish to address the Board of Commissioners and Noise Compatibility Committee regarding an item listed on the Agenda, please complete a Speaker Registration form (available at the rear of the room) and hand it to the Executive Assistant prior to consideration of that item. We ask that speakers limit comments to 5 minutes and that large groups name a spokesperson whenever possible. All written, audio-visual, and other materials distributed to the Board, Committee members or staff during this meeting will become the property of NAA and will be a public record. Thank you for your interest and participation.

NOTICE

Formal action may be taken on any item listed on the Agenda below, or added to the Agenda before or during the meeting, or discussed during the meeting without being added to the Agenda. Also, the sequence of items may be changed as the meeting progresses.

Any person who decides to appeal a decision of this Board with respect to any matter considered at this meeting (or hearing) will need a record of the proceeding and may need to ensure that a verbatim record of the proceedings is made, which record includes the testimony and evidence upon which the appeal is to be heard.

Any person with a disability requiring auxiliary aids or services in order to participate in this proceeding for meetings at the City Council Chamber may call the City Clerk's Office at 213-1015, or for meetings at the Airport Office Building, the NAA Executive Assistant’s Office at 643-0733, with requests at least two business days before the meeting.

Information on Action Items and other items which has been provided in advance of this meeting may be inspected at the office of the Executive Assistant, General Aviation Terminal Building, 2nd Floor, 160 Aviation Drive North.

Minutes of this meeting will be prepared for Board approval, usually at the next Regular Meeting.
A. ROLL CALL

B. PLEDGE OF ALLEGIANCE

C. AGENDA (Add, delete or re-sequence items)

D. PUBLIC COMMENTS ON GENERAL TOPICS NOT ON THE CURRENT AGENDA

E. DISCUSSION ITEMS (Public comments accepted for each item; 5 minute limit)
   1. Master Plan Update Presentation – Environmental Science Associates (ESA)
      a. Introductions
      b. Overview of Study Process to Date
      c. Customer and Public Outreach
      d. Facility Assessment and Requirements
      e. Initial Concepts for Airport Development
      f. Project Schedule
      g. Question and Answer Period

F. PUBLIC COMMENTS

G. CORRESPONDENCE/COMMISSIONER COMMENTS AND NCC COMMITTEE COMMENTS & REQUESTS/MEETINGS

H. ADJOURNMENT
Airport Master Planning Process

**Project Initiation**
- Customer and Public Outreach
- Airport Mapping and AGIS

**Existing Conditions**
- Facilities, Operational, and Environmental Data
- Conduct Tenant and Customer Interviews

**Aviation Forecast**
- Passengers, Operations, and Based Aircraft
- FAA and FDOT Approval

**Facility Requirements**
- Capacity Assessment and Design Standards
- Airside, Terminal, and Landside Needs
Environmental
- Natural Resources, Noise Analyses, and Waste Audit
- Sustainability, Resiliency, and Stormwater

Alternatives Analysis
- Develop Concepts and Evaluate Options
- Recommended Alternatives

Airport Layout Plan (ALP)
- ALP Drawing Set and Exhibit “A” Property Map
- FAA and FDOT Approval

Development Program
- Financial Analyses, Costs Estimating, and Funding Options
- Capital Improvement Program

Key Deliverables
- AGIS Database
- 20-Year Aviation Forecasts (including passenger service analysis)
- Capital Improvement Program
- Master Plan Document
- ALP Drawing Set
- Exhibit “A” Property Map
- General Aviation Terminal Building Assessment
- Solar Feasibility Study
Based Aircraft Forecasts

**2017 Base Year**
- Total Based Aircraft: 380

**2028 Forecast 10-Year**
- Total Based Aircraft: 482

**2023 Forecast 5-Year**
- Total Based Aircraft: 436

**2038 Forecast 20-Year**
- Total Based Aircraft: 571

Aviation Forecasts based on unconstrained conditions (i.e. projected demand with no facility limitations)

FAA Approval – May 9, 2018
Aviation Forecasts based on unconstrained conditions (i.e. projected demand with no facility limitations)

FAA Approval – May 9, 2018
Customer and Public Outreach to Date

- Project Website: [www.flynaples.com/masterplan](http://www.flynaples.com/masterplan)
- Tenant and Customer Interviews
- Public and Customer Kickoff Meetings – January 31, 2018 (held at Commercial Airline Terminal)
- Comment Form and Survey Forms
- Public and Customer Open Houses – April 30 and May 1, 2018 (held at Naples Regional Library and Commercial Airline Terminal)
- City Council Presentation – January 14, 2019
- Public and Customer Open Houses – January 29, 2019 (held at Commercial Airline Terminal and Naples Regional Library)
Naples Airport Master Plan Project Website

Submit Master Plan Comments & Ideas

The Naples Airport Authority Board of Commissioners and staff welcome your participation in the airport master plan and are interested in your ideas and comments.

