

6/25/19  
Item 45

# Memo

To: Orange County Board of Supervisors

From: Warren Sprague / Matt Ulukaya, AECOM

Date: June 24, 2019

Subject: Responses to RMM Letter on Draft EIR 627 SNA General Aviation Improvement Project (GAIP) addressed to the Orange County Board of Supervisors dated June 21, 2019

Per the County's request, AECOM has reviewed the letter from Remy Moose Manley (RMM) dated June 21, 2019 sent on behalf of the City of Newport Beach. We have the following responses to comments in the letter on the aviation forecasts contained in the *General Aviation Forecasting and Analysis Technical Report* included as Appendix C to Draft Program EIR 627 (Draft EIR 627).

In summary, the comments in the RMM letter focus on two key points:

1. *Definition of "based aircraft"*

The definition of based aircraft provided in the Executive Summary (FN 3 on page 1-3) is explained using layman's terms and does not contradict or supersede the Federal Aviation Administration's (FAA's) technical explanation, which applies to based aircraft inventories and is used specifically for counting purposes, as follows:

*Per the AIP Handbook, Table A-1 -Based Aircraft - Per the FAA ASSET Report: General Aviation Airports: A National Asset, May 2012, Based Aircraft are aircraft that are stored at an airport.*

*Based Aircraft - ASSET Report 2012, Glossary - Based aircraft are aircraft that are "operational and airworthy": which are based at an airport for a majority of the year. This is the definition used by airports when reporting based aircraft on the website [www.basedaircraft.com](http://www.basedaircraft.com). National Based Aircraft Inventory Program (Airport Master Record, FAA Form 5010-1). (Aircraft based at an airport 6 months or more each year)*

All facts and figures presented in the *General Aviation Forecasting and Analysis Technical Report* that pertain to the number of based aircraft at John Wayne Airport, Orange County (SNA) (JWA or Airport)—past, present and future—were derived using the FAA's definition only, as per FAA requirements noted above. Therefore, the number of business jets based at the Airport, as reflected in the 2016 baseline numbers provided in Draft EIR 627, have not been underestimated; The 2016 based aircraft counts are accurate and consistent with historical data. Therefore, no additional auditing is required and no revisions to the *General Aviation Forecasting and Analysis Technical Report* are necessary or required.

2. *Alleged increase in business jets based at the airport*

After the Draft EIR 627 was released for public review and comment, the FAA released the current Airport Master Record (05/26/2019), which contains incorrect and inaccurate data.

Line 92 of the Airport Master Record indicates Based Aircraft: 108 Jets. This reported information is not reasonable because, as the DEIR clearly demonstrates, the Airport does not have the parking space (or "capacity") to accommodate that many based aircraft-jets under any existing or future scenario.

After the recent FAA release of the current Airport Master Record staff determined that it was necessary to conduct an audit of the based aircraft survey information to ensure its accuracy. In reviewing the FBO/tenant records, the airport found that the 2018 master record numbers varied due to FBOs reporting based aircraft numbers that did not meet FAA specified criteria. The audit found that, based on FAA criteria, only 48 jets were based at the airport in 2018 as opposed to the 108 reported in the 2018 FAA Master Record. The Airport will be working with the FAA to update the Master Record for 2018 based on this internal audit.

Irrespective of the inaccuracy of the number of based jets noted in the most recently released Airport Master Record, the baseline numbers remain accurate and complete. On this basis, there is no new information for the County to consider that would potentially alter the findings and conclusions presented in Draft EIR 627.

Detailed responses to individual comments in the RMM letter are described below.

1. **Paragraph 1: The baseline assumptions used in Program EIR 627 for existing jet aircraft at the Airport conflict with the FAA's definition of "Based Aircraft" and evidence that the actual number in October 2016 was likely much higher.**

Draft EIR 627 used the data developed in the *General Aviation Forecasting and Analysis Technical Report* for the baseline in establishing the existing number of aircraft, including jets, that were based at the Airport in 2016. The general aviation forecasts used standard industry practices to report the historical and projected future general aviation activity at JWA.

The historical number of general aviation based aircraft summarized in the *General Aviation Forecasting and Analysis Technical Report* (Table 7, page 26) were extracted from the FAA Airport Master Records (Form 5010-1) January 2005 through January 2016. It is important to note that the County (Airport) is the source of the FAA Airport Master Record information and that the information incorporates input from the various FBOs operating at the Airport. The FAA Airport Master Record information for January 2005 through January 2016 was verified and validated for use as baseline information in the Draft EIR 627 as reflected in Table 7 below.

