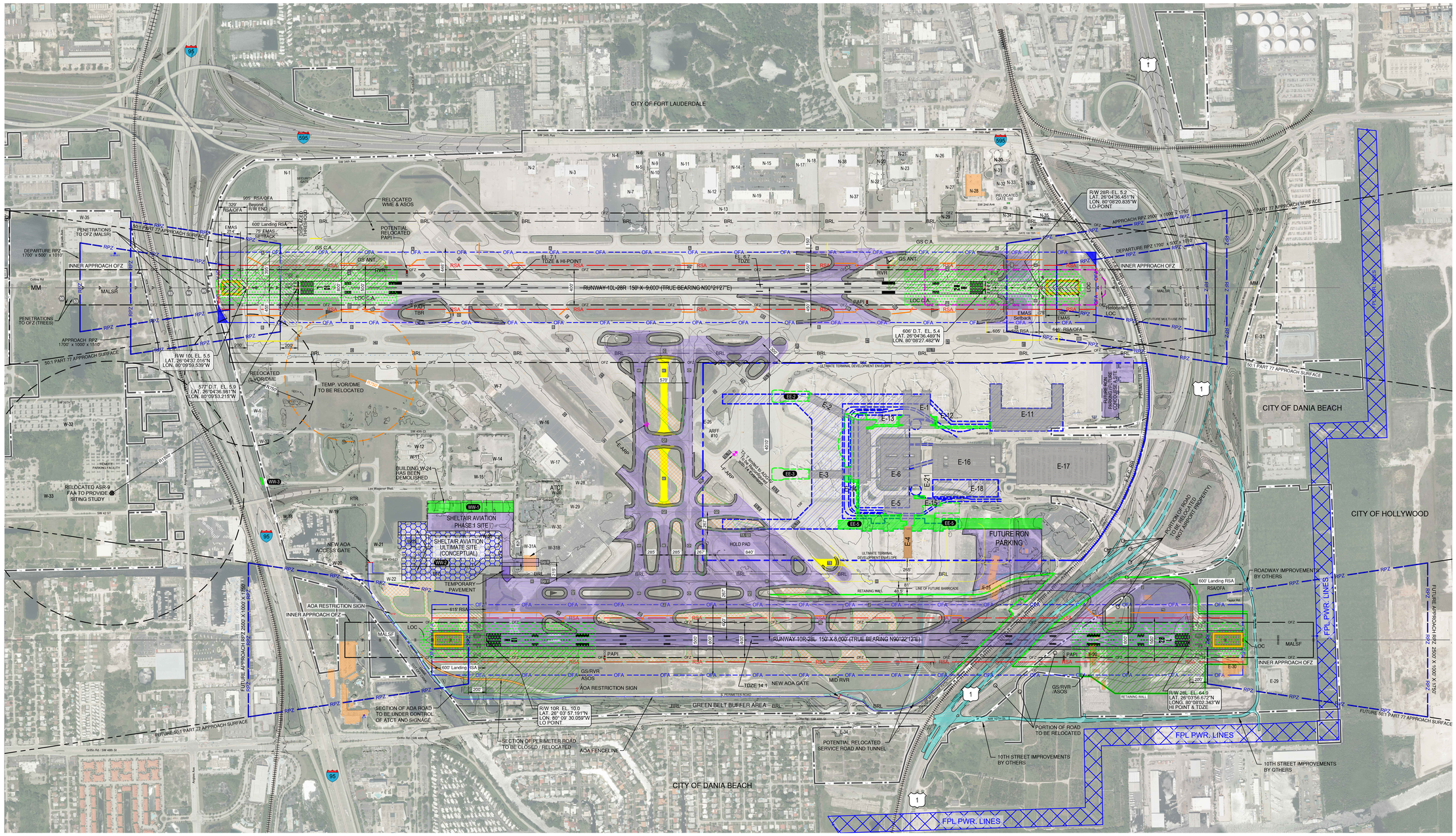


LEGEND

— ▪ — P/L — ▪ —	AIRPORT PROPERTY LINE *
—RSA—	RUNWAY SAFETY AREA
—BRL—	BUILDING RESTRICTION LINE (BRL) Located 750' from Runway Centerline Unless Noted Otherwise
—OFZ—	RUNWAY OBSTACLE FREE ZONE
—OFA—	RUNWAY OBJECT FREE AREA
—RPZ—	RUNWAY PROTECTION ZONE
▨	GLIDE SLOPE CRITICAL AREA
🟩	LOCALIZER CRITICAL AREA
	LIGHTED WIND CONE
●	END IDENTIFIER LIGHTS (REILS)
	APPROACH LIGHTING SYSTEM
	GROUND CONTOURS
W-15	EXISTING BUILDINGS (ON-AIRPORT) W/ ID & ELEV.
●	RUNWAY THRESHOLD LIGHTS/RUNWAY
EXISTING FUTURE	AIRPORT REFERENCE POINT (ARP)
	EXISTING RAILROAD
	EXISTING ROADWAYS
	RUNWAY HOLDLINE
	ILS HOLDLINE
	PROPOSED DEMOLITION
	FUTURE FACILITY - PHASE 1
	FUTURE PHASED FACILITY
	FUTURE FACILITY - ULTIMATE
	TERMINAL FACILITY / ULTIMATE DEVELOPMENT AREA
	ENGINEERED ARRESTING MATERIALS SYSTEM (EMAS)
	EXISTING PAVEMENT DEMOLITION
	AIRFIELD PAVEMENT - PHASE 1
	FUTURE AIRFIELD SHOULDER
	AIRFIELD PAVEMENT - ULTIMATE
	AIRFIELD PAVEMENT - LONG TERM
	FUTURE ROADWAY TUNNEL
	FUTURE ROADWAY PUBLIC/AOA
7	OFZ PENETRATION (WITH ID NUMBER)

NOTE: DUE TO LACK OF INTERSECTING RUNWAYS, THERE IS NO RUNWAY VISIBILITY ZONE (RVZ).

* APPROXIMATE FOR REFERENCE ONLY

MODIFICATION TO AIRPORT DESIGN STANDARDS

No.	DESCRIPTION	APPROVED
1	DISTANCE BETWEEN AIMING POINT MARKINGS AND RUNWAY 13 THRESHOLD [1]	2/1/1999
2	SURFACE PAINTED SIGNS AT INTERSECTION TW 'B' & 'G' [2] AND AT TW 'B' & 'E' [3]	7/6/1999
3	NON-STANDARD EMAS ON R/W's 10L & 28R [4]	12/21/2004

[1] WILL NOT APPLY WITH DECOMMISSIONING OF R/W 13/31.
[2] CURRENTLY T/W E.
[3] CURRENTLY T/W D.
[4] CURRENTLY R/W 9L & 27R.

NOTES:

1. NOT ALL BUILDINGS AND FACILITIES OFF AIRPORT PROPERTY ARE SHOWN.
2. FACILITY INVENTORY INFORMATION PROVIDED BY BROWARD COUNTY AVIATION DEPARTMENT (BCAD), MAY 2011, INVENTORY SHOWN ON AIRPORT DATA SHEET.
3. ALL BUILDING AND TOPOGRAPHIC ELEVATIONS ARE FROM THE APPROVED 2008 ALP.
4. RUNWAY DESIGNATORS WILL CHANGE FROM 9-27 TO 10-28 DUE TO THE MAGNETIC DECLINATION.
5. EMAS AT RUNWAY END 28R TO BE EXTENDED & EXISTING LOCALIZER TO BE RELOCATED.
6. RUNWAY END COORDINATES AND BEARINGS TAKEN FROM 2007 NGS LPV SURVEY. THE FUTURE RUNWAY END COORDINATES ARE BASED UPON 60% DESIGN SUBMITTAL AND MEMORANDUM RE: RUNWAY 9R/27L RUNWAY END COORDINATES / ELEVATION DATED MAY 3, 2011
7. HORIZONTAL DATUM IS FLORIDA EAST ZONE U.S. FOOT NAD 83
8. VERTICAL DATUM IS IN FEET MSL USING NAVD 88
9. ALL DATA RELATIVE TO THE FUTURE 10R-28L RUNWAY IS FROM 60% DESIGN.
10. RUNWAY HOLDLINES FOR 10L-28R AND 10R-28L ARE LOCATED AT A MINIMUM OF 280' PERPENDICULAR TO THE RUNWAY CENTERLINE
11. RUNWAY 13-31 TO BE DECOMMISIONED AND CONVERTED TO TAXIWAY "F". ALL NAVAIDS RELATIVE TO RUNWAY 13-31 ARE TO BE DECOMMISSIONED AND REMOVED. THEY INCLUDE THE FOLLOWING:
    - LOCALIZER FOR R/W 13 AND PAPI AND REILS FOR BOTH APPROACHES
12. ALL NAVAIDS RELATIVE TO EXISTING RUNWAY 9R-27L ARE TO BE DECOMMISSIONED AND REMOVED. THEY INCLUDE THE FOLLOWING:
    - PAPI FOR BOTH APPROACHES AND LOCALIZER FOR R/W 9R
13. THERE ARE 3 APPROACH LIGHT POLES THAT PENETRATE THE INNER APPROACH OFZ TO RUNWAY 9L (FUTURE 10L). THE PENETRATION IS LESS THAN 0.4 FEET. THESE LIGHTS ARE FIXED BY FUNCTION.
14. THERE ARE 2 TREES THAT PENETRATE THE INNER APPROACH OFZ TO RUNWAY 10L. BCAD INTENDS TO UNDERTAKE AN OBSTRUCTION MITIGATION PROGRAM WHICH WILL TRIM OR REMOVE THESE TREES SO AS TO REMOVE THESE PENETRATIONS OF THE OFZ.
15. THERE ARE NO PENETRATIONS TO RUNWAY 28R OR RUNWAY 28L INNER APPROACH OFZ'S.

FAA's approval of this Airport Layout Plan (ALP) represents acceptance of the general location of future facilities depicted. During the preliminary design phase, the airport owner is required to resubmit for approval the final locations, heights and exterior finish of structures. FAA's concern is obstructions, impact on electronic aids or adverse effects on controller view of aircraft approach and ground movement areas which could adversely affect the safety, efficiency or utility of the airport.

Construction Notice Requirement.
To protect operational safety and future development, all proposed construction on the airport must be coordinated by the airport owner with the Airports District Office prior to construction. FAA's review takes approximately 60 days

Declination 6°7' W. (2011)
Changing 0°5' W. per Year (CCW)
Source: NOAA (NGDC)

BROWARD COUNTY AVIATION DEPARTMENT

SUBMITTED BY: ______________________ DATE: __________
DIRECTOR OF AVIATION PLANNING

APPROVED BY: ______________________ DATE: __________
DIRECTOR OF AVIATION

APPROVED BY: ______________________ DATE: __________
FAA-APPROVAL

No.	Date	REVISION	By
5			
4			
3			
2			
1			

FORT LAUDERDALE-HOLLYWOOD INTERNATIONAL AIRPORT
AIRPORT LAYOUT PLAN UPDATE
FUTURE AIRPORT CONDITIONS

BROWARD COUNTY FLORIDA
PREPARED FOR:
AVIATION DEPARTMENT
100 AVIATION BLVD. FT. LAUDERDALE, FL. 33315

Date: MAY 3, 2011
Drawn: RPE
Checked: --
Scale: 1"=400'
CAD File: ALP-03

CONTRACT
BCAD RLI
20050422-0-AV-01EB

PROJECT
WA406-2-LB

SHEET
3 of 4

File:Y:\FLL\On-call Planning\ALP Existing & Future Layouts\E-L&B Work Product\1-CADD\SUBMITTAL MAY 03 2011\ALP 03-Proposed Layout V4.dwg
Layout:Layout1 User name:---- Date:5.3.2011 Time:4:31:25 AM