Comments can be provided in several ways:
- Complete a survey online
  - General Public Survey
  - Tenant and Customer Survey
- Send an email to masterplan@flynaples.com
- Participation in Open Houses or Informational Workshops
- Mail a letter to Naples Airport Authority/NAP Airport Master Plan, 160 Aviation Drive North, Naples, FL 34104. (preferred; PDFs of both surveys are also available for download and submit via email or mail:
  - General Public Survey
  - Tenant and Customer Survey

Comments should be as specific as possible and, ideally, offer options and solutions to be considered.

Note: Comments should include your name and address. However, before including your address, email address, or other personal identifying information in your comments, be advised that your entire comment – including your personal identifying information – may be made publicly available.

- Find out about opportunities for Public Participation.
- Provide feedback and comments.
- Learn about the Master Plan process.
- Read Master Plan related documents as they become available.

www.flynaples.com/masterplan
Summary of Customer and Public Input to Date

Responses

- 28 Tenant and Customer Interviews
- 38 Comment Forms
- 6 Emails / Handwritten Letters
- 3 General Public Surveys
- 3 Tenant and Customer Surveys

Common Issues

Aircraft Operations
- Noise over residential areas
- Study does not include a comprehensive noise study
- Need to address safety concerns of overflights
- Potential extension of Runway 14-32
- Inquiries about Bombardier Global 7500 (Certified by FAA November 2018)

Facilities
- More small general aviation aircraft hangar space and maintenance/avionics services
- Some customers would like to see Mogas as an aircraft fuel option

Commercial Passenger Service
- Desire both for and against commercial passenger operations at Naples Airport

Other
- Gordon River Greenway access by neighbors to the north
- Restaurant and more concessions at airport
FACILITY ASSESSMENT AND REQUIREMENTS
Facility Assessment and Requirements

- Design Aircraft
- Airport Capacity
- Runway and Taxiway System
- Instrument Procedures

- Airfield Environment
- General Aviation Facilities
- Landside Facilities
- Support and Service Facilities
Airport Design Standards

Airport Reference Code (ARC) represents the airport’s critical design aircraft and is comprised of the following elements:

Aircraft Approach Category (AAC)

<table>
<thead>
<tr>
<th>AAC</th>
<th>Approach Speed (Knots)</th>
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<tbody>
<tr>
<td>A</td>
<td>&lt; 91</td>
</tr>
<tr>
<td>B</td>
<td>91 - &lt; 121</td>
</tr>
<tr>
<td>C</td>
<td>121 - &lt; 141</td>
</tr>
<tr>
<td>D</td>
<td>141 - &lt; 166</td>
</tr>
<tr>
<td>E</td>
<td>166 or more</td>
</tr>
</tbody>
</table>

Airplane Design Group (ADG)

<table>
<thead>
<tr>
<th>ADG</th>
<th>Wingspan (feet)</th>
<th>Tail Height (feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>&lt; 49</td>
<td>&lt; 20</td>
</tr>
<tr>
<td>II</td>
<td>49 - &lt; 79</td>
<td>20 - &lt; 30</td>
</tr>
<tr>
<td>III</td>
<td>79 - &lt; 118</td>
<td>30 - &lt; 45</td>
</tr>
<tr>
<td>IV</td>
<td>118 - &lt; 171</td>
<td>45 - &lt; 60</td>
</tr>
<tr>
<td>V</td>
<td>171 - &lt; 214</td>
<td>60 - &lt; 66</td>
</tr>
<tr>
<td>VI</td>
<td>214 - &lt; 262</td>
<td>66 - &lt; 80</td>
</tr>
</tbody>
</table>
Representative Critical Aircraft

Runway 5-23

D-III Gulfstream G650

- Wingspan: 99.58’
- Length: 99.75’
- Tail Height: 25.67’
- MTOW: 99,600 lbs.