Updates to the Airport Master Record are made annually and based aircraft counts noted within the Airport Master Record must comply with the FAA definition of "Based Aircraft." This is reflected in the 12 years of historic data for JWA shown in Table 7. Based aircraft counts at any airport are fluid, can vary throughout the year, and change on a nearly daily basis. The basis for the historical data was constant and reported per FAA requirements.

To obtain the most recent information possible at the time the *General Aviation Forecasting and Analysis Technical Report* was prepared, AECOM collected the based aircraft counts in October 2016 from the Airport. The based aircraft counts from Table 7 are as follows:

Period	Based Aircraft by Type					Total
	Single Engine	Multi Engine	Jet	Helicopter	Other	
Jan-05	451	78	46	8	0	583
Jan-06	437	84	60	8	0	589
Jan-07	441	65	68	11	0	585
Jan-08	445	73	68	18	0	604

Period	Based Aircraft by Type					Total
	Single Engine	Multi Engine	Jet	Helicopter	Other	
Jan-09	410	75	59	17	0	561
Jan-10	396	70	53	10	0	529
Jan-11	369	56	45	10	0	480
Jan-12	361	51	42	12	0	466
Jan-13	357	49	39	12	0	457
Jan-14	340	48	38	11	0	437
Jan-15	337	49	52	11	0	449
Jan-16	350	47	69	18	0	484
Oct-16	342	57	65	17	1	482
Difference Jan-16 to Oct-16	-8	10	-4	-1	1	-2
% Difference Jan-16 to Oct-16	-2.30%	21.30%	-5.80%	-5.60%	NA	-0.40%

[1] FAA Form 5010-1 data. Form 5010-1 was included in Appendix C of the General Aviation Forecasting and Analysis Technical Report. See copy in Attachment 1.

The October 2016 update compares favorably with the January 2016 count and are considered reasonable estimates of the most current conditions at the Airport available at the time the report was prepared. The sources of the variations are noted in the footnotes to the table. In addition, the Airport counts have historically compared favorably with FAA 5010-1 counts and have in recent years been slightly higher than the FAA counts, as noted in Figure 13 (page 28) of the forecasting technical report:

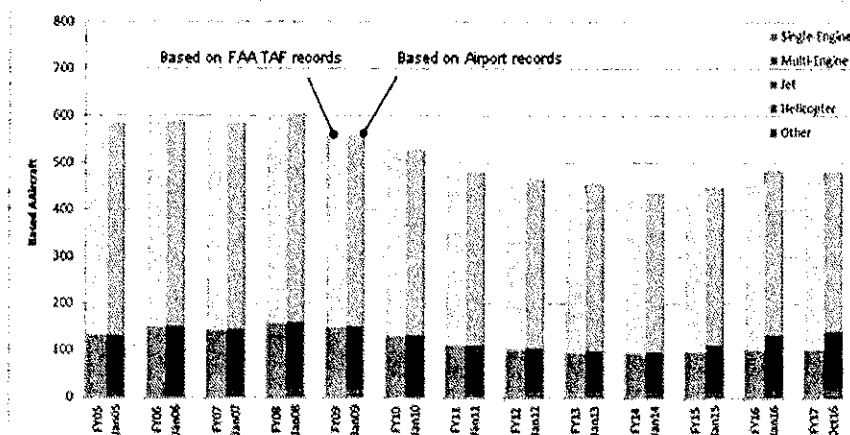


Figure 13. SNA Based Aircraft by Type

Source: FAA TAF (January 2016). FAA Form 5010-1 Airport Master Record provided by the Airport. N-number based aircraft records obtained from the Airport (dated October 6, 2016). AECOM analysis.

Remark: Bars with darker shades represent records from the Airport; lighter shades represent records based on FAA TAF. Note that the records from FY2005 to FY2012, and FY2014 were very consistent between the two sources. FAA TAF's

- Paragraph 2: Considering 43 more Business/Jet Aircraft are actually "Based" at the Airport today (a little over 2 ½ years later), it is logical to conclude that the October 2016 assumption of 65 jets significantly underestimated the actual number of jet aircraft "Based" at the Airport in October 2016.