ABBREVIATIONS

ARP	AIRPORT REFERENCE POINT	MI.	MILE	REL	RUNWAY END LIGHTS
ASDA	ACCELERATE STOP DISTANCE AVAILABLE	MIRL	MEDIUM INTENSITY RUNWAY LIGHTS	R/W	RUNWAY
ASOS	AUTOMATED SURFACE OBSERVING SYSTEM	MITL	MEDIUM INTENSITY TAXIWAY LIGHTS	RPZ	RUNWAY PROTECTION ZONE
ATCT	AIRPORT TRAFFIC CONTROL TOWER	MSL	MEAN SEA LEVEL	ROFA	RUNWAY OBJECT FREE AREA
BRL	BUILDING RESTRICTION LINE	MM	MIDDLE MARKER	ROFZ	RUNWAY OBSTACLE FREE ZONE
C.A.	CRITICAL AREA	N/A	NON-APPLICABLE	RSA	RUNWAY SAFETY AREA
EMAS	ENGINEERED MATERIALS ARRESTING SYSTEM	NAD83	NORTH AMERICAN DATUM OF 1983	RVR	RUNWAY VISUAL RANGE
FT.	FEET	NAVD88	NORTH AMERICAN VERTICAL DATUM OF 1988	SWL	SINGLE WHEEL LOAD
GS / GS ANT	GLIDE SLOPE / GLILDE SLOPE ANTENNA	NAVAID	NAVIGATIONAL AID	TODA	TAKEOFF DISTANCE AVAILABLE
HIRL	HIGH INTENSITY RUNWAY LIGHTS	NDB	NON-DIRECTIONAL BEACON	TORA	TAKEOFF RUN AVAILABLE
LDA	LANDING DISTANCE AVAILABLE	NON-PRE	NON-PRECISION	T/W	TAXIWAY
LOC	LOCALIZER	OM	OUTER MARKER	UNL	UNLIGHTED
MALS	MEDIUM INTENSITY APPROACH LIGHTING SYSTEM	PAPI	PRECISION APPROACH PATH INDICATOR	VOR	VERY HIGH FREQUENCY OMNIDIRECTIONAL RANGE TRANSMITTER
MALSR	MALS WITH RUNWAY ALIGNMENT INDICATOR	REIL	RUNWAY END IDENTIFIER LIGHTS		
MALSF	MALS WITH SEQUENCED FLASHERS				

NORTH FACILITIES INVENTORY

BLDG. No.	TENANT NAME	OPERATION	TOP ELEV.
N-1	LYNX FORT LAUDERDALE CARGO PORT	AIR CARGO	28.8
N-2	VIRGINIA CAROLINA	AIR CARGO	37.2
N-3	VIRGINIA CAROLINA	AIR CARGO	49.8
N-4	CAROLINA AIRCRAFT	FUEL FACILITY	25.3
N-5	VIRGINIA CAROLINA	FIXED BASE OPERATOR	39.7
N-6	VIRGINIA CAROLINA	FIXED BASE OPERATOR	29.9
N-7	VIRGINIA CAROLINA	FIXED BASE OPERATOR	40.7
N-8	FLL-AIR, INC.	AIR CARGO	19.3
N-9	FLL-AIR, INC.	AIR CARGO	35.7
N-10	FLL-AIR, INC.	AIR CARGO	34.3
N-11	SHELTAIR AVIATION NORTH SIDE, LLC.	AIR CARGO	52.6
N-12	SHELTAIR AVIATION NORTH SIDE, LLC.	AIR CARGO / FIXED BASE OPERATOR	30.2
N-13	SHELTAIR AVIATION	AIR CARGO	21.1
N-14	AERO LAUDERDALE, LLC.	AIR CARGO	28.1
N-15	AERO LAUDERDALE, LLC.	AIR CARGO	28.8
N-16	DEMOLISHED		N/A
N-17	AERO LAUDERDALE, LLC.	AIR CARGO	31.9
N-18	AERO LAUDERDALE, LLC.	AIR CARGO	35.9
N-19	AERO LAUDERDALE, LLC.	AIR CARGO	44.9
N-20	EMBRAER	AIRCRAFT SALES, MAINTENANCE, & TRAINING	40.3
N-21	EMBRAER	AIRCRAFT SALES, MAINTENANCE, & TRAINING	38.4
N-22	EMBRAER	AIRCRAFT SALES, MAINTENANCE, & TRAINING	35.3
N-23	EMBRAER (MAIN BLDG. 'A')	AIRCRAFT SALES, MAINTENANCE, & TRAINING	35.3
N-24	EMBRAER (BLDG.)		35.3
N-25	EMBRAER (BLDG.)		23.9
N-26	AZORRA AVIATION, LLC.	LIMITED SERVICE FIXED BASE OPERATOR	35.3
N-27	AZORRA AVIATION, LLC.	LIMITED SERVICE FIXED BASE OPERATOR	37.0
N-28A	VACANT	VACANT LAND (TO BE DEMOLISHED)	N/A
N-28	VACANT	VACANT LAND (TO BE DEMOLISHED)	50.7
N-29	B.C.A.D. CARGO FACILITY	FUEL STORAGE	33.0
N-30	B.C.A.D. FUEL STORAGE (3 TANKS)	GROUND SERVICE FUEL FACILITY	55.4
N-31	B.C.A.D. FUEL FARM	GROUND SERVICE FUEL FACILITY	27.4
N-32	AIRPORT RECYCLING SPECIALIST	REFUSE FACILITY	24.2
N-33	B.C.A.D. AIRPORT MAINTENANCE	PAINT SHOP	23.7
N-34	DELTA GROUND SERVICES EQUIPMENT MAINTENANCE	GROUND SERVICE EQUIPMENT FACILITY	30.3
N-35	B.C.A.D. AIRPORT MAINTENANCE		40.7
N-37	EMBRAER (H-AVIATION)	HANGAR	64.2
N-38	EMBRAER (H-AVIATION)	OFFICE / MAINTENANCE FACILITY	47.4
N-39	URS/AEP TRAILERS	ENGINEERING OFFICES	27.4
N-40	EDGEWOOD PASSIVE PARK	SURFACE PARKING	N/A

WEST FACILITIES INVENTORY

BLDG. No.	TENANT NAME	OPERATION	TOP ELEV.
W-1	BROWARD COUNTY ANIMAL CARE AND REGULATION	COUNTY ANIMAL CONTROL	29.4
W-7	TROPICAL AVIATION GROUND SERVICES INC./AIR SUNSHINE	AIRCRAFT MAINTENANCE	29.7
W-11	WASTE WATER LIFT STATION (4) (B.C.O.E.S.)	SEWAGE LIFT STATION	13.6
W-12	SHUTTLE PORT	BUS MAINTENANCE	27.4
W-13	NAVAL AIR MUSEUM		27.1
W-14	VACANT	TO BE DEMOLISHED	24.4
W-15	VACANT	TO BE DEMOLISHED	18.0
W-16	SIGNATURE FLIGHT SUPPORT	FULL SERVICE FIXED BASE OPERATOR	42.2
W-17	SIGNATURE (BOMBARDIER)	FULL SERVICE FIXED BASE OPERATOR	51.9
W-18	WASTE WATER LIFT STATION (B.C.O.E.S.)	SEWAGE PUMP STATION	24.1
W-19	LAUDERDALE SMALL BOAT CLUB	BOAT CLUB	13.2
W-20	LAUDERDALE SMALL BOAT CLUB	BOAT CLUB	14.7
W-21	SHELTAIR AVIATION CENTER, LLC. FUEL FARM	FUEL FARM	14.0
W-22	GULFSTREAM	OFFICES & AIRCRAFT MAINTENANCE (TO BE DEMOLISHED)	43.4
W-23	B.C.A.D. AIRPORT MAINTENANCE	MAINTENANCE & FUEL	24.0
W-24	DEMOLISHED		N/A
W-25	SHELTAIR AVIATION CENTER, LLC.	GROUND SERVICE EQUIPMENT FACILITY	24.4
W-26	FEDERAL AVIATION ADMINISTRATION, A.T.C.T.	GOVERNMENTAL AGENCY	177.4
W-28	AIRFILED ELECTRICAL VAULT	AIRFIELD SUPPORT	23.8
W-29	SHELTAIR AVIATION CENTER, LLC. (GAFIS)	GAFIS	46.8
W-30	SHELTAIR AVIATION CENTER, LLC. (FT. LAUDERDALE JET CENTER)	FULL SERVICE FIXED BASE OPERATOR	46.9
W-31A	SHELTAIR AVIATION CENTER	FULL SERVICE FIXED BASE OPERATOR	42.6
W-31B	SHELTAIR AVIATION CENTER	FULL SERVICE FIXED BASE OPERATOR (TO BE DEMOLISHED)	42.6
W-32	PARKING	SURFACE PARKING	N/A
W-33	PARKING	SURFACE PARKING	N/A
W-35	AVIS RENT-A-CAR SYSTEM, LLC.	RENTAL VEHICLE MAINTENANCE FACILITY	25.5
W-36	AIRPORT / SEAPORT EMS TRAINING FIRE STATION		18.1

EAST FACILITIES INVENTORY

BLDG. No.	TENANT NAME	OPERATION	TOP ELEV.
E-1	TERMINAL 2 - CONCOURSE D (9 GATES)	AIRLINE TERMINAL	56.6
E-2	TERMINAL 3 - CONCOURSE E (10 GATES)	AIRLINE TERMINAL	47.4
E-3	TERMINAL 3 - CONCOURSE F (10 GATES)	AIRLINE TERMINAL	47.0
E-4	TERMINAL 4 - CONCOURSE H (10 GATES)	AIRLINE TERMINAL	45.8
E-5	TERMINAL 4 - SPIRIT AIRLINES	AIRLINE TERMINAL	65.2
E-6	PARKING GARAGE (PALM)	PARKING	59.6
E-11	TERMINAL 1 - CONCOURSES B & C (18 GATES)	AIRLINE TERMINAL	81.7
E-12	WASTE WATER LIFT STATION (4) (B.C.O.E.S.)	SEWAGE LIFT STATION	58.3
E-13	WASTE WATER LIFT STATION (4) (B.C.O.E.S.)	SEWAGE LIFT STATION	64.3
E-14	WASTE WATER LIFT STATION (4) (B.C.O.E.S.)	SEWAGE LIFT STATION	62.3
E-15	COMMUTER TERMINAL	ADMINISTRATION	30.6
E-16	PARKING GARAGE (HIBISCUS)	PARKING	99.0
E-17	CONSOLIDATED RENTAL CAR FACILITY / CYPRESS GARAGE	CAR RENTAL	122.5
E-18	SECURITY OFFICE	SECURITY BADGING OFFICE	15.8
E-19	VACANT	CAR RENTAL (TO BE DEMOLISHED)	27.8
E-20	PORT ID OFFICE	OFFICE (TO BE DEMOLISHED)	51.5
E-21	USA PARKING	SURFACE PARKING - TAXI HOLD LOT	N/A
E-22	USA PARKING	SURFACE PARKING	N/A
E-23	USA PARKING	SURFACE PARKING	N/A
E-24	B.C.A.D. ADMINISTRATION TRAILERS	ADMINISTRATION (TO BE DEMOLISHED)	25.3
E-25	ABANDONED	TOLL BARRIER (TO BE DEMOLISHED)	26.3
E-26	AIRPORT RESCUE FIREFIGHTERS (ARFF) STATION 10	BSO FIRE / EMS	38.3
E-29	B.C.A.D. (VACANT)	STORAGE	29.6
E-30	B.C.A.D. (VACANT)	STORAGE (TO BE DEMOLISHED)	47.9
E-31	B.C.A.D. (VACANT)	SURFACE PARKING	N/A
E-32	B.C.A.D. (VACANT)	SURFACE PARKING	N/A
E-33	B.C.A.D. (VACANT)	VACANT LAND	N/A
E-34	B.C.A.D. TRAILER (OUTREACH)		15.8

THE INFORMATION PRESENTED ON THIS DRAWING WAS PREPARED TO A DEGREE OF ACCURACY SUITABLE FOR PLANNING PURPOSES USING (1) FEDERAL AVIATION ADMINISTRATION STANDARDS AND RECOMMENDATIONS THAT WERE CURRENT AS OF THE DATE OF THIS DRAWING, (2) ASSUMPTIONS REVIEWED AND AGREED TO BY THE BROWARD COUNTY AVIATION DEPARTMENT. THIS DRAWING SHOULD NOT BE THE BASIS FOR CONSTRUCTION DECISIONS.