Runway 14-32

D-II Gulfstream G450

- Wingspan: 77.83’
- Length: 89.33’
- Tail Height: 25.17’
- MTOW: 74,600 lbs.
## Airfield Capacity and Analysis of Aircraft Ground Movements

### Airfield Capacity Analysis

<table>
<thead>
<tr>
<th>Year</th>
<th>Forecasted Annual Operations</th>
<th>Annual Service Volume</th>
<th>Percent of Annual Service Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>94,982</td>
<td>169,800</td>
<td>56%</td>
</tr>
<tr>
<td>2023</td>
<td>103,200</td>
<td>155,100</td>
<td>67%</td>
</tr>
<tr>
<td>2028</td>
<td>110,000</td>
<td>153,100</td>
<td>72%</td>
</tr>
<tr>
<td>2038</td>
<td>125,100</td>
<td>149,400</td>
<td>84%</td>
</tr>
</tbody>
</table>

Forecasted Annual Operations

Annual Service Volume

Percent of Annual Service Volume
Recommended 20-Year Facility Requirements

**Runways**
- Potential to Utilize existing 5,001 feet of Runway 14-32 without declared distances
- Extend Runway 5-23 Blast Pads
- Add Paved Blast Pads to Runway 14-32
- Rehabilitate Runway 5-23 and Runway 14-32

**Taxiways**
- High-Speed Exit Taxiways on northwest side of Runway 5-23
- Relocate Taxiway A3
- Rehabilitate Taxiway B Connectors
- Relocate Taxiway B1
- Relocate Connector Taxiway between Taxiway A, Taxiway B, and the GA Terminal Apron
- Rehabilitate Taxiway C Connectors
- Remove or Reconfigure Taxiway T

**Note:** Order of improvements does not have any relation to the priority or phasing of proposed projects.
Recommended 20-Year Facility Requirements (cont.)

Airport Facilities

- Expand GA Terminal (FBO and Administration Space)
- T-Hangar Facilities (49 additional units)
- Clearspan Hangars (to accommodate new 115 aircraft)
- Aircraft Parking Apron Space (minimum 93,600 SY)
- Rehabilitate Existing GA and Commercial Terminal Aprons
- Airport Traffic Control Tower Improvements or Replacement
- Additional Facilities for Airport Maintenance
- Expand Fuel Storage Capacity
- Improve Airport Perimeter Fencing

- Replace Remaining Incandescent Airfield Lighting with LED Fixtures
- Potential for Improved Instrument Approaches
- Decommission TVOR (FAA Project)
- Improve Airport Signage and Wayfinding
- Improve Entrance Roads and Landscaping
- More Direct Landside Access
- Increase Automobile Parking for GA Terminal Area
- Improve Interior Airport Perimeter Road

Note: Order of improvements does not have any relation to the priority or phasing of proposed projects.
ENVIRONMENTAL ELEMENTS
Environmental Elements

Infrastructure Challenges
- FEMA Elevations
- Stormwater Management

Sustainability Issues
- Define Goals and Objectives
- Waste Audit and Solar Feasibility

Resiliency Planning
- Vulnerability Assessment
- Mitigation of Risk

Update Noise Contours
- New 20-year Activity Forecasts*
- NextGen and Metroplex Influences

* Independent of the Master Plan, the Naples Airport Authority is preparing to update its CFR Part 150 Noise Study.
2017 Existing Conditions Noise Contour

- 2017 Noise Contour
- Comparison to Historic 65 DNL Contours
- Comparison to Historic 60 DNL Contours

*Independent of the Master Plan, the Naples Airport Authority is preparing to update its CFR Part 150 Noise Study.
Comparison of 65 Decibel (dB) Day-Night Average Sound Level (DNL) Contours from FAA-Approved Part 150 Noise Exposure Maps for Naples Municipal Airport, 1986 – 2017
INITIAL CONCEPTS FOR AIRPORT DEVELOPMENT
AIRFIELD OPTIONS
CONSTRAINTS TO DEVELOPMENT
WEST QUAD - AVERAGE ELEVATION RANGES 2-8' AMSL.

BASE FLOODPLAIN ELEVATION (BFE) = 8' AMSL.

ALL PROPOSED BUILDINGS SHOWN ASSUME BFE + 1' FOR FINISHED FLOOR ELEVATION (FFE) = 9' AMSL.

**ABBREVIATIONS**

AMS = ABOVE Mean Sea Level  
ATCT = Airport Traffic Control Tower  
LOD = Line of Departure  
RVZ = Runway Visibility Zone

**NOTES**

1. FOR BFE + 1' TAXIWAY D HAS AN AVERAGE ELEVATION OF 5.07' AMSL.
   MINIMUM OFFSET TO PROVIDE 1.0% TAXIWAY/TAXILANE LONGITUDINAL SLOPE
   FOR APPROACH CATEGORY C AND D AIRCRAFT IS 270'.