As described above, the 2016 counts of general aviation aircraft based at the Airport are accurate. However, after Draft EIR 627 was released for public review and comment, the FAA published the current Airport Master Record (05/26/2019), which contains incorrect and inaccurate data.

Specifically, Line 92 of the Airport Master Record indicates Based Aircraft: 108 Jets. This reported information is not reasonable because, as the Draft EIR 627 clearly demonstrates, the Airport does not have the parking space (or "capacity") to accommodate that many based aircraft-jets under any existing or future scenario. In response to release of the current Airport Master Record, and in light of the unrealistic number of based aircraft Jets provided in the Airport Master Record, Airport staff initiated an audit of the based aircraft survey information.

JWA conducted an audit to confirm the number of based jets for 2018 to understand why the 2018 master record number varied significantly from the 2016 master record. The audit consisted of interviewing personnel and reviewing FBO and tenant records utilizing the FAA criteria for Based Aircraft which includes: (1) An aircraft based at JWA (has an agreement with the airport for storage); (2) An aircraft that spends a majority of the year at JWA (greater than 6 months); (3) An aircraft that is operational (capable of performing takeoff and landings); (4) An aircraft that is airworthy (has a valid/current FAA airworthiness certificate)

The audit took place in May 2019 and examined data between May 1, 2018 and April 30, 2019.

Based on this audit, and following FAA criteria, the following summary represents the number of jets based at JWA between May 1, 2018 and April 30, 2019:

Tenant	No. of Jets
ACI Jet	26
Atlantic Aviation	12
Executive Hangars	2
Jay's Aircraft Maintenance	0
Martin Aviation	3
South Coast Associates	5
Total	48

In reviewing the FBO/tenant records, the Airport found that the FAA 2018 Master Record numbers varied due to FBOs reporting based aircraft numbers that did not meet FAA specified criteria. The audit found that, contrary to the numbers reflected in the 2018 Master Record, only 48 jets were currently based at the Airport, as opposed to the 108 reported in the 2018 master record. The Airport will be working with the FAA to update the Master Record for 2018 based on this internal audit.

**3. Paragraph 3: The Draft EIR General Aviation Forecasting and Technical Report describes the data sources considered when arriving at the baseline assumptions, relying on data provided by the Airport (N-number records) and the type of aircraft and engine type registered with the FAA.**

As described above, the number of general aviation aircraft based at the airport (existing conditions or baseline) used the historical number of general aviation based aircraft summarized in *the General Aviation Forecasting and Analysis Technical Report* (Table 7, page 26). These data were extracted from the FAA Airport Master Records (Form 5010-1) January 2005 through January 2016.

To obtain the most recent information possible at the time the report was prepared, AECOM collected the based aircraft counts in October 2016 from the Airport. The information received from the Airport included based aircraft by type and location (County facilities and specific individual FBO's) and the detail is included in Appendix B of

the *General Aviation Forecasting and Analysis Technical Report*. As noted in Table 7 above, the overall difference between January and October is negligible.

4. Paragraph 4 and 5: For inventory purposes, the FAA defines "Based Aircraft" as those that are stored at an airport. Specifically, "Based aircraft are aircraft that are 'operational and airworthy', which are based at an airport for a majority of the year." In other words, aircraft that are operational and airworthy and based at an airport for greater than 6 months each year. (See Attachment B.)

The Draft EIR, however, states that "A based aircraft is an aircraft that is leasing aircraft storage from an airport, such as a tie-down area or hanger." (DEIR, p. 1-3, fn. 3.) As explained below, and in order to ensure an accurate baseline and cumulative impact analysis in the EIR, the Board should require staff to revisit the baseline assumptions using the FAA's definition of "Based Aircraft" which was not used when preparing the EIR.

The definition of "based aircraft" provided in the Executive Summary (FN 3 on page 1-3) is explained using layman's terms and is not intended to contradict nor does it supersede the FAA's technical explanation, which applies to based aircraft inventories and is used specifically for counting purposes. All facts and figures presented in Draft EIR 627 that pertain to the number of "based aircraft" (past, present and future) were derived using the FAA's definition only consistent with FAA requirements:

*Per the AIP Handbook, Table A-1 -Based Aircraft - Per the FAA ASSET Report: General Aviation Airports: A National Asset, May 2012, Based Aircraft are aircraft that are stored at an airport.*

*Based Aircraft - ASSET Report 2012, Glossary - Based aircraft are aircraft that are "operational and airworthy": which are based at an airport for a majority of the year. This is the definition used by airports when reporting based aircraft on the website [www.basedaircraft.com](http://www.basedaircraft.com). National Based Aircraft Inventory Program (Airport Master Record, FAA Form 5010-1). (Aircraft based at an airport 6 months or more each year)*

Therefore, the number of business jets based at the airport have *not* been underestimated; the 2016 counts of general aviation based at the Airport and 2016 FAA Master Record data are accurate and correct and no revisions are necessary or required to the *General Aviation Forecasting and Analysis Technical Report*.