TAXIWAY/TAXILANE DATA

EXISTING ID	EXISTING WIDTH (FT)	FUTURE ID [1]	FUTURE WIDTH (FT)
A	75	A	75
		A6**	75
A1	125	A1	125
A4	120	A4	160
A5	125	A5	125
B	75	B	75
		B7**	75
B1	120	B1	120
B2	100	B2	100
B3	100	B3	100
B4	100	B5*	100
B5	125	B6*	125
B6	75	B8*	75
C	75	C	75
C1	130	C1	130
D	75	E*	75
D1	155	F1*	155
D2	172	TO BE DEMO'D	
D3	75	TO BE DEMO'D	
D4	100	TO BE DEMO'D	
E	75/100 [5]	G*	75
E2	50	F2	50
G	50/100 [3]	TO BE DEMO'D	
G1	100	TO BE DEMO'D	
G2	100	TO BE DEMO'D	
G3	50	TO BE DEMO'D	
P	75	T6 [6]	75
Q	50/75 [2]	Q	75
S	75	D*	75
T	75	T	75
T1	347	T1	347
T2	135	T2	135
T3	141	T3	141
T4	200	T4	200
T5	75/130 [4]	T5	75/130
T6 [6]	100	T6 [6]	100
T7	100	T7	100
T8	282	T8	75
		B4**	160
		F**	150
		H**	103
		H2**	130
		H3**	130
		J**	75
		J1**	220
		J2**	230
		J5**	130
		J7**	115
		J8**	150
		Q1**	100
		Q2**	100
		Q3**	75
		R**	75
		S**	75

* RENAMED TAXIWAY
** PROPOSED TAXIWAY
[1] FUTURE TAXIWAY NAME CHANGES BASED ON 60% RUNWAY DESIGN DRAWINGS.
[2] TAXIWAY Q RESTRICTED TO GRP III AIRCRAFT SOUTH OF TAXIWAY D DUE TO 50-FOOT WIDTH
[3] TAXIWAY G IS 100' WIDE AT ENTRANCE TO EXISTING RUNWAY 9R-27L
[4] TAXIWAY T5 IS 130' WIDE EAST OF TAXIWAY S
[5] TAXIWAY E IS 75' WIDE SOUTH OF TAXIWAY C
[6] TAXIWAY T6 IS 75' WIDE SOUTH OF TAXIWAY E, AND 100' WIDE NORTH OF TAXIWAY E.

OFZ PENETRATIONS

RUNWAY	CONDITION	OBST. NO.	DESCRIPTION	OBST. HEIGHT MSL	OFZ HEIGHT MSL	OBST. PENETRATION	ACTION TO BE TAKEN
10L	EXISTING	93	POST - ALS	31.3	30.9	0.4	FIXED BY FUNCTION
10L	EXISTING	94	POST - ALS	26.8	26.5	0.3	FIXED BY FUNCTION
10L	EXISTING	95	POST - ALS	22.6	22.3	0.3	FIXED BY FUNCTION
10L	EXISTING	50	TREE	59.2	54.2	5	TO BE REMOVED
10L	EXISTING	53	TREE	59.7	53.2	6.5	TO BE REMOVED

FUTURE FACILITIES INVENTORY

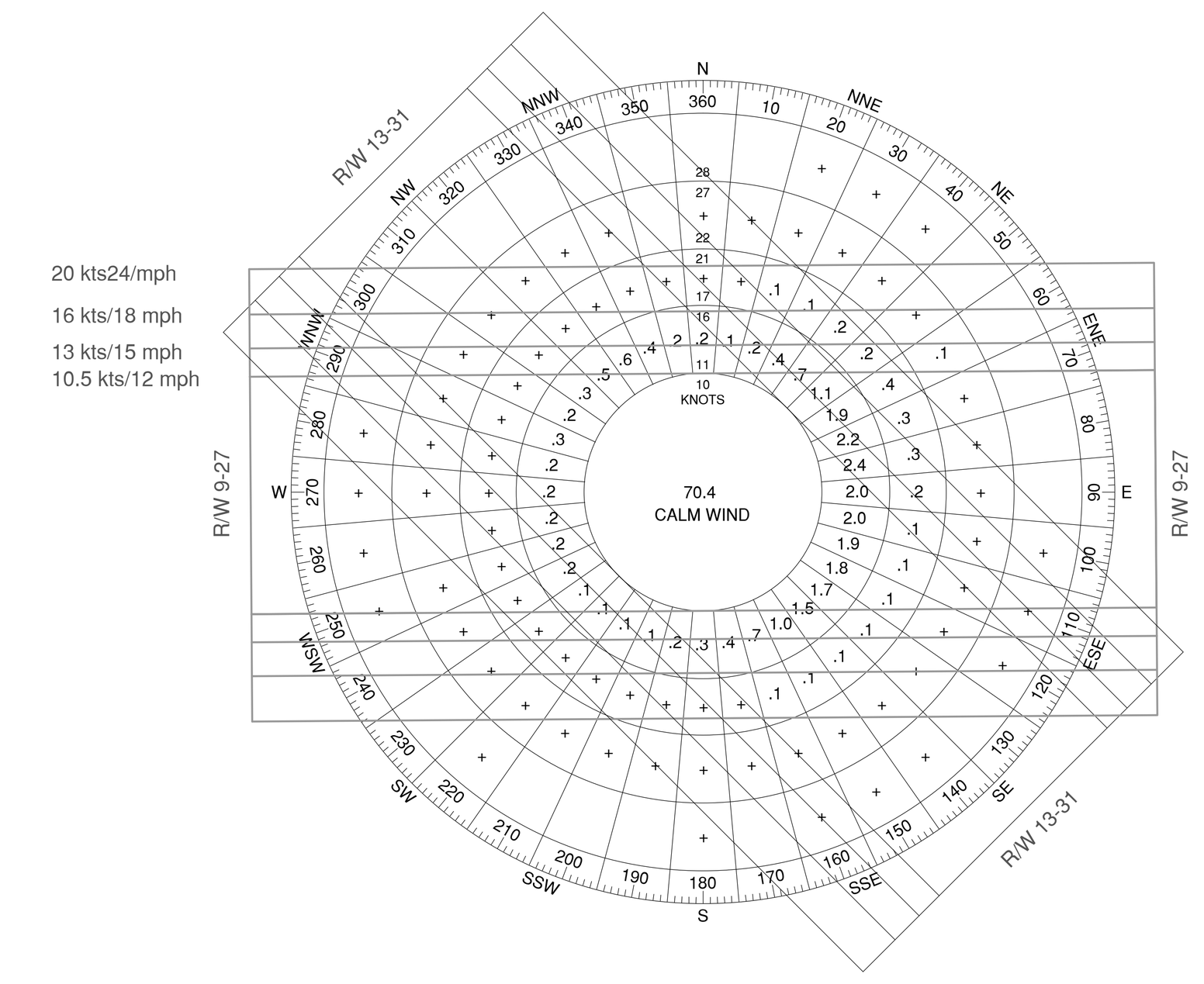
BLDG. No.	TENANT NAME	OPERATION	TOP ELEV.
EE-2	TERMINAL 3 - CONCOURSE E EXTENSION	AIRLINE TERMINAL	47.4
EE-3	TERMINAL 3 - CONCOURSE F EXTENSION	AIRLINE TERMINAL	47.0
EE-5	TERMINAL 4 - SPIRIT AIRLINES EXTENSION	AIRLINE TERMINAL	65.2
E-12	WASTE WATER LIFT STATION (4) (B.C.O.E.S.)	SEWAGE LIFT STATION	58.3
E-13	WASTE WATER LIFT STATION (4) (B.C.O.E.S.)	SEWAGE LIFT STATION	64.3
E-6	EXPANDED PALM GARAGE	PARKING	59.6
E-16	EXPANDED HIBISCUS GARAGE	PARKING	99.0
N/A	ULTIMATE CENTRAL PROCESSOR	AIRLINE TERMINAL	65.2
WW-1	SHELTAIR AVIATION PHASE 1 SITE	FULL SERVICE FIXED BASE OPERATOR	43 Est.
WW-2	SHELTAIR AVIATION ULTIMATE SITE	FULL SERVICE FIXED BASE OPERATOR	43 Est.
WW-3	RELOCATED MAXIHUT	UTILITY VAULT	15 Est.

AIRPORT DATA

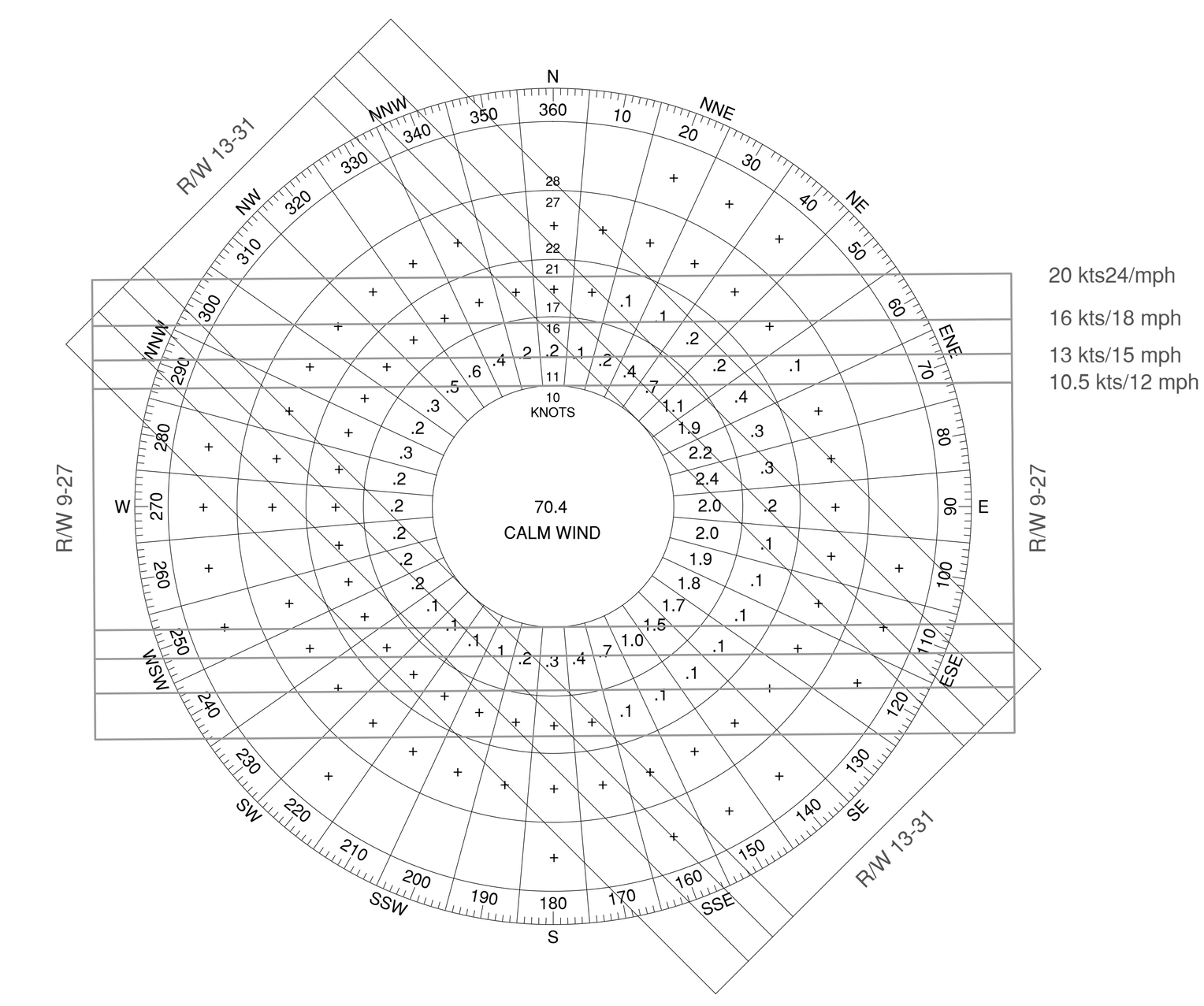
ITEM			EXISTING	ULTIMATE
AIRPORT ELEVATION (FEET AMSL)			9.0	64.9
AIRPORT REFERENCE POINT (ARP) (NAD 83, NAVD88)			LAT. 26° 04' 21.3" N	LAT. 26° 04' 18.00" N
			LONG. 80° 09' 09.9" W	LONG. 80° 08' 58.90" W
MAGNETIC DECLINATION	Feb 2011		6.7° W Changing 0°5'W per year	
MEAN/MAX. TEMPERATURE			82.6° F	82.6° F
TERMINAL NAVAIDS			ATCT,LOC,TVOR/DME, ASR,ILS,NDB,GPS	ATCT,LOC,TVOR/DME ASR,ILS,NDB,GPS
	EXISTING	FUTURE		
DESIGN AIRCRAFT (RW LENGTH)	9L-27R	10L-28R	DC 10-30	B 777-200
	13-31	13-31	DC 10-30	DECOMISSIONED
	9R-27L	10R-28L	FALCON 900	B 777-200
AIRPORT REFERENCE CODE	9L-27R	10L-28R	D-IV	D-V
	13-31	13-31	D-IV	DECOMISSIONED
	9R-27L	10R-28L	B-II	D-V
TAXIWAY MARKING			CENTERLINE	CENTERLINE
TAXIWAY LIGHTING			MITL	MITL
AIR TRAFFIC CONTROL TOWER			CAB FLOOR: 158.0 MSL TOP ELEVATION: 195.0' MSL	