2. FOR BFE + 1' TAXIWAY C HAS AN AVERAGE ELEVATION OF 6.0' AMSL.
   MINIMUM OFFSET TO PROVIDE 1.0% TAXIWAY/TAXILANE LONGITUDINAL SLOPE
   FOR APPROACH CATEGORY C AND D AIRCRAFT IS 200'.
WEST QUAD CONCEPTS
WEST QUAD - AVERAGE ELEVATION RANGES 2-6' AMSL.

BASE FLOODPLAIN ELEVATION (BFE) = 6' AMSL.

ALL PROPOSED BUILDING SHOWN ASSUME BFE + 1' FOR FINISHED FLOOR ELEVATION (FFE) = 7' AMSL.

POTENTIAL AIRCRAFT FACILITIES

T-HANGARS: 45 SINGLE-ENGINE AND LIGHT MULTI-ENGINE
CLARSPAN: 23 TO 26 MULTI-ENGINE, JET, AND ROTORCRAFT
PARKING APRON: 42,900 SY

ABBREVIATIONS

AAC: AIRCRAFT APPROACH CATEGORY
AMSL: ABOVE MEAN SEA LEVEL
ATCT: AIRPORT TRAFFIC CONTROL TOWER
BRL: BUILDING RESTRICTION LINE (25')
LOS: LINE-OF-SIGHT
RZL: RUNWAY VISIBILITY ZONE

NOTES

1. MINIMUM 30' OFFSET TO PROVIDE REQUIRED 1.5% LONGITUDINAL TAXIWAY GRADE (FOR AAC C AND D AIRCRAFT) AND 1.0% LONGITUDINAL APRON GRADE BETWEEN TAXIWAY D (5' AMSL) AND MINIMUM BUILDING FTE (6' AMSL).
2. MINIMUM 10' OFFSET TO PROVIDE REQUIRED 2.0% LONGITUDINAL TAXIWAY GRADE (FOR AAC A AND B AIRCRAFT) BETWEEN TAXIWAY C (6' AMSL) AND MINIMUM BUILDING FTE (9' AMSL).

Source: ESA, 2018

Naples Municipal Airport Master Plan
FIGURE 6-W1
WEST QUAD DEVELOPMENT ALTERNATIVE CONCEPT 1

FOR DELIBERATIVE PURPOSES ONLY
WEST QUAD – AVERAGE ELEVATION RANGES 2–5’ AMSL

BASE FLOODPLAIN ELEVATION (BFE) = 8’ AMSL

ALL PROPOSED BUILDINGS SHOWN ASSUME BFE + 1’ FOR FINISHED FLOOR ELEVATION (FFE) = 9’ AMSL.

POTENTIAL AIRCRAFT FACILITIES

T-HANGARS: 28 SINGLE-ENGINE AND LIGHT MULTI-ENGINE
CLEARMAN: 13 TO 19 MULTI-ENGINE, JET, AND ROTORCRAFT
PARKING APRON: 450,000 SQUARE YARDS

ABBREVIATIONS

AAC: AIRCRAFT APPROACH CATEGORY
AMSL: ABOVE MEAN SEA LEVEL
ATCT: AIRPORT TRAFFIC CONTROL TOWER
BRL: BUILDING RESTRICTION LINE (25’)
LOS: LINE-OF-SIGHT
RVZ: RUNWAY VISIBILITY ZONE

NOTES

1. MINIMUM 50’ OFFSET TO PROVIDE REQUIRED 1.5% LONGITUDINAL TARMAC GRADE (FOR AAC C AND D AIRCRAFT) AND 1.0% LONGITUDINAL APRON GRADE BETWEEN TARMAC D (8’ AMSL) AND MINIMUM BUILDING FTE (8’ AMSL).

2. MINIMUM 100’ OFFSET TO PROVIDE REQUIRED 2.0% LONGITUDINAL TARMAC GRADE (FOR AAC A AND B AIRCRAFT) BETWEEN TARMAC C (8’ AMSL) AND MINIMUM BUILDING FTE (8’ AMSL).
NORTH QUAD CONCEPTS
FIGURE 8-N2
NORTH QUAD DEVELOPMENT ALTERNATIVE CONCEPT 2

FOR DELIBERATIVE PURPOSES ONLY

NORTH QUAD – AVERAGE ELEVATION RANGES 4–6 AMSL
BASE FLOODPLAIN ELEVATION (BFE) = 7' AMSL
ALL PROPOSED BUILDINGS SHOWN ASSUME BFE + 1' FOR FINISHED FLOOR ELEVATION (FFE) = 8' AMSL