Attachment 1: 2016 FAA Form 5010-1 from Appendix C of the General Aviation Forecasting and Analysis Technical Report



U.S. DEPARTMENT OF TRANSPORTATION  
FEDERAL AVIATION ADMINISTRATION

AIRPORT MASTER RECORD

PRINT DATE: 10/6/2016  
AFD EFF 09/15/2016  
FORM APPROVED OMB 2120-0015

> 1 ASSOC CITY: SANTA ANA 4 STATE: CA LOC ID: SNA  
> 2 AIRPORT NAME: JOHN WAYNE AIRPORT-ORANGE COUNTY 5 COUNTY: ORANGE CA  
> 3 CBD TO AIRPORT (NM): 04 S 6 REGION/ADO: AWP/LAX 7 SECT AERO CHT: LOS ANGELES

GENERAL

10 OWNERSHIP: PUBLIC  
> 11 OWNER: ORANGE COUNTY  
> 12 ADDRESS: 3160 AIRWAY AVENUE  
COSTA MESA, CA 92626  
> 13 PHONE NR: 949-252-5171  
> 14 MANAGER: BARRY A. RONDINELLA  
> 15 ADDRESS: 3160 AIRWAY AVE  
COSTA MESA, CA 92626  
> 16 PHONE NR: 949-252-5171  
> 17 ATTENDANCE SCHEDULE:  
ALL ALL ALL

18 AIRPORT USE: PUBLIC  
19 ARPT LAT: 33-40-32.4000N ESTIMATED  
20 ARPT LONG: 117-52-05.6000W  
21 ARPT ELEV: 56.1 SURVEYED  
22 ACREAGE: 504  
> 23 RIGHT TRAFFIC: 20R, 02R  
> 24 NON-COMM LANDING: NO  
25 NPIAS/FED AGREEMENTS: NGPY3  
> 26 FAR 139 INDEX: I C S 05/1973

RUNWAY DATA

> 30 RUNWAY INDENT:  
> 31 LENGTH:  
> 32 WIDTH:  
> 33 SURF TYPE-COND:  
> 34 SURF TREATMENT:  
35 GROSS WT: S  
36 (IN THSDS) D  
37 2D  
38 2D/2D2  
> 39 PCN:

LIGHTING/APCH AIDS

> 40 EDGE INTENSITY:  
> 42 RWY MARK TYPE-COND:  
> 43 VGSI:  
44 THR COSSING HGT.:  
45 VISUAL GLIDE ANGLE:  
> 46 CNTRLN-TDZ:  
> 47 RVR-RVV:  
> 48 REIL:  
> 49 APCH LIGHTS:

OBSTRUCTION DATA

50 FAR 77 CATEGORY  
> 51 DISPLACED THR:  
> 52 CTLG OBSTN:  
> 53 OBSTN MARKED/LGTD:  
> 54 HGT ABOVE RWY END:  
> 55 DIST FROM RWY END:  
> 56 CNTRLN OFFSET:  
57 OBSTN CLNC SLOPE:  
58 CLOSE-IN OBSTN:

DECLARED DISTANCES

> 60 TAKE OFF RUN AVBL (TORA):  
> 61 TAKE OFF DIST AVBL (TODA):  
> 62 ACLT STOP DIST AVBL (ASDA):  
> 63 LNDG DIST AVBL (LDA):

SERVICES

> 70 FUEL: 100LL A  
> 71 AIRFRAME RPRS: MAJOR  
> 72 PWR PLANT RPRS: MAJOR  
> 73 BOTTLE OXYGEN: HIGH/LOW  
> 74 BULK OXYGEN:  
75 TSNT STORAGE: TIE  
76 OTHER SERVICES:  
AFRT, AMB, AVNCS, CHTR, INSTR, RNTL,  
SALES, SURV