NOTES

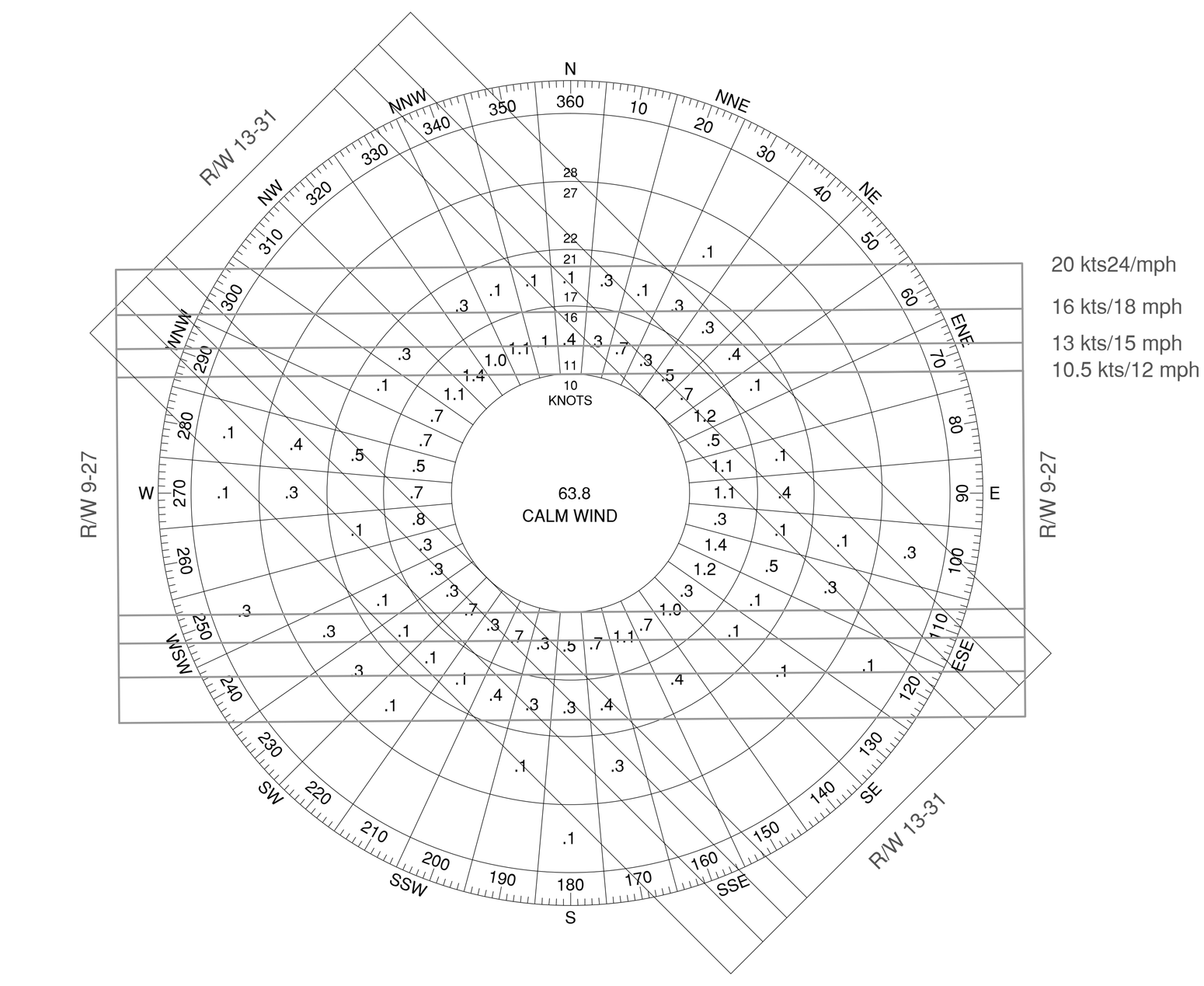
1. All elevations are in feet MSL
2. Horizontal Datum is: Florida State Plane East Zone, U.S. Survey Feet. NAD 83
3. Vertical Datum is NAVD 88
4. Top elevation of buildings are from 2009 Approved ALP and BCAD staff.
5. Data relative to the Future 10R-28L Runway is from 60% design.
6. Runway 13-31 to be decommissioned and converted to Taxiway "F". All NAVAIDs relative to Runway 13-31 are to be decommissioned and removed. They include the following:
   - Localizer for R/W 13
   - PAPI and REILS on both approaches
7. All NAVAIDS relative to existing Runway 9R-27L are to be decommissioned and removed. They include the following:
   - PAPI for both approaches
   - Localizer for R/W 9R