POTENTIAL AIRCRAFT FACILITIES
T-HANGARS: NONE
CLEANING: 3D TO 39 MULTI-ENGINE, JET, AND ROTORCRAFT
PARKING APRON: 6,280,300 SQ YD

ABBREVIATIONS
AMS L  ABOVE MEAN SEA LEVEL
ASOS AUTOMATED SURFACE OBSERVING STATION
BRIL BUILDING RESTRICTION LINE (257)
LOS LINE-OF-SIGHT
RZ RUNWAY VISIBILITY ZONE
SY SQUARE YARDS

Source: ESA, 2019

Naples Municipal Airport Master Plan

FOR DELIBERATIVE PURPOSES ONLY
SOUTH QUAD CONCEPTS
SOUTH QUAD - AVERAGE ELEVATION RANGES 4'-7" AMSL.
BASE FLOODPLAIN ELEVATION (BFE) = 8' AMSL.
ALL PROPOSED BUILDINGS SHOWN ASSUME BFE + 1' FOR FINISHED
FLOOR ELEVATION (FFE) = 9' AMSL.

POTENTIAL AIRCRAFT FACILITIES

T-HANGARS: N/A
CLEANSPAN: 6 TO 10 MULTI-ENGINE, JET, AND ROTORCRAFT
PARKING APRON: 887,600 SF = 8,570 SF = 84,200 SF

Source: ESA, 2018

Figure 6-33
SOUTH QUAD DEVELOPMENT ALTERNATIVE CONCEPT 3

FOR DELIBERATIVE PURPOSES ONLY
EAST QUAD CONCEPTS
EAST QUAD - AVERAGE ELEVATION RANGES 5-7' AMSL
BASE FLOODPLAIN ELEVATION (BFE) = 8' AMSL.
ALL PROPOSED BUILDINGS SHOWN ASSUME BFE + 1' FOR FINISHED FLOOR ELEVATION (FFE) = 9' AMSL.

POTENTIAL AIRCRAFT FACILITIES
1-SEAPLANE: 20 IN 5 YEARS AND 36 IN 11+ YEARS
CRASHPAM: 14 TO 16 MULTI-ENGINE JET AND ROTORCRAFT
PARKING (OPTION): 451,000 SF = 1,041,000 SF = 85,000 SF
## Comparison of Initial Development Concepts

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<tr>
<th>Quad</th>
<th>Concept 1</th>
<th>Concept 2</th>
<th>Concept 3</th>
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<td>62,800 SY</td>
<td>21,600 SY</td>
<td>28,300 SY</td>
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<td>10</td>
<td>85,600 SY</td>
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<td>16</td>
<td>30,900 SY</td>
<td>50,900 SY</td>
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SY = Square Yards
# Naples Municipal Airport Master Plan Study Schedule

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<th>TASK</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
</tr>
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<tr>
<td></td>
<td>12</td>
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<tr>
<td>1 - Project Initiation</td>
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<tr>
<td>2 - Existing Conditions</td>
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<td>3 - Aviation Forecasts</td>
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<tr>
<td>4 - Facility Assessment and Requirements</td>
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<tr>
<td>5 - Environmental Analyses</td>
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<tr>
<td>6 - Alternatives for Airport Development</td>
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<td></td>
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<tr>
<td>7 - Airport Layout Plan Drawings Set</td>
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</tr>
<tr>
<td>8 - Recommended Development Program</td>
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<tr>
<td>9.1 - FAA/ Airport Management Coordination (5 Meetings)</td>
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<td>9.2 - Project Team Working Group (4 Meetings)</td>
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<tr>
<td>9.3 - Agency Coordination (FAA-ADO, FDOT)</td>
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<td>9.4 - Public Outreach Meetings (8 Meetings)</td>
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<tr>
<td>10 - Report Preparation</td>
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<td>11 - Project Administration</td>
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Updated: January 2018

**LEGEND**

- A: Public Outreach Kick-Off Meetings
- B: Public Outreach Open Houses - 1A & 1B
- C: Public Outreach Open Houses - 2A & 2B
- D: Public Outreach Open Houses - 3A & 3B
Next Steps:

April 15, 2019
City Council Presentation

April 30, 2019
NAA / NCC Joint Committee Workshop

April 30 and May 1, 2019
Public and Customer Open Houses

Fall 2019
To be Determined?

November 2019
Project Completion

Questions?

Douglas DiCarlo – ddicarlo@esassoc.com
Michael Arnold – marnold@esassoc.com