FACILITIES

> 80 ARPT BCN: CG  
> 81 ARPT LGT SKED : SEE RMK  
BCN LGT SKED: SS-SR  
> 82 UNICOM: 122.950  
> 83 WIND INDICATOR: YES-L  
84 SEGMENTED CIRCLE: YES  
85 CONTROL TWR: YES  
86 FSS: RIVERSIDE  
87 FSS ON ARPT: NO  
88 FSS PHONE NR:  
89 TOLL FREE NR: 1-800-WX-BRIEF

BASED AIRCRAFT

90 SINGLE ENG: 350  
91 MULTI ENG: 47  
92 JET: 69  
TOTAL: 466  
93 HELICOPTERS: 18  
94 GLIDERS: 0  
95 MILITARY: 0  
96 ULTRA-LIGHT: 0

OPERATIONS

100 AIR CARRIER: 84,844  
102 AIR TAXI: 14,056  
103 G A LOCAL: 78,835  
104 G A ITNRNT: 82,098  
105 MILITARY: 856  
TOTAL: 260,689  
OPERATIONS FOR  
12 MONTHS  
ENDING: 12/31/2015

02L/20R

5,701  
150  
ASPH-G  
GRVD  
70.0  
200.0  
300.0

89 /F/B/X/T

HIGH  
PIR - G / PIR - G  
P4L / P4L  
72 / 63  
3.00 / 3.00  
N - N / N - N  
- N / T - N  
N / N  
/ MALSR

C / PIR

/   
/   
/   
/   
/   
/   
34:1 / 50:1  
N / N

02R/20L

2,887  
75  
ASPH-G  
GRVD  
25.0  
60.0

72 /F/B/X/T

MED  
BSC - G / BSC - G  
/ P4L  
/ 26  
/ 3.00  
N - N / N - N  
- N / - N  
N / Y  
/

A(V) / A(V)

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/ BLDG  
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/ 15  
/ 500  
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(>) ARPT MGR PLEASE ADVISE FSS IN ITEM 86 WHEN CHANGES OCCUR TO ITEMS PRECEDED BY >

> 110 REMARKS

A 014 JEFFREY S. ROUNTREE, MGR, AIRSIDE OPNS (949) 252-5247.  
A 024 OVERNIGHT TIE-DOWN FEE.  
A 030 RWY 02R/20L RY 02R/20L CLSD WHEN ATCT CLSD.  
A 030 RWY 20X RY 20X CREATED TO SUPPORT OJW LDA ASSOCIATED WITH SNA ILS RY 20R.  
A 081 WHEN ATCT CLSD ACTVT MALSR RY 20R & PAPI RYS 02L & 20R - CTAF.  
A 110 THIS AIRPORT HAS BEEN SURVEYED BY THE NATIONAL GEODETIC SURVEY.  
A 110-003 WHEN ATCT CLSD NO LCL TRNG OR TOUCH & GO OPNS.  
A 110-004 BE ALERT TO BIRDS ON AND IN VICINITY OF ARPT.  
A 110-006 TWY C GWT LMTD 80000 LBS.  
A 110-011 MAINTAIN AT OR ABOVE 300 FT AGL UNTIL ESTABLISHED ON FINAL.  
A 110-012 VFR ACFT: TO AVOID OVERFLIGHT OF RY 20R: RY 20L ARR FLY FINAL AT 15 DEG ANGLE TO RY; RY 20L DEPS TURN 15 DEG LEFT AT DEP END OF RY. TO AVOID OVERFLIGHT OF RY 02L: RY 02R DEPS TURN 15 DEG RIGHT AT FREEWAY.  
A 110-014 FBO GENERAL AVIATION APRONS LIMITED TO MAX GWT OF 100,000 LBS (DUAL GEAR) AND WITH WINGSPANS LESS THAN 100 FT. GENERAL AVIATION AIRCRAFT PROHIBITED FROM USING ANY PORTION OF THE AIR CARRIER COMMERCIAL RAMP.  
A 110-015 NOISE ABATEMENT PROCEDURES IN EFFECT CTC ARPT NOISE OFFICE (949) 252-5185.