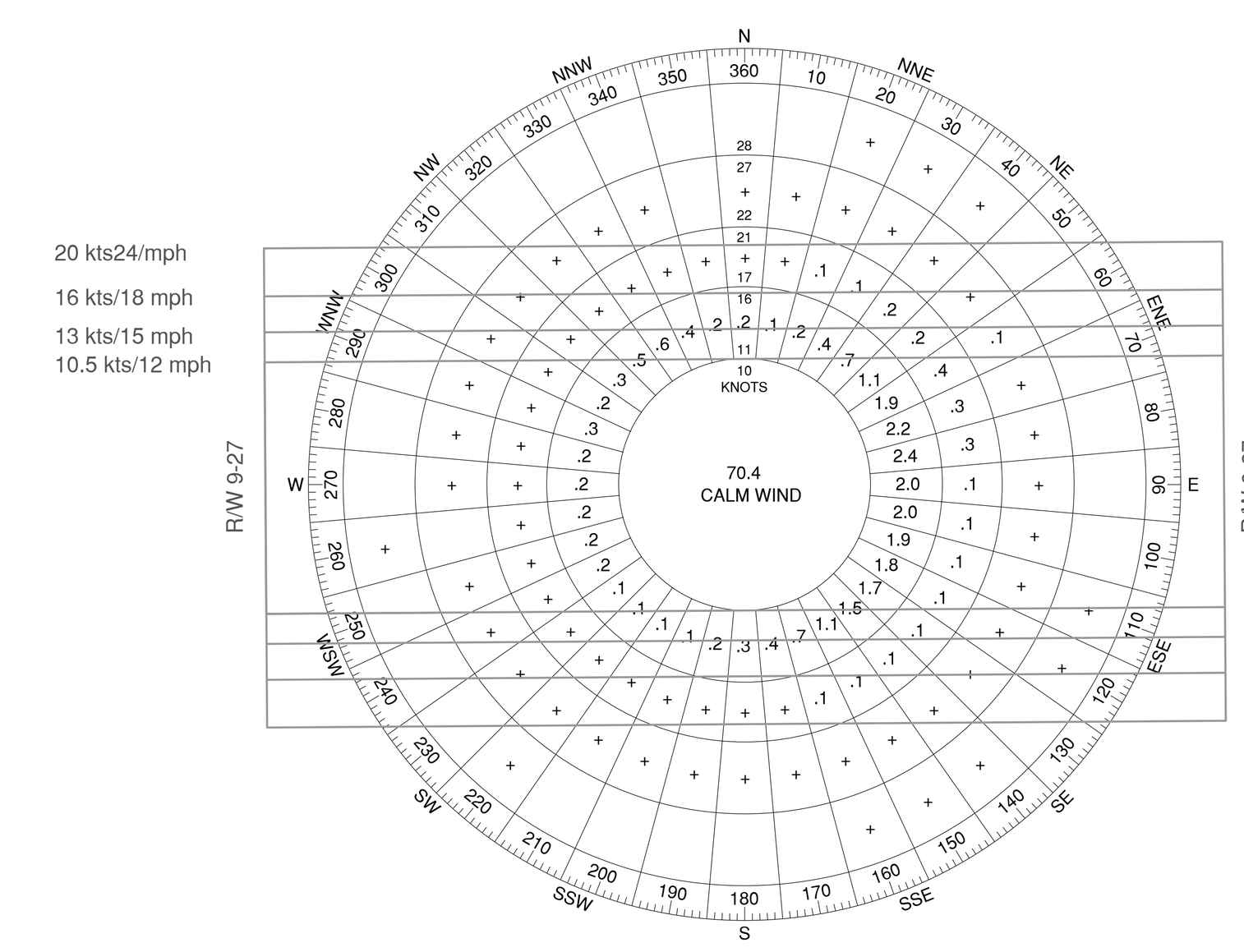
EXISTING VFR WIND ROSE



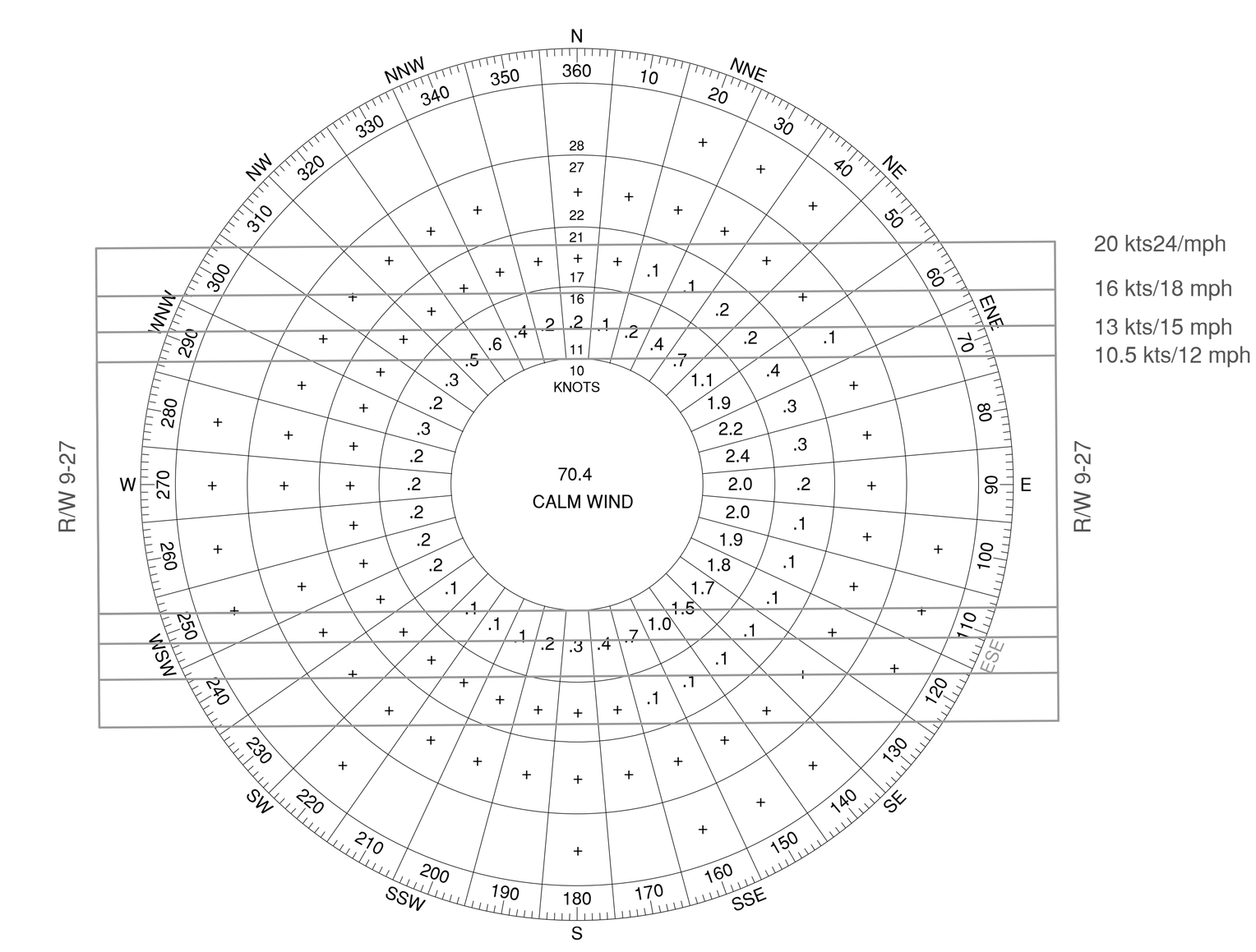
EXISTING ALL WEATHER WIND ROSE



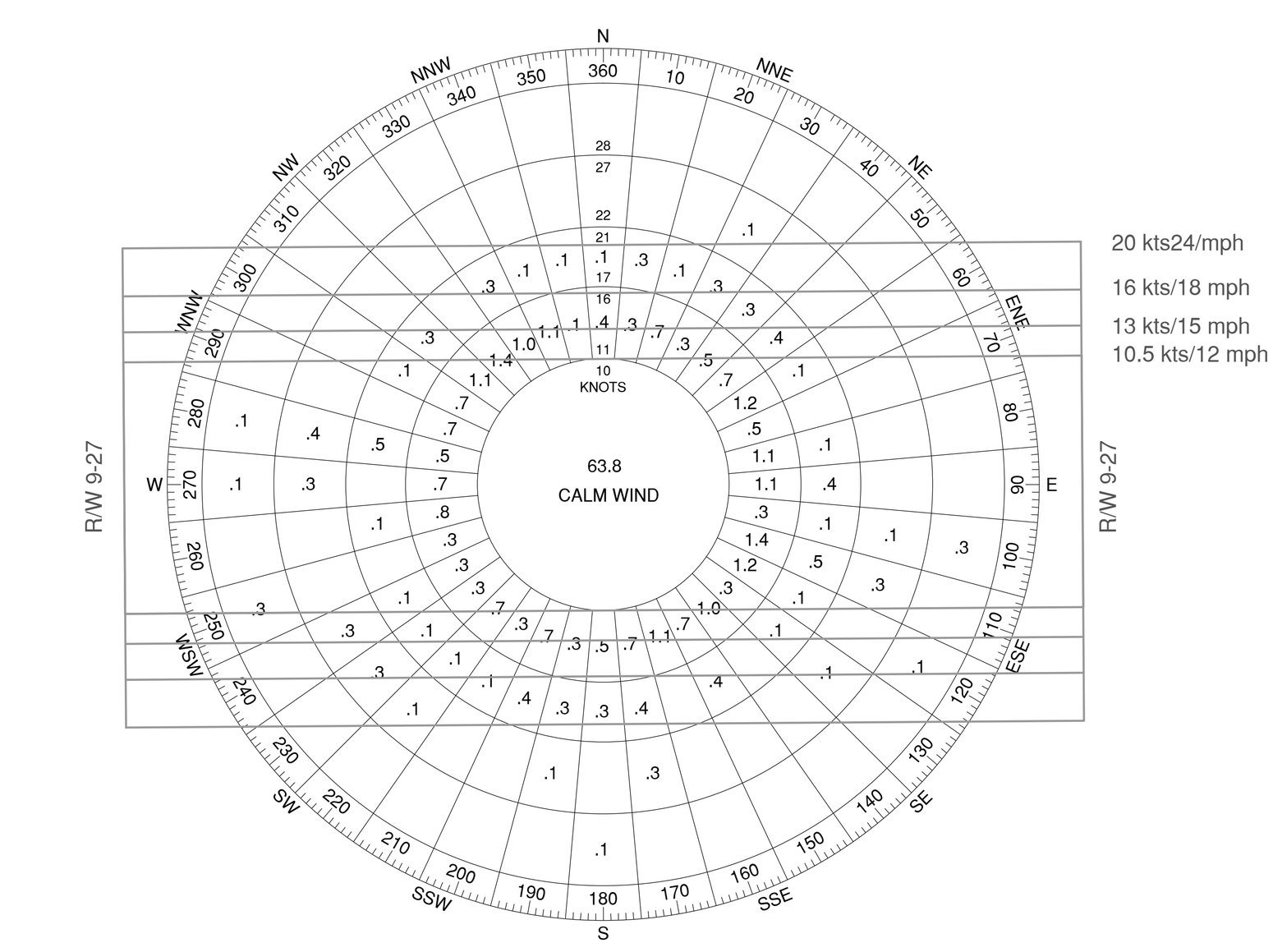
EXISTING IFR WIND ROSE



ULTIMATE VFR WIND ROSE



ULTIMATE ALL WEATHER WIND ROSE



ULTIMATE IFR WIND ROSE

WIND DATA SOURCE: NATIONAL CLIMATIC DATA CENTER
US DEPT OF COMMERCE
ASHEVILLE, NORTH CAROLINA

STATION: FT. LAUDERDALE - HOLLYWOOD INTERNATIONAL AIRPORT
PERIOD OF RECORD: JAN 1, 1998 - DEC 31, 2007

WIND ROSE CALCULATIONS & WIND COVERAGE DATA

RUNWAY	CROSSWIND COMPONENT											
	10.5 KTS/ 12 MPH			13 KTS/ 15 MPH			16 KTS/ 18 MPH			20 KTS/ 24 MPH		
	VFR	ALL	IFR	VFR	ALL	IFR	VFR	ALL	IFR	VFR	ALL	IFR
9-27	92.5%	92.4%	83.6%	96.8%	96.7%	90.1%	99.4%	99.3%	95.3%	99.9%	99.9%	98.3%
13-31	88.3%	88.3%	83.3%	93.8%	93.8%	89.4%	98.2%	98.2%	94.8%	99.6%	99.6%	97.6%
COMBINED	97.6%	97.5%	91.9%	99.1%	99.1%	95.4%	99.8%	99.8%	98.0%	100.0%	100.0%	99.4%
ULTIMATE 9-27	92.5%	92.4%	83.6%	96.8%	96.7%	90.1%	99.4%	99.3%	95.3%	99.9%	99.9%	98.3%

ABBREVIATIONS: VFR - VISUAL FLIGHT RULES
IFR - INSTRUMENT FLIGHT RULES

RUNWAY DATA

DESCRIPTION		EXISTING		ULTIMATE		EXISTING		ULTIMATE		EXISTING		ULTIMATE	
RUNWAY NUMBER		9R	27L	10R	28L	9L	27R	10L	28R	13	31	13	31
RUNWAY LENGTH (FT.)		5,276	5,276	8,000	8,000	9,000	9,000	SAME	SAME	6,930	6,930	Decomissioned	Decomissioned
TRUE BEARING		N90°22'31"E	N90°22'31"E	N90°22'12"E	N90°22'12"E	N90°21'27"E	N270° 23' 48"E	SAME	SAME	N135°21'52"E	N135°21'52"E	Decomissioned	Decomissioned
DISPLACED THRESHOLD (FT.)		320	142	N/A	N/A	577	606	SAME	SAME	N/A	70	Decomissioned	Decomissioned
TORA (FT.)		5,276	5,276	8,000	8,000	9,000	9,000	SAME	SAME	6,930	6,930	Decomissioned	Decomissioned
TODA (FT.)		5,276	5,276	8,000	8,000	9,000	9,000	SAME	SAME	6,930	6,930	Decomissioned	Decomissioned
ASDA (FT.)		5,276	5,276	8,000	8,000	9,000	9,000	SAME	SAME	6,930	6,930	Decomissioned	Decomissioned
LDA (FT.)		4,956	5,134	8,000	8,000	8,423	8,394	SAME	SAME	6,930	6,860	Decomissioned	Decomissioned
RUNWAY WIDTH (FT.)		100	100	150	150	150	150	SAME	SAME	150	150	Decomissioned	Decomissioned
PAVEMENT TYPE		Asphalt	Asphalt	Concrete	Concrete	Asphalt	Asphalt	SAME	SAME	Asphalt	Asphalt	Decomissioned	Decomissioned
PAVEMENT STRENGTH FOR (S) SINGLE, (D) DUAL, (DT) DUAL-TANDEM, AND (DDT) DOUBLE DUAL TANDEM GEARED AIRCRAFT		S-30	S-30	S-115 D-200 DT-468 DDT-800	S-115 D-200 DT-468 DDT-800	S-100 D-200 DT-468 DDT-800	S-100 D-200 DT-468 DDT-800	SAME	SAME	S-90 D-150 DT-350	S-90 D-150 DT-350	Decomissioned	Decomissioned
RUNWAY LIGHTING		MIRL	MIRL	HIRL	HIRL	HIRL	HIRL	SAME	SAME	MIRL	MIRL	Decomissioned	Decomissioned
RUNWAY MARKING		NON-PRE	NON-PRE	PRECISION	PRECISION	PRECISION	PRECISION	SAME	SAME	NON-PRE	NON-PRE	Decomissioned	Decomissioned
VISIBILITY MINIMUMS [4]		1 Mi.	Visual	3/4 Mi.	3/4 Mi.	3/4 Mi.	1/2 Mi.	SAME	SAME	1 Mi.	Visual	Decomissioned	Decomissioned
NAVIGATIONAL AND VISUAL AIDS [3]		GPS LOC PAPI. REL	PAPI, REL	GPS, GS, LOC, RVR,MALSF, PAPI, REIL, REL	GPS, GS, LOC, RVR,MALSF, PAPI, REIL, REL	GPS, GS, LOC, OM, RVR,MALSR, PAPI, REL	GPS, GS, LOC, MM, RVR,MALSR, PAPI, REIL	SAME	SAME	GPS, NDB, LOC, REIL, PAPI, REL	GPS, REIL, PAPI, REL	Decomissioned	Decomissioned
AIRPORT REFERENCE CODE (ARC)		B - II	B - II	D - V	D - V	D - IV	D - IV	D - V	D - V	D - IV	D - IV	Decomissioned	Decomissioned
EFFECTIVE GRADIENT		0.000%	-0.000%	0.686%	-0.686%	-0.004%	0.004%	SAME	SAME	-0.003%	0.003%	Decomissioned	Decomissioned
INSTRUMENT APPROACH		LOC	N/A	ILS CAT- I	ILS CAT- I	ILS CAT- I	ILS CAT- I	SAME	SAME	LOC	N/A	Decomissioned	Decomissioned
FAR PART 77 APPROACH SLOPE		34:1	20:1	50:1	50:1	50:1	50:1	SAME	SAME	34:1	20:1	Decomissioned	Decomissioned
RUNWAY PROTECTION ZONE (RPZ)	LENGTH	1,000	1,000	2,500	2,500	1,700	2,500	SAME	SAME	1,700	1,700	Decomissioned	Decomissioned
	WIDTH 1	500	500	1,000	1,000	1,000	1,000	SAME	SAME	500	500	Decomissioned	Decomissioned
	WIDTH 2	700	700	1,750	1,750	1,510	1,750	SAME	SAME	1,010	1,010	Decomissioned	Decomissioned
RUNWAY SAFETY AREA (RSA) WIDTH (FT)		150	150	500	500	500	500	SAME	SAME	500	500	Decomissioned	Decomissioned
RSA LENGTH PRIOR TO LANDING THRESHOLD (FT)		300	300	615	600	600	600	SAME	SAME	600	600	Decomissioned	Decomissioned
RSA LENGTH BEYOND RUNWAY END (FT)		183	300	615 [1]	600 [1]	329 [1]	646 [1]	SAME	SAME	771	629	Decomissioned	Decomissioned
RUNWAY OBJECT FREE AREA (ROFA) WIDTH (FT)		500	500	800	800	800	800	SAME	SAME	800	800	Decomissioned	Decomissioned
ROFA LENGTH BEYOND RUNWAY END (FT) [2]		183	300	600	600	329	646	SAME	SAME	771	629	Decomissioned	Decomissioned
RUNWAY OBSTACLE FREE ZONE (ROFZ) LENGTH (FT)		5,676	5,676	8,400	8,400	9,400	9,400	SAME	SAME	7,330	7,330	Decomissioned	Decomissioned
ROFZ LENGTH BEYOND RUNWAY END (FT) [2]		200	200	SAME	SAME	200	200	SAME	SAME	200	200	Decomissioned	Decomissioned
ROFZ WIDTH (FT)		250	250	400	400	400	400	SAME	SAME	400	400	Decomissioned	Decomissioned
RUNWAY END	LATITUDE	26°03'57.509"N	26°03'57.164"N	26°03'57.191"N	26°03'56.672"N	26°04'37.016"N	26°04'36.451"N	SAME	SAME	26°04'44.054"N	26°03'55.208"N	Decomissioned	Decomissioned
	LONGITUDE	80°09'37.140"W	80°08'39.288"W	80°09'30.059"W	80°08'02.343"W	80°09'59.539"W	80°08'20.835"W	SAME	SAME	80°09'37.399"W	80°08'44.004"W	Decomissioned	Decomissioned
RUNWAY END ELEVATION (NAVD88)(MSL)		5.4	5.5	10.0	64.9	5.5	5.2	SAME	SAME	5.8	5.6	Decomissioned	Decomissioned
TOUCHDOWN ZONE END (TDZE) ELEVATION (NAVD88)(MSL)		6.0	6.0	14.1	64.9	7.1	6.7	SAME	SAME	6.9	9.3	Decomissioned	Decomissioned
DISPLACED THRESHOLD	LATITUDE	26°03'57.489"N	26°03'57.173"N	N/A	N/A	26°04'36.981"N	26°04'36.489"N	SAME	SAME	N/A	26°03'55.701"N	Decomissioned	Decomissioned
	LONGITUDE	80°09'33.635"W	80°08'40.843"W	N/A	N/A	80°09'53.215"W	80°08'27.482"W	SAME	SAME	N/A	80°08'44.542"W	Decomissioned	Decomissioned
DISPLACED THRESHOLD ELEVATION (NAVD88)(MSL)		5.3	5.3	N/A	N/A	5.9	5.4	SAME	SAME	N/A	5.7	Decomissioned	Decomissioned

1 RSA LENGTH REDUCED DUE TO USE OF EMAS.
2 MEASURED FROM END OF RUNWAY.
3 APPROACHES WITH APPROACH LIGHT SYSTEMS INCLUDE INNER APPROACH OFZ SURFACES AND ARE DEPICTED ON THE ALP
4 APPROACHES WITH LESS THAN 3/4 MILE VISIBILITY INCLUDE INNER TRANSITIONAL OFZ AND ARE DEPICTED ON THE ALP
RUNWAY DESIGNATORS WILL CHANGE FROM 9/27 TO 10/28 DUE TO THE MAGNETIC DECLINATION.
DATA SOURCES:
http://www.faa.gov/airports_airtraffic/airports/airport_safety/airportdata_5010 and http://www.ngs.noaa.gov/AERO/uddf/SOUTHERN/FLORIDA/
FAA Advisory Circular 150-5300.13,
Draft Environmental Impact Statement (March 2007)
BCAD FLL ALP 2009 and 60% Engineering Design Drawings
HORIZONTAL DATUM NAD 83, VERTICAL DATUM NAVD88. Feet AMSL are the units of vertical elevation.

FORT LAUDERDALE-HOLLYWOOD INTERNATIONAL AIRPORT
AIRPORT LAYOUT PLAN UPDATE
AIRPORT DATA

BROWARD COUNTY FLORIDA
AVIATION DEPARTMENT

Date: MAY 3, 2011
Scale: AS NOTED
CAD File: ALP-04
PROJECT WA406-2-LB
SHEET 4 of 4

File:Y:\FLL\On-call Planning\ALP Existing & Future Layouts\E-L&B Work Product\1-CADD\SUBMITTAL MAY 03 2011\ALP 04-Data Sheet V4.dwg
Layout:AIRPORT DATA User name:---- Date:5.3.2011 Time:6:01:23 PM

TO:
MS. REBECCA HENRY
Federal Aviation Administration
Orlando Airports District Office
5950 Hazeltine National Drive, Suite 400
Orlando, FL 32822

From: TOM CORNELL

CC: JAMES MCCLUSKIE (BCAD), DAN BARTHOLOMEW (BCAD), DEAN STRINGER (FAA), VIRGINIA LANE (FAA), BART VERNACE (FAA), PABLO AUFFANT (FAA), ROBERT ENDRES (L&B), TOM GULYAS (L&B)

Date: March 3, 2011

Re: FLL Runway Geometry Update – Record of Changes

Fort Lauderdale/Hollywood International Airport (FLL) Runway Geometry Update (RGU):

The following memorandum outlines the actions taken to update the 2008 version of the FLL Existing Airport Layout Plan (ALP), Future ALP, and Data Sheet drawing files with the geometry and data associated with the proposed Runway 10R/28L project. This update has been conducted on behalf of the Broward County Aviation Department (BCAD). This record of changes serves as a guideline to facilitate the review process by identifying the key alterations between the approved 2008 ALP and the March 2011 Runway Geometry Update (RGU).

The list of changes is followed by a request for clarification on items requiring attention prior to submitting the RGU to the FAA.

memo

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Changes to Existing Airport Conditions Drawing

The following is a list of changes made to the Existing Airport Conditions drawing since the last ALP submission.

1. Revised all Runway elevation data relative to landing thresholds, displaced thresholds, high points, low points, and Touch Down Zone elevations to reflect NAVD 88 vertical datum.
2. Updated Embraer facility to show expansion of Building N-22 (north side area)
3. Updated Sheltair facility by adding Building N-12 to the drawing (north side area)
4. Removed canopy from AeroTerm Building N-19 (north side area)
5. Removed Building N-16, which was demolished, from the drawing (adjacent Building N-15 and N-17, north side area)
6. Removed Maxihut structure located south of Taxiway C, west of Taxiway E, and north of SW 39th Street
7. Modified Localizer Critical Areas on all runways to current safety area standards
8. Deleted Localizer Critical Area depicted at Runway 13 threshold (31 Approach Localizer)
9. Deleted Localizer Critical Area depicted at Runway 9R threshold (27L Approach Localizer)
10. Removed portions of Building N-19 and Building N-12 that have been demolished from the Building Legend (reflected in aerial imagery)
11. Added newly constructed Building N-24 and Building N-25 to the Building Legend (reflected in aerial imagery)
12. Expanded Building N-39 (reflected in aerial imagery)
13. Updated airfield geometry for Taxiways A4, B, B1, B2, B3, B4, B5, D, E, Q, S , and T5 (reflected in aerial imagery)
14. Removed Taxiway E1 from the drawing (reflected in aerial imagery)
15. Removed Taxiway E3 from the drawing (reflected in aerial imagery)
16. Removed the Service Road adjacent to Taxiway D and Q that was near the midpoint of Runway 13/31 (reflected in aerial imagery)
17. Relocated VOR to temporary position south of Taxiway C near Runway 9L threshold
18. Taxiway H, H1, H2, H3, H4, and a section of Taxiway Q south of Runway 9R/27L are closed and will be decommissioned
19. Labeled Taxiway B7 near Runway 27R threshold
20. Removed Building W-24, which was demolished, from the Building Legend (**not** reflected in aerial imagery)
21. Added Ramp Control label, adjacent to Building N 35, to the drawing
22. Widened Taxiway E pavement near intersection with Runway 13/31
23. Relocated RTR from south of SW 39th Street to location between SW 42nd Ct. and Lee Wagener Blvd.
24. Updated drawing notes and legends as appropriate

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Changes to Future Airport Conditions Drawing

Changes to the Future Airport Conditions drawing reflect the addition of the new Runway 10R/28L as well as the taxiways/taxilanes associated with the project. The Future Airport Conditions drawing reflects both a "Phase 1" and "Ultimate" Airport development program. Phase 1 includes the Airport development program through approximately 2014. The Ultimate Airport development program reflects BCAD's long-range plans.

25. Changed designations for Runway 9L/27R and 9R/27L to Runway 10L/28R and 10R/28L, respectively
26. Revised new Runway 10R/28L and associated taxiways to reflect 60% design drawings. Runway end elevations are now 7.5 feet MSL for the Runway 10R threshold and 64.9 feet MSL for the Runway 28L threshold.
27. Included future Runway 10L/28R site topography in the RGU
28. Changed the approach light system for Runway 10R/28L from a MALSR to a MALSF
29. Relocated Maxihut facility adjacent to the Lee Wagener Blvd overpass of I-95
30. Added Note – EMAS at Runway End 27R to be extended and existing localizer to be relocated
31. Added the Terminal 4 Canopy Extension Project to the drawing
32. Added the RON pavement and lighting project, east of Terminal 1, to the drawing
33. Removed proposed Concourse A project from the drawing
34. Depicted location of relocated VOR/DME, ASOS, and ASR on the drawing
35. Discarded Building E-29's "To Be Removed" identifier in the drawing
36. Revised FBO development plans adjacent to Runway 10R threshold (Sheltair). Centerline of the ramp area taxilane (Aircraft Design Group [ADG] III) accessing the proposed Sheltair development site has been set back 215 feet from the new Taxiway H (ADG V). This provides ADG V to ADG III specific taxiway clearance plus allowance for potential increase in ADG III wingspans being contemplated by the FAA.
37. Added the Revised Taxiway C project based on engineering design documents
38. Included Phase 1 and Ultimate Terminal development plans in the drawing
39. Updated Future ARP
40. Depicted relocated localizer for Future Runway 10L approaches on the drawing. Localizer was relocated approximately 225 feet to the east.
41. Removed Security Gate 174 adjacent to Taxiway J4 from the RGU
42. Identified Building E-4, Concourse H, as "Proposed Demolition"
43. Updated drawing notes and legends as appropriate

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Changes to Data Sheet

44. Added Taxiway/Taxilane Data Table
45. Updated Data Sheet notes as appropriate
46. Updated the following data elements:
    - NAVAID facility information
    - Existing and future building numbers and names
    - Existing and future building elevations
    - Runway coordinates and associated elevations
    - Magnetic declination
    - Critical Aircraft and Design Group
    - Future ARP
    - Airport Data Tables
    - Runway Data tables

Previous Comments on the 2008 version of the ALP

The following discussion addresses comments coordinated between the FAA, BCAD, and designers on the 2008 version of the ALP, and actions taken with the 2011 Runway Geometry Update (RGU) to satisfy any outstanding issues.

Comments Addressed According to BCAD Response to FAA Comments Dated October 17, 2008

1. FAA COMMENT: The Future Runway 9R-27L Extension will require the relocation of the existing localizer and the PAPI for Runway 27L. A Reimbursable Agreement (RA) between the FAA/ATO and Broward County Aviation Division will have to be drafted to accomplish the relocation work. To discuss the details of the RA, please contact Angela Freeman, Lead Planner, Office of Planning & Integration, at (404) 305-7054.

BCAD COMMENT: BCAD will coordinate with the FAA – Air Traffic Office to execute the Reimbursable Agreement as part of the design and development phase of the project.

2011 RGU ACTION: None, comment regarding funding of relocated NAVAIDs continues to be valid.

2. FAA COMMENT: The Draft ALP indicates an ILS and a MALSR to be installed on both ends of 9R-27L. Programs for these systems have not been identified by the Planning and Requirements Group. The sponsor needs to contact Dave Gigowski at (404) 305-7107 for additional information on the proposed ILS and MALSR.

BCAD COMMENT: BCAD will coordinate with the FAA Planning and Requirements Group regarding this issue as part of the design and development phase of the project.

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2011 RGU ACTION: ILS continues to be proposed on Future Airport Conditions drawing. MALSR installation at Future Runway 10R/27L Ends has been changed from MALSR to MALSF. BCAD coordination efforts with FAA Planning regarding this effort will occur during design and development.

3. FAA COMMENT: The Airway Facilities Division has not seen the decommission letter of the use of Runway 13-31, therefore cannot comment on its impacts. Impacts to FAA facilities resulting from development identified on the Draft ALP, cannot be determined until more definitive plans (building dimensions, locations and elevation) have been developed.

BCAD COMMENT: BCAD will coordinate with the FAA – Airway Facilities Division once a schedule for development of the new runway program is established.

2011 RGU ACTION: None, comment continues to be valid.

4. FAA COMMENT: Line-of-sight (LOS) from the existing ATCT to existing and future operational surfaces shall be protected from obstruction. "Shadow studies" for planned structures and/or parked aircraft shall be submitted to the FAA for approval

BCAD COMMENT: LOS studies need to be conducted and the results need to be submitted to FAA for proposed terminal development, apron, and areas of concern for existing infrastructure (i.e., hangars) as part of design and development phase of the project.

2011 RGU ACTION: None, comment continues to be valid.

5. FAA COMMENT: Changing the location of the runway threshold will require RNAV approaches to Runway 9R-27L, and LOC R08R, to be revised. Flight Procedures (FPO) requests that they be provided the expected date that the runway construction will be complete (at least 12 months in advance) so that approaches can be developed/amended.

BCAD COMMENT: BCAD will coordinate with the FAA – Flight Procedures Office as part of design and development phase of the project.

2011 RGU ACTION: None, comment continues to be valid.

6. FAA COMMENT: In review of the various pages in the ALP there are several sheets that show obstructions. If these obstructions are surveyed to a 2C accuracy it would be beneficial to have them added into the obstruction database. These obstructions can be added through this web site: https://tpss.faa.gov/etpss. By entering the obstructions into the database, FPO can better evaluate current and proposed obstructions. Questions on the TPSS site can be directed to Gary Raymond 404-305-8692.

BCAD COMMENT: The obstruction data used for the Draft ALP were obtained from sources that included the NOAA database and the last ALP. With the proposed airfield improvements, a new comprehensive airport airspace survey is being conducted in accordance with the latest versions of FAA Advisory Circulars 150/5300 -16, -17, and -18, in coordination with the National Geodetic Survey (NGS) and FAA Airports-GIS. Upon final approval, the survey data can be submitted to the Third Party Survey System (TPSS) for incorporation into the database.

2011 RGU ACTION: None, to be handled with new survey under a separate contract currently underway.

7. FAA COMMENT: Runway 9L: The potential for adverse effects of localizer (LOC) critical area penetration created by craft on the canal west of RWY 9R are addressed. Runway 27R: The electro magnetic force generated by the FPL Power Lines east of the RWY may derogate or prohibit use of the localizer signal. This needs potential problem should be evaluated in the early stages of runway usage planning.

BCAD COMMENT: The localizer antenna for Runway 9R approaches, situated near the Runway 27L end, was depicted incorrectly. The revised submittal of the ALP set will show it located on top of the new earth berm, inside the retaining wall, beyond the end of the EMAS bed.

2011 RGU ACTION: Runway 9R approach localizer depicted on top of earth berm, inside the retaining wall in the 2011 RGU.

8. FAA COMMENT: During the construction, if only Runway 9L-27R is available, airport delays could be costly and the length of delays may be substantial if future seasonal operations meet or exceed past levels. The Air Traffic Organization (ATO) strongly recommends that construction of the temporary runway be reconsidered so that a one-runway operation can be limited to the least amount of time possible.

BCAD COMMENT: At this time, BCAD and FAA-ADO jointly made a decision not to build a temporary runway as part of the proposed runway Environmental Impact Statement. If during design, a temporary runway needs to be developed to address operational conditions, it will be a part of the design documents for that project. At this time a temporary runway is not recommended for depiction in the ALP set. Through the design and development stages of the project BCAD will also consider the temporary use of a taxiway as a runway if, under a single-runway scenario, the runway must be closed for short periods due to an emergency.

2011 RGU ACTION: None, comment continues to be valid.

9. FAA COMMENT: During July 7-10, 2008, the Draft ALP runway design was studied at the FAA Technical Center's AFTIL Lab and tower simulator during a Safety Management Study. The review team observed aircraft operations that provided insight and a level of validation for the remarks below. The

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future development of FLL and increased operations will require a proportional increase in taxiways and areas to hold aircraft in the center of the airport. The ATO considers the following recommendations essential for the future efficient operations at FLL:

Comments Regarding Visibility Concerns

A. Group 4 aircraft on the east end of the new Taxiway (TWY) H obstruct the tower controller's visibility of aircraft at the Runway (RWY) 27L departure point. The ASDE-X (with Safety Logic) has been installed and will be required to conduct efficient operations. Alternate ATC procedures will be developed for times when the ASDE-X may be out of service.

B. The Sheltair Hanger, as depicted, blocks the view of small aircraft on approximately 150' of the new TWY G. The distance between the hanger and TWY G may penetrate protected taxiway surfaces and BCAD will be required to analyze this situation.

Comments Regarding the Runway, Taxiway and Holding Pads

C. The taxiway exits for RWY 9R/27L are insufficient and create high runway occupancy times. Two additional runway exits should be added and locations should be based upon runway slope and aircraft performance data.

D. All runway exits should be shaped with trajectories to expedite runway exiting and reduce runway occupancy time (high speed taxiways).

E. The holding pad, north of the RWY 27L entry point, should be expanded to the maximum extent possible for increased capacity and flexibility to offset the limitations of a single taxiway to access the runway.

F. The RWY 27L departure point, where aircraft enter the runway, should be expanded by filling in the grass area between the east end and the adjacent taxiway connector. Three lead in lines to the runway in this expanded area should be created. The added runway access is needed to change the departure sequence as typically required in daily operations.

G. The RWY 9R departure point where aircraft enter the runway should be expanded by filling in the grass area between the west end and the adjacent taxiway connector. Also, the grass area to the north, between TWY H and TWY G, should be filled in for additional runway access. Additional lead in lines to the runway should be added in this area.

Comments Regarding the Terminal Area

H. The capacity of the Midfield Holding Bay is insufficient and an additional holding bay is needed to avoid a rapid build up of ground congestion. The recommended location of an additional bay is northwest of the Midfield Holding Bay (south of TWY C, east of TWY E and west of TWY P / TWY D).

I. At least three taxiway connectors are needed between TWY Q and the terminal area.

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J. Add a taxiway connector between TWY P and TWY Q is needed south of the midfield holding bay and north of TWY G.

K. All taxiway connectors between TWY C and Taxi Lane T should be wide enough for two aircraft to pass simultaneously. The north terminal ramp area east of Concourse E and south of TWY C is minimal. Continuous aircraft movement is essential.

L. Add a taxiway connector to exit the Shelt Air Ramp south to TWY G.

M. Eliminate the taxiway connector between TWY G/H and TWY P/Q.

Obstruction Evaluation

From an obstruction evaluation standpoint, we offer no objection to the approval of the ALP provided: 1) all future projects (including any part 77 penetrations) are studied separately; 2) any future project has no permanent IFR effect; 3) any future project does not cause any line of sight problems from the FLL ATCT to movement areas; 4) the OE/AAA database is updated to reflect the new ALP; and, 5) a copy of the final ALP is forwarded to the FLL ATCT.

BCAD COMMENT: In developing the Draft Interim ALP, the airfield layout reflects the EIS. Before a final ALP is altered and re-submitted, a separate airfield planning study that will involve the sponsor, EIS Team, and FAA should be undertaken to address and resolve the issues presented below, and other issues that may be of concern to the sponsor or other stakeholders. Following satisfactory resolution of the issues, a revised ALP can be re-submitted.

2011 RGU ACTION: As indicated in the response to comments from July 2008, BCAD has been diligently working with ATCT and other FAA divisions, airlines, and other stakeholders to ensure adequate taxiway infrastructure is provided for the safe and efficient movement of aircraft. A number of additional taxiways and hold areas have been included in the central portion of the airfield as well as high speed exits and holding areas at the runway ends for both Runways 10L/28R and 10R/28L. The Sheltair hangar, Building W-31, will be partially demolished to provide sufficient setback for ADG V aircraft clearance on Taxiway H as well as clear sight lines from the ATCT cab.

Comments Addressed According to FAA Approval Letter Dated January 22, 2009

1. COMMENT: The existing RSA for Runway 9R/27L does not meet current FAA Airport Design Standards. Therefore, the FAA requires that you improve the RSA as proposed on this ALP as soon as possible, but no later than concurrently with your next project to overlay, strengthen, or extend the runway. A request to provide federal funds to do the work on this runway will not be approved unless the funding request includes improvement of the RSA since the improvement to the RSA has been determined practicable by the FAA.

2011 RGU ACTION: Future Runway 10R/28L design mitigates currently deficient RSAs.

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2. COMMENT: Existing RSA for Runway 13/31 does not meet current FAA Airport Design Standards. This runway will be close as a part of the proposed development plan.

2011 RGU ACTION: None. Runway 13/31 continues to be depicted as closed in the 2011 RGU.

Comments Addressed In Relation Runway Profiles

FAA airport design criteria relative to the development of future Runway 10R/28L and the manner in which the 2011 RGU addresses these criteria is detailed below:

1. **CRITERIA:** Runway Longitudinal Grade (0.8% runway gradient for each runway end portion, and maximum gradient for central two quarters of runway is 1.5%)
   2011 RGU ACTION: Future Runway 10R/28L gradient is depicted in the 2011 RGU as follows:
   Runway 28L End ¼ Portion Grade……..0.80%
   Runway 10R End ¼ Portion Grade……..0.09%
   Central Portion Grade……..1.31%

2. **CRITERIA:** Pilot's Line of Sight (all Runway points 5 feet above the runway surface must be visible for a minimum of half the runway length)
   2011 RGU ACTION: Pilot's Line of Sight criteria have been accounted for and, therefore, future Runway 10R/28L as detailed in the RGU is consistent with runway design standards.

3. **CRITERIA:** Localizer signal line of sight (CAT I Approach; 100 feet above threshold. Cat II/II Approach; actual Threshold Crossing Height)
   2011 RGU ACTION: Localizer Line of Sight has been designed to accommodate the most demanding criteria. Both runway approaches for Future Runway 10R/28L as depicted in the RGU maintain a clear localizer line of sight 50 feet above each threshold.

Actions Taken to Address Comments Received from Rebecca Henry March 1, 2011

1. COMMENT: The EMAS shown on both ends of Runway 9R-27L appears to be a smaller bed than we anticipated. Was the length of the beds determined by the manufacturer and was specific FLL fleet mix information used to determine the size of the bed?

2011 RGU ACTION: Placed footnote in safety area table on Future Airport Conditions Drawing in regards to Future Runway 10R/28L EMAS (referenced as Runway 9R/27L above) "Dimensions are all approximate, actual design dimensions may vary".

2. COMMENT: The taxiway centerlines leading up to the Runway 9R-27L: each end of the runway shows the taxiway center line splitting off into three separate lead in lines for three separate take off positions. Each of the three centerlines will require a different name which should be marked on the pavement (i.e., J1, J2, J3, etc.)

2011 RGU ACTION: Taxiways have been labeled J6, J7, and J8 at Future Runway 28L Threshold, and taxiways have been labeled H1, H2, and H3 at Future Runway 10R Threshold to address this comment.

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3. COMMENT: The depiction of the Runway 9R-27L RSA on the ALP is incorrect. The RSA must be clear and graded, and capable of supporting an aircraft if there is an aircraft excursion. This ALP depicts "holes" in the RSA--you can see the road beneath it.

2011 RGU ACTION: Roadway infringing on RSA in this area has been depicted as demolished in order to address this comment.

END OF MEMO

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TO:
MS. REBECCA HENRY
Federal Aviation Administration
Orlando Airports District Office
5950 Hazeltine National Drive, Suite 400
Orlando, FL 32822

From: TOM CORNELL

CC: JAMES MCCLUSKIE (BCAD), DAN BARTHOLOMEW (BCAD), DEAN STRINGER (FAA), VIRGINIA LANE (FAA), BART VERNACE (FAA), PABLO AUFFANT (FAA), ROBERT ENDRES (L&B), TOM GULYAS (L&B)

Date: May 4, 2011

Re: FLL Airport Layout Plan Update – Record of Changes

Fort Lauderdale/Hollywood International Airport (FLL) Partial Airport Layout Plan (ALP) Update:

The following memorandum outlines the actions taken to update the 2008 version of the FLL Existing ALP, Future ALP, and Data Sheet drawing files. This record of changes serves as a guideline to facilitate the review process by identifying the key alterations between the approved 2008 ALP and the May 2011 Partial ALP update.

The list of changes is followed by a request for clarification on items requiring attention prior to submitting the ALP to the FAA.

Changes to Existing ALP

The following is a list of changes made to the Existing ALP since the last ALP submission in 2009.

1. Update Embraer facility, Building N-22 expanded (north side area)
2. Update Sheltair facility, Building N-12 added to drawing (north side area)

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3. Remove Canopy from AeroTerm Building N-19 (north side area)
4. Building N-16 was demolished and removed from the ALP (Adjacent Building N-15 and N-17, north side)
5. Removed Maxihut structure located south of Taxiway C, west of Taxiway E, and north of SW 39th Street
6. Localizer Critical Areas on all runways were modified to current safety area standards
7. Deleted Localizer Critical Area depicted at Runway 13 threshold (31 Approach Localizer)
8. Deleted Localizer Critical Area depicted at Runway 9R threshold (27L Approach Localizer)
9. Portions of Building N-19 and Building N-12 have been demolished, removed from Building Legend (reflected in aerial imagery)
10. Building N-24 and Building N-25 constructed, added to Building Legend (reflected in aerial imagery)
11. Building N-39 expanded (reflected in aerial imagery)
12. Airfield geometry updates to Taxiways A4, B, B1, B2, B3, B4, B5, D, E, Q, S , and T5 (reflected in aerial imagery)
13. Taxiway E1 removed from ALP (reflected in aerial imagery)
14. Taxiway E3 removed from ALP (reflected in aerial imagery)
15. Service Road adjacent to Taxiway D and Q near midpoint of Runway 13/31 removed (reflected in aerial imagery)
16. VOR relocated to temporary position south of Taxiway C near Runway 9L threshold
17. Taxiway H, H1, H2, H3, H4, and a section of Taxiway Q south of Runway 9R/27L are closed and will be decommissioned
18. Labeled Taxiway B7 near Runway 27R threshold
19. Building W-24 demolished, removed from Building Legends (**not** reflected in aerial imagery)
20. Ramp Control label added to drawing, adjacent to Building N-35
21. Drawing notes and legends updated as appropriate

Changes to Future ALP

Changes to the Future ALP drawing reflect the addition of the new Runway 10R/28L as well as the associated taxiways/taxilanes associated with the project. The Future ALP reflects both a "Phase 1" and "Ultimate" Airport development program. Phase 1 includes the Airport development program through approximately 2014. The Ultimate Airport development program reflects the long-range Airport plans.

22. Designations for Runway 9L/27R and 9R/27L are changed to Runway 10L/28R and 10R/28L, respectively
23. Revised new Runway 10R/28L and associated taxiways to reflect 60% design drawings. Runway end elevation are now 7.5 feet MSL for the Runway 10R threshold and 64.9 feet MSL for the Runway 28L threshold. SEE ITEM #43
24. Runway 10R/28L approach light system was changed from a MALSR to a MALSF

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25. Maxihut facility was relocated adjacent to the Lee Wagener Blvd overpass of I-95
26. Added Note – EMAS at Runway End 27R to be extended and existing localizer to be relocated
27. Terminal 4 Canopy Extension Project added to drawing
28. RON pavement and lighting project, east of Terminal 1, added to drawing
29. Removed proposed Concourse A project from drawing
30. Location for relocated VOR, ASOS, and ASR depicted on drawing
31. Building E-29 is no longer identified as "To Be Removed" in the Future ALP
32. Revised FBO development plans adjacent to Runway 10R threshold (Sheltair). Centerline of the ramp area taxilane (Aircraft Design Group [ADG] III) accessing the proposed Sheltair development site has been set back 215 feet from the new Taxiway H (ADG V). This provides ADG V to ADG III specific taxiway clearance plus allowance for potential increase in ADG III wingspans being contemplated by the FAA.
33. Revised Taxiway C project added based on engineering design documents
34. Phase 1 and Ultimate Phase Terminal Projects have been included in the ALP
35. Future ARP updated
36. Drawing notes and legends updated as appropriate

Changes to Data Sheet

37. The following data elements have been updated:
    - NAVAID facility information
    - Updated runway coordinates and associated elevations
    - Updated magnetic declination
    - Critical Aircraft and Design Group
    - Future ARP
    - Airport Data Tables
    - Runway Data tables
38. Added top elevation of buildings
39. Added Taxiway/Taxilane Data Table
40. Data Sheet notes updated as appropriate

Changes to ALP Set from March 4th through May 3rd 2011

Changes to Existing ALP

41. Added Inner Approach OFZ Surfaces to Runway 9L/27R
42. Added Inner Transitional OFZ Surfaces to Runway 27R Approach

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Changes to Future ALP

43. Revised new Runway End 10R elevation to 10.0' MSL. 60% Design drawings identified Runway 10R elevation to be 7.5 feet MSL, however, recent design considerations have changed the elevation of Runway End 10R to 10.0 feet MSL.
44. Added runway hold lines for proposed Runway 10R/28L taxiway system
45. Added Inner Approach OFZs to proposed Runway 10R/28L
46. Removed Proposed Modification of Standard Table regarding RSA dimensions for Runway 9L/27R (10L/28R)
47. Removed Safety Area Standards Table from drawing title block
48. Added Multi-use Path on east side of airport

Changes to Data Sheet

49. Added OFZ Penetrations Table

Previous Comments on the 2008 version of the ALP

The following discussion addresses comments coordinated between FAA and BCAD on the 2008 version of the ALP and actions taken with the 2011 version of the ALP to satisfy any outstanding issues.

Comments Addressed According to BCAD response to FAA comments Dated October 17, 2008

1. FAA COMMENT: The Future Runway 9R-27L Extension will require the relocation of the existing localizer and the PAPI for Runway 27L. A Reimbursable Agreement (RA) between the FAA/ATO and Broward County Aviation Division will have to be drafted to accomplish the relocation work. To discuss the details of the RA, please contact Angela Freeman, Lead Planner, Office of Planning & Integration, at (404) 305-7054.

BCAD COMMENT: BCAD will coordinate with the FAA – Air Traffic Office to execute the Reimbursable Agreement as part of the design and development phase of the project.

2011 ALP ACTION: None, comment regarding funding of relocated NAVAIDs continues to be valid.

2. FAA COMMENT: The Draft ALP indicates an ILS and a MALSR to be installed on both ends of 9R-27L. Programs for these systems have not been identified by the Planning and Requirements Group. The sponsor needs to contact Dave Gigowski at (404) 305-7107 for additional information on the proposed ILS and MALSR.

BCAD COMMENT: BCAD will coordinate with the FAA Planning and Requirements Group regarding this issue as part of the design and development phase of the project.

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2011 ALP ACTION: ILS continues to be proposed on Future ALP. MALSR installation at Future Runway 10R/27L Ends has been changed from MALSR to MALSF. BCAD coordination efforts with FAA Planning regarding this effort will occur during design and development.

3. FAA COMMENT: The Airway Facilities Division has not seen the decommission letter of the use of Runway 13-31, therefore cannot comment on its impacts. Impacts to FAA facilities resulting from development identified on the Draft ALP, cannot be determined until more definitive plans (building dimensions, locations and elevation) have been developed.

BCAD COMMENT: BCAD will coordinate with the FAA – Airway Facilities Division once a schedule for development of the new runway program is established.

2011 ALP ACTION: None, comment continues to be valid.

4. FAA COMMENT: Line-of-sight (LOS) from the existing ATCT to existing and future operational surfaces shall be protected from obstruction. "Shadow studies" for planned structures and/or parked aircraft shall be submitted to the FAA for approval

BCAD COMMENT: LOS studies need to be conducted and the results need to be submitted to FAA for proposed terminal development, apron, and areas of concern for existing infrastructure (i.e., hangars) as part of design and development phase of the project.

2011 ALP ACTION: None, comment continues to be valid.

5. FAA COMMENT: Changing the location of the runway threshold will require RNAV approaches to Runway 9R-27L, and LOC R08R, to be revised. Flight Procedures (FPO) requests that they be provided the expected date that the runway construction will be complete (at least 12 months in advance) so that approaches can be developed/amended.

BCAD COMMENT: BCAD will coordinate with the FAA – Flight Procedures Office as part of design and development phase of the project.

2011 ALP ACTION: None, comment continues to be valid.

6. FAA COMMENT: In review of the various pages in the ALP there are several sheets that show obstructions. If these obstructions are surveyed to a 2C accuracy it would be beneficial to have them added into the obstruction database. These obstructions can be added through this web site: https://tpss.faa.gov/etpss. By entering the obstructions into the database, FPO can better evaluate current and proposed obstructions. Questions on the TPSS site can be directed to Gary Raymond 404-305-8692.

BCAD COMMENT: The obstruction data used for the Draft ALP were obtained from sources that included the NOAA database and the last ALP. With the proposed airfield improvements, a new comprehensive airport airspace survey is being conducted in accordance with the latest versions of FAA Advisory Circulars 150/5300 -16, -17, and -18, in coordination with the National Geodetic Survey (NGS) and FAA Airports-GIS. Upon final approval, the survey data can be submitted to the Third Party Survey System (TPSS) for incorporation into the database.

2011 ALP ACTION: None, to be handled with new survey under a separate contract currently underway.

7. FAA COMMENT: Runway 9L: The potential for adverse effects of localizer (LOC) critical area penetration created by craft on the canal west of RWY 9R are addressed. Runway 27R: The electro magnetic force generated by the FPL Power Lines east of the RWY may derogate or prohibit use of the localizer signal. This needs potential problem should be evaluated in the early stages of runway usage planning.

BCAD COMMENT: The localizer antenna for Runway 9R approaches, situated near the Runway 27L end, was depicted incorrectly. The revised submittal of the ALP set will show it located on top of the new earth berm, inside the retaining wall, beyond the end of the EMAS bed.

2011 ALP ACTION: Runway 9R approach localizer depicted on top of earth berm, inside the retaining wall in the 2011 ALP update.

8. FAA COMMENT: During the construction, if only Runway 9L-27R is available, airport delays could be costly and the length of delays may be substantial if future seasonal operations meet or exceed past levels. The Air Traffic Organization (ATO) strongly recommends that construction of the temporary runway be reconsidered so that a one-runway operation can be limited to the least amount of time possible.

BCAD COMMENT: At this time, BCAD and FAA-ADO jointly made a decision not to build a temporary runway as part of the proposed runway Environmental Impact Statement. If during design, a temporary runway needs to be developed to address operational conditions, it will be a part of the design documents for that project. At this time a temporary runway is not recommended for depiction in the ALP set. Through the design and development stages of the project BCAD will also consider the temporary use of a taxiway as a runway if, under a single-runway scenario, the runway must be closed for short periods due to an emergency.

2011 ALP ACTION: None, comment continues to be valid.

9. FAA COMMENT: During July 7-10, 2008, the Draft ALP runway design was studied at the FAA Technical Center's AFTIL Lab and tower simulator during a Safety Management Study. The review team

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observed aircraft operations that provided insight and a level of validation for the remarks below. The future development of FLL and increased operations will require a proportional increase in taxiways and areas to hold aircraft in the center of the airport. The ATO considers the following recommendations essential for the future efficient operations at FLL:

Comments Regarding Visibility Concerns

A. Group 4 aircraft on the east end of the new Taxiway (TWY) H obstruct the tower controller's visibility of aircraft at the Runway (RWY) 27L departure point. The ASDE-X (with Safety Logic) has been installed and will be required to conduct efficient operations. Alternate ATC procedures will be developed for times when the ASDE-X may be out of service.

B. The Sheltair Hanger, as depicted, blocks the view of small aircraft on approximately 150' of the new TWY G. The distance between the hanger and TWY G may penetrate protected taxiway surfaces and BCAD will be required to analyze this situation.

Comments Regarding the Runway, Taxiway and Holding Pads

C. The taxiway exits for RWY 9R/27L are insufficient and create high runway occupancy times. Two additional runway exits should be added and locations should be based upon runway slope and aircraft performance data.

D. All runway exits should be shaped with trajectories to expedite runway exiting and reduce runway occupancy time (high speed taxiways).

E. The holding pad, north of the RWY 27L entry point, should be expanded to the maximum extent possible for increased capacity and flexibility to offset the limitations of a single taxiway to access the runway.

F. The RWY 27L departure point, where aircraft enter the runway, should be expanded by filling in the grass area between the east end and the adjacent taxiway connector. Three lead in lines to the runway in this expanded area should be created. The added runway access is needed to change the departure sequence as typically required in daily operations.

G. The RWY 9R departure point where aircraft enter the runway should be expanded by filling in the grass area between the west end and the adjacent taxiway connector. Also, the grass area to the north, between TWY H and TWY G, should be filled in for additional runway access. Additional lead in lines to the runway should be added in this area.

Comments Regarding the Terminal Area

H. The capacity of the Midfield Holding Bay is insufficient and an additional holding bay is needed to avoid a rapid build up of ground congestion. The recommended location of an additional bay is northwest of the Midfield Holding Bay (south of TWY C, east of TWY E and west of TWY P / TWY D).

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I. At least three taxiway connectors are needed between TWY Q and the terminal area.

J. Add a taxiway connector between TWY P and TWY Q is needed south of the midfield holding bay and north of TWY G.

K. All taxiway connectors between TWY C and Taxi Lane T should be wide enough for two aircraft to pass simultaneously. The north terminal ramp area east of Concourse E and south of TWY C is minimal. Continuous aircraft movement is essential.

L. Add a taxiway connector to exit the Shelt Air Ramp south to TWY G.

M. Eliminate the taxiway connector between TWY G/H and TWY P/Q.

Obstruction Evaluation

From an obstruction evaluation standpoint, we offer no objection to the approval of the ALP provided: 1) all future projects (including any part 77 penetrations) are studied separately; 2) any future project has no permanent IFR effect; 3) any future project does not cause any line of sight problems from the FLL ATCT to movement areas; 4) the OE/AAA database is updated to reflect the new ALP; and, 5) a copy of the final ALP is forwarded to the FLL ATCT.

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1. COMMENT: Existing RSA for Runway 9R/27L does not meet FAA standards….

2011 ALP ACTION: Future Runway 10R/28L mitigates currently deficient RSAs.

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2. COMMENT: Existing RSA for Runway 13/31 does not meet current FAA Airport Design Standards. This runway will be close as a part of the proposed development plan.

2011 ALP ACTION: None. Runway 13/31 continues to be depicted as closed in the 2011 ALP update.

Actions taken to address comments received from Rebecca Henry March 1, 2011

1. COMMENT: The EMAS shown on both ends of Runway 9R-27L appears to be a smaller bed than we anticipated. Was the length of the beds determined by the manufacturer and was specific FLL fleet mix information used to determine the size of the bed?

2011 ALP ACTION: Placed footnote on Sheet 3 in safety area table in regards to Future Runway 10R/28L EMAS (referenced as Runway 9R/27L above) "Actual dimensions are all approximate, actual design dimensions may vary".

2. COMMENT: The taxiway centerlines leading up to the Runway 9R-27L: each end of the runway shows the taxiway center line splitting off into three separate lead in lines for three separate take off positions. Each of the three centerlines will require a different name which should be marked on the pavement (i.e., J1, J2, J3, etc.)

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END OF MEMO

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