111 INSPECTOR: ( F )

112 LAST INSP: 01/13/2016

113 LAST INFO REQ:



> 1 ASSOC CITY: \*\*\*CONTINUED\*\*\*  
> 2 AIRPORT NAME:  
> 3 CBD TO AIRPORT (NM):

4 STATE: CA

6 REGION/ADO: AWP/LAX

LOC ID: SNA

5 COUNTY:

7 SECT AERO CHT:

FAA SITE NR: 02230.\*A

**GENERAL**

> 10 OWNERSHIP:  
> 11 OWNER:  
> 12 ADDRESS:  
  
> 13 PHONE NR:  
> 14 MANAGER:  
> 15 ADDRESS:  
  
> 16 PHONE NR:  
> 17 ATTENDANCE SCHEDULE:

18 AIRPORT USE:  
19 ARPT LAT:  
20 ARPT LONG:  
21 ARPT ELEV:  
22 ACREAGE:  
> 23 RIGHT TRAFFIC:  
> 24 NON-COMM LANDING:  
  
25 NPIAS/FED AGREEMENTS:  
> 26 FAR 139 INDEX:

**RUNWAY DATA**

> 30 RUNWAY INDENT:  
> 31 LENGTH:  
> 32 WIDTH:  
> 33 SURF TYPE-COND:  
> 34 SURF TREATMENT:  
35 GROSS WT: S  
36 (IN THSDS) D  
37 2D  
38 2D/2D2  
> 39 PCN:

**LIGHTING/APCH AIDS**

> 40 EDGE INTENSITY:  
> 42 RWY MARK TYPE-COND:  
> 43 VGSi:  
44 THR CROSSING HGT.:  
45 VISUAL GLIDE ANGLE:  
> 46 CNTRLN-TDZ:  
> 47 RVR-RVV:  
> 48 REIL:  
> 49 APCH LIGHTS:

**OBSTRUCTION DATA**

50 FAR 77 CATEGORY  
> 51 DISPLACED THR:  
> 52 CTLG OBSTN:  
> 53 OBSTN MARKED/LGTD:  
> 54 HGT ABOVE RWY END:  
> 55 DIST FROM RWY END:  
> 56 CNTRLN OFFSET:  
> 57 OBSTN CLNC SLOPE:  
58 CLOSE-IN OBSTN:

**DECLARED DISTANCES**

> 60 TAKE OFF RUN AVBL (TORA):  
> 61 TAKE OFF DIST AVBL (TODA):  
> 62 ACLT STOP DIST AVBL (ASDA):  
> 63 LNDG DIST AVBL (LDA):

**SERVICES**

> 70 FUEL:  
  
> 71 AIRFRAME RPRS:  
> 72 PWR PLANT RPRS:  
> 73 BOTTLE OXYGEN:  
> 74 BULK OXYGEN:  
75 TSNT STORAGE:  
76 OTHER SERVICES:

**FACILITIES**

> 80 ARPT BCN:  
> 81 ARPT LGT SKED :  
BCN LGT SKED:  
> 82 UNICOM:  
> 83 WIND INDICATOR:  
84 SEGMENTED CIRCLE:  
85 CONTROL TWR:  
86 FSS:  
87 FSS ON ARPT:  
  
88 FSS PHONE NR:  
89 TOLL FREE NR:

**BASED AIRCRAFT**

90 SINGLE ENG:  
91 MULTI ENG:  
92 JET:  
TOTAL:  
  
93 HELICOPTERS:  
94 GLIDERS:  
95 MILITARY:  
96 ULTRA-LIGHT:

**OPERATIONS**

100 AIR CARRIER:  
102 AIR TAXI:  
103 G A LOCAL:  
104 G A ITNRNT:  
105 MILITARY:  
TOTAL:  
  
OPERATIONS FOR  
12 MONTHS  
ENDING:

(>) ARPT MGR PLEASE ADVISE FSS IN ITEM 86 WHEN CHANGES OCCUR TO ITEMS PRECEDED BY >

> 110 REMARKS

A 110-016 RY 02L/20R TPA 1,000 FT AGL SMALL ACFT; 1,500 FT AGL TURBINE ACFT OVER 12,500 LBS; RY 02R/20L TPA 800 FT AGL SMALL SGL ENG ACFT; 1000 FT AGL TWIN ENG ACFT.  
A 110-017 ASDE-X IN USE. OPERATE TRANSPONDERS WITH ALTITUDE REPORTING MODE AND ADS-B (IF EQUIPPED) ENABLED ON ALL TWYS AND RWYS.

111 INSPECTOR: (F)

112 LAST INSP: 01/13/2016

113 LAST INFO REQ: