AIP

AERONAUTICAL INFORMATION PUBLICATION

UNITED STATES OF AMERICA

(TWENTY–FIRST EDITION DATED 10 MARCH 2011)

AMENDMENT 3

26 July 2012

CONSULT NOTAM FOR LATEST INFORMATION

DEPARTMENT OF TRANSPORTATION

FEDERAL AVIATION ADMINISTRATION

AIP Amendment 3

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NOTE–
The Twenty–first edition of this publication was released with a footer that reads "Twentieth Edition." For all intents and purposes, the material published herein, and the Amendments that follow, comprise the ***Twenty–first*** *edition. For consistency and to avoid further confusion, the [footers on the] Amendments within this edition will* ***not*** *be adjusted. Therefore, please refer to the header of each page to determine the effective date.*

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GEN 0.5 List of Hand Amendments to the AIP – Not applicable

GEN 1.7 Differences From ICAO Standards, Recommended Practices and Procedures

NOTE–
See GEN 1.6 for the availability of Title 14 of the U.S. Code of Federal Regulations Parts 1–199.

ANNEX 1 – PERSONNEL LICENSING	
Chapter 1	**Definitions and General Rules Concerning Licences**
Chapter I Reference Definition	Though the term “error management” is not specifically defined in the U.S. regulations, it is amply implemented in the FAA training publications.
Chapter I Reference Definition	Though the term “competency unit” is not specifically defined in the U.S. regulations, it is amply implemented in the FAA regulations and publications.
Chapter I Reference Definition	Though the term “airmanship” is not specifically defined in the U.S. regulations, it is amply implemented in the FAA regulations and publications.
Chapter I Reference Definition	The United States does not require the training organizations to have a quality assurance system as outlined in ICAO Annex 1, Appendix 2, Item 4.
Chapter I Reference Definition	Though the term “performance criteria” is not specifically defined in the U.S. regulations, it is amply implemented in the FAA regulations and publications.
Chapter I Reference Definition	Though the term “quality system” is not specifically defined in the U.S. regulations, it is amply implemented in FAA policy publications.
Chapter I Reference Definition	Though the term “competency element” is not specifically defined in the U.S. regulations, it is amply implemented in the FAA regulations and publications.
Chapter I Reference Definition	Through the term “ airship,” the US also requires that it be “steerable.”
Chapter I Reference Definition	Though the term “threat management” is not specifically defined in the U.S. regulations, it is amply implemented in the FAA publications.
Chapter I Reference Definition	Though the term “credit” is not specifically defined in the U.S. regulations, it is amply implemented in the FAA regulations and publications.
Chapter I Reference Definition	Though the term “competency” is not specifically defined in the U.S. regulations, it is amply implemented in the FAA regulations and publications.
Chapter 1 Reference 1.2.5.2	The maximum validity allowed for non-FAA air traffic controllers (required to hold an FAA Second-Class airman medical certificate) is 12 months. The maximum validity allowed for FAA air traffic controllers is 24 months for those under age 40 who work at FAA terminals or centers. U.S. free balloon and glider pilots are not required to hold medical certificates but are prohibited from operating during periods of medical deficiency.
Chapter 1 Reference 1.2.5.2.2	U.S. commercial pilots engaging in single-crew commercial air transport operations carrying passengers have a 12-month validity on their medical assessments regardless of age.
Chapter 1 Reference 1.2.5.2.3	U.S. commercial pilots have a 12-month validity on their medical assessments regardless of age.
Chapter 1 Reference 1.2.5.2.4	The maximum validity on non-FAA air traffic controllers (required to hold a second-class airman medical certificate) is 12 months. The maximum validity for FAA Terminal and Center personnel over age 40 is 12 months. Free balloon and glider pilots are not required to hold a medical certificate but are prohibited from operating during periods of medical deficiency.

Chapter 1 Reference 1.2.5.2.5	U.S. private pilots who have passed their 50th birthday have a 24-month validity on their medical assessments. U.S. free balloon and glider pilots are not required to hold medical certificates but are prohibited from operating during periods of medical deficiency.
Chapter 1 Reference 1.2.5.2.6	The United States does not defer medical examinations.
Chapter 2	**Licences and Ratings for Pilots**
Chapter 2 Reference 2.1.9.2	The United States only allows pilots to log SIC flight experience in an aircraft that requires an SIC by type design or by an operational requirement.
Chapter 2 Reference 2.1.9.3	SIC experience (hours) may only be used towards obtaining an Airline Transport Pilot certificate with an Airplane rating. Then, only 1/3 of the SIC time may be applied, with a maximum allowable 500 hrs as SIC.
Chapter 2 Reference 2.2.3	U.S. student pilots must meet the requirements of an FAA Third-Class medical certificate which are equivalent to ICAO Class 2 with exceptions specified in Chapter 6.
Chapter 2 Reference 2.3.1.4	U.S. private pilots must meet the requirements of an FAA Third-Class medical certificate which are equivalent to ICAO Class 2 with exceptions specified in Chapter 6.
Chapter 2 Reference 2.4.1.4	U.S. commercial pilots must meet the requirements of an FAA Second-Class medical certificate which are equivalent to ICAO Class 1 with exceptions specified in Chapter 6.
Chapter 2 Reference 2.5.1.1	The United States has no 14 CFR provisions for MPL.
Chapter 2 Reference 2.5.1.2	The United States has no 14 CFR provisions for MPL.
Chapter 2 Reference 2.5.1.3.1	The United States has no 14 CFR provisions for MPL.
Chapter 2 Reference 2.5.1.3.2	The United States has no 14 CFR provisions for MPL.
Chapter 2 Reference 2.5.1.4	The United States has no 14 CFR provisions for MPL.
Chapter 2 Reference 2.5.2.1	The United States has no 14 CFR provisions for MPL.
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Chapter 2 Reference 2.5.3.1	The United States has no 14 CFR provisions for MPL.
Chapter 2 Reference 2.5.3.2	The United States has no 14 CFR provisions for MPL.
Chapter 2 Reference 2.5.3.3	The United States has no 14 CFR provisions for MPL.
Chapter 2 Reference 2.5.4.1	The United States has no 14 CFR provisions for MPL.
Chapter 2 Reference 2.5.4.2	The United States has no 14 CFR provisions for MPL. However, the FAA could approve a part 141 special curriculum or part 142 training curriculum for operators wanting to train persons to meet the ICAO MPL requirements.
Chapter 2 Reference 2.6.1.1.	The United States minimum age is 23.

Chapter 2 Reference 2.6.1.4	U.S. airline transport pilots must meet the requirements of an FAA First-Class medical certificate which are equivalent to ICAO Class 1 with exceptions specified in Chapter 6.
Chapter 2 Reference 2.6.5.1.1.	The United States requires 1500 hrs of total flight experience, but only 250 hours PIC need to be in Powered-lift.
Chapter 2 Reference 2.7.1.3.1	U.S. private pilots who hold an airplane instrument rating are not required to comply with ICAO Class 1 hearing standards. U.S. hearing requirements for FAA First- and Third-Class medical certificates are equivalent to ICAO Class 1 with exceptions specified in Chapter 6.
Chapter 2 Reference 2.7.1.3.2	U.S. private pilots are not required to comply with ICAO Class 1 physical, mental and visual requirements to hold an airplane instrument rating.
Chapter 2 Reference 2.8.2.2	The United States has no 14 CFR provisions for MPL. However, the FAA could approve a part 141 special curriculum or a part 142 training curriculum for operators wanting to train persons to meet the ICAO MPL requirements.
Chapter 2 Reference 2.9.1.5	U.S. glider pilots are not required to hold a medical certificate but are prohibited from operating during periods of medical deficiency.
Chapter 2 Reference 2.10.1.5	U.S. free balloon pilots are not required to hold a medical certificate but are prohibited from operating during periods of medical deficiency.
Chapter 3	**Licences for Flight Crew Members other than Licences for Pilots**
Chapter 3 Reference 3.2.1.5	U.S. flight navigators must meet the requirements of an FAA Second-Class medical certificate which are equivalent to ICAO Class 2 with exceptions specified in Chapter 6.
Chapter 3 Reference 3.3.1.5	U.S. flight engineers must meet the requirements of an FAA Second-Class medical certificate which are equivalent to ICAO Class 2 with exceptions specified in Chapter 6.
Chapter 4	**Licences and Ratings for Personnel other than Flight Crew Members**
Chapter 4 Reference 4.2.1.3	The United States does not require 4 years of experience to qualify to take the written examination for a mechanic's airframe and powerplant license.
Chapter 4 Reference 4.2.2.3.1	The United States endorses the certification privileges on the licence.
Chapter 4 Reference 4.2.2.4	The United States does not allow an approved maintenance organization to appoint non-licensed personnel to exercise the privileges of 4.2.2 within the U.S.
Chapter 4 Reference 4.3.1.4	Non-FAA air traffic controllers must meet the requirements of an FAA Second-Class medical certificate which meets the intent of ICAO Class 3 required for ATCS with exceptions specified in Chapter 6.
Chapter 4 Reference 4.4.1.1	The United States requires that an applicant be at least 18 years of age.
Chapter 4 Reference 4.4.1.3	Intentionally left blank.
Chapter 4 Reference 4.6.1.1	The United States requires the applicant shall not be less than 23 years of age.
Chapter 4 Reference 4.6.1.3.2	The United States permits the applicant to have two years of experience in the last three years.
Chapter 5	**Specifications for Personnel Licences**
Chapter 5 Reference 5.1.3	The United States only issues certificates in the English language.
Chapter 6	**Medical Provisions for Licencing:** *Please note*: References containing 6.3 refer to airline transport pilots and commercial pilots; 6.4 refer to private pilots, free balloon pilots, glider pilots, student pilots, flight engineers, and flight navigators; and 6.5 refer to air traffic controllers.

Chapter 6 Reference 6.2.3.2	The United States uses a variety of methods for testing visual acuity that meet the intent of ICAO Recommended Practice. Illumination levels are set by manufactured standards.
Chapter 6 Reference 6.3.1.2	An FAA first-class medical certificate is required when exercising the privileges of an airline transport pilot and an FAA second-class medical certificate is required when exercising the privileges of a commercial pilot, a flight engineer, or a flight navigator.
Chapter 6 Reference 6.3.2.6	Electrocardiography is not required for airline transport pilots at first issue unless the individual is age 35 or older and not for commercial pilots, flight engineers, or flight navigators unless clinically indicated.
Chapter 6 Reference 6.3.2.6.1	Electrocardiography is required in re-examination of airline transport pilot applicants over the age of 40 every 12 months. Electrocardiography is not specifically required for commercial pilots, flight engineers, or flight navigators unless clinically indicated.
Chapter 6 Reference 6.3.2.6.2	Electrocardiography is required in re-examination of airline transport pilot applicants over the age of 40 every 12 months. Electrocardiography is not specifically required for commercial pilots, flight engineers, or flight navigators unless clinically indicated.
Chapter 6 Reference 6.3.2.9.1	Chest radiography is not specifically required unless clinically indicated.
Chapter 6 Reference 6.3.3.2 (b)	A specific requirement that a [spare] set of suitable correcting spectacles be kept readily available when exercising the privileges of the license is not established.
Chapter 6 Reference 6.3.3.2.1 (c)	A specific requirement that a set of suitable correcting spectacles be kept readily available when exercising the privileges of the license [with contact lenses] is not established.
Chapter 6 Reference 6.3.3.2.3	The demonstration of compliance with visual acuity by providing a full ophthalmic report is not required.
Chapter 6 Reference 6.3.3.4	The demonstration of compliance with the visual requirements to be made with only one pair of correcting lenses is not specifically required.
Chapter 6 Reference 6.3.3.4.1	A requirement that a second pair of near-correction spectacles be kept available when exercising the privileges of the license is not established.
Chapter 6 Reference 6.3.4.1.1	Applicants are not required to demonstrate normal hearing against a background noise that reproduces or simulates the masking properties of flight deck noise upon speech and beacon signals.
Chapter 6 Reference 6.3.4.1.2	Applicants are not required to take a practical hearing test.
Chapter 6 Reference 6.4.1.1	U.S. free balloon and glider pilots are not required to hold a medical certificate but are prohibited from operating during periods of medical deficiency.
Chapter 6 Reference 6.4.1.2	U.S. free balloon and glider pilots are not required to hold a medical certificate but are prohibited from operating during periods of medical deficiency.
Chapter 6 Reference 6.4.2.6	Electrocardiography for applicants for third-class airman (private pilot) medical certification is not required at first issue unless clinically indicated.
Chapter 6 Reference 6.4.2.6.1	Routine electrocardiography for applicants for FAA third-class airman (private pilot) medical certification is not required unless clinically indicated.

Chapter 6 Reference 6.4.2.6.2	Electrocardiography for applicants for FAA third-class airman (private pilot) medical certification is not required at first issue unless clinically indicated.
Chapter 6 Reference 6.4.2.9.1	Chest radiography for private pilots is not specifically required unless clinically indicated.
Chapter 6 Reference 6.4.3.2 (b)	A specific requirement that a [spare] set of suitable correcting spectacles be kept readily available when exercising the privileges of the license is not established.
Chapter 6 Reference 6.4.3.2.1 (c)	A specific requirement that a set of suitable correcting spectacles be kept readily available when exercising the privileges of the license [with contact lenses] is not established.
Chapter 6 Reference 6.4.3.2.3	The demonstration of compliance with visual acuity by providing a full ophthalmic report is not required.
Chapter 6 Reference 6.4.3.4	The demonstration of compliance with the visual requirements to be made with only one pair of corrective lenses is not specifically required.
Chapter 6 Reference 6.4.3.4.1	A requirement that a second pair of near-correction spectacles be kept available when exercising the privileges of the license is not established.
Chapter 6 Reference 6.5.2.6	Electrocardiography is required for FAA air traffic controllers at first issue but not for non-FAA ATCs unless clinically indicated.
Chapter 6 Reference 6.5.2.6.1	Electrocardiography is required for FAA ATCs but not for non-FAA ATCs unless clinically indicated.
Chapter 6 Reference 6.5.3.2 (b)	A specific requirement that a [spare] set of suitable correcting spectacles be kept readily available when exercising the privileges of the license is not established.
Chapter 6 Reference 6.5.3.2.1 (c)	A specific requirement that a set of suitable correcting spectacles be kept readily available when exercising the privileges of the license [with contact lenses] is not established.
Chapter 6 Reference 6.5.3.2.3	The demonstration of compliance with visual acuity by providing a full ophthalmic report is not required.
Chapter 6 Reference 6.5.3.4	The demonstration of compliance with the visual requirements to be made with only pair of corrective lenses is not required.
Chapter 6 Reference 6.5.3.4.1	A requirement that a second pair of near-correction spectacles be kept available when exercising the privileges of the license is not established.
Chapter 6 Reference 6.5.4.1.2	Applicants are not required to take a practical hearing test.

ANNEX 2 – RULES OF THE AIR	
Chapter 1	**Definitions**
Advisory Airspace	Advisory service available in terminal areas and Class C outer area.
Aerodrome control tower	In the U.S., an “aerodrome control facility” is referred to as a “tower” or “airport traffic control tower”; “aerodrome control” is referred to as “airport traffic control service.”
Aerodrome Traffic Zone	There are no more Control Zones (Airport Traffic Zones) or Airport Traffic Areas (ATA). In the 7110.65, PCG, Controlled Airspace covers the defined dimensions of airspace. Class D was formerly the ATA (normally a 5NM radius around the airport). The old Control Zones were extensions of the ATA to encompass (ILS) Approach Paths.
Airborne collision avoidance	The U.S. uses “traffic alert collision avoidance system (TCAS).” TCAS is an airborne collision avoidance system based on radar beacon signals and operates independent of ground−based equipment. TCAS−I generates traffic advisories only. TCAS−II generates traffic advisories and resolution (collision avoidance) advisories in the vertical plane.
Airborne Collision Avoidance System (ACAS)	The U.S. uses “traffic alert collision avoidance system (TCAS).” TCAS is an airborne collision avoidance system based on radar beacon signals and operates independent of ground − based equipment. TCAS − I generates traffic advisories only. TCAS − II generates traffic advisories and resolution (collision avoidance) advisories in the vertical plane.
Air−ground Control Radio Station	FAA Pilot Controller Glossary, as amended by GENOT 5/55 (10/4/05) defines (in part) Flight Service Station (FSS) as ”air traffic facilities which provide pilot briefing, en route communications and VFR search and rescue services, assist lost aircraft and aircraft in emergency situations, relay ATC clearances, originate Notices to Airmen, broadcast aviation weather and NAS information and receive and process IFR flight plans,...provide enroute flight advisory service (Flight Watch), (and) issue airport advisories.” In the FAA, Flight Service Stations perform most air traffic air−to−ground radio functions other than the separation of aircraft.
Air−taxiing	The U.S. uses “hover taxi” for this maneuver above 100 feet above ground level (AGL) and “air taxi” below 100 feet AGL.
Area control service	The U.S. does not use the term “area control service” to indicate controlled flight in controlled areas.
Area control centre	The U.S. equivalent facility for an Area Control Centre (ACC) is an Air Route Traffic Control Center (ARTCC).
ATS route	In U.S. domestic airspace, the term “ATS route” is not used. Routes in the U.S. include VOR airways, jet routes, substitute routes, and off−airway routes. The U.S. also uses instrument departure procedures (DPs) and standard terminal arrivals (STARs).
Controlled airspace	The U.S. terms for controlled airspace have different parameters than for ICAO.
Current Flight Plan	FAA Pilot Controller Glossary (PCG) defines flight plan as “specified information relating to the intended flight of an aircraft that is filed orally or in writing with an FSS or an ATC facility.” The Pilot Controller Glossary makes a specific distinction between current flight plan and filed flight plans, defining filed flight plans as “filed...without any subsequent changes or clearances.” Therefore, the PCG definition of flight plan includes changes brought about by clearances or amendments
Danger area	The term “danger area” is not used within the U.S. or any of its possessions or territories.
Estimated off−block time	The U.S. uses the term “estimated departure time” for domestic operations.
Flight information centre	The U.S. does not operate flight information centers (FICs). In the U.S., the services provided by FICs are performed by air traffic control (ATC) facilities, flight service stations (FSSs), and rescue coordination centers (RCCs).
Ground Visibility	The U.S. defines Ground Visibility as: Prevailing horizontal visibility near the earth’s surface as reported by the United States National Weather Service or an accredited observer.

Instrument meteorological conditions	The U.S. air traffic service units use the phrase “IFR conditions.”
Level	The U.S. uses “altitude” or “flight level” rather than “level” and “cruising altitude” rather than “cruising level.’’ The term “level” is not used to mean “height,” “altitude,” or “flight level.” The U.S. only uses flight level at FL 180 and above
Movement area	In the U.S., the term “movement area” means “the runways, taxiways, and other areas of an airport/heliport which are utilized for taxiing, hover taxiing, air−taxiing, take−off and landing of aircraft, exclusive of loading ramps and parking areas. At those airport/heliports with a tower, specific approval for entry onto the movement area must be obtained from ATC.” The U.S. does not use an all−inclusive term to denote the movement area plus loading ramps and parking areas of an airport, nor does the U.S. use the term “maneuvering area’’ in any related context.
Repetitive flight plan (RPL)	The U.S. uses the term “stored flight plan” for domestic operations.
Terminal control area	In the U.S., “terminal control area” has been replaced by “Class B airspace/area.” Standard IFR services are provided to IFR aircraft operating in Class B airspace. Class B airspace CFR 14 part 71.41, exceeds TCA with more restrictive airman’s qualifications and aircraft certifications.
Total estimated elapsed time	The U.S. uses “estimated time en route” for domestic operations.
Traffic Avoidance Advice	The U.S. uses the term Traffic Advisory
Transition altitude	In U.S. domestic airspace, “transition altitude,” “layer” and “level” are not used; however, in the U.S., flight levels begin at FL 180 where the reference datum of 29.92 inches of mercury is used as the constant atmospheric pressure. Below FL 180, altitudes are based on barometric pressure readings. QNH and QFE altimeter settings are not provided in domestic U.S. airspace.
Visibility	The U.S. defines Visibility as: The ability, as determined by atmospheric conditions and expressed in units of distance, to see and identify prominent unlighted objects by day and prominent lighted objects by night. Visibility is reported as statute miles, hundreds of feet, or meters. The U.S. identifies the following classes of visibility: Flight Visibility, Ground Visibility, Prevailing Visibility, Runway Visibility Value, and Runway Visual Range.
Visual meteorological conditions	The U.S. air traffic service units use the phrase “VFR conditions.”
Chapter 2	**Applicability of the Rules of the Air**
2.2	See difference under “Movement area.”
2.5	Except in an emergency, no pilot of a civil aircraft may allow a person who appears to be intoxicated or who demonstrates by manner or physical indications that the individual is under the influence of drugs (except a medical patient under proper care) to be carried in that aircraft.
Chapter 3	**General Rules**
3.1.8	In addition, aircraft shall not be flown in formation flight when passengers are carried for hire.
3.2 Note	See difference under “Movement area.”
3.2.2.6.1	See difference under “Movement area.”
3.2.3.2 d)	The U.S. national regulations do not require aircraft on the movement area of an airport, whose engines are running, to display lights which indicate that fact from sunset to sunrise.

3.2.5	Unless otherwise authorized or required by ATC, no person may operate an aircraft within a Class B, C, or D surface area except for the purpose of landing at, or taking off from, an airport within that area. In addition, in the case of a helicopter approaching to land, avoid the flow of fixed−wing aircraft. In addition, no person may, within a Class B, C, or D surface area operate an aircraft to, from, or on an airport having a control tower operated by the U.S. unless two−way radio communications are maintained between that aircraft and the control tower.
3.3.1.2	In the U.S., ATC flight plans are not required for VFR flight in Class C, D, or E airspace.
3.3.1.2.1 d)	Requirements pertaining to filing flight plans for flights operating across U.S. borders and for identification purposes are described in 14 CFR Part 9l (Section 91.84) and Part 99.
3.3.1.2.2	The U.S. requires that domestic flight plans be submitted at least 30 minutes before departure. For international flights, the U.S. recommends that they be transmitted so that they are received by ATC authorities in each Flight Information Region (FIR) to be entered, at least 2 hours prior to entry, unless otherwise provided in that State's requirements.
3.6.1	Air traffic control clearances are not needed for VFR flight in U.S. Class C, D, or E airspace.
3.6.2.4	When meteorological conditions fall below the minimum specified for en route VFR flights, the pilot of the aircraft shall not continue his/her flight in such conditions, except in emergency, beyond the extent necessary to return to his/her departure point or to the nearest suitable landing point.

3.6.5.2 (Communication Failure)	Two−way Radio Communications Failure a. It is virtually impossible to provide regulations and procedures applicable to all possible situations associated with two−way radio communications failure. During two−way radio communications failure, when confronted by a situation not covered in the regulation, pilots are expected to exercise good judgment in whatever action they elect to take. Should the situation so dictate they should not be reluctant to use the emergency action contained in 14 CFR Section 91.3(b) b. Whether two−way communications failure constitutes an emergency depends on the circumstances, and in any event, it is a determination made by the pilot. 14 CFR Section 91.3(b) authorizes a pilot to deviate from any rule in Subparts A and B to the extent required to meet an emergency. c. In the event of two−way radio communications failure, ATC service will be provided on the basis that the pilot is operating in accordance with 14 CFR Section 91.185. A pilot experiencing two−way communications failure should (unless emergency authority is exercised) comply with 14 CFR Section 91.185 quoted below 1. General. Unless otherwise authorized by ATC, each pilot who has two−way radio communications failure when operating under IFR shall comply with the rules of this section.
3.6.5.2.2	In the event of two−way communications failure in the U.S., ATC service is predicated on pilot compliance with the provisions of 14 CFR Part 91 (Section 91.185). If the failure occurs in IMC, or if VFR cannot be complied with, each pilot is to continue the flight according to the following: Route a) By the route assigned in the last ATC clearance received; b) If being radar vectored, by the direct route from the point of failure to the fix, route, or airway specified in the vector clearance; c) In the absence of an assigned route, by the route that ATC has advised may be expected in a further clearance; or d) In the absence of an assigned route or a route that ATC has advised may be expected in a further clearance, by the route filed in the flight plan. Altitude − At the **HIGHEST** of the following altitudes or flight levels **FOR THE ROUTE SEGMENT BEING FLOWN:** a) The altitude or flight level assigned in the last ATC clearance received; b) The minimum altitude/flight level as prescribed for IFR operations; or c) The altitude or flight level ATC has advised may be expected in a further clearance. IFR conditions − If the failure occurs in IFR conditions, or if subparagraph 2 above cannot be complied with, each pilot shall continue the flight according to the following: (a) Route. (1) By the route assigned in the last ATC clearance received; (2) If being radar vectored, by the direct route from the point of radio failure to the fix, route, or airway specified in the vector clearance; (3) In the absence of an assigned route, by the route that ATC has advised may be expected in a further clearance; or (4) In the absence of an assigned route of a route that ATC has advised may be expected in a further clearance by the route filed in the flight plan. (b) Altitude. At the HIGHEST of the following altitudes or flight levels FOR THE ROUTE SEGMENT BEING FLOWN: (1) The altitude or flight level assigned in the last ATC clearance received; (2) The minimum altitude (converted, if appropriate) to minimum flight level as prescribed in 14 CFR Section 91.121(c) for IFR operations; or (3) The altitude or flight level ATC has advised may be expected in a further clearance.

Basic VFR Weather Minimums

Airspace	Flight Visibility	Distance from Clouds
Class A	Not Applicable	Not Applicable
Class B	3 statute miles	Clear of Clouds
Class C	3 statute miles	500 feet below 1,000 feet above 2,000 feet horizontal
Class D	3 statute miles	500 feet below 1,000 feet above 2,000 feet horizontal
Class E		
Less than 10,000 feet MSL	3 statute miles	500 feet below 1,000 feet above 2,000 feet horizontal
At or above 10,000 feet MSL	5 statute miles	1,000 feet below 1,000 feet above 1 statute mile horizontal
Class G 1,200 feet or less above the surface (regardless of MSL altitude).		
Day, except as provided in Section 91.155(b)	1 statute mile	Clear of clouds
Night, except as provided in Section 91.155(b)	3 statute miles	500 feet below 1,000 feet above 2,000 feet horizontal
More than 1,200 feet above the surface but less than 10,000 feet MSL.		
Day	1 statute mile	500 feet below 1,000 feet above 2,000 feet horizontal
Night	3 statute miles	500 feet below 1,000 feet above 2,000 feet horizontal
More than 1,200 feet above the surface and at or above 10,000 feet MSL.	5 statute miles	1,000 feet below 1,000 feet above 1 statute mile horizontal

Chapter 4	**Visual Flight Rules**
4.1 and Table 4−1	There is no Class F airspace in the U.S. Basic VFR weather minimums are listed in the table above.
4.1 a)	Except as otherwise authorized by the appropriate air traffic control unit for special VFR flights within Class B, C, D, or E surface areas, no person may operate an aircraft under VFR when the flight visibility is less, or at a distance from clouds that is less than that prescribed for the corresponding altitude and class of airspace in the table above.
4.1 b)	**Class G Airspace**: Notwithstanding the provisions of paragraph a) of this section, the following operations may be conducted in Class G airspace below 1,200 feet above the surface: 1) **Helicopter**. A helicopter may be operated clear of clouds if operated at a speed that allows the pilot adequate opportunity to see any air traffic or obstruction in time to avoid collision. 2) **Airplane**. When the visibility is less than 3 statute miles but not less than 1 statute mile during night hours, an airplane may be operated clear of clouds if operated in an airport traffic pattern within one−half mile of the runway.

4.1 c)	Except as provided in 4.2, no person may operate an aircraft under VFR within the lateral boundaries of the surface areas of Class B, Class C, Class D, or Class E airspace designated for an airport when the ceiling is less than 1,000 feet.
4.1 d)	Except as provided in 4.2, no person may take−off or land an aircraft, or enter the traffic pattern area of an airport under VFR, within the lateral boundaries of the surface area of Class B, Class C, Class D, or Class E airspace designed for an airport: 1) unless ground visibility at that airport is at least 3 statute miles; or 2) if ground visibility is not reported at that airport, unless flight visibility during landing or takeoff, or while operating in the traffic pattern is at least 3 statute miles.
4.2	In the U.S., no person may operate an aircraft beneath the ceiling under VFR within the lateral boundaries of controlled airspace designated to the surface for an airport when the ceiling is less than 1,000 feet. No person may take−off or land an aircraft (other than a helicopter) under special VFR (SVFR) unless ground visibility is at least 1 statute mile or if ground visibility is not reported, unless flight visibility is at least 1 statute mile. The U.S. restricts the ceiling to 1,000 ft. and ground visibility of 3 miles and greater.
4.2 a)	When an appropriate ATC clearance has been received, the special weather minimums in this section apply to the operation of an aircraft in a Class B, C, D, or E surface area under VFR. 1) No person may operate an aircraft in a Class B, C, D, or E surface area under VFR except clear of clouds; 2) No person may operate an aircraft (other than a helicopter) in a Class B, C, D or E surface area under VFR unless flight visibility is at least 1 statute mile; 3) No person may take−off or land an aircraft (other than a helicopter) at any airport in a Class B, C, D or E surface area under VFR: a) unless ground visibility at that airport is at least 1 statute mile; or b) if ground visibility is not reported at that airport, unless flight visibility during landing or take−off is at least 1 statute mile.
4.3	The U.S. does not prohibit VFR flight between sunset and sunrise.
4.4	In the U.S., VFR flight is not permitted within Class A airspace designated in 14 CFR Part 71 unless otherwise authorized by ATC. In the U.S., an ATC clearance is needed for VFR flight only in Class B airspace area. The U.S. limits VFR flights up to FL 180.
4.5	The U.S. limits VFR flights up to FL 180.
4.6	In addition, anywhere, an altitude allowing, if a power unit fails, an emergency landing without due hazard to persons or property on the surface.
4.7	In addition, grid tracks are not used to determine cruising altitudes in polar areas. True tracks are used to determine cruising levels above FL 230 in the area north of Alaska bounded by the true North Pole to 72°00′00″N, 141°00′00″W; to 72°00′00″N, 158°00′00″W; to 68°00′00″N, 168°58′23″W; to point of beginning. The U.S. has named this area the Anchorage Arctic CTA/FIR for national reference purposes.
4.8	In U.S. Class C and D airspace/areas, an ATC clearance is not required for VFR flights.
Chapter 5	**Instrument Flight Rules**
5.1.2	In the U.S., minimum altitudes for IFR flights are 2,000 feet above the highest obstacle within a horizontal distance of 4 nautical miles from the course to be flown in mountainous terrain and 1,000 feet above the highest obstacle within a horizontal distance of 4 nautical miles from the course to be flown in non−mountainous terrain.
5.2.2	See difference under paragraph 4.7.
5.3.1	See difference under paragraph 4.7.

Further differences which exist by virtue of the fact that the Annex contains no comparable standards for the U.S. national regulations.	1) The regulations covering the selection and use of alternate airports in respect to ceiling and visibility minima, require that: Unless otherwise authorized by the FAA Administrator, no person may include an alternate airport in an IFR flight plan unless current weather forecasts indicate that, at the estimated time of arrival at the alternate airport, the ceiling and visibility at that airport will be at or above the alternate airport weather minima.
	2) Operation under IFR in Class A, B, C, D, or E airspace malfunction reports: a) The pilot−in−command of each aircraft operated in Class A, B, C, D or E airspace under IFR shall report as soon as practical to ATC any malfunctions of navigational, approach, or communication equipment occurring in flight. b) In each report the pilot−in−command shall include: 1) aircraft identification. 2) equipment affected. 3) degree to which the capability of the pilot to operate under IFR in the ATC system is impaired; and 4) nature and extent of assistance desired from ATC.
	3) When an aircraft has been cleared to maintain ‘‘VFR conditions on top,’’ the pilot is responsible to fly at an appropriate VFR altitude, comply with VFR visibility and distance from cloud criteria, and to be vigilant so as to see and avoid other aircraft.
	4) Aircraft speed: a) Unless otherwise authorized by the FAA Administrator, no person may operate an aircraft below 10,000 feet MSL at an indicated airspeed of more than 250 kt (288 m.p.h.). b) Unless otherwise authorized or required by ATC, no person may operate an aircraft within Class B, C, or D surface area at an indicated airspeed of more than 200 kt (230 m.p.h.). This paragraph 4b) does not apply to operations within Class B airspace. Such operations shall comply with paragraph 4a) of this section. c) No person may operate an aircraft in the airspace underlying Class B airspace, or in a VFR corridor designated through Class B airspace, at an indicated airspeed of more than 200 kt (230 m.p.h.). d) If the minimum safe airspeed for any operation is greater than the maximum speed prescribed in this section, the aircraft may be operated at that minimum speed.

	5) Operating rules and pilot and equipment requirements for flight in Class B airspace. a) Operating rules. No person may operate an aircraft within Class B airspace except in compliance with the following rules: 1) No person may operate an aircraft within Class B airspace unless that person has received an appropriate authorization from ATC prior to operation of that aircraft in that area. 2) Unless otherwise authorized by ATC, each person operating a large turbine engine−powered airplane to or from a primary airport shall operate at or above the designated floors while within the lateral limits of the Class B airspace. 3) Any person conducting pilot training operations at an airport within Class B airspace shall comply with any procedures established by ATC for such operations in Class B airspace. b) Pilot requirements. No person may take off or land a civil aircraft at an airport within Class B airspace or operate a civil aircraft within Class B airspace unless: 1) The pilot−in−command holds at least a private pilot certificate; or 2) The aircraft is operated by a student pilot who has met the requirements (14 CFR Part 61 (Section 61.95)). c) Communications and navigation requirements. Unless otherwise authorized by ATC, no person may operate an aircraft within Class B airspace unless that aircraft is equipped with: 1) For **IFR** operations, an operable VOR or TACAN receiver, and 2) For **all** operations, an operable two−way radio capable of communications with ATC on appropriate frequencies for that Class B airspace. d) Transponder requirements. No person may operate an aircraft in Class B airspace unless the aircraft is equipped with the applicable operating transponder and automatic altitude reporting equipment.
	6) Operating rules and pilot and equipment requirements for operating in Class C airspace. a) General. For the purpose of this section, the primary airport is the airport designated in 14 CFR Part 71, for which the Class C airspace is designated. A satellite airport is any other airport within the Class C airspace. b) Deviations. An operator may deviate from any provisions of this section under the provisions of an ATC authorization issued by the ATC facility giving jurisdiction of the Class C airspace. ATC may authorize a deviation on a continuing basis or for an individual flight, as appropriate. c) Arrivals and overflights. No person may operate an aircraft in Class C airspace unless two−way radio communication is established with the ATC facility having jurisdiction over the Class C airspace prior to entering that area and is thereafter maintained with the ATC facility having jurisdiction over the Class C airspace while within that area. d) Departures. No person may operate an aircraft within Class C airspace except as follows: 1) From the primary airport or satellite airport with an operating control tower, unless two−way radio communication is established and maintained with the control tower, and thereafter as instructed by ATC while operating in the Class C airspace. 2) From a satellite airport without an operating control tower, unless two−way radio communication is established as soon as practical after departing and thereafter maintained with the ATC facility having jurisdiction over the Class C airspace. e) Traffic patterns. No person may take off or land an aircraft at a satellite airport within Class C airspace except in compliance with FAA arrival and departure traffic patterns. f) Equipment requirements. Unless otherwise authorized by the ATC facility having jurisdiction over the Class C airspace, no person may operate an aircraft within Class C airspace unless that aircraft is equipped with the applicable equipment specified in 14 CFR Part 91 (Section 91.215).

	7) Except for persons operating gliders below the floor of Class A airspace, no person may operate an aircraft in Class B, C, D, or E airspace of the 48 contiguous States and the District of Columbia above 10,000 feet MSL, excluding that airspace at and below 2,500 feet AGL, unless that aircraft is equipped with an operable radar beacon transponder having at least a Mode 3/A 4096−code capability, replying to Mode 3/A interrogation with the code specified by ATC, and automatic altitude reporting equipment having a Mode C capability that automatically replies to Mode C interrogations by transmitting pressure altitude information in 100−foot increments.
	8) Compliance with ATC clearances and instructions: a) When an ATC clearance has been obtained, no pilot−in−command may deviate from that clearance, except in an emergency, unless an amended clearance is obtained. A pilot−in−command may cancel an IFR flight plan if that pilot is operating in VFR weather conditions outside of Class A airspace. If a pilot is uncertain of the meaning of an ATC clearance, the pilot shall immediately request clarification from ATC. b) Except in an emergency, no person may operate an aircraft contrary to an ATC instruction in an area in which ATC is exercised. c) Each pilot−in−command who, in an emergency, deviates from an ATC clearance or instruction shall notify ATC of that deviation as soon as possible. d) Each pilot−in−command who is given priority by ATC in an emergency shall submit a detailed report of that emergency within 48 hours to the manager of that ATC facility, if requested by ATC. e) Unless otherwise authorized by ATC, no person operating an aircraft may operate that aircraft according to any clearance or instruction that has been issued to the pilot of another aircraft for radar ATC purposes.
Appendix 1	**Signals**
4.1.1	The flashing white signal to aircraft in flight, meaning ‘‘land at this aerodrome and proceed to apron’’ is not used in the United States. In addition, the alternating red and green signal to aircraft on the ground or in flight means exercise extreme caution.

PANS ATM Doc 4444	
There are several substantive differences between the U.S. procedures and those of ICAO, in addition to some minor variations in detail which are not considered significant. These differences are the result of initiatives and/or refinements which the U.S. has effected in the interest of improving the safety and efficiency of air traffic.	
PAN ATM Doc 4444 15th Edition	**7110.65 S**
CHAPTER 1	**DEFINITIONS**
Advisory Airspace	The U.S. does not define, it refers to Advisory Service.
Advisory Route	The U.S. does not define, it refers to Advisory Service.
Not defined in Doc 4444, AIR DEFENSE IDENTIFICATION ZONE (ADIZ)−	In the U.S., AIR DEFENSE IDENTIFICATION ZONE (ADIZ)− The area of airspace over land or water, extending upward from the surface, within which the ready identification, the location, and the control of aircraft are required in the interest of national security. **a.** Domestic Air Defense Identification Zone. An ADIZ within the United States along an international boundary of the United States. **b.** Coastal Air Defense Identification Zone. An ADIZ over the coastal waters of the United States. **c.** Distant Early Warning Identification Zone (DEWIZ). An ADIZ over the coastal waters of the State of Alaska. **d.** Land-based Air Defense Identification Zone. An ADIZ over U.S. metropolitan areas, which is activated and deactivated as needed, with dimensions, activation dates and other relevant information disseminated via NOTAM. Note: ADIZ locations and operating and flight plan requirements for civil aircraft.
Affirm	U.S. has no phraseology using "AFFIRM". U.S. uses "AFFIRMATIVE"− "Yes". ; or "ACKNOWLEDGE; or Roger, Wilco."
Aerodrome Traffic	The U.S. does not define.
Air Traffic Advisory Service	In the U.S., "Advisory Service" is intended for IFR and VFR aircraft.
Airborne Collision Avoidance System	The U.S. uses traffic alert and collision avoidance system (TCAS).
Aircraft	U.S. uses "Aircraft" to mean the airframe, crew members, or both.
AIRMET	In the U.S., AIRMET stands for Airman's Meteorological Information which is in-flight weather advisories issued only to amend the area forecast concerning weather phenomena which are of operational interest to all aircraft and potentially hazardous to aircraft having limited capability because of lack of equipment, instrumentation, or pilot qualifications. AIRMETs concern weather of less severity than that covered by SIGMETs or convective SIGMETs. AIRMETs cover moderate icing, moderate turbulence, sustained winds of 30 kt or more at the surface, widespread areas of ceilings less than 1,000 feet and/or visibility less than 3 miles, and extensive mountain obscurement.
Air-report	The U.S. does not normally use the term "air-report." Pilot weather reports (PIREPs), position, and operational reports are used. PIREPs include reports of strong frontal activity, squall lines, thunderstorms, light to severe icing, wind shear and turbulence (including clear air turbulence) of moderate or greater intensity, volcanic eruptions and volcanic ash clouds, and other conditions pertinent to flight safety. They may include information on ceilings, visibility, thunderstorms, icing of light degree or greater, wind shear and its effect on airspeed, or volcanic ash clouds, but do not usually include air temperature.
Air-taxiing	In the U.S., the term "hover taxi" is sometimes used to indicate the ICAO term "air-taxiing." In the U.S., air-taxiing is the preferred method for helicopter movements on airports provided ground operations/conditions permit. Additionally, in the U.S., air taxi is used to indicate certain commercial aircraft operations. For those operations, usually a special call sign is used, or the prefix "Tango" is added to the aircraft call sign.

Air Traffic Flow Management	U.S. defines as Air Traffic Control System Command Center.
Altitude	U.S. uses "Altitude" to mean indicated altitude mean sea level (MSL), flight level (FL), or both.
Approval Request	U. S. uses "APREQ."
Approved separation	U.S. uses "Approved separation" to mean separation in accordance with the applicable minima in this manual.
Area control service	The U.S. does not use the term "area control service" to indicate controlled flight in controlled areas.
ATS route	In U.S. domestic airspace, the term "ATS route" is not used. Routes in the U.S. include VOR airways, jet routes, substitute routes, off-airway routes, RNAV routes and colored airways. The U.S. also uses instrument departure procedures (DPs), and standard terminal arrivals (STARs).
Not defined in Doc 4444 CIRCLE-TO-LAND MANEUVER	CIRCLE-TO-LAND MANEUVER − In the U.S., a maneuver initiated by the pilot to align the aircraft with a runway for landing when a straight-in landing from an instrument approach is not possible or is not desirable. At tower-controlled airports, this maneuver is made only after ATC authorization has been obtained and the pilot has established required visual reference to the airport.
Control zone	The U.S. uses "surface area" in place of the ICAO term "control zone." Surface area is defined as the airspace contained by the lateral boundary of the Class B, C, D or E airspace designated for an airport that begins at the surface and extends upward.
Controlled airspace	The U.S. uses the following definition of controlled airspace found in 14 CFR Section 1.1: "Controlled airspace means an airspace of defined dimensions within which air traffic control service is provided to IFR flights and to VFR flights in accordance with the airspace classification."
Course, bearing, azimuth, heading, and wind direction	U.S. uses "Course, bearing, azimuth, heading, and wind direction" information and it shall always be magnetic unless specifically stated otherwise.
Cruising level	The U.S. uses the term "cruising altitude."
Decision altitude	Approach with vertical guidance (VNAV).
Emergency Phase	The U.S. does not utilize classification system of emergency phases
Expedite	U.S. uses **"EXPEDITE"** by ATC when **prompt compliance** is required to avoid the development of an imminent situation. Expedite climb/descent normally indicates to a pilot that the approximate best rate of climb/descent should be used without requiring an exceptional change in aircraft handling characteristics.
Flight information centre	In the U.S., the services provided by flight information centers (FICs) are conducted by air traffic control (ATC) facilities, automated flight service stations (AFSSs), and rescue coordination centers (RCCs).
Ground Effect	The U.S. does not define, but is referred to in "Hover Taxi."
Holding procedure	In the U.S., a hold procedure is also used during ground operations to keep aircraft within a specified area or at a specified point while awaiting further clearance from air traffic control.
Hot Spot	This is a known term , but not specifically defined in 7110.65.
Kilometres	U.S. ATS units do not accept aircraft speeds in metric terms nor do they use the term "minimum clean speed." The U.S. does use phrases such as "maintain maximum forward speed" or "maintain slowest practical speed."
Level	The U.S. uses "altitude" or "flight level" rather than "level."
May or need not	U.S. uses "May" or "need not" means a procedure is optional.
Miles	U.S. uses "Miles" to mean nautical miles unless otherwise specified, and means statute miles in conjunction with visibility.
Minute	U.S. uses "minute plus 30 seconds", except when time checks are given to the nearest quarter minute.
Movement area	In the U.S., the "movement area" is equivalent to the ICAO "maneuvering area" which does not include parking areas.
Near Parallel Runways	In the U.S., these are not defined as non-intersecting runways aligned 15 degrees or less apart
Pilot-in-Command	Designated by operator, or in the case of general aviation, the owner, as being in command and charged with the safe conduct of a flight.

Plural	U.S. uses “Plural words to include the singular.”
Position Symbol	The U.S. definition differs in that it refers to mode of tracking, rather than position of an aircraft or vehicle
Procedural Control	The U.S. does not define this as method to provide ATC service without data from an ATS surveillance system.
Procedural Separation	The U.S. does not define as separation used when providing ‘Procedural Control.’
Runway Incursion	This is a well-known term in NAS, but is not defined in the 7110.65
Singular	U.S. uses “Singular words to include the plural.”
Slush	In the U.S., “slush” is not used as a weather phenomenon.
Standard instrument arrival (STAR)	The U.S. uses the acronym STAR to define a standard terminal arrival.
Standard instrument departure (SID)	The U.S. uses the term departure procedure (DP) in lieu of SID.
Stand-by	U. S. uses “STAND BY” to mean the controller or pilot must pause for a few seconds, usually to attend to other duties of a higher priority. Also means to wait as in “stand by for clearance.” The caller should reestablish contact if a delay is lengthy. “Stand by” is not an approval or denial.
Stopway	The U.S. does not define a “stopway” as a rectangular area.
Taxiway a) *Aircraft stand taxilane* *b) Apron taxiway* *c) Rapid exit taxiway*	Ref (a), the US does not define as “portion of an apron designated as a taxiway intended to provide access to aircraft stands only.” Ref (b), the US does not define as “portion of a taxiway system located on an apron, providing taxi route across an apron.” Ref (c), the US defines as High Speed Taxiway.
Terminal control area	In the U.S., the term “terminal control area” has been replaced by “Class B airspace.” Standard IFR services should be provided to IFR aircraft operating in Class B airspace.
Time	U.S. when uses “Time” for ATC operational activities, is the hour and the minute in Coordinated Universal Time (UTC). Change to the next minute is made at the minute plus 30 seconds, except time checks are given to the nearest quarter minute.
Track	The U.S. uses the term "course" instead of “track.”
Transition altitude, transition layer, and transition level	In U.S. domestic airspace, transition altitude, layer, and level are not used. U.S. flight levels begin at FL 180 where a barometric altimeter setting of 29.92 inches of mercury is used as the constant atmospheric pressure. Below FL 180, altitudes are based on barometric pressure readings.
Uncertainty Phase	The U.S. does not utilize emergency phase classifications.
Visibility	Definitions are different.
Visual Approach	In the U.S., aircrews may execute visual approaches when the pilot has either the airport or the preceding aircraft in sight and is instructed to follow it.
Will	U.S. uses “Will” means futurity, not a requirement for the application of a procedure.
CHAPTER 4	**GENERAL PROVISIONS FOR AIR TRAFFIC SERVICES**
4.2	In the U.S., flight information and alerting services are provided by ATC facilities, FSSs, and RCCs.
4.3.2.1.1	Transfer of control points vary depending on numerous factors.
4.3.2.1.3	Transfer of control varies.
4.3.3.1a	The U.S. does not “release” aircraft. Handoff is used.
4.4.1	In the U.S., flight information and alerting services are provided by ATC facilities, FSSs, and RCCs.
4.13.4	Flight Progress Strips shall be retained for at least 15 days. (7110.3 3-4-4b)
4.3.2.1	Transfer of control points vary depending on numerous factors.
4.3.3.1	Transfer of control varies.

4.3.3.1a/ b	The U.S. does not "release" aircraft. Handoff is used.
4.4	In the U.S., flight information and alerting services are provided by ATC facilities, AFSSs, and RCCs.
4.4.13	The U.S. uses a flight plan format different from the ICAO model discussed in Appendix 2. The U.S. ATS facilities will transmit ICAO repetitive flight plans (RPLs) even though a different format is used for stored flight plans.
4.4.2.1.1	The U.S. accepts flight plans up to 24 hours prior to Estimated Off –Block Time (EOBT).
4.5.7.5	The flight crew shall read back to the air traffic controller safety-related parts of ATC clearances.
4.6.3.2	The U.S. uses different speed control phraseologies. Specifically, Doc 4444 uses "Maximum Speed" whereas the US uses "Maximum Forward Speed". Doc 4444 uses "Minimum Clean Speed" whereas the US uses "Slowest Practical Speed."
4.6.3.6	Only minor speed reductions of 20 knots should be used on intermediate or final approach.
4.6.3.7	In the US, speed control is not to be assigned inside Final Approach Fix or 5 NM from runway end.
4.8.2	U.S. Controller phraseology differs slightly and does not include a time check.
4.8.3	ATS units are not required to advise a pilot who has canceled an IFR flight plan that IMC conditions are likely to be encountered along the route of flight; however, if a pilot informs a controller of a desire to change from **IFR** to VFR, the controller will request that the pilot contact the appropriate AFSS.
4.9.1.1	U.S. Classification, terminology, and weight requirements for wake turbulence separation are different.
4.5.6.2	U.S. ATS controllers do not normally include clearance for transonic acceleration in their ATC clearances.
4.5.7.3 LEVELS Except as provided for in Chapter 6, 6.3.2 and 6.5.1.5, use of standard departure and arrival clearances, instructions included in clearances relating to levels shall consist of the items specified in Chapter 11, 11.4.2.6.2.2. 4.10.4 Provision of altimeter setting information	In U.S. domestic airspace, transition altitude, layer, and level are not used. U.S. flight levels begin at FL180 where a barometric altimeter setting of 29.92 inches of mercury is used as the constant atmospheric pressure. Below FL 180, altitudes are based on barometric pressure readings. QNH and QFE altimeter settings are not provided in domestic U.S. airspace.
4.6.1.5	Mach speeds at or above 7,600 Meters (FL 250).
4.6.3.6	Only minor speed reductions of 20 knots should be used on intermediate or final approach.
4.6.3.7	Speed control after 7KM (4NM) should not be applied.

4.9.2	In the U.S., the word "heavy" is **used in all communications** with or about heavy jet aircraft in the terminal environment. In the en route environment, "heavy" is used in all communications with or about heavy jet aircraft with a terminal facility, when the en route center is providing approach control service, when the separation from a following aircraft may become less than five miles by approved procedure, and when issuing traffic advisories.
4.10.1.1, 4.10.1.2, 4.10.4.6	Flight levels (at or above 18,000msl, except oceanic) and in feet below 18,000 ft MSL, including around airports (vs. ICAO QFE – height above field/threshold when near airports).
4.11.2.2 4.11.3 d)	Reporting the assigned speed with each frequency change by pilots is not a requirement. Controllers are required to forward this information to the next controller.
4.11.4 Transmission of ADS-C reports	The U.S. has not yet published ATS procedures for the use of Automatic Dependent Surveillance-Contract (ADS-C).
4.11 POSITION REPORTING	The U.S. has different criteria to make position reports.5-1-12. POSITION REPORTING
4.13.4	Flight Progress Strips shall be retained for at least 15 days. (7110.3 3-4-4b)
4.12.2 Contents of routine air-reports 4.12.3 Contents of special air-reports	The U.S. does not normally use the term "air-report." Pilot weather reports (PIREPs), position, and operational reports are used. PIREPs include reports of strong frontal activity, squall lines, thunderstorms, light to severe icing, wind shear and turbulence (including clear air turbulence) of moderate or greater intensity, volcanic eruptions and volcanic ash clouds, and other conditions pertinent to flight safety. They may include information on ceilings, visibility, thunderstorms, icing of light degree or greater, wind shear and its effect on airspeed, or volcanic ash clouds, but do not usually include air temperature.
4.15 DATA LINK COMMUNICATIONS INITIATION PROCEDURES	The U.S. has not yet published ATS procedures for the use of Datalink.
CHAPTER 5	**SEPARATION METHODS AND MINIMA**
5.2.1 General	In U.S. airspace, only conflict resolution (not separation) is provided between IFR and VFR operations. Separation is provided between IFR and Special VFR (SVFR) aircraft only within the lateral boundaries of Class B, C, D, or E control zones (the U.S. term is surface areas) below 10,000 feet MSL.
5.2.1.1	In U.S. Class A and B airspace, separation is provided for all aircraft. In U.S. Class C airspace, separation is provided between IFR and SVFR aircraft; conflict resolution is provided between IFR and VFR operations.
5.3.1 Vertical separation application 5.3.4 Vertical separation during climb or descent	U.S. rules allow assignment of altitude to second aircraft after first aircraft has been issued climb/descent and is observed or reports leaving that altitude. 7110.65, Para 6-6-1. APPLICATION 6-6-2. EXCEPTIONS
5.4.1.2.1.2	U.S. Lateral separation criteria and minima values differ somewhat.
5.4.2.1.5	The U.S. uses the term "course" instead of "track." "Reciprocal" courses are sometimes referred to as "opposite" courses. The wording of the definitions for U.S. *same, crossing,* or *opposite/reciprocal* courses differs from the ICAO worded definitions, but the intent appears to be the same.
5.4.2.2.1.1 c/ d	The U.S. uses 22 kt instead of 20 kt and 44 kt instead of 40 kt.

5.4.2.6.4.3.3 Conflict is resolved within a further 7½ minutes.	When an ADS-C periodic or waypoint change event report is overdue by *3 minutes*, the controller shall take action to obtain an ADS-C report. If no report is received within *6 minutes* of the time the original report was due, the controller shall take action to apply another form of separation. 7110.65, Para 8-9-3. LONGITUDINAL SEPARATION
5.5.2	Whenever the other aircraft concerned are within 5 minutes flying time of the holding area.
5.6 (Separation Between Departing Aircraft)	U.S. Allows 2 minute separation standard when courses diverge within 5 minutes after departure.
5.7 (Separation of Departing Aircraft from Arriving Aircraft)	U.S. Requires departing aircraft to be established on a course diverging by at least 45 degrees from the reciprocal of the final approach course.
5.8.4	The U.S. includes B757 in heavy category for wake turbulence purposes. DOC 4444 does not stipulate.
CHAPTER 6	***SEPARATION IN THE VICINITY OF AERODROMES***
6.3.2.4	U.S. aircraft on a SID assigned higher altitudes than specified in SID, may climb to higher assigned altitude.
6.3.2.5 COMMUNICATION FAILURE **8.8.3.2** COMPLETE AIRCRAFT COMMUNICATION FAILURE **15.3** AIR-GROUND COMMUNICATIONS FAILURE	In the U.S., if the communications failure occurs in IFR conditions, or if VFR cannot be complied with, each pilot shall continue the flight according to the following requirements: Route a) By the route assigned in the last ATC clearance received; b) If being radar vectored, by the direct route from the point of failure to the fix, route, or airway specified in the vector clearance; c) In the absence of an assigned route, by the route that ATC has advised may be expected in a further clearance; or d) In the absence of an assigned route or a route that ATC has advised may be expected in a further clearance, by the route filed in the flight plan. Altitude - At the highest of the following altitudes or flight levels for the route segment being flown: a) The altitude or flight level assigned in the last ATC clearance received; b) The minimum altitude as prescribed in 14 CFR Part 91 (Section 91.121(c)) for IFR operations; or c) The altitude or flight level ATC has advised may be expected in a further clearance.
6.3.3.3	Arriving aircraft - delay of 10 minutes or more. 7110.65, Para 4-7-11 d 5
6.5.2.4	Aircraft on STAR descended to altitudes lower than specified in a STAR, may descend to assigned altitude.
6.5.3.1	The 7110.65 does not stipulate flight crew concurrence of Controller initiated Visual Approach.
6.5.3.5	U.S. requires ATC to inform following aircraft behind Heavy/B757 aircraft of manufacturer and model information.
6.5.5.2	Onward clearance time. 7110.65 PG EXPECT FURTHER CLEARANCE (TIME)- The time a pilot can expect to receive clearance beyond a clearance limit.
6.7.3.1.2	U.S. has no criteria for separate radar controllers in conducting Parallel approaches.
6.7.3.2.1 (c)	The U.S. has adopted procedures allowing RNAV equipped aircraft to conduct Independent Parallel Approaches.
6.7.3.2.9	U.S. has no parallel approach obstacle assessment surfaces (PAOAS) Criteria.
6.7.3.2.9	The U.S. has no criteria for a “45 degree track”.
6.7.3.2.10 (a)	The U.S. has no criteria for both controllers to be advised when visual separation is applied.
6.7.3.4.1 (d)	The U.S. has adopted procedures allowing RNAV equipped aircraft to conduct Dependent Parallel approaches.
6.7.3.4.1 (f)	The U.S. requires that adjacent missed approach procedures do not conflict.
6.7.3.5.3 (b)	The U.S. has no surveillance radar approach (SRA).

6.7.3.5.3 (c)	In the U.S., aircrews may execute visual approaches when the pilot has either the airport or the preceding aircraft in sight and is instructed to follow it. A contact approach is one wherein an aircraft on an IFR flight plan, having an air traffic control authorization, operating clear of clouds with at least 1 mile flight visibility and a reasonable expectation of continuing to the destination airport by visual reference in those conditions, may deviate from the instrument approach procedure and proceed to the destination airport by visual reference to the surface. This approach will only be authorized when requested by the pilot and the reported ground visibility at the destination airport is at least 1 statute mile.
CHAPTER 7	**PROCEDURES FOR AERODROME CONTROL SERVICE**
7.4.1.1 START-UP TIME PROCEDURES	U.S. has no start up procedures, taxi clearance.
7.4.1.2.1 (f)	U.S. does not require time check prior to taxi.
7.6.3.2.3.2 Light signal from aerodrome control	In the U.S., for movements of other than aircraft traffic (i.e., vehicles, equipment, and personnel), steady green means cleared to cross, proceed, go; flashing green is not applicable; flashing white means return to starting point on airport; and alternating red and green means a general warning signal to exercise extreme caution.
7.6.3.2.3.3 Flashing runway or taxiway lights	U.S. controllers do not flash runway or taxiway lights to instruct aircraft to "vacate the runway and observe the tower for light signal."
7.10.2 Clearance to land	In the U.S., landing clearance to a succeeding aircraft in a landing sequence need not be withheld if the controller observes the positions of the aircraft and determines that prescribed runway separation will exist when the aircraft crosses the landing threshold. Controllers issue traffic information to the succeeding aircraft if it has not previously been reported.
7.11.4 and 7.11.6 Reduced Runway Separation Minima Between Aircraft Using the Same Runway	U.S. category 1, 2, & 3 (SRS) aircraft weights differ. Separation standards are greater, due to increased size and weight categories.
7.12.1.1.2	U.S. does not specify separation standards on taxiways.
7.14 AUTHORIZATION OF SPECIAL VFR FLIGHTS	Special VFR operations may be conducted in the U.S. under the following weather minimums and requirements below 10,000 feet MSL within the airspace contained by the upward extension of the lateral boundaries of the controlled airspace designated to the surface for an airport. These minimums and requirements are found in 14 CFR Section 91.157. Special VFR operations may only be conducted: (1) With an ATC clearance; (2) Clear of clouds; (3) Except for helicopters, when flight visibility is at least 1 statute mile; and (4) Except for helicopters, between sunrise and sunset (or in Alaska, when the sun is 6 degrees or more below the horizon) unless: (i) The person being granted the ATC clearance meets the applicable requirements for instrument flight; and (ii) The aircraft is equipped as required in 14 CFR Sec. 91.205(d). No person may take off or land an aircraft (other than a helicopter) under special VFR: (1) Unless ground visibility is at least 1 statute mile; or (2) If ground visibility is not reported, unless flight visibility is at least 1 statute mile.
CHAPTER 8	**ATS SURVEILLANCE SERVICES**

8.5.5.1 Verification of Level Information	U.S. validation of mode C readouts allow up to 300 feet variance from pilot reported altitudes.
8.6.5.2	The U.S. has not implemented cold temperature corrections to the radar minimum vectoring altitude.
8.7.3.2 (b)	The U.S. only allows visual observance of runway turn-off points.
8.8.4.2	The U.S. does not specify that ½ applicable separation can be utilized during emergency situations.
8.9.3.6	U.S. specifies maximum intercept angle of 30 degrees for fixed wing aircraft vectored to final approach course.
CHAPTER 9	**FLIGHT INFORMATION SERVICE AND ALERTING SERVICE**
9.1.3.7	The U.S. does not have special procedures for the transmission of information to supersonic aircraft.
9.1.4.1.1	Class F airspace is not used in the U.S. Traffic advisories are provided in Class C airspace and, workload permitting, in Class D, Class E, and Class G airspace.
9.2.1.2	The U.S. does not use “operations normal” or 'QRU” messages. U.S. controllers are not normally familiar with the term “uncertainty phase.”
CHAPTER 10	**COORDINATION**
10.1.3.1 DIVISION OF CONTROL	Except for a VFR aircraft practicing an instrument approach, an IFR approach clearance in the U.S. automatically authorizes the aircraft to execute the missed approach procedure depicted for the instrument approach being flown. No additional coordination is normally needed between the approach and en route controllers. Once an aircraft commences a missed approach, it may be radar vectored.
10.1.4.2.2	U.S. does not require ETA to be forwarded at least 15 minutes prior to ETA.
CHAPTER 11	**AIR TRAFFIC SERVICES MESSAGES**
11.1.2 Emergency messages	U.S. uses different emergency messages. 7110.10, Chapter 8. Search and Rescue (SAR) Procedures for VFR Aircraft.
11.4.2.3.6 LOGICAL ACKNOWLEDGEMENT MESSAGES (LAM)	The existing U.S. ATS automation system does not process logical acknowledgment messages (LAMs).
11.4.3.4.2 Aerodrome Conditions	U.S. does not report runway condition as ‘DAMP.’
CHAPTER 12	**PHRASEOLOGIES**

12.2.7 Conditional phrases, such as "behind landing aircraft" or "after departing aircraft", shall not be used for movements affecting the active runway(s), except when the aircraft or vehicles concerned are seen by the appropriate controller and pilot	US ATC does not allow conditional clearances described for example: "SAS 941, BEHIND DC9 ON SHORT FINAL, LINE UP BEHIND." *Note.– This implies the need for the aircraft receiving the conditional clearance to identify the aircraft or vehicle causing the conditional clearance.*
12.3.1 m) General to require action when convenient m) WHEN READY *(instruction)*;	U.S. does not use this phraseology. 7110.65 4-5-7. ALTITUDE INFORMATION PHRASEOLOGY CLIMB/ DESCEND AT PILOT'S DISCRETION 1. The pilot is expected to commence descent upon receipt of the clearance and to descend at the suggested rates specified in the AIM, 4-4-9, Adherence to Clearance, until reaching FL 280. At that point, the pilot is authorized to continue descent to FL 240 within the context of the term "at pilot's discretion" as described in the AIM. f. When the "pilot's discretion" portion of a climb/descent clearance is being canceled by assigning a new altitude, inform the pilot that the new altitude is an "amended altitude." EXAMPLE- "American Eighty Three, amend altitude, descend and maintain Flight Level two six zero."
12.3.1.2 *t) [after RA…pilot says} CLEAR OF CONFLICT, RETURNING TO *(assigned clearance)*;	TCAS resolution advisories in the U.S., pilots would advise "clear of conflict, returning to . . . ." *EXAMPLE-* 1. "*New York Center, United 321, TCAS climb."* *NOTE-* 2. *When the RA has been resolved, the flight crew should advise ATC they are returning to their previously assigned clearance or subsequent amended clearance.* *EXAMPLE-* 2. "*New York Center, United 321, clear of conflict, returning to assigned altitude."*
12.3.1.2 (n) MAINTAIN OWN SEPARATION AND VMC [FROM *(level)*] [TO *(level)*]; and (o) MAINTAIN OWN SEPARATION AND VMC ABOVE (*or* BELOW, *or* TO) *(level)*;	U.S. does not use "maintain own separation and VMC 'from,' 'above,' or 'below' . . . ," U.S. controllers say "maintain visual separation 'from' that traffic." Meteorological conditions are expressed in terms of visibility, distance from cloud, and ceiling, equal to or better than specified minima.

12.3.1.2 (z) Clearance to cancel level restriction(s) of the vertical profile of a SID during climb." **(z)** CLIMB TO *(level)* [LEVEL RESTRICTION(S) *(SID designator)* CANCELLED *(or)* LEVEL RESTRICTION(S) *(SID designator)* AT *(point)* CANCELLED];	The U.S. does not have specific phraseology examples that cover this issue. However, phraseology contained in the 7110.65 covers how to change altitudes and altitude restriction in a SID.
12.3.1.2 aa) Clearance to cancel level restriction(s) of the vertical profile of a STAR during descent. **(aa)** DESCEND TO *(level)* [LEVEL RESTRICTION(S) *(STAR designator)* CANCELLED *(or)* LEVEL RESTRICTION(S) *(STAR designator)* AT *(point)* CANCELLED].	The U.S. does not have specific phraseology examples that cover this issue. However, phraseology contained in the 7110.65 covers how to amend or cancel altitude restrictions.
12.3.1.2 (2) TO AND MAINTAIN BLOCK *(level)* TO *(level);*	U.S. uses "MAINTAIN BLOCK (altitude) THROUGH (altitude)." 7110.65, Para 4-5-7. g. ALTITUDE INFORMATION
12.3.1.5 CHANGE OF CALL SIGN	U.S. has no phraseology or approved procedure to advise aircraft to change call signs. The U.S. has procedures for a duplicate aircraft identification watch and notification to airline operators but does not publish national procedures for on-the-spot temporary changes to aircraft call signs in accordance with ICAO guidelines.

12.3.1.6 TRAFFIC INFORMATION	The U.S. requires issuance of azimuth, distance, direction, type, and altitude.
12.3.1.7 a) METEOROLOGICAL CONDITIONS	In the U.S., the criterion for a variable wind is: wind speed greater than 6 kt and direction varies by 60 degrees or more. If the wind is >1 kt but <6 kt, the wind direction may be replaced by "VRB" followed by the speed or reported as observed. “VRB” would be spoken as “wind variable at <speed>.”
12.3.1.7 d/e/f METEOROLOGICAL CONDITIONS	U.S. controllers do not give wind speed, visibility, or RVR/RVV values in metric terms. RVR values are given in 100- or 200-foot increments while RW values are given in Venule increments.
12.3.1.7 j METEOROLOGICAL CONDITIONS	U.S. controllers do not use the term “CAVOK.” However, the ceiling/sky condition, visibility, and obstructions to vision may be omitted if the ceiling is above 5,000 feet and the visibility is more than 5 miles.
12.3.1.7 (l) & (m) METEOROLOGICAL CONDITIONS	In the US, controllers and pilots exchange altimeter setting by reference to inches Hg. ICAO describes altimeter setting by reference to millibars, QNH or QFE. (where QNH – above mean sea level and QFE – height above aerodrome)
12.3.1.10 – AERODROME INFORMATION, RUNWAY REPORT AT *(observation time)* RUNWAY *(number) (type of precipitant)* UP TO *(depth of deposit)* MILLIMETRES. BRAKING ACTION GOOD (*or* MEDIUM TO GOOD, *or* MEDIUM, *or* MEDIUM TO POOR, *or* POOR *or* UNRELIABLE) [*and/or* BRAKING COEFFICIENT *(equipment and number)*];	U.S. use BRAKING ACTION terms “good,” “fair,” “poor,” “nil,” or combination of these terms. “Braking action fair to poor, reported by a heavy D-C Ten.”. 7110.65, Para 3-3-4.

12.3.1.10(i) BRAKING ACTION REPORTED BY *(aircraft type)* AT *(time)* GOOD (*or* MEDIUM, *or* POOR);	U.S. does not issue Temperature with Braking Action. 7110.65, Para 3-3-4.
12.3.2.4 Specification of Cruise Levels, (c) Cruise climb between. *(levels)* or above *(level)*	The U.S. does not have equivalent cruise climb between levels/altitudes. However, in ICAO regions for supersonic flight 8- 8-3a(1), U.S. has adopted ICAO phraseology.
12.4.2.4.2 a) COMMENCE DESCENT NOW [TO MAINTAIN A *(number)* DEGREE GLIDE PATH]	The U.S uses only “begin descent” and does not speak to “Maintain a (number) Degree Glide Path.”
12.3.2.5	U.S. has no phraseology or instruction for emergency descent:
12.3.2.8, Separation Instructions (b) ADVISE IF ABLE TO CROSS (significant point) AT (time or level)	U.S. has no phraseology for “ADVISE IF ABLE.” U.S. does have phraseology “Advise if unable...”
12.3.4.7, Taxi procedures, after landing (n), (o), & (p)	U.S. has no phraseology using “BACKTRACT.” U.S. does use BACK-TAXI (7110.65) − A term used by air traffic controllers to taxi an aircraft on the runway opposite to the traffic flow. The aircraft may be instructed to back-taxi to the beginning of the runway or at some point before reaching the runway end for the purpose of departure or to exit the runway.

12.3.4.11 TAKE-OFF CLEARANCE when take-off clearance has not been complied with c) Vacate 12.3.4.20 RUNWAY VACATING AND COMMUNICATIONS AFTER LANDING b	U.S. uses **CLEAR OF THE RUNWAY** **a.** Taxiing aircraft, which is approaching a runway, is clear of the runway when all parts of the U.S. uses aircraft are held short of the applicable runway holding position marking. **b.** A pilot or controller may consider an aircraft, which is exiting or crossing a runway, to be clear of the runway when all parts of the aircraft are beyond the runway edge and there are no restrictions to its continued movement beyond the applicable runway holding position marking. **c.** Pilots and controllers shall exercise good judgment to ensure that adequate separation exists between all aircraft on runways and taxiways at airports with inadequate runway edge lines or holding position markings.
12.3.4.11 (e) HOLD POSITION, CANCEL TAKE–OFF I SAY AGAIN CANCEL TAKE–OFF *(reasons)*;	U.S. uses different phraseology to cancel a take off. 3-9-10. CANCELLATION OF TAKEOFF CLEARANCE PHRASEOLOGY If circumstances require, cancel a previously issued take-off clearance and, when appropriate, inform the aircraft of the reason. ***PHRASEOLOGY*** *CANCEL TAKEOFF CLEARANCE (reason)*
12.3.5.7 a) EXPEDITE CLEARANCE *(aircraft call sign)* EXPECTED DEPARTURE FROM *(place)* AT *(time)*; b) EXPEDITE CLEARANCE *(aircraft call sign)* [ESTIMATED] OVER *(place)* AT *(time)* REQUESTS *(level or route, etc.)*.	U.S. has no phraseology to expedite clearance.
12.3.2.2 INDICATION OF ROUTE AND CLEARANCE LIMIT	U.S. will issue a clearance “direct” to a point on the previously issued route. PHRASEOLOGY CLEARED DIRECT (fix). NOTE Clearances authorizing “direct” to a point on a previously issued route do not require the phrase “rest of route unchanged.” However, it must be understood where the previously cleared route is resumed. When necessary**, “rest of route unchanged”** may be used to clarify routing. 7110.65, Para 4-4-1. ROUTE USE & 4-2-5. ROUTE OR ALTITUDE AMENDMENTS 3.

12.3.5.6 HANDOVER HANDOVER *(aircraft call sign)* [SQUAWKING *(SSR code)*] POSITION *(aircraft position) (level).*	U.S. does not use radar handover. 7110.65, Para 5-4-3. METHODS PHRASEOLOGY HANDOFF/ POINT OUT/TRAFFIC (aircraft position) (aircraft ID),or (discrete beacon code point out only) (altitude, restrictions, and other appropriate information, if applicable). c. When receiving a handoff, point out, or traffic restrictions, respond to the transferring controller as follows: PHRASEOLOGY- (Aircraft ID) (restrictions, if applicable) RADAR CONTACT, or (aircraft ID or discrete beacon code) (restrictions, if applicable) POINT OUT APPROVED, or TRAFFIC OBSERVED,
12.4.1.1 IDENTIFICATION OF AIRCRAFT f) NOT IDENTIFIED [reason], [RESUME (or CONTINUE) OWN NAVIGATION]	U.S. controllers do not say “will shortly lose identification” or “identification lost.” 7110.65, Para 5-3-7 5-3-7. IDENTIFICATION STATUS a. Inform an aircraft of radar contact when: 1. Initial radar identification in the ATC system is established. 2. Subsequent to loss of radar contact or terminating radar service, radar identification is re-established. *PHRASEOLOGY* *RADAR CONTACT (position if required).* b. Inform an aircraft when radar contact is lost. *PHRASEOLOGY* *RADAR CONTACT LOST (alternative instructions when required).*
12.4.2.1 VECTORING FOR APPROACH (b) VECTORING FOR VISUAL APPROACH RUNWAY (number) REPORT FIELD (or RUNWAY) IN SIGHT	U.S. would use “airport or runway” rather than “field.” 7-4-2. VECTORS FOR VISUAL APPROACH PHRASEOLOGY- (ACID) FLY HEADING OR TURN RIGHT/LEFT HEADING (degrees) VECTOR FOR VISUAL APPROACH TO (airport name). 7110.65, Para 5-11-2, VISUAL REFERENCE REPORT: Aircraft may be requested to report the runway, approach/runway lights, or airport in sight. Helicopters making a “point-in-space” approach may be requested to report when able to proceed to the landing area by visual reference to a prescribed surface route. *PHRASEOLOGY* *REPORT* *(runway, approach/runway lights or airport)* *IN SIGHT.* *REPORT WHEN ABLE TO PROCEED VISUALLY TO AIRPORT/HELIPORT.*
12.4.2.5 PAR APPROACH	U.S. controllers say “this will be a P-A-R/surveillance approach to runway (number) or airport/runway (number) or airport/heliport.” U.S. controllers do not say "approach completed.” U.S. controllers say “your missed approach procedure is (missed approach procedure)” and, if needed, "execute missed approach." For PAR approaches, U.S. controllers say “begin descent” and for surveillance approaches, U.S. controllers say “descend to your minimum descent altitude.” 7110.65, Para 5-12-8. APPROACH GUIDANCE TERMINATION lights in sight and requested to or advised that he/she will proceed visually, and has been instructed to proceed visually, all PAR approach procedures shall be discontinued. d. Continue to monitor final approach and frequency. Pilots shall remain on final controller's frequency until touchdown or otherwise instructed. 5-12-9. COMMUNICATION TRANSFER PHRASEOLOGY CONTACT (terminal control function) (frequency, if required) AFTER LANDING
12.4.2.4.4 CHECKS; (a) CHECK GEAR DOWN [AND LOCKED]	U.S. uses “CHECK WHEELS DOWN”. 7110.65, Par 2-1-24. WHEELS DOWN CHECK PHRASEOLOGY

12.4.3.12 TO REQUEST PRESSURE SETTING CHECK AND CONFIRMATION OF LEVEL; and 12.4.3.13 - TO REQUEST TERMINATION OF PRESSURE-ALTITUDE TRANSMISSION BECAUSE OF FAULTY OPERATION	U.S., for aircraft above FL 180, U.S. controllers would say, "confirm using two niner niner two as your altimeter setting, verify altitude" or "stop altitude squawk" "stop altitude squawk; altitude differs by (number) feet." U.S. controllers would not say "stop squawk Charlie." 7110.6, Para 5-2-22. BEACON TERMINATION Inform an aircraft when you want it to turn off its transponder.
12.3.4.13 - ENTERING AN AERODROME TRAFFIC CIRCUIT b) JOIN *[(direction of circuit)] (position in circuit) (runway number)* [SURFACE] WIND *(direction and speed) (units)* [TEMPERATURE [MINUS] *(number)*] QNH (*or* QFE) *(number) [(units)]* [TRAFFIC *(detail)*];	U.S. uses PHRASEOLOGY: ENTER LEFT/RIGHT BASE. STRAIGHT-IN. MAKE STRAIGHT-IN. STRAIGHT-IN APPROVED. RIGHT TRAFFIC. MAKE RIGHT TRAFFIC. RIGHT TRAFFIC APPROVED. CONTINUE. b. Runway in use. c. Surface wind. d. Altimeter setting. REFERENCE FAAO 7110.65, Current Settings, Para 2-7-1. e. Any supplementary information. f. Clearance to land. g. Requests for additional position reports. Use prominent geographical fixes which can be easily recognized from the air, preferably those depicted on sectional charts. This does not preclude the use of the legs of the traffic pattern as reporting points.
12.4.3.14 TO REQUEST LEVEL CONFIRM (level)	U.S. controllers would say "verify at (altitude)" and/or "verify assigned altitude." 7110.65 Para, 5-2-17. 1. Issue the correct altimeter setting and confirm the pilot has accurately reported the altitude. PHRASEOLOGY- (Location) ALTIMETER (appropriate altimeter), VERIFY ALTITUDE.

12.4.2.5.8 MISSED APPROACH a) CONTINUE VISUALLY OR GO AROUND *[missed approach instructions]*;	US ATC does not allow conditional clearances described.
12.6.1 Alerting phraseologies	U.S. controllers would issue MEA/MVA/MOCA/MIA instead of QNH. 7110.65.
CHAPTER 13	**AUTOMATIC DEPENDENT SURVEILLANCE – CONTRACT (ADS-C) SERVICES**
13.1 GENERAL The provision of air traffic services to aircraft, based on information received from aircraft via ADS−C, is generally referred to as the provision of ADS−C services.	US ATC rules and requirements (7110.65) concerning ADS-C are not sufficiently matured and have no Doc 4444 Chapter 13 counterpart. 7110.65, Chapter 13, Decision Support Tools, Section 2, Ocean21 – Oceanic, addresses supportable functionality.
CHAPTER 14	**CONTROLLER-PILOT DATA LINK COMMUNICATIONS (CPDLC)**
14.1 GENERAL 14.1.1 The CPDLC application provides a means of communication between the controller and pilot, using data link for ATC communication.	US ATC rules and requirements (7110.65T) concerning CONTROLLER-PILOT DATA LINK COMMUNICATIONS (CPDLC) are addressed at 7110.65T, Ch 2, Para 13-2-4. 13-2-4. CONTROLLER PILOT DATA LINK COMMUNICATIONS (CPDLC)
CHAPTER 15	**PROCEDURES RELATED TO EMERGENICES, COMMUNICATION FAILURE AND CONTINGENCIES**
15.3.3 Air-Ground Communications Failure b) 1, 2	7110.65 defers to the AIM for what to expect an aircraft to do when loss of two-way communication has been encountered. The expectations in the AIM differ from what a pilot is expected to do in accordance with PANS-ATM 15.3.3 b) 1 and 2. The U.S. does not specify a time that an aircraft would maintain its last assigned heading, speed, or altitude. PANS-ATM uses 20 min. in a non-radar environment and 7 min. in a radar environment.

15.3.10 If the aircraft has not reported within thirty minutes after: a) the estimated time of arrival furnished by the pilot; b) the estimated time of arrival calculated by the ACC; or c) the last acknowledged expected approach time, whichever is latest, pertinent information concerning the aircraft shall be forwarded to aircraft operators, or their designated representatives, and pilots−in−command of any aircraft concerned and normal control resumed if they so desire. It is the responsibility of the aircraft operators, or their designated representatives, and pilots−in−command of aircraft to determine whether they will resume normal operations or take other action.	When neither communications nor radar contact can be established for 30 minutes (or prior, if appropriate), U.S. controllers will consider an aircraft overdue and will initiate overdue aircraft procedures including reporting to the ARTCC or AFSS.

15.1.3 Unlawful interference and aircraft bomb threat	U.S. has difference updated. 5-2-13, Code Monitor Note 1. & 2. "10-2-6 HIJACKED AIRCRAFT 10-2-6. HIJACKED AIRCRAFT Hijack attempts or actual events are a matter of national security and require special handling. Policy and procedures for hijack situations are detailed in FAAO JO 7610.4, Special Operations. FAAO JO 7610.4 describes reporting requirements, air crew procedures, air traffic procedures and escort or interceptor procedures for hijack situations. REFERENCE FAAO JO 7610.4, Hijacked/Suspicious Aircraft Reporting and Procedures, Chapter 7. FAAO 7110.65, Code Monitor, Para 5-2-13.
15.4.1 Strayed VFR flights and VFR flights encountering adverse meteorological conditions *Note.— A strayed aircraft is an aircraft which has deviated significantly from its intended track or which reports that it is lost.*	U.S. does not use the terms "strayed" or "unidentified" aircraft. 7110.65, Para 10-3-1. OVERDUE AIRCRAFT
15.7.1.1 Emergency Separation	The PANS-ATM states: "If, during an emergency situation, it is not possible to ensure that the applicable horizontal separation can be maintained, emergency separation of half the applicable vertical separation minimum may be used…" Pilots must be advised that emergency separation is being applied and traffic information must be given. There is no equivalent emergency separation procedure in the U.S.
15.7.3 Procedures in regard to aircraft equipped with airborne collision avoidance systems (ACAS)	The U.S. uses traffic alert and collision avoidance system (TCAS). U.S. controllers are not to issue control instructions that are contrary to the TCAS resolution advisory (RA) procedure that a crew member advises is being executed. U.S. orders speak to controller actions when advised of an aircraft responding to a resolution alert (RA).
APPENDIX 1	**INSTRUCTIONS FOR AIR-REPORTING BY VOICE COMMUNICATIONS**
AIREP Form of Air-report	U.S. uses Pilot Reports (UAs), or Urgent Pilot Reports (UUAs).
APPENDIX 2	**FLIGHT PLAN**
A2-5 Wake	ICAO aircraft wake turbulence categories (heavy, medium, light) and FAA weight classes (heavy, large, small) differ. Also, for landing aircraft, wake turbulence separation is defined differently. The U.S. makes special provisions for any aircraft landing behind a B-757 (4 miles for a large aircraft behind or 5 miles for a small aircraft behind).
A2-7 (Item 15)	U.S. ATS units do not accept cruising speeds nor filed altitudes/flight levels in metric terms. The U.S. accepts filed Mach Number expressed as M followed by 3 figures.
2.2 (Item 18)	The U.S. accepts the non-standard indicator IRMK/in filed flight plans.
APPENDIX 3	**AIR TRAFFIC SERVICES MESSAGES**

1.1.1	See Part XI, ATS Messages, 1.3. 1.3 Composition of the standard types of message. The composition of each standard type of message, expressed as a standardized sequence of fields of data, shall be as prescribed in the reference table on page A3−33. Each message shall contain all the fields prescribed.
1.6.2	See Part XII, Phraseologies, 2.8.
1.8.1 (Field Type 3), (Field Type 15), and (Field Type 18).	See Appendix 2, Flight Plan, 2.2 (Item 15) and 2.2 (Item 18).
2.1, 2.4.5, 2.5	See Part XI, ATS Messages 1.3.
APPENDIX 4	**AIR TRAFFIC INCIDENT REPORT**
Appendix 4	U.S. has their accident/incident report in FAA Notice 8020.134.
APPENDIX 5	**CONTROLLER-PILOT DATA LINK COMMUNICATIONS (CPDLC) MESSAGE SET**
Appendix 5	U.S. has no CPDLC message set.
APPENDIX 6	**ATS INTERFACILITY DATA COMMUNICATIONS (AIDC) MESSAGES**
1. INTRO-DUCTION 1.1 General	7110.65; 8-2-3. AIR TRAFFIC SERVICES INTERFACILITY DATA COMMUNICATIONS (AIDC) Where interfacility data communications capability has been implemented, its use for ATC co-ordination should be accomplished in accordance with regional Interface Control Documents, and supported by letters of agreement between the facilities concerned.

ANNEX 3 – METEOROLOGICAL SERVICE FOR INTERNATIONAL AIR NAVIGATION	
PART I (Core SARPs)	
Chapter 2	**General Provisions**
2.1.5	The United States has its own standards on the qualifications and training of meteorological personnel providing service for international air navigation.
2.2	The United States has not instituted an ISO 9000 series of quality assurance standards for meteorological services. This difference is applicable to other subsequent paragraphs in 2.2.
2.3.3	There are no provisions to notify the meteorological office of flight schedules, delays, or cancellation of flights.
Chapter 3	**World Area Forecast System and Meteorological Offices**
3.4.2 g)	United States MWO's do not supply information received concerning the accidental release of radioactive material into the atmosphere to associated ACC/FIC.
Chapter 4	**Meteorological Observations and Reports**
4.3.2 a)	The United States does not issue local routine reports or local special reports. This difference is applicable to subsequent paragraphs that relate to the provision of local routine and special reports in Annex 3.
4.5.1 d)	This field is also used to denote a correction to the METAR/SPECI by "COR". This difference is also applicable to Table A3−2, METAR and SPECI.
4.6.2.1	The United States reports visibility in statute miles. This is also applicable to Table A3−5, Ranges and resolution for numerical elements included in METAR and SPECI. This difference is also applicable to Table A3−2, METAR and SPECI.
4.6.3.3	RVR values in the METAR/SPECI code forms are reported in feet (FT). This is also applicable to Table A3−5, Ranges and resolution for numerical elements included in METAR and SPECI. This difference is also applicable to Table A3−2, METAR and SPECI.
4.6.3.4	U.S. practice is to report only the touchdown zone in the METAR. This difference is also applicable to Table A3−2, METAR and SPECI.
4.6.7	The United States provides atmospheric pressure in inches of mercury. This is also applicable to Table A3−5, Ranges and resolution for numerical elements included in METAR and SPECI.
Chapter 5	**Aircraft observations and reports**
5.5	Urgent Pilot Reports (UUA) are used in lieu of Special Aircraft observations, to include Hail (GR, GS), Low Level Wind Shear (within 2000ft of surface), severe icing, severe extreme turbulence, tornado, funnel cloud or water spout (FC), and volcanic eruption and/or volcanic ash. In addition, Route Pilot Reports and UAA identify the location of the weather phenomenon by NAVAIDS.
Chapter 6	**Forecasts**
6.3	Landing forecasts are provided by the TAF.
6.3.3	The United States does not provide trend forecasts as part of the METAR or SPECI. This difference is also applicable to Table A3−2, METAR and SPECI. This difference is also applicable to App 4 Sec 2 that defines 'Criteria Related to Trend Forecasts'.
6.4	Takeoff forecasts are provided by the TAF. This difference is also applicable to App 4 Sec 3, 'Criteria Related to Forecasts for Take−Off'.

6.5	The United States provides an Area Forecast (FA) in place of a GAMET. AIRMETs are issued every 6 hours on a scheduled basis. The FA and AIRMET are valid from the surface to FL450. The FA and AIRMET formats differ from Table A5−4 and Table 6−1. Specifically, the FA are issued three times a day in the United States, with the exception of Alaska and Hawaii where they are issued four times a day. They are valid for a 12−hour period beginning 1 hour after issuance and have an 18−hour outlook. This is also applicable to Part 1: 7.2, Part II, Appendix 5: 4, Part II, Appendix 6:2.1, and Part II, Appendix 8: 4.1.2 (use of templates.)
Chapter 7	**SIGMET and AIRMET Information, Aerodrome Warnings and Wind Shear Warnings**
7.2.3	United States practice is to issue an AIRMET every six hours on a scheduled basis. The United States is developing capabilities to issue an AIRMET on a scheduled basis every 3 hours, which would exceed the SARP standard that an AIRMET is not to be issued more than every 4 hours.
7.4.1	The United States does not provide wind shear warnings. The United States believes wind shear alerts are timelier to flight crews in landing and takeoff than wind shear warnings and thus provide a greater level of safety. In addition, the information is duplicative in nature in that wind shear warnings could be delayed while wind shear alerts are provided via automated systems that allow for immediate data link to flight crews through ATS systems. This difference is also applicable to App 6: 6.2.
Chapter 9	**Service for operators and flight crew members**
9.2.3 & 9.2.4	United States meteorological offices have no means to communicate directly to flight crews if there is a divergence in the forecast from what is provided in the flight document folder.
9.3.3	United States meteorological offices have no means to provide updates to flight document folders or to contact the operator.
PART II	**APPENDICES and ATTACHMENTS**
APPENDIX 3	**Technical specifications related to meteorological observations and reports**
2.2	The United States does not use the term CAVOK in meteorological reports. This difference is also applicable to Table A3−2, METAR and SPECI.
2.3.1 c)	The U.S. does not prepare SPECI for changes in air temperature.
2.3.2 a)	U.S. practices require SPECI for wind shift when wind direction changes by 45 degrees or more in less than 15 minutes and the wind speed is 10 knots or more throughout the wind shift.
2.3.2 b)	U.S. practices do not require SPECI for increases of mean surface wind speed.
2.3.2 c)	U.S. practices require SPECI for squall, where squall is defined as a strong wind characterized by a sudden onset in which the wind speed increases at least 16 knots and is sustained at least 22 knots or more for at least one minute.
2.3.2d)	U.S. practices do not require SPECI for wind direction changes based on local criteria.
2.3.2f)	SPECI are not prepared for the equivalents in feet of 150, 350, or 600 meters. United States military stations may not report a SPECI based on RVR.
2.3.2 g/h)	Practices do not require SPECI for the onset, cessation, or change in intensity of: − freezing fog. − moderate or heavy precipitation (including showers thereof). − low drifting dust, sand or snow. − blowing dust, sand or snow (including snowstorm). − duststorm. − sandstorm.

2.3.2 i) and j)	The United States provides a SPECI when a layer of clouds or obscurations aloft is present below 1000 ft and no layer aloft was reported below 1000 ft in the preceding report. A SPECI is also reported when the ceiling decreases or increases at these markers: 3000, 1500, 1000, 500ft or lowest published instrument approach procedures. SPECI is made when the ceiling (rounded off to reportable values) forms or dissipates below, decreases to less than, or if below, increases to equal or exceed: 3,000 feet, 1,500 feet, 1,000 feet, 500 feet or lowest standard instrument approach procedure minimum published in the National Ocean Survey (NOS) *U.S. Terminal Procedures.* If none published, then 200 feet.
4.1.1.2	The United States does not provide wind representatives for specific runways but does provide a wind representative for the airport.
4.1.3.1 b)	The United States provides a 2−minute average wind observation for the METAR/SPECI.
4.1.5.2b)	The wind direction may be considered variable if, during the 2−min evaluation period, the wind speed is 6 KT or less. Also, the wind direction shall be considered variable if, during the 2−min evaluation period, it varies by 60 deg or more when the wind speed is greater than 6 KT.
4.1.5.2c)	United States practices define wind gust as rapid fluctuations in wind speed with a variation of 10 knots or more between peaks and lulls. Wind speed data for the most recent 10 minutes is examined and a gust, the maximum instantaneous wind speed during that 10−minute period, is reported if the definition above is met during that period.
4.2.4.4	The United States does not report the lowest visibility in lieu of prevailing visibility. The United States always reports prevailing visibility and does not report lowest visibility if the lowest visibility is different from prevailing visibility
4.2.4.5	The United States does not use “NDV”, no direction variations can be given for visibility. This difference is also applicable to Table A3−2, METAR and SPECI
4.3.6.1	The United States reports RVR in increments of 100 feet up to 1,000 feet, increments of 200 feet from 1,000 feet to 3,000 feet, and increments of 500 feet above 3,000 feet to 6,000 feet.
4.3.6.5b), 4.3.6.6	The United States reports RVR for a single designated runway in the METAR/SPECI. RVR tendency is not reported. This difference is also applicable to Table A3−2, METAR and SPECI.
4.4	The following weather elements are augmented manually at designated automated stations observation sites: FC, TS, GR, GS, and VA. At selected airports, additional present weather elements may be provided. With the exception of volcanic ash, present weather is reported when prevailing visibility is less than 7 statute miles or considered operationally significant. Volcanic ash is always reported when observed.
4.4.2.6	The practice with respect to the proximity indicator VC is between 5 to 10 statute miles from the point of observation with the exception of precipitation for which the VC indicates >0 to 10 statute miles from the point of observation.
4.5.4	The United States reports only up to 3 layers at automated sites and up to 6 layers at manual sites. Cloud layer amounts are a summation of layers at or below a given level, utilizing cumulative cloud amount. In addition, at automated sites, which are unstaffed, cloud layers above 12,000 ft are not reported. At staffed automated sites, clouds above 12,000 ft may be augmented. CAVOK and NSC are not used. In addition, the United States does not use “///” when cloud type can not be observed; “NCD” when no clouds are detected; or “//////” for CB or TCU when not detected by automated observing systems. In the United States the symbol “///”, when used in the cloud section of the METAR, refers to a mountain station where the layer is below the station level. This difference is also applicable to Table A3−2, METAR and SPECI.
4.8	The United States has a Remarks Section that provides similar information. This difference is also applicable to Table A3−2, METAR and SPECI.

4.8.1.4	Wind shear is not included in the METAR/SPECI code form in the U.S remarks. This difference is also applicable to Table A3−2, METAR and SPECI.
4.8.1.5	Sea−surface temperature, the state of the sea and state of the runway are not provided in the METAR/SPECI code form in the U.S. remarks. This difference is also applicable to Table A3−2, METAR and SPECI.
APPENDIX 4	**Technical specifications related to aircraft observations and reports**
3.1.4	The United States MWOs do not issue special air reports.
APPENDIX 5	**Technical specifications related to forecasts**
1.2.2	Forecast visibility increments used consist of 1/4 mile from 0 (zero) to 1 mile, 1/2 mile from 1 to 2 miles, and 1 mile above 2 miles. Note: miles are statute miles.
1.2.3	Practices require forecast of non−convective low−level wind shear within 2,000 feet of the ground in the Optional Group. The forecast consists of WS (wind shear); heights of the wind shear in hundreds of feet; and wind speed and direction above the wind shear height, using METAR and TAF coding regulations.
1.2.4	The United States does not use CAVOK and NSC in the TAF. This difference is also applicable to Table A5−1, Template for TAF. The non−application of the use of NSC also applies to App 5. 1.3.1 i)
1.3.1 e)	Change groups and amendment criteria below 1/2 statute mile (800 meters) are not used. This difference is also applicable to Table A5−1, Template for TAF.
1.3.1 j)	The 100−foot (30 meter) change group and amendment criterion is not used. This difference is also applicable to Table A5−1, Template for TAF.
1.3.2	The United States does not use the change indicator “BECMG”. This difference is also applicable to Table A5−1, Template for TAF and to other subsequent sections including 1.3.3 and 1.3.4 where BECMG is referenced.
1.4	The United States does not use “PROB 40” in the TAF. “PROB 30” will not be used in the first nine (9) hours of every TAF’s valid period, including amendments. This difference is also applicable to Table A5−1, Template for TAF. Note also that Military TAFs do not use the “PROB” groups.
4.1 i)	Practice is not to include thunderstorms information in Area Forecasts. See difference filed for Part I 6.6 that the United States does not provide the GAMET but does provide an Area Forecast.
4.3	U.S. practices do require reporting of ISOL, OCNL or FREQ in accordance with the guidance on the use of the terms given in App 6. The United States reports “isolated” (ISOL) when the phenomena affect an area less than approximately 3,000 square miles or are widely separated in time, and widespread (WDSPR) to mean more than 50 percent of the area.
APPENDIX 6	**Technical specifications related to SIGMET and AIRMET information, aerodrome warnings and wind shear warnings and alerts**
1.1.3	SIGMET messages in the CONUS use VORs in place of lat/long and do not reference FIRs. SIGMETs are issued by alphanumeric series, e.g., Kilo 1, 2, 3 etc. In the conterminous U.S., convective SIGMETs are issued in lieu of SIGMETS for convection. They are issued as hourly bulletins for the East, Central, and Western United States and thus they do not indicate the FIR. Connective SIGMETs have an outlook section. This difference is also applicable to Table A6−1, Template for SIGMET and AIRMET messages.
1.1.4	Convective SIGMETs for the conterminous U.S. are issued with the non−standard WMO Header designator ”WST” and use a lower criteria. Practices are to issue a SIGMET for mountain wave only when accompanied by severe turbulence. In addition, the U.S. does not issue a SIGMET for radioactive clouds. This difference is also applicable to Table A6−1, Template for SIGMET and AIRMET messages.

2.1.2, 2.1.3	AIRMETs in the conterminous U.S. are issued as bulletins for the East, West, and Central U.S. in conjunction with area forecast turbulence, icing, and ceiling and visibility, and thus do not comply with template for FIR or series numbering format. This difference is also applicable to Table A6−1, Template for SIGMET and AIRMET messages.
2.1.4	AIRMET in the conterminous U.S. on a routine schedule for icing, turbulence, sustained surface winds, ceiling/visibility and convection. Practices do not include use of ISOL, OCNL or FRQ. This difference is also applicable to Table A6−1, Template for SIGMET and AIRMET messages. The U.S. does not include cloud amount or type in AIRMET.
4.2.1	U.S. practices do require reporting of ISOL, OCNL or FREQ in accordance with the guidance on the use of the terms given in App 6. The United States reports “isolated” (ISOL) when the phenomena affect an area less than approximately 3,000 square miles or are widely separated in time, and widespread (WDSPR) to mean more than 50 percent of the area.
5.1, 5.1.3	The United States does provide for tsunamis in the aerodrome warning. The U.S. issues airport warning messages similar to the ICAO format (Table A6−2, Template for aerodrome warnings) only at selected airports based on a bilateral agreement between the airport authority and the NWS Forecast Office.

ANNEX 4 – AERONAUTICAL CHARTS	
Chapter 1	**Definitions**
Air taxiway	The U.S. does not depict defined surfaces for air−taxiing of helicopters.
Danger area	The term “danger area” will not be used in reference to areas within the U.S. or in any of its possessions or territories.
Final approach and take−off area (FATO)	The U.S. does not depict final approach and take−off areas (FATOs).
Helicopter stand	The U.S. does not use this term.
Prohibited area Restricted area	The U.S. will employ the terms “prohibited area” and “restricted area” substantially in accordance with the definitions established and, additionally, will use the following terms: “Alert area.” Airspace which may contain a high volume of pilot training activities or an unusual type of aerial activity, neither of which is hazardous to aircraft. “Controlled firing area.” Airspace wherein activities are conducted under conditions so controlled as to eliminate the hazards to nonparticipating aircraft and to ensure the safety of persons and property on the ground. “Warning area.” Airspace which may contain hazards to nonparticipating aircraft in international airspace. “Maneuvering area.” This term is not used by the U.S. “Military operations area (MOA).” An MOA is an airspace assignment of defined vertical and lateral dimensions established outside Class A airspace to separate/segregate certain military activities from IFR traffic and to identify for VFR traffic where these activities are conducted. “Movement area.” Movement area is defined by the U.S. as the runways, taxiways, and other areas of an airport which are utilized for taxiing, take−off, and landing of aircraft, exclusive of loading ramp and parking areas.
Touchdown and lift−off area (TLOF)	The U.S. does not use this term.
Chapter 1.1	**Definitions**
Aerodrome reference point	Airport Reference Point is the approximate geometric center of all usable runway surfaces.
Airway	Airways are Class E airspace.
Area Minimum Altitude	Off Route Obstruction Clearance Altitude (OROCA) used.
Arrival Routes	Arrival routes are also identified on Standard Terminal Arrival (STAR).
Clearway	Obstacle and terrain may not extend above specified limits in a Clearway.
Displaced Threshold	Displaced threshold is located at other than the designated beginning of the runway.
Final Approach	Final approach begins at the final approach fix or point and extends to the airport or the point where a circle−to−land maneuver or a missed approach is executed.
Flight Level	Flight level is related to a reference datum of 29.92 inches of mercury.
Glide Path	Glideslope is used instead of glide path.
Helicopter Stand	Helipad is used vice helicopter stand.
Instrument Approach Procedure	Instrument approach procedure begins at the initial approach point vice defined arrival route.

Intermediate Approach Segment	Intermediate approach segment is that segment between the intermediate fix or point and the final approach fix.
Minimum obstacle clearance altitude (MOCA)	MOCA also assures acceptable navigational signal coverage within 22 NM of a VOR.
Minimum sector altitude	Minimum Sector Altitude is centered on the navigation facility upon which the procedure is predicated.
Missed approach point	Missed approach point based on acquiring the required visual reference.
Missed approach procedure	Missed approach procedure is conducted when the approach cannot be completed to a landing.
Movement Area	Movement area also includes areas used by helicopters in taxiing. It does not include loading ramps or parking areas.
Obstacle	Obstacles may include terrain and objects of natural growth.
Obstacle clearance altitude (OCA) or Obstacle clearance height (OCH)	Decision Altitude and Decision Height used vice Obstacle Clearance Altitude and Obstacle Clearance Height.
Obstacle free zone	Obstacle Free Zone also includes airspace above runway surface.
Precision approach procedure	MLS also included as a Precision approach procedure.
Procedure turn	Procedure turn is used only on intermediate approach segment or final approach course.
Prohibited area	Permission of the using agency is required before using Prohibited airspace.
Terminal arrival altitude (TAA)	Terminal Arrival Areas defined by the extension of the IAF legs and the intermediate segment course.
Touchdown zone	Touchdown zone is the first 3000 feet of the runway beginning at the threshold.
Track	Track is the actual flight path of the aircraft over the surface of the earth.
Vectoring	Vectoring based on use of radar.
Visual approach procedure	Visual approach procedure is conducted on an IFR flight plan which authorizes the pilot to proceed visually and clear of clouds to the airport.
Chapter 1.2	**Applicability**
1.2.2	Charts vary in their conformance to ICAO Standards.
1.2.2.1	Charts vary in their conformance to ICAO Recommended Practices.
Chapter 2	**General Specifications**
2.1	The titles of charts produced by the U.S. are not those provided for in Annex 4.
2.1.7	Charts are True North oriented except as indicated.
2.1.8	Sheet size of charts varies dependent on chart type.

2.2.1	The marginal note layouts, in some cases, differ from those set forth in Appendices 1, 5, and 6.
2.3.1	Marginal note layouts vary by chart type
2.4	Symbols do not universally conform to Appendix 2.
2.4.1	Visibility distances are expressed in statute miles and fractions thereof.
2.4.4	Conversion scale (meters/feet) is not shown on Radio Navigation Charts.
2.5.4	Linear dimensions are expressed in feet.
2.5.7	Conversion scales are not universally used.
2.6.2	Some charts have no linear scale.
2.9.2	Abbreviations used are from FAA Order 7340.1, not ICAO Doc 8400.
2.11	Color schemes differ by chart series.
2.12.2	Hypsometric tints differ by chart series.
2.12.3.1	Unreliable spot elevations are shown with an “x” preceding the value.
2.14.1	Vertical limits of airspace are not shown.
2.18.3.1	Julian Calendar is also used.
Chapter 3	**Aerodrome Obstacle Chart – ICAO Type A (Operating Limitations)**
3.1	The U.S. produces an Airport Obstruction Chart which covers the basic requirements called for by Aerodrome Obstruction Chart – ICAO Type A.
3.2.1	Availability of chart is not dependent on provision of other charts.
3.2.2	Notification is not made when chart is not required.
3.3.2	Linear dimensions are expressed in feet.
3.6	Country name is not used.
3.8.1.3	Obstacles shown only in relation to FAR 77
3.8.3.1	Only total pavement distance is shown
Chapter 4	**Aerodrome Obstacle Chart – ICAO Type B**
4.1	The U.S. produces an Airport Obstruction Chart which covers the basic requirements called for by Aerodrome Obstruction Chart – ICAO Type B.
4.2.1	Availability of chart is not dependent on provision of other charts
4.3.2	Linear dimensions are shown in feet.
4.6	Country name is not used
Chapter 5	**Aerodrome Obstacle Chart – ICAO Type C**
5.8.1	The navigation grid on U.S. Aircraft Position Chart 3097 comprises lines parallel to 54° West Meridian and the navigation grid on U.S. Aircraft Position Chart 3096 comprises lines parallel to 92° West Meridian. These changes to the ICAO Standard were made to provide navigation grid lines vertical to a great circle projection base.
Chapter 6	**Precision Approach Terrain Chart – ICAO**
6.9.1.1	Only outbound magnetic bearings from VOR facilities and inbound magnetic bearings to low/medium frequency radio navigation facilities are shown.

Chapter 7	**En Route Chart – ICAO**
7.1	Simplified versions are not included in the AIP.
7.6.2	Off Route Obstruction Clearance Altitude (OROCA) is shown.
7.9.3.1.1	Coordinates are shown in degrees, minutes and hundredths of minutes. DME antenna elevation is not shown. Vertical limits of airspace are shown in tabulated data form. RNP type designation is not shown. Coordinates of significant points are not shown. Bearings are shown to the nearest degree and distances to the nearest mile. Logon address is not shown.
7.9.3.1.1 1) and 5)	The U.S. depicts geographic positions in degrees and minutes to the hundredth of a degree.
Chapter 8	**Area Chart – ICAO**
8.1	Area charts produced only where the amount of detail required results in congestion of information on an IFR Enroute Low Altitude chart.
8.3.1	Departure and Arrival routes are not shown.
8.9.1	Only airports shown are those with hard surface runways of 3000 feet or longer and/or with an Instrument Approach Procedure.
8.9.3	Off Route Obstruction Clearance Altitude (OROCA) is shown.
8.9.3.1.1 1) and 6)	The U.S. depicts geographic positions in degrees and minutes to the hundredth of a degree.
8.9.4.1.1	Coordinates are shown in degrees, minutes and hundredths of minutes. DME antenna elevation is not shown. Vertical limits of airspace are shown in tabulated data form. Terminal routings are not shown. Coordinates of significant points are not shown. Bearings are shown to the nearest degree and distances to the nearest mile. Minimum vectoring altitudes are not shown. Logon address is not shown.
Chapter 9	**Standard Departure Chart – Instrument (SID) – ICAO**
9.2	Charts are provided only when a procedure has been established.
9.3.1	Charts covering continental U.S. between latitudes 24° and 52° North are based on standard parallels at 33° and 45° and between latitudes 52° and 72° North on standard parallels at 55° and 65°.
9.3.2	Charts are not generally drawn to scale.
9.3.3	Scale bar is not shown.
9.4.1	The U.S. uses a sheet numbering system which differs from the index in Appendix 7.
9.4.2	Parallels and meridians are not shown.
9.4.3	Graduation marks are not shown.
9.5	Procedure route is identified in accordance with FAA Order 8260.46
9.6.1	Culture and topography are not shown.
9.6.2	Relief is not shown.
9.8.3.2*	The elevation of the highest point on any sheet is not always cleared of hypsometric tinting.
9.9.1.2	Secondary airports are shown only when designated.
9.9.2	Danger areas are not shown. Vertical limits are not shown.
9.9.3.1	Minimum Sector Altitude is not shown.
9.9.3.1.1 2d) and 3)	The U.S. depicts geographic positions in degrees and minutes to the hundredth of a degree.
9.9.3.2	Area minimum altitudes are not shown.

9.9.4.1.1	Coordinates for NAVAIDs and Significant Points are shown in degrees, minutes and hundredths of minutes. Bearings are shown to the nearest degree and distances to the nearest mile. DME antenna elevation is not shown. Obstacles are depicted textually with position and height, and without regard for penetration of OIS. Minimum vectoring altitudes are not shown.
9.10.1	Heliports are not shown.
Chapter 10	**Standard Arrival Chart – Instrument (STAR) – ICAO**
10.2	Charts are provided only when a procedure has been established.
10.3.2	Charts are not generally drawn to scale.
10.3.3	Scale bar is not shown.
10.4.2	Parallels and meridians are not shown.
10.4.3	Graduation marks are not shown.
10.5	Procedure route is identified in accordance with FAA Order 7100.9
10.6.1	Culture and topography are not shown.
10.6.2	Relief is not shown.
10.8.3.2*	The elevation of the highest point on any sheet is not always cleared of hypsometric tinting.
10.9.1.1	Airports are shown by symbol vice pattern.
10.9.1.2	Secondary airports are shown only when designated.
10.9.2	Danger areas are not shown. Vertical limits are not shown.
10.9.3.1	Minimum Sector Altitude is not shown.
10.9.3.1.1 2d) and 3)	The U.S. depicts geographic positions in degrees and minutes to the hundredth of a degree.
10.9.3.2	Area minimum altitudes are not shown.
10.9.4.1.1	Bearings are shown to the nearest degree and distances to the nearest mile. Coordinates for NAVAIDs and Significant Points are shown in degrees, minutes and hundredths of minutes. DME antenna elevation is not shown. Minimum vectoring altitudes are not shown.
Chapter 11	**Instrument Approach Chart – ICAO**
11.3.3	Scale is not shown.
11.3.3.1	Distance circle is centered on NAVAID used for final approach segment, except when location of the airport, radio aid to navigation and/or procedure pattern necessitates that the ring be centered on other facilities or geographical points for better portrayal of the instrument approach procedure.
11.3.3.2	Distance between components and between last component and runway shown.
11.4	Sheet size is 8.25 inches by 5.375 inches
11.5.2	Graduation marks are not shown.
11.7.1	Culture information is not shown. Topographic information is not named. Hydrographic features are shaded.
11.7.2	Terrain charting criteria does not include approach gradient steeper than optimal due to terrain.
11.7.3	Terrain is not charted if Std 11.7.2 is not met.
11.8.1	Magnetic variation is shown only in areas of compass instability and on charts North of 67 degrees of latitude.
11.9.3	Grid meridian is not shown.
11.10.1.1	Abandoned airports are not shown
11.10.2.2	Obstacles that are the determining factor for an OCA/OCH are not necessarily shown.
11.10.2.7	Obstacle free zones are not shown.
11.10.3	Vertical limits are not shown.

11.10.4.3	The U.S. does not depict geographic position of the final approach fix. Geographic coordinates are not shown.
11.10.5	Terminal arrival areas are shown vice terminal arrival altitude.
11.10.6.1	Arrowed, dashed line is shown vice arrowed, dotted line. Times required for the procedure are not shown. Magnetic bearings to the airport from the final approach NAVAID are not shown. Circling prohibitions are indicated by textual note vice graphic boundaries.
11.10.6.2	Distance to airport from final approach NAVAID is not shown.
11.10.6.3	Arrows are not shown on procedure track line except to indicate heading changes. Missed approach segment is shown by arrowed, dashed line. Arrowed, dashed line is used for other segments vice arrowed, dotted line. Times required for the procedure are not shown. Intermediate approach fix/point is not shown where no course reversal is authorized. Distance between components is shown vice a distance scale.
11.10.6.4	Parentheses are not shown.
11.10.6.5	Ground profile and shaded altitude blocks are not shown.
11.10.7.1	Procedure landing minima are shown vice aerodrome operating minima.
11.10.7.2	Decision Altitude/Height (DA/H) shown vice OCA/H.
11.10.8.2	Altitude/height table is not shown.
11.10.8.3	Altitude/height table is not shown.
11.10.8.4	Rate of descent table is not shown.
11.10.8.5	Descent gradient is not shown. Parentheses are not shown
11.10.8.6	Reference datum height is not shown. Descent angle shown to the nearest hundredth of a degree.
11.10.8.8	Cautionary note is dependent on multiple criteria.
11.10.9	Geographical coordinates are not shown. Fix formation bearings shown to the nearest degree. Mileages are shown to the nearest mile. Descent angles are not shown.
Chapter 12	**Visual Approach Chart – ICAO**
12.1	Charts provide visual arrival routes and altitudes.
12.2	Chart provided only when visual approach procedure has been established.
12.2.1	Stopways are not indicated.
12.3.3	Charts are shown at scale of 1:250,000
12.4	Sheet size is 8.25 inches by 5.375 inches.
12.5.2	Graduation marks are not shown
12.5.5.2.1	The datum (MSL) is stated in the Instrument Approach Chart legend, not on the chart.
12.6.2	Runway threshold elevations are not shown.
12.7.1.1	Place names are not shown.
12.8	Magnetic variation is shown only in areas of compass instability and on charts North of 67 degrees of latitude.
12.9.3	Grid meridian is not shown.
12.10.1.1	Abandoned airports are not shown
12.10.1.2	Airport elevation is not shown
12.10.2.3	Height of obstacle above Mean Sea Level is shown.
12.10.2.3.1	Parentheses are not shown.
12.10.3	Danger areas are not shown. Vertical limits are not shown.
12.10.4	Control zones and Traffic zones are not shown. Vertical limits are not shown.

12.10.5.3	VASI, MEHT, and angle of displacement are not shown.
Chapter 13	**Aerodrome/Heliport Chart – ICAO**
13.1	Airport Diagrams are developed for complex runway and taxiway layouts and to provide information for updating computer based navigation systems. Helicopter movement is supported only with the location of helipads.
13.3.1	Scale varies to allow depiction of one whole degree of latitude and longitude.
13.3.2	Latitude and longitude graticules are shown vice linear scale.
13.6.1	Latitude and longitude graticules are shown vice geographical coordinates. Elevations for runway ends, parking areas, and the airport are shown. Clearways are not shown. Parking areas and ramps are shown with their designations and without details. Taxiways and identification only are shown. Standard taxi routes are not shown. Boundaries of air traffic service are not shown. RNR observation sites are not shown. Approach and runway lighting are not shown. VASI systems are not shown. VOR checkpoint and frequency are not shown. Logon address is not shown.
13.6.1.d Surface type for heliports.	The U.S. does not show “type of surface for heliports.”
13.6.2 Elevated helidecks, etc.	The U.S. does not show “surface level, elevated, or helidecks.” Helicopter pads only are shown. Touchdown and liftoff areas are not shown. Final approach and takeoff areas are not shown. Safety areas are not shown. Clearways are not shown. Visual aids are not shown. Declared distances are not shown.
Chapter 14	**Aerodrome Ground Movement Chart – ICAO**
14.6.1 c)	The U.S. does not depict geographic positions of aircraft stands.
14.6.1 f)	The U.S. does not depict taxiway centerline points.
Chapter 16	**World Aeronautical Chart – ICAO 1:1 000 000**
16.3.1	Linear scales are shown in the following order: nautical miles, statute miles, kilometers.
16.4.3	Charts are folded in eleven vertical panels and one horizontal fold.
16.4.4	Sheet lines are shown on Title Panel chart index.
16.4.5	ICAO has not been notified of chart sheet lines.
16.5.1	Standard parallels are for each 8 degrees and are shown 1 degree and 20 minutes in from the Northern and Southern edges of the chart. Charts are not produced above 80 degrees latitude.
16.5.2	Distance between parallels is 1 degree. Above 56 degrees North, latitude graduation marks are shown only on every even degree of longitude. Distance between longitude meridians is 1 degree. Above 64 degrees North, meridian graduation marks are shown every 5 minutes.
16.5.3.1	Lengths of interval marks are as follow: 1 minute – .045 inches; 5 minutes – .065 inches; 10 minutes – .10 inches on both sides.
16.6	Chart numbering is indicated on Title Panel chart index.
16.7.2.1	Railroads are not shown within outlined populated areas.
16.7.2.2	Tunnels, if possible, are shown wherever they exist.
16.7.3.1	Roads are shown for radar and visual value and for distinct configurations that provide visual checkpoint value.
16.7.3.2	Roads are not shown within outlined populated areas.
16.7.9.2	Coordinates shown to the nearest minute.
16.7.9.3	Halo effect only shown for elevation value.
16.7.10.1	Notes will read ‘Relief data incomplete’ or ‘Limits of reliable relief information.’
16.7.10.2	Unreliable spot elevations are shown with an ‘x’ preceding the value.
16.7.12.1	Wooded areas are not shown.

16.7.13	Date of topographic information is not shown.
16.8.2	Date of isogonic information is shown in the chart legend.
16.9.2.1	Only airports published in the National Flight Data Digest are charted. They may be omitted if in congested areas or if airports with better facilities are nearby.
16.9.2.2	Other than hard surface runways are shown by symbol.
16.9.3.1	Obstacles greater than 200 feet are shown. Obstacles 200 feet or less may be shown.
16.9.4	Alert Areas, Military Operating Areas and Warning Areas are also shown.
16.9.5.1	Class D airspace and Class E (surface) airspace are not shown.
16.9.6	NAVAIDs without voice capability are shown with their frequency underlined.
16.9.7.1	Only aeronautical ground lights that operate continuously are shown.
16.9.9.2	Only marine lights that operate year round, with a range of at least 10 NM, and are omnidirectional are shown.
Chapter 17	**Aeronautical Chart – ICAO 1:500 000**
17.3.1	Linear scales are shown in the following order: nautical miles, statute miles, kilometers.
17.4.3	Charts are folded in eleven vertical panels and one horizontal fold.
17.4.4	Relationship of chart to WAC series is not shown.
17.5.4.1	The 10 minute interval mark is .10 inches on both sides of the graticule line.
17.6.1.1	Relationship of chart to WAC series is not shown.
17.7.2.2	Tunnels, if possible, are shown wherever they exist. Prominent tunnels are shown pictorially.
17.7.3.1	Roads are shown for radar and visual value and for distinct configurations that provide visual checkpoint value.
17.7.3.2	Roads are not shown within outlined populated areas. Dual lane highways are shown within large scale insets.
17.7.9.2	Coordinates are shown to the nearest minute.
17.7.9.3	Halo effect is only shown for elevation value.
17.7.10.1	Notes will read ‘Relief data incomplete’ or ‘Limits of reliable relief information.’
17.7.10.2	Unreliable spot elevations are shown with an ‘x’ preceding the value.
17.7.12.1	Wooded areas are not shown.
17.7.13	Date of topographic information is not shown.
17.8.2	Date of isogonic information is shown in the chart legend.
17.9.2.1	Only airports published in the National Flight Data Digest are charted. They may be omitted if in congested areas or if airports with better facilities are nearby.
17.9.2.2	Other than hard surface runways are shown by symbol.
17.9.2.3	Only abandoned airports with at least a 3000 feet hard surface runway and with landmark value are shown.
17.9.3.1	Obstacles greater than 200 feet are shown. Obstacles 200 feet or less may be shown.
17.9.4	Alert Areas, Military Operations Areas, and Warning Areas are also shown.
17.9.6	NAVAIDs without voice capability are shown with their frequency underlined.
17.9.7.1	Only aeronautical ground lights that operate continuously are shown.
17.9.7.2	Only marine lights that operate year round, with a range of at least 10 NM, and are omnidirectional are shown.

Appendix 2	**ICAO Chart Symbols**
No. 21	Tidal flats are shown in brown stipple over the blue open water tint.
No. 45	Rocks awash are shown by a six−armed symbol as adopted by the International Hydrographic Bureau.
No. 54, 61	Spaces between sides of bridge and road or railroad symbols are filled solid.
No. 70	Oil or gas fields are shown with an oil well derrick symbol.
No. 77	Ruins are shown by a solid square, properly annotated.
No. 94	The runway surface indicator (letter H) and the lighting indicator (letter L) are not normally used on high altitude Radio Navigation Charts. Only those airports with a minimum of 5,000 feet hard−surfaced runways are shown. The letter H is not used on low altitude Radio Navigation Charts. All airports depicted have hard−surfaced runways, excepting that where the letter ‘‘S’’ follows the runway length, the runway surface is soft. On Visual Navigation Charts of the 1:500 000 scale, a miniature runway layout depiction indicates airports with hard−surfaced runways at least 1,500 feet long.
No. 110	Aerodrome traffic zones are termed ‘‘SURFACE AREAS’’ in U.S. usage. These are all of standard dimensions. Limits are not shown, but airports at which SURFACE AREAS have been established are indicated by a color−coded airport symbol.
No. 113	Limits of advisory areas are shown on Radio Navigation Charts with a crenellated line. This depiction is indicated in the legend as the border of an Air Route Traffic Control Center (ARTCC).
No. 116	The nomenclature ‘‘non−compulsory” is used instead of ‘‘on request’’ for appropriate position reporting points.
No. 127	Isogonic lines are shown on Radio Navigation Charts only as short sections of continuous lines extending inward from the neat lines.
*Indicates ICAO Recommended Practice.	

ANNEX 5 − UNITS OF MEASUREMENT TO BE USED IN AIR−GROUND COMMUNICATIONS

General Statement: Most of the individual SI quantities and measurement units listed in the Annex are not commonly used in routine international air operations. Although most U.S. national standards and practices do not specifically utilize the SI units, the SI units of measurement are acceptable and not prohibited from use by U.S. regulations. Under the present operational practices, these differences are not significant and are identified in U.S. Aeronautical Information and Technical Publications. In accordance with Article 38 of the Convention, the U.S. wishes to file the enclosed Notice of Differences to Annex 5, Fourth Edition, as amended by Amendment 13. Only those differences recognized as necessary for the safety or regularity of international air navigation and required for day−to−day operations in U.S. airspace are listed separately in this notification. In addition, we do not support the establishment of dates for planning purpose for termination of the use of bar, knot, nautical mile, and foot. (Chapter 4, Table 4−1) Until sufficient operational analysis identifies and resolves the safety issues, the establishment of termination dates for use of the bar, knot, nautical mile, and foot is unacceptable.

Reference: Table 3−4, Chapter 3, Annex 5, Fourth Edition, as Amended by Amendment 13.

Chapter 3	**Standard application of units of measurement**
3.2.2 Table 3−3 Table 3−4	Table 3−4 Ref 1.12, runway length and Ref 1.13 runway visual range, unit of measure is in feet. Table 3−4 Ref 1.16, visibility unit of measure is statute miles (SM). Table 3−4 Ref 3.2, altimeter setting, unit of measure is reported as inches of mercury. Table 3−4, Ref 3.3, atmospheric pressure, unit of measure is in inches of mercury.

Chapter 3.3 (Table 3−4)

Ref. No.	**Quantity**	**Unit (SI)**	**Differences as of 5 January 1988**
1.4	distance (short)	meter	foot
1.12	runway length	meter	foot
1.13	runway visual range	meter	foot
1.15	time	hour and minute, the day of 24 hours beginning at midnight UTC	Time may be given in local time
1.16	visibility	kilometer	statute mile and fraction
2.12	mass (weight)	kilogram	pound (lb)
3.2	altimeter setting	hectopascal	inches of mercury
6.7	temperature	°C	C° except Fahrenheit used for surface air and dew point temperature
10.1	absorbed dose	Gy	rd
10.2	absorbed dose rate	Gy/s	rd/s
10.4	dose equivalent	Sv	rem
10.5	radiation exposure	C/kg	R
10.6	exposure rate	C/kg·s	R/s

All non−SI alternative units listed in this table will continue to be utilized where permitted.
(1.1, 1.3, 1.5, 1.7, 4.1, 4.7, 4.15, 4.16)

Attachment B	**Guidance on the application of System of Units (SI)**
5.4.2	Specifications differ from Attachment B, Style and usage, Para 5.4 Numbers. Comma is not acceptable as a decimal marker. Comma is used to separate digits in groups of three.

ANNEX 6 – OPERATION OF AIRCRAFT	
Part I	
Chapter 1	**Definitions**
Chapter 1 Reference Definition	For CAT I, the United States requires a decision height of not less than 200 feet and either visibility of not less than one-half mile ra runway visual range of 2400 (RVR) 1800 feet with operative touchdown zone and runway center line lights. CAT II provide approaches to minima of less than 200 feet decision height/2400 feet runway visual range to as low as 100 feet decision height/1200 feet runway visual range. CAT IIIB the criteria are the same as Appendix 6, however, the runway visual range is expressed in feet and less than 700 feet (200m) but no less than 150 feet (50m).
Chapter 2	**Applicability**
Chapter 2 Reference 2.1.1	The U.S. does not give operational credit to EFVS on a head down display.
Chapter 2 Reference 2.2.1.2	In the U.S., while straight-in instrument approach procedures using EFVS may be conducted in visibility conditions that are less than that specified for an approach using "natural vision," the U.S. regulations do not provide lower minima. The minima for CAT I ILS, APV, and non-precision approaches using EFVS remains the same whether the approach is conducted using natural vision or conducted using EFVS. If natural vision is used to operate below DA/MDA, then U.S. regulations require that the flight visibility observed by the pilot from the cockpit be less than what is prescribed in the instrument approach procedure. If EFVS is used, then the enhanced flight visibility observed by using the EFVS cannot be less than that prescribed by the instrument approach procedure. EFVS simply provides another means of operating visually in the visual segment between DA/MDA down to 100 ft. above touchdown zone elevation.
Chapter 2 Reference 2.3.1.2	U.S. regulations only permit operational credit for EFVS on a HUD or an equivalent display. An equivalent display is a display that provides EFVS sensor imagery and aircraft flight symbology on some type of "head up" presentation, such as a head mounted, etc. The U.S. does not give operational credit to EFVS on a head down display. U.S. regulations currently do not require a repeater display for the non-flying pilot.
Chapter 2 Reference 2.4.1	U.S. regulations do not require training for Part 91 operators (except for Part 91 Subpart K operators), nor do they address recency of experience for those operators. Training is required, however, for Parts 121, 125, 129, 135, and 91 Subpart K operators.
Chapter 3	**General**
Chapter 3 Reference 3.2.4	The guidance discusses how the maximum diversion time should not exceed the time limited system. The United States agrees with this guidance, however, the Annex language allows for diversions in excess of the time limited system.
Chapter 3 Reference 3.2.9	The U.S. does not mandate a safety management system.
Chapter 3 Reference 3.3.1.2.1 a)	That operator will need to have a specific approval to be further than 60 minutes to an en-route alternate aerodrome (calculated at in ISA conditions…). Delete "at" in the sentence.
Chapter 3 Reference 3.3.5	The U.S. currently does not have an SMS requirement.
Chapter 3 Reference 3.3.6	The U.S. Flight Quality Assurance Program is a voluntary program.
Chapter 3 Reference 3.3.7	The U.S. Flight Quality Assurance Program is a voluntary program.
Chapter 3 Reference 3.3.9	The U.S. currently does not have an SMS requirement.
Chapter 4	**Flight Operations**

Chapter 4 Reference 4.2.2.3	U.S. regulations exempt a single pilot in a 9-or-less seating configuration operation from having a maintenance manual. Rather, U.S. regulations (CFR 135.411) require a single pilot to comply with the maintenance requirements in CFR 91 and 43 in lieu of a maintenance manual or program.
Chapter 4 Reference 4.2.10.1	The U.S. does not require single engine aeroplanes, commuter and on-demand operators to maintain fuel and oil records.
Chapter 4 Reference 4.2.10.2	For multiengine aeroplanes, commuter and on-demand operators are required to maintain fuel and oil records as part of the load manifest for 30 days rather than 3 months. For single engine aeroplanes, commuter and on-demand operators are not required to maintain fuel and oil records.
Chapter 4 Reference 4.2.11.5	The U.S. does not have a requirement to main cosmic radiation dose records.
Chapter 4 Reference 4.3.2	For multiengine, aeroplanes, commuter and on-demand operators are required to maintain fuel and oil records as part of the load manifest for 30 days rather than 3 months. For single engine aeroplanes, commuter and on-demand operators are not required to maintain fuel and oil records.
Chapter 4 Reference 4.3.4.1.2	The FAA treats takeoff alternates differently. Take off alternate: for airplanes with 3 or more engines SP/59/4.1 states that the take-off alternate aerodrome must be located within the following flight time distance from the aerodrome of departure: two hours of flight time at an all-engine operating cruising speed, determined from the aircraft operating manual, calculated in ISA and still-air conditions using the actual take-off mass. FAR 121.617 states 2 hours at normal cruising speed with one engine inoperative.
Chapter 4 Reference 4.3.4.3	The FAA treats “separate runways” differently.
Chapter 4 Reference 4.3.4.3.1	a) 2) states that for a flight to be conducted in accordance with the instrument flight rules, at least one destination alternate aerodrome must be selected and specified in the operational and ATS flight plans, unless:…separate runways are usable at the estimated time of use of the destination aerodromes with at least one runway have an operational instrument approach procedure; Note 1.- Separate runways are two or more runways at the same aerodrome configured such if one runway is closed, operations to the other runway(s) can be conducted.
Chapter 4 Reference 4.3.4.3.2	The FAA does not allow for dispatch to an airport if airport ETA is forecast below minimums, even if two alternates are listed.
Chapter 4 Reference 4.3.4.4	The FAA does not currently require a Safety Risk Assessment.
Chapter 4 Reference 4.3.5.2	Requires destination airport to be at or above landing minima, which conflicts with 4.3.4.3.2 U.S. regulations have no such conflict.
Chapter 4 Reference 4.3.6.3	The ICAO document uses “contingency fuel” and contingency fuel is defined in the proposed text, but not in the definition section. The FAA believes the term “contingency fuel” should be defined in the definition section. d) 3) SP 59.4.1 states that destination alternate fuel is defined as “3) where a flight is operated without a destination alternate aerodrome, the amount of fuel required to enable the aeroplane to fly for 15 minutes at holding speed at 450 m (1,500 ft) above destination aerodrome elevation in standard conditions.” FAR 121.645 require fuel for 10% of the time from origin to destination which may or may not be the same as holding for 15 minutes at 1500 feet; the FAA does not require 15 minutes of holding fuel if there is no listed alternate.
Chapter 4 Reference 4.3.6.3.1	The United States does not require fuel to execute the approach and a missed approach at the destination airport. The United States requires an addition 10% reserve for Flag and Supplemental operations. For commuter and on-demand operations 45 minutes fuel is required after flying to the alternate rather than ICAO Standard of 30 minutes at 1,500 feet.

Chapter Reference 4.3.6.3.2	The fuel reserve requirements for commuter and on-demand operations are expressed in terms of flight time and do not include a specific altitude requirement.
Chapter 4 Reference 4.3.6.3	The ICAO document uses “contingency fuel” and contingency fuel is defined in the proposed text, but not in the definition section. The FAA believes the term “contingency fuel” should be defined in the definition section. d) 3) SP 59.4.1 states that destination alternate fuel is defined as “3) where a flight is operated without a destination alternate aerodrome, the amount of fuel required to enable the aeroplane to fly for 15 minutes at holding speed at 450 m (1,500 ft) above destination aerodrome elevation in standard conditions.” FAR 121.645 require fuel for 10% of the time from origin to destination which may or may not be the same as holding for 15 minutes at 1500 feet; the FAA does not require 15 minutes of holding fuel if there is no listed alternate.
Chapter 4 Reference 4.3.6.4	Except for ETOPS operations, the U.S. does not require operators to compute fuel requirements for loss of pressurization.
Chapter 4 Reference 4.3.6.6	The FAA does not currently require a Safety Risk Assessment.
Chapter 4 Reference 4.3.7.1	An operator must establish policies and procedures, approved by the State of the Operator, to ensure that in-flight fuel checks and fuel management are performed.
Chapter 4 Reference 4.3.7.2	The pilot-in-command must continually ensure that the amount of usable fuel remaining on board is not less than the fuel required to proceed to an aerodrome where a safe landing can be made with the planned final reserve fuel remaining upon landing.
Chapter 4 Reference 4.3.7.2.1	The pilot-in-command must request delay information from ATC when unanticipated circumstances may result in landing at the destination aerodrome with less than the final reserve fuel plus any fuel required proceeding to an alternate aerodrome or the fuel required to operate to an isolated aerodrome.
Chapter 4 Reference 4.3.7.2.2	The pilot-in-command must advise ATC of a minimum fuel state by declaring MINIMUM FUEL when, having committed to land at a specific aerodrome, the pilot calculates that any change to the existing clearance to that aerodrome may result in landing with less than planned final reserve fuel. Note 1.—The declaration of MINIMUM FUEL informs ATC that all planned aerodrome options have been reduced to a specific aerodrome of intended landing and any change to the existing clearance may result in landing with less than planned final reserve fuel. This is not an emergency situation but an indication that an emergency situation is possible should any additional delay occur.

Chapter 4 Reference 4.3.7.2.3	The pilot-in-command must declare a situation of fuel emergency by broadcasting MAYDAY MAYDAY MAYDAY FUEL, when the calculated usable fuel predicted to be available upon landing at the nearest aerodrome where a safe landing can be made is less than the planned final reserve fuel. Note 1.—The planned final reserve fuel refers to the value calculated in 4.3.6.3 e) 1) or 2) and is the minimum amount of fuel required upon landing at any aerodrome. Note 2.—The words, "MAYDAY FUEL" describe the nature of the distress conditions as required in Annex 10, Volume II, 5.3.2.1, b) 3. Note 3.—Guidance on procedures for in-flight fuel management are contained in the Fuel Planning Manual (Doc xxxx) The proposed section 4.7.2.3 does not require that airplanes with more than two turbine engines be certified to extended diversion time operations (EDTO) requirements, as is required for airplanes with two turbine engines. In the United States, amendment number 121-329 (72 FR 1808) to Title 14, Code of Federal Regulations (14 CFR) part 121 extended most requirements previously applicable only to 14 CFR part 121 two-engine airplanes to 14 CFR part 121 passenger-carrying three- and four-engine airplane operations for airplanes manufactured on or after February 17, 2015 (reference 14 CFR 121.162). Omission of these EDTO requirements for airplanes with more than two turbine engines from the ICAO standard will result in a significant difference from FAA regulations.
Chapter 4 Reference 4.3.8.2	The U.S. requires descent within four minutes to 14,000 ft not 13,000 ft, in the event of loss of pressurization. For commuter and on-demand operations, the descent altitude is 15,000 ft.
Chapter 4 Reference 4.7.2.2	Under the proposed standard, the maximum diversion time be set by the State of the Operator. The U.S. has set time limits. The problem with having a bunch of different time limits is that some will be very conservative, some will be very liberal. The safety margins will be different.
Chapter 4 Reference 4.7.2.3.1	The ICAO document allows for diversion times that exceed the time limits of the most time-limited system if a specific safety risk assessment is made. 14 CFR 121.633 goes the other direction. 121.633 take the most-time limited system and subtract 15 minutes. The U.S. philosophy differs significantly from the ICAO proposal.

Chapter 4 Reference 4.7.3.2	a) requires when approving the appropriate maximum diversion time for an operator, the State of the Operator must ensure that "for all aeroplanes: the most limiting EDTO significant system time limitation, if any, indicated in the Aeroplane Flight Manual (directly or by reference) and relevant to that particular operation is not exceeded." However, section 4.7.2.3.1 states "Notwithstanding the provisions in 4.7.2.3 a); the State of the Operator may, based on the results of a **specific safety risk assessment** conducted by the operator which demonstrates how an **equivalent level of safety** will be maintained, approve operations beyond the time limits of the most time limited system." A note at the end of this section states that guidance for the specific safety risk assessment is contained in Attachment D of the document. This provision would allow operations beyond the certified limits by effectively allowing an operational exemption from the requirement to plan routes to stay within the time-limited systems capabilities defined in the airplane flight manual. This provision could result in a much degraded level of safety. 14 CFR 121.633(a) states "For [Extended Operations (ETOPS)] up to and including 180 minutes, no person may list an airport as an ETOPS Alternate Airport in a dispatch or flight release if the time needed to fly to that airport (at the one-engine inoperative cruise speed under standard conditions in still air) would exceed the approved time for the airplane's most limiting ETOPS Significant System (including the airplane's most limiting fire suppression system time for those cargo and baggage compartments required by regulation to have fire-suppression systems) minus 15 minutes." For ETOPS beyond 180 minutes, 14 CFR 121.633(b) has additional requirements. There is no provision within 14 CFR part 121 for planning a route that would exceed the airplane's most limiting system's time capability. The ICAO proposal will result in a significant difference from FAA regulations. Regarding the criteria that the standard would require to be included in the specific safety risk assessment and the guidance provided in Attachment D, we have the following comments: a. Such an assessment may be beyond the technical capabilities of an operator to perform because of the need for detailed analysis of reliability data that only the manufacturer has the expertise and knowledge to conduct. b. The guidance provided in Attachment D is not specific enough to ensure that an adequate safety risk assessment would be conducted.

Chapter 4 Reference 4.7.3.2 (continued)	c. Paragraph 3.1.2.4 c) of Attachment D (page B-19) says the reliability of each time limited system refers to quantifiable standards of design, testing and monitoring that ensure the reliability of each particular EDTO significant time-limited system. The FAA position is that the relevant safety criteria must be that one would not need to use the time-limited system during the period of the flight where the airplane would be beyond the system's time capability. For example, a Class C cargo compartment fire suppression system is the most common ETDO significant time-limited system. Having the need to suppress a fire beyond the time capability of the fire suppression system would be a potentially catastrophic event. Any proposal to operate beyond the time capability of the cargo fire suppression system would need to include an analysis or process to ensure that the cargo fire suppression system would *never* be needed during that time. For example, such a proposal would include an operational requirement that no materials that could burn are permitted in any compartment for which the cargo fire suppression system does not have sufficient capability for the route being flown. Therefore, the reliability of the system is not relevant under such circumstances.
Chapter 4 Reference 4.9.2	The U.S. allows turbo-jets that are certificated for single pilot operations.
Chapter 5	**Aeroplane performance operating limitations**
Chapter 5 Reference 5.2.8.1	The United States does not have specific regulations that require the loss of Runway length be considered due to alignment of the airplane prior to takeoff. However, the United States does within its aircraft certification regulations require aircraft performance be determined by using the point on the runway where takeoff is started when computing takeoff distance. This same criteria is used when computing runway available for accelerate/stop distance. Accounting for runway loss due to alignment is done within each air carrier¿s approved operations manual.
Chapter 5 Reference 5.4.1	The U.s. does not require turbine engine reliability to have a power loss rate of less than 1 per 100,000 engine hours, a radio altimeter, two attitude indicators, airborne weather radar, a certified navigation system to identify aerodromes as forced landing areas, or an engine fire warning system.
Chapter 5 Reference 5.4.2	The U.S. does not require an automatic trend monitoring system on aeroplanes certificated after 1 January 2005.
Chapter 6	**Aeroplane instruments, equipment and flight documents**
Chapter 6 Reference 6.17.2	The U.S. does not require an ELT unless operated over water or remote areas.
Chapter 6 Reference 6.17.3	The U.S. does not require an ELT unless operated over water or remote areas.
Chapter 6 Reference 6.17.4	The U.S. does not require an ELT unless operated over water or remote areas.
Chapter 6 Reference 6.17.5	The U.S. does not require an ELT unless operated over water or remote areas.
Chapter 6 Reference 6.19.2	The U.S. does not require pressure altitude information with a resolution of 25 feet or better.
Chapter 6 Reference 6.19.3	The U.S. does not require pressure altitude information with a resolution of 25 feet or better.
6.2.2.2 Chapter 6 Rec.	The United States does not specifically require a universal precaution kit.
6.2.2.2 Chapter 6 Rec. *Note*	The United States does not specifically require the following items to be carried in a first-aid kit: antiemetic, antacid, burn dressing, tweezers, or thermometers.

6.2.2.2 Chapter 6 Rec. *Note*	The United States does not specifically require the following items to be carried in an emergency medical kit: adrenocortical steroid, antiemetic, diuretic, emergency tracheal catheter, medication for postpartum bleeding, oral beta blocker, thermometer, umbilical cord clamp, urinary catheter, venous catheter.
Chapter 6 Reference 6.3.1.2	The United States does not classify FDRs as “type 1” or “type II,” rather the United States requires that specific data parameters must be recorded on certain aeroplanes considering the original type certification dates of the aeroplane.
Chapter 6 Reference 6.3.5.1	The United States does not require flight data recorders that record the referenced parameters for all aircraft meeting this weight criterion. For turbine engine powered aeroplanes having a seating capacity of 10-19 seats that were registered in the U.S. prior to 11 October 1991 are exempt from this requirement.
Chapter 6 Reference 6.4.1	The U.S. does not require a time piece.
Chapter 6 Reference 6.4.2	The United States does not require aeroplanes on VFR flights, when operated as controlled flights, to be equipped in accordance with the requirements for aeroplanes operated under instrument flight rules.
Chapter 6 Reference 6.5.1	Seaplanes are not required to have equipment for making the sound signals prescribed in the International Regulations for Preventing Collision at Sea. Seaplanes are not required to be equipped with sea anchor.
Chapter 6 Reference 6.5.3.1	The United States defines extended over water operations for aircraft other than helicopters as an operation over water at a horizontal distance of more than 50 nautical miles from the nearest shoreline.
Chapter 6 Reference 6.12	The United States does not require equipment to measure cosmic radiation.
Chapter 6 Reference 6.15.6	The U.S. does not require ground prox systems for piston powered airplanes.
Chapter 6 Reference 6.17.7	The U.S. does not require an ELT for scheduled air carrier operations conducted by scheduled operations, unless the scheduled operation is operated over water or remote areas. The U.S. only requires one ELT on flights over water or remote areas.
Chapter 6 Reference 6.17.8	The U.S. does not require an ELT for scheduled air carrier operations conducted by scheduled operations, unless the scheduled operation is operated over water or remote areas. The U.S. only requires one ELT on flights over water or remote areas.
Chapter 6 Reference 6.17.9	The U.S. does not require an ELT for scheduled air carrier operations conducted by scheduled operations, unless the scheduled operation is operated over water or remote areas. The U.S. only requires one ELT on flights over water or remote areas.
Chapter 6 Reference 6.17.10	The U.S. does not require an ELT for scheduled air carrier operations conducted by scheduled operations, unless the scheduled operation is operated over water or remote areas. The U.S. only requires one ELT on flights over water or remote areas.
Chapter 6 Reference 6.17.11	The U.S. does not require an ELT for scheduled air carrier operations conducted by scheduled operations, unless the scheduled operation is operated over water or remote areas. The U.S. only requires one ELT on flights over water or remote areas.
Chapter 6 Reference 6.18.3	The United States does not equire all piston engine airplanes to have TCAS.
Chapter 6 Reference 6.19.2	The U.S. does not require pressure altitude information with a resolution of 25 feet or better.
Chapter 6 Reference 6.19.3	The U.S. does not require pressure altitude information with a resolution of 25 feet or better.
Chapter 6 Reference 6.20	The United States does not require crewmembers on flight deck duty to communicate through boom or throat microphones below the transition level/altitude.

Chapter 6 Reference 6.22	The U.S. requires an autopilot for IFR passenger operations, not for VFR or cargo operations. A) The U.S. does not require a boom microphone. B) The U.S. requires charts be available and used.
Chapter 7	**Aeroplane communication and navigation equipment**
Chapter 7 Reference 7.2.7	The U.S. will publish guidance for compliance with this regulation.
Chapter 8	**Aeroplane Maintenance**
Chapter 8 Reference 8.1.3	The person signing the maintenance release must have a CFR 65 certificate.
Chapter 8 Reference 8.4.2	The United States requires that records of work be retained until the work is repeated, superseded by other work or for one year after the work is performed, but does not require the records be retained after the unit has been permanently withdrawn from service.
Chapter 8 Reference 8.7.1.1	Left Intentionally Blank
Chapter 8 Reference 8.7.3.4	The U.S. currently does not have an SMS requirement.
Chapter 8 Reference 8.7.3.5	The U.S. currently does not have an SMS requirement.
Chapter 9	**Aeroplane flight crew**
Chapter 9 Reference 9.4.2.1	The U.S. does not have currency requirements for cruise relief pilots.
Chapter 9 Reference 9.4.2.2	The U.S. does not have currency requirements for cruise relief pilots.
Chapter 9 Reference 9.4.3.2	The United States requires air carrier pilots “before beginning a flight become familiar with all available information concerning the flight.” It does not require the pilot to demonstrate this knowledge.
Chapter 9 Reference 9.4.3.5	The U.S. does not restrict operators from using a pilot as a pilot-in-command on a route where the pilot has not, within the preceding 12 months, made at least one trip between the terminal points of that route as a pilot member of the flight crew, or as an observer on the flight deck except for special areas and airports.
Chapter 9 Reference 9.4.3.6	The U.S. does not have an area/route 12 month currency requirement for pilots in command, except for special areas and airports.
Chapter 9 Reference 9.4.4.1	For PICs, the U.S. requires 1 proficiency checks per 12 months and either proficiency check or an approved simulator training course, for SICs, the U.S. requires 1 proficiency check each 24 months and another proficiency check or an approved simulator training course every 12 months.
Chapter 9 Reference 9.4.5.2	The U.S. does not require specific experience requirements for single pilot operations at night or during IFR operations.
Chapter 9 Reference 9.5	A specific requirement that a spare set of suitable correcting spectacles be kept readily available when exercising the privilege of the license is not established.
Chapter 13	**Security**
Chapter 13 Reference 13.6.1	The United States is currently developing regulations.
Attachment J	**Head-up displays (HUD) and enhanced vision system (EVS)**
Attachment J, Introduction – terminology for EVS	The U.S. uses the term Enhanced Flight Vision System (EFVS) to mean a system that qualifies for operational credit. The term EFVS means a system that does not qualify for operational credit.

Attachment J, Introduction – EVS and lower minima	In the U.S., while straight-in instrument approach procedures using EFVS may be conducted in visibility conditions that are less than that specified for an approach using "natural vision," the U.S. regulations do not provide lower minima. The minima for CAT I ILS, APV, and non-precision approaches using EFVS remains the same whether the approach is conducted using natural vision or conducted using EFVS. If natural vision is used to operate below DA/MDA, then U.S. regulations require that the flight visibility observed by the pilot from the cockpit be less than what is prescribed in the instrument approach procedure. If EFVS is used, then the enhanced flight visibility observed by using the EFVS cannot be less than that prescribed by the instrument approach procedure. EFVS simply provides another means of operating visually in the visual segment between DA/MDA down to 100 ft. above touchdown zone elevation.
Amendment 35	b) not be of a type listed in Annex A, Group II of the Montreal Protocol on Substance that Deplete the Ozone Layer, 8th Edition, 2009.
PART II	
Section I	**General**
Chapter 1 Reference Definition	Total vertical error (TVE)-- The Untied States does not have a corresponding defined term.
Chapter 1 Reference Definition	Altimetry system error (ASE)-- The United States does not have a corresponding defined term.
Chapter 1 Reference Definition	Target Level of Safety (TLS) -- The United States does not have a corresponding defined term.
Section II	**General Aviation Operations**
Chapter 2 Reference 2.1.1.5	The pilot-in-command is not required to have available on board the aeroplane information concerning search and rescue services.
Chapter 2 Reference 2.2.3.2	Intentionally left blank.
Chapter 2 Reference 2.2.3.4.2	The United States does not require a destination alternate aerodrome when the weather at the aerodrome of intended landing is forecast to have a ceiling of at least 2,000 ft (600 m) and a visibility of at least 3 miles (4.8 km). In addition, standard alternate aerodrome minima are prescribed 600 ft (185 m) ceiling and 2 miles (3.2 km) visibility for precision approaches, and 800 ft (243 m) ceiling and 2 miles (3.2 km) visibility for non-precision approaches.
Chapter 2 Reference 2.2.3.4.3	In addition to the Standard prescribed in Annex 6, Part II, 4.6.4, the U.S. prohibits a pilot from taking of a US registered large or turbine-powered multi-engine general aviation aeroplane if there is frost, snow, or ice adhering to critical systems, components, and surfaces of the aircraft.
Chapter 2 Reference 2.2.3.7.1	The United States has no provisions concerning aircraft refueling with passengers on board.
Chapter 2 Reference 2.2.3.7.2	The United States has no provisions concerning aircraft refueling with passengers on board.
Chapter 2 Reference 2.4.2.3	b) not be a type listed in Annex A, Group II of the Montreal Protocol on Substances That Deplete the Ozone Layer, 8th Edition, 2009. Note: The United States only requires that the type of extinguishing agent used for hand fire extinguishers "be appropriate to the kinds of fire likely to occur where that agent is to be used." The United States only require the use of a built-in fire extinguisher for each lavatory disposal receptacle for Transport Category Airplanes.

Chapter 2 Reference 2.4.2.4	The United States requires all airplanes manufactured after December 12, 1986 to be equipped with a shoulder harness for crew member seats, in addition to the seat belt. For small civil airplanes manufactured after July 18, 1978, a shoulder harness and seat belt are required for the front seats only, which include the flight crew.
Chapter 2 Reference 2.4.2.5.1	The United States does not require break-in point markings.
Chapter 2 Reference 2.4.2.5.2	The United States does not require break-in point markings.
Chapter 2 Reference 2.4.3.2	The United States does not require airplanes on VFR flights, when operated as controlled flights, to be equipped in accordance to the requirements for aircraft operated under instrument flight rules.
Chapter 2 Reference 2.4.4.1	The United States does not require all seaplanes on all flights to be equipped with one life jacket or equivalent individual floatation device for each person on board; equipment for making the sound signals prescribed in the International Regulations for Preventing Collisions at Sea; and anchor or a sea anchor (drogue).
Chapter 2 Reference 2.4.5	Airplanes operated over land areas designated as areas in which search and rescue would be especially difficult are not required to be equipped with signaling devices or life-saving equipment. The United States does not designate areas in which search and rescue would be especially difficult, and therefore does not require such additional equipment.
Chapter 2 Reference 2.4.8	Airplanes operated under visual flight rules at night are not required to be equipped with c) to f) a) a turn and slip indicator; b) an altitude indicator (artificial horizon); c) a heading indicator (directional gyroscope); d) a means of indicating whether the supply of power to the gyroscopic instruments is adequate; 3) a sensitive pressure altimeter; f) a means of indicating the outside air temperature; g) a timepiece with a sweep second hand; h) an airspeed indicating system with a means of preventing malfunctioning due to condensation or icing; i) a rate-of-climb and descent indicator; j) a landing light; k) illumination for flight instruments and equipment; l) lights in passenger compartments; and m) a flashlight (electric torch) for each crew member station.
Chapter 2 Reference 2.4.11.2	Ground proximity warning systems are not required on general aviation aircraft, including turbine-engine airplanes with a take-off mass greater than 5700 kg or capable of carrying more than nine passengers.
Chapter 2 Reference 2.4.11.3	Ground proximity warning systems are not required on general aviation aircraft, including turbine-engine airplanes with a take-off mass greater than 5700 kg or capable of carrying more than nine passengers.
Chapter 2 Reference 2.4.11.4	Ground proximity warning systems are not required on general aviation aircraft, including turbine-engine airplanes with a take-off mass greater than 5700 kg or capable of carrying more than nine passengers.
Chapter 2 Reference 2.5.1.1	Except when operating under controlled flight, airplanes operated at night are not required to have radio communications equipment capable of conducting two-way communications. United States requirements for radio communications equipment are based upon the type of airspace in which the operation occurs, and not on the time of the day.
Chapter 2 Reference 2.5.1.2	When more than one radio communications equipment unit is required, the United States has no provision that each unit be independent of any other.
Chapter 2 Reference 2.5.1.4	Except when operating under controlled flight, airplanes on extended flights over water or on flights over underdeveloped land are not required to have radio communications equipment capable of conducting two-way communications.
Chapter 2 Reference 2.5.2.1	The United States has no provisions concerning requirement aircraft navigation instruments enabling a flight to proceed in accordance with a flight plan, prescribed RNP types, or the air traffic services provided. The United States does not specify a minimum distance between landmark references used by flight operating under visual flight rules.

Chapter 2 Reference 2.5.2.6	Though the FAA does not have RVSM operational reporting requirements, it does have a quality assurance requirement in 14 CFR appendix G Sections 2,3, and 4. In addition, RVSM operational deviation may be noted by FAA ATC and reported the FAA Office of Aviation Safety for disposition as deem appropriate.
Chapter 2 Reference 2.5.2.8	Airplanes are not required to have navigation equipment to ensure that in the event of the failure of one item of equipment at any stage of the flight, the remaining equipment will enable the aeroplane to proceed in accordance with Annex 6, Part II, 2.2.1. to 7.2.3.
Chapter 2 Reference 2.6.2.2.	The FAA established Title 14 Code of Federal Regulations section 43.10, which speaks to the disposition of parts, removed from type-certificated products. After April 15, 2002, each person who removes a life-limited part from a type certificated product must ensure that the part is controlled using: a record keeping system; tag or record attached to part; non-permanent marking; permanent marking; or segregation.
Chapter 2 Reference 2.7.2.2	Only pilot operating aircraft with TCAS under 14 CFR parts 91 (subpart K), 121, and 135 are required to having on the use of TCAS.
Section III	**Large and Turbojet Aeroplanes**
Chapter 3 Reference 3.6.3.1.4	The United States limits this requirement to multiengine, turbine-power or rotor craft with a seating configuration of ten or more seats.
Chapter 3 Reference 3.6.3.3.1	The United States does not base requirements for flight data recorders on aircraft mass, but on passenger and engine configuration.
Chapter 3 Reference 3.6.3.10	The United States does not have a specific regulation that requires operational checks and evaluations of recordings from the flight data recorder and cockpit voice recorder to ensure continued serviceability of the recorders. However, the United States does require this maintenance function be carried out as part of the instructions for continued airworthiness.
PART III	
Section I	**General**
Chapter 1 Reference Definition	Take-off decision point (TDP)-- The United States does not define this term.
Chapter 1 Reference Definition	Defined point before landing (DPBL)-- The United States does not define this term.
Chapter 1 Reference Definition	For CAT 1,the U.S. requires a decision height of not less than 200 feet and either visibility of not less than one-half mile or a runway visual range of 24000 feet (RVR) 1800 feet with operative touchdown zone and runway center line lights. CAT II provide approaches to minima of less than 200 feet decision heigh/2400 feet runway visual range to as low as 100 feet decision height/1200 feet runway visual range. CAT III B the criteria are the same as Appendix 6, however, the runway visual range is expressed in feet and less than 700 feet (200m) but not less than 150 feet (50 m).
Chapter 1 Reference Definition	Hostile environment -- The U.S. does not define this term.
Chapter 1 Reference Definition	Non-hostile environment – The U.S. does not define this term.
Chapter 1 Reference Definition	Operations in performance Class 3 – The U.S. does not define this term.
Chapter 1 Reference Definition	Integrated survival suit – The U.S. does not define this term.
Chapter 1 Reference Definition	Elevated heliport – The United States does not define this term in its rules. However, the United States does contain definitions in the listed documents.
Chapter 1 Reference Definition	Congested hostile environment – The U.S. does not define this term.
Chapter 1 Reference Definition	En-route phase – The United States does not define this term in its rules. However, the United States does contain definition in the listed documents.
Chapter 1 Reference Definition	Defined point after take-off (DPATO)-- The United States does not define this term in its rules.
Chapter 1 Reference Definition	Operations in performance Class 2—The United States does not define this term.

Chapter 1 Reference Definition	Approach and landing phase – helicopters -- For CAT 1,the U.S. requires a decision height of not less than 200 feet and either visibility of not less than one-half mile or a runway visual range of 24000 feet (RVR) 1800 feet with operative touchdown zone and runway center line lights. CAT II provide approaches to minima of less than 200 feet decision heigh/2400 feet runway visual range to as low as 100 feet decision height/1200 feet runway visual range. CAT III B the criteria are the same as Appendix 6, however, the runway visual range is expressed in feet and less than 700 feet (200m) but not less than 150 feet (50 m).
Chapter 1 Reference Definition	Take-off and initial climb phase – The United States does not define this term in its rules. However, the United States does contain definitions in the listed documents.
Chapter 1 Reference Definition	Alternate heliport – The U.S. does not define this term.
Chapter 1 Reference Definition	Non-congested hostile environment – The U.S. does not define this term.
Chapter 1 Reference Definition	Operations in performance Class 1 – The U.S. does not define this term.
Section II	**International Commercial Air Transport**
Chapter 1 Reference 1.1.5	The pilot-in-command is not required to have available on board the helicopter essential information concerning search and rescue services.
Chapter 1 Reference 1.3.6	The U.S. currently does not have an SMS requirement.
Chapter 2 Reference 2.2.3.1	Intentionally left blank.
Chapter 2 Reference 2.2.4.2	Intentionally left blank
Chapter 2 Reference 2.2.9.1	Helicopter operators are not required to maintain fuel and oil records showing that the requirements of 2.3.6 have been met.
Chapter 2 Reference 2.2.9.2	Helicopter operators are not required to keep fuel and oil records for three months, though there is a requirement that load manifests be retained for 30 days.
Chapter 2 Reference 2.2.12	Intentionally left blank
Chapter 2 Reference 2.3.2	The pilot-in-command is not required to ensure that all persons on board are aware of the location and general manner of use of the principal emergency equipment carried for collective use.
Chapter 2 Reference 2.3.2	The United States requires that flight preparation forms must be retained for 30 days, not three months.
Chapter 2 Reference 2.3.3.2	The United States does not require that the operations manual describe the contents and use of the operational flight plan, but does require establishing procedures for locating each flight.
Chapter 2 Reference 2.3.4.4	Intentionally left blank
Chapter 2 Reference 2.3.6.2.	Intentionally left blank
Chapter 2 Reference 2.3.6.3	The fuel requirements for commuter and on demand operations are expressed in terms of flight time and do not include a specific altitude requirement.
Chapter 2 Reference 2.3.6.3.1	The United States does not require IFR helicopter operations to maintain a specific altitude above a destination.
Chapter 2 Reference 2.3.6.3.2	Fuel reserves for IFR helicopter operations is 30 minutes at normal cruise speed beyond the alternate heliport.
Chapter 2 Reference 2.3.6.3.3	The U.S. has no provisions addressing when a suitable alternate is unavailable. If the destination weather so requires, an alternate must be specified and 30 minute fuel reserved must be carried.
Chapter 2 Reference 2.3.6.4	The operations manual does not include procedures for loss of pressurization and other contingencies.
Chapter 2 Reference 2.3.7	The United States does not prohibit refueling with passengers on board while the engine is operating.
Chapter 2 Reference 2.3.8.1	The United States does not require oxygen at all times for passengers experiencing cabin pressure altitudes above 13,000 ft (620hPa). Oxygen for all passengers is not required until 15,000 ft (4,572m).

Chapter 2 Reference 2.3.8.2	The United States does not require oxygen at all times for passengers experiencing cabin pressure altitudes above 13,000 ft (620hPa). Oxygen for all passengers is not required until 15,000 ft (4,572m).
Chapter 2 Reference 2.4	The pilot-in-command is not specifically required, prior to commencing a flight, to be satisfied that any load carried is safely secured.
Chapter 2 Reference 2.4.1.3	The United States does not utilize a 1,000 ft minimum for non-precision approaches
Chapter 2 Reference 2.6.2.2	The United States allows for meteorological conditions at the estimated time of arrival and for one hour after the estimated time of arrival, not two hours.
Chapter 2 Reference 2.6.3.2	The United States allows the continuation of an approach regardless of the reported weather.
Chapter 2 Reference 2.8.3.1	The United States does not require that a specific altitude above the alternate be maintained.
Chapter 2 Reference 2.8.3.2	The United States does not require that a specific altitude above the alternate be maintained.
Chapter 2 Reference 2.8.4	The U.S. does not require that the procedures for loss of pressurization, where applicable, or failure of one power-unit while en route, be part of the required fuel and oil computations.
Chapter 2 Reference 2.9.1	Oxygen supply requirement applies to crew members at altitudes between 12,500 ft (3,810 m) and 14,000 ft (4,267m) longer than 30 minutes and anytime above 14,000ft. For passenger, the requirement applies above 15,000 ft (4,572m).
Chapter 2 Reference 2.9.2	The U.S. does not require that a flight to be operated with pressurized helicopter carry a sufficient quantity of stored breathing oxygen to supply all the crew members and a proportion of the passengers, as is appropriate to the circumstances of the flight being undertaken, in the event of loss of pressurization, for any period that the atmospheric pressure in any compartment occupied by them would be less than 700hPa.
Chapter 2 Reference 2.10	The U.S. requirement for use of breathing oxygen by flight crew members applies only to altitudes above 14000 ft (4,267m).
Chapter 2 Reference 2.11	During an emergency, the pilot-in-command is not required to ensure that all persons on board the aircraft are instructed in emergency procedures.
Chapter 2 Reference 2.13	The U.S. does not govern this information in a rule. The AIM and AC61-23A covers this information.
Chapter 2 Reference 2.14	The pilot-in-command is not specifically required to discontinue a flight beyond the nearest suitable aerodrome when flight crew member¿s capacity to perform functions is significantly reduced by impairment of faculties from causes such as fatigue, sickness, and lack of oxygen.
Chapter 2 Reference 2.18.1	The U.S. has no provisions regarding aircraft refueling while passengers are on board or are embarking or disembarking.
Chapter 2 Reference 2.18.2	The U.S. has no provisions for ensuring two-way communications when refueling while passengers are on board or are embarking or disembarking.
Chapter 3 Reference 3.1.1	US does not specify or restrict helicopter operations based on performance, class or category. (See definition of performance class in Annex 6, Part III, Section 1).
Chapter 3 Reference 3.1.3	US does not specify or restrict helicopter operations based on performance, class or category. (See definition of performance class in Annex 6, Part III, Section 1).
Chapter 3 Reference 3.2.1	The United States does not specify or restrict helicopter operations based on performance class or category (see definition of Performance Class in Annex 6, Part III, Section 1)
Chapter 3 Reference 3.2.7	US does not require the helicopter weight limitations found I n3.2.7 a), c), and d).
Chapter 4 Reference 4.1.2	US does not require carriage of a copy of the air operator¿s certificate.
Chapter 4 Reference 4.1.3.2	The US does not require helicopters to be equipped with ground-air signal codes for search and rescue purposes.
Chapter 4 Reference 4.1.3.3	The U.S. requires only helicopters manufactured after September 16, 1992 to be equipped with a safety belt and shoulder harness for each occupant¿s seat.
Chapter 4 Reference 4.1.4.1	The United States does not require break-in points.
Chapter 4 Reference 4.1.4.2	The United States does not require break-in points.

Chapter 4 Reference 4.2.2	a) first aid equipment is not required on helicopters b) Us has no provisions that fire extinguishers, when discharge, will not cause dangerous contamination of the air within the helicopter c) (3) US has no provisions for a safety harness device to prevent interference with flight controls should a pilot become incapacitated.
Chapter 4 Reference 4.2.2.1	Landing lights that are at least trainable in the vertical plane are not required for night operations.
Chapter 4 Reference 4.2.4.1	The US does not require marking of break-in points.
4.2.2 Chapter 4 Rec.	Normal and transport category rotorcraft are not specifically required to be equipped with medical supplies.
Chapter 4 Reference 4.2.4.2	The U.S. does not require marking of break-in points.
Chapter 4 Reference 4.3.2.3	Life-saving rafts are not required on helicopters operating on flights over water.
Chapter 4 Reference 4.3.2.4	Life-saving rafts are not required on helicopters operating on flights over water.
Chapter 4 Reference 4.3.2.5	Life-saving rafts are not required on helicopters operating on flights over water.
Chapter 4 Reference 4.3.2.6	Life-saving rafts are not required on helicopters operating on flights over water
Chapter 4 Reference 4.3.6	The US requires cockpit voice recorders in all multi-engine, turbine-powered rotorcraft with a passenger seating configuration of twenty or more seats, and in all multi-engine, turbine-powered rotorcraft with a passenger seating configuration of six or more and for which two pilots are required by certification of operating rules.
Chapter 4 Reference 4.4	Helicopters operated over land areas designated as areas in which search and rescue would be especially difficult are not required to be equipped with signaling devices or life-saving equipment. The U.S. does not designate areas in which search and rescue would be especially difficult and therefore does not require such additional equipment.
Chapter 4 Reference 4.4.2	Helicopters flown over water in passenger operations are not required to be certified for ditching but only to be equipped with flotation devices.
Chapter 4 Reference 4.5.2.1	B) and C) Life saving rafts and pyrotechnic devices are only required for extended over-water operations. That is in respect to helicopters in operations over water with a horizontal distance of more than 50 NM from the nearest shore line and more than 50 NM form an off-shore heliport structure.
Chapter 4 Reference 4.5.2.3	The U.S. does not specify or restrict helicopter operations based on performance, class, or category.
Chapter 4 Reference 4.5.2.4	The U.S. does not specify or restrict helicopter operations based on performance class or category. (See definition of Performance Class in Annex 6, Part III, Section 1).
Chapter 4 Reference 4.5.2.6	The U.S. does not require that at least 50 per cent of the life rafts should be deployable by remote control.
Chapter 4 Reference 4.5.2.7	The U.S. does not require that rafts which are not deployable by remote control be equipped with some means of mechanically assisted deployment.
Chapter 4 Reference 4.5.2.8	The U.S. does not require helicopters, for which the individual certificate of airworthiness was first issued before January 1, 1991 to comply with the provisions of 4.5.2.6 and 4.5.2.7 no later than December 31, 1992.
Chapter 4 Reference 4.6	The U.S. does not require helicopters to carry a specific document attesting noise certification. However, the helicopter¿s type certificate is the de facto document that the helicopter complied with the noise certification requirements at the time it received FAA type certification.
Chapter 4 Reference 4.6	Helicopters operated over land areas designated as areas in which search and rescue would be especially difficult are not required to be equipped with signaling devices or life-saving equipment. The U.S. does not designate areas in which search and rescue would be especially difficult and therefore does not require additional equipment.
Chapter 4 Reference 4.9.1	The U.S. requires transponders only in certain airspace.
Chapter 4 Reference 4.9.2	The U.S. requires transponders only in certain airspace.
Chapter 4 Reference 4.10	Airborne weather radar for all passenger carrying helicopters is not required. The U.S. only requires helicopters with a seating configuration of ten seats or more to be equipped with airborne thunderstorm detection equipment.

Chapter 4 Reference 4.11	The U.S. does not require helicopters to carry a specific document attesting noise certification. However, the helicopter¿s type certificate is the de facto document that the helicopter complied with the noise certification requirements at the time it received FAA type certification.
Chapter 4 Reference 4.13	The U.S. requires transponders only in certain airspace.
Chapter 4 Reference 4.14	The U.S. does not require crew members flight deck duty to communicate through boom or throat microphone.
Chapter 5 Reference 5.1.1	Except when operating under controlled flight, helicopters are not required to have radio communications for night operators.
Chapter 5 Reference 5.1.2	The U.S. does not require that the radio communications equipment specified in 5.1.1 be independent of the other or others to the extent that failure in my any one will not result in failure of any other.
Chapter 5 Reference 5.1.4	Except when operating under controlled flight, helicopters on extended flights over water or on flights over underdeveloped land are not required to have radio communications equipment.
Chapter 5 Reference 5.2.1	The U.S. has no provision that visual landmarks used in VFR be located at least every 60 NM (110km).
Chapter 5 Reference 5.2.1	The United does not require a helicopter to be provided with navigation equipment in accordance with RNP types for navigation with the United States. However, the United States does provide information and operations specifications for IFR operating requirements when U.S. operators and aircraft conduct operations in the European Airspace Designated for Basic Area Navigation (RNP-5 and 10).
Chapter 5 Reference 5.2.3	The U.S. does not require redundant navigation equipment.
Chapter 6 Reference 6.1.1	All United States helicopters used in commercial air transport are certified as commuter or on demand operations. Maintenance on United States commuter and on demand helicopters may be performed by either an approved maintenance organization, a certified mechanic, or by persons under the supervisions of a certified mechanic.
Chapter 6 Reference 6.2.2	The U.S. requires that records of work must be retained until the work is repeated, superseded by other work, or for one year after the work is performed.
Chapter 6 Reference 6.3.1	The U.S. does not require an operator¿s maintenance training program to include training in knowledge and skills related to human performance.
Chapter 6 Reference 6.4.2	The U.S. requires that records of work be retained until the work is repeated, superseded by other work for one year after the work is performed, but does not require the records be retained after the until has been permanently withdrawn from service.
Chapter 6 Reference 6.8.2	The U.S. requires that records of work must be retained until the work is repeated, superseded by other work, or for one year after the work is performed.
Chapter 7 Reference 7.4.2.2	Helicopter pilots are not required to demonstrate to the operator an adequate knowledge of the specific areas described in 7.4.3.2
Chapter 7 Reference 7.5	The U.S. practice is to require a spare set of correcting lenses only when a flight crew member¿s defective visual acuity necessitates a limitation on the pilot¿s medical certificate.
Chapter 9 Reference 9.4.1	The load manifest (the U.S. equivalent to the journey logbook) does not contain items for time of departure and arrival, nature of flight, incidents, or signature of person in charge.
Chapter 9 Reference 9.4.2	Entries in the load manifest (the U.S. equivalent of the journey logbook) are not required to be made in ink or indelible pencil.
Chapter 9 Reference 9.4.3	The U.S. requires that load manifest (the U.S. equivalent of the journey logbook) be held for 30 days, not six months.
Chapter 9 Reference 9.5	The U.S. does not require that an operator keep a list of the emergency and survival equipment carried on board any of their helicopters engaged in international air navigation.
Chapter 11 Reference 11.1	A checklist containing procedures to be followed in searching for a suspected bomb is not required to be aboard the aircraft. The U.S. requires that crew members be trained in dealing with explosives that may be on board an aircraft, but this does not necessarily include training on how to search for an explosive.
Chapter 11 Reference 11.2.1	The U.S. does not require an operator to establish and maintain a training program that enables crew members to act in the most appropriate manner to minimize the consequences of acts of unlawful interference.

Chapter 11 Reference 11.2.2	The U.S. does not require an operator to establish and maintain a training program that enables crew members to act in the most appropriate manner to minimize the consequences of acts of unlawful interference.
Chapter 11 Reference 11.3	The pilot-in-command is not required to submit, without delay, a report of an act of unlawful interference to the designated local authority.
Section III	**International General Aviation**
	Intentionally left blank
Section IV	
Chapter 4 Reference 4.1.3.2	b) not be of type listed in Annex A, Group II of the Montreal Protocol on Substances That Deplete the Ozone Layer, 8th Edition, 2009 Note: The United States only requires that the type of extinguishing agent used for hand fire extinguishers "be appropriate to the kinds of fire likely to occur where that agent is to be used" and for use in a lavatory disposal receptacle "be capable of extinguishing flames emanating from any burning of fluids or other combustible materials in the area protected."
Chapter 4 Reference 4.2.2.1	b) not be of type listed in Annex A, Group II of the Montreal Protocol on Substances That Deplete the Ozone Layer, 8th Edition, 2009 Note: The United States only requires that the type of extinguishing agent used for hand fire extinguishers "be appropriate to the kinds of fire likely to occur where that agent is to be used" and for use in a lavatory disposal receptacle "be capable of extinguishing flames emanating from any burning of fluids or other combustible materials in the area protected."

ANNEX 7 – AIRCRAFT NATIONALITY AND REGISTRATION MARKS	
3.3.1 and 4.2.1	The marks on wing surfaces are not required.
3.2.5 and Section 8	Identification plates are not required on unmanned, free balloons.
4.2.2	The minimum height of marks on small (12,500 lb or less), fixed−wing aircraft is 3 inches when none of the following exceeds 180 knots true airspeed: (1) design cruising speed; (2) maximum operating limit speed; (3) maximum structural cruising speed; and (4) if none of the foregoing speeds have been determined for the aircraft, the speed shown to be the maximum cruising speed of the aircraft.
Section 6	A centralized registry of unmanned free balloons is not maintained. Operators are required to furnish the nearest ATC facility with a prelaunch notice containing information on the date, time, and location of release, and the type of balloon. This information is not maintained for any specified period of time.
Section 8	ICAO ID plate information required by Annex 7, Section 8 does not include nationality or registration mark. Also for non Part 121 and commuter aircraft, location must be either adjacent to and aft of the rear-most entrance door or on the fuselage near the tail surfaces.

ANNEX 8 – AIRWORTHINESS OF AIRCRAFT	
PART II Procedures for Certification and Continued Airworthiness	
Chapter 4	**Continued Airworthiness of Aircraft**
4.2.3 (d)	This provision requires the State of Registry to address mandatory continuing airworthiness information from the State of Design. The U.S. does not generally issue Airworthiness Directives for non−type certificated aircraft. This includes foreign aircraft that are U.S.−registered, but operate under experimental rather than standard airworthiness certificates.
PART III Aeroplanes	
Part IIIA	
Chapter 4	**Design and Construction**
4.1.6 (b), 4.1.6 (g), 4.1.6 (h), 4.1.6 (i)	The United States does not have similar requirements. The FAA has begun work in an effort to amend the U.S. regulations with the purpose of eventually meeting the intent of these provisions.
Chapter 8	**Instruments and Equipment**
8.4.1	ICAO requires that airplanes operating on the movement area of an airport shall have airplane lights of such intensity, color, fields of coverage and other characteristics to furnish personnel on the ground with as much time as possible for interpretation and for subsequent maneuver necessary to avoid a collision. The FAA has no such requirement.
8.4.2 (b)	This provision addresses the lights' affect on outside observers in reference to "harmful dazzle." The U.S. regulations do not address the affect of aircraft lights on outside observers. However, visibility to other pilots and the lights' affect on the flight crew is addressed.
Chapter 9	**Operating Limitations and Information**
9.3.5	The United States does not have similar requirements. The FAA has begun work in an effort to amend the U.S. regulations with the purpose of eventually meeting the intent of these provisions.
Chapter 11	**Security**
11.2, 11.3, 11.4	With the exception of the door required by 11.3, the United States does not have similar requirements. The FAA has begun work in an effort to amend the U.S. regulations with the purpose of eventually meeting the intent of these provisions.
Part IIIB	**Large Aeroplane Certification**
D.2 (b)	The United States does not have a specific requirement for physical separation of systems. However, physical separation is considered in the means of compliance to various regulations such as 25.1309, 25.901(c) and 25.903(d). The FAA has begun to work in an effort to amend U.S. regulations with the purpose of eventually meeting the intent of these provisions.
D.2 (f)	The provision requires lavatory fire protection systems (detection and suppression) for all airplanes covered by Part IIIB. U.S. regulations only require lavatory fire protection systems for airplanes with 20 or more passengers.
D.2 (g)	Paragraph D.2.g.1 of the ICAO standard requires a fire suppression system for each cargo compartment accessible to a crewmember in a passenger−carrying airplane. U.S. requirements permit manual fire fighting in an accessible cargo compartment by a crewmember or members for an all−passenger−carrying airplane or a passenger−cargo combination carrying airplane. Additionally, the FAA does not have specific requirements to consider the effects of explosions or incendiary devices.

D.2 (h)	The United States does have provisions to protect against possible instances of cabin depressurization. However, the FAA does not have specific requirements to consider the effects of explosions or incendiary devices.
D.2 (i)	The United States does not have similar requirements and has begun work in an effort to amend the U.S. regulations to explicitly address the effects of explosions or incendiary devices.
D.5.	While there are no specific electrical bonding requirements in the FARs, U.S. regulations address lightning and system requirements. The FARs do not address the protection of those persons coming into contact with an airplane on the ground or in the water.
F.4.1	ICAO requires that airplanes operating on the movement area of an airport shall have airplane lights of such intensity, color, fields of coverage and other characteristics to furnish personnel on the ground with as much time as possible for interpretation and for subsequent maneuver necessary to avoid a collision. The U.S. has no such requirement.
F.4.2 (b)	This provision addresses the lights' affect on outside observers in reference to "harmful dazzle." The U.S. regulations do not address the affect of aircraft lights on outside observers. However, visibility to other pilots and the lights' affect on the flight crew is addressed.
F.5.	U.S. regulations do not address electromagnetic interference from external sources. High Intensity Radiated Fields (HIRF) are addressed by Special Conditions but only for flight critical systems, not flight essential systems.
G.3.5.	The United States does not have similar requirements. The FAA has begun work in an effort to amend the U.S. regulations with the purpose of eventually meeting the intent of these provisions.
K.2, K.3.1, K.3.2, K.4	With respect to K.1 and K.3, the United States does not have any specific requirements. With respect to K.2 the FAA has no current requirements with respect to the flight crew compartment bulkhead. The FAA has begun work in an effort to amend the U.S. regulations with the purpose of eventually meeting the intent of these provisions.
PART IV Helicopters	
Part IVA	
Chapter 2	**Flight**
2.2.3.1, 2.2.3.1.1 – 2.2.3.1.4	These provisions address take−off performance data for all classes of helicopters and require that this performance data include the take−off distance required. However, the United States has adopted the requirements only for Category A helicopters.
Chapter 6	**Rotor and Power Transmissions Systems and Powerplant Installation**
6.7	This provision requires that there be a means for restarting a helicopter's engine at altitudes up to a declared maximum altitude. In some cases the FAA does not require demonstration of engine restart capability. Since there is a different level of certitude for transport and normal category helicopters in the United States, the engine restart capability is only required for Category A and B helicopters (14 CFR Part 29) and Category A normal helicopters (14 CFR Part 27).
Chapter 7	**Instruments and Equipment**
7.4.2	This provision addresses the need to switch off or reduce the intensity of the flashing lights. The United States has minimum acceptable intensities that are prescribed for navigation lights and anti−collision lights. No reduction below these levels is possible.
7.4.2 (b)	This provision addresses the lights' affect on outside observers in reference to "harmful dazzle." The U.S. regulations do not address the affect of aircraft lights on outside observers. However, visibility to other pilots and the lights' affect on the flight crew is addressed.
PART V Lighting and Marking	
I.5 (e)	The United States does not have a requirement similar to I.5(e). 14 CFR part 23 does not address the impact of fuel spillage on emergency lighting systems.

PART VII Propellers	
Sub−Part B	**Design and Construction**
B.2	U.S. Regulations do not require a failure analysis.
Sub−Part C	**Test and Inspections**
C.2 (c)	U.S. Regulations do not contain bird impact or lightning strike requirements.

ANNEX 9 – FACILITATION	
*The list of differences include Guam, Puerto Rico, and the U.S. Virgin Islands. The status of implementation of Annex 9 in Guam with respect to public health quarantine is not covered in the list of differences.	
Chapter 2	**Entry and Departure of Aircraft**
2.3	Written crew baggage declaration is required in certain circumstances, and a special Embarkation/Disembarkation Card is required for most alien crew members.
2.4	A General Declaration for all inbound and for outbound flights with commercial cargo are required. However, the General Declaration outbound flights with commercial cargo shall not be required if the declaratory statement is made on the air cargo manifest. No declaration is required for outbound flights without commercial cargo if Customs clearance is obtained by telephone.
Remarks	19 CFR 122
2.4.1	Each crew member must be listed showing surname, given name, and middle initial.
2.4.4	The signing or stamping of the General Declaration protects the carrier by serving as proof of clearance.
2.5	The crew list is required by statute.
2.7	There is a statutory requirement for the Cargo Manifest.
2.8	In order to combat illicit drug smuggling, the U.S. requires the additional following information: the shipper's and the consignee's name and address, the type of air waybills, weight, and number of house air waybills. The manifest submitted in electronic form may become legally acceptable in the future. However, until the compliance rate for the automated manifest is acceptable, the U.S. must be able to require the written form of the manifest.
Remarks	19 CFR 122.48
2.9	Nature of goods information is required.
2.10	Stores list required in all cases but may be recorded on General Declaration in lieu of a separate list.
2.17	A cargo manifest is required except for merchandise, baggage and stores arriving from and departing for a foreign country on the same through flight. "All articles on board which must be licensed by the Secretary of State shall be listed on the cargo manifest." "Company mail shall be listed on the cargo manifest."
2.18	Traveling general declaration and manifest, crew purchases and stores list as well as a permit to proceed are required under various conditions when aircraft arrive in the U.S. from a foreign area with cargo shown on the manifest to be traveling to other airports in the U.S. or to foreign areas.
2.21	There is a statutory requirement that such changes can only be made prior to or at the time of formal entry of the aircraft.
2.25	The U.S. does not support the use of insecticides in aircraft with passengers present. Pesticides registered for such use should not be inhaled. In effect, the passenger safety issue has precluded the use of such insecticides in the presence of passengers since 1979.
2.35	Advance notice is required of the number of citizens and aliens on board (non−scheduled flights only).
2.40	A copy of the contract for remuneration or hire is required to be a part of the application in the case of non−common carrier operations.
2.41	Single inspection is accorded certain aircraft not by size of aircraft but rather by type of operation. Loads (cargo) of an agricultural nature require inspection by a plant or animal quarantine inspector.
2.41c	Fees are charged for services provided in connection with the arrival of private aircraft (nonscheduled aircraft).
Chapter 3	**Entry and Departure of Persons and Their Baggage**
3.3	Medical reports are required in some cases.

Remarks	8 CFR 212.7 and INA 234
3.4	Documents such as visas with certain security devices serve as identity documents.
3.4.1	The U.S. has not standardized the personal identification data included in all national passports to conform with the recommendation in Doc 9303.
3.5.6	U.S. passport fees exceed the cost of the operation.
3.5.7	U.S. allows separate passports for minor dependents under the age of 16 entering the U.S. with a parent or legal guardian.
3.7	The U.S. has a pilot program that allows nationals of certain countries which meet certain criteria to seek admission to the U.S. without a visa for up to 90 days as a visitor for pleasure or business.
Remarks	22 CFR 41.112(d) INA 212(d)(4), INA 238, 8 CFR 214.2(c) INA 217
	The law permits visa waivers for aliens from contiguous countries and adjacent islands or in emergency cases. Visas are also waived for admissible aliens arriving on a carrier which is signatory to an agreement assuring immediate transit of its passengers provided they have a travel document or documents establishing identity, nationality, and ability to enter some country other than the U.S.
3.8	The U.S. charges a fee for visas.
3.8.3	Duration of stay is determined at port of entry.
Remarks	INA 217
3.8.4	A visitor to the U.S. cannot enter without documentation.
Remarks	INA 212(a) (26)
3.8.5	Under U.S. law, the duration of stay is determined by the Immigration Authorities at the port of entry and thus cannot be shown on the visa at the time of issuance.
3.10	Embarkation/Disembarkation Card does not conform to Appendix 4 in some particulars.
3.10.1	The operator is responsible for passengers' presentation of completed embarkation/disembarkation cards.
Remarks	8 CFR 299.3
3.10.2	Embarkation/Disembarkation cards may be purchased from the U.S. Government, Superintendent of Documents.
Remarks	8 CFR 299.3
3.14.2	The U.S. fully supports the electronic Advance Passenger Information (API) systems. However, the WCO/IATA Guideline is too restrictive and does not conform to the advancements in the PAXLIST EDIFACT international standard.
3.15	U.S. Federal Inspection Services' officials see individuals more than once.
3.16	Written baggage declarations by crew members are required in some instances.
3.17.1	The U.S. uses a multiple channel system rather than the dual channel clearance system.
3.23, 3.23.1	Statute requires a valid visa and passport of all foreign crew members.
3.24, 3.24.1, 3.25, 3.25.1, 3.25.2, 3.25.3	Crew members, except those eligible under Visa Waiver Pilot Program guidelines, are required to have valid passports and valid visas to enter the U.S.
Remarks	INA 212(a) (26), INA 252 and 253, 8 CFR 214.1(a), 8 CFR 252.1(c)
3.26, 3.27, 3.28, 3.29	Passports and visas are required for crew and non−U.S. nationals to enter the U.S.
3.33	Does not apply to landing card.
3.35	Law requires that the alien shall be returned to the place whence he/she came. Interpretation of this provision requires that he/she be returned to the place where he/she began his/her journey and not only to the point where he/she boarded the last−used carrier.
3.35.1	Law requires that certain aliens be deported from the U.S. at the expense of the transportation line which brought them to the U.S.
3.36	Statute provides for a fine if a passenger is not in possession of proper documents.

3.39.3	NOTE: The U.S. considers security for individuals in airline custody to be the carrier's responsibility.
3.40.2	Annex 9 recommends that fines and penalties be mitigated if an alien with a document deficiency is eventually admitted to the country of destination.
3.43	Operator can be held responsible for some detention costs.
Chapter 4	**Entry and Departure of Cargo and Other Articles**
4.20	The Goods Declaration as defined by the Kyoto Convention serves as the fundamental Customs document rather than the commercial invoice.
4.40	Aircraft equipment and parts, certified for use in civil aircraft, may be entered duty−free by any nation entitled to most−favored nation tariff treatment. Security equipment and parts, unless certified for use in the aircraft, are not included.
4.41	Customs currently penalizes the exporting carrier for late filing of Shipper's Export Declarations (SEDs) and inaccuracies on bills of lading with respect to the SEDs.
4.42	Regulations require entry of such items, most of which are dutiable by law.
4.44	Certain items in this category are dutiable by law.
4.48	Carriers are required to submit new documentation to explain the circumstances under which cargo manifest is not unladen. No penalty is imposed if the carrier properly reports this condition.
4.50	The procedures for adding, deleting, or correcting manifest items require filing a separate document.
4.55	The U.S. requires a transportation in−bond entry or a special manifest bonded movement for this type of movement.
Chapter 5	**Traffic Passing Through the Territory of a Contracting State**
5.1	Such traffic must be inspected at airports where passengers are required to disembark from the aircraft and no suitable sterile area is available.
5.2	Passports and visas are waived for admissible aliens arriving on a carrier which is signatory to an agreement assuring immediate transit of its passengers provided they have a travel document or documents establishing identity, nationality, and ability to enter some country other than the U.S.
5.3	Such traffic must be inspected at airports where no suitable sterile area is available.
5.4	Passports and visas are waived for admissible aliens arriving on a carrier which is signatory to an agreement assuring immediate transit of its passengers provided they have a travel document or documents establishing identity, nationality, and ability to enter some country other than the U.S.
5.4.1	Passengers will not be required to obtain and present visas if they will be departing from the U.S. within 8 hours of arrival or on the first flight thereafter departing for their destination.
5.8	Examination of transit traffic is required by law. Transit passengers without visas are allowed one stopover between the port of arrival and their foreign destination.
5.9	Passports and visas are required generally for transit passengers who are remaining in the U.S. beyond 8 hours or beyond the first available flight to their foreign destinations.
Chapter 6	**International Airports – Facilities and Services for Traffic**
6.3.1	Procedures involving scheduling committees raise a number of anti−trust problems under U.S. law.
6.33	Sterile physical facilities shall be provided, and in−transit passengers within those areas shall be subject to immigration inspection at any time.
Remarks	OI 214.2(c)
6.34	The U.S. inspects crew and passengers in transit.
6.36	The U.S. inspects crew and passengers in transit.

6.56	Operators of aircraft are statutorily required to pay overtime charges for federal inspections conducted outside normal scheduled hours of operation. This requirement places aircraft operators in a less favorable position than operators of highway vehicles and ferries who are statutorily exempt from such charges.
Chapter 8	**Other Facilitation Provisions**
8.1	Separate bonds are required.
8.3.2	Visas are issued by the Department of State and are not issued at ports of entry.

ANNEX 10 – AERONAUTICAL TELECOMMUNICATIONS	
ANNEX 10 – VOLUME 1 – RADIO NAVIGATION AIDS	
PART I	
Chapter 3	**Specifications for Radio Navigation Aids**
3.1.2.1.1	Remote control and monitoring is implemented at all ILS installations for CAT II and III. Most, but not all, CAT I installations are monitored. A−CAT II and III; C− CAT I
3.1.4.1, 3.1.4.2, 3.1.4.3	The U.S. does not require such equipage for aircraft. The United States does not require such equipage for aircraft. Interference from FM broadcast signals will not adversely affect aircraft navigation and communications systems in the United States airspace
3.1.7.3.1 c)	When necessary to achieve coverage to the edges of the localizer course, the U.S. authorizes coverage over a greater distance than that specified in 3.1.7.3.1 c); i.e., up to 1,200 meters (4,000 feet) along the localizer course centerline.
3.3.8.1, 3.3.8.2, 3.3.8.3	The U.S. does not require such equipage for aircraft. The United States does not require such equipage for aircraft. Interference from FM broadcast signals will not adversely affect aircraft navigation and communications systems in the United States airspace.
3.5.5.4.1.	DME interrogator accuracy specified in this paragraph is not included in FAA avionics requirements.
3.7.3.4.4.3	Current satellite contract calls for −150dBW under the conditions specified in 3.7.3.4.4.3. Difference is greater signal power than called for in Annex 10.
PART II	
Chapter 4	
4.1.5.2	In the U.S., the shortage of communications channels, compared with the total operational requirement, has resulted in the geographical separation between facilities working on the same frequency being considerably less (up to 50 percent reduction) than the Standard defined for such separation.
ANNEX 10 – VOLUME II – COMMUNICATION PROCEDURES INCLUDING THOSE WITH PANS STATUS	
Chapter 3	**General Procedures for the International Aeronautical Telecommunication Service**
3.2.2, 3.2.3	US regulations do not have any specific procedures for closing down international aeronautical stations. All international aeronautical stations in the U.S. operate continuously (24 hours a day and seven days a week)
3.3.2	Class B traffic, including reservation messages pertaining to flights scheduled to depart within 72 hours, shall not be acceptable for transmission over U.S. Government operated AFTN circuits, except in those cases where it has been determined by the U.S. that adequate non−government facilities are not available.
Chapter 4	
4.4.2	In the Caribbean Region, U.S. industry−operated AFTN terminals will continue to accept messages in both ICAO and non−ICAO formats. The U.S. now accepts only messages in ICAO format from other states, including the Caribbean Region.
Chapter 5	**Aeronautical Mobile Service – Voice Communications**
5.1.5	US regulations do not require pilots to wait 10 seconds before making a second call. US regulations only require ”a few seconds” instead of ”10 seconds”.
5.2.1.3.1.1	The U.S. will use the term ‘‘hundred’’ in stating altitude numbers by radiotelephone. Whole hundreds will be spoken as follows: 400 – “Four hundred” 4,500 – “Four thousand five hundred”

5.2.1.3.1.2	The U.S. will use the term “point” in lieu of “decimal” in stating frequencies: 126.55 MHz – “One two six point five five” 8,828.5 MHz – “Eight eight two eight point five”
5.2.1.6.1	Air route traffic control centers will use “center” rather than “control” in their radiotelephone identification. Example: “Washington Center.” Approach control service units will use “approach control” or “departure control” rather than “approach” in their radiotelephone identification. Example: “Washington Approach Control” or “Washington Departure Control.” Aerodrome control towers will use “ground control” or “clearance delivery” rather than “tower” in their radiotelephone identification, where appropriate, to identify ground control services. Example: “Washington Ground Control” or “Washington Clearance Delivery.”
5.2.1.6 5.2.1.6.2.1.1 5.2.1.6.2.2.1	U.S. procedures allow abbreviation of only Type a) call signs and limit abbreviation to not less than **three** characters following the first character of the registration marking or the manufacturer of the aircraft. Also, the U.S. does not use call signs comprised of aircraft operating agency telephony designators in combination with aircraft registration markings (Type b).
Remarks	To facilitate understanding, examples (5.2.1.6) should follow rather than precede corresponding provisions which govern them (5.2.1.6.2.1.1 and 5.2.1.6.2.2.1).
5.2.2.1.1.1 5.2.2.1.1.2	The U.S. Federal Aviation Regulations do not require that a continuous airborne guard on VHF121.5 MHz be maintained.
5.2.2.7.1.2	US regulations do not specifically require pilots to send a message twice preceded with the phrase “TRANSMITTING BLIND”. US regulations provides general procedures which allow pilots to make blind transmissions in case of emergency.
5.2.2.7.1.3.2	US regulations do not specifically require pilots to make a blind transmission preceded by “TRANSMITTING BLIND DUE TO RECEIVER FAILURE” with respect to the continuation of the flight of the aircraft. US regulations provide general procedures which allow pilots to make appropriate blind transmissions.
5.2.2.7.2.1, 5.2.2.7.2.2	US regulations do not specifically require aeronautical stations to get assistance from other aircraft in case of communications failure. US regulations require aeronautical stations to use ”all appropriate means” available to re−establish communications with aircraft.
5.2.2.7.2.3	US regulations do not specifically require aeronautical stations to send blind transmissions. US regulations require aeronautical stations to use ”all appropriate means” available to re−establish communications with aircraft.
5.2.2.7.2.4	US regulations do not provide this specific standard. US regulations require aeronautical stations to use ”all appropriate means” available to re−establish communications with aircraft.
5.2.2.7.3.1	US regulations do not specifically require pilots to make a blind transmission preceded by ”TRANSMITTING BLIND DUE TO RECEIVER FAILURE”. US regulations provide general procedures which allow pilots to make appropriate blind transmissions.
ANNEX 10 – VOLUME III – COMMUNICATION SYSTEMS	
PART I – DIGITAL DATA COMMUNICATION SYSTEMS	
Chapter 1	Definitions
ATN Directory Services	The FAA has not implemented the DIR as part of the AMHS Extended Service. The Basic Service AMHS has been implemented.
ATN Security Services	The ATN Security Service can be implemented as part of the AMHS Extended Service.

Authentication	This is a part of ATN Security Services of the ATN DIR/AMHS Extended Service that has not been implemented.
Security Management	This is a part of ATN Security Services capability of the ATN DIR/AMHS Extended Service that has not been implemented.
Chapter 3	**Aeronautical Telecommunication Network**
3.2.1	The Ground−to−Ground ATN service based on OSI has been implemented (AMHS) but not Air−to−Ground.
3.2.2	ATN Ground−to−Ground service does not support sections a) 4) APC, c), e), f) and g)
3.2.3	FAA ATN currently does not support these services.
3.3.1	FAA ATN service does not support a) ATS to aircraft and c) AOC.
3.4.1.4, 3.4.16, 3.4.19, 3.4.32	The FAA ATN only supports AMHS (ground service).
Chapter 4	
4.2.1.2 4.2.1.3	In the U.S., AMSS terminals shall have the capability of operating in the frequency bands 1544−1559 MHz and 1645.5−1660.5 MHz bands. (NOTE: Use of the band 1544−1545/1645.5−1646.5 MHz by the mobile satellite service is limited to distress and safety.)
PART II	
2.3.3.1 2.3.3.2 2.3.3.3	The U.S. does not require such equipage for aircraft.
ANNEX 10 – VOLUME IV – SURVEILLANCE AND COLLISION AVOIDANCE SYSTEMS	
Chapter 3	Surveillance Systems
3.1.1.7.13	SPI required to be transmitted for 18 +/− 1 second. US regulations are more stringent than ICAO.
3.1.2.6.5.2	In the request to downlink, Annex 10 assigns bits 0 to 7, many of them are reserved. The FAA Order 6365.1A implements this requirement assigning bits 0 and 1 and the bits 2 through 15 are not assigned.
3.1.2.10.4.3.3	Annex 10 requires ”If antenna selection is based on signal level, it shall be carried out at all signal levels between MTL and −21 dBm.” The RTCA MOPS for Mode S transponders, DO−181c, does not specify the range of signal levels over which the antenna selection must correctly be accomplished. FAA Order 6365.1A paragraph 5.5.1 addresses the issue of antenna selection. However, the TSO standard conferred upon manufacturers does not require implementation.
3.1.2.11.3	The US National Standard for the Mode S Beacon System, FAA Order 6365.1A, paragraph 6.3 requires – When the interrogator transmitter is not transmitting an interrogation, its output does not exceed −5 dBm effective radiated power at any frequency. This requirement exceeds the ICAO SARPs frequency of interest 960 to 1215 MHz.
Chapter 4	**Airborne Collision Avoidance System**
4.1	US documentation contains the following definition for TA: Information given to the pilot pertaining to the position of another aircraft in the immediate vicinity. The information contains no suggested maneuver. The ICAO SARPs considers this a potential threat. The TAs are issued to show all nearby traffic. TCAS does not determine by a test or analysis that some of these aircraft may be a potential threat. Information given to the pilot pertaining to the position of another aircraft in the immediate vicinity. The information contains no suggested maneuver.
4.2.3.3	The TSO−C118 (RTCA DO−197) implements this requirement. However, requirement of limiting Mode S power to the level of Mode A/C (paragraph 4.2.3.4) is not implemented.
4.3.1.1.1	Specifies a nominal cycle of 1 second
4.3.2.1.2	The US specifies a false track probability of less than 1.2% for Mode A/C and less than 0.1% for Mode S.

4.3.2.2.2 4.3.2.2.2.2 4.3.2.2.2.2.2 4.3.2.2.2.2.3	TCAS II Version 6.04A Enhanced Interference Limiting Algorithms won't comply with these sections of the standards and recommended practices (SARPs). See remark below.
4.3.5.1	TCAS II Version 6.04A Enhanced won't comply because it has a 3−second coordination delay. See remark below.
4.3.5.3	TCAS II Version 6.04A Enhanced does not comply since the section implies a requirement for reversals in some instances in encounters between two TCAS II−equipped aircraft. See remark below.
4.3.5.4	TCAS II Version 6.04A Enhanced does not comply since the section explicitly requires reversal of coordinated resolution advisories (RAs) under some circumstances. See remark below.
4.3.5.5	TCAS II Version 6.04A Enhanced does not comply since it contains a dormancy requirement, does not have 5−second targets, and only has surveillance of ± 3,000 feet in altitude. See remark below.
4.3.8.4.2.2.1 4.3.8.4.2.2.1.1	TCAS II Version 6.04A Enhanced has different RA Report formats in DF = 20, 21 replies. See remark below.
4.3.8.4.2.2.1.3	TCAS II Version 6.04A Enhanced has different RA Report formats in DF = 20, 21 replies. See remark below. US documentation contains an additional requirement After an RA has been terminated: by TCAS, it is still required to be reported by the Mode S transponder for 18±1 seconds.
4.3.8.4.2.2.1.4 4.3.8.4.2.2.1.5 4.3.8.4.2.2.1.6 4.3.8.4.2.2.16.1 4.3.8.4.2.2.1.6.2 4.3.8.4.2.2.1.6.3	TCAS II Version 6.04A Enhanced has different RA Report formats in DF = 20, 21 replies. See remark below.
4.3.8.4.2.2.2 4.3.8.4.2.2.3	TCAS Version 6.04 Enhanced has different Data Link Capability format in DF = 20, 21 replies. See remark below.
4.3.8.4.2.3.2.3	TCAS Version 6.04 Enhanced has different Data Link Capability format in DF = 20, 21 replies. See remark below. The US uses "don't descend" vs. "do not pass below" and "Don't climb" vs. "do not pass above"
4.3.8.4.2.3.2.5	Limited to TCAS with horizontal on−board resolution equipment
4.3.8.4.2.3.2.7	Limited to TCAS with horizontal on−board resolution equipment
4.3.8.4.2.3.4 4.3.8.4.2.3.4.1 4.3.8.4.2.3.4.2 4.3.8.4.2.3.4.3 4.3.8.4.2.3.4.4	TCAS II Version 6.04A Enhanced RA does not meet the Broadcast format specified in these sections. See remark below.
4.3.8.4.2.3.4.5	TCAS II Version 6.04A Enhanced RA does not meet the Broadcast format specified in these sections. See remark below. The US specifies a different bit coding scheme. The US has implemented the AID code. The bit pattern documented in the RTCA document is in the bit order as received from the control head. The Annex 10 SARPs show the bit order of the RF transmission.
4.3.8.4.2.3.4.6	TCAS II Version 6.04A Enhanced RA does not meet the Broadcast format specified in these sections. See remark below.
4.3.8.4.2.4.2.1 4.3.8.4.2.4.2.3 4.3.8.4.2.4.2.4	TCAS II Version 6.04A Enhanced has a different Coordination Reply format in DF = 16 replies. See remark below.

Remark	The U.S. does not require TCAS II Version 7 (ACAS II) equipage in its National Airspace System.
4.3.9.3.1	The US specifies 10 ft or less.
ACAS	The US uses the term Traffic Alert and Collision Avoidance System (TCAS). The difference of terminology does not impact interoperability of the systems.
ANNEX 10 – VOLUME V – AERONAUTICAL RADIO FREQUENCY SPECTRUM UTILIZATION	
Chapter 2	**Distress frequencies**
2.1.2	Emergency locator transmitters (ELT) installed on or after 1 January 2002 do not have to operate on both 406 MHz and 121.5 MHz in the US.
2.1.3	Effective date of 1 January 2005 for emergency locator transmitters to operate on both 406 MHz and 121.5 MHz was not met in the US.
Chapter 4	Utilization of frequencies above 30 MHz
4.1.1.1	The 121.5 MHz aeronautical emergency channel guard−band is reduced to 25 kHz. In the U.S. this 121.5 MHz channel is protected on either side by a single 25 kHz channel centered on frequencies 121.475 MHz and 121.525 MHz. The other four (4) guard band channels, centered on frequencies 121.425 MHz, 121.450MHz, 121.550MHz, and 121.575MHz are utilized to transmit weather information on simplex operations (ground−to−air only) using 25kHz channels. The maximum transmit power of the ground−based equipment is limited to 2.5 W. The ground−based equipment must also meet specific output spectral masks (defined as ± 25 kHz −33 dBm − 33 dBm; ± 50 kHz −45 dBm − 45 dBm; ± 75 kHz −47 dBm)
4.1.2.1	The minimum frequency separation of 8.33 KHz has not been adopted in the US.
4.1.2.2.1	Mandatory carriage of 8.33 KHz equipment has not been established in the US.
4.1.2.2.2	8.33 KHz radios are not safeguarded with respect to its suitability for AM(R)S in the US
4.1.2.2.3	FAA has not issued a mandatory carriage of VDL Mode 3 and VDL Mode 4.
4.1.2.2.3.1	FAA has not issued a mandatory carriage of VDL Mode 3.
4.1.2.2.4	No provision to safeguard VDL Mode 3 and Mode 4 with respect to its suitability for AM(R)S currently exists in the US.
4.1.3.1.6	The US does not require aircraft flying within the US airspace to meet one of the characteristics dealing with the FM interference immunity performance.
4.1.3.2.1	The frequency 123.45 MHz is not designated for air−to−air communications in the US airspace.
4.1.3.2.2	The frequency 123.45 MHz is not designated for air−to−air communications in remote and oceanic areas within the US airspace.
4.1.4.2	The US does not require aircraft flying within the US airspace to meet one of the characteristics dealing with the FM interference immunity performance.
4.2.3	The US does not follow the VOR assignment priority as defined in Section 4.2.3.

ANNEX 11 – AIR TRAFFIC SERVICES	
Chapter 1	**Definitions**
Accepting Unit	The term ”receiving facility” is used.
Advisory Airspace	Advisory service is provided in terminal radar service areas and the outer area associated with class C airspace areas as well as Class E airspace.
Advisory Route	Advisory service is provided in terminal radar service areas and the outer area associated with class C airspace areas as well as Class E airspace.
ACAS	Traffic Alert and Collision Avoidance System (TCAS) – An airborne collision avoidance system based on radar beacon signals which operates independent of ground−based equipment. 14 CFR 1.1 further defines and breaks down TCAS into TCAS 1 – provides traffic advisories 2 – provides traffic advisories and resolution advisories in the vertical plane and 3 – provides traffic advisories and resolution advisories in the vertical and horizontal planes.
AIRMET	FAA Pilot Controller Glossary defines (in part) AIRMET as ”In−flight weather advisories issued only to amend the area forecast concerning weather phenomena which are of operational interest to all aircraft and potentially hazardous to aircraft having limited capability because of lack of equipment instrumentation or pilot qualifications....” The ICAO definition of AIRMET narrows the purpose of the advisory to ”low−level aircraft operations”, where the FAA has a more broad definition to encompass ”all aircraft and ... aircraft having limited capability...” Also, ICAO uses the term ”forecast ... for the flight information region” where the FAA uses ”area forecast”. Difference in character (terminology) for area forecast. FAA uses AIRMETS for broader purpose.
Air traffic control unit	The U.S. uses the term “air traffic control facility”. (i.e. En Route, Terminal, or Flight Service)
Air traffic services reporting office	FAA Pilot Control Glossary defines (in part) Flight Service Stations (FSS) as ”air traffic facilities which provide pilot briefing, en route communications and VFR search and rescue services, assist lost aircraft in emergency situations, relay ATC clearances, originate notices to airmen, broadcast aviation weather and NAS information, receive and process IFR flight plans....” FSS’s are available to receive any reports concerning air traffic services as well as accept and file flight plans.
Air traffic services unit	The U.S. uses “Air Route Traffic Control Center”.
Air−taxiing	U.S. uses ‘‘hover taxi’’ for this maneuver above 100 feet above ground level (AGL) and ‘‘air taxi’’ below 100 feet AGL.
Airborne collision avoidance	The U.S. uses “traffic alert collision avoidance system (TCAS).” TCAS is an airborne collision avoidance system based on radar beacon signals and operates independent of ground−based equipment. TCAS−1 generates traffic advisories only. TCAS−II generates traffic advisories and resolution (collision avoidance) advisories in the vertical plane.
Airway	A Class E airspace area established in the form of a corridor, the centerline of which is defined by radio navigational aids.
Alert Phase	Alert – a notification to a position that there is an aircraft−to−aircraft or aircraft−to−airspace conflict as detected by automated problem detection.
Altitude	Height above ground level (AGL), mean sea level (MSL) or indicate altitude.
Apron Management Service	Ground control or ramp control provide the same service. There is no formal definition in the Pilot Controller Glossary.

Area Control Centre	The U.S. uses the terms “Traffic Control Center”, “Radar Approach Control Facility”, and “Tower” to define a facility that provides air traffic control service to aircraft operating on IFR flight plans within controlled airspace and principally during the en route phase of flight. When equipment capabilities and controller workload permit, certain advisory/assistance services may be provided to VFR aircraft.
Area Control Service	Air Traffic Control – A service operated by appropriate authority to promote the safe, orderly and expeditious flow of air traffic.
Controlled flight	The US uses the term “IFR Clearance”.
Control Zone	The US uses the term “Surface Area”. Surface area is airspace contained by the lateral boundary of the Class B, C, D, or E airspace designated for an airport that begins at the surface and extends upward.
Cruising Level	Cruising Altitude – an altitude or flight level maintained during en route level flight. This is a constant altitude and should not be confused with a cruise clearance.
Downstream Clearance	Same as air traffic control clearance. Authorization for an aircraft to proceed under conditions specified by an air traffic control unit.
Flight Information Centre	In the US, flight information service and alerting service are often provided by flight service stations.
Level	The term “altitude” is used.
Manoeuvring Area	Any locality either on land, water, or structures, including airports/heliports and intermediate landing fields, which is used, or intended to be used, for the landing and takeoff of aircraft whether or not facilities are provided for the shelter, servicing, or for receiving or discharging passengers or cargo.
Meteorological office	No PCG definition. However FSSs perform this duty.
Movement Area	The runways, taxiways, and other areas of an airport/heliport which are utilized for taxiing/hover taxiing, air taxiing, takeoff, and landing of aircraft, exclusive of loading ramps and parking areas. At those airports/heliports with a tower, specific approval for entry onto the movement area must be obtained from ATC.
Pilot−in−command	The person who has final authority for the operation and safety of the flight has been designated as pilot in command before or during the flight and hold the appropriate category, class and type rating for the flight.
Traffic avoidance advice	US uses the term “Safety Alert”
Traffic information	US uses the term “Traffic Advisory”
Waypoint	A predetermined geographical position used for route/instrument approach definition, progress reports, published VFR routes, visual reporting points or points for transitioning and/or circumnavigating controlled and/or special use airspace, that is defined relative to a VORTAC station or in terms of latitude/longitude coordinates.
Chapter 2	**General**

2.3.2	Annex 11, paragraph 2.3.2 directs the flight information service to accomplish objective d) of para 2.2, “to provide advice and information for the safe and efficient conduct of flight.” Details on procedures to accomplish this objective are contained in FAA Order 7210.3, Part 4, Flight Service Stations. Specific procedures for accomplishing this objective are contained in FAA Order 7110.10, Flight Services. Also, the FAA Pilot Controller Glossary defines Flight Service Stations as ”air traffic facilities which provide pilot briefing, en route communications and VFR search and rescue services, assist lost aircraft and aircraft in emergency situations, relay ATC clearances, originate Notices to Airmen, broadcast aviation weather and NAS information, receive and process IFR flight plans, and monitor NAVAIDs. In addition, at selected locations, FSSs provide En Route Flight Advisory Service (Flight Watch), take weather observations, issue airport advisories, and advise Customs and Immigration of transborder flights.
2.5.2.2.1	FAA uses the generic term “controlled airspace” and “surface areas”
2.5.2.2.1.1	FAA also provides this service in Class E.
2.5.2.2.2	Annex 11, paragraph 2.3.2 directs the flight information service to accomplish objective d) of para 2.2, ”to provide advice and information for the safe and efficient conduct of flight.” Details on procedures to accomplish this objective are contained in FAA Order 7210.3, Part 4, Flight Service Stations. Specific procedures for accomplishing this objective are contained in FAA Order 7110.10, Flight Services. Also, the FAA Pilot Controller Glossary defines Flight Service Stations as ”air traffic facilities which provide pilot briefing, en route communications and VFR search and rescue services, assist lost aircraft and aircraft in emergency situations, relay ATC clearances, originate Notices to Airmen, broadcast aviation weather and NAS information, receive and process IFR flight plans, and monitor NAVAIDs. In addition, at selected locations, FSSs provide En Route Flight Advisory Service (Flight Watch), take weather observations, issue airport advisories, and advise Customs and Immigration of transborder flights.
2.6	The Class F airspace is not used in the designation of U.S. airspace.
2.6.1	The U.S. has chosen not to use Class F airspace.
2.9	Converting the present U.S. system for identifying ATS routes and significant points to conform to the provisions of amended paragraphs 2.9 – 2.9.2, 2.11 – 2.11.3, Appendix 1 and Appendix 2 is an effort of considerable magnitude and complexity. The U.S. has an ongoing program to accomplish the conversion, but it is estimated that a period of 2 to 5 years will be required for full compliance.
2.10.3.2.2	Class E−5 700/1200−foot airspace areas are used for transitioning aircraft to/from the terminal or en route environment.
2.10.3.3	En Route Domestic Airspace Areas consist of Class E airspace that extends upward from a specified altitude to provide controlled airspace in those areas where there is a requirement to provide IFR en route ATC services but the Federal airway structure is inadequate. En Route Domestic Airspace Areas may be designated to serve en route operations when there is a requirement to provide ATC service but the desired routing does not qualify for airway designation. Offshore/ Control Airspace Areas are locations designated in international airspace (between the U.S. 12−mile territorial limit and the CTA/FIR boundary, and within areas of domestic radio navigational signal or ATC radar coverage) wherein domestic ATC procedures may be used for separation purposes.
2.10.5.1	A Class D airspace area shall be of sufficient size to: 1. Allow for safe and efficient handling of operations. 2. Contain IFR arrival operations while between the surface and 1,000 feet above the surface, and IFR departure operations while between the surface and 1,000 feet above the surface, and IFR departure operations while between the surface and the base of adjacent controlled airspace.

2.10.5.2	A Class D airspace area shall be of sufficient size to: 1. Allow for safe and efficient handling of operations. 2. Contain IFR arrival operations while between the surface and 1,000 feet above the surface, and IFR departure operations while between the surface and the base of adjacent controlled airspace. Size and shape may vary to provide for 1 and 2. The emphasis is that a Class D area shall be sized to contain the intended operations.
2.10.5.3	Refer to Surface Areas
2.11	Converting the present U.S. system for identifying ATS routes and significant points to conform to the provisions of amended paragraphs 2.9 – 2.9.2, 2.11 – 2.11.3, Appendix 1 and Appendix 2 is an effort of considerable magnitude and complexity. The U.S. has an ongoing program to accomplish the conversion, but it is estimated that a period of 2 to 5 years will be required for full compliance.
2.25.5	No time is issued prior to taxi for take−off. Time checks are given to the nearest quarter minute.
2.27.5	Process is described in the FAA Safety Management System Manual and the FAA Order 1100.161.
Appendix 1 Appendix 2	Converting the present U.S. system for identifying ATS routes and significant points to conform to the provisions of amended paragraphs 2.9 – 2.9.2, 2.11 – 2.11.3, Appendix 1 and Appendix 2 is an effort of considerable magnitude and complexity. The U.S. has an ongoing program to accomplish the conversion, but it is estimated that a period of 2 to 5 years will be required for full compliance.
Chapter 3	**Air Traffic Control Service**
3.2	Air Route Traffic Control Facilities (ARTCC) are used instead of Area Control Service, and Terminal Control Facilities instead of Approach Control Service.
3.3.3 Exception Clause	Clearances may be issued to conduct flight in VFR conditions without a pilot request if the clearance would result in noise abatement benefits or when a pilot conducts a practice instrument approach.
3.6.2.4	The U.S does not specify notification of 2−way communication. The accepting unit shall not alter the clearance of an aircraft that has not yet reached the transfer of control point without the prior approval of the transferring unit.
3.7.3.1	Air crews are not required to read back clearances, only to acknowledge receipt of clearances.
3.7.3.1.1	Air crews are not required to read back clearances, only to acknowledge receipt of clearances.
3.7.4.3	4−3−8. COORDINATION WITH RECEIVING FACILITY Coordinate with the receiving facility before the departure of an aircraft if the departure point is less than 15 minutes flying time from the transferring facility's boundary unless an automatic transfer of of data between automated systems will occur, in which case the flying time requirement may be reduced to 5 minutes or replaced with a mileage from the boundary parameter when mutually agreeable to both facilities.
3.7.4.4	4−4−5. CLASS G AIRSPACE Include routes through Class G airspace only when requested by the pilot. NOTE−1. Flight plans filed for random RNAV routes through Class G airspace are considered a request by the pilot. 2. Flight plans containing MTR segments in/through Class G airspace are considered a request by the pilot. Air Traffic Control Clearance means an authorization by air traffic control within controlled airspace.
Chapter 4	**Flight Information Service**
4.2.2	No Class F airspace. Collision Hazard information is provided between known traffic to aircraft in Class G airspace.
4.2.2 b)	No provision is made for the issuance of collision hazard information to flights operating in Class G airspace.
4.3.4.4 h) 4.3.4.8	The U.S. requires that the current altimeter setting be included in the ATIS broadcast. Information contained in a current ATIS broadcast, the receipt of which has been acknowledged by an aircraft, is not included in a directed transmission to the aircraft unless requested by the pilot.
4.3.5 4.3.6 4.3.7	The order in which information is listed in ATIS broadcast messages is not mandated and certain elements are regarded as optional.
Chapter 6	**Air Traffic Services Requirements for Communications**

6.1.1.4 6.2.2.3.8	The US uses a 45 day retention period.
6.2.3.6	The US has a 45 day or longer retention period, with some exceptions. US en route facilities using system analysis recording tapes as their radar retention media shall retain radar data for 15 days. Facilities using a teletype emulator or console printout must be retained for 30 days unless they are related to an accident or incident. A facility using a console typewriter printout take−up device may retain the printout on the spool for 15 days after the last date on the spool. If a request is received to retain data information following an accident or incident, the printout of the relative data will suffice and the tape/disc may then be returned to service through the normal established rotational program.
6.3.1.3	The US has a 45 day or longer retention period except that those facilities utilizing an analog voice recorder system shall retain voice recordings for 15 days.
6.4.1.2	The US retains surveillance data recordings for 45 days or longer when they are pertinent to an accident or incident investigation, except that en route facilities using system analysis recording tapes as their radar retention media (regardless of the type of voice recorder system being used) shall retain voice recordings for 15 days and those facilities using an analog voice recorder system shall retain voice recordings for 15 days. FAA's Air Traffic Control System Command Center shall retain voice recordings for 15 days.
Chapter 7	**Air Traffic Services Requirements for Information**
7.1.5	The term "communication station" is not used but the flight information is passed.
7.6	Temporary Flight Restrictions (TFRs) are the mechanism that would be implemented in such cases.
Appendix 1	**Principles Governing the Identification of RNP Types and the Identification of ATS Routes Other Than Standard Departure and Arrival Routes**
	See 2.9, above.
2.2.1	Routes designated to serve aircraft operating from 18,000 MSL up to and including FL 450 are referred to as ''jet routes'' and are designated with the letter ''J'' followed by a number of up to three digits.
Appendix 2	**Principles Governing the Establishment and Identification of Significant Points**
	See 2.9, above.
2.1	The U.S. will not comply with this guidance in naming the Missed Approach Point (MAP) located at the landing threshold.
Appendix 4	**ATS Airspace Classifications**
	It should be noted that the term ''Class B airspace'' as used in the U.S. is more restrictive than that specified by ICAO. Flights within Class B Airspace in the U.S. must be operated in accord with the provisions of 14 CFR Part 91 (Section 91.90).
	Speed restrictions do not necessarily apply to aircraft operating beyond 12 NM from the coast line within the U.S. Flight Information Region, in offshore Class E airspace below 10,000 feet MSL. However, in airspace underlying a Class B airspace area designated for an airport, or in a VFR corridor designated through such a Class B airspace area, pilots are expected to comply with the 200 knot speed limit specified in 14 CFR Part 91 (Sections 91.117(c) and 91.703). This difference will allow airspeed adjustments exceeding 250 knots, thereby improving air traffic services, enhancing safety and expediting air traffic movement.

ANNEX 12 – SEARCH AND RESCUE

There are no reportable differences between U.S. regulations and the Standards and Recommended Practices contained in this Annex.

ANNEX 13 – AIRCRAFT ACCIDENT INVESTIGATION	
Chapter 5	**Investigation**
5.12	The full exchange of information is vital to effective accident investigation and prevention. The U.S. supports, in principle, measures that are intended to facilitate the development and sharing of information. The laws of the U.S. require the determination and public reporting of the facts, circumstances, and probable cause of every civil aviation accident. This requirement does not confine the public disclosure of such information to an accident investigation. However, the laws of the U.S. do provide some protection against public dissemination of certain information of a medical or private nature. Also, U.S. law prohibits the disclosure of cockpit voice recordings to the public and limits the disclosure of cockpit voice recording transcript to that specific information which is deemed pertinent and relevant by the investigative authority. However, U.S. Courts can order the disclosure of the foregoing information for other than accident investigation purposes. The standard for determining access to this information does not consider the adverse domestic or international effects on investigations that might result from such access.
5.25 h)	Investigative procedures observed by the U.S. allow full participation in all progress and investigation planning meetings; however, deliberations related to analysis, findings, probable causes, and safety recommendations are restricted to the investigative authority and its staff. However, participation in these areas is extended through timely written submissions, as specified in paragraph 5.25 i).
5.26 b)	The U.S. supports, in principle, the privacy of the State conducting the investigation regarding the progress and the findings of that investigation. However, the laws of the U.S. facilitate the public disclosure of information held by U.S. government agencies and U.S. commercial business. The standard for determining public access to information requested from a U.S. government agency or a commercial business does not consider or require the expressed consent of the State conducting the investigation.
Chapter 6	**Reporting**
6.13	The U.S. supports the principle of not circulating, publishing, or providing access to a draft report or any part thereof unless such a report or document has already been published or released by the State which conducted the investigation. However, the laws of the U.S. facilitate the public disclosure of information held by government agencies and commercial business. The U.S. government may not be able to restrict public access to a draft report or any part thereof on behalf of the State conducting the investigation. The standard for determining public access to information requested from a U.S. government agency or a commercial business does not consider or require the expressed consent of the State conducting an investigation.

ANNEX 14 – AERODROMES	
VOLUME 1 – AERODROME DESIGN AND OPERATIONS	
Chapter 1	**General**
1.2.1	Airports in the U.S. are for the most part owned and operated by local governments and quasi−government organizations formed to operate transportation facilities. The Federal Government provides air traffic control, operates and maintains NAVAIDs, provides financial assistance for airport development, certificates major airports, and issues standards and guidance for airport planning, design, and operational safety. There is general conformance with the Standards and Recommended Practices of Annex 14, Volume I. At airports with scheduled passenger service using aircraft having more than nine seats, compliance with standards is enforced through regulation and certification. At other airports, compliance is achieved through the agreements with individual airports under which Federal development funds were granted; or, through voluntary actions.
1.3.1 1.3.2 1.3.3 1.3.4	In the U.S., the Airport Reference Code is a two−component indicator relating the standards used in the airport's design to a combination of dimensional and operating characteristics of the largest aircraft expected to use the airport. The first element, Aircraft Approach Category, corresponds to the ICAO PANS−OPS approach speed groupings. The second, Airplane Design Group, corresponds to the wingspan groupings of code element 2 of the Annex 14, Aerodrome Reference Code. See below:

TBL GEN 1.7−1

Airport Reference Code (ARC)

Aircraft Approach Category	Approximate Annex 14 Code Number
A	1
B	2
C	3
D	4
E	−
Airplane Design Group	**Corresponding Annex 14 Code Letter**
I	A
II	B
III	C
IV	D
V	E
VI	F (proposed)

EXAMPLE: AIRPORT DESIGNED FOR B747−400 ARC D−V.

Chapter 2	**Aerodrome Data**
2.2.1	The airport reference point is recomputed when the ultimate planned development of the airport is changed.
2.9.6 2.9.7	Minimum friction values have not been established to indicate that runways are ''slippery when wet.'' However, U.S. guidance recommends that pavements be maintained to the same levels indicated in the ICAO Airport Services Manual.
2.11.3	If inoperative fire fighting apparatus cannot be replaced immediately, a NOTAM must be issued. If the apparatus is not restored to service within 48 hours, operations shall be limited to those compatible with the lower index corresponding to operative apparatus.
2.12 e)	Where the original VASI is still installed, the threshold crossing height is reported as the center of the on−course signal, not the top of the red signal from the downwind bar.

Chapter 3	Physical Characteristics
3.1.2*	The crosswind component is based on the ARC: 10.5 kt for AI and BI; 13 kt for AII and BII; 16 kt for AIII, BIII and CI through DIII; 20 kts for AIV through DVI.
3.1.9*	Runway widths (in meters) used in design are shown in the table below:

Width of Runway in Meters

Aircraft Approach Category	Airplane Design Group					
	I	II	III	IV	V	VI
A	18[1]	23[1]	−−	−−	45	60
B	18[1]	23[1]	−−	−−	45	60
C	30	30	30[2]	45	45	60
D	30	30	30[2]	45	45	60

[1]The width of a precision (lower than $^3/_4$ statute mile approach visibility minimums) runway is 23 meters for a runway which is to accommodate only small (less than 5,700 kg) airplanes and 30 meters for runways accommodating larger airplanes.

[2]For airplanes with a maximum certificated take−off mass greater than 68,000 kg, the standard runway width is 45 meters.

3.1.12*	Longitudinal runway slopes of up to 1.5 percent are permitted for aircraft approach categories C and D except for the first and last quarter of the runway where the maximum slope is 0.8 percent.
3.1.18*	Minimum and maximum transverse runway slopes are based on aircraft approach categories as follows: For categories A and B: 1.0 − 2.0 percent C and D: 1.0 − 1.5 percent
3.2.2	The U.S. does not require that the minimum combined runway and shoulder widths equal 60 meters. The widths of shoulders are determined independently.
3.2.3*	The transverse slope on the innermost portion of the shoulder can be as high as 5 percent.
3.3.3 3.3.4* 3.3.5*	A strip width of 120 meters is used for code 3 and 4 runways for precision, nonprecision, and non−instrumented operations. For code 1 and 2 precision runways, the width is 120 meters. For non−precision/visual runways, widths vary from 37.5 meters up to 120 meters.
3.3.9*	Airports used exclusively by small aircraft (U.S. Airplane Design Group I) may be graded to distances as little as 18 meters from the runway centerline.
3.3.14*	The maximum transverse slope of the graded portion of the strip can be 3 percent for aircraft approach categories C and D and 5 percent for aircraft approach categories A and B.
3.3.15*	The U.S. does not have standards for the maximum transverse grade on portions of the runway strip falling beyond the area that is normally graded.
3.3.17*	Runways designed for use by smaller aircraft under non−instrument conditions may be graded to distances as little as 18 meters from the runway centerline (U.S. Airplane Design Groups I and II).
3.4.2*	For certain code 1 runways, the runway end safety areas may be only 72 meters.
3.7.1* 3.7.2*	The U.S. does not provide Standards or Recommended Practices for radio altimeter operating areas.
3.8.3*	The U.S. specifies a 6 meter clearance for Design Group VI airplanes.
3.8.4*	The taxiway width for Design Group VI airplanes is 30 meters.
3.8.5*	The U.S. also permits designing taxiway turns and intersections using the judgmental oversteering method.

3.8.7*	Minimum separations between runway and taxiway centerlines, and minimum separations between taxiways and taxilanes and between taxiway/taxilanes and fixed/moveable objects are shown in the tables that follow. Generally, U.S. separations are larger for non−instrumented runways, and smaller for instrumented runways, than the Annex. Values are also provided for aircraft with wingspans up to 80 meters.

Minimum Separations Between Runway Centerline and Parallel Taxiway/Taxilane Centerline

Operation	Aircraft Approach Category	Airplane Design Group						
		I[1]	I	II	III	IV	V	VI
Visual runways and runways with not lower than 3/4−statute mile (1,200 meters) approach visibility minimums	A and B	150 feet 45 meters	225 feet 67.5 meters	240 feet 72 meters	300 feet 90 meters	400 feet 120 meters	−−	−−
Runways with lower than 3/4−statute mile (1,200 meters) approach visibility minimums	A and B	200 feet 60 meters	250 feet 75 meters	300 feet 90 meters	350 feet 105 meters	400 feet 120 meters	−−	−−
Visual runways and runways with not lower than 3/4−statute mile (1,200 meters) approach visibility minimums	C and D	−−	300 feet 90 meters	300 feet 90 meters	400 feet 120 meters	400 feet 120 meters	400[2] feet 120[2] meters	600 feet 180 meters
Runways with lower than 3/4−statute mile (1,200 meters) approach visibility minimums	C and D	−−	400 feet 120 meters	400 feet 120 meters	400 feet 120 meters	400 feet 120 meters	400[2] feet 120[2] meters	600 feet 180 meters

[1]These dimensional standards pertain to facilities for small airplanes exclusively.

[2]Corrections are made for altitude: 120 meters separation for airports at or below 410 meters; 135 meters for altitudes between 410 meters and 2,000 meters; and, 150 meters for altitudes above 2,000 meters.

Minimum Taxiway and Taxilane Separations:

	Airplane Design Group					
	I	II	III	IV	V	VI
Taxiway centerline to parallel taxiway/ taxilane centerline	69 feet 21 meters	105 feet 32 meters	152 feet 46.5 meters	215 feet 65.5 meters	267 feet 81 meters	324 feet 99 meters
Fixed or movable object	44.5 feet 13.5 meters	65.5 feet 20 meters	93 feet 28.5 meters	129.5 feet 39.5 meters	160 feet 48 meters	193 feet 59 meters
Taxilane centerline to parallel taxilane centerline	64 feet 19.5 meters	97 feet 29.5 meters	140 feet 42.5 meters	198 feet 60 meters	245 feet 74.5 meters	298 feet 91 meters
Fixed or movable object	39.5 feet 12 meters	57.5 feet 17.5 meters	81 feet 24.5 meters	112.5 feet 34 meters	138 feet 42 meters	167 feet 51 meters

3.8.10*	Line−of−sight standards for taxiways are not provided in U.S. practice, but there is a requirement that the sight distance along a runway from an intersecting taxiway must be sufficient to allow a taxiing aircraft to safely enter or cross the runway.
3.8.11*	Transverse slopes of taxiways are based on aircraft approach categories. For categories C and D, slopes are 1.0−1.5 percent; for A and B, 1.0−2.0 percent.
3.11.5	The runway centerline to taxi−holding position separation for code 1 is 38 meters for non−precision operations and 53 meters for precision. Code 3 and 4 precision operations require a separation of 75 meters, except for “wide bodies,” which require 85 meters.

Dimensions and Slopes for Protective Areas and Surfaces

	Precision Approach	Non−precision Instrument Approach			Visual Runway	
	All runways	All runways[a]	Runways other than utility[b]	Utility runways[d]	Runways other than utility	Utility runways
Width of inner edge	305 meters	305 meters	152 meters	152 meters	152 meters	76 meters[c]
Divergency (each side)	15 percent	15 percent	15 percent	15 percent	10 percent	10 percent
Final width	4,877 meters	1,219 meters	1,067 meters[c]	610 meters	475 meters[c]	381 meters[c]
Length	15,240 meters	3,048 meters[c]	3,048 meters[c]	1,524 meters[c]	1,524 meters[c]	1,524 meters[c]
Slope: inner 3,049 meters	2 percent	2.94 percent[c]	2.94 percent[c]	5 percent[c]	5 percent[c]	5 percent[c]
Slope: beyond 3,048 meters	2.5 percent[c]					

[a]With visibility minimum as low as 1.2 km; [b]with visibility minimum greater than 1.2 km; [c]criteria less demanding than Annex 14 Table 4−1 dimensions and slopes. [d]Utility runways are intended to serve propeller−driven aircraft having a maximum take−off mass of 5,570 kg.

Chapter 4	**Obstacle Restriction and Removal**
4.1	Obstacle limitation surfaces similar to those described in 4.1−4.20 are found in 14 CFR Part 77.
4.1.21	A balked landing surface is not used.
4.1.25	The U.S. does not establish take−off climb obstacle limitation areas and surface, *per se*, but does specify protective surfaces for each end of the runway based on the type of approach procedures available or planned. The dimensions and slopes for these surfaces and areas are listed in the table above.
4.2	The dimensions and slopes of U.S. approach areas and surfaces are set forth in the above table. Aviation regulations do not prohibit construction of fixed objects above the surfaces described in these sections.
4.2.1	Primary surface is also used as a civil airport imaginary surface. Primary surface is a surface longitudinally centered on a runway. U.S. uses the width of the primary surface of a runway as prescribed in 14 CFR Part 77.25 for the most precise approach existing or planned for either end of that runway.
4.2.8	The slope and dimensions of the approach surface applied to each end of a runway are determined by the most precise approach existing or planned for that runway end.
4.2.9	Approach surfaces are applied to each end of each runway based upon the type of approach available or planned for that runway end.
4.2.10, 4.2.11	Any proposed construction of or alteration to an existing structure is normally considered to be physically shielded by one or more existing permanent structure(s), natural terrain, or topographic feature(s) of equal or greater height if the structure under consideration is located within the lateral dimensions of any runway approach surface but would not exceed an overall height above the established airport elevation greater than that of the outer extremity of the approach surface, and located within, but would not penetrate, the shadow plane(s) of the shielding structure(s).
4.2.12	The basic principle in applying shielding guidelines is whether the location and height of the structures are such that aircraft, when operating with due regard for the shielding structure, would not collide with that structure.
4.2.16	The size of each imaginary surface is based on the category of each runway according to the type of approach available or planned for that runway. The slope and dimensions of the approach surface applied to each end of a runway are determined by the most precise approach existing or planned for that runway end.
4.2.17	Approach surfaces are applied to each end of each runway based upon the type of approach available or planned for that runway end.
Chapter 5	**Visual Aids for Navigation**

5.2.1.7*	The U.S. does not require unpaved taxiways to be marked.
5.2.2.2*	The U.S. does not require a runway designator marking for unpaved runways.
5.2.2.4	Zeros are not used to precede single−digit runway markings. An optional configuration of the numeral 1 is available to designate a runway 1 and to prevent confusion with the runway centerline.
5.2.4.2* 5.2.4.3*	Threshold markings are not required, but sometimes provided, for non−instrument runways that do not serve international operations.
5.2.4.5	The current U.S. standard for threshold designation is eight stripes, except that more than eight stripes may be used on runways wider than 45 meters. After 1 January 2008, the U.S. standard will comply with Annex 14.
5.2.4.6	The width and spacing of threshold stripes will comply with Annex 14 after 1 January 2008.
5.2.4.10	When a threshold is temporarily displaced, there is no requirement that runway or taxiway edge markings, prior to the displaced threshold, be obscured. These markings are removed only if the area is unsuitable for the movement of aircraft.
5.2.5.2 5.2.5.3*	Aiming point markings are required on precision instrument runways and code 3 and 4 runways used by jet aircraft.
5.2.5.4	The aiming point marking commences 306 meters from the threshold at all runways.
5.2.6.3	The U.S. pattern for touchdown zone markings, when installed on both runway ends, is only applicable to runways longer than 4,990 feet. On shorter runways, the three pair of markings closest to the runway midpoint are eliminated.
5.2.6.4	The U.S. standard places the aiming point marking 306 meters from the threshold where it replaces one of the pair of three stripe threshold markings. The 306 meters location is used regardless of runway length.
5.2.6.5*	Touchdown zone markings are not required at a non−precision approach runway, though they may be provided.
5.2.7.4*	Runway side stripe markings on a non−instrument runway may have an over−all width of 0.3 meter.
5.2.8.3	Taxiway centerline markings are never installed longitudinally on a runway even if the runway is part of a standard taxi route.
5.2.9.5*	The term ‘‘ILS’’ is used instead of CAT I, CAT II, CAT III.
5.2.11.4 5.2.11.5* 5.2.11.6*	Check−point markings are provided, but the circle is 3 meters in diameter, and the directional line may be of varying width and length. The color is the yellow used for taxiway markings.
5.2.12	Standards for aircraft stand markings are not provided.
5.2.13.1*	Apron safety lines are not required although many airports have installed them.
5.2.14.1	The U.S. does not have standards for holding position markings on roadways that cross runways. Local traffic control practices are used.
5.3.1.1 5.3.1.2*	The U.S. does not have regulations to prevent the establishment of non−aviation ground lights that might interfere with airport operations.
5.3.1.3 5.3.1.4	New approach lighting installations will meet the frangibility requirements. Some existing non−frangible systems may not be replaced before 1 January 2005.
5.3.2.1* 5.3.2.2* 5.3.2.3*	There is no requirement for an airport to have emergency runway lighting available if it does not have a secondary power source. Some airports do have these systems, and there is an FAA specification for these lights.
5.3.3.1 5.3.3.3	Only airports served by aircraft having more than 30 seats are required to have a beacon, though they are available at many others.
5.3.3.6	Although the present U.S. standard for beacons calls for 24−30 flashes per minute, some older beacons may have flash rates as low as 12 flashes per minute.
5.3.3.8	Coded identification beacons are not required and are not commonly installed. Typically, airport beacons conforming to 5.3.3.6 are installed at locations served by aircraft having more than 30 seats.

5.3.4.1	While the U.S. has installed an approach light system conforming to the specifications in 5.3.4.10 through 5.3.4.19, it also provides for a lower cost system consisting of medium intensity approach lighting and sequenced flashing lights (MALSF) at some locations.
5.3.4.2	In addition to the system described in 5.3.4.1, a system consisting of omnidirectional strobe lights (ODALS) located at 90 meters intervals extending out to 450 meters from the runway threshold is used at some locations.
5.3.4.10 through 5.3.4.19	The U.S. standard for a precision approach category I lighting system is a medium intensity approach lighting system with runway alignment indicator lights (MALSR). This system consists of 3 meters barrettes at 60 meters intervals out to 420 meters from the threshold and sequenced flashing lights at 60 meters intervals from 480 meters to 900 meters. A crossbar 20 meters in length is provided 300 meters from the threshold. The total length of this system is dependent upon the ILS glide path angle. For angles 2.75° and higher, the length is 720 meters.
5.3.4.16 5.3.4.31	The capacitor discharge lights can be switched on or off when the steady−burning lights of the approach lighting system are operating. However, they cannot be operated when the other lights are not in operation.
5.3.4.20	The U.S. standard for a precision approach category II and III lighting system has a total length dependent upon the ILS glide path angle. For angles 2.75° and higher, the length is 720 meters.
5.3.5.1 5.3.5.3 5.3.5.4	Visual approach slope indicator systems are not required for all runways used by turbojets except runways involved with land and hold short operations that do not have an electronic glideslope system.
5.3.5.2	In addition to PAPI and APAPI systems, VASI and AVASI type systems remain in service at U.S. airports with commercial service. Smaller general aviation airports may have various other approach slope indicators including tri−color and pulsating visual approach slope indicators.
5.3.5.27	The U.S. standard for PAPI allows for the distance between the edge of the runway and the first light unit to be reduced to 9 meters for code 1 runways used by nonjet aircraft.
5.3.5.42	The PAPI obstacle protection surface used is as follows: The surface begins 90 meters in front of the PAPI system (toward the threshold) and proceeds outward into the approach zone at an angle 1 degree less than the aiming angle of the third light unit from the runway. The surface flares 10 degrees on either side of the extended runway centerline and extends 4 statute miles from its point of origin.
5.3.8.4	The U.S. permits the use of omnidirectional runway threshold identification lights.
5.3.13.2	The U.S. does not require the lateral spacing of touchdown zone lights to be equal to that of touchdown zone marking when runways are less that 45 meters wide. The lateral distance between the markings is 22 meters when installed on runways with a width of 45 meters or greater. The distance is proportionately smaller for narrower runways. The lateral distance between touchdown zone lights is nominally 22 meters but may be reduced to 20 meters to avoid construction problems.
5.3.14	The U.S. has no provision for stopway lights.
5.3.15.1 5.3.15.2*	Taxiway centerline lights are required only below 183 meters RVR on designated taxi routes. However, they are generally recommended whenever a taxiing problem exists.
5.3.15.3 8.2.3	Taxiway centerline lights are not provided on runways forming part of a standard taxi route even for low visibility operations. Under these conditions, the taxi path is coincident with the runway centerline, and the runway lights are illuminated.
5.3.15.5	Taxiway centerline lights on exit taxiways presently are green. However, the new U.S. standard which is scheduled to be published by 1 January 98 will comply with the alternating green/yellow standard of Annex 14.
5.3.15.7*	The U.S. permits an offset of up to 60 cm.
5.3.16.2 8.2.3	Taxiway edge lights are not provided on runways forming part of a standard taxi route.

5.3.17.1 5.3.17.2* 5.3.17.3 5.3.17.4* 5.3.17.5*	Stop bars are required only for runway visual range conditions less than a value of 183 meters at taxiway/runway intersections where the taxiway is lighted during low visibility operations. Once installed, controlled stop bars are operated at RVR conditions less than a value of 350 meters.
5.3.17.6	Elevated stop bar lights are normally installed longitudinally in line with taxiway edge lights. Where edge lights are not installed, the stop bar lights are installed not more than 3 meters from the taxiway edge.
5.3.17.9	The beamspread of elevated stop bar lights differs from the inpavement lights. The inner isocandela curve for the elevated lights is ± 7 horizontal and ± 4 vertical.
5.3.17.12	The U.S. standard for stop bars, which are switchable in groups, does not require the taxiway centerline lights beyond the stop bars to be extinguished when the stop bars are illuminated. The taxiway centerline lights which extend beyond selectively switchable stop bars are grouped into two segments of approximately 45 meters each. A sensor at the end of the first segment re−illuminates the stop bar and extinguishes the first segment of centerline lights. A sensor at the end of the second segment extinguishes that segment of centerline lights.
5.3.18.1*	Taxiway intersection lights are also used at other hold locations on taxiways such as low visibility holding points.
5.3.18.2	Taxiway intersection lights are collocated with the taxiway intersection marking. The marking is located at the following distances from the centerline of the intersecting taxiway: Airplane Design Group — Distance I — 13.5 meters II — 20 meters III — 28.5 meters IV — 39 meters V — 48.5 meters VI — 59 meters
5.3.19.1 5.3.19.2*	Runway guard lights are required only for runway visual range conditions less than a value of 350 meters.
5.3.19.4 5.3.19.5	Runway guard lights are placed at the same distance from the runway centerline as the aircraft holding distance, or within a few feet of this location.
5.3.19.12	The new U.S. standard for in−pavement runway guard lights complies with Annex 14. However, there may be some existing systems that do not flash alternately.
5.3.20.4*	The U.S. does not set aviation standards for flood lighting aprons.
5.3.21	The U.S. does not provide standards for visual docking guidance systems. U.S. manufacturers of these devices generally adhere to ICAO SARPS.
5.3.23.1	The U.S. does not have a requirement for providing roadholding position lights during RVR conditions less than a value of 350 meters.
5.4.1.2	Signs are often installed a few centimeters taller than specified in Annex 14, Volume 1, Table 5−4.
5.4.1.5	Sign inscriptions are slightly larger, and margins around the sign slightly smaller, than indicated in Annex 14, Volume 1, Appendix 4.
5.4.1.6	The sign luminance requirements are not as high as specified in Appendix 4. The U.S. does not specify a nighttime color requirement in terms of chromaticity.
5.4.2.2 5.4.2.4 5.4.2.9 5.4.2.14 5.4.2.16	All signs used to denote precision approach holding positions have the legend ‘‘ILS.’’
5.4.2.6	U.S. practice uses the NO ENTRY sign to prohibit entry by aircraft only.
5.4.2.8 5.4.2.10	The second mandatory instruction sign is usually not installed unless added guidance is necessary.

5.4.2.15	Signs for holding aircraft and vehicles from entering areas where they would infringe on obstacle limitation surfaces or interfere with NAVAIDs are inscribed with the ***designator of the approach***, followed by the letters ''*APCH*''; *for example, "15−APCH.'*
5.4.3.13 5.4.3.15	U.S. practice is to install signs about 3 to 5 meters closer to the taxiway/runway (See Annex 14, Table 5−4).
5.4.3.16	The U.S. does not have standards for the location of runway exit signs.
5.4.3.24	A yellow border is used on all location signs, regardless of whether they are stand−alone or collocated with other signs.
5.4.3.26	U.S. practice is to use Pattern A on runway vacated signs, except that Pattern B is used to indicate that an ILS critical area has been cleared.
5.4.3.30*	The U.S. does not have standards for signs used to indicate a series of taxi−holding positions on the same taxiway.
5.4.4.4*	The inscription, ''VOR Check Course,'' is placed on the sign in addition to the VOR and DME data.
5.4.5.1*	The U.S. does not have requirements for airport identification signs, though they are usually installed.
5.4.6.1*	Standards are not provided for signs used to identify aircraft stands.
5.4.7.2	The distance from the edge of road to the road−holding position sign conforms to local highway practice.
5.5.2.2* 5.5.7.1*	Boundary markers may be used to denote the edges of an unpaved runway.
5.5.3	There is no provision for stopway edge markers.
Chapter 6	**Visual Aids for Denoting Obstacles**
6.1	Recommended practices for marking and lighting obstacles are found in FAA Advisory Circular 70/7460−1J, Obstruction Marking and Lighting.
6.1.3	Any temporary or permanent structure, including all appurtenances, that exceeds an overall height of 200 feet (61m) above ground level or exceeds any obstruction standard contained in 14 CFR Part 77, should normally be marked and/or lighted.
6.2.1	This chapter provides recommended guidelines to make certain structures conspicuous to pilots during daylight hours. One way of achieving this conspicuity is by painting and/or marking these structures. Recommendations on marking structures can vary depending on terrain features, weather patterns, geographic location, and in the case of wind turbines, number of structures and overall layout of design.
6.2.3*	The maximum dimension of the rectangles in a checkered pattern is 6 meters on a side.
6.2.7	Markers should be displayed in conspicuous positions on or adjacent to the structure so as to retain the general definition of the structure. They should be recognizable in clear air from a distance of at least 4,000 feet (1219m) and in all directions from which aircraft are likely to approach. Markers should be distinctively shaped, i.e., spherical or cylindrical, so they are not mistaken for items that are used to convey other information. They should be replaced when faded or otherwise deteriorated.
6.2.11	Flag markers should be displayed around, on top, or along the highest edge of the obstruction. When flags are used to mark extensive or closely grouped obstructions, they should be displayed approximately 50 feet (15m) apart. The flag stakes should be of such strength and height that they will support the flags above all surrounding ground, structures, and/or objects of natural growth.
6.2.12	Each side of the flag marker should be at least 2 feet (0.6m) in length. Standard does not specifically address mobile objects.
6.2.14	Color patterns. Flags should be colored as follows: solid, orange and white, and checkerboard. Standard does not specifically address mobile objects.

6.3.1	Obstruction lighting may be displayed on structures as follows: aviation red obstruction lights; medium intensity flashing white obstruction lights, high intensity flashing white obstruction lights, dual lighting, obstruction lights during construction, obstruction lights in urban areas, and temporary construction equipment lighting.
6.3.11	The height of the structure AGL determines the number of light levels. Recommendations on marking structures can vary depending on terrain features, weather patterns, geographic location, and in the case of wind turbines, number of structures and overall layout of design.
6.3.13	When a structure lighted by a high intensity flashing light system is topped with an antenna or similar appurtenance exceeding 40 feet (12m) in height, a medium intensity flashing white light (L−865) should be placed within 40 feet (12m) from the tip of the appurtenance. This light should operate 24 hours a day and flash simultaneously with the rest of the lighting system.
6.3.14	The number of light units recommended depends on the diameter of the structure at the top.
6.3.16	Lights should be installed on the highest point at each end. At intermediate levels, lights should be displayed for each 150 feet (46m) or fraction thereof. The vertical position of these lights should be equidistant between the top lights and the ground level as the shape and type of obstruction will permit. One such light should be displayed at each outside corner on each level with the remaining lights evenly spaced between the corner lights.
6.3.17	Lights should be installed on the highest point at each end. At intermediate levels, lights should be displayed for each 150 feet (46m) or fraction thereof. The vertical position of these lights should be equidistant between the top lights and the ground level as the shape and type of obstruction will permit. One such light should be displayed at each outside corner on each level with the remaining lights evenly spaced between the corner lights.
6.3.18	Lights should be installed on the highest point at each end. At intermediate levels, lights should be displayed for each 150 feet (46m) or fraction thereof. The vertical position of these lights should be equidistant between the top lights and the ground level as the shape and type of obstruction will permit. One such light should be displayed at each outside corner on each level with the remaining lights evenly spaced between the corner lights.
6.3.19, 6.3.20	One or more light units is needed to obtain the desired horizontal coverage. The number of light units recommended per level (except for the supporting structures of catenary wires and buildings) depends upon the average outside diameter of the specific structure, and the horizontal beam width of the light fixture. The light units should be installed in a manner to ensure an unobstructed view of the system by a pilot approaching from any direction. The number of lights recommended is the minimum. The U.S. does not utilize Type A or Type B obstacle lights. Recommendations on marking structures can vary depending on terrain features, weather patterns, geographic location, and in the case of wind turbines, number of structures and overall layout of design.
6.3.21* 6.3.22*	The effective intensity, for daylight−luminance background, of Type A high−intensity obstacle lights is 270,000 cd ± 25 percent. The effective intensity, for daylight−luminance background, of Type B high−intensity obstacle lights is 140,000 cd ± 25 percent.
6.3.22	The height of the structure AGL determines the number of light levels. The light levels may be adjusted slightly, but not to exceed 10 feet (3m) when necessary to accommodate guy wires and personnel who replace or repair light fixtures. If an adjacent object shields any light, horizontal placement of the lights should be adjusted or additional lights should be mounted on that object to retain or contribute to the definition of the obstruction. Recommendations on marking structures can vary depending on terrain features, weather patterns, geographic location, and in the case of wind turbines, number of structures and overall layout of design.

6.3.23, 6.3.24, 6.3.27, 6.3.29	Red obstruction lights are used to increase conspicuity during nighttime. The red obstruction lighting system is composed of flashing omni directional beacons (L−864) and/or steady burning (L−810) lights. When one or more levels is comprised of flashing beacon lighting, the lights should flash simultaneously. The U.S. does not utilize Type A, B, C, or D obstacle lights. Recommendations on marking structures can vary depending on terrain features, weather patterns, geographic location, and in
6.3.28	When objects within a group of obstructions are approximately the same overall height above the surface and are located a maximum of 150 feet (46m) apart, the group of obstructions may be considered an extensive obstruction. Install light units on the same horizontal plane at the highest portion or edge of prominent obstructions. Light units should be placed to ensure that the light is visible to a pilot approaching from any direction.
6.3.30, 6.3.31, 6.3.32	The medium intensity flashing white light system is normally composed of flashing omni directional lights. Medium intensity flashing white obstruction lights may be used during daytime and twilight with automatically selected reduced intensity for nighttime operation. The U.S. does not utilize Type A, B, or C obstacle lights. Medium intensity flashing white (L−865) obstruction lights may provide conspicuity both day and night. Recommendations on marking structures can vary depending on terrain features, weather patterns, geographic location, and in the case of structures and overall layout of design.
6.3.35	Use high intensity flashing white obstruction lights during daytime with automatically selected reduced intensities for twilight and nighttime operations. When high intensity white lights are operated 24 hours a day, other methods of marking and lighting may be omitted. The U.S. does not utilize Type A obstacle lights. Lighting with high intensity (L−856) flashing white obstruction lights provides the highest degree of conspicuity both day and night. Recommendations on marking structures can vary depending on terrain features, weather patterns, geographic location, and in the case of wind turbines, number of structures and overall layout of design.
Chapter 7	**Visual Aids for Denoting Restricted Use Areas**
7.1.2*	A ‘‘closed’’ marking is not used with partially closed runways. See 5.2.4.10, above.
7.1.4	Crosses with shapes similar to figure 7.1, illustration b) are used to indicate closed runways and taxiways. The cross for denoting a closed runway is yellow.
7.1.5	In the U.S. when a runway is permanently closed, only the threshold marking, runway designation marking, and touchdown zone marking need be obliterated. Permanently closed taxiways need not have the markings obliterated.
7.1.7	The U.S. does not require unserviceability lights across the entrance to a closed runway or taxiway when it is intersected by a night−use runway or taxiway.
7.4.4	Flashing yellow lights are used as unserviceability lights. The intensity is such as to be adequate to delineate a hazardous area.
Chapter 8	**Equipment and Installations**
8.1.5* 8.1.6* 8.1.7 8.1.8	A secondary power supply for non−precision instrument and non−instrument approach runways is not required, nor is it required for all precision approach runways. The U.S. does not provide secondary power specifically for take−off operations below 550 meters RVR.
8.2.1	There is no requirement in the U.S. to interleave lights as described in the Aerodrome Design Manual, Part 5.
8.2.3	See 5.3.15.3 and 5.3.16.2
8.7.2* 8.7.3 8.7.4*	Glide slope facilities and certain other installations located within the runway strip, or which penetrate obstacle limitation surfaces, may not be frangibly mounted.

8.9.7*	A surface movement surveillance system is recommended for operations from 350 meters RVR down to 183 meters. Below 183 meters RVR, a surface movement radar or alternative technology is generally required.
Chapter 9	**Emergency and Other Services**
9.1.1	Emergency plans such as those specified in this section are required only at airports serving scheduled air carriers using aircraft having more than 30 seats. These airports are certificated under 14 CFR Part 139. In practice, other airports also prepare emergency plans.
9.1.12	Full−scale airport emergency exercises are conducted at intervals, not to exceed three years, at airports with scheduled passenger service using aircraft with more than 30 seats.
9.2.1	Rescue and fire fighting equipment and services such as those specified in this section are required only at airports serving scheduled air carriers in aircraft having more than 30 seats. Such airports generally equate to ICAO categories 4 through 9. Other airports have varying degrees of services and equipment.
9.2.3*	There is no plan to eliminate, after 1 January 2005, the current practice of permitting a reduction of one category in the index when the largest aircraft has fewer than an average of five scheduled departures a day.
9.2.4 9.2.5	The level of protection at U.S. airports is derived from the length of the largest aircraft serving the airport similar to the Annex's procedure, except that maximum fuselage width is not used. U.S. indices A−E are close equivalents of the Annex's categories 5−9. The U.S. does not have an equivalent to category 10.

Fire Extinguishing Agents and Equipment

Index	Aircraft length		Total minimum quantities of extinguishing agents			
	More than	Not more than	Dry chemical	Water for protein foam	Minimum trucks	Discharge rate[1]
A		27 meters	225 kg	0	1	See below
B	27 meters	38 meters	225 kg	5,700 L	1	See below
C	38 meters	48 meters	225 kg	5,700 L	2	See below
D	48 meters	60 meters	225 kg	5,700 L	3	See below
E	60 meters		225 kg	11,400 L	3	See below

[1]Truck size	Discharge rate
1,900 L but less than 7,600	at least 1,900 L per minute but not more than 3,800 L per minute
7,600 L or greater	at least 2,280 L per minute but not more than 4,560 L per minute

9.2.10	The required firefighting equipment and agents by index are shown in the table above. The substitution equivalencies between complementary agents and foam meeting performance level A are also used for protein and fluoroprotein foam. Equivalencies for foam meeting performance level B are used only for aqueous film forming foams.
9.2.18*	There is no specific requirement to provide rescue equipment as distinguished from firefighting equipment.
9.2.19*	At least one apparatus must arrive and apply foam within 3 minutes with all other required vehicles arriving within 4 minutes. Response time is measured from the alarm at the equipment's customary assigned post to the commencement of the application of foam at the mid−point of the farthest runway.
9.2.29*	For ICAO category 6 (U.S. index B), the U.S. allows one vehicle.
9.4.4	At the present time, there is no requirement to perform tests using a continuous friction measuring device with self−wetting features. Some U.S. airports own these devices, while others use less formal methods to monitor build−up of rubber deposits and the deterioration of friction characteristics.
9.4.15	The standard grade for temporary ramps is 15 feet longitudinal per 1 inch of height (0.56 percent slope) maximum, regardless of overlay depth.
9.4.19	There is no U.S. standard for declaring a light unserviceable if it is out of alignment or if its intensity is less than 50 percent of its specified value.

*Indicates ICAO Recommended Practice

ANNEX 14 – AERODROMES	
VOLUME II – HELIPORTS	
Chapter 1	**Definitions**
Declared distances	The U.S. does not use declared distances (take−off distance available, rejected take−off distance available, or landing distance available) in designing heliports.
Final approach and take−off area (FATO)	The U.S. ‘‘take−off and landing area’’ is comparable to the ICAO FATO, and the U.S. ‘‘FATO’’ is more comparable to the ICAO TLOF. The U.S. definition for the FATO stops with ‘‘the take−off manoeuvre is commenced.’’ This difference in definition reflects a variation in concept. The rejected take−off distance is an operational computation and is not required as part of the design.
Helicopter stand	The U.S. does not use the term “helicopter stand.” Instead, the U.S. considers paved or unpaved aprons, helipads, and helidecks, all as helicopter parking areas; i.e., helicopter stands.
Safety area	The U.S. considers the safety area to be part of the take−off and landing area which surrounds the FATO and does not call for or define a separate safety area.
Touchdown and lift−off area (TLOF)	The U.S. differs in the definition by considering helipads and helidecks to be FATO. The U.S. does not define the load bearing area on which the helicopter may touch down or lift−off as a TLOF.
Chapter 2	**Heliport Data**
2.1 d)	The U.S. does not measure or report a safety area as a separate feature of a heliport.
2.2	The U.S. does not ‘‘declare’’ distances for heliports.
Chapter 3	**Physical Characteristics**
3.1.2	The U.S. does not distinguish between single−engine and multi−engine helicopters for the purposes of heliport design standards. Neither does the U.S. design or classify heliports on the basis of helicopter performance. The U.S. FATO dimensions are at least equal to the rotor diameter of the design single rotor helicopter and the area must be capable of providing ground effect. The U.S. does not have alternative design standards for water FATOs, elevated heliports, or helidecks.
3.1.3	The U.S. has a single gradient standard; i.e., 5 percent, except in fueling areas where the limit is 2 percent, which is applicable for all portions of heliports.
3.1.6 3.1.7* 3.1.8*	The U.S. does not require or provide criteria for clearways in its design standards. It does encourage ownership and clearing of the land underlying the innermost portion of the approach out to where the approach surface is 10.5 meters above the level of the take−off surface.
3.1.14 to 3.1.21	Safety areas are considered part of the take−off and landing area (or primary surface) in U.S. heliport design. The take−off and landing area of the U.S. design criteria, based on 2 rotor diameters, provides for the ICAO safety area; however, the surface does not have to be continuous with the FATO or be load bearing.
3.1.22	Taxiway widths are twice the undercarriage width of the design helicopter.
3.1.23	The U.S. requires 1.25 rotor diameters plus 2 meters of separation between helicopter ground taxiways.
3.1.24	The U.S. gradient standard for taxiways is a maximum of 5 percent.
3.1.32*	The U.S. sets no gradient standards for air taxiways.
3.1.33	The U.S. requires 1.5 rotor diameters of separation between hover or air taxiways.
3.1.34	The U.S. standards for air taxiways and air transit routes are combined as the standards for hover taxiways noted in paragraphs 3.1.23, 3.1.24 and 3.1.33.
3.1.35	The U.S. sets no maximum turning angle or minimum radius of turn on hover taxiways.
3.1.36	The U.S. gradient standard for aprons is a maximum of 5 percent except in fueling areas where it is 2 percent.
3.1.37	The U.S. criterion for object clearances is 1/3 rotor diameter or 3 meters, whichever is greater.
3.1.38	The U.S. standard for helipads (comparable to helicopter stands) is 1.5 times the undercarriage length or width, whichever is greater.

3.1.39	The U.S. standard for separation between FATO center and the centerline of the runway is 120 meters.
3.2.2	The U.S. does not apply either a performance related or an alternative design standard for elevated heliport facilities.
3.2.5 to 3.2.10	The U.S. does not use safety areas in its heliport design.
3.3 3.4	In the U.S., shipboard and relocatable off−shore helicopter ‘‘helideck’’ facilities are under the purview of the U.S. Coast Guard and utilize the International Maritime Organization (IMO) code. Fixed off−shore helideck facilities are under the purview of the Department of Interior based on their document 351DM2. Coastal water helideck facilities are under the purview of the individual affected States.
Chapter 4	**Obstacle Restriction and Removal**
4.1.1	The U.S. approach surface starts at the edge of the take−off and landing area.
4.1.2 a)	The U.S. approach surface width adjacent to the heliport take−off and landing area is a minimum of 2 rotor diameters.
4.1.2 b) 2)	The U.S. precision instrument approach surface flares from a width of 2 rotor diameters to a width of 1,800 meters at the 7,500 meters outer end. The U.S. does not use a note similar to the one that follows 4.1.4, as it does not differentiate between helicopter requirements on the basis of operational performance.
4.1.5	The outer limit of the U.S. transitional surfaces adjacent to the take−off and landing area is 76 meters from the centerline of the VFR approach/departure surfaces. The transitional surface width decreases to zero at a point 1,220 meters from the take−off and landing area. It does not terminate at an inner horizontal surface or at a predetermined height.
4.1.6	The U.S. transitional surfaces have a fixed width, 76 meters less the width of the take−off and landing area, from the approach centerline for visual operations and an outwardly flaring width to 450 meters for precision instrument operations. The U.S. does not use an inner horizontal surface nor terminate the transitional surfaces at a fixed/predetermined height.
4.1.7 b)	Since the U.S. includes the safety area in the take−off and landing area, the comparable elevation is at the elevation of the FATO.
4.1.9 through 4.1.20	The U.S. does not use the inner horizontal surface, the conical surface, or take−off climb surface described in these paragraphs or the note following paragraph 4.1.20 for heliport design.
4.1.21 through 4.1.25	The U.S. does not have alternative criteria for floating or fixed−in−place helidecks.
4.2	The U.S. has no requirement for a note similar to the one following the heading ‘‘Obstacle limitation requirements.’’
4.2.1	The U.S. criteria does not require a take−off climb surface or a conical obstacle limitation surface to establish a precision instrument approach procedure.
4.2.2	The U.S. criteria does not require a take−off climb surface or a conical obstacle limitation surface to establish a non−precision instrument approach procedure.
4.2.3	The U.S. criteria does not require a take−off climb obstacle limitation surface to establish a non−instrument approach procedure.
4.2.4*	The U.S. has no requirement for protective surfaces such as an inner horizontal surface or a conical surface.
4.2.5	The U.S. does not have tables for heliport design comparable to the ICAO Tables 4−1 to 4−4.
4.2.6	The U.S. subscribes to the intent of this paragraph to limit object heights in the heliport protective surfaces but uses fewer surfaces with different dimensions for those surfaces.
4.2.7*	The U.S. subscribes to the intent of this paragraph but uses different dimensional surfaces.
4.2.8	The U.S. criterion requires that a heliport have at least one approach and departure route and encourages multiple approaches separated by arcs of 90 to 180 degrees.
4.2.9*	The U.S. has no requirement that a heliport’s approach surfaces provide 95 percent usability.

4.2.10	Since the U.S. does not differentiate between surface level and elevated heliports, the comments to paragraphs 4.2.1 through 4.2.5 above apply.
4.2.11	The U.S. has no requirement for a take−off climb surface. It does require at least one approach/departure surface and encourages that there be as many approaches as is practical separated by arcs of 90 to 180 degrees.
4.2.12 through 4.2.22	Since the U.S. does not have alternative design criteria for helidecks or shipboard heliports, there are no comparable U.S. protective surface requirements.
Tables 4−1, 4−2, 4−3, 4−4	The U.S. does not have tables comparable to the ICAO Tables 4−1 to 4−4.
Chapter 5	**Visual Aids**
5.2.1	The U.S. does not have criteria for markings to be used in defining winching areas.
5.2.3.3	The U.S. maximum mass markings are specified in 1,000 pound units rather than tonnes or kilograms.
5.2.4.3	The U.S. criterion requires FATO markers but is not specific on the number or spacing between markers.
5.2.4.4	The U.S. criteria for FATO markers is not dimensionally specific.
5.2.6	The U.S. does not require, or have criteria for, marking an aiming point.
5.2.7.1	The U.S. does not require specific criteria for marking floating or off−shore fixed−in−place helicopter or helideck facilities.
5.2.8	The U.S. does not require marking the touchdown area.
5.2.9	The U.S. does not have criteria for heliport name markings.
5.2.10	The U.S. does not have a requirement to mark helideck obstacle−free sectors.
5.2.12.2	The U.S. criterion places the air taxiway markers along the edges of the routes rather than on the centerline.
5.2.12.3	The U.S. criterion for air taxiway markers does not specify the viewing area or height to width ratio.
5.3.2.3	The U.S. heliport beacon flashes white−green−yellow colors rather than a series of timed flashes.
5.3.2.5*	The U.S. criteria is not specific on the light intensity of the flash.
5.3.3.3	The U.S. criterion specifies a 300 meters approach light system configuration. The light bars are spaced at 30 meters intervals. The first two bars of the configuration are single lights, the next two bars are two lights, then two bars with three lights, then two bars with four lights, and finally two bars with five lights.
5.3.3.4	The U.S. approach light system uses aimed PAR−56 lights.
5.3.3.6	The U.S. heliport approach light system does not contain flashing lights.
5.3.5.2 a)	The U.S. requires an odd number of lights, but not less than three lights per side.
5.3.5.2 b)	The U.S. requires a minimum of eight lights for a circular FATO and does not specify the distance between lights.
5.3.5.4*	The U.S. criteria does not specify light distribution.
5.3.6	The U.S. does not have specific criteria for aiming point lights.
5.3.8	The U.S. does not have standards for winching area lighting.
Chapter 6	**Heliport Services**
6.1*	The U.S. requirements for rescue and fire fighting services at certificated heliports are found in 14 CFR Part 139. Criteria for other heliports are established by the National Fire Protection Association (NFPA) pamphlets 403 or 418, or in regulations of local fire departments.

*Indicates ICAO Recommended Practice

ANNEX 15 – AERONAUTICAL INFORMATION SERVICES	
Chapter 2	**Definitions**
ASHTAM	The U.S. doesn't have a series of NOTAM called ASHTAM, although notification procedures are written on handling of Volcanic Ash activity.
Danger area	"Danger area'' is not used in reference to areas within the U.S. or in any of its possessions or territories.
Integrated Aeronautical Information Package	The U.S. does not produce the entire information package.The U.S. does not use the term Integrated Aeronautical Information Package. The U.S. provides the elements contained in the ICAO Integrated Aeronautical Information Package individually from several different sources and not from a single source.
Maneuvering area	This term is not used by the U.S.
Movement area	The runways, taxiways, and other areas of an airport/heliport which are utilized for taxiing/hover−taxiing, air−taxiing, takeoff, and landing of aircraft, exclusive of loading ramps and parking areas. At those airports/heliports with a tower, specific approval for entry onto the movement area must be obtained from ATC.
Pre−flight Information Bulletin (PIB)	The US does not use the term PIB. However, current NOTAM information is gathered and available through different sources.
Prohibited area Restricted area	The terms ''prohibited area'' and ''restricted area'' will be employed substantially in accordance with the definitions established. Additionally, the following terms will be used: Alert area. Airspace which may contain a high volume of pilot training activities or an unusual type of aerial activity, neither of which is hazardous to aircraft. Alert areas are depicted on aeronautical charts for the information of nonparticipating pilots. All activities within an alert area are conducted in accordance with Federal Aviation Regulations, and pilots of participating aircraft as well as pilots transiting the area are equally responsible for collision avoidance. Controlled firing area. Airspace wherein activities are conducted under conditions so controlled as to eliminate hazards to nonparticipating aircraft and to ensure the safety of persons and property on the ground. Warning area. Airspace which may contain hazards to nonparticipating aircraft in international airspace. Military operations area (MOA). An airspace assignment of defined vertical and lateral dimensions established outside Class A airspace to separate/segregate certain military activities from IFR traffic and to identify for VFR traffic where these activities are conducted.
SNOWTAM	The US presents the information in a different manner via a NOTAM.
Chapter 3	**General**
3.1.7	Data is available, but not as an Integrated Aeronautical Information Package.
3.2.12	The US does not present the information in an integrated package. NFDC is responsible for the validation / verification procedures that ensure that quality requirements and traceability of aeronautical data are met.
3.3.1	The U.S. does not provide an Integrated Aeronautical Information Package. There is no single office for this function. This data can be obtained from different offices (NOTAM, Publications & NFDC)
3.3.5	The U.S. does not provide an Integrated Aeronautical Information Package. The U.S. does provide all of this information, but not from a single source. Information may be obtained from various offices, but not a single office.
3.3.6	The U.S. does not provide an Integrated Aeronautical Information Package. The U.S. provides the elements contained in the ICAO Integrated Aeronautical Information Package individually from several different sources and not from a single source.

3.6.1	The U.S. does not produce an Integrated Aeronautical Information Package. The individual elements of the ICAO Integrated Aeronautical Information are available in plain text.
3.6.6.3	The US does not use a nationality letter in the identification of Special Use Airspace (SUA). The US does not use the letter D for danger area.
3.7.2.2	The US utilizes Geoid−03 which is a component of the North American Vertical Datum of 1988 (NAVD 88).
Chapter 4	**Aeronautical Information Publications (AIP)**
4.1.3	The US does not produce an Aircraft Parking / Docking Chart.
4.2.8 4.3.4	The U.S. does not publish an aeronautical information regulation and control (AIRAC).
4.4 4.5	The U.S. does not issue AIP supplements. Corrections or changes from the latest amendments to the AIP are carried as NOTAMs.
Chapter 5	**NOTAM**
5.1.1.2	The U.S. does not routinely issue ‘‘trigger NOTAMs’’ referencing published material when an AIP amendment is issued.
5.1.1.4	FAA Order states at least 3 days (versus 7 days) notice required
5.2.1	The current U.S. system numbers international NOTAMs consecutively by the location in the A field. The U.S. routinely issues over 70,000 outgoing international NOTAMs each year. Only series A is used for international distribution. This precludes numbering the NOTAMs by the originator. The US does not utilize the ICAO format as noted in Appendix 6.
5.2.3	The U.S. periodically issues multipart NOTAMs which are transmitted as multiple telecommunication messages. The nature of the NOTAM material is such that it will not always fit in one message. The U.S. does not use the term SNOWTAM. Procedures for reporting snow, slush, ice and water are outlined in FAA Order 7930.2K.
5.2.4	The U.S. doesn’t have a series of NOTAM called ASHTAM, although notification procedures are written on handling of Volcanic Ash activity.
5.2.8.1	The monthly checklist of NOTAMs does not specifically reference printed publications, such as AIP amendments.
5.2.8.3	A monthly printed plain language summary of NOTAMs in force is not issued. The International NOTAM publication, issued biweekly, is not inclusive of all U.S. international NOTAMs.
5.3.2	The U.S. does not use the System NOTAM format at this time. The format used is based on the previous ICAO Class I format. See notes on Appendix 6 for details.
Chapter 6	**Aeronautical Information Regulation and Control (AIRAC)**
	See 4.2.8.

Chapter 8	Pre−Flight and Post−Flight Information
8.1.2.1 f)	NOTAMs relating to bird hazards are relayed as local NOTAM information and are not disseminated internationally. The information is available from the local flight service station during preflight briefing.
8.1.3	The FAA does not use PIBs, but does provide pertinent NOTAM information in plain language form every 28 days in a document called the Notices to Airmen Publication (NTAP).
8.2.2	The FAA provides all of this information, but not from a single source.
Appendix 1	**Contents of Aeronautical Information Publication (AIP)**
	The U.S. does not publish sunrise/sunset tables in the AIP.
GEN 3.1.3 4)	The U.S. does not publish pre−flight information bulletins (PIBs).
Appendix 2	**SNOWTAM Format**
	The U.S. does not use the SNOWTAM for issuance of winter weather information. Snow conditions are reported using our current international NOTAM format (Class I).
Appendix 3	**ASHTAM Format**
1.3	ASHTAM information will continue to be distributed as an International NOTAM.
2.1	The heading will not be entered as stated.
3	ASHTAM information will be distributed in U.S. International NOTAM format.
Appendix 6	**NOTAM Format**
	The U.S. is not prepared to transition to the System NOTAM format. NOTAMs are processed in the previous ICAO Class I format.
1.2 General	Multiple conditions, for a single location, may be reported in a NOTAM.
2 NOTAM numbering	The U.S. numbers NOTAMs consecutively by location, not by country of origin. Due to the volume of international NOTAMs generated by the U.S., the current U.S. numbering scheme is expected to continue.
3 Qualifiers	The current software will not accept the Item Q) qualifiers line.
5 Item B)	Item B) is currently issued as an eight digit date−time group. The U.S. also uses the initials ‘‘WIE’’ (with immediate effect) for NOTAMs that take effect immediately upon issuance. The U.S. does not include an Item B) in NOTAMCs. The assumption is that all cancellations take effect immediately when issued. While this date−time group could be added to NOTAMCs, the U.S. position is that it is unnecessary.
6 Item C)	Item C), like item B), is currently issued as an eight digit date−time group. The U.S. also uses the initials ‘‘UFN’’ (until further notice) for NOTAMs that have an uncertain duration.
8 Item E)	U.S. NOTAMs do not contain Item E) information for NOTAMCs. Remark: Item E) contains the NOTAM Code (Q−code) in addition to plain language and ICAO abbreviations.

ANNEX 16 – ENVIRONMENTAL PROTECTION	
VOLUME I – AIRCRAFT NOISE	
Reference: Part 36 of Title 14 of the United States Code of Federal Regulations	
Chapter 1	
1.7	Each person who applies for a type certificate for an airplane covered by 14 CFR Part 36, irrespective of the date of application for the type certificate, must show compliance with Part 36.
Chapter 2	
2.1.1	For type design change applications made after 14 August 1989, if an airplane is a Stage 3 airplane prior to a change in type design, it must remain a Stage 3 airplane after the change in type design regardless of whether Stage 3 compliance was required before the change in type design.
2.3.1 a)	Sideline noise is measured along a line 450 meters from and parallel to the extended runway centerline for two− and three−engine aircraft; for four−engine aircraft, the sideline distance is 0.35 NM.
2.4.2	Noise level limits for Stage 2 derivative aircraft depend upon whether the engine by−pass ratio is less than two. If it is, the Stage 2 limits apply. Otherwise, the limits are the Stage 3 limits plus 3 dB or the Stage 2 value, whichever is lower.
2.4.2.2 b)	Take−off noise limits for three−engine, Stage 2 derivative airplanes with a by−pass ratio equal to or greater than 2 are 107 EPNdB for maximum weights of 385,000 kg (850,000 lb) or more, reduced by 4 dB per halving of the weight down to 92 EPNdB for maximum weights of 28,700 kg (63,177 lb) or less. Aircraft with a by−pass ratio less than 2 only need meet the Stage 2 limits.
2.5.1	Trade−off sum of excesses not greater than 3 EPNdB and no excess greater than 2 EPNdB.
2.6.1.1	For airplanes that do not have turbo−jet engines with a by−pass ratio of 2 or more, the following apply: a) four−engine airplanes – 214 meters (700 feet); b) all other airplanes – 305 meters (1,000 feet). For all airplanes that have turbo−jet engines with a by−pass ratio of 2 or more, the following apply: a) four−engine airplanes – 210 meters (689 feet); b) three−engine airplanes – 260 meters (853 feet); c) airplanes with fewer than three engines – 305 meters (1,000 feet). The power may not be reduced below that which will provide level flight for an engine inoperative or that will maintain a climb gradient of at least 4 percent, whichever is greater.
Chapter 3	
3.1.1	For type design change applications made after 14 August 1989, if an airplane is a Stage 3 airplane prior to a change in type design, it must remain a Stage 3 airplane after the change in type design regardless of whether Stage 3 compliance was required before the change in type design.
3.3.1 a) 2)	The U.S. has no equivalent provision in 14 CFR Part 36.
3.3.2.2	A minimum of two microphones symmetrically positioned about the test flight track must be used to define the maximum sideline noise. This maximum noise may be assumed to occur where the aircraft reaches 305 meters (1,000 feet). 14 CFR Part 36 does not require symmetrical measurements to be made at each and every point for propeller−driven airplane sideline noise determination.
3.6.2.1 c)	Under 14 CFR Part 36, during each test take−off, simultaneous measurements should be made at the sideline noise measuring stations on each side of the runway and also at the take−off noise measuring station. If test site conditions make it impractical to simultaneously measure take−off and sideline noise, and if each of the other sideline measurement requirements is met, independent measurements may be made of the sideline noise under simulated flight path techniques. If the reference flight path includes a power cutback before the maximum possible sideline noise level is developed, the reduced sideline noise level, which is the maximum value developed by the simulated flight path technique, must be the certificated sideline noise value.

3.6.2.1 d)	14 CFR Part 36 specifies the day speeds and the acoustic reference speed to be the minimum approved value of V_2 +10 kt, or the all−engines operating speed at 35 feet (for turbine−engine powered airplanes) or 50 feet (for reciprocating−engine powered airplanes), whichever speed is greater as determined under the regulations constituting the type certification basis of the airplane. The test must be conducted at the test day speeds ±3 kt.
3.7.4	If a take−off test series is conducted at weights other than the maximum take−off weight for which noise certification is requested: a) at least one take−off test must be at or above that maximum weight; b) each take−off test weight must be within +5 or −10 percent of the maximum weight. If an approach test series is conducted at weights other than the maximum landing weight for which certification is requested: a) at least one approach test must be conducted at or above that maximum weight; b) each test weight must exceed 90 percent of the maximum landing weight. Total EPNL adjustment for variations in approach flight path from the reference flight path and for any difference between test engine thrust or power and reference engine thrust or power must not exceed 2 EPNdB.
Chapter 5	
5.1.1	Applies to all large transport category aircraft (as they do to all subsonic turbo−jet aircraft regardless of category). Commuter category aircraft, propeller−driven airplanes below 8,640 kg (19,000 lb) are subject to 14 CFR Part 36, Appendix F or to Appendix G, depending upon the date of completion of the noise certification tests.
Chapter 6	
6.1.1	Applies to new, all propeller−driven airplane types below 19,000 lb (8,640 kg.) in the normal, commuter, utility, acrobatic, transport, or restricted categories for which the noise certification tests are completed before 22 December 1988.
Chapter 8	
General	14 CFR Part 36 (Section 36.1 (h)) defines Stage 1 and Stage 2 noise levels and Stage 1 and Stage 2 helicopters. These definitions parallel those used in 14 CFR Part 36 for turbo−jets and are used primarily to simplify the acoustical change provisions in Section 36.11. 14 CFR Part 36 (Section 36.805(c)) provides for certain derived versions of helicopters for which there are no civil prototypes to be certificated above the noise level limits.
8.1.1 a)	Applicable to new helicopter types for which application for an original type certificate was made on or after 6 March 1988.
8.1.1 b)	Applicable only to “acoustical changes’’ for which application for an amended or supplemental type certificate was made on or after 6 March 1988.
8.4	14 CFR Part 36 Appendix H specifies a slightly different rate of allowable maximum noise levels as a function of helicopter mass. The difference can lead to a difference in the calculated maximum noise limits of 0.1 EPNdB under certain roundoff condition.
8.6.3.1 b)	Does not include the V_{NE} speeds.
8.7	14 CFR Part 36 Appendix H does not permit certain negative corrections. Annex 16 has no equivalent provision.
8.7.4	EPNL correction must be less than 2.0 EPNdB for any combination of lateral deviation, height, approach angle and, in the case of flyover, thrust or power. Corrections to the measured data are required if the tests were conducted below the reference weight. Corrections to the measured data are required if the tests were conducted at other than reference engine power.
8.7.5	The rotor speed must be maintained within one percent of the normal operating RPM during the take−off procedure.
8.7.8	The helicopter shall fly within ±10° from the zenith for approach and take−off, but within ±5° from the zenith for horizontal flyover.

Chapter 10	
General	Exception from acoustical change rule given for aircraft with flight time prior to 1 January 1955 and land configured aircraft reconfigured with floats or skis.
10.1.1	Applies to new, amended, or supplemental type certificates for propeller−driven airplanes not exceeding 8,640 kg (19,000 lb) for which noise certification tests have not been completed before 22 December 1988.
10.4	The maximum noise level is a constant 73 dBA up to 600 kg (1,320 lb). Above that weight, the limit increases at the rate of 1 dBA/75kg (1 dBA/165 lb) up to 85 dBA at 1,500 kg (3,300 lb) after which it is constant up to and including 8,640 kg (19,000 lb).
10.5.2, second phase, d)	For variable−pitch propellers, the definition of engine power is different in the second segment of the reference path. Maximum continuous installed power instead of maximum power is used.
Chapter 11	
11.1	14 CFR Part 36 Appendix J was effective 11 September 1992 and applies to those helicopters for which application for a type certificate was made on or after 6 March 1986.
11.4	14 CFR Part 36 Appendix J specifies a slightly different rate of allowable maximum noise levels as a function of helicopter mass. The difference can lead to a difference in the calculated maximum noise limits of 0.1 EPNdB under certain roundoff condition.
11.6	14 CFR Part 36 Appendix J prescribes a ±15 meter limitation on the allowed vertical deviation about the reference flight path. Annex 16 has no equivalent provision.
PART V	
General	No comparable provision exists in U.S. Federal Regulations. Any local airport proprietor may propose noise abatement operating procedures to the FAA which reviews them for safety and appropriateness.
Appendix 1	
General	Sections 3, 8, and 9 of Appendix 1 which contain the technical specifications for equipment, measurement and analysis and data correction for Chapter 2 aircraft and their derivatives differ in many important aspects from the corresponding requirements in Appendix 2 which has been updated several times. 14 CFR Part 36 updates have generally paralleled those of Appendix 2 of Annex 16. These updated requirements are applicable in the U.S. to both Stage 2 and Stage 3 aircraft and their derivatives.
2.2.1	A minimum of two microphones symmetrically positioned about the test flight track must be used to define the maximum sideline noise. This maximum noise may be assumed to occur where the aircraft reaches 305 meters (1,000 feet), except for four−engine, Stage 2 aircraft for which 439 meters (1,440 feet) may be used.
2.2.2	No obstructions in the cone defined by the axis normal to the ground and the half−angle 80° from the axis.
2.2.3 c)	Relative humidity and ambient temperature over the sound path between the aircraft and 10 meters above the ground at the noise measuring site is such that the sound attenuation in the 8 kHz one−third octave band is not greater than 12 dB/100 meters and the relative humidity is between 20 and 95 percent. However, if the dew point and dry bulb temperature used for obtaining relative humidity are measured with a device which is accurate to within one−half a degree Celsius, the sound attenuation rate shall not exceed 14 dB/100 meters in the 8 kHz one−third octave band.
2.2.3 d)	Test site average wind not above 12 kt and average cross−wind component not above 7 kt.
2.3.4	The aircraft position along the flight path is related to the recorded noise 10 dB downpoints.
2.3.5	At least one take−off test must be a maximum take−off weight and the test weight must be within +5 or −10 percent of maximum certificated take−off weight.
Appendix 2	
2.2.1	A minimum of two symmetrically placed microphones must be used to define the maximum sideline noise at the point where the aircraft reaches 305 meters.

2.2.2	When a multiple layering calculation is required, the atmosphere between the airplane and the ground shall be divided into layers. These layers are not required to be of equal depth, and the maximum layer depth must be 100 meters.
2.2.2 b)	14 CFR Part 36 specifies that the lower limit of the temperature test window is 36 degrees Fahrenheit (2.2 degrees Celsius). Annex 16 provides 10 degrees Celsius as the lower limit for the temperature test window. 14 CFR Part 36 does not specify that the airport facility used to obtain meteorological condition measurements be within 2,000 meters of the measurement site.
2.2.2 c)	14 CFR Part 36 imposes a limit of 14 dB/100 meters in the 8 kHz one−third octave band when the temperature and dew point are measured with a device which is accurate to within one−half a degree Celsius.
2.2.3	14 CFR Part 36 requires that the limitations on the temperature and relative humidity test window must apply over the whole noise propagation path between a point 10 meters above the ground and the helicopter. Annex 16 specifies that the limitations on the temperature and relative humidity test window apply only at a point 10 meters above the ground. 14 CFR Part 36 requires that corrections for sound attenuation must be based on the average of temperature and relative humidity readings at 10 meters and the helicopter. Annex 16 implies that the corrections for sound absorption are based on the temperature and relative humidity measured at 10 meters only.
3.2.6	No equivalent requirement.
3.4.5	For each detector/integrator the response to a sudden onset or interruption of a constant sinusoidal signal at the respective one−third octave band center frequency must be measured at sampling times 0.5, 1.0, 1.5, and 2.0 seconds after the onset or interruption. The rising responses must be the following amounts before the steady−state level: 0.5 seconds: 4.0 ± 1.0 dB 1.0 seconds: 1.75 ± 0.75 dB 1.5 seconds: 1.0 ± 0.5 dB 2.0 seconds: 0.6 ± 0.5 dB
3.4.5 (Note 1)	No equivalent provision in 14 CFR Part 36.
3.5.2	No equivalent requirement.
5.4	14 CFR Part 36 requires that the difference between airspeed and groundspeed shall not exceed 10 kt between the 10 dB down time period.
8.4.2	14 CFR Part 36 specifies a value of −10 in the adjustment for duration correction. Annex 16 specifies a value of −7.5.
9.1.2, 9.1.3	14 CFR Part 36 always requires use of the integrated procedure if the corrected take−off or approach noise level is within 1.0 dB of the applicable noise limit.
Appendix 6	
4.4.1	The microphone performance, not its dimensions, is specified. The microphone must be mounted 1.2 meters (4 feet) above ground level. A windscreen must be employed when the wind speed is in excess of 9 km/h (5 kt).
5.2.2 a)	Reference conditions are different. Noise data outside the applicable range must be corrected to 77 degrees F and 70 percent humidity.
5.2.2 c)	There is no equivalent provision in 14 CFR Part 36. Fixed−pitch propeller−driven airplanes have a special provision. If the propeller is fixed−pitch and the test power is not within 5 percent of reference power, a helical tip Mach number correction is required.

ANNEX 16 – ENVIRONMENTAL PROTECTION	
VOLUME II – AIRCRAFT ENGINE EMISSIONS	
Chapter 1	
	The U.S. currently has regulations prohibiting intentional fuel venting from turbojet, turbofan and turboprop aircraft, but we do not now have a regulation preventing the intentional fuel venting from helicopter engines.

ANNEX 17 – SECURITY – SAFEGUARDING INTERNATIONAL CIVIL AVIATION AGAINST ACTS OF UNLAWFUL INTERFERENCE
There are no reportable differences between U.S. regulations and the Standards and Recommended Practices contained in this Annex.

ANNEX 18 – THE SAFE TRANSPORT OF DANGEROUS GOODS BY AIR
Adopted by the ICAO Council 6/26/81
Effective Date: 1/1/83
Applicability Date: 1/1/84
(Note: Differences are to be filed with ICAO by 6/1/83).

PANS – OPS – 8168/611	
VOLUME 1	
PART III	
Table III−1−1 and Table III−1−2	The “Max speeds for visual maneuvering (Circling)” must not be applied to circling procedures in the U.S. Comply with the airspeeds and circling restrictions in ENR 1.5, paragraphs 11.1 and 11.6, in order to remain within obstacle protection areas. The table listed below shows aircraft categories with an associated maximum airspeed and distance to remain within from the end of runway.

Aircraft Category	**Speeds for Circling (Kts)**	**Circling Area Maximum Radii from Runway Threshold (NM)**
A	Speed less than 91 Knots	1.3
B	Speed 91 Knots or more but less than 121 Knots	1.5
C	Speed 121 Knots or more but less than 141 Knots	1.7
D	Speed 141 Knots or more but less than 166 Knots	2.3
E	Speed 166 Knots or more	4.5

PART IV	
1.2.1	The airspeeds contained in ENR 1.5 shall be used in U.S. **CONTROLLED AIRSPACE**.

PAN – ABC – DOC 8400

Differences between abbreviations used in U.S. AIP, International NOTAMs Class I and Class II, and Notices to Airmen Publication and ICAO PANS − ABC are listed in GEN 2.2**.** For other U.S. listings of abbreviations (contractions) for general use, air traffic control, and National Weather Service (NWS), which differ in some respects, see U.S. publication Contractions Handbook (DOT/FAA Order 7340.1). In addition, various U.S. publications contain abbreviations of terms used therein, particularly those unique to that publication.

GEN 3. SERVICES

GEN 3.1 Aeronautical Information Services

1. Aeronautical Information Service

1.1 The U.S. Aeronautical Information Service is the National Flight Data Center, which forms a part of the Air Traffic Airspace Management of the Federal Aviation Administration.

Postal Address:
Federal Aviation Administration
National Flight Data Center
800 Independence Avenue, SW.
Washington, D.C. 20591
Telephone: 202–267–9292
Telex: 892–562
Commercial Telegraphic Address: FAA WASH
AFTN Address: KRWAYAYX

1.2 The U.S. NOTAM office is located at the following address:

Postal Address:
Federal Aviation Administration
U.S. NOTAM Office
Air Traffic Control System Command Center
13600 EDS Drive
Herndon, VA 20171–3225
Telephone: 703–904–4557
Toll Free: 1–888–876–6826
Facsimile: 703–904–4437
Telex: 892–562
AFTN Address (Administrative)*:*
KDCAYNYX
AFTN (NOTAM): KDZZNAXX

2. Area of Responsibility of AIS

2.1 The National Flight Data Center is responsible for the collection, validation, and dissemination of aeronautical information for the U.S. and areas under its jurisdiction for air traffic control purposes.

3. Aeronautical Publications

3.1 United States AIP

3.1.1 The AIP, issued in one volume, is the basic aeronautical information document published for international use. It contains information of a lasting character, with interim updates published in various other publications. The AIP is available in English only and is maintained on a current basis by a 6–month amendment service.

3.2 NOTAM Publication

3.2.1 NOTAM information is published in booklet form every 28 days, entitled Notices to Airmen. This booklet disseminates aeronautical information of operational significance concerning airspace, procedures, and information concerning the status of both international and domestic airports and navigational aids.

3.3 Aeronautical Information Circulars

3.3.1 These circulars, called Advisory Circulars, contain information of general or technical interest relating to administrative or aviation matters which are inappropriate to either the AIP or the NOTAM. Advisory Circulars are available in English only. A checklist of outstanding circulars is issued annually.

3.4 En route Aeronautical Charts, En Route Supplements, Approach Procedure Charts, Regional Airport/Facility Directories

3.4.1 These publications, available in English only, contain specific information on airspace, airports, navigational aids, and flight procedures applicable to the regional areas of the U.S. and the territories and airspace under its jurisdiction. These publications are available by subscription only.

4. Distribution of Publications

4.1 The AIP subscriptions, including amendments, are made available to foreign aeronautical authorities on a reciprocal basis through the Federal Aviation Administration, AAT–30, 800 Independence Avenue, SW., Washington, D.C. 20591 upon request. Address corrections and changes in distribution to foreign aeronautical authorities are also accomplished through this office. See information in paragraph 1.2 for published NOTAMs.

4.2 Private paying subscriptions must be obtained for each separate AIP document from the:

Superintendent of Documents
U.S. Government Printing Office
P. O. Box 979050
St. Louis, MO 63197–9000
Telephone: *202–512–1800*
Internet: **http://bookstore.gpo.gov**

4.3 Advisory Circulars are available, upon request, from the:

U.S. Department of Transportation
Subsequent Distribution Office
Ardmore East Business Center
3341 Q 75th Avenue
Landover, MD 20785

4.4 Domestic chart and chart products are available upon subscription from the:

Aeronautical Navigation Products (AeroNav)
Logistics Group, AJV–372
Federal Aviation Administration
10201 Good Luck Road
Glenn Dale, MD 20769–9700
Telephone: 1–800–638–8972 (Toll free within U.S.)
301–436–8301
301–436–6829 (FAX)
e–mail: 9–AMC–Chartsales@faa.gov

4.5 For the latest information regarding publication availability of world–wide products see the National Geospatial–Intelligence Agency (NGA) Web site: **https://www.nga.mil/ProductsServices/Aeronautical/Pages/default.aspx**

5. NOTAM Service

5.1 NOTAM Publication (Postal Distribution)

5.1.1 NOTAM publication distribution, by means of the Notices to Airmen publication, is in booklet form which contains a recapitulation of pertinent or permanent information of concern to airspace, facilities, services, and procedures which are of interest to both international and domestic civil aviation users. The information contained will eventually be published in either the U.S. AIP or in other publications for domestic use, as applicable. The Notices to Airmen publication will also contain information regarding temporary changes or unscheduled interruptions to flight procedures and navigational aids or airport services, the duration of which is expected to last seven or more days. Distribution of the Notices to Airmen publication parallels NOTAM Class I and AIP distribution.

5.2 NOTAM Class I (Telecommunication Distribution)

5.2.1 NOTAM Class I distribution is used mainly for the notification of temporary information of timely significance such as unforeseen changes in services, facilities, airspace utilization, or any other emergency. Distribution is via telecommunications through the International NOTAM Office of the National Flight Data Center, in accordance with the following classifications:

5.2.1.1 International NOTAM. NOTAM containing full information on all airports, facilities and flight procedures available for use by international civil aviation. NOTAMs are given selected distribution to adjacent or appropriate International NOTAM Offices which require their exchange.

5.2.1.2 International Airspace NOTAM. NOTAM containing short term information pertaining to potentially hazardous international and domestic airspace utilization which is of concern to international flights. NOTAMs are given selected distribution to adjacent or appropriate International NOTAM Offices which require their exchange.

5.2.1.3 International Airspace NOTAM. NOTAM containing permanent changes–en route airway structure/aeronautical service and information of a general nature. NOTAMs are given selected distribution to adjacent or appropriate International NOTAM Offices which require their exchange.

5.2.1.4 Domestic NOTAM. NOTAM containing information of concern to aircraft other than those engaged in international civil aviation. Distribution is to local or national users only. (See ENR 1.10.)

5.2.2 Each NOTAM is assigned a four digit serial number which is followed by the location indicator for which the series is applicable. The serial numbers start with number 0001 at 0000 UTC on 1 July of each year. Each serial number is preceded by a letter:

5.2.2.1 "**A**" for NOTAM classification "1."

NOTE–
NOTAM number one for the year 1984 for the New York, John F. Kennedy International Airport would read A0001/84 KJFK. All NOTAMs issued will be preceded by an "A."

5.2.2.2 "**B**" for NOTAM classification "2." (Airspace): the identifier of the affected air traffic control center/FIR will be used.

NOTE–
NOTAM number one for the year 1984 for the Oakland ARTCC/FIR (Pacific Ocean Area) would read A0001/84 KZOA.

5.2.2.3 "**C**" for NOTAM classification ''3'' (Permanent Airspace): The KFDC identifier will be used for data of permanent airway/aeronautical services and of a general nature that are transmitted as NOTAMs and are given selected distribution to adjacent or appropriate International NOTAM Offices which require their exchange.

NOTE–
NOTAM number one for the year 1984 for KFDC is A0001/84 KFDC.

5.2.2.4 "**E**" for NOTAM classification "5" (domestic): No application (see ENR 1.10.)

5.3 Each NOTAM is provided with an identification letter adjoining the end of the word NOTAM meaning:

5.3.1 NOTAMN: NOTAM containing new information.

5.3.2 NOTAMC: NOTAM cancelling a previous NOTAM indicated.

5.3.3 NOTAMR: NOTAM replacing a previous NOTAM indicated.

5.4 A checklist of NOTAMs currently in force for each international NOTAM classification is issued each month over the Aeronautical Fixed Telecommunications Network (AFTN) to each International NOTAM office which exchanges International NOTAMs with the U.S. International NOTAM Office.

5.5 NOTAM Class I information is exchanged between the U.S. International NOTAM Office and the following International NOTAM Offices.

TBL GEN 3.1–1

COUNTRY	CITY
AFGHANISTAN	KABUL
ALBANIA	ROME
ALGERIA	ALGIERS
ANGOLA	LUANDA
ARGENTINA	BUENOS AIRES
AUSTRALIA	SIDNEY
AUSTRIA	VIENNA
AZORES	SANTO MARIA
BAHAMAS	NASSAU
BAHRAIN	BAHRAIN
BANGLADESH	DHAKA (DACCA)
BELGIUM	BRUSSELS
BERMUDA	BERMUDA
BOLIVIA	LA PAZ
BOSNIA	ZAGREB
BRAZIL	RIO DE JANEIRO
BULGARIA	SOFIA
CAMBODIA	PHNOM–PEHN
CANADA	OTTAWA
CAPE VERDE ISLANDS	AMILCAR CABRAL
CHILE	SANTIAGO
CHINA	BEIJING
CHINA (FORMOSA)	TAIPEI
COLOMBIA	BOGOTA
CONGO	BRAZZAVILLE
CROATIA	ZAGREB
CUBA	HAVANA
CYPRUS	NICOSIA
CZECH REPUBLIC	PRAGUE
DENMARK	COPENHAGEN
DOMINICAN REPUBLIC	SANTO DOMINGO
ECUADOR	GUAYAQUIL
ENGLAND	LONDON
ESTONIA	TALLINN
ETHIOPIA	ADDIS ABABA
EYGPT	CAIRO
FIJI	NANDI
FINLAND	HELSINKI
FRANCE	PARIS
FRENCH GUIANA	MARTINIQUE
FRENCH POLYNESIA	TAHITI
GERMANY (WEST)	FRANKFURT

COUNTRY	CITY
GHANA	ACCRA
GREECE	ATHENS
GREENLAND	SONDRE STROMFJORD
GUYANA	GEORGETOWN
HAITI	PORT–AU–PRINCE
HONDURAS	TEQUCIGALPA
HONG KONG	HONG KONG
HUNGARY	BUDAPEST
ICELAND	REYKJAVIK
INDIA	BOMBAY
INDIA	CALCUTTA
INDIA	DELHI
INDIA	MADRAS
INDONESIA	JAKARTA
IRAN	TEHRAN (NOT AVBL)
IRELAND	SHANNON
ISRAEL	TEL AVIV
ITALY	ROME
JAMAICA	KINGSTON
JAPAN	TOKYO
JORDAN	AMMAN
KENYA	NAIROBI
KOREA (SOUTH)	SEOUL
KUWAIT	KUWAIT
LATVIA	MOSCOW
LEBANON	BEIRUT
LIBERIA	ROBERTS
LIBYA	TRIPOLI
MALAYSIA	KUALA LUMPUR
MALTA	LUQA
MAURITIUS	PLAISANCE
MAYNMAR	RANGOON
MEXICO	MEXICO CITY
MOROCCO	CASABLANCA
MOZAMBIQUE	MAPUTO
NAMIBIA	JOHANNESBURG
NAURU ISLAND	NAURU
NETHERLANDS	AMSTERDAM
NETHERLANDS ANTILLES	CURACAO
NEW GUINEA	PORT MOSEBY
NEW ZEALAND	AUCKLAND

COUNTRY	CITY
NIGERIA	LAGOS
NORWAY	OSLO
OMAN	MUSCAT
PAKISTAN	KARACHI
PANAMA	TOCUMEN
PARAGUAY	ASUNCION
PERU	LIMA
PHILLIPINES	MANILLA
POLAND	WARSAW
PORTUGAL	LISBON
ROMANIA	BUCHAREST
RUSSIA	MOSCOW
SAMOA	FALEOLA
SAUDI ARABIA	JEDDAH
SENEGAL	DAKAR
SEYCHELLES	MAHE
SINGAPORE	SINGAPORE
SLOVAKIA	BRATISLAVA
SOLOMON ISLANDS	HONIARA
SOUTH AFRICA	JOHANNESBURG
SPAIN	MADRID
SRI LANKA	COLOMBO
SUDAN	KHARTOUM
SURINAME	PARAMARIBO
SWEDEN	STOCKHOLM
SWITZERLAND	ZURICH
SYRIA	DAMASCUS
TANZANIA	DAR–ES–SALAAM
THAILAND	BANKOK
TRINIDAD	PORT OF SPAIN
TUNISIA	TUNIS
TURKEY	ANKARA
URUGUAY	MONTEVIDEO
VIET NAM	HO CHI MINH CITY
VENEZUELA	CARACAS
YEMEN	ADEN
YUGOSLAVIA	BELGRADE
ZAIRE	KINSHASA
ZAMBIA	LUSAKA
ZIMBABWE	HARARE

5. National Geospatial−Intelligence Agency (NGA) Products

5.1 National Geospatial−Intelligence Agency (NGA) Products. For the latest information regarding publication availability visit the NGA Web site: **https://www.nga.mil/ProductsServices/Aeronautical/Pages/default.aspx**

5.1.1 Flight Information Publication (FLIP) Planning Documents

General Planning (GP)
Area Planning
Area Planning − Special Use Airspace − Planning Charts

5.1.2 FLIP Enroute Charts and Chart Supplements

Pacific, Australasia, and Antarctica
United States − IFR and VFR Supplements
Flight Information Handbook
Caribbean and South America − Low Altitude
Caribbean and South America − High Altitude
Europe, North Africa, and Middle East − Low Altitude
Europe, North Africa, and Middle East − High Altitude
Africa
Eastern Europe and Asia
Area Arrival Charts

5.1.3 FLIP Instrument Approach Procedures (IAPs)

Africa
Canada and North Atlantic
Caribbean and South America
Eastern Europe and Asia
Europe, North Africa, and Middle East
Pacific, Australasia, and Antarctica
VFR Arrival/Departure Routes − Europe and Korea
United States

5.1.4 Miscellaneous DOD Charts and Products

Aeronautical Chart Updating Manual (CHUM)
DOD Weather Plotting Charts (WPC)
Tactical Pilotage Charts (TPC)
Operational Navigation Charts (ONC)
Global Navigation and Planning Charts (GNC)
Jet Navigation Charts (JNC) and Universal Jet Navigation Charts (JNU)
Jet Navigation Charts (JNCA)
Aerospace Planning Charts (ASC)
Oceanic Planning Charts (OPC)
Joint Operations Graphics − Air (JOG−A)
Standard Index Charts (SIC)
Universal Plotting Sheet (VP−OS)
Sight Reduction Tables for Air Navigation (PUB249)
Plotting Sheets (VP−30)
Dial−Up Electronic CHUM

GEN 3.3 Air Traffic Services

1. Responsible Authority

1.1 The authority responsible for the overall administration of air traffic services provided for civil aviation in the U.S. and its territories, possessions and international airspace under its jurisdiction is the Associate Administrator for Air Traffic Services, acting under the authority of the Federal Aviation Administration (FAA).

Postal Address:
Director
Air Traffic Operations Program (ATP−1)
Federal Aviation Administration
800 Independence Ave., SW
Washington, D.C. 20591
U.S.A.
Telephone: 202−267−9155
Telex: 892−562
Commercial Telegraphic Address: FAA WSH
AFTN Address: KDCAYAYX

2. Area of Responsibility

2.1 Air traffic services as indicated in the following paragraphs are provided for the entire territory of the conterminous U.S., Alaska, Hawaii, Puerto Rico and the U.S. Virgin Islands, as well as the international airspace in oceanic areas under the jurisdiction of the U.S. which lies within the ICAO Caribbean (CAR), North Atlantic (NAT), North American (NAM) and Pacific (PAC) regions.

3. Air Traffic Services

3.1 With the exception of terminal control services at certain civil aerodromes and military aerodromes, air traffic service in the U.S. is provided by the Air Traffic Operations Program, FAA, Department of Transportation (DOT), U.S. Government.

3.2 Air Traffic control is exercised within the area of responsibility of the U.S.:

3.2.1 On all airways.

3.2.2 In Class B, C, D, and E Airspace; and

3.2.3 Within the Class A airspace whose vertical extent is from 18,000 feet to and including FL 600 throughout most of the conterminous U.S. and, in Alaska, from 18,000 feet to and including FL 600 but not including the airspace less than 1,500 feet above the surface of the earth and the Alaskan Peninsula west of longitude 160° 00″ West. (A complete description of Class A airspace is contained in the Code of Federal Regulations (CFR), Title 14, Part 71.)

3.3 Air traffic control and alerting services are provided by various air traffic control (ATC) units and are described in ENR 1.1.

3.4 Radar service is an integral part of the air traffic system. A description of radar services and procedures is provided in ENR 1.1.

3.5 The description of airspace designated for air traffic services is found in ENR 1.4.

3.6 Procedural data and descriptions are found in ENR 1.5.

3.7 Numerous restricted and prohibited areas are established within U.S. territory. These areas, none of which interfere with normal air traffic, are explained in ENR 1.5. Activation of areas subject to intermittent activity is notified in advance by a Notice to Airmen (NOTAM), giving reference to the area by its identification.

3.8 In general, the air traffic rules and procedures in force and the organization of the air traffic services are in conformity with ICAO Standards, Recommended Practices and Procedures. Differences between the national and international rules and procedures are given in GEN 1.7. The regional supplementary procedures and altimeter setting procedures are reproduced in full with an indication wherein there is a difference.

3.9 Coordination between the operator and air traffic services is effected in accordance with 2.11 of Annex II, and 2.1.1.4 and 2.1.2.5 of Part VIII of the PANS−ATM (Doc 4444).

3.10 Minimum flight altitudes on the ATS routes as listed in ENR 1.4 have been determined so as to ensure at least 1,000 feet vertical clearance above the highest obstacle within 4 nautical miles (NM) on each side of the centerline of the route. However, where the regular divergence (4.5 degrees) of the navigational aid signal in combination with the distance between the navigational aids could result in the aircraft being more than 4 NM on either side of the centerline, the

4 NM protection limit is increased by the extent to which the divergence is more than 4 NM from the centerline.

3.11 Pilot Visits to Air Traffic Facilities. Pilots are encouraged to visit air traffic facilities (Airport Traffic Control Towers (ATCTs), Air Route Traffic Control Centers (ARTCCs), and Flight Service Stations (FSSs)) and familiarize themselves with the ATC system. On rare occasions, facilities may not be able to approve a visit because of workload or other reasons. Pilots should contact the facility prior to the visit and advise of the number of persons in the group, the time and date of the proposed visit, and the primary interest of the group. With this information available, the facility can prepare an itinerary and have someone available to guide the group through the facility.

3.12 Operation Take−off and Operation Raincheck. Operation Take−off is a program that educates pilots in how best to utilize the FSS modernization efforts and services available at Flight Service Stations (FSS), as stated in FAA Order 7230.17, Pilot Education Program − Operation Takeoff. Operation Raincheck is a program designed to familiarize pilots with the ATC system, its functions, responsibilities, and benefits.

4. En Route Procedures

4.1 Air Route Traffic Control Center (ARTCC)

An ARTCC is a facility established to provide air traffic control service to aircraft operating on instrument flight rule (IFR) flight plans within CONTROLLED AIRSPACE and principally during the en route phase of flight. When equipment capabilities and controller workload permit, certain advisory/assistance services may be provided to visual flight rule (VFR) aircraft.

4.2 ARTCC Communications

4.2.1 Direct Communications, Controllers and Pilots

4.2.1.1 ARTCCs are capable of direct communications with IFR air traffic on certain frequencies. Maximum communications coverage is possible through the use of Remote Center Air/Ground (RCAG) sites comprised of very high frequency (VHF) and ultra high frequency (UHF) transmitters and receivers. These sites are located throughout the U.S. Although they may be several hundred miles away from the ARTCC, they are remoted to the various centers by land lines or microwave links. As IFR operations are expedited through the use of direct communications, pilots are requested to use these frequencies strictly for communications pertinent to the control of IFR aircraft. Flight plan filing, en route weather, weather forecasts, and similar data should be requested through Flight Service Stations, company radio, or appropriate military facilities capable of performing these services.

4.2.1.2 An ARTCC is divided into sectors. Each sector is handled by one or a team of controllers and has its own sector discrete frequency. As a flight progresses from one sector to another, the pilot is requested to change to the appropriate sector discrete frequency.

4.2.1.3 Controller Pilot Data Link Communications (CPDLC) is a system that supplements air/ground voice communications. As a result, it expands two−way air traffic control air/ground communications capabilities. Consequently, the air traffic system's operational capacity is increased and any associated air traffic delays become minimized. A related safety benefit is that pilot/controller read−back and hear−back errors will be significantly reduced. The CPDLC's principal operating criteria are:

a) Voice remains the primary and controlling air/ground communications means.

b) Participating aircraft will need to have the appropriate CPDLC avionics equipment in order to receive uplink or transmit downlink messages.

c) CPDLC Build 1 offers four ATC data link services. These are altimeter setting (AS), transfer of communications (TC), initial contact (IC), and menu text messages (MT).

1) Altimeter settings are usually transmitted automatically when a CPDLC session and eligibility has been established with an aircraft. A controller may also manually send an altimeter setting message.

NOTE−
When conducting instrument approach procedures, pilots are responsible to obtain and use the appropriate altimeter setting in accordance with 14 CFR Section 97.20. CPDLC issued altimeter settings are excluded for this purpose.

GEN 3.4 Communication Service

1. Responsible Authority

1.1 The authority responsible for the administration of communications services in the U.S. is the Federal Aviation Administration, Communication, Navigation, Surveillance, and Infrastructure.

Postal Address:
Federal Aviation Administration
Communications, Navigation, Surveillance, and Infrastructure (ARN–1)
400 7th Street, SW
Washington, D.C. 20590
AFTN Address: KDCAYAYX
Commercial Telegraphic Address:
ACIVAIR Washington DC
Telex: 892–562

2. Area of Responsibility

2.1 Communications services are available on a continuous basis without charge to the user. The Air Traffic Services Division is responsible for the establishment of the operational requirements of the U.S. communications system. Responsibility for the day to day operation of these services resides with the local air traffic facility. Enquiries or complaints regarding any communications services or facilities should be referred to the relevant air traffic facility or to the Federal Aviation Administration, Air Traffic Operations Services, as appropriate.

3. Types of Services

3.1 Radio Navigation Service

3.1.1 Various types of air navigation aids are in use today, each serving a special purpose. These aids have varied owners and operators, namely: the Federal Aviation Administration, the military services, private organizations; and individual states and foreign governments. The Federal Aviation Administration has the statutory authority to establish, operate, and maintain air navigation facilities and to prescribe standards for the operation of any of these aids which are used by both civil and military aircraft for instrument flight in federally controlled airspace. These aids are tabulated in the Airport/Facility Directory by State.

3.1.2 Pilots should be aware of the possibility of momentary erroneous indications on cockpit displays when the primary signal generator for a ground–based navigational transmitter (for example, a glideslope, VOR, or nondirectional beacon) is inoperative. Pilots should disregard any navigation indication, regardless of its apparent validity, if the particular transmitter was identified by NOTAM or otherwise as unusable or inoperative.

3.1.3 The following types of radio navigation aids are provided in the U.S.:

3.1.3.1 VHF Direction–Finding (VHF–DF).

3.1.3.2 LF Non–Directional Beacon (NDB).

3.1.3.3 VHF Omni–Directional Radio Range (VOR).

3.1.3.4 Distance Measuring Equipment (DME).

3.1.3.5 Tactical Air Navigation (TACAN).

3.1.3.6 Instrument Landing System (ILS).

3.1.3.7 Final Approach Simplified Directional Facility (SDF).

3.1.3.8 Precision Approach Radar (PAR) at certain military aerodromes.

3.1.3.9 Global Positioning System (GPS).

3.1.4 NAVAID Service Volumes

3.1.4.1 Most air navigation radio aids which provide positive course guidance have a designated standard service volume (SSV). The SSV defines the reception limits of unrestricted NAVAIDs which are usable for random/unpublished route navigation.

3.1.4.2 A NAVAID will be classified as restricted if it does not conform to flight inspection signal strength and course quality standards throughout the published SSV. However, the NAVAID should not be considered usable at altitudes below that which could be flown while operating under random route IFR conditions; even though these altitudes may lie within the designated SSV.

NOTE–
Refer to Federal Aviation Regulations (14 CFR Section 91.177) for minimum altitudes for IFR operations. Service volume restrictions are first published in the Notices to Airman (NOTAMs) and then with the alphabetical listing of the NAVAIDs in the Airport/Facility Directory.

3.1.4.3 Standard service volume limitations do not apply to published IFR routes or procedures.

3.1.4.4 VOR/DME/TACAN Standard Service Volumes (SSV):

a) SSVs are graphically shown in FIG GEN 3.4–1, FIG GEN 3.4–2, FIG GEN 3.4–3, FIG GEN 3.4–4, and FIG GEN 3.4–5. The SSV of a station is indicated by using the class designator as a prefix to the station type designation.

EXAMPLE–
TVOR, LDME, and HVORTAC.

b) Within 25 NM, the bottom of the T service volume is defined by the curve in FIG GEN 3.4–4. Within 40 NM, the bottoms of the L and H service volumes are defined by the curve in FIG GEN 3.4–5.

FIG GEN 3.4–1
Standard High Altitude Service Volume
(See FIG GEN 3.4–5 for altitudes below 1,000 feet.)

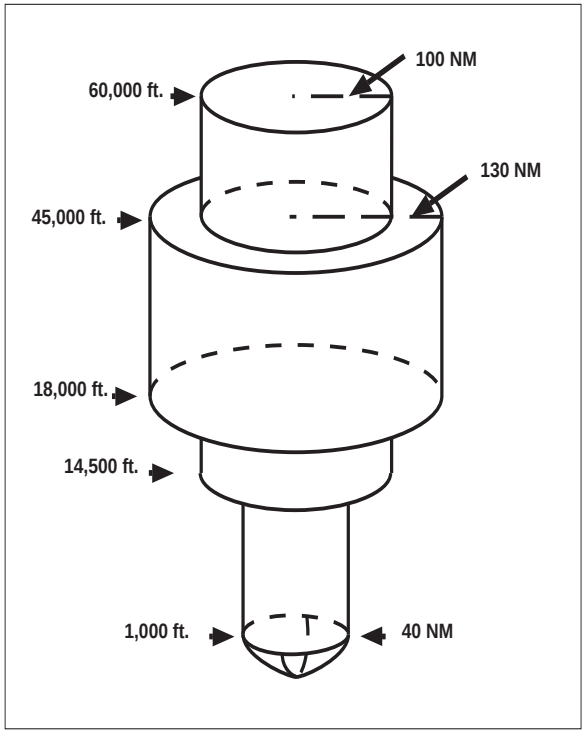


FIG GEN 3.4–2
Standard Low Altitude Service Volume
(See FIG GEN 3.4–5 for altitudes below 1,000 feet.)

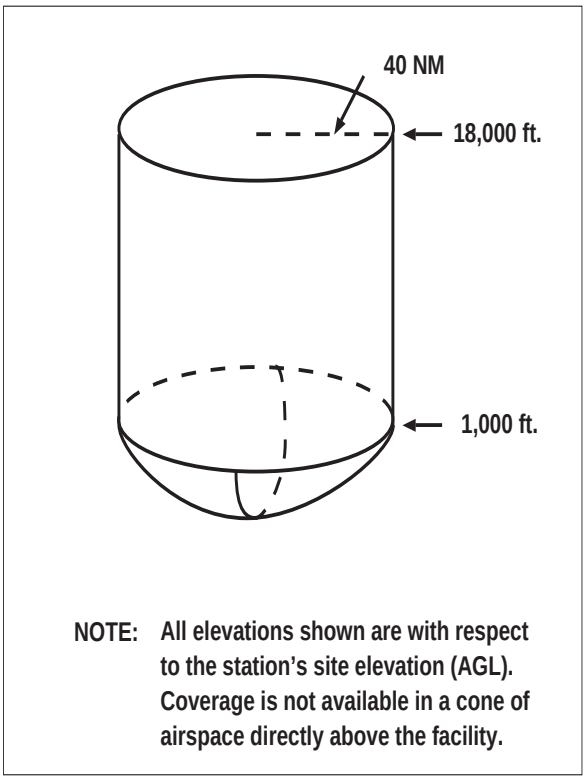
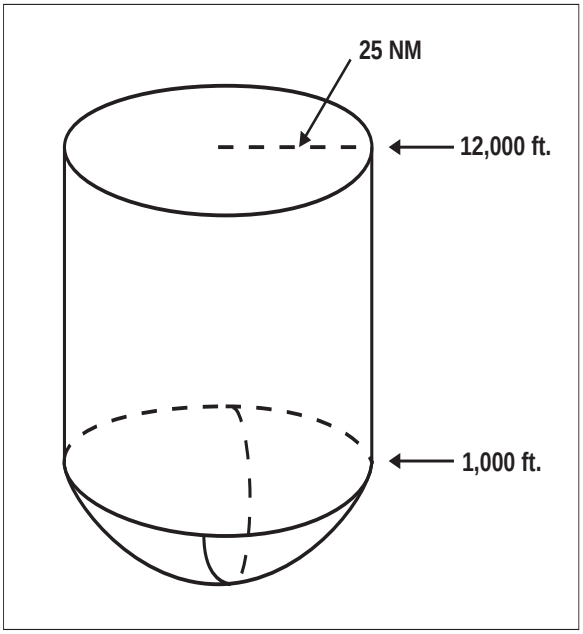


FIG GEN 3.4–3
Standard Terminal Service Volume
(See FIG GEN 3.4–4 for altitudes below 1,000 feet)



NOTE−
Commercial weather information providers contracted by FAA to provide weather observations, analyses, and forecasts (e.g., contract towers) are included in the Federal Government category of approved sources by virtue of maintaining required technical and quality assurance standards under Federal Government oversight.

3.6.14 As a point of clarification, Advisory Circular 00−62, Internet Communications of Aviation Weather and NOTAMS, describes the process for a weather information provider to become a Qualified Internet Communications Provider (QICP) and only applies to 14 CFR Part 121 and Part 135 certificate holders. Therefore, pilots conducting operations under 14 CFR Part 91 may access weather products via the public Internet.

3.7 Preflight Briefing

3.7.1 Flight Service Stations are the primary source of obtaining preflight briefings and inflight weather information. Flight Service Specialists are qualified and certificated by the NWS as Pilot Weather Briefers. They are not authorized to make original forecasts, but are authorized to translate and interpret available forecasts (TAF) and reports (METAR/SPECI) directly into terms describing the weather conditions which you can expect along your flight route and at your destination. Available aviation weather reports and forecasts are displayed at each FSS. Some of the larger FSSs provide a separate display for pilot use. Pilots should feel free to use these self−briefing displays where available, or to ask for a briefing or for assistance from the specialist on duty. Three basic types of preflight briefings are available: Standard Briefing, Abbreviated Briefing, and Outlook Briefing. You should specify to the briefer the type of briefing you want, along with appropriate background information. This will enable the briefer to tailor the information to your intended flight. The following paragraphs describe the types of briefings available and the information provided in each.

3.7.2 Standard Briefing. You should request a Standard Briefing any time you are planning a flight and you have not received a previous briefing or have not received preliminary information through mass dissemination media; e.g., TIBS, TWEB (Alaska only), etc. International data may be inaccurate or incomplete. If you are planning a flight outside of U.S. controlled airspace, the briefer will advise you to check data as soon as practical after entering foreign airspace, unless you advise that you have the international cautionary advisory. The briefer will automatically provide the following information in the sequence listed, except as noted, when it is applicable to your proposed flight.

3.7.2.1 Adverse Conditions. Significant meteorological and/or aeronautical information that might influence the pilot to alter or cancel the proposed flight; for example, hazardous weather conditions, airport closures, air traffic delays, etc. Pilots should be especially alert for current or forecast weather that could reduce flight minimums below VFR or IFR conditions. Pilots should also be alert for any reported or forecast icing if the aircraft is not certified for operating in icing conditions. Flying into areas of icing or weather below minimums could have disastrous results.

3.7.2.2 VFR Flight Not Recommended. When VFR flight is proposed and sky conditions or visibilities are present or forecast, surface or aloft, that, in the briefer's judgment, would make flight under VFR doubtful, the briefer will describe the conditions, describe the affected locations, and use the phrase *"VFR flight not recommended."* This recommendation is advisory in nature. The final decision as to whether the flight can be conducted safely rests solely with the pilot. Upon receiving a "*VFR flight not recommended*" statement, the non−IFR rated pilot will need to make a "go or no go" decision. This decision should be based on weighing the current and forecast weather conditions against the pilot's experience and ratings. The aircraft's equipment, capabilities and limitations should also be considered.

NOTE−
Pilots flying into areas of minimal VFR weather could encounter unforecasted lowering conditions that place the aircraft outside the pilot's ratings and experience level. This could result in spatial disorientation and/or loss of control of the aircraft.

3.7.2.3 Synopsis. A brief statement describing the type, location, and movement of weather systems and/or air masses which might affect the proposed flight.

NOTE−
The first 3 elements of a standard briefing may be combined in any order when the briefer believes it will help to describe conditions more clearly.

3.7.2.4 Current Conditions. Reported weather conditions applicable to the flight will be summarized from all available sources; e.g., METARs, PIREPs, RAREPs. This element may be omitted if the proposed time of departure is beyond two hours, unless the information is specifically requested by the pilot.

3.7.2.5 En Route Forecast. En route conditions forecast for the proposed route are summarized in logical order; i.e., departure−climbout, en route, and descent.

3.7.2.6 Destination Forecast. The destination forecast (TAF) for the planned estimated time of arrival (ETA). Any significant changes within 1 hour before and after the planned arrival are included.

3.7.2.7 Winds Aloft. Forecast winds aloft for the proposed route will be provided using degrees of the compass. The briefer will interpolate wind directions and speeds between levels and stations as necessary to provide expected conditions at planned altitudes.

3.7.2.8 Notices to Airmen (NOTAMs)

a) Available NOTAM (D) information pertinent to the proposed flight, including special use airspace (SUA) NOTAMs for restricted areas, aerial refueling, and night vision goggles (NVG).

NOTE−
Other SUA NOTAMs (D), such as military operations area (MOA), military training route (MTR), and warning area NOTAMs, are considered "upon request" briefing items as indicated in paragraph 3.7.2.10.

b) Prohibited Areas P−40, P−49, P−56, and the special flight rules area (SFRA) for Washington, DC.

c) FSS briefers do not provide FDC NOTAM information for special instrument approach procedures unless specifically asked. Pilots authorized by the FAA to use special instrument approach procedures must specifically request FDC NOTAM information for these procedures.

NOTE−
NOTAM information may be combined with current conditions when the briefer believes it is logical to do so.

NOTE−
NOTAM (D) information and Flight Data Center NOTAMs which have been published in the Notices to Airmen Publication are not included in pilot briefings unless a review of this publication is specifically requested by the pilot. For complete flight information you are urged to review both the Notices to Airmen Publication and the Airport/Facility Directory in addition to obtaining a briefing.

3.7.2.9 Air Traffic Control (ATC) Delays. Any known ATC delays and flow control advisories which might affect the proposed flight.

3.7.2.10 Pilots may obtain the following from flight service station briefers upon request:

a) Information on Special Use Airspace (SUA) and SUA related airspace, except those listed in paragraph 3.7.2.8.

NOTE−
1. *For the purpose of this paragraph, SUA and related airspace includes the following types of airspace: alert area, military operations area (MOA), warning area, and air traffic control assigned airspace (ATCAA). MTR data includes the following types of airspace: IFR training routes (IR), VFR training routes (VR), and slow training routes (SR).*

2. *Pilots are encouraged to request updated information from ATC facilities while in flight.*

b) A review of the Notices to Airmen publication for pertinent NOTAMs and Special Notices.

c) Approximate density altitude data.

d) Information regarding such items as air traffic services and rules, customs/immigration procedures, ADIZ rules, and search and rescue.

e) NOTAMs, available military NOTAMs, runway friction measurement value NOTAMs.

f) GPS RAIM availability for 1 hour before to 1 hour after ETA, or a time specified by the pilot.

g) Other assistance as required.

3.7.3 Abbreviated Briefing. Request an Abbreviated Briefing when you need information to supplement mass disseminated data, to update a previous briefing, or when you need only one or two specific items. Provide the briefer with appropriate background information, the time you received the previous information, and/or the specific items needed. You should indicate the source of the information already received so that the briefer can limit the briefing to the information that you have not received, and/or appreciable changes in meteorological/aeronautical conditions since your previous briefing. To the extent possible, the briefer will provide the information in the sequence shown for a Standard Briefing. If you request only one or two specific items, the briefer will advise you if adverse

conditions are present or forecast. Adverse conditions contain both meteorological and aeronautical information. Details on these conditions will be provided at your request.

3.7.4 Outlook Briefing. You should request an Outlook Briefing whenever your proposed time of departure is 6 or more hours from the time of the briefing. The briefer will provide available forecast data applicable to the proposed flight. This type of briefing is provided for planning purposes only. You should obtain a Standard or Abbreviated Briefing prior to departure in order to obtain such items as adverse conditions, current conditions, updated forecasts, winds aloft, and NOTAMs.

3.7.5 Inflight Briefing. You are encouraged to obtain your preflight briefing by telephone or in person before departure. In those cases where you need to obtain a preflight briefing or an update to a previous briefing by radio, you should contact the nearest FSS to obtain this information. After communications have been established, advise the specialist of the type briefing you require and provide appropriate background information. You will be provided information as specified in the above paragraphs, depending on the type of briefing requested. In addition, the specialist will recommend shifting to the Flight Watch frequency when conditions along the intended route indicate that it would be advantageous to do so. Remember that weather conditions can change rapidly and that a "go or no go" decision, as mentioned in paragraph 3.7.2.2, should be assessed at all phases of flight.

3.7.6 Following any briefing, feel free to ask for any information that you or the briefer may have missed. It helps to save your questions until the briefing has been completed. This way the briefer is able to present the information in a logical sequence and lessens the chance of important items being overlooked.

3.8 En Route Flight Advisory Service (EFAS)

3.8.1 EFAS (radio call "Flight Watch") is a service specifically designed to provide en route aircraft with timely and meaningful weather advisories pertinent to the type of flight intended, route of flight, and altitude. In conjunction with this service, EFAS is also a central collection and distribution point for pilot−reported weather information. EFAS is provided by specially trained FSS specialists controlling multiple remote communications outlets covering a large geographical area and is normally available throughout the conterminous U.S. and Puerto Rico from 6 a.m. to 10 p.m. EFAS provides communications capabilities for aircraft flying at 5,000 feet AGL to 17,500 feet MSL on a common frequency of 122.0 MHz. Discrete EFAS frequencies have been established to ensure communications coverage from 18,000 through 45,000 MSL serving in each specific ARTCC area. These discrete frequencies may be used below 18,000 feet when coverage permits reliable communication.

NOTE−
When an EFAS outlet is located in a time zone different from the zone in which the flight watch control station is located, the availability of service may be plus or minus 1 hour from the normal operating hours.

3.8.2 In some regions of the contiguous U.S., especially those that are mountainous, it is necessary to be above 5000 feet AGL in order to be at an altitude where the EFAS frequency, 122.0 MHz, is available. Pilots should take this into account when flight planning. Other FSS communication frequencies may be available at lower altitudes. See FIG GEN 3.5−2.

3.8.3 Contact flight watch by using the name of the ARTCC facility serving the area of your location, followed by your aircraft identification and the name of the nearest VOR to your position. The specialist needs to know this approximate location to select the most appropriate outlet for communications coverage.

EXAMPLE−
Cleveland flight watch, Cessna One Three Four Two Kilo, Mansfield V−O−R, over.

3.8.4 Charts depicting the location of the flight watch control stations (parent facility) and the outlets they use are contained in the Airport/Facility Directory. If you do not know in which flight watch area you are flying, initiate contact by using the words "FLIGHT WATCH," your aircraft identification, and the name of the nearest VOR. The facility will respond using the name of the flight watch facility.

EXAMPLE−
Flight watch, Cessna One Two Three Four Kilo, Mansfield V−O−R,over.

3.8.5 Radio outlets that provide En Route Flight Advisory Service are listed in the Airport/Facility Directory.

3.8.6 EFAS is not intended to be used for filing or closing flight plans, position reporting, getting complete preflight briefings, or obtaining random weather reports and forecasts. En route flight advisories are tailored to the phase of flight that begins after climb−out and ends with descent to land. Immediate destination weather and terminal airport forecasts will be provided on request. Pilots requesting information not within the scope of flight watch will be advised of the appropriate FSS frequency to contact to obtain the information. Pilot participation is essential to the success of EFAS by providing a continuous exchange of information on weather, winds, turbulence, flight visibility, icing or other hazardous conditions between pilots and flight watch specialists. Pilots are encouraged to report good weather as well as bad, and to confirm both expected conditions and unexpected conditions to EFAS facilities.

3.9 Inflight Aviation Weather Advisories

3.9.1 Background

3.9.1.1 Inflight Aviation Weather Advisories are forecasts to advise en route aircraft of development of potentially hazardous weather. All inflight aviation weather advisories in the conterminous U.S. are issued by the Aviation Weather Center (AWC) in Kansas City, Missouri. The Weather Forecast Office (WFO) in Honolulu issues advisories for the Hawaiian Islands. In Alaska, the Alaska Aviation Weather Unit (AAWU) issues inflight aviation weather advisories. All heights are referenced MSL, except in the case of ceilings (CIG) which indicate AGL.

3.9.1.2 There are three types of inflight aviation weather advisories: the Significant Meteorological Information (SIGMET), the Convective SIGMET and the Airmen's Meteorological Information (AIRMET−text or graphical product). All of these advisories, with the exception of G−AIRMET, use the same location identifiers (either VORs, airports, or well−known geographic areas) (G−AIRMET uses Lat./Long.) to describe the hazardous weather areas. See FIG GEN 3.5−3 and FIG GEN 3.5−4. Graphics with improved clarity can be found in the latest version of Advisory Circular AC 00−45, Aviation Weather Services, which is available on the following Web site: **http://www.faa.gov**.

3.9.1.3 Two other weather products supplement these Inflight Aviation Weather Advisories:

a) The Severe Weather Watch Bulletins (WWs), (with associated Alert Messages) (AWW), and

b) The Center Weather Advisories (CWAs).

3.9.2 SIGMET (WS)/AIRMET (text [WA] or graphical [G−AIRMET])

SIGMETs/AIRMETs (text or graphical [CONUS−only] products) are issued corresponding to the Area Forecast (FA) areas described in FIG GEN 3.5−5, FIG GEN 3.5−6 and FIG GEN 3.5−7. The maximum forecast period is 4 hours for SIGMETs and 6 hours for AIRMETs. The G−AIRMET is issued over the CONUS every 6 hours, valid at 3−hour increments through 12 hours, with optional forecasts possible during the first 6 hours. The first 6 hours of the G−AIRMET correspond to the 6−hour period of the AIRMET. SIGMETS and AIRMETS are considered "widespread" because they must be either affecting or be forecasted to affect an area of at least 3,000 square miles at any one time. However, if the total area to be affected during the forecast period is very large, it could be that in actuality only a small portion of this total area would be affected at any one time.

7.3.3 Additional products, called "Value−Added Products," are also available from the vendor on a paid subscription basis. Details concerning the content, format, symbology and cost of these products may be obtained from the vendor.

7.4 FAA's Flight Information Service−Broadcast (FIS−B) Service. FIS−B is a ground−based broadcast service provided through the FAA's Automatic Dependent Surveillance − Broadcast Services (ADS−B) Universal Access Transceiver (UAT) network. The service provides users with a 978 MHz data link capability when operating within range and line−of−sight of a transmitting ground station. FIS−B enables users of properly equipped aircraft to receive and display a suite of broadcast weather and aeronautical information products. Services are currently available in specific geographic regions of the U.S. with NAS−wide service availability planned for 2013.

7.4.1 The following list represents the initial suite of text and graphical products available through FIS−B and provided free−of−charge. Detailed information concerning FIS−B meteorological products can be found in Advisory Circular 00−45, Aviation Weather Services. Information on Special Use Airspace (SUA), Temporary Flight Restriction (TFR) and Notice to Airmen (NOTAM) products can be found in Chapters ENR 1and ENR 5 of this manual.

7.4.1.1 Text: Aviation Routine Weather Report (METAR) and Special Aviation Report (SPECI);

7.4.1.2 Text: Pilot Weather Report (PIREP);

7.4.1.3 Text: Winds and Temperatures Aloft;

7.4.1.4 Text: Terminal Area Forecast (TAF) and amendments;

7.4.1.5 Text: Notice to Airmen (NOTAM) Distant and Flight Data Center;

7.4.1.6 Text/Graphic: Airmen's Meteorological Conditions (AIRMET);

7.4.1.7 Text/Graphic: Significant Meteorological Conditions (SIGMET);

7.4.1.8 Text/Graphic: Convective SIGMET;

7.4.1.9 Text/Graphic: Special Use Airspace (SUA);

7.4.1.10 Text/Graphic: Temporary Flight Restriction (TFR) NOTAM; and

7.4.1.11 Graphic: NEXRAD Composite Reflectivity Products (Regional and National).

7.4.2 Users of FIS−B should familiarize themselves with the operational characteristics and limitations of the system, including: system architecture; service environment; product lifecycles; modes of operation; and indications of system failure.

7.4.3 FIS−B products are updated and transmitted at specific intervals based primarily on product issuance criteria. Update intervals are defined as the rate at which the product data is available from the source for transmission. Transmission intervals are defined as the amount of time within which a new or updated product transmission must be completed and/or the rate or repetition interval at which the product is rebroadcast. Update and transmission intervals for each product are provided in TBL GEN 3.5−2.

7.4.4 Where applicable, FIS−B products include a look−ahead range expressed in nautical miles (NM) for three service domains: Airport Surface; Terminal Airspace; and En−route/Gulf−of−Mexico (GOMEX). TBL GEN 3.5−2 provides service domain availability and look−ahead ranging for each FIS−B product.

7.4.5 Prior to using this capability, users should familiarize themselves with the operation of FIS−B avionics by referencing the applicable User's Guides. Guidance concerning the interpretation of information displayed should be obtained from the appropriate avionics manufacturer.

7.4.6 FIS−B malfunctions not attributed to aircraft system failures or covered by active NOTAM should be reported by radio or telephone to the nearest FSS facility. Malfunctions may also be reported by submitting FAA Form 8740−5, Safety Improvement Report via mail, fax, or email to your local Flight District Standards Office, Safety Program Manager.

7.5 Non−FAA FISDL Systems. Several commercial vendors also provide customers with FIS data over both the aeronautical spectrum and on other frequencies using a variety of data link protocols. In some cases, the vendors provide only the communications system that carries customer messages, such as the Aircraft Communications Addressing and Reporting System (ACARS) used by many air carrier and other operators.

7.5.1 Operators using non−FAA FIS data for inflight weather and other operational information should

ensure that the products used conform to FAA/NWS standards. Specifically, aviation weather and NAS status information should meet the following criteria:

TBL GEN 3.5–2

Product	Update Interval	Transmission Interval	Service Domain and Look-ahead Range (NM)
AIRMET	As Available	5 minutes	100 (Airport Surface), 500 (Terminal, Enroute/ GOMEX)
SIGMET & Convective SIGMET	As Available, then at 15 minute intervals for 1 hour	5 minutes	100 (Airport Surface), 500 (Terminal, Enroute/ GOMEX)
METAR/SPECI	1 minute (where available), As Available otherwise	5 minute	100 (Airport Surface), 500 (Terminal, Enroute/ GOMEX)
NEXRAD Composite Reflectivity (National)	~5 minutes precipitation mode 10 minutes for clear air mode	15 minutes	CONUS
NEXRAD Composite Reflectivity (Regional)	~5 minutes precipitation mode 10 minutes for clear air mode	2.5 minutes	250
NOTAM (D) / FDC (including TFR)	As Available	10 minutes	100
PIREP	As Available	10 minutes	N/A (Airport Surface), 500 (Terminal, Enroute/ GOMEX)
SUA	As Available	10 minutes	N/A (Airport Surface), 500 (Terminal, Enroute/ GOMEX)
TAF/AMEND	8 Hours	10 minutes	100 (Airport Surface), 500 (Terminal, Enroute/ GOMEX)
Winds & Temperatures Aloft	12 Hours	10 minutes	1,000

7.5.1.1 The products should be either FAA/NWS "accepted" aviation weather reports or products, or based on FAA/NWS accepted aviation weather reports or products. If products are used which do not meet this criteria, they should be so identified. The operator must determine the applicability of such products to their particular flight operations.

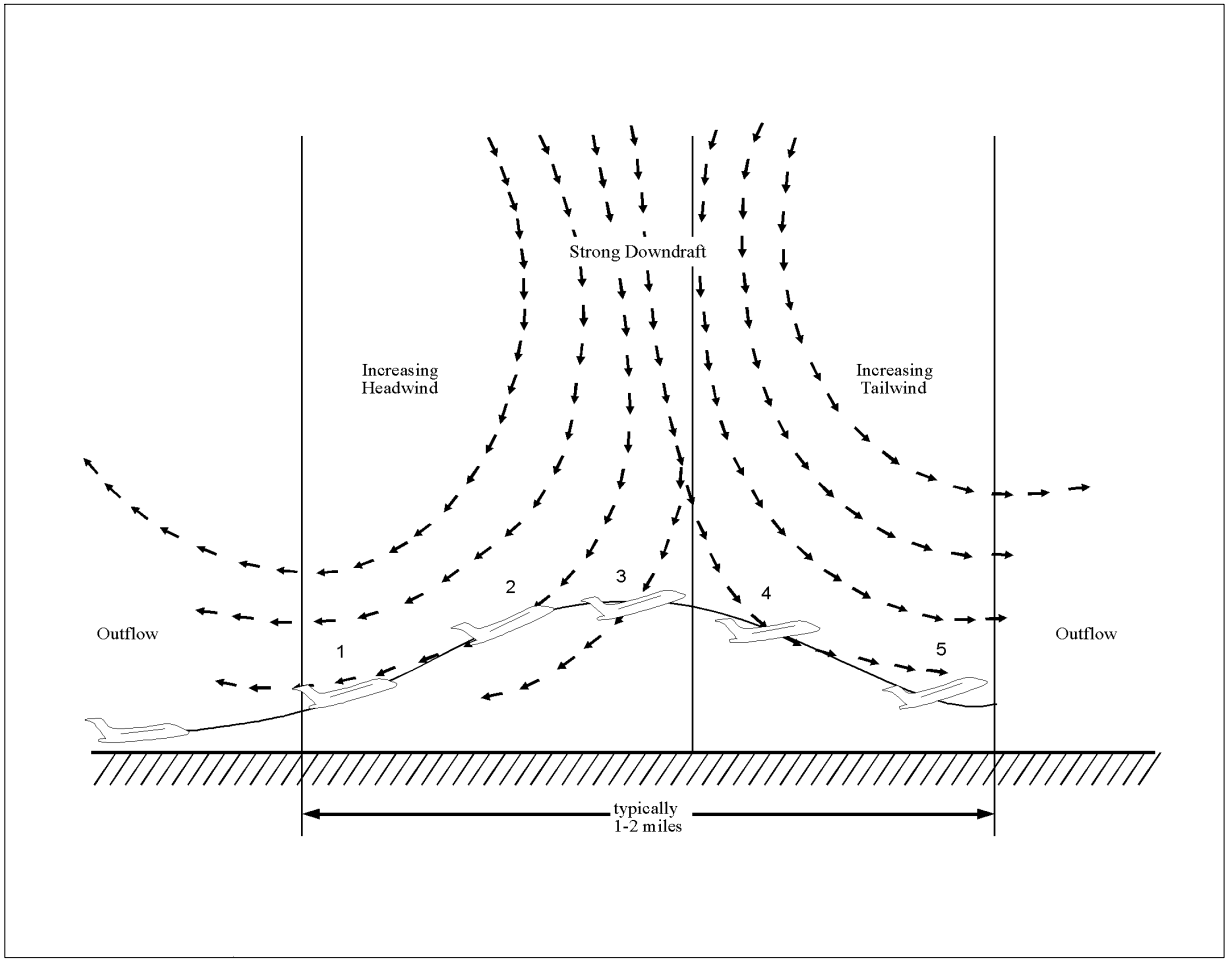
7.5.1.2 In the case of a weather product which is the result of the application of a process which alters the form, function or content of the base FAA/NWS accepted weather product(s), that process, and any limitations to the application of the resultant product, should be described in the vendor's user guidance material.

7.5.2 An example would be a NEXRAD radar composite/mosaic map, which has been modified by changing the scaling resolution. The methodology of assigning reflectivity values to the resultant image components should be described in the vendor's guidance material to ensure that the user can accurately interpret the displayed data.

8. Weather Observing Programs

8.1 Manual Observations. Aviation Routine Weather Reports (METAR) are taken at more than

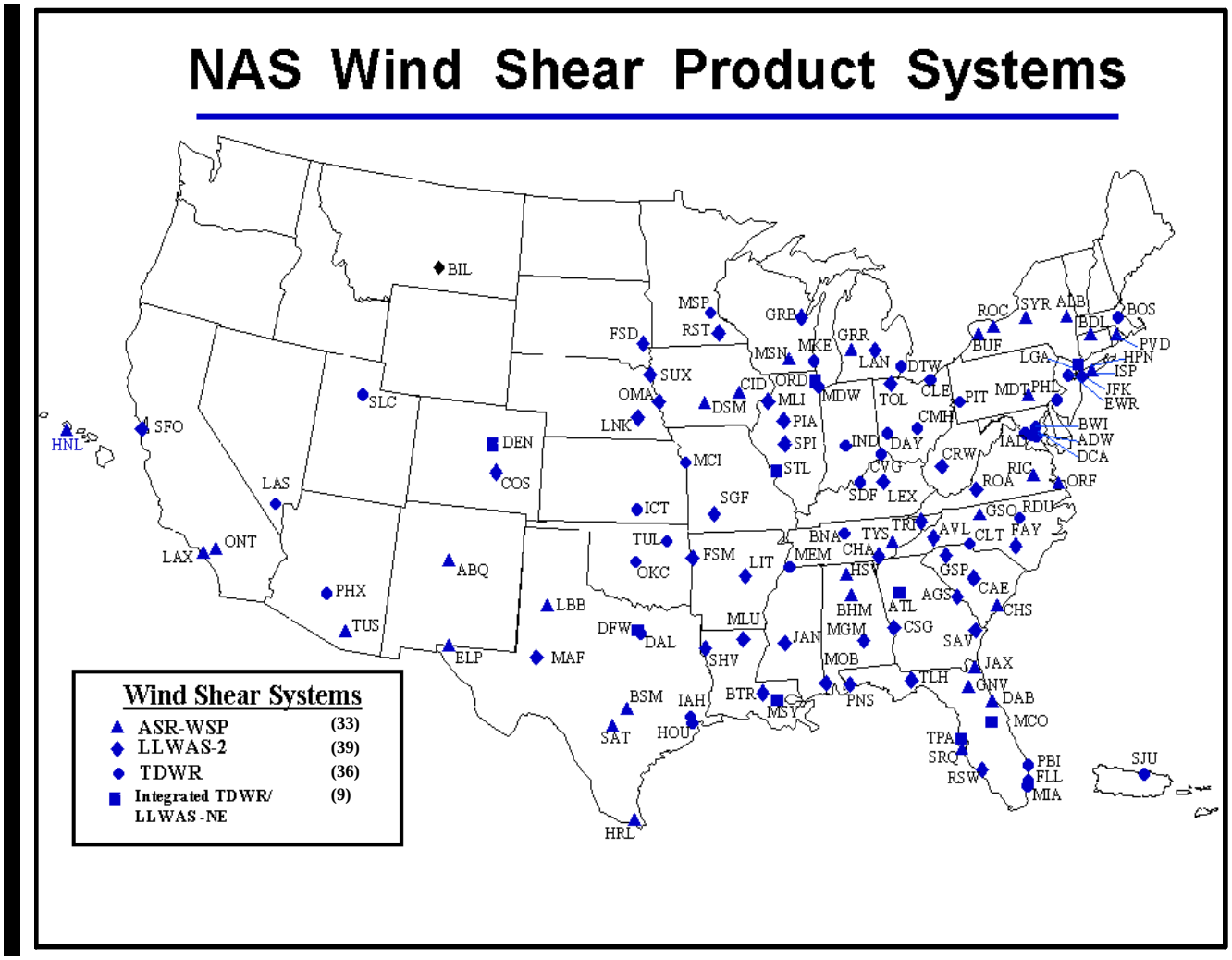
FIG GEN 3.5–10
Microburst Encounter During Takeoff



NOTE–
A microburst encounter during takeoff. The airplane first encounters a headwind and experiences increasing performance (1), this is followed in short succession by a decreasing headwind component (2), a downdraft (3), and finally a strong tailwind (4), where 2 through 5 all result in decreasing performance of the airplane. Position (5) represents an extreme situation just prior to impact. Figure courtesy of Walter Frost, FWG Associates, Inc., Tullahoma, Tennessee.

25.5 Microburst wind shear may create a severe hazard for aircraft within 1,000 feet of the ground, particularly during the approach to landing and landing and take–off phases. The impact of a microburst on aircraft which have the unfortunate experience of penetrating one is characterized in FIG GEN 3.5–10. The aircraft may encounter a headwind (performance increasing), followed by a downdraft and a tailwind (both performance decreasing), possibly resulting in terrain impact.

FIG GEN 3.5−11



25.6 Detection of Microbursts, Wind Shear, and Gust Fronts

25.6.1 FAA's Integrated Wind Shear Detection Plan

25.6.1.1 The FAA currently employs an integrated plan for wind shear detection that will significantly improve both the safety and capacity of the majority of the airports currently served by the air carriers. This plan integrates several programs, such as the Integrated Terminal Weather System (ITWS), Terminal Doppler Weather Radar (TDWR), Weather System Processor (WSP), and Low Level Wind Shear Alert Systems (LLWAS) into a single strategic concept that significantly improves the aviation weather information in the terminal area. (See FIG GEN 3.5−11.)

25.6.1.2 The wind shear/microburst information and warnings are displayed on the ribbon display terminal (RBDT) located in the tower cabs. They are identical (and standardized) to those in the LLWAS, TDWR and WSP systems, and designed so that the controller does not need to interpret the data, but simply read the displayed information to the pilot. The RBDTs are constantly monitored by the controller to ensure the rapid and timely dissemination of any hazardous event(s) to the pilot.

PART 2 – EN ROUTE (ENR)

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ENR 0.1 Preface – Not applicable
ENR 0.2 Record of AIP Amendments – See GEN 0.2–1
ENR 0.3 Record of AIP Supplements – Not applicable

ENR 0.4 Checklist of Pages

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ENR 0.5 List of Hand Amendments to the AIP – Not applicable

by controllers only when the flight will continue IFR or when weather conditions prevent VFR descent and continued VFR flight in airspace not affected by the CFR. All other requests for deviation should be made by contacting the nearest FSS or air traffic facility in person or by telephone. The nearest ARTCC will normally be the controlling agency and is responsible for coordinating requests involving deviations in other ARTCC's areas.

37.7.7 Transponder Operation Under Visual Flight Rules (VFR)

37.7.7.1 Unless otherwise instructed by an ATC Facility, adjust transponder to reply on Mode 3/A Code 1200 regardless of altitude.

NOTE–
1. *Aircraft not in contact with an ATC facility may squawk 1255 in lieu of 1200 while en route to, from, or within the designated fire fighting area(s).*

2. *VFR aircraft which fly authorized SAR missions for the USAF or USCG may be advised to squawk 1277 in lieu of 1200 while en route to, from, or within the designated search area.*

3. *Gliders not in contact with an ATC facility should squawk 1202 in lieu of 1200.*

REFERENCE–
FAAO 7110.66, National Beacon Code Allocation Plan.

37.7.7.2 Adjust transponder to reply on Mode C, with altitude reporting capability activated if the aircraft is so equipped, unless deactivation is directed by ATC or unless the installed equipment has not been tested and calibrated as required by 14 CFR Section 91.217. If deactivation is required and your transponder is so designed, turn off the altitude reporting switch and continue to transmit Mode C framing pulses. If this capability does not exist, turn off Mode C.

37.7.8 Radar Beacon Phraseology

37.7.8.1 Air traffic controllers, both civil and military, will use the following phraseology when referring to operation of the ATCRBS. Instructions by ATC refer only to Mode A/3 or Mode C operations and do not affect the operation of the transponder on other modes.

a) SQUAWK (number). Operate radar beacon transponder on designated code in Mode A/3.

b) IDENT. Engage the "IDENT" feature (military I/P) of the transponder.

c) SQUAWK (number) AND IDENT. Operate transponder on specified code in Mode A/3 and engage the "IDENT" (military I/P) feature.

d) SQUAWK STANDBY. Switch transponder to standby position.

e) SQUAWK LOW/NORMAL. Operate transponder on low or normal sensitivity as specified. Transponder is operated in "NORMAL" position unless ATC specified "LOW." ("ON" is used instead of "NORMAL" as a master control label on some types of transponders.)

f) SQUAWK ALTITUDE. Activate Mode C with automatic altitude reporting.

g) STOP ALTITUDE SQUAWK. Turn off altitude reporting switch and continue transmitting Mode C framing pulses. If your equipment does not have this capability, turn off Mode C.

h) STOP SQUAWK (mode in use). Switch off specified mode. (Use for military aircraft when the controller is unaware if a military service requires the aircraft to continue operating on another mode.)

i) STOP SQUAWK. Switch off transponder.

j) SQUAWK MAYDAY. Operate transponder in the emergency position. (Mode A Code 7700 for civil transponder. Mode 3 Code 7700 and emergency feature for military transponder.)

k) SQUAWK VFR. Operate radar beacon transponder on code 1200 in the MODE A/3, or other appropriate VFR code.

37.8 Emergency Operation

37.8.1 When an emergency occurs, the pilot of an aircraft equipped with a coded radar beacon transponder who desires to alert a ground radar facility to an emergency condition and who cannot establish communications without delay with an ATC facility may adjust the transponder to reply on Mode A/3, Code 7700.

37.8.2 Pilots should understand that they may not be within a radar coverage area and that, even if they are, certain radar facilities are not yet equipped to automatically recognize Code 7700 as an emergency signal. Therefore, they should establish radio communications with an ATC facility as soon as possible.

37.9 Radio Failure Operation

37.9.1 Should the pilot of an aircraft equipped with a coded radar beacon transponder experience a loss of two−way radio capability the pilot should:

37.9.1.1 Adjust the transponder to reply on MODE A/3, Code 7600.

37.9.1.2 Understand that the aircraft may not be in an area of radar coverage.

37.9.2 Pilots should understand that they may not be in an area of radar coverage. Also, many radar facilities are not presently equipped to automatically display Code 7600 and will interrogate 7600 only when the aircraft is under direct radar control at the time of radio failure. However, replying on Code 7700 first, increases the probability of early detection of a radio failure condition.

37.10 Radar Services

37.10.1 Safety Alert

37.10.1.1 A safety alert will be issued to pilots of aircraft being controlled by ATC if the controller is aware the aircraft is at an altitude which, in the controller's judgment, places the aircraft in unsafe proximity to terrain, obstructions, or other aircraft. The provision of this service is contingent upon the capability of the controller to have an awareness of situations involving unsafe proximity to terrain, obstructions, and uncontrolled aircraft. The issuance of a safety alert cannot be mandated, but it can be expected on a reasonable, though intermittent, basis. Once the alert is issued, it is solely the pilot's prerogative to determine what course of action, if any, will be taken. This procedure is intended for use in time critical situations where aircraft safety is in question. Noncritical situations should be handled via the normal traffic alert procedures.

37.10.2 Terrain/Obstruction Alert

37.10.2.1 Controllers will immediately issue an alert to the pilots of aircraft under their control when they recognize that the aircraft is at an altitude which, in their judgment, may be in unsafe proximity to terrain/obstructions. The primary method of detecting unsafe proximity is through Mode C automatic altitude reports.

EXAMPLE−
Low altitude alert, check your altitude immediately. The, as appropriate, MEA/MVA/MOCA in your area is (altitude) or, if past the final approach fix (nonprecision approach) or the outer marker or fix used in lieu of the outer marker (precision approach), the, as appropriate, MDA/DH (if known) is (altitude).

37.10.2.2 Terminal Automated Radar Terminal System (ARTS) IIIA, Common ARTS (to include ARTS IIIE and ARTS IIE) (CARTS), Micro En Route Automated Radar Tracking System (MEARTS), and Standard Terminal Automation Replacement System (STARS) facilities have an automated function which, if operating, alerts controllers when a tracked Mode C equipped aircraft under their control is below or is predicted to be below a predetermined minimum safe altitude. This function, called Minimum Safe Altitude Warning (MSAW), is designed solely as a controller aid in detecting potentially unsafe aircraft proximity to terrain/obstructions. The ARTS IIIA, CARTS, MEARTS, and STARS facility will, when MSAW is operating, provide MSAW monitoring for all aircraft with an operating Mode C altitude encoding transponder that are tracked by the system and are:

a) Operating on a IFR flight plan.

b) Operating VFR and have requested MSAW monitoring.

37.10.2.3 Terminal AN/TPX−42A (number beacon decoder system) facilities have an automated function called Low Altitude Alert System (LAAS). Although not as sophisticated as MSAW, LAAS alerts the controller when a Mode C transponder equipped aircraft operating on a IFR flight plan is below a predetermined minimum safe altitude.

NOTE−
Pilots operating VFR may request MSAW or LAAS monitoring if their aircraft are equipped with Mode C transponders.

EXAMPLE−
Apache Three Three Papa requests MSAW/LAAS.

37.10.3 Aircraft Conflict Alert

37.10.3.1 Controllers will immediately issue an alert to the pilots of aircraft under their control if they are aware of an aircraft that is not under their control at an altitude which, in the controller's judgment, places both aircraft in unsafe proximity to each other. With the alert, when feasible, the controller will offer the pilot the position of the traffic if time permits and an alternate course(s) of action. Any alternate course of action the controller may recommend to the pilot will be predicated only on other traffic in the controller's jurisdiction.

EXAMPLE−
American Three, traffic alert, (position of traffic, if time

permits), advise you turn right/left heading (degrees) and/or climb/descend to (altitude) immediately.

37.10.4 Radar Traffic Information Service (RTIS)

37.10.4.1 This is a service provided by radar ATC facilities. Pilots receiving this service are advised of any radar target observed on the radar display which may be in such proximity to the position of their aircraft or its intended route of flight that it warrants their attention. This service is not intended to relieve the pilot of the responsibility for continual vigilance to see and avoid other aircraft.

a) Purpose of this Service

1) The issuance of traffic information as observed on a radar display is based on the principle of assisting and advising a pilot that a particular radar target's position and track indicates it may intersect or pass in such proximity to the intended flight path that it warrants the pilot's attention. This is to alert the pilot to the traffic, to be on the lookout for it, and thereby be in a better position to take appropriate action should the need arise.

2) Pilots are reminded that the surveillance radar used by ATC does not provide altitude information unless the aircraft is equipped with Mode C and the radar facility is capable of displaying altitude information.

b) Provisions of the Service

1) Many factors, such as limitations of the radar, volume of traffic, controller workload, and communications frequency congestion could prevent the controller from providing this service. Controllers possess complete discretion for determining whether they are able to provide or continue to provide this service in a specific case. The controller's reason against providing or continuing to provide the service in a particular case is not subject to question nor need it be communicated to the pilot. In other words, the provision of this service is entirely dependent upon whether controllers believe they are in a position to provide it. Traffic information is routinely provided to all aircraft operating on IFR flight plans except when the pilot declines the service, or the pilot is operating within Class A airspace. Traffic information may be provided to flights not operating on IFR Flight Plans when requested by pilots of such flights.

NOTE–
Radar ATC facilities normally display and monitor both primary and secondary radar when it is available, except that secondary radar may be used as the sole display source in Class A airspace, and under some circumstances outside of Class A airspace (beyond primary coverage and in en route areas where only secondary is available). Secondary radar may also be used outside Class A airspace as the sole display source when the primary radar is temporarily unusable or out of service. Pilots in contact with the affected ATC facility are normally advised when a temporary outage occurs; i.e., "primary radar out of service; traffic advisories available on transponder aircraft only." This means simply that only the aircraft which have transponders installed and in use will be depicted on ATC radar indicators when the primary radar is temporarily out of service.

2) When receiving VFR radar advisory service, pilots should monitor the assigned frequency at all times. This is to preclude controllers' concern for radio failure of emergency assistance to aircraft under the controller's jurisdiction. VFR radar advisory service does not include vectors away from conflicting traffic unless requested by the pilot. When advisory service is no longer desired, advise the controller before changing frequencies, then change your transponder code to 1200 if applicable. THE, as appropriate, MEA/MVA/MOCA IN YOUR AREA IS (altitude) or if past the final approach fix, THE, as appropriate, MDA/DH (if known) is (altitude). Except in programs where radar service is automatically terminated, the controller will advise the aircraft when radar is terminated.

NOTE–
Participation by VFR pilots in formal programs implemented at certain terminal locations constitutes pilot request. This also applies to participating pilots at those locations where arriving VFR flights are encouraged to make their first contact with the tower on the approach control frequency.

c) Issuance of Traffic Information. Traffic information will include the following concerning a target which may constitute traffic for an aircraft that is:

1) Radar identified.

(a) Azimuth from the aircraft in terms of the twelve hour clock.

(b) When rapidly maneuvering civil test or military aircraft prevent accurate issuance of traffic as in a) above, specify the direction from an aircraft's position in terms of the eight cardinal compass points

(N, NE, E, SE, S, SW, W, NW). This method must be terminated at the pilot's request.

(c) Distance from the aircraft in nautical miles.

(d) Direction in which the target is proceeding.

(e) Type of aircraft and altitude if known.

EXAMPLE−
Traffic 10 o'clock, 3 miles, west−bound (type aircraft and altitude, if known, of the observed traffic). The altitude may be known, by means of Mode C, but not verified with the pilot for accuracy. (To be valid for separation purposes by ATC, the accuracy of Mode C readouts must be verified. This is usually accomplished upon initial entry into the radar system by a comparison of the readout to pilot stated altitude, or the field elevation in the case of continuous readout being received from an aircraft on the airport.) When necessary to issue traffic advisories containing unverified altitude information, the controller will issue the advisory in the same manner as if it were verified due to the accuracy of these readouts. The pilot may, upon receipt of traffic information, request a vector (heading) to avoid such traffic. The vector will be provided to the extent possible as determined by the controller provided the aircraft to be vectored is within the airspace under the jurisdiction of the controller.

2) Not radar identified

(a) Distance and direction with respect to a fix.

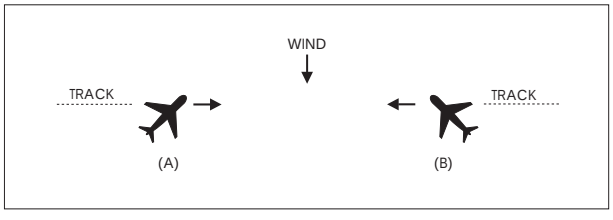
(b) Direction in which the target is proceeding.

(c) Type of aircraft and altitude if known.

EXAMPLE−
Traffic 8 miles south of the airport northeastbound, (type aircraft and altitude if known).

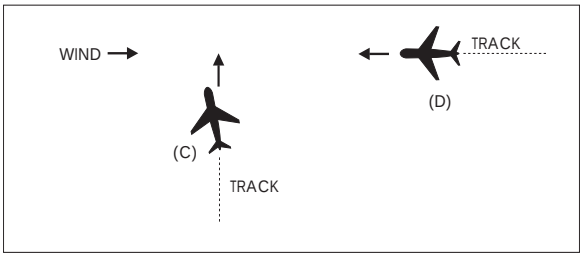
(d) The examples depicted in FIG ENR 1.1−26 and FIG ENR 1.1−27 point out the possible error in the position of this traffic when it is necessary for a pilot to apply drift correction to maintain this track. This error could also occur in the event a change in course is made at the time radar traffic information is issued.

FIG ENR 1.1−26
Induced Error in Position of Traffic



EXAMPLE−
In FIG ENR 1.1−26, traffic information would be issued to the pilot of aircraft "A" as 12 o'clock. The actual position of the traffic as seen by the pilot of aircraft "A" would be one o'clock. Traffic information issued to aircraft "B" would also be given as 12 o'clock, but in this case, the pilot of "B" would see the traffic at 11 o'clock.

FIG ENR 1.1−27
Induced Error in Position of Traffic



EXAMPLE−
In FIG ENR 1.1−27, traffic information would be issued to the pilot of aircraft "C" as two o'clock. The actual position of the traffic as seen by the pilot of aircraft "C" would be three o'clock. Traffic information issued to aircraft "D" would be at an 11 o'clock position. Since it is not necessary for the pilot of aircraft "D" to apply wind correction (CRAB) to remain on track, the actual position of the traffic issued would be correct. Since the radar controller can only observe aircraft track (course) on the radar display, traffic advisories are issued accordingly, and pilots should give due consideration to this fact when looking for reported traffic.

37.11 Radar Assistance to VFR Aircraft

37.11.1 Radar equipped FAA ATC facilities provide radar assistance and navigation service (vectors) to VFR aircraft provided the aircraft can communicate with the facility, are within radar coverage, and can be radar identified.

37.11.2 Pilots should clearly understand that authorization to proceed in accordance with such radar navigational assistance does not constitute authorization for the pilot to violate Federal Aviation Regulations. In effect, assistance provided is on the basis that navigational guidance information issued is advisory in nature and the job of flying the aircraft safely remains with the pilot.

37.11.3 In many cases, controllers will be unable to determine if flight into instrument conditions will result from their instructions. To avoid possible hazards resulting from being vectored into IFR conditions, pilots should keep controllers advised of the weather conditions in which they are operating and along the course ahead.

37.11.4 Radar navigation assistance (vectors) may be initiated by the controller when one of the following conditions exist:

37.11.4.1 The controller suggests the vector and the pilot concurs.

37.11.4.2 A special program has been established and vectoring service has been advertised.

37.11.4.3 In the controller's judgment the vector is necessary for air safety.

37.11.5 Radar navigation assistance (vectors) and other radar derived information may be provided in response to pilot requests. Many factors, such as limitations of radar, volume of traffic, communications frequency, congestion, and controller workload could prevent the controller from providing it. Controllers have complete discretion for determining if they are able to provide the service in a particular case. Their decision not to provide the service in a particular case is not subject to question.

38. Operational Policy/Procedures for Reduced Vertical Separation Minimum (RVSM) in the Domestic U.S., Alaska, Offshore Airspace and the San Juan FIR

38.1 Applicability and RVSM Mandate (Date/Time and Area)

38.1.1 Applicability. The policies, guidance and direction in this section apply to RVSM operations in the airspace over the lower 48 states, Alaska, Atlantic and Gulf of Mexico High Offshore Airspace and airspace in the San Juan FIR where VHF or UHF voice direct controller–pilot communication (DCPC) is normally available. Policies, guidance and direction for RVSM operations in oceanic airspace where VHF or UHF voice DCPC is not available and the airspace of other countries are posted on the FAA "RVSM Documentation" Webpage described in paragraph 38.3, Aircraft and Operator Approval Policy/Procedures, RVSM Monitoring and Databases for Aircraft and Operator Approval.

38.1.2 Mandate. At 0901 UTC on January 20, 2005, the FAA implemented RVSM between flight level (FL) 290–410 (inclusive) in the following airspace: the airspace of the lower 48 states of the United States, Alaska, Atlantic and Gulf of Mexico High Offshore Airspace and the San Juan FIR. (A chart showing the location of offshore airspace is posted on the Domestic U.S. RVSM (DRVSM) Webpage. See paragraph 38.3.) On the same time and date, RVSM was also introduced into the adjoining airspace of Canada and Mexico to provide a seamless environment for aircraft traversing those borders. In addition, RVSM was implemented on the same date in the Caribbean and South American regions.

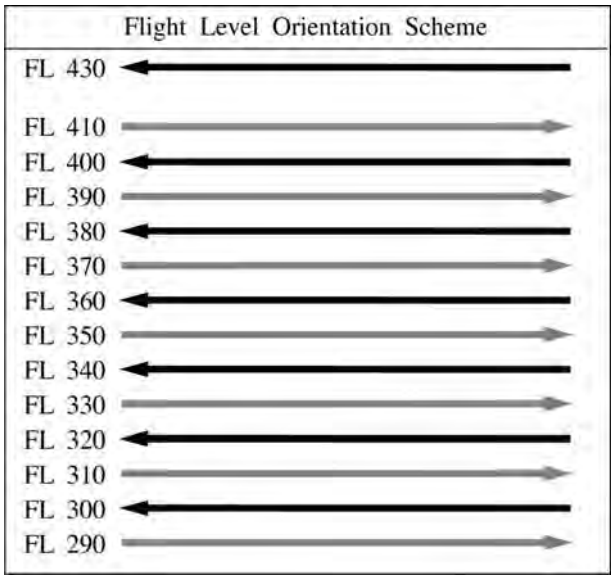
38.1.3 RVSM Authorization. In accordance with 14 CFR Section 91.180, with only limited exceptions, prior to operating in RVSM airspace, operators and aircraft must have received RVSM authorization from the responsible civil aviation authority. (See paragraph 38.10, Procedures for Accommodation of Non–RVSM Aircraft.) If the operator or aircraft or both have not been authorized for RVSM operations, the aircraft will be referred to as a "non–RVSM" aircraft. Paragraph 38.10 discusses ATC policies for accommodation of non–RVSM aircraft flown by the Department of Defense, Air Ambulance (Lifeguard) operators, foreign State governments and aircraft flown for certification and development. Paragraph 38.11, Non–RVSM Aircraft Requesting Climb to and Descent from Flight Levels Above RVSM Airspace Without Intermediate Level Off, contains policies for non–RVSM aircraft climbing and descending through RVSM airspace to/from flight levels above RVSM airspace.

38.1.4 Benefits. RVSM enhances ATC flexibility, mitigates conflict points, enhances sector throughput, reduces controller workload and enables crossing traffic. Operators gain fuel savings and operating efficiency benefits by flying at more fuel efficient flight levels and on more user preferred routings.

38.2 Flight Level Orientation Scheme

Altitude assignments for direction of flight follow a scheme of odd altitude assignment for magnetic courses 000–179 degrees and even altitudes for magnetic courses 180–359 degrees for flights up to and including FL 410, as indicated in FIG ENR 1.1–28.

FIG ENR 1.1–28
Flight Level Orientation Scheme



NOTE–
Odd Flight Levels: Magnetic Course 000–179 Degrees
Even Flight Levels: Magnetic Course 180–359 Degrees.

38.3 Aircraft and Operator Approval Policy/ Procedures, RVSM Monitoring and Databases for Aircraft and Operator Approval

38.3.1 RVSM Authority. 14 CFR Section 91.180 applies to RVSM operations within the U.S. 14 CFR Section 91.706 applies to RVSM operations outside the U.S. Both sections require that the operator obtain authorization prior to operating in RVSM airspace. 14 CFR Section 91.180 requires that, prior to conducting RVSM operations within the U.S., the operator obtain authorization from the FAA or from the responsible authority, as appropriate. In addition, it requires that the operator and the operator's aircraft comply with the standards of 14 CFR Part 91 Appendix G (Operations in RVSM Airspace).

38.3.2 Sources of Information. The FAA RVSM Website Homepage can be accessed at: **http://www.faa.gov/about/office_org/headquarters_offices/ato/service_units/enroute/rvsm/**. The "RVSM Documentation" and "Domestic RVSM" webpages are linked to the RVSM Homepage. "RVSM Documentation" contains guidance and direction for an operator to obtain aircraft and operator approval to conduct RVSM operations. It provides information for DRVSM and oceanic and international RVSM airspace. It is recommended that operators planning to operate in Domestic U.S. RVSM airspace first review the following documents to orient themselves to the approval process.

38.3.2.1 Under "Area of Operations Specific Information," the document, "Basic Operator Information on DRVSM Programs," provides an overview of the DRVSM program and the related aircraft and operator approval programs.

38.3.2.2 In the "Getting Started" section, review the "RVSM Approval Checklist – U.S. Operators" or "RVSM Approval Checklist – Non–U.S. Operators" (as applicable). These are job aids or checklists that show aircraft/operator approval process events with references to related RVSM documents published on the website.

38.3.2.3 Under "Documents Applicable to All RVSM Approvals," review "RVSM Area New to the Operator." This document provides a guide for operators that are conducting RVSM operations in one or more areas of operation, but are planning to conduct RVSM operations in an area where they have not previously conducted RVSM operations, such as the U.S.

38.3.3 TCAS Equipage. TCAS equipage requirements are contained in 14 CFR Sections 121.356, 125.224, 129.18 and 135.189. Part 91 Appendix G does not contain TCAS equipage requirements specific to RVSM, however, Appendix G does require that aircraft equipped with TCAS II and flown in RVSM airspace be modified to incorporate TCAS II Version 7.0 or a later version.

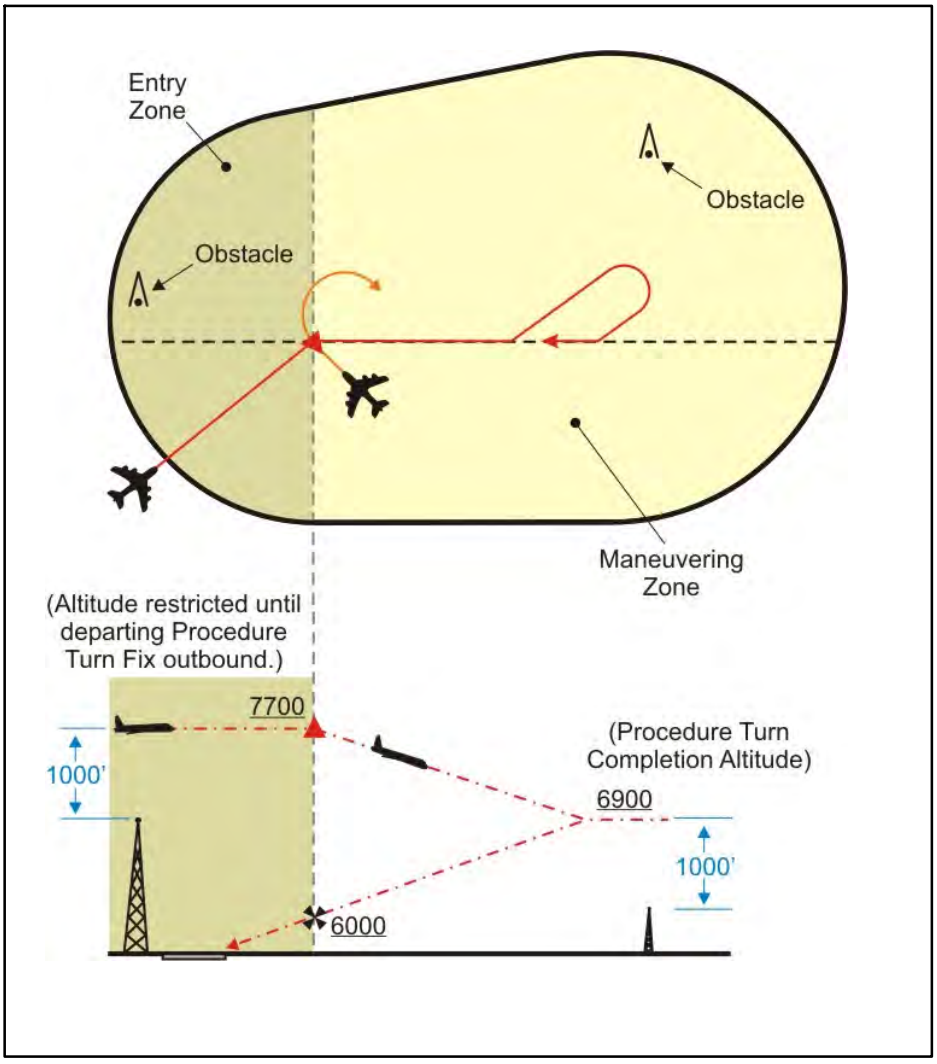
38.3.4 Aircraft Monitoring. Operators are required to participate in the RVSM aircraft monitoring program. The "Monitoring Requirements and Procedures" section of the RVSM Documentation Webpage contains policies and procedures for participation in the monitoring program. Ground–based and GPS–based monitoring systems are available for the Domestic RVSM program. Monitoring is a quality control program that enables the FAA and other civil aviation authorities to assess the in–service altitude–keeping performance of aircraft and operators.

38.3.5 Registration on RVSM Approvals Databases. The "Registration on RVSM Approvals Database" section of the RVSM Documentation Webpage provides policies/procedures for operator and aircraft registration on RVSM approvals databases.

NOTE–
Some approach charts have an arrival holding pattern depicted at the IAF using a "thin line" holding symbol. It is charted where holding is frequently required prior to starting the approach procedure so that detailed holding instructions are not required. The arrival holding pattern is not authorized unless assigned by Air Traffic Control. Holding at the same fix may also be depicted on the enroute chart. A hold–in–lieu of procedure turn is depicted by a "thick line" symbol, and is part of the instrument approach procedure as described in paragraph 8. (See U. S. Terminal Procedures booklets page G1 for both examples.)

8.1.6 A procedure turn is not required when an approach can be made directly from a specified intermediate fix to the final approach fix. In such cases, the term "NoPT" is used with the appropriate course and altitude to denote that the procedure turn is not required. If a procedure turn is desired, and when cleared to do so by ATC, descent below the procedure turn altitude should not be made until the aircraft is established on the inbound course, since some NoPT altitudes may be lower than the procedure turn altitudes.

FIG ENR 1.5–9



8.2 Limitations on Procedure Turns

8.2.1 In the case of a radar initial approach to a final approach fix or position, or a timed approach from a holding fix, or where the procedure specifies NoPT, no pilot may make a procedure turn unless, when final approach clearance is received, the pilot so advises ATC and a clearance is received to executive a procedure turn.

8.2.2 When a teardrop procedure turn is depicted and a course reversal is required, this type turn must be executed.

8.2.3 When a holding pattern replaces a procedure turn, the holding pattern must be followed, except when RADAR VECTORING is provided or when NoPT is shown on the approach course. The recommended entry procedures will ensure the aircraft remains within the holding pattern's protected airspace. As in the procedure turn, the descent from the minimum holding pattern altitude to the final approach fix altitude (when lower) may not commence until the aircraft is established on the inbound course. Where a holding pattern is established in−lieu−of a procedure turn, the maximum holding pattern airspeeds apply.

NOTE−
See paragraph 1.3.2.1, Airspeeds.

8.2.4 The absence of the procedure turn barb in the plan view indicates that a procedure turn is not authorized for that procedure.

9. RNP AR Instrument Approach Procedures

These procedures require authorization analogous to the special authorization required for Category II or III ILS procedures. Authorization required (AR) procedures are to be conducted by aircrews meeting special training requirements in aircraft that meet the specified performance and functional requirements.

9.1 Unique characteristics of RNP AR Approaches

9.1.1 RNP value. Each published line of minima has an associated RNP value. The indicated value defines the lateral and vertical performance requirements. A minimum RNP type is documented as part of the RNP AR authorization for each operator and may vary depending on aircraft configuration or operational procedures (e.g., GPS inoperative, use of flight director vice autopilot).

9.1.2 Curved path procedures. Some RNP approaches have a curved path, also called a radius−to−a−fix (RF) leg. Since not all aircraft have the capability to fly these arcs, pilots are responsible for knowing if they can conduct an RNP approach with an arc or not. Aircraft speeds, winds and bank angles have been taken into consideration in the development of the procedures.

9.1.3 RNP required for extraction or not. Where required, the missed approach procedure may use RNP values less than RNP−1. The reliability of the navigation system has to be very high in order to conduct these approaches. Operation on these procedures generally requires redundant equipment, as no single point of failure can cause loss of both approach and missed approach navigation.

9.1.4 Non−standard speeds or climb gradients. RNP AR approaches are developed based on standard approach speeds and a 200 ft/NM climb gradient in the missed approach. Any exceptions to these standards will be indicated on the approach procedure, and the operator should ensure they can comply with any published restrictions before conducting the operation.

9.1.5 Temperature Limits. For aircraft using barometric vertical navigation (without temperature compensation) to conduct the approach, low and high−temperature limits are identified on the procedure. Cold temperatures reduce the glidepath angle while high temperatures increase the glidepath angle. Aircraft using baro VNAV with temperature compensation or aircraft using an alternate means for vertical guidance (e.g., SBAS) may disregard the temperature restrictions. The charted temperature limits are evaluated for the final approach segment only. Regardless of charted temperature limits or temperature compensation by the FMS, the pilot may need to manually compensate for cold temperature on minimum altitudes and the decision altitude.

9.1.6 Aircraft size. The achieved minimums may be dependent on aircraft size. Large aircraft may require higher minimums due to gear height and/or wingspan. Approach procedure charts will be annotated with applicable aircraft size restrictions.

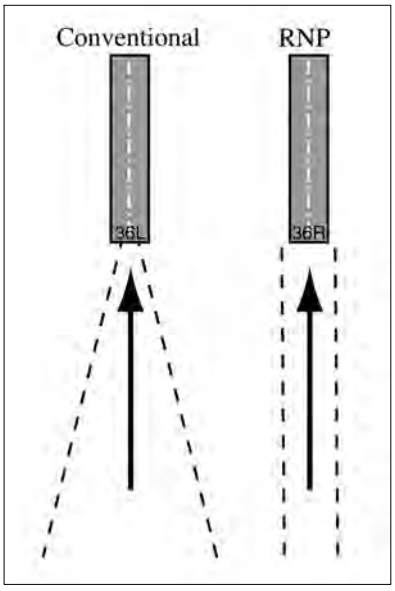
9.2 Types of RNP AR Approach Operations

9.2.1 RNP Stand−alone Approach Operations. RNP AR procedures can provide access to runways

regardless of the ground−based NAVAID infrastructure, and can be designed to avoid obstacles, terrain, airspace, or resolve environmental constraints.

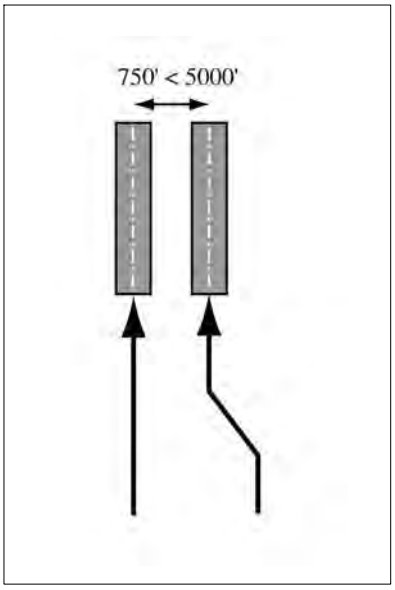
9.2.2 RNP Parallel Approach (RPA) Operations. RNP AR procedures can be used for parallel approaches where the runway separation is adequate (See FIG ENR 1.5−10). Parallel approach procedures can be used either simultaneously or as stand−alone operations. They may be part of either independent or dependent operations depending on the ATC ability to provide radar monitoring.

FIG ENR 1.5−10



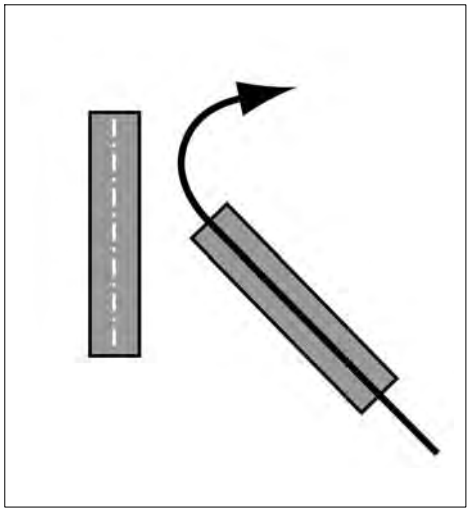
9.2.3 RNP Parallel Approach Runway Transitions (RPAT) Operations. RPAT approaches begin as a parallel IFR approach operation using simultaneous independent or dependent procedures. (See FIG ENR 1.5−11). Visual separation standards are used in the final segment of the approach after the final approach fix, to permit the RPAT aircraft to transition in visual conditions along a predefined lateral and vertical path to align with the runway centerline.

FIG ENR 1.5−11



9.2.4 RNP Converging Runway Operations. At airports where runways converge, but may or may not intersect, an RNP AR approach can provide a precise curved missed approach path that conforms to aircraft separation minimums for simultaneous operations (See FIG ENR 1.5−12). By flying this curved missed approach path with high accuracy and containment provided by RNP, dual runway operations may continue to be used to lower ceiling and visibility values than currently available. This type of operation allows greater capacity at airports where it can be applied.

FIG ENR 1.5−12



10. Side−step Maneuver

10.1 ATC may authorize a standard instrument approach procedure which serves either one of parallel runways that are separated by 1,200 feet or less followed by a straight-in landing on the adjacent runway.

10.2 Aircraft that will execute a side-step maneuver will be cleared for a specified approach procedure and landing on the adjacent parallel runway. Example, "cleared ILS runway 7 left approach, side-step to runway 7 right." Pilots are expected to commence the side-step maneuver as soon as possible after the runway or runway environment is in sight. Compliance with minimum altitudes associated with stepdown fixes is expected even after the side−step maneuver is initiated.

NOTE−
Side−stepminima are flown to a Minimum Descent Altitude (MDA) regardless of the approach authorized.

10.3 Landing minimums to the adjacent runway will be based on nonprecision criteria and therefore higher than the precision minimums to the primary runway, but will normally be lower than the published circling minimums.

11. Approach and Landing Minimums

11.1 Landing Minimums. The rules applicable to landing minimums are contained in 14 CFR Section 91.175. TBL ENR 1.5−2 may be used to convert RVR to ground or flight visibility. For converting RVR values that fall between listed values, use the next higher RVR value; do not interpolate. For example, when converting 1800 RVR, use 2400 RVR with the resultant visibility of $^1/_2$ mile.

TBL ENR 1.5−2
RVR Value Conversions

RVR	Visibility (statute miles)
1600	$^1/_4$
2400	$^1/_2$
3200	$^5/_8$
4000	$^3/_4$
4500	$^7/_8$
5000	1
6000	1 $^1/_4$

11.1.1 Aircraft approach category means a grouping of aircraft based on a speed of $V_{REF,}$ if specified, or if V_{REF} is not specified, 1.3 V_{SO} at the maximum certified landing weight. $V_{REF,}$ $V_{SO,}$ and the maximum certified landing weight are those values as established for the aircraft by the certification authority of the country of registry. A pilot must use the minima corresponding to the category determined during certification or higher. Helicopters may use Category A minima. If it is necessary to operate at a speed in excess of the upper limit of the speed range for an aircraft's category, the minimums for the higher category must be used. For example, an airplane which fits into Category B, but is circling to land at a speed of 145 knots, must use the approach Category D minimums. As an additional example, a Category A airplane (or helicopter) which is operating at 130 knots on a straight−in approach must use the approach Category C minimums. See the following category limits:

11.1.1.1 Category A: Speed less than 91 knots.

11.1.1.2 Category B: Speed 91 knots or more but less than 121 knots.

11.1.1.3 Category C: Speed 121 knots or more but less than 141 knots.

11.1.1.4 Category D: Speed 141 knots or more but less than 166 knots.

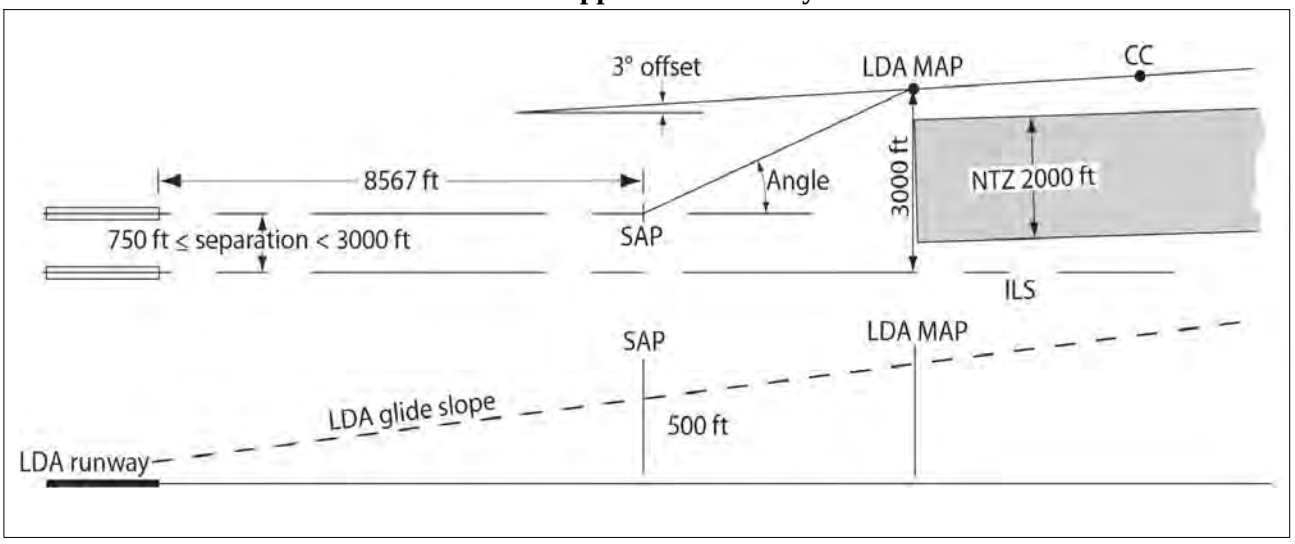
11.1.1.5 Category E: Speed 166 knots or more.

NOTE−
V_{REF} in the above definition refers to the speed used in establishing the approved landing distance under the airworthiness regulations constituting the type certification basis of the airplane, regardless of whether that speed for a particular airplane is 1.3 $V_{SO,}$ 1.23 $V_{SR,}$ or some higher speed required for airplane controllability. This speed, at the maximum certificated landing weight, determines the lowest applicable approach category for all approaches regardless of actual landing weight.

11.2 Published Approach Minimums. Approach minimums are published for different aircraft categories and consist of a minimum altitude (DA, DH, MDA) and required visibility. These minimums are determined by applying the appropriate TERPS criteria. When a fix is incorporated in a nonprecision final segment, two sets of minimums may be published; one for the pilot that is able to identify the fix, and a second for the pilot that cannot. Two sets of minimums may also be published when a second altimeter source is used in the procedure. When a

FIG ENR 1.5−32

SOIA Approach Geometry



NOTE−

SAP	*The SAP is a design point along the extended centerline of the intended landing runway on the glide slope at 500 feet above the landing threshold. It is used to verify a sufficient distance is provided for the visual maneuver after the missed approach point (MAP) to permit the pilots to conform to approved, stabilized approach criteria.*
MAP	*The point along the LDA where the course separation with the adjacent ILS reaches 3,000 feet. The altitude of the glide slope at that point determines the approach minimum descent altitude and is where the NTZ terminates. Maneuvering inside the MAP is done in visual conditions.*
Angle	*Angle formed at the intersection of the extended LDA runway centerline and a line drawn between the LDA MAP and the SAP. The size of the angle is determined by the FAA SOIA computer design program, and is dependent on whether Heavy aircraft use the LDA and the spacing between the runways.*
Visibility	*Distance from MAP to runway threshold in statute miles (light credit applies).*
Procedure	*LDA aircraft must see the runway landing environment and, if less than standard radar separation exists between the aircraft on the adjacent ILS course, the LDA aircraft must visually acquire the ILS aircraft and report it in sight to ATC prior to the LDA MAP.*
CC	*Clear Clouds.*

20.2.1.2 ATC Directed Breakout. An ATC directed "breakout" is defined as a vector off the ILS or LDA approach course in response to another aircraft penetrating the NTZ, the 2,000 foot wide area located equidistance between the two approach courses that is monitored by the PRM monitor controllers.

20.2.1.3 Dual Communications. The aircraft flying the ILS/PRM or LDA/PRM approach must have the capability of enabling the pilot/s to listen to two communications frequencies simultaneously.

20.3 Radar Monitoring. Simultaneous close parallel ILS/PRM and LDA/PRM approaches require that final monitor controllers utilize the PRM system to ensure prescribed separation standards are met. Procedures and communications phraseology are also described in paragraph 19., Simultaneous Parallel ILS/MLS Approaches (Independent). A minimum of 3 miles radar separation or 1,000 feet vertical separation will be provided during the turn−on to close parallel final approach courses. To ensure separation is maintained, and in order to avoid an imminent situation during simultaneous close parallel ILS/PRM or SOIA ILS/PRM and LDA/PRM approaches, pilots must immediately comply with PRM monitor controller instructions. In the event of a missed approach, radar monitoring is provided to one−half mile beyond the most distant of the two runway departure ends for ILS/RPM approaches. In SOIA, PRM radar monitoring terminates at the LDA MAP. Final monitor controllers will not notify pilots when radar monitoring is terminated.

20.4 Attention All Users Page (AAUP). ILS/PRM and LDA/PRM approach charts have an AAUP associated with them that must be referred to in preparation for conducting the approach. This page contains the following instructions that must be followed if the pilot is unable to accept an ILS/PRM or LDA/PRM approach.

20.4.1 At airports that conduct PRM operations, (ILS/PRM or, in the case of airports where SOIAs are conducted, ILS/PRM and LDA/PRM approaches) pilots not qualified to except PRM approaches must follow notification procedures found on the Attention All Users Page (AAUP) of the Standard Instrument Approach Procedures (SIAP) for the specific airport PRM approach.

20.4.2 The AAUP covers the following operational topics:

20.4.2.1 ATIS. When the ATIS broadcast advises ILS/PRM approaches are in progress (or ILS PRM and LDA PRM approaches in the case of SOIA), pilots should brief to fly the ILS/PRM or LDA/PRM approach. If later advised to expect the ILS or LDA approach (should one be published), the ILS/PRM or LDA/PRM chart may be used after completing the following briefing items:

a) Minimums and missed approach procedures are unchanged.

b) PRM Monitor frequency no longer required.

c) ATC may assign a lower altitude for glide slope intercept.

NOTE−
In the case of the LDA/PRM approach, this briefing procedure only applies if an LDA approach is also published.

In the case of the SOIA ILS/PRM and LDA/PRM procedure, the AAUP describes the weather conditions in which simultaneous approaches are authorized:

Simultaneous approach weather minimums are X,XXX feet (ceiling), x miles (visibility).

20.4.2.2 Dual VHF Communications Required. To avoid blocked transmissions, each runway will have two frequencies, a primary and a monitor frequency. The tower controller will transmit on both frequencies. The monitor controller's transmissions, if needed, will override both frequencies. Pilots will ONLY transmit on the tower controller's frequency, but will listen to both frequencies. Begin to monitor the PRM monitor controller when instructed by ATC to contact the tower. The volume levels should be set about the same on both radios so that the pilots will be able to hear transmissions on at least one frequency if the other is blocked. Site specific procedures take precedence over the general information presented in this paragraph. Refer to the AAUP for applicable procedures at specific airports.

20.4.2.3 Breakouts. Breakouts differ from other types of abandoned approaches in that they can happen anywhere and unexpectedly. Pilots directed by ATC to break off an approach must assume that an aircraft is blundering toward them and a breakout must be initiated **immediately**.

a) Hand−fly breakouts. All breakouts are to be hand−flown to ensure the maneuver is accomplished in the shortest amount of time.

b) ATC Directed "Breakouts." ATC directed breakouts will consist of a turn and a climb or descent. Pilots must always initiate the breakout in response to an air traffic controller's instruction. Controllers will give a descending breakout only when there are no other reasonable options available, but in no case will the descent be below the minimum vectoring altitude (MVA) which provides at least 1,000 feet required obstruction clearance. The AAUP provides the MVA in the final approach segment as X,XXX feet at (Name) Airport.

NOTE−
"TRAFFIC ALERT." If an aircraft enters the "NO TRANSGRESSION ZONE" (NTZ), the controller will breakout the threatened aircraft on the adjacent approach. The phraseology for the breakout will be:

PHRASEOLOGY−
TRAFFIC ALERT, (aircraft call sign) TURN (left/right) IMMEDIATELY, HEADING (degrees), CLIMB/ DESCEND AND MAINTAIN (altitude).

20.4.2.4 ILS/PRM Navigation. The pilot may find crossing altitudes along the final approach course. The pilot is advised that descending on the ILS glideslope ensures complying with any charted crossing restrictions.

20.4.2.5 SOIA AAUP differences from ILS PRM AAUP

a) ILS/PRM LDA Traffic (only published on ILS/PRM AAUP when the ILS PRM approach is used in conjunctions with an LDA/PRM approach to the adjacent runway). To provide better situational awareness, and because traffic on the LDA may be visible on the ILS aircraft's TCAS, pilots are reminded of the fact that aircraft will be maneuvering behind them to align with the adjacent runway. While conducting the ILS/PRM approach to Runway XXX, other aircraft may be conducting the offset LDA/PRM approach to Runway XXX. These aircraft will approach from the (left/right)−rear and will realign with runway XXX after making visual contact with the ILS traffic. Under normal circumstances these aircraft will not pass the ILS traffic.

b) SOIA LDA/PRM AAUP Items. The AAUP for the SOIA LDA/PRM approach contains most information found on ILS/PRM AAUPs. It replaces certain information as seen below and provides pilots with the procedures to be used in the visual segment of the LDA/PRM approach, from the time the ILS aircraft is visually acquired until landing.

c) SOIA LDA/PRM Navigation (replaces ILS/ PRM 20.4.2.4 and 20.4.2.5 a) above). The pilot may find crossing altitudes along the final approach course. The pilot is advised that descending on the LDA glideslope ensures complying with any charted crossing restrictions. Remain on the LDA course until passing XXXXX (LDA MAP name) intersection prior to maneuvering to align with the centerline of runway XXX.

d) SOIA (Name) Airport Visual Segment (replaces ILS/PRM 20.4.2.5 a) above). Pilot procedures for navigating beyond the LDA MAP are spelled out. If ATC advises that there is traffic on the adjacent ILS, pilots are authorized to continue past the LDA MAP to align with runway centerline when:

1) the ILS traffic is in sight and is expected to remain in sight,

2) ATC has been advised that "traffic is in sight."

3) the runway environment is in sight.

Otherwise, a missed approach must be executed. Between the LDA MAP and the runway threshold, pilots of the LDA aircraft are responsible for separating themselves visually from traffic on the ILS approach, which means maneuvering the aircraft as necessary to avoid the ILS traffic until landing, and providing wake turbulence avoidance, if applicable. Pilots should advise ATC, as soon as practical, if visual contact with the ILS traffic is lost and execute a missed approach unless otherwise instructed by ATC.

20.5 SOIA LDA Approach Wake Turbulence. Pilots are responsible for wake turbulence avoidance when maneuvering between the LDA missed approach point and the runway threshold.

20.6 Differences between ILS and ILS/PRM approaches of importance to the pilot.

20.6.1 Runway Spacing. Prior to ILS/PRM and LDA/PRM approaches, most ATC directed breakouts were the result of two aircraft in−trail on the same final approach course getting too close together. Two aircraft going in the same direction did not mandate quick reaction times. With PRM approaches, two aircraft could be along side each other, navigating on courses that are separated by less than

4,300 feet. In the unlikely event that an aircraft "blunders" off its course and makes a worst case turn of 30 degrees toward the adjacent final approach course, closing speeds of 135 feet per second could occur that constitute the need for quick reaction. A blunder has to be recognized by the monitor controller, and breakout instructions issued to the endangered aircraft. The pilot will not have any warning that a breakout is eminent because the blundering aircraft will be on another frequency. It is important that, when a pilot receives breakout instructions, he/she assumes that a blundering aircraft is about to or has penetrated the NTZ and is heading toward his/her approach course. The pilot must initiate a breakout as soon as safety allows. While conducting PRM approaches, pilots must maintain an increased sense of awareness in order to immediately react to an ATC instruction (**breakout**) and maneuver as instructed by ATC, away from a blundering aircraft.

20.6.2 Communications. To help in avoiding communication problems caused by stuck microphones and two parties talking at the same time, two frequencies for each runway will be in use during ILS/PRM and LDA/PRM approach operations, the primary tower frequency and the PRM monitor frequency. The tower controller transmits and receives in a normal fashion on the primary frequency and also transmits on the PRM monitor frequency. The monitor controller's transmissions override on both frequencies. The pilots flying the approach will listen to both frequencies but only transmit on the primary tower frequency. If the PRM monitor controller initiates a breakout and the primary frequency is blocked by another transmission, the breakout instruction will still be heard on the PRM monitor frequency.

20.6.3 Hand–flown Breakouts. The use of the autopilot is encouraged while flying an ILS/PRM or LDA/PRM approach, but the autopilot must be disengaged in the rare event that a breakout is issued. Simulation studies of breakouts have shown that a hand–flown breakout can be initiated consistently faster than a breakout performed using the autopilot.

20.6.4 TCAS. The ATC breakout instruction is the primary means of conflict resolution. TCAS, if installed, provides another form of conflict resolution in the unlikely event other separation standards would fail. TCAS is not required to conduct a closely spaced approach.

The TCAS provides only vertical resolution of aircraft conflicts, while the ATC breakout instruction provides both vertical and horizontal guidance for conflict resolutions. Pilots should always immediately follow the TCAS Resolution Advisory (RA), whenever it is received. Should a TCAS RA be received before, during, or after an ATC breakout instruction is issued, the pilot should follow the RA, even if it conflicts with the climb/descent portion of the breakout maneuver. If following an RA requires deviating from an ATC clearance, the pilot must advise ATC as soon as practical. While following an RA, it is extremely important that the pilot also comply with the turn portion of the ATC breakout instruction unless the pilot determines safety to be factor. Adhering to these procedures assures the pilot that acceptable "breakout" separation margins will always be provided, even in the face of a normal procedural or system failure.

20.6.5 Breakouts. The probability is extremely low that an aircraft will "blunder" from its assigned approach course and enter the NTZ, causing ATC to "breakout" the aircraft approaching on the adjacent ILS course. However, because of the close proximity of the final approach courses, it is essential that pilots follow the ATC breakout instructions precisely and expeditiously. The controller's "breakout" instructions provide conflict resolution for the threatened aircraft, with the turn portion of the "breakout" being the single most important element in achieving maximum protection. A descending breakout will only be issued when it is the only controller option. In no case will the controller descend an aircraft below the MVA, which will provide at least 1,000 feet clearance above obstacles. The pilot is not expected to exceed 1,000 feet per minute rate of descent in the event a descending breakout is issued.

21. Simultaneous Converging Instrument Approaches

21.1 ATC may conduct instrument approaches simultaneously to converging runways; i.e., runways having an included angle from 15 to 100 degrees, at airports where a program has been specifically approved to do so.

21.2 The basic concept requires that dedicated, separate standard instrument approach procedures be developed for each converging runway included. Missed approach points must be at least 3 miles apart and missed approach procedures ensure that missed approach protected airspace does not overlap.

21.3 Other requirements are: radar availability, nonintersecting final approach courses, precision (ILS/MLS) approach systems on each runway, and if runways intersect, controllers must be able to apply visual separation as well as intersecting runway separation criteria. Intersecting runways also require minimums of at least 700−foot ceilings and 2 miles visibility. Straight−in approaches and landings must be made.

21.4 Whenever simultaneous converging approaches are in progress, aircraft will be informed by the controller as soon as feasible after initial contact or via ATIS. Additionally, the radar controller will have direct communications capability with the tower controller where separation responsibility has not been delegated to the tower.

22. Timed Approaches From a Holding Fix

22.1 Timed approaches may be conducted when the following conditions are met:

22.1.1 A control tower is in operation at the airport where the approaches are conducted.

22.1.2 Direct communications are maintained between the pilot and the center/approach controller until the pilot is instructed to contact the tower.

22.1.3 If more than one missed approach procedure is available, none requires a course reversal.

22.1.4 If only one missed approach procedure is available, the following conditions are met.

22.1.4.1 Course reversal is not required.

22.1.4.2 Reported ceiling and visibility are equal to or greater than the highest prescribed circling minimums for the instrument approach procedure.

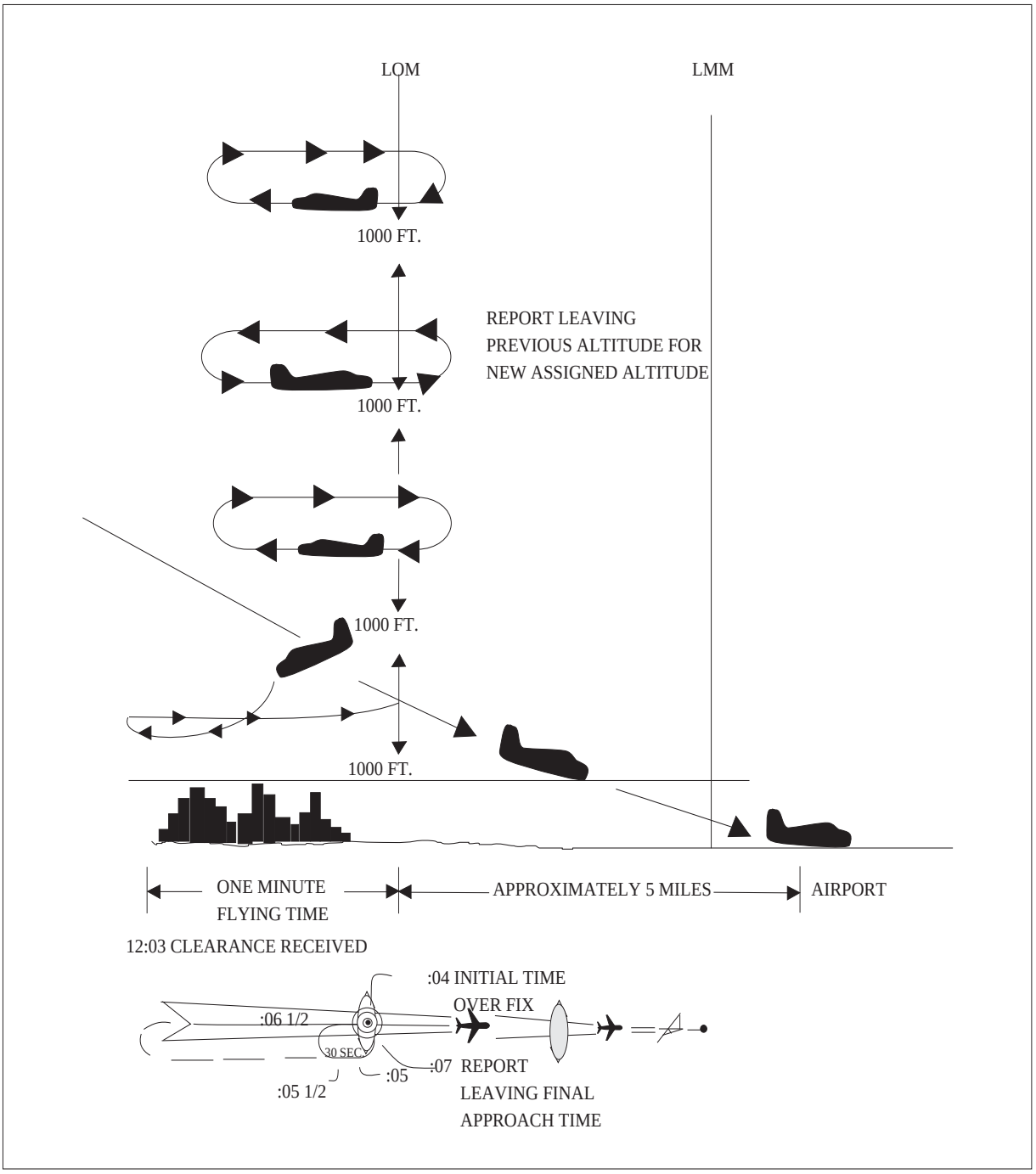
22.1.5 When cleared for the approach, pilots must not execute a procedure turn. (See 14 CFR Section 91.175j.)

22.2 Although the controller will not specifically state that “timed approaches are in progress,” the assigning a time to depart the final approach fix inbound (nonprecision approach) or the outer marker or the fix used in lieu of the outer marker inbound (precision approach) is indicative that timed approach procedures are being utilized, or in lieu of holding, the controller may use radar vectors to the final approach course to establish a mileage interval between aircraft that will insure the appropriate time sequence between the final approach fix/outer marker or the fix used in lieu of the outer marker and the airport.

22.3 Each pilot in an approach sequence will be given advance notice as to the time he/she should leave the holding point on approach to the airport. When a time to leave the holding point has been received, the pilot should adjust his/her flight path to leave the fix as closely as possible to the designated time. (See FIG ENR 1.5−33.)

FIG ENR 1.5−33

Timed Approaches from a Holding Fix



EXAMPLE−

At 12:03 local time, in the example shown, a pilot holding, receives instructions to leave the fix inbound at 12:07. These instructions are received just as the pilot has completed turn at the outbound end of the holding pattern and is proceeding inbound toward the fix. Arriving back over the fix, the pilot notes that the time is 12:04 and that there are 3 minutes to lose in order to leave the fix at the assigned time. Since the time remaining is more than two minutes, the pilot plans to fly a race track pattern rather than a 360 degree turn, which would use up 2 minutes. The turns at the ends of the race track pattern will consume approximately 2 minutes. Three minutes to go, minus 2 minutes required for the turns, leaves 1 minute for level flight. Since two portions of level flight will be required to get back to the fix inbound, the pilot halves the 1 minute remaining

TBL ENR 1.10–1

NOTAM CONTRACTIONS

	A
AADC	Approach and Departure Control
ABV	Above
A/C	Approach Control
ACCUM	Accumulate
ACFT	Aircraft
ACR	Air Carrier
ACTV/ACTVT	Active/Activate
ADF	Automatic Direction Finder
ADJ	Adjacent
ADZ/ADZD	Advise/Advised
AFD	Airport/Facility Directory
ALS	Approach Light System
ALTM	Altimeter
ALTN/ALTNLY	Alternate/Alternately
ALSTG	Altimeter Setting
AMDT	Amendment
APCH	Approach
APL	Airport Lights
ARFF	Aircraft Rescue & Fire Fighting
ARPT	Airport
ARSR	Air Route Surveillance Radar
ASDE	Airport Surface Detection Equipment
ASOS	Automated Surface Observing System
ASPH	Asphalt
ASR	Airport Surveillance Radar
ATC	Air Traffic Control
ATCT	Airport Traffic Control Tower
ATIS	Automated Terminal Information Service
AVBL	Available
AWOS	Automatic Weather Observing System
AWSS	Automatic Weather Sensor System
AZM	Azimuth
	B
BC	Back Course
BCN	Beacon
BERM	Snowbank/s Containing Earth/Gravel
BLO	Below
BND	Bound
BRAF	Braking Action Fair
BRAG	Braking Action Good
BRAN	Braking Action Nil
BRAP	Braking Action Poor
BYD	Beyond
	C
CAAS	Class A Airspace
CAT	Category
CBAS	Class B Airspace
CBSA	Class B Surface Area
CCAS	Class C Airspace
CCLKWS	Counterclockwise
CCSA	Class C Surface Area
CD	Clearance Delivery
CDAS	Class D Airspace
CDSA	Class D Surface Area
CEAS	Class E Airspace
CESA	Class E Surface Area
CFA	Controlled Firing Area
CGAS	Class G Airspace
CHG	Change
CLKWS	Clockwise
CLNC	Clearance
CLSD	Closed
CMSN/CMSND	Commission/Commissioned
CNCL/CNCLD/ CNL	Cancel/Canceled/Cancel
CNTRLN	Centerline
CONC	Concrete
CONT	Continue/Continuously
CRS	Course
CTAF	Common Traffic Advisory Frequency
CTLZ	Control Zone
	D
DALGT	Daylight
DCMS/DCMSND	Decommission/Decommissioned
DCT	Direct
DEP	Depart/Departure
DEPT	Department
DH	Decision Height
DISABLD	Disabled
DLA/DLAD	Delay/Delayed
DLT/DLTD	Delete/Deleted
DLY	Daily
DME	Distance Measuring Equipment
DMSTN	Demonstration
DP	Instrument Departure Procedure
DPCR	Departure Procedure
DRCT	Direct
DRFT/DRFTD	Drift/Drifted Snowbank/s Caused By Wind Action
DSPLCD	Displaced
DSTC	Distance
DWPNT	Dew Point
	E
E	East
EBND	Eastbound
EFAS	En Route Flight Advisory Service
EFF	Effective
ELEV	Elevate/Elevation
ENG	Engine
ENTR	Entire
EXCP	Except
	F
FA	Final Approach
FAC	Facility
FAF	Final Approach Fix
FDC	Flight Data Center
FM	Fan Marker

FREQ	Frequency
FRH	Fly Runway Heading
FRZN	Frozen
FRNZ SLR	Frozen Slush on Runway/s
FSS	Flight Service Station
	G
GC	Ground Control
GCA	Ground Controlled Approach
GOVT	Government
GP	Glide Path
GPS	Global Positioning System
GRVL	Gravel
GS	Glide Slope
	H
HAA	Height Above Airport
HAT	Height Above Touchdown
HAZ	Hazard
HEL	Helicopter
HELI	Heliport
HF	High Frequency
HIRL	High Intensity Runway Lights
HIWAS	Hazardous Inflight Weather Advisory Service
HOL	Holiday
HP	Holding Pattern
	I
IAP	Instrument Approach Procedure
IBND	Inbound
ID	Identification
IDENT	Identify/Identifier/Identification
IFR	Instrument Flight Rules
ILS	Instrument Landing System
IM	Inner Marker
IN	Inch/Inches
INDEFLY	Indefinitely
INOP	Inoperative
INST	Instrument
INT	Intersection
INTST	Intensity
IR	Ice On Runway/s
	L
L	Left
LAA	Local Airport Advisory
LAT	Latitude
LAWRS	Limited Aviation Weather Reporting Station
LB	Pound/Pounds
LC	Local Control
LCL	Local
LCTD	Located
LDA	Localizer Type Directional Aid
LGT/LGTD/ LGTS	Light/Lighted/Lights
LIRL	Low Intensity Runway Edge Lights
LLWAS	Low Level Wind Shear Alert System
LMM	Compass Locator at ILS Middle Marker
LNDG	Landing
LOC	Localizer
LOM	Compass Locator at ILS Outer Marker
LONG	Longitude
LSR	Loose Snow on Runway/s
LT	Left Turn After Take-off
	M
MALS	Medium Intensity Approach Lighting System
MALSF	Medium Intensity Approach Lighting System with Sequenced Flashers
MALSR	Medium Intensity Approach Lighting System with Runway Alignment Indicator Lights
MAP	Missed Approach Point
MCA	Minimum Crossing Altitude
MDA	Minimum Descent Altitude
MEA	Minimum En Route Altitude
MED	Medium
MIN	Minute
MIRL	Medium Intensity Runway Edge Lights
MLS	Microwave Landing System
MM	Middle Marker
MNM	Minimum
MOCA	Minimum Obstruction Clearance Altitude
MONTR	Monitor
MSA	Minimum Safe Altitude/Minimum Sector Altitude
MSAW	Minimum Safe Altitude Warning
MSL	Mean Sea Level
MU	Designate a Friction Value Representing Runway Surface Conditions
MUD	Mud
MUNI	Municipal
	N
N	North
NA	Not Authorized
NBND	Northbound
NDB	Nondirectional Radio Beacon
NE	Northeast
NGT	Night
NM	Nautical Mile/s
NMR	Nautical Mile Radius
NOPT	No Procedure Turn Required
NTAP	Notice To Airmen Publication
NW	Northwest
	O
OBSC	Obscured
OBSTN	Obstruction
OM	Outer Marker
OPER	Operate
OPN	Operation
ORIG	Original
OTS	Out of Service
OVR	Over
	P
PAEW	Personnel and Equipment Working

PAJA	Parachute Jumping Activities
PAPI	Precision Approach Path Indicator
PAR	Precision Approach Radar
PARL	Parallel
PAT	Pattern
PCL	Pilot Controlled Lighting
PERM/PERMLY	Permanent/Permanently
PLA	Practice Low Approach
PLW	Plow/Plowed
PN	Prior Notice Required
PPR	Prior Permission Required
PREV	Previous
PRIRA	Primary Radar
PROC	Procedure
PROP	Propeller
PSGR	Passenger/s
PSR	Packed Snow on Runway/s
PT/PTN	Procedure Turn
PVT	Private
	R
RAIL	Runway Alignment Indicator Lights
RCAG	Remote Communication Air/Ground Facility
RCL	Runway Centerline
RCLS	Runway Centerline Light System
RCO	Remote Communication Outlet
RCV/RCVR	Receive/Receiver
REF	Reference
REIL	Runway End Identifier Lights
RELCTD	Relocated
RLLS	Runway Lead−in Light System
RMDR	Remainder
RNAV	Area Navigation
RPRT	Report
RQRD	Required
RRL	Runway Remaining Lights
RSVN	Reservation
RT	Right Turn after Take-off
RTE	Route
RTR	Remote Transmitter/Receiver
RTS	Return to Service
RUF	Rough
RVR	Runway Visual Range
RVRM	RVR Midpoint
RVRR	RVR Rollout
RVRT	RVR Touchdown
RVV	Runway Visibility Value
RY/RWY	Runway
	S
S	South
SAA	Special Activity Airspace
SBND	Southbound
SDF	Simplified Directional Facility
SE	Southeast
SECRA	Secondary Radar
SFL	Sequenced Flashing Lights
SI	Straight-In Approach
SIR	Packed or Compacted Snow and Ice on Runway/s
SKED	Scheduled
SLR	Slush on Runway/s
SNBNK	Snowbank/s Caused by Plowing
SND	Sand/Sanded
SNGL	Single
SNW	Snow
SPD	Speed
SR	Sunrise
SS	Sunset
SSALF	Simplified Short Approach Lighting System with Sequenced Flashers
SSALR	Simplified Short Approach Lighting System with Runway Alignment Indicator Lights
SSALS	Simplified Short Approach Lighting System
STAR	Standard Terminal Arrival
SUA	Special Use Airspace
SVC	Service
SW	Southwest
SWEPT	Swept or Broom/Broomed
	T
TACAN	Tactical Air Navigational Aid
TDZ/TDZL	Touchdown Zone/Touchdown Zone Lights
TFC	Traffic
TFR	Temporary Flight Restriction
TGL	Touch and Go Landings
THN	Thin
THR	Threshold
THRU	Through
TIL	Until
TKOF	Takeoff
TMPRY	Temporary
TRML	Terminal
TRNG	Training
TRSA	Terminal Radar Service Area
TRSN	Transition
TSNT	Transient
TWEB	Transcribed Weather Broadcast
TWR	Tower
TWY	Taxiway
	U
UNAVBL	Unavailable
UNLGTD	Unlighted
UNMKD	Unmarked
UNMON	Unmonitored
UNRELBL	Unreliable
UNUSBL	Unusable
	V
VASI	Visual Approach Slope Indicator
VDP	Visual Descent Point
VFR	Visual Flight Rules
VIA	By Way Of
VICE	Instead/Versus

VIS/VSBY	Visibility
VMC	Visual Meteorological Conditions
VOL	Volume
VOLMET	Meteorlogical Information for Aircraft in Flight
VOR	VHF Omni-Directional Radio Range
VORTAC	VOR and TACAN (collocated)
VOT	VOR Test Signal
	W
W	West
WBND	Westbound
WEA/WX	Weather
WI	Within
WKDAYS	Monday through Friday
WKEND	Saturday and Sunday
WND	Wind
WP	Waypoint
WSR	Wet Snow on Runway/s
WTR	Water on Runway/s
WX	Weather
/	And
+	In Addition/Also

3.2.1 NOTAM (D)

3.2.1.1 NOTAM (D) information is disseminated for all navigational facilities that are part of the National Airspace System (NAS), all public use airports, seaplane bases, and heliports listed in the Airport/Facility Directory (A/FD). This category of information is distributed automatically via Service A telecommunications systems. These NOTAMs remain available via Service A for the duration of their validity or until published.

All NOTAM Ds must have one of the following keywords as the first part of the text after the location identifier:

Keyword	Definition
RWY . . . . . *Example*	**Runway** ABC XX/XXX ABC RWY 3/21 CLSD
TWY . . . . . *Example*	**Taxiway** ABC XX/XXX ABC TWY F LGTS OTS
RAMP . . . . . *Example*	**Ramp** ABC XX/XXX ABC RAMP TERMINAL EAST SIDE CONSTRUCTION
APRON . . . . . *Example*	**Apron** ABC XX/XXX ABC APRON SW TWY C NEAR HANGARS CLSD
AD . . . . . *Example*	**Aerodrome** ABC XX/XXX ABC AD ABN OTS
OBST . . . . . *Example*	**Obstruction** ABC XX/XXX ABC OBST TOWER 283 (246 AGL) 2.2 S LGTS OTS (ASR 1065881) TIL 1003282300
Keyword	**Definition**
NAV . . . . . *Example*	**Navigation** ABC XX/XXX ABC NAV VOR OTS
COM . . . . . *Example*	**Communications** ABC XX/XXX ABC COM ATIS OTS
SVC . . . . . *Example*	**Services** XX/XXX ABC SVC JET FUEL UNAVBL TIL 1003291600
AIRSPACE . . *Example*	**Airspace** ABC XX/XXX ABC AIRSPACE AIRSHOW ACFT 5000/BLW 5 NMR AIRPORT AVOIDANCE ADZD TIL 1003152200
U	**Unverified Aeronautical Information** (*for use only where authorized by Letter of Agreement*)*
O	**Other Aeronautical Information****

* **Unverified Aeronauticatical Information** can be movement area or other information received that meets NOTAM criteria and has not been confirmed by the Airport Manager (AMGR) or their designee. If Flight Service is unable to contact airport management, Flight Service must forward (U) NOTAM information to the United States NOTAM System (USNS). Subsequent toUSNS distribution of a (U) NOTAM, Flight Service will inform airport management of the action taken as soon as practical. Any such NOTAM will be prefaced with "(U)" as the keyword and followed by the appropriate keyword contraction, following the location identifier.

****Other Aeronautical Information** is that which is received from any authorized source that may be beneficial to aircraft operations and does not meet defined NOTAM criteria. Any such NOTAM will be prefaced with "(O)" as the keyword following the location identifier.

3.2.1.2 NOTAM Ds that crossover into International NOTAMs

These NOTAMs contain the same data as NOTAM Ds, only they are referenced differently. They are categorized, stored, and issued with a series letter preceding them and are distributed via Service A to countries requesting NOTAMs for that airport. The FAA currently uses the Series A (and may use Series K) for this type of NOTAM.

4.2.9.5 Block 5. Enter the departure airport identifier code (or the airport name, city and state, if the identifier is unknown).

4.2.9.6 Block 6. Enter the proposed departure time in Coordinated Universal Time (UTC). If airborne, specify the actual or proposed departure time, as appropriate.

4.2.9.7 Block 7. Enter the appropriate VFR altitude (to assist the briefer in providing weather and wind information).

4.2.9.8 Block 8. Define the route of flight by using NAVAID identifier codes and airways.

4.2.9.9 Block 9. Enter the destination airport identifier code, or if unknown, the airport name.

NOTE–
Include the city name (or even the state name) if needed for clarity.

4.2.9.10 Block 10. Enter your estimated time en route, in hours and minutes.

4.2.9.11 Block 11. Enter only those remarks that may aid in VFR search and rescue, such as planned stops en route or student cross country, or remarks pertinent to the clarification of other flight plan information, such as the radiotelephony (call sign) associated with a designator filed in Block 2, if the radiotelephony is new, has changed within the last 60 days, or is a special FAA-assigned temporary radiotelephony. Items of a personal nature are not accepted.

4.2.9.12 Specify the fuel on board, in hours and minutes.

4.2.9.13 Specify an alternate airport if desired.

4.2.9.14 Enter your complete name, address, and telephone number. Enter sufficient information to identify home base, airport, or operator.

NOTE–
This information is essential in the event of search and rescue operations.

4.2.9.15 Block 15. Enter total number of persons on board including crew (POB).

4.2.9.16 Block 16. Enter the predominant colors.

4.2.9.17 Block 17. (Optional) Record a destination telephone number to assist Search and Rescue should you fail to report or cancel your flight plan within 1/2 hour after your estimated time of arrival (ETA).

CAUTION–
A control tower at destination point does not automatically close VFR flight plans; it remains the responsibility of a pilot to close his/her own flight plan.

4.2.9.18 Record the FSS name for closing the flight plan. If the flight plan is closed with a different FSS or facility, state the recorded FSS name that would normally have closed your flight plan.

NOTE–
The information transmitted to the destination FSS will consist only of flight plans blocks 2, 3, 9, and 10. Estimated time en route (ETE) will be converted to the correct estimated time of arrival (ETA).

FIG ENR 1.10−1

FAA Flight Plan
Form 7233−1 (8−82)

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

FLIGHT PLAN

(FAA USE ONLY) ☐ PILOT BRIEFING ☐ VNR ☐ STOPOVER | TIME STARTED | SPECIALIST INITIALS

1. TYPE	2. AIRCRAFT IDENTIFICATION	3. AIRCRAFT TYPE/ SPECIAL EQUIPMENT	4. TRUE AIRSPEED	5. DEPARTURE POINT	6. DEPARTURE TIME		7. CRUISING ALTITUDE
					PROPOSED (Z)	ACTUAL (Z)	
☐ VFR			KTS				
☐ IFR							
☐ DVFR							

8. ROUTE OF FLIGHT

9. DESTINATION (Name of airport and city)	10. EST. TIME ENROUTE HOURS	MINUTES	11. REMARKS

12. FUEL ON BOARD HOURS	MINUTES	13. ALTERNATE AIRPORT(S)	14. PILOT'S NAME, ADDRESS & TELEPHONE NUMBER & AIRCRAFT HOME BASE	15. NUMBER ABOARD
			17. DESTINATION CONTACT/TELEPHONE (OPTIONAL)	

16. COLOR OF AIRCRAFT

CIVIL AIRCRAFT PILOTS, FAR 91 requires you file an IFR flight plan to operate under instrument flight rules in controlled airspace. Failure to file could result in a civil penalty not to exceed $1,000 for each violation (Section 901 of the Federal Aviation Act of 1958, as amended). Filing of a VFR flight plan is recommended as a good operating practice. See also Part 99 for requirements concerning DVFR flight plans.

FAA Form 7233-1 (8-82) CLOSE VFR FLIGHT PLAN WITH _____ FSS ON ARRIVAL

TBL ENR 1.10−2

Aircraft Suffixes

Suffix	Equipment Capability
	NO DME
/X	No transponder
/T	Transponder with no Mode C
/U	Transponder with Mode C
	DME
/D	No transponder
/B	Transponder with no Mode C
/A	Transponder with Mode C
	TACAN ONLY
/M	No transponder
/N	Transponder with no Mode C
/P	Transponder with Mode C
	AREA NAVIGATION (RNAV)
/Y	VOR/DME, or INS with no transponder
/C	VOR/DME, or INS, transponder with no Mode C
/I	VOR/DME, or INS, transponder with Mode C
	ADVANCED RNAV WITH TRANSPONDER AND MODE C (If an aircraft is unable to operate with a transponder and/or Mode C, it will revert to the appropriate code listed above under Area Navigation.)
/E	Flight Management System (FMS) with DME/DME and IRU position updating
/F	FMS with DME/DME position updating
/G	Global Navigation Satellite System (GNSS), including GPS or Wide Area Augmentation System (WAAS), with en route and terminal capability.
/R	Required Navigational Performance (RNP). The aircraft meets the RNP type prescribed for the route segment(s), route(s) and/or area concerned.
	Reduced Vertical Separation Minimum (RVSM). Prior to conducting RVSM operations within the U.S., the operator must obtain authorization from the FAA or from the responsible authority, as appropriate.
/J	/E with RVSM
/K	/F with RVSM
/L	/G with RVSM
/Q	/R with RVSM
/W	RVSM

4.3 Operational Information System (OIS)

4.3.1 The FAA's Air Traffic Control System Command Center (ATCSCC) maintains a web site with near real−time National Airspace System (NAS) status information. NAS operators are encouraged to access the web site at **www.fly.faa.gov** prior to filing their flight plan.

4.3.2 The web site consolidates information from advisories. An advisory is a message that is disseminated electronically by the ATCSCC that contains information pertinent to the NAS.

4.3.2.1 Advisories are normally issued for the following items:

a) Ground Stops.

b) Ground Delay Programs.

c) Route Information.

d) Plan of Operations.

e) Facility Outages and Scheduled Facility Outages.

f) Volcanic Ash Activity Bulletins.

g) Special Traffic Management Programs.

4.3.2.2 This list is not all−inclusive. Any time there is information that may be beneficial to a large number of people, an advisory may be sent. Additionally, there may be times when an advisory is not sent due to workload or the short length of time of the activity.

4.3.2.3 Route information is available on the web site and in specific advisories. Some route information, subject to the 56−day publishing cycle, is located on the "OIS" under "Products," Route Management Tool (RMT), and "What's New" Playbook. The RMT and Playbook contain routings for use by Air Traffic and NAS operators when they are coordinated "real−time" and are then published in an ATCSCC advisory.

4.3.2.4 Route advisories are identified by the word "Route" in the header; the associated action is required (RQD), recommended (RMD), planned (PLN), or for your information (FYI). Operators are expected to file flight plans consistent with the Route RQD advisories.

4.3.2.5 Electronic System Impact Reports are on the intranet at http://www.atcscc.faa.gov/ois/ under "System Impact Reports." This page lists scheduled outages/events/projects that significantly impact the NAS; for example, runway closures, air shows, and construction projects. Information includes anticipated delays and traffic management initiatives (TMI) that may be implemented.

4.4 Flight Plan−Defense VFR (DVFR) Flights

4.4.1 VFR flights into a Coastal or Domestic ADIZ/DEWIZ are required to file DVFR flight plans for security purposes. Detailed ADIZ procedures are found in , paragraph 1., ENR 1.12.

REFERENCE−
14 CFR Part 99.

5. Flight Plan−IFR Flights

5.1 General

5.1.1 Prior to departure from within, or prior to entering Class A, B, C, D, and E airspace, a pilot must submit a complete flight plan and receive an air traffic clearance if weather conditions are below VFR minimums. Instrument flight plans may be submitted to the nearest flight service station or the airport traffic control tower either in person or by telephone (or by radio if no other means are available). Pilots should file IFR flight plans at least 30 minutes prior to estimated time of departure to preclude possible delay in receiving a departure clearance from ATC. To minimize your delay in entering a Class B, C, D, or E surface area at destination when IFR weather conditions exist or are forecast at the airport, an IFR flight plan should be filed before departure. Otherwise, a 30−minute delay is not unusual in receiving an ATC clearance because of time spent in processing flight plan data. Traffic saturation frequently prevents control personnel from accepting flight plans by radio. In such cases the pilot is advised to contact the nearest flight service station for the purpose of filing the flight plan.

NOTE−
1. *There are several methods of obtaining IFR clearance at nontower, non−Flight Service Stations and outlying airports. The procedure may vary due to geographical features, weather conditions, and the complexity of the ATC system. To determine the most effective means of receiving an IFR clearance, pilots should ask the nearest Flight Service Station for the most appropriate means of obtaining the IFR clearance.*

2. *When requesting an IFR clearance, it is highly recommended that the departure airport be identified by stating the city name and state and/or the airport location*

the capability to provide radar monitoring and compatibility with traffic volume and flow. ATC will radar monitor each flight; however, navigation on the random RNAV route is the responsibility of the pilot.

5.4.2 Pilots of aircraft equipped with approved area navigation equipment may file for RNAV routes throughout the National Airspace System and may be filed for in accordance with the following procedures.

5.4.2.1 File airport to airport flight plans.

5.4.2.2 File the appropriate RNAV capability certification suffix in the flight plan.

5.4.2.3 Plan the random route portion of the flight plan to begin and end over appropriate arrival and departure transition fixes or appropriate navigation aids for the altitude stratum within which the flight will be conducted. The use of normal preferred departure and arrival routes (DP/STAR), where established, is recommended.

5.4.2.4 File route structure transitions to and from the random route portion of the flight.

5.4.2.5 Define random routes by waypoints. File route description waypoints by using degree–distance fixes based on navigational aids which are appropriate for the altitude stratum.

5.4.2.6 File a minimum of one route description waypoint for each ARTCC through whose area the random route will be flown. These waypoints must be located within 200 NM of the preceding center's boundary.

5.4.2.7 File an additional route description waypoint for each turnpoint in the route.

5.4.2.8 Plan additional route description waypoints as required to ensure accurate navigation via the filed route of flight. Navigation is the pilot's responsibility unless ATC assistance is requested.

5.4.2.9 Plan the route of flight so as to avoid Prohibited and Restricted Airspace by 3 NM unless permission has been obtained to operate in that airspace and the appropriate ATC facilities are advised.

NOTE−
To be approved for use in the National Airspace System, RNAV equipment must meet the appropriate system availability, accuracy, and airworthiness standards. For additional guidance on equipment requirements see AC 20−130, Airworthiness Approval of Vertical Navigation (VNAV) Systems for use in the U.S. NAS and Alaska, or AC 20−138, Airworthiness Approval of Global Positioning System (GPS) Navigation Equipment for Use as a VFR and IFR Supplemental Navigation System. For airborne navigation database, see AC 90−94, Guidelines for Using GPS Equipment for IFR En Route and Terminal Operations and for Nonprecision Instrument Approaches in the U.S. National Airspace System, Section 2.

5.4.3 Pilots of aircraft equipped with latitude/longitude coordinate navigation capability independent of VOR/TACAN references may file for random RNAV routes at and above FL 390 within the conterminous U.S. using the following procedures:

5.4.3.1 File airport−to−airport flight plans prior to departure.

5.4.3.2 File the appropriate RNAV capability certification suffix in the flight plan.

5.4.3.3 Plan the random route portion of the flight to begin and end over published departure/arrival transition fixes or appropriate navigation aids for airports without published transition procedures. The use of preferred departure and arrival routes, such as DP and STAR where established, is recommended.

5.4.3.4 Plan the route of fight so as to avoid prohibited and restricted airspace by 3 NM unless permission has been obtained to operate in that airspace and the appropriate ATC facility is advised.

5.4.3.5 Define the route of flight after the departure fix, including each intermediate fix (turnpoint) and the arrival fix for the destination airport in terms of latitude/longitude coordinates plotted to the nearest minute or in terms of Navigation Reference System (NRS) waypoints. For latitude/longitude filing the arrival fix must be identified by both the latitude/longitude coordinates and a fix identifier.

EXAMPLE−
MIA[1] SRQ[2] 3407/10615[3] 3407/11546 TNP[4] LAX[5]

[1] Departure Airport
[2] Departure Fix
[3] Intermediate Fix (Turning Point)
[4] Arrival Fix
[5] Destination Airport
or

ORD[1] IOW[2] KP49G[3] KD34U[4] KL16O[5] OAL[6] MOD2[7] SFO[8]

[1] Departure airport.
[2] Transition fix (pitch point).
[3] Minneapolis ARTCC waypoint.
[4] Denver ARTCC Waypoint.
[5] Los Angeles ARTCC waypoint (catch point).
[6] Transition fix.
[7] Arrival.
[8] Destination airport.

5.4.3.6 Record latitude/longitude coordinates by four figures describing latitude in degrees and minutes followed by a solidus and five figures describing longitude in degrees and minutes.

5.4.3.7 File at FL 390 or above for the random RNAV portion of the flight.

5.4.3.8 Fly all routes/route segments on Great Circle tracks.

5.4.3.9 Make any in−flight requests for random RNAV clearances or route amendments to an en route ATC facility.

5.5 Flight Plan Form (See FIG ENR 1.10−1.)

5.5.1 Explanation of IFR Flight Plan Items.

5.5.1.1 Block 1. Check the type flight plan. Check both the VFR and IFR blocks if composite VFR/IFR.

5.5.1.2 Block 2. Enter your complete aircraft identification including the prefix "N" if applicable.

5.5.1.3 Block 3. Enter the designator for the aircraft, followed by a slant (/) and the transponder or DME equipment code letter; e.g., C−182/U. Heavy aircraft, add prefix "H" to aircraft type; example, H/DC10/R. Consult an FSS briefer for any unknown elements.

5.5.1.4 Block 4. Enter your computed true airspeed (TAS).

NOTE−
If the average TAS changes plus or minus 5 percent or 10 knots, whichever is greater, advise ATC.

5.5.1.5 Block 5. Enter the departure airport identifier code (or the airport name, city and state, if the identifier is unknown).

NOTE−
Use of identifier codes will expedite the processing of your flight plan.

5.5.1.6 Block 6. Enter the proposed departure time in Coordinated Universal Time (UTC) (Z). If airborne, specify the actual or proposed departure time as appropriate.

5.5.1.7 Block 7. Enter the requested en route altitude or flight level.

NOTE−
Enter only the initial requested altitude in this block. When more than one IFR altitude or flight level is desired along the route of flight, it is best to make a subsequent request direct to the controller.

5.5.1.8 Block 8. Define the route of flight by using NAVAID identifier codes (or names if the code is unknown), airways, jet routes, and waypoints (for RNAV).

NOTE−
Use NAVAIDs or waypoints to define direct routes and radials/bearing to define other unpublished routes.

5.5.1.9 Block 9. Enter the destination airport identifier code (or name if identifier is unknown).

5.5.1.10 Block 10. Enter your estimated time en route based on latest forecast winds.

5.5.1.11 Block 11. Enter only those remarks pertinent to ATC or to the clarification of other flight plan information such as the appropriate radiotelephony (call sign) associated with the FAA-assigned three-letter company designator filed in Block 2, if the radiotelephony is new or has changed within the last 60 days. In cases where there is no three-letter designator but only an assigned radiotelephony, or an assigned three-letter designator is used in a medical emergency, the radiotelephony must be included in the remarks field. Items of a personal nature are not accepted.

NOTE−
1. *The pilot is responsible for knowing when it is appropriate to file the radiotelephony in remarks under the 60-day rule or when using FAA special radiotelephony assignments.*

2. *"DVRSN" should be placed in Block 11 only if the pilot/company is requesting priority handling to their original destination from ATC as a result of a diversion as defined in the Pilot/Controller Glossary.*

3. *Do not assume that remarks will be automatically transmitted to every controller. Specific ATC or en route requests should be made directly to the appropriate controller.*

5.5.1.12 Block 12. Specify the fuel on board, computed from the departure point.

5.5.1.13 Block 13. Specify an alternate airport if desired or required, but do not include routing to the alternate airport.

5.5.1.14 Block 14. Enter the complete name, address, and telephone number of pilot−in−command or, in the case of a formation flight, the formation commander. Enter sufficient information to identify home base, airport, or operator.

NOTE−
This information would be essential in the event of a search and rescue operation.

5.5.1.15 Block 15. Enter the total number of persons on board including crew.

5.5.1.16 Block 16. Enter the predominant colors.

NOTE−
Close IFR flight plans with tower, approach control, ARTCCs, or if unable, with FSS. When landing at an airport with a functioning control tower, IFR flight plans are automatically canceled.

5.5.2 The information transmitted to the ARTCC for IFR Flight Plans will consist of only flight plan blocks 2, 3, 4, 5, 6, 7, 8, 9, 10, and 11.

5.5.3 A description of the International Flight Plan Form is contained in the International Flight Information Manual (IFIM).

6. IFR Operations to High Altitude Destinations

6.1 Pilots planning IFR flights to airports located in mountainous terrain are cautioned to consider the necessity for an alternate airport even when the forecast weather conditions would technically relieve them from the requirement to file one.

6.2 The FAA has identified three possible situations where the failure to plan for an alternate airport when flying IFR to such destination airport could result in a critical situation if the weather is less than forecast and sufficient fuel is not available to proceed to a suitable airport.

6.2.1 An IFR flight to an airport where the Minimum Descent Altitudes (MDAs) or landing visibility minimums for *all instrument approaches* are higher than the forecast weather minimums specified in 14 CFR Section 91.167(b). For example, there are 3 high altitude airports in the U.S. with approved instrument approach procedures where all of the MDAs are greater than 2,000 feet and/or the landing visibility minimums are greater than 3 miles (Bishop, California; South Lake Tahoe, California; and Aspen−Pitkin Co/Sardy Field, Colorado). In the case of these airports, it is possible for a pilot to elect, on the basis of forecasts, not to carry sufficient fuel to get to an alternate when the ceiling and/or visibility is actually lower than that necessary to complete the approach.

6.2.2 A small number of other airports in mountainous terrain have MDAs which are slightly (100 to 300 feet) below 2,000 feet AGL. In situations where there is an option as to whether to plan for an alternate, pilots should bear in mind that just a slight worsening of the weather conditions from those forecast could place the airport below the published IFR landing minimums.

6.2.3 An IFR flight to an airport which requires special equipment; i.e., DME, glide slope, etc., in order to make the available approaches to the lowest minimums. Pilots should be aware that all other minimums on the approach charts may require weather conditions better than those specified in 14 CFR Section 91.167(b). An inflight equipment malfunction could result in the inability to comply with the published approach procedures or, again, in the position of having the airport below the published IFR landing minimums for all remaining instrument approach alternatives.

7. Composite Flight Plan (VFR/IFR Flights)

7.1 Flight plans which specify VFR operation for one portion of a flight, and IFR for another portion, will be accepted by the FSS at the point of departure. If VFR flight is conducted for the first portion of the flight, the pilot should report his/her departure time to the FSS with which he/she filed his/her VFR/IFR flight plan; and, subsequently, close the VFR portion and request ATC clearance from the FSS nearest the point at which change from VFR to IFR is proposed. Regardless of the type facility you are communicating with (FSS, center, or tower), it is the pilot's responsibility to request that facility to "CLOSE VFR FLIGHT PLAN." The pilot must remain in VFR weather conditions until operating in accordance with the IFR clearance.

7.2 When a flight plan indicates IFR for the first portion of flight and VFR for the latter portion, the pilot will normally be cleared to the point at which the change is proposed. Once the pilot has reported over

the clearance limit and does not desire further IFR clearance, he/she should advise air traffic control to cancel the IFR portion of his/her flight plan. Then, he/she should contact the nearest FSS to activate the VFR portion of his/her flight plan. If the pilot desires to continue his/her IFR flight plan beyond the clearance limit, he/she should contact air traffic control at least five minutes prior to the clearance limit and request further IFR clearance. If the requested clearance is not received prior to reaching the clearance limit fix, the pilot will be expected to establish himself/herself in a standard holding pattern on the radial/course to the fix unless a holding pattern for the clearance limit fix is depicted on a U.S. Government or commercially produced (meeting FAA requirements) Low/High Altitude En Route, Area, or STAR chart. In this case the pilot will hold according to the depicted pattern.

8. Initiating a Change to Flight Plans on File

8.1 Changes to proposed flight plans should be initiated through the FSS with which the flight plan was originally filed. If this is not possible, initiate changes through the nearest FSS or ATC facility. All changes should be initiated at least 30 minutes prior to departure to insure that the change can be effected prior to the ATC clearance delivery.

9. Change in Proposed Departure Time

9.1 To prevent computer saturation in the en route environment, parameters have been established to delete proposed departure flight plans which have not been activated. Most centers have this parameter set so as to delete these flight plans a minimum of 1 hour after the proposed departure time. To ensure that a flight plan remains active, pilots whose actual departure time will be delayed 1 hour or more beyond their filed departure time, are requested to notify ATC of their departure time.

9.2 Due to traffic saturation, control personnel frequently will be unable to accept these revisions via radio. It is recommended that you forward these revisions to the nearest FSS.

10. Other Changes

10.1 In addition to altitude/flight level, destination, and/or route changes, increasing or decreasing the speed of an aircraft constitutes a change in a flight plan. Therefore, at any time the average true airspeed at cruising altitude between reporting points varies or is expected to vary from that given in the flight plan by plus or minus 5 percent, or 10 knots, whichever is greater, air traffic control should be advised.

11. Canceling Flight Plans

11.1 Closing VFR and DVFR Flight Plans

11.1.1 A pilot is responsible for ensuring that his/her VFR or DVFR flight plan is canceled. You should close your flight plan with the nearest FSS, or if one is not available, you may request any ATC facility to relay your cancellation to the FSS. Control towers do not automatically close VFR or DVFR flight plans as they may not be aware that a particular VFR aircraft is on a flight plan. If you fail to report or cancel your flight plan within $^1/_2$ hour after your ETA, search and rescue procedures are started.

11.2 Canceling IFR Flight Plan

11.2.1 14 CFR Section 91.153 includes the statement "When a flight plan has been activated, the pilot in command, upon canceling or completing the flight under the flight plan, must notify an FAA Flight Service Station or ATC facility."

11.2.2 An IFR flight plan may be canceled at any time the flight is operating in VFR conditions outside Class A airspace by the pilot stating "CANCEL MY IFR FLIGHT PLAN" to the controller or air/ground station with which he/she is communicating. Immediately after canceling an IFR flight plan, a pilot should take necessary action to change to the appropriate air/ground frequency, VFR radar beacon code, and VFR altitude or flight level.

11.2.3 ATC separation and information services will be discontinued, including radar services (where applicable). Consequently, if the canceling flight desires VFR radar advisory service, the pilot must specifically request it.

NOTE−
Pilots must be aware that other procedures may be applicable to a flight that cancels an IFR flight plan within an area where a special program, such as a designated terminal radar service area, Class C airspace or Class B airspace, has been established.

11.2.4 If a DVFR flight plan requirement exists, the pilot is responsible for filing this flight plan to replace the canceled IFR flight plan. If a subsequent IFR

operation becomes necessary, a new IFR flight plan must be filed and an ATC clearance obtained before operating in IFR conditions.

11.2.5 If operating on an IFR flight plan to an airport with a functioning control tower, the flight plan is automatically closed upon landing.

11.2.6 If operating on an IFR flight plan to an airport where there is no functioning control tower, the pilot must initiate cancellation of the IFR flight plan. This can be done after landing if there is a functioning FSS or other means of direct communications with ATC. In the event there is no FSS and air/ground communications with ATC is not possible below a certain altitude, the pilot would, weather conditions permitting, cancel his/her IFR flight plan while still airborne and able to communicate with ATC by radio. This will not only save the time and expense of canceling the flight plan by telephone but will quickly release the airspace for use by other aircraft.

11.3 RNAV and RNP Operations

11.3.1 During the pre−flight planning phase the availability of the navigation infrastructure required for the intended operation, including any non−RNAV contingencies, must be confirmed for the period of intended operation. Availability of the onboard navigation equipment necessary for the route to be flown must be confirmed.

11.3.2 If a pilot determines a specified RNP level cannot be achieved, revise the route or delay the operation until appropriate RNP level can be ensured.

11.3.3 The onboard navigation database must be current and appropriate for the region of intended operation and must include the navigation aids, waypoints, and coded terminal airspace procedures for the departure, arrival and alternate airfields.

11.3.4 During system initialization, pilots of aircraft equipped with a Flight Management System or other RNAV−certified system, must confirm that the navigation database is current, and verify that the aircraft position has been entered correctly. Flight crews should crosscheck the cleared flight plan against charts or other applicable resources, as well as the navigation system textual display and the aircraft map display. This process includes confirmation of the waypoints sequence, reasonableness of track angles and distances, any altitude or speed constraints, and identification of fly−by or fly−over waypoints. A procedure must not be used if validity of the navigation database is in doubt.

11.3.5 Prior to commencing takeoff, the flight crew must verify that the RNAV system is operating correctly and the correct airport and runway data have been loaded.

11.3.6 During the pre−flight planning phase RAIM prediction must be performed if TSO−C129() equipment is used to solely satisfy the RNAV and RNP requirement. GPS RAIM availability must be confirmed for the intended route of flight (route and time) using current GPS satellite information. In the event of a predicted, continuous loss of RAIM of more than five (5) minutes for any part of the intended flight, the flight should be delayed, canceled, or re−routed where RAIM requirements can be met. Operators may satisfy the predictive RAIM requirement through any one of the following methods:

11.3.6.1 Operators may monitor the status of each satellite in its plane/slot position, by accounting for the latest GPS constellation status (e.g., NOTAMs or NANUs), and compute RAIM availability using model−specific RAIM prediction software;

11.3.6.2 Operators may use the FAA en route and terminal RAIM prediction website: www.raimprediction.net;

11.3.6.3 Operators may contact a Flight Service Station (not DUATS) to obtain non−precision approach RAIM;

11.3.6.4 Operators may use a third party interface, incorporating FAA/VOLPE RAIM prediction data without altering performance values, to predict RAIM outages for the aircraft's predicted flight path and times;

11.3.6.5 Operators may use the receiver's installed RAIM prediction capability (for TSO−C129a/Class A1/B1/C1 equipment) to provide non−precision approach RAIM, accounting for the latest GPS constellation status (e.g., NOTAMs or NANUs). Receiver non−precision approach RAIM should be checked at airports spaced at intervals not to exceed 60 NM along the RNAV 1 procedure's flight track. "Terminal" or "Approach" RAIM must be available at the ETA over each airport checked; or,

11.3.6.6 Operators not using model−specific software or FAA/VOLPE RAIM data will need FAA operational approval.

NOTE−
If TSO−C145/C146 equipment is used to satisfy the RNAV and RNP requirement, the pilot/operator need not perform the prediction if WAAS coverage is confirmed to be available along the entire route of flight. Outside the U.S. or in areas where WAAS coverage is not available, operators using TSO−C145/C146 receivers are required to check GPS RAIM availability.

12. International Flight Plan (FAA Form 7233−4) − IFR Flights (For Domestic or International Flights)

12.1 FAA Form 7233−4, also known as the International Civil Aviation Organization (ICAO) FPL (Filed Flight Plan), is recommended for domestic IFR flights, and is mandatory for all IFR flights that will depart U.S. domestic airspace.

12.2 ICAO flight plans are to be filed according to ICAO Doc 4444, Procedures for Air Navigation Services — Air Traffic Management (PANS−ATM).

12.3 ICAO flight plans are required whenever the flight intends to cross an international boundary or an oceanic CTA/FIR boundary. For flights departing U.S. airports and operating over U.S. domestic airspace and/or offshore control areas, but do not penetrate the oceanic CTA/FIR boundary or borders, a U.S. domestic flight plan can be filed, but an **ICAO is always preferred.**

12.4 If the pilot intends to fly an RNAV arrival and/or departure, then an ICAO FPL must be filed using the qualifier "Z" in addition to the RNAV capabilities in Item 18. Operators should file their maximum capabilities in order to qualify for the most advanced procedures.

12.5 The pilot must file in accordance with (IAW) FAA Form 7233−4 for automatic assignment of RNAV Standard Instrument Departures (SIDs), Standard Terminal Arrival Routes (STARs), and/or Point to Point (PTP) in U.S. domestic airspace and include additional information per the below guidance:

12.5.1 If you are RNAV 1 and/or RNAV 2 capable:

12.5.1.1 Item 10, Equipment
In addition to identifying all available and serviceable communication, navigation, approach aid, and surveillance equipment carried on your aircraft, **insert the character "Z"**.

12.5.1.2 Item 18, Other Information
Insert "NAV/RNV" followed by the appropriate RNAV accuracy value(s) per the following: To be assigned an RNAV 1 SID, **insert the characters "D1"**. To be assigned an RNAV 1 STAR, **insert the characters "A1"**. To be assigned en route extensions and/or RNAV PTP, **insert the characters "E2"**. To prevent assignment of an RNAV route or procedure, insert a numeric value of "0" for the segment of the flight. Alternatively, you may simply remove the segment of the flight indicator and numeric value from the character string.

EXAMPLE−
1. *NAV/RNVD1 or NAV/RNVD1E0A0 (Same meaning)*

2. *NAV/RNVA1 or NAV/RNVD0E0A1 (Same meaning)*

3. *NAV/RNVE2 or NAV/RNVD0E2A0 (Same meaning)*

4. *NAV/RNVD1A1 or NAV/RNVD1E0A1 (Same meaning),*

5. *NAV/RNVD1E2A1.*

12.5.2 If you are RNAV PTP capable, but <u>not</u> RNAV 1 and/or RNAV 2 capable:

12.5.2.1 Item 10, Equipment
In addition to identifying all available and serviceable communication, navigation, approach aid, and surveillance equipment carried on your aircraft, **insert the character "Z"**.

12.5.2.2 Item 18, Other Information
Insert "RMK/PTP" and **"NAV/RNVE99"**.

EXAMPLE−
RMK/PTP NAV/RNVE99

12.5.2.3 The following variations will be accepted in ERAS for automatic assignment of RNAV routes: One or more spaces may follow "NAV/."

EXAMPLE−
NAV/ RNVD1A1. The "D", "E", and "A" characters may appear in any order following "NAV/RNV".

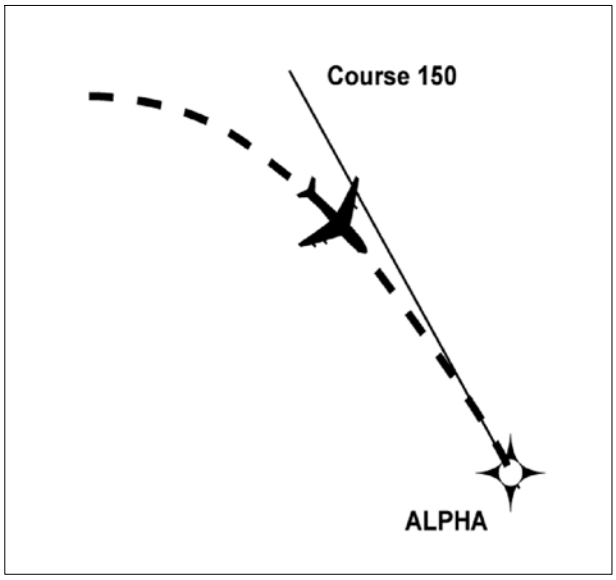
EXAMPLE−
NAV/RNVD1A1E2 NAV/RNVA1D1E2.

Additional items required by other automation systems may be filed after "NAV/" in any order.

EXAMPLE−
NAV/RNP10 RNVD1E2A1, NAV/RNVD1E2A1 RNP4 NAV/RNAV1 RNAV5 RNVD1E2A1.

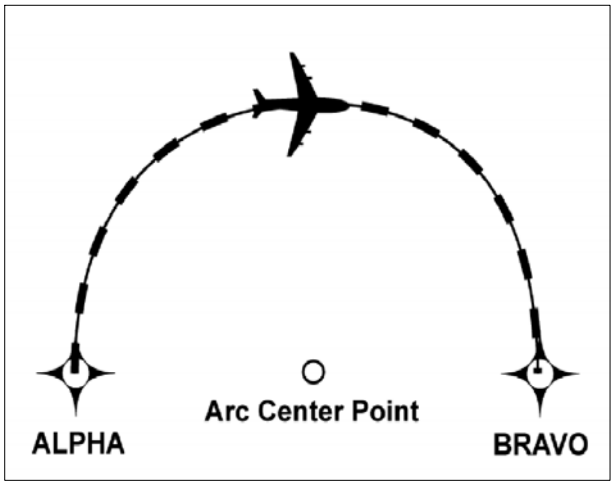
1.4.2.3 Course to Fix. A Course to Fix (CF) leg is a path that terminates at a fix with a specified course at that fix. *Narrative: "on course 078 to PRIMY WP."* See FIG ENR 1.19−4.

FIG ENR 1.19−4
Course to Fix Leg Type



1.4.2.4 Radius to Fix. A Radius to Fix (RF) leg is defined as a constant radius circular path around a defined turn center that terminates at a fix.
See FIG ENR 1.19−5.

FIG ENR 1.19−5
Radius to Fix Leg Type



1.4.2.5 Heading. A Heading leg may be defined as, but not limited to, a Heading to Altitude (VA), Heading to DME range (VD), and Heading to Manual Termination, i.e., Vector (VM). ***Narrative:*** *"climb heading 350 to 1500", "heading 265, at 9 DME west of PXR VORTAC, right turn heading 360", "fly heading 090, expect radar vectors to DRYHT INT."*

1.4.3 Navigation Issues. Pilots should be aware of their navigation system inputs, alerts, and annunciations in order to make better−informed decisions. In addition, the availability and suitability of particular sensors/systems should be considered.

1.4.3.1 GPS. Operators using TSO−C129 systems should ensure departure and arrival airports are entered to ensure proper RAIM availability and CDI sensitivity.

1.4.3.2 DME/DME. Operators should be aware that DME/DME position updating is dependent on FMS logic and DME facility proximity, availability, geometry, and signal masking.

1.4.3.3 VOR/DME. Unique VOR characteristics may result in less accurate values from VOR/DME position updating than from GPS or DME/DME position updating.

1.4.3.4 Inertial Navigation. Inertial reference units and inertial navigation systems are often coupled with other types of navigation inputs, e.g., DME/DME or GPS, to improve overall navigation system performance.

NOTE−
Specific inertial position updating requirements may apply.

1.4.4 Flight Management System (FMS). An FMS is an integrated suite of sensors, receivers, and computers, coupled with a navigation database. These systems generally provide performance and RNAV guidance to displays and automatic flight control systems.

1.4.4.1 Inputs can be accepted from multiple sources such as GPS, DME, VOR, LOC and IRU. These inputs may be applied to a navigation solution one at a time or in combination. Some FMSs provide for the detection and isolation of faulty navigation information.

1.4.4.2 When appropriate navigation signals are available, FMSs will normally rely on GPS and/or DME/DME (that is, the use of distance information from two or more DME stations) for position updates. Other inputs may also be incorporated based on FMS system architecture and navigation source geometry.

NOTE−
DME/DME inputs coupled with one or more IRU(s) are often abbreviated as DME/DME/IRU or D/D/I.

2. Required Navigation Performance (RNP)

2.1 General. RNP is RNAV with on−board navigation monitoring and alerting, RNP is also a statement of navigation performance necessary for operation within a defined airspace. A critical component of RNP is the *ability of the aircraft navigation system to monitor its achieved navigation performance, and to identify for the pilot whether the operational requirement is, or is not being met during an operation*. This on−board performance monitoring and alerting capability therefore allows a lessened reliance on air traffic control intervention (via radar monitoring, automatic dependent surveillance (ADS), multilateration, communications), and/or route separation to achieve the overall safety of the operation. RNP capability of the aircraft is a major component in determining the separation criteria to ensure that the overall containment of the operation is met.

The RNP capability of an aircraft will vary depending upon the aircraft equipment and the navigation infrastructure. For example, an aircraft may be equipped and certified for RNP 1.0, but may not be capable of RNP 1.0 operations due to limited navaid coverage.

2.2 RNP Operations

2.2.1 RNP Levels. An RNP "level" or "type" is applicable to a selected airspace, route, or procedure. As defined in the Pilot/Controller Glossary, the RNP Level or Type is a value typically expressed as a distance in nautical miles from the intended centerline of a procedure, route, or path. RNP applications also account for potential errors at some multiple of RNP level (e.g., twice the RNP level).

2.2.1.1 Standard RNP Levels. U.S. standard values supporting typical RNP airspace are as specified in TBL ENR 1.19−1 below. Other RNP levels as identified by ICAO, other states and the FAA may also be used.

2.2.1.2 Application of Standard RNP Levels. U.S. standard levels of RNP typically used for various routes and procedures supporting RNAV operations may be based on use of a specific navigational system or sensor such as GPS, or on multi−sensor RNAV systems having suitable performance.

2.2.1.3 Depiction of Standard RNP Levels. The applicable RNP level will be depicted on affected charts and procedures.

TBL ENR 1.19−1
U.S. Standard RNP Levels

RNP Level	Typical Application	Primary Route Width (NM) – Centerline to Boundary
0.1 to 1.0	RNP AR Approach Segments	0.1 to 1.0
0.3 to 1.0	RNP Approach Segments	0.3 to 1.0
1	Terminal and En Route	1.0
2	En Route	2.0

NOTE−
1. *The "performance" of navigation in RNP refers not only to the level of accuracy of a particular sensor or aircraft navigation system, but also to the degree of precision with which the aircraft will be flown.*

2. *Specific required flight procedures may vary for different RNP levels.*

TBL ENR 1.19–2
RNP Levels Supported for International Operations

RNP Level	Typical Application
4	Projected for oceanic/remote areas where 30 NM horizontal separation is applied
10	Oceanic/remote areas where 50 NM lateral separation is applied

2.3 Other RNP Applications Outside the U.S. The FAA and ICAO member states have led initiatives in implementing the RNP concept to oceanic operations. For example, RNP–10 routes have been established in the northern Pacific (NOPAC) which has increased capacity and efficiency by reducing the distance between tracks to 50 NM.
(See TBL ENR 1.19–2.)

2.4 Aircraft and Airborne Equipment Eligibility for RNP Operations. Aircraft meeting RNP criteria will have an appropriate entry including special conditions and limitations in its Aircraft Flight Manual (AFM), or supplement. Operators of aircraft not having specific AFM–RNP certification may be issued operational approval including special conditions and limitations for specific RNP levels.

NOTE–
Some airborne systems use Estimated Position Uncertainty (EPU) as a measure of the current estimated navigational performance. EPU may also be referred to as Actual Navigation Performance (ANP) or Estimated Position Error (EPE).

3. Use of Suitable Area Navigation (RNAV) Systems on Conventional Procedures and Routes

3.1 Discussion. This paragraph sets forth policy, while providing operational and airworthiness guidance regarding the suitability and use of RNAV systems when operating on, or transitioning to, conventional, non–RNAV routes and procedures within the U.S. National Airspace System (NAS):

3.1.1 Use of a suitable RNAV system as a Substitute Means of Navigation when a Very–High Frequency (VHF) Omni–directional Range (VOR), Distance Measuring Equipment (DME), Tactical Air Navigation (TACAN), VOR/TACAN (VORTAC), VOR/DME, Non–directional Beacon (NDB), or compass locator facility including locator outer marker and locator middle marker is out–of–service (that is, the navigation aid (NAVAID) information is not available); an aircraft is not equipped with an Automatic Direction Finder (ADF) or DME; or the installed ADF or DME on an aircraft is not operational. For example, if equipped with a suitable RNAV system, a pilot may hold over an out–of–service NDB.

3.1.2 Use of a suitable RNAV system as an Alternate Means of Navigation when a VOR, DME, VORTAC, VOR/DME, TACAN, NDB, or compass locator facility including locator outer marker and locator middle marker is operational and the respective aircraft is equipped with operational navigation equipment that is compatible with conventional navaids. For example, if equipped with a suitable RNAV system, a pilot may fly a procedure or route based on operational VOR using that RNAV system without monitoring the VOR.

NOTE–
1. *Additional information and associated requirements are available in Advisory Circular 90-108 titled "Use of Suitable RNAV Systems on Conventional Routes and Procedures."*

2. *Good planning and knowledge of your RNAV system are critical for safe and successful operations.*

3. *Pilots planning to use their RNAV system as a substitute means of navigation guidance in lieu of an out–of–service NAVAID may need to advise ATC of this intent and capability.*

4. *The navigation database should be current for the duration of the flight. If the AIRAC cycle will change during flight, operators and pilots should establish procedures to ensure the accuracy of navigation data, including suitability of navigation facilities used to define the routes and procedures for flight. To facilitate validating database currency, the FAA has developed procedures for publishing the amendment date that instrument approach procedures were last revised. The amendment date follows the amendment number; for example, Amdt 4 14Jan10. Currency of graphic departure procedures and STARs may be ascertained by the numerical designation in the procedure title. If an amended chart is published for the procedure, or the procedure amendment date shown on the chart is on or after the expiration date of the database, the*

operator must not use the database to conduct the operation.

3.2 Types of RNAV Systems that Qualify as a Suitable RNAV System. When installed in accordance with appropriate airworthiness installation requirements and operated in accordance with applicable operational guidance (e.g., aircraft flight manual and Advisory Circular material), the following systems qualify as a suitable RNAV system:

3.2.1 An RNAV system with TSO−C129/−C145/−C146 equipment, installed in accordance with AC 20−138, Airworthiness Approval of Global Positioning System (GPS) Navigation Equipment for Use as a VFR and IFR Supplemental Navigation System, or AC 20−130A, Airworthiness Approval of Navigation or Flight Management Systems Integrating Multiple Navigation Sensors, and authorized for instrument flight rules (IFR) en route and terminal operations (including those systems previously qualified for "GPS in lieu of ADF or DME" operations), or

3.2.2 An RNAV system with DME/DME/IRU inputs that is compliant with the equipment provisions of AC 90−100A, U.S. Terminal and En Route Area Navigation (RNAV) Operations, for RNAV routes. A table of compliant equipment is available at the following website:
http://www.faa.gov/about/office_org/headquarters_offices/avs/offices/afs/afs400/afs470/policy_guidance/

NOTE−
Approved RNAV systems using DME/DME/IRU, without GPS/WAAS position input, may only be used as a substitute means of navigation when specifically authorized by a Notice to Airmen (NOTAM) or other FAA guidance for a specific procedure. The NOTAM or other FAA guidance authorizing the use of DME/DME/IRU systems will also identify any required DME facilities based on an FAA assessment of the DME navigation infrastructure.

3.3 Uses of Suitable RNAV Systems. Subject to the operating requirements, operators may use a suitable RNAV system in the following ways.

3.3.1 Determine aircraft position relative to, or distance from a VOR (see NOTE 5 below), TACAN, NDB, compass locator, DME fix; or a named fix defined by a VOR radial, TACAN course, NDB bearing, or compass locator bearing intersecting a VOR or localizer course.

3.3.2 Navigate to or from a VOR, TACAN, NDB, or compass locator.

3.3.3 Hold over a VOR, TACAN, NDB, compass locator, or DME fix.

3.3.4 Fly an arc based upon DME.

NOTE−
1. *The allowances described in this section apply even when a facility is identified as required on a procedure (for example, "Note ADF required").*

2. *These operations do not include lateral navigation on localizer−basedcourses (including localizer back−course guidance) without reference to raw localizer data.*

3. *Unless otherwise specified, a suitable RNAV system cannot be used for navigation on procedures that are identified as not authorized ("NA") without exception by a NOTAM. For example, an operator may not use a RNAV system to navigate on a procedure affected by an expired or unsatisfactory flight inspection, or a procedure that is based upon a recently decommissioned NAVAID.*

4. *Pilots may not substitute for the NAVAID (for example, a VOR or NDB) providing lateral guidance for the final approach segment. This restriction does not refer to instrument approach procedures with "or GPS" in the title when using GPS or WAAS. These allowances do not apply to procedures that are identified as not authorized (NA) without exception by a NOTAM, as other conditions may still exist and result in a procedure not being available. For example, these allowances do not apply to a procedure associated with an expired or unsatisfactory flight inspection, or is based upon a recently decommissioned NAVAID.*

5. *For the purpose of paragraph 3.3.1, "VOR" includes VOR, VOR/DME, and VORTAC facilities and "compass locator" includes locator outer marker and locator middle marker.*

3.4 Alternate Airport Considerations. For the purposes of flight planning, any required alternate airport must have an available instrument approach procedure that does not require the use of GPS. This restriction includes conducting a conventional approach at the alternate airport using a substitute means of navigation that is based upon the use of GPS. For example, these restrictions would apply when planning to use GPS equipment as a substitute means of navigation for an out−of−service VOR that supports an ILS missed approach procedure at an alternate airport. In this case, some other approach not reliant upon the use of GPS must be available. This restriction does not apply to RNAV systems using TSO−C145/−C146 WAAS equipment. For further WAAS guidance see ENR 4.1 paragraph 19.

15.4.3 The DME/N or DME/P is an integral part of the MLS and is installed at all MLS facilities unless a waiver is obtained. This occurs infrequently and only at outlying, low density airports where marker beacons or compass locators are already in place.

15.5 Data Communications

15.5.1 The data transmission can include both the basic and auxiliary data words. All MLS facilities transmit basic data. Where needed, auxiliary data can be transmitted.

15.5.2 Coverage Limits. MLS data are transmitted throughout the azimuth (and back azimuth when provided) coverage sectors.

15.5.3 Basic Data Content. Representative data include:

15.5.3.1 Station identification.

15.5.3.2 Exact locations of azimuth, elevation and DME/P stations (for MLS receiver processing functions).

15.5.3.3 Ground equipment performance level.

15.5.3.4 DME/P channel and status.

15.5.4 Auxiliary Data Content. Representative data include:

15.5.4.1 3–D locations of MLS equipment.

15.5.4.2 Waypoint coordinates.

15.5.4.3 Runway conditions.

15.5.4.4 Weather (e.g., RVR, ceiling, altimeter setting, wind, wake vortex, wind shear).

15.6 Operational Flexibility. The MLS has the capability to fulfill a variety of needs in the approach, landing, missed approach, and departure phases of flight. For example:

15.6.1 Curved and segmented approaches.

15.6.2 Selectable glide path angles.

15.6.3 Accurate 3–D positioning of the aircraft in space.

15.6.4 The establishment of boundaries to ensure clearance from obstructions in the terminal area.

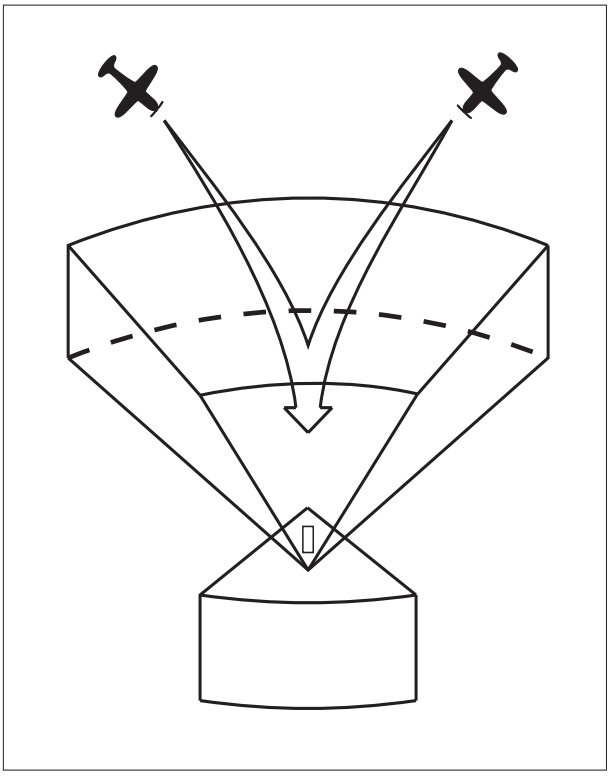
15.7 While many of these capabilities are available to any MLS–equipped aircraft, the more sophisticated capabilities (such as curved and segmented approaches) are dependent upon the particular capabilities of the airborne equipment.

15.8 Summary

15.8.1 Accuracy. The MLS provides precision, three–dimensional navigation guidance accurate enough for all approach and landing maneuvers.

15.8.2 Coverage. Accuracy is consistent throughout the coverage volumes shown in FIG ENR 4.1–5.

FIG ENR 4.1–5
Coverage Volumes
3–D Representation



15.8.3 Environment. The system has low susceptibility to interference from weather conditions and airport ground traffic.

15.8.4 Channels. MLS has 200 channels – enough for any foreseeable need.

15.8.5 Data. The MLS transmits ground–air data messages associated with system operation.

15.8.6 Range Information. Continuous range information is provided with an accuracy of about 100 feet.

16. LORAN

NOTE–
In accordance with the 2010 DHS Appropriations Act, the U.S. Coast Guard (USCG) terminated the transmission of all U.S. LORAN–C signals on 08 Feb 2010. The USCG also terminated the transmission of the Russian American signals on 01 Aug 2010, and the Canadian LORAN–C signals on 03 Aug 2010. For more information, visit ***http://www.navcen.uscg.gov****. Operators should also note that TSO–C60b, AIRBORNE AREA NAVIGATION EQUIPMENT USING LORAN–C INPUTS, has been canceled by the FAA.*

17. Inertial Reference Unit (IRU), Inertial Navigation System (INS), and Attitude Heading Reference System (AHRS)

17.1 IRUs are self–contained systems comprised of gyros and accelerometers that provide aircraft attitude (pitch, roll, and heading), position, and velocity information in response to signals resulting from inertial effects on system components. Once aligned with a known position, IRUs continuously calculate position and velocity. IRU position accuracy decays with time. This degradation is known as "drift."

17.2 INSs combine the components of an IRU with an internal navigation computer. By programming a series of waypoints, these systems will navigate along a predetermined track.

17.3 AHRSs are electronic devices that provide attitude information to aircraft systems such as weather radar and autopilot, but do not directly compute position information.

17.4 Aircraft equipped with slaved compass systems may be susceptible to heading errors caused by exposure to magnetic field disturbances (flux fields) found in materials that are commonly located on the surface or buried under taxiways and ramps. These materials generate a magnetic flux field that can be sensed by the aircraft's compass system flux detector or "gate", which can cause the aircraft's system to align with the material's magnetic field rather than the earth's natural magnetic field. The system's erroneous heading may not self-correct. Prior to take off pilots should be aware that a heading misalignment may have occurred during taxi. Pilots are encouraged to follow the manufacturer's or other appropriate procedures to correct possible heading misalignment before take off is commenced.

18. Global Positioning System (GPS)

18.1 System Overview

18.1.1 System Description. The Global Positioning System is a satellite–based radio navigation system, which broadcasts a signal that is used by receivers to determine precise position anywhere in the world. The receiver tracks multiple satellites and determines a pseudorange measurement that is then used to determine the user location. A minimum of four satellites is necessary to establish an accurate three–dimensional position. The Department of Defense (DOD) is responsible for operating the GPS satellite constellation and monitors the GPS satellites to ensure proper operation. Every satellite's orbital parameters (ephemeris data) are sent to each satellite for broadcast as part of the data message embedded in the GPS signal. The GPS coordinate system is the Cartesian earth–centered earth–fixed coordinates as specified in the World Geodetic System 1984 (WGS–84).

18.1.2 System Availability and Reliability

18.1.2.1 The status of GPS satellites is broadcast as part of the data message transmitted by the GPS satellites. GPS status information is also available by means of the U.S. Coast Guard navigation information service: (703) 313–5907, Internet: **http://www.navcen.uscg.gov/**. Additionally, satellite status is available through the Notice to Airmen (NOTAM) system.

18.1.2.2 The operational status of GNSS operations depends upon the type of equipment being used. For GPS–only equipment TSO–C129a, the operational status of nonprecision approach capability for flight planning purposes is provided through a prediction program that is embedded in the receiver or provided separately.

18.1.3 Receiver Autonomous Integrity Monitoring (RAIM). When GNSS equipment is not using integrity information from WAAS or LAAS, the GPS navigation receiver using RAIM provides GPS signal integrity monitoring. RAIM is necessary since delays of up to two hours can occur before an erroneous satellite transmission can be detected and corrected by the satellite control segment. The RAIM function is also referred to as fault detection. Another capability, fault exclusion, refers to the ability of the receiver to exclude a failed satellite from the position solution and is provided by some GPS receivers and by WAAS receivers.

18.1.4 The GPS receiver verifies the integrity (usability) of the signals received from the GPS constellation through receiver autonomous integrity monitoring (RAIM) to determine if a satellite is providing corrupted information. At least 4 satellites are required to obtain a navigation solution. At least 5 satellites (or 4 satellites and a barometric altimeter for baro−aiding) are required for RAIM. This is also known as fault detection (FD). An enhanced form of integrity, known as Fault Detection and Exclusion (FDE), uses a minimum of 6 satellites (or 5 satellites with baro−aiding) to not only detect a possible faulty satellite, but to exclude it from the navigation solution in order for the navigation function to continue without interruption.

NOTE−
Baro−aiding satisfies the RAIM requirement by substituting for one of the satellites. Baro−aiding is a method of augmenting the GPS integrity solution by using the barometric altimeter (a non−satellite input source).

NOTE−
The current altimeter setting must be entered into the receiver as described in the operating manual to ensure baro−aiding is available.

NOTE−
GPS derived altitude should not be relied upon to determine aircraft altitude since the vertical error can be quite large and no integrity is provided.

18.1.5 RAIM messages vary somewhat between receivers; however, generally there are two types. One type indicates that there are not enough satellites available to provide RAIM integrity monitoring and another type indicates that the RAIM integrity monitor has detected a potential error that exceeds the limit for the current phase of flight. Without RAIM capability, the pilot has no assurance of the accuracy of the GPS position.

18.1.6 Selective Availability. Selective Availability (SA) is a method by which the accuracy of GPS is intentionally degraded. This feature is designed to deny hostile use of precise GPS positioning data. SA was discontinued on May 1, 2000, but many GPS receivers are designed to assume that SA is still active. New receivers may take advantage of the discontinuance of SA based on the performance values in ICAO Annex 10, and do not need to be designed to operate outside of that performance.

18.1.7 The GPS constellation of 24 satellites is designed so that a minimum of five is always observable by a user anywhere on earth. The receiver uses data from a minimum of four satellites above the mask angle (the lowest angle above the horizon at which it can use a satellite).

18.1.8 The DOD declared initial operational capability (IOC) of the U.S. GPS on December 8, 1993. The FAA has granted approval for U.S. civil operators to use properly certified GPS equipment as a primary means of navigation in oceanic airspace and certain remote areas. Properly certified GPS equipment may be used as a supplemental means of IFR navigation for domestic en route, terminal operations, and certain instrument approach procedures (IAPs). This approval permits the use of GPS in a manner that is consistent with current navigation requirements as well as approved air carrier operations specifications.

18.2 VFR Use of GPS

18.2.1 GPS navigation has become a great asset to VFR pilots, providing increased navigation capability and enhanced situational awareness, while reducing operating costs due to greater ease in flying direct routes. While GPS has many benefits to the VFR pilot, care must be exercised to ensure that system capabilities are not exceeded.

18.2.2 Types of receivers used for GPS navigation under VFR are varied, from a full IFR installation being used to support a VFR flight, to a VFR only installation (in either a VFR or IFR capable aircraft) to a hand−held receiver. The limitations of each type of receiver installation or use must be understood by the pilot to avoid misusing navigation information. (See TBL ENR 4.1−5.) In all cases, VFR pilots should never rely solely on one system of navigation. GPS navigation must be integrated with other forms of electronic navigation (when possible), as well as pilotage and dead reckoning. Only through the integration of these techniques can the VFR pilot ensure accuracy in navigation.

18.2.3 Some critical concerns in VFR use of GPS include RAIM capability, database currency, and antenna location.

18.2.3.1 RAIM Capability. Many VFR GPS receivers and all hand−held units have no RAIM alerting capability. Loss of the required number of satellites in view, or the detection of a position error, cannot be displayed to the pilot by such receivers. In receivers with no RAIM capability, no alert would be provided to the pilot that the navigation solution had deteriorated, and an undetected navigation error

could occur. A systematic cross–check with other navigation techniques would identify this failure, and prevent a serious deviation. See subparagraphs 18.1.6 and 18.1.7 for more information on RAIM.

18.2.3.2 Database Currency

a) In many receivers, an updateable database is used for navigation fixes, airports, and instrument procedures. These databases must be maintained to the current update for IFR operation, but no such requirement exists for VFR use.

b) However, in many cases, the database drives a moving map display which indicates Special Use Airspace and the various classes of airspace, in addition to other operational information. Without a current database the moving map display may be outdated and offer erroneous information to VFR pilots wishing to fly around critical airspace areas, such as a Restricted Area or a Class B airspace segment. Numerous pilots have ventured into airspace they were trying to avoid by using an outdated database. If you don't have a current database in the receiver, disregard the moving map display for critical navigation decisions.

c) In addition, waypoints are added, removed, relocated, or renamed as required to meet operational needs. When using GPS to navigate relative to a named fix, a current database must be used to properly locate a named waypoint. Without the update, it is the pilot's responsibility to verify the waypoint location referencing to an official current source, such as the Airport/Facility Directory, Sectional Chart, or En Route Chart.

18.2.3.3 Antenna Location

a) In many VFR installations of GPS receivers, antenna location is more a matter of convenience than performance. In IFR installations, care is exercised to ensure that an adequate clear view is provided for the antenna to see satellites. If an alternate location is used, some portion of the aircraft may block the view of the antenna, causing a greater opportunity to lose navigation signal.

b) This is especially true in the case of hand–helds. The use of hand–held receivers for VFR operations is a growing trend, especially among rental pilots. Typically, suction cups are used to place the GPS antennas on the inside of cockpit windows. While this method has great utility, the antenna location is limited to the cockpit or cabin only and is rarely optimized to provide a clear view of available satellites. Consequently, signal losses may occur in certain situations of aircraft–satellite geometry, causing a loss of navigation signal. These losses, coupled with a lack of RAIM capability, could present erroneous position and navigation information with no warning to the pilot.

c) While the use of a hand–held GPS for VFR operations is not limited by regulation, modification of the aircraft, such as installing a panel– or yoke–mounted holder, is governed by 14 CFR Part 43. Consult with your mechanic to ensure compliance with the regulation, and a safe installation.

18.2.4 As a result of these and other concerns, here are some tips for using GPS for VFR operations:

18.2.4.1 Always check to see if your unit has RAIM capability. If no RAIM capability exists, be suspicious of your GPS position when any disagreement exists with the position derived from other radio navigation systems, pilotage, or dead reckoning.

18.2.4.2 Check the currency of the database, if any. If expired, update the database using the current revision. If an update of an expired database is not possible, disregard any moving map display of airspace for critical navigation decisions. Be aware that named waypoints may no longer exist or may have been relocated since the database expired. At a minimum, the waypoints planned to be used should be checked against a current official source, such as the Airport/Facility Directory, or a Sectional Aeronautical Chart.

18.2.4.3 While hand–helds can provide excellent navigation capability to VFR pilots, be prepared for intermittent loss of navigation signal, possibly with no RAIM warning to the pilot. If mounting the receiver in the aircraft, be sure to comply with 14 CFR Part 43.

18.2.4.4 Plan flights carefully before taking off. If you wish to navigate to user–defined waypoints, enter them before flight, not on–the–fly. Verify your planned flight against a current source, such as a current sectional chart. There have been cases in which one pilot used waypoints created by another pilot that were not where the pilot flying was expecting. This generally resulted in a navigation error. Minimize head–down time in the aircraft and

keep a sharp lookout for traffic, terrain, and obstacles. Just a few minutes of preparation and planning on the ground will make a great difference in the air.

18.2.4.5 Another way to minimize head–down time is to become very familiar with your receiver's operation. Most receivers are not intuitive. The pilot must take the time to learn the various keystrokes, knob functions, and displays that are used in the operation of the receiver. Some manufacturers provide computer–based tutorials or simulations of their receivers. Take the time to learn about your particular unit before you try to use it in flight.

18.2.5 In summary, be careful not to rely on GPS to solve all your VFR navigational problems. Unless an IFR receiver is installed in accordance with IFR requirements, no standard of accuracy or integrity has been assured. While the practicality of GPS is compelling, the fact remains that only the pilot can navigate the aircraft, and GPS is just one of the pilot's tools to do the job.

18.3 VFR Waypoints

18.3.1 VFR waypoints provide VFR pilots with a supplementary tool to assist with position awareness while navigating visually in aircraft equipped with area navigation receivers. VFR waypoints should be used as a tool to supplement current navigation procedures. The uses of VFR waypoints include providing navigational aids for pilots unfamiliar with an area, waypoint definition of existing reporting points, enhanced navigation in and around Class B and Class C airspace, and enhanced navigation around Special Use Airspace. VFR pilots should rely on appropriate and current aeronautical charts published specifically for visual navigation. If operating in a terminal area, pilots should take advantage of the Terminal Area Chart available for that area, if published. The use of VFR waypoints does not relieve the pilot of any responsibility to comply with the operational requirements of 14 CFR Part 91.

18.3.2 VFR waypoint names (for computer–entry and flight plans) consist of five letters beginning with the letters "VP" and are retrievable from navigation databases. The VFR waypoint names are not intended to be pronounceable, and they are not for use in ATC communications. On VFR charts, stand–alone VFR waypoints will be portrayed using the same four–point star symbol used for IFR waypoints. VFR waypoints collocated with visual check points on the chart will be identified by small magenta flag symbols. VFR waypoints collocated with visual check points will be pronounceable based on the name of the visual check point and may be used for ATC communications. Each VFR waypoint name will appear in parentheses adjacent to the geographic location on the chart. Latitude/longitude data for all established VFR waypoints may be found in the appropriate regional Airport/Facility Directory (A/FD).

18.3.3 VFR waypoints must not be used to plan flights under IFR. VFR waypoints will not be recognized by the IFR system and will be rejected for IFR routing purposes.

18.3.4 When filing VFR flight plans, pilots may use the five letter identifier as a waypoint in the route of flight section if there is an intended course change at that point or if used to describe the planned route of flight. This VFR filing would be similar to how a VOR would be used in a route of flight. Pilots must use the VFR waypoints only when operating under VFR conditions.

18.3.5 Any VFR waypoints intended for use during a flight should be loaded into the receiver while on the ground and prior to departure. Once airborne, pilots should avoid programming routes or VFR waypoint chains into their receivers.

18.3.6 Pilots should be especially vigilant for other traffic while operating near VFR waypoints. The same effort to see and avoid other aircraft near VFR waypoints will be necessary, as was the case with VORs and NDBs in the past. In fact, the increased accuracy of navigation through the use of GPS will demand even greater vigilance, as off–course deviations among different pilots and receivers will be less. When operating near a VFR waypoint, use whatever ATC services are available, even if outside a class of airspace where communications are required. Regardless of the class of airspace, monitor the available ATC frequency closely for information on other aircraft operating in the vicinity. It is also a good idea to turn on your landing light(s) when operating near a VFR waypoint to make your aircraft more conspicuous to other pilots, especially when visibility is reduced. See paragraph 2., VFR in Congested Areas, in , for more information.

18.4 General Requirements

18.4.1 Authorization to conduct any GPS operation under IFR requires that:

18.4.1.1 GPS navigation equipment used must be approved in accordance with the requirements specified in TSO–C–129, or equivalent, and the installation must be done in accordance with Notice 8110.47 or 8110.48, or equivalent. Equipment approved in accordance with TSO–C–115a does not meet the requirements of TSO–C–129. VFR and hand–held GPS systems are not authorized for IFR navigation, instrument approaches, or as a principal instrument flight reference. During IFR operations they may be considered only an aid to situational awareness.

18.4.1.2 Aircraft using GPS navigation equipment under IFR must be equipped with an approved and operational alternate means of navigation appropriate to the flight. Active monitoring of alternative navigation equipment is not required if the GPS receiver uses RAIM for integrity monitoring. Active monitoring of an alternate means of navigation is required when the RAIM capability of the GPS equipment is lost.

18.4.1.3 Procedures must be established for use in the event that the loss of RAIM capability is predicted to occur. In situations where this is encountered, the flight must rely on other approved equipment, delay departure, or cancel the flight.

18.4.1.4 The GPS operation must be conducted in accordance with the FAA–approved aircraft flight manual (AFM) or flight manual supplement. Flight crew members must be thoroughly familiar with the particular GPS equipment installed in the aircraft, the receiver operation manual, and the AFM or flight manual supplement. Unlike ILS and VOR, the basic operation, receiver presentation to the pilot, and some capabilities of the equipment can vary greatly. Due to these differences, operation of different brands, or even models of the same brand, of GPS receiver under IFR should not be attempted without thorough study of the operation of that particular receiver and installation. Most receivers have a built–in simulator mode which will allow the pilot to become familiar with operation prior to attempting operation in the aircraft. Using the equipment in flight under VFR conditions prior to attempting IFR operation will allow further familiarization.

18.4.1.5 Aircraft navigating by IFR approved GPS are considered to be RNAV aircraft and have special equipment suffixes. File the appropriate equipment suffix in accordance with TBL ENR 4.1–4, on the ATC flight plan. If GPS avionics become inoperative, the pilot should advise ATC and amend the equipment suffix.

18.4.1.6 Prior to any GPS IFR operation, the pilot must review appropriate NOTAMs and aeronautical information. (See GPS NOTAMs/Aeronautical Information.)

18.4.1.7 Air carrier and commercial operators must meet the appropriate provisions of their approved operations specifications.

18.5 Use of GPS for IFR Oceanic, Domestic En Route, and Terminal Area Operations

18.5.1 GPS IFR operations in oceanic areas can be conducted as soon as the proper avionics systems are installed, provided all general requirements are met. A GPS installation with TSO–C–129 authorization in class A1, A2, B1, B2, C1, or C2 may be used to replace one of the other approved means of long–range navigation, such as dual INS. (See TBL ENR 4.1–4 and TBL ENR 4.1–5.) A single GPS installation with these classes of equipment which provide RAIM for integrity monitoring may also be used on short oceanic routes which have only required one means of long–range navigation.

18.5.2 GPS domestic en route and terminal IFR operations can be conducted as soon as proper avionics systems are installed, provided all general requirements are met. The avionics necessary to receive all of the ground–based facilities appropriate for the route to the destination airport and any required alternate airport must be installed and operational. Ground–based facilities necessary for these routes must also be operational.

18.5.2.1 GPS en route IFR RNAV operations may be conducted in Alaska outside the operational service volume of ground–based navigation aids when a TSO–C145a or TSO–C146a GPS/WAAS system is installed and operating. Ground–based navigation equipment is not required to be installed and operating for en route IFR RNAV operations when using GPS WAAS navigation systems. All operators should ensure that an alternate means of navigation is available in the unlikely event the GPS WAAS navigation system becomes inoperative.

TBL ENR 4.1–4

GPS IFR Equipment Classes/Categories

TSO–C129						
Equipment Class	**RAIM**	**Int. Nav Sys. to Prov. RAIM Equiv.**	**Oceanic**	**En Route**	**Terminal**	**Nonprecision Approach Capable**
Class A – GPS sensor and navigation capability.						
A1	yes		yes	yes	yes	yes
A2	yes		yes	yes	yes	no
Class B – GPS sensor data to an integrated navigation system (i.e. FMS, multi–sensor navigation system, etc.).						
B1	yes		yes	yes	yes	yes
B2	yes		yes	yes	yes	no
B3		yes	yes	yes	yes	yes
B4		yes	yes	yes	yes	no
Class C – GPS sensor data to an integrated navigation system (as in Class B) which provides enhanced guidance to an autopilot, or flight director, to reduce flight tech. errors. Limited to 14 CFR Part 121 or equivalent criteria.						
C1	yes		yes	yes	yes	yes
C2	yes		yes	yes	yes	no
C3		yes	yes	yes	yes	yes
C4		yes	yes	yes	yes	no

TBL ENR 4.1–5

GPS Approval Required/Authorized Use

Equipment Type[1]	**Installation Approval Required**	**Operational Approval Required**	**IFR En Route[2]**	**IFR Terminal[2]**	**IFR Approach[3]**	**Oceanic Remote**	**In Lieu of ADF and/or DME[3]**
Hand held[4]	X[5]						
VFR Panel Mount[4]	X						
IFR En Route and Terminal	X	X	X	X			X
IFR Oceanic/ Remote	X	X	X	X		X	X
IFR En Route, Terminal, and Approach	X	X	X	X	X		X

NOTE–

[1]*To determine equipment approvals and limitations, refer to the AFM, AFM supplements, or pilot guides.*

[2]*Requires verification of data for correctness if database is expired.*

[3]*Requires current database or verification that the procedure has not been amended since the expiration of the database.*

[4]*VFR and hand–held GPS systems are not authorized for IFR navigation, instrument approaches, or as a primary instrument flight reference. During IFR operations they may be considered only an aid to situational awareness.*

[5]*Hand–held receivers require no approval. However, any aircraft modification to support the hand–held receiver; i.e., installation of an external antenna or a permanent mounting bracket, does require approval.*

18.5.3 The GPS Approach Overlay Program is an authorization for pilots to use GPS avionics under IFR for flying designated nonprecision instrument approach procedures, except LOC, LDA, and simplified directional facility (SDF) procedures. These procedures are now identified by the name of the procedure and "or GPS" (e.g., VOR/DME or GPS RWY 15). Other previous types of overlays have either been converted to this format or replaced with stand–alone procedures. Only approaches contained in the current onboard navigation database are authorized. The navigation database may contain information about nonoverlay approach procedures that is intended to be used to enhance position orientation, generally by providing a map, while flying these approaches using conventional NAVAIDs. This approach information should not be confused with a GPS overlay approach (see the receiver operating manual, AFM, or AFM Supplement for details on how to identify these approaches in the navigation database).

NOTE–
Overlay approaches are predicated upon the design criteria of the ground–based NAVAID used as the basis of the approach. As such, they do not adhere to the design criteria described in Section ENR 1.5, paragraph 12.11, Area Navigation (RNAV) Instrument Approach Charts, for stand–alone GPS approaches.

18.5.4 GPS IFR approach operations can be conducted as soon as proper avionics systems are installed and the following requirements are met:

18.5.4.1 The authorization to use GPS to fly instrument approaches is limited to U.S. airspace.

18.5.4.2 The use of GPS in any other airspace must be expressly authorized by the FAA Administrator.

18.5.4.3 GPS instrument approach operations outside the U.S. must be authorized by the appropriate sovereign authority.

18.6 Equipment and Database Requirements

18.6.1 Authorization to fly approaches under IFR using GPS avionics systems requires that:

18.6.1.1 A pilot use GPS avionics with TSO–C–129, or equivalent, authorization in class A1, B1, B3, C1, or C3.

18.6.1.2 All approach procedures to be flown must be retrievable from the current airborne navigation database supplied by the TSO–C–129 equipment manufacturer or other FAA approved source. The system must be able to retrieve the procedure by name from the aircraft navigation database, not just as a manually entered series of waypoints.

18.6.1.3 Prior to using a procedure or waypoint retrieved from the airborne navigation database, the pilot should verify the validity of the database. This verification should include the following preflight and in–flight steps:

a) Preflight:

1) Determine the date of database issuance, and verify that the date/time of proposed use is before the expiration date/time.

2) Verify that the database provider has not published a notice limiting the use of the specific waypoint or procedure.

b) Inflight:

1) Determine that the waypoints and transition names coincide with names found on the procedure chart. Do not use waypoints, which do not exactly match the spelling shown on published procedure charts.

2) Determine that the waypoints are generally logical in location, in the correct order, and that their orientation to each other is as found on the procedure chart, both laterally and vertically.

NOTE–
There is no specific requirement to check each waypoint latitude and longitude, type of waypoint and/or altitude constraint, only the general relationship of waypoints in the procedure, or the logic of an individual waypoint's location.

3) If the cursory check of procedure logic or individual waypoint location, specified in 2) above, indicates a potential error, do not use the retrieved procedure or waypoint until a verification of latitude and longitude, waypoint type, and altitude constraints indicate full conformity with the published data.

18.7 GPS Approach Procedures

18.7.1 As the production of stand–alone GPS approaches has progressed, many of the original overlay approaches have been replaced with stand–alone procedures specifically designed for use by GPS systems. The title of the remaining GPS overlay procedures has been revised on the approach chart to "or GPS" (e.g., VOR or GPS RWY 24). Therefore, all the approaches that can be used by GPS now contain "GPS" in the title (e.g., "VOR or GPS RWY 24," "GPS RWY 24," or "RNAV (GPS) RWY 24"). During these GPS approaches, underlying ground–based NAVAIDs are not required to be operational and associated aircraft avionics need not be installed, operational, turned on or monitored (monitoring of the underlying approach is suggested when equipment is available and functional). Existing overlay approaches may be requested using the GPS title, such as "GPS RWY 24" for the VOR or GPS RWY 24.

NOTE–
Any required alternate airport must have an approved instrument approach procedure other than GPS that is anticipated to be operational and available at the estimated time of arrival, and which the aircraft is equipped to fly.

18.8 GPS NOTAMs/Aeronautical Information

18.8.1 GPS satellite outages are issued as GPS NOTAMs both domestically and internationally. However, the effect of an outage on the intended operation cannot be determined unless the pilot has a RAIM availability prediction program which allows excluding a satellite which is predicted to be out of service based on the NOTAM information.

18.8.2 The term UNRELIABLE is used in conjunction with GPS NOTAMs. The term UNRELIABLE is an advisory to pilots indicating the expected level of service may not be available. GPS operation may be NOTAMed UNRELIABLE due to testing or anomalies. Air Traffic Control will advise pilots requesting a GPS or RNAV (GPS) approach of GPS UNRELIABLE for:

18.8.2.1 NOTAMs not contained in the ATIS broadcast.

18.8.2.2 Pilot reports of GPS anomalies received within the preceding 15 minutes.

18.8.3 Civilian pilots may obtain GPS RAIM availability information for nonprecision approach procedures by specifically requesting GPS aeronautical information from an Automated Flight Service Station during preflight briefings. GPS RAIM aeronautical information can be obtained for a period of 3 hours (for example, if you are scheduled to arrive at 1215 hours, then the GPS RAIM information is available from 1100 to 1400 hours) or a 24 hour time frame at a particular airport. FAA briefers will provide RAIM information for a period of 1 hour before to 1 hour after the ETA hour, unless a specific time frame is requested by the pilot. If flying a published GPS departure, a RAIM prediction should also be requested for the departure airport.

18.8.4 The military provides airfield specific GPS RAIM NOTAMs for nonprecision approach procedures at military airfields. The RAIM outages are issued as M–series NOTAMs and may be obtained for up to 24 hours from the time of request.

18.8.5 Receiver manufacturers and/or database suppliers may supply "NOTAM" type information concerning database errors. Pilots should check these sources, when available, to ensure that they have the most current information concerning their electronic database.

18.9 Receiver Autonomous Integrity Monitoring (RAIM)

18.9.1 RAIM outages may occur due to an insufficient number of satellites or due to unsuitable satellite geometry which causes the error in the position solution to become too large. Loss of satellite reception and RAIM warnings may occur due to aircraft dynamics (changes in pitch or bank angle). Antenna location on the aircraft, satellite position relative to the horizon, and aircraft attitude may affect reception of one or more satellites. Since the relative positions of the satellites are constantly changing, prior experience with the airport does not guarantee reception at all times, and RAIM availability should always be checked.

18.9.2 If RAIM is not available, another type of navigation and approach system must be used, another destination selected, or the trip delayed until RAIM is predicted to be available on arrival. On longer flights, pilots should consider rechecking the RAIM prediction for the destination during the flight.

This may provide early indications that an unscheduled satellite outage has occurred since takeoff.

18.9.3 If a RAIM failure/status annunciation occurs prior to the final approach waypoint (FAWP), the approach should not be completed since GPS may no longer provide the required accuracy. The receiver performs a RAIM prediction by 2 NM prior to the FAWP to ensure that RAIM is available at the FAWP as a condition for entering the approach mode. **The pilot should ensure that the receiver has sequenced from "Armed" to "Approach" prior to the FAWP** (normally occurs 2 NM prior). Failure to sequence may be an indication of the detection of a satellite anomaly, failure to arm the receiver (if required), or other problems which preclude completing the approach.

18.9.4 If the receiver does not sequence into the approach mode or a RAIM failure/status annunciation occurs prior to the FAWP, the pilot should not descend to MDA, but should proceed to the missed approach waypoint (MAWP) via the FAWP, perform a missed approach, and contact ATC as soon as practical. Refer to the receiver operating manual for specific indications and instructions associated with loss of RAIM prior to the FAF.

18.9.5 If a RAIM failure occurs after the FAWP, the receiver is allowed to continue operating without an annunciation for up to 5 minutes to allow completion of the approach (see receiver operating manual). **If the RAIM flag/status annunciation appears after the FAWP, the missed approach should be executed immediately.**

18.10 Waypoints

18.10.1 GPS approaches make use of both fly–over and fly–by waypoints. Fly–by waypoints are used when an aircraft should begin a turn to the next course prior to reaching the waypoint separating the two route segments. This is known as turn anticipation and is compensated for in the airspace and terrain clearances. Approach waypoints, except for the MAWP and the missed approach holding waypoint (MAHWP), are normally fly–by waypoints. Fly–over waypoints are used when the aircraft must fly over the point prior to starting a turn. New approach charts depict fly–over waypoints as a circled waypoint symbol. Overlay approach charts and some early stand alone GPS approach charts may not reflect this convention.

18.10.2 Since GPS receivers are basically "To–To" navigators, they must always be navigating to a defined point. On overlay approaches, if no pronounceable five–character name is published for an approach waypoint or fix, it was given a database identifier consisting of letters and numbers. These points will appear in the list of waypoints in the approach procedure database, but may not appear on the approach chart. A point used for the purpose of defining the navigation track for an airborne computer system (i.e., GPS or FMS) is called a Computer Navigation Fix (CNF). CNFs include unnamed DME fixes, beginning and ending points of DME arcs, and sensor final approach fixes (FAFs) on some GPS overlay approaches. To aid in the approach chart/database correlation process, the FAA has begun a program to assign five–letter names to CNFs and to chart CNFs on various FAA Aeronautical Navigation Products (AeroNav Products). These CNFs are not to be used for any air traffic control (ATC) application, such as holding for which the fix has not already been assessed. CNFs will be charted to distinguish them from conventional reporting points, fixes, intersections, and waypoints. The CNF name will be enclosed in parenthesis; e.g., (CFBCD), and the name will be placed next to the CNF it defines. If the CNF is not at an existing point defined by means such as crossing radials or radial/DME, the point will be indicated by an "X." The CNF name will not be used in filing a flight plan or in aircraft/ATC communications. Use current phraseology; e.g., facility name, radial, distance, to describe these fixes.

18.10.3 Unnamed waypoints in the database will be uniquely identified for each airport but may be repeated for another airport (e.g., RW36 will be used at each airport with a runway 36 but will be at the same location for all approaches at a given airport).

18.10.4 The runway threshold waypoint, which is normally the MAWP, may have a five letter identifier (e.g., SNEEZ) or be coded as RW## (e.g., RW36, RW36L). Those thresholds which are coded as five letter identifiers are being changed to the RW## designation. This may cause the approach chart and database to differ until all changes are complete. The runway threshold waypoint is also used as the center of the MSA on most GPS approaches. MAWPs not located at the threshold will have a five letter identifier.

18.11 Position Orientation

18.11.1 As with most RNAV systems, pilots should pay particular attention to position orientation while using GPS. Distance and track information are provided to the next active waypoint, not to a fixed navigation aid. Receivers may sequence when the pilot is not flying along an active route, such as when being vectored or deviating for weather, due to the proximity to another waypoint in the route. This can be prevented by placing the receiver in the nonsequencing mode. When the receiver is in the nonsequencing mode, bearing and distance are provided to the selected waypoint, and the receiver will not sequence to the next waypoint in the route until placed back in the auto sequence mode or the pilot selects a different waypoint. On overlay approaches, the pilot may have to compute the along track distance to stepdown fixes and other points due to the receiver showing along track distance to the next waypoint rather than DME to the VOR or ILS ground station.

18.12 Conventional Versus GPS Navigation Data

18.12.1 There may be slight differences between the course information portrayed on navigational charts and a GPS navigation display when flying authorized GPS instrument procedures or along an airway. All magnetic tracks defined by any conventional navigation aids are determined by the application of the station magnetic variation. In contrast, GPS RNAV systems may use an algorithm, which applies the local magnetic variation and may produce small differences in the displayed course. However, both methods of navigation should produce the same desired ground track when using approved, IFR navigation system. Should significant differences between the approach chart and the GPS avionics' application of the navigation database arise, the published approach chart, supplemented by NOTAMs, holds precedence.

18.12.2 Due to the GPS avionics' computation of great circle courses, and the variations in magnetic variation, the bearing to the next waypoint and the course from the last waypoint (if available) may not be exactly 180 ° apart when long distances are involved. Variations in distances will occur since GPS distance−to−waypoint values are along−track distances (ATD) computed to the next waypoint and the DME values published on underlying procedures are slant−range distances measured to the station. This difference increases with aircraft altitude and proximity to the NAVAID

18.13 Departures and Instrument Departure Procedures (DPs)

18.13.1 The GPS receiver must be set to terminal (±1 NM) course deviation indicator (CDI) sensitivity and the navigation routes contained in the database in order to fly published IFR charted departures and DPs. Terminal RAIM should be automatically provided by the receiver. (Terminal RAIM for departure may not be available unless the waypoints are part of the active flight plan rather than proceeding direct to the first destination.) Certain segments of a DP may require some manual intervention by the pilot, especially when radar vectored to a course or required to intercept a specific course to a waypoint. The database may not contain all of the transitions or departures from all runways and some GPS receivers do not contain DPs in the database. It is necessary that helicopter procedures be flown at 70 knots or less since helicopter departure procedures and missed approaches use a 20:1 obstacle clearance surface (OCS), which is double the fixed−wing OCS, and turning areas are based on this speed as well.

18.14 Flying GPS Approaches

18.14.1 Determining which area of the TAA the aircraft will enter when flying a "T" with a TAA must be accomplished using the bearing and distance to the IF(IAF). This is most critical when entering the TAA in the vicinity of the extended runway centerline and determining whether you will be entering the right or left base area. Once inside the TAA, all sectors and stepdowns are based on the bearing and distance to the IAF for that area, which the aircraft should be proceeding direct to at that time, unless on vectors. (See FIG ENR 1.5−17 and FIG ENR 1.5−18.)

18.14.2 Pilots should fly the full approach from an Initial Approach Waypoint (IAWP) or feeder fix unless specifically cleared otherwise. Randomly joining an approach at an intermediate fix does not assure terrain clearance.

18.14.3 When an approach has been loaded in the flight plan, GPS receivers will give an "arm" annunciation 30 NM straight line distance from the airport/heliport reference point. Pilots should arm the approach mode at this time, if it has not already been armed (some receivers arm automatically). Without arming, the receiver will not change from en route

CDI and RAIM sensitivity of ±5 NM either side of centerline to ±1 NM terminal sensitivity. Where the IAWP is inside this 30 mile point, a CDI sensitivity change will occur once the approach mode is armed and the aircraft is inside 30 NM. Where the IAWP is beyond 30 NM from the airport/heliport reference point, CDI sensitivity will not change until the aircraft is within 30 miles of the airport/heliport reference point even if the approach is armed earlier. Feeder route obstacle clearance is predicated on the receiver being in terminal (±1 NM) CDI sensitivity and RAIM within 30 NM of the airport/heliport reference point, therefore, the receiver should always be armed (if required) not later than the 30 NM annunciation.

18.14.4 The pilot must be aware of what bank angle/turn rate the particular receiver uses to compute turn anticipation, and whether wind and airspeed are included in the receiver's calculations. This information should be in the receiver operating manual. Over or under banking the turn onto the final approach course may significantly delay getting on course and may result in high descent rates to achieve the next segment altitude.

18.14.5 When within 2 NM of the FAWP with the approach mode armed, the approach mode will switch to active, which results in RAIM changing to approach sensitivity and a change in CDI sensitivity. Beginning 2 NM prior to the FAWP, the full scale CDI sensitivity will smoothly change from ±1 NM, to ±0.3 NM at the FAWP. As sensitivity changes from ±1 NM to ±0.3 NM approaching the FAWP, with the CDI not centered, the corresponding increase in CDI displacement may give the impression that the aircraft is moving further away from the intended course even though it is on an acceptable intercept heading. Referencing the digital track displacement information (cross track error), if it is available in the approach mode, may help the pilot remain position oriented in this situation. Being established on the final approach course prior to the beginning of the sensitivity change at 2 NM will help prevent problems in interpreting the CDI display during ramp down. Therefore, requesting or accepting vectors which will cause the aircraft to intercept the final approach course within 2 NM of the FAWP is not recommended.

18.14.6 When receiving vectors to final, most receiver operating manuals suggest placing the receiver in the nonsequencing mode on the FAWP and manually setting the course. This provides an extended final approach course in cases where the aircraft is vectored onto the final approach course outside of any existing segment which is aligned with the runway. Assigned altitudes must be maintained until established on a published segment of the approach. Required altitudes at waypoints outside the FAWP or stepdown fixes must be considered. Calculating the distance to the FAWP may be required in order to descend at the proper location.

18.14.7 Overriding an automatically selected sensitivity during an approach will cancel the approach mode annunciation. If the approach mode is not armed by 2 NM prior to the FAWP, the approach mode will not become active at 2 NM prior to the FAWP, and the equipment will flag. In these conditions, the RAIM and CDI sensitivity will not ramp down, and the pilot should not descend to MDA, but fly to the MAWP and execute a missed approach. The approach active annunciator and/or the receiver should be checked to ensure the approach mode is active prior to the FAWP.

18.14.8 Do not attempt to fly an approach unless the procedure in the on–board database is current and identified as "GPS" on the approach chart. The navigation database may contain information about nonoverlay approach procedures that is intended to be used to enhance position orientation, generally by providing a map, while flying these approaches using conventional NAVAIDs. This approach information should not be confused with a GPS overlay approach (see the receiver operating manual, AFM, or AFM Supplement for details on how to identify these procedures in the navigation database). Flying point to point on the approach does not assure compliance with the published approach procedure. The proper RAIM sensitivity will not be available and the CDI sensitivity will not automatically change to ±0.3 NM. Manually setting CDI sensitivity does not automatically change the RAIM sensitivity on some receivers. Some existing nonprecision approach procedures cannot be coded for use with GPS and will not be available as overlays.

18.14.9 Pilots should pay particular attention to the exact operation of their GPS receivers for performing holding patterns, and, in the case of overlay approaches, operations such as procedure turns. These procedures may require manual intervention by the pilot to stop the sequencing of waypoints by the receiver and to resume automatic GPS navigation sequencing once the maneuver is complete. The same waypoint may appear in the route of flight more than once consecutively (e.g., IAWP, FAWP, MAHWP on a procedure turn). Care must be exercised to ensure that the receiver is sequenced to the appropriate waypoint for the segment of the procedure being flown, especially if one or more fly–overs are skipped (e.g., FAWP rather than IAWP if the procedure turn is not flown). The pilot may have to sequence past one or more fly–overs of the same waypoint in order to start GPS automatic sequencing at the proper place in the sequence of waypoints.

18.14.10 Incorrect inputs into the GPS receiver are especially critical during approaches. In some cases, an incorrect entry can cause the receiver to leave the approach mode.

18.14.11 A fix on an overlay approach identified by a DME fix will not be in the waypoint sequence on the GPS receiver unless there is a published name assigned to it. When a name is assigned, the along track to the waypoint may be zero rather than the DME stated on the approach chart. The pilot should be alert for this on any overlay procedure where the original approach used DME.

18.14.12 If a visual descent point (VDP) is published, it will not be included in the sequence of waypoints. Pilots are expected to use normal piloting techniques for beginning the visual descent, such as ATD.

18.14.13 Unnamed stepdown fixes in the final approach segment will not be coded in the waypoint sequence of the aircraft's navigation database and must be identified using ATD. Stepdown fixes in the final approach segment of RNAV (GPS) approaches are being named, in addition to being identified by ATD. However, since most GPS avionics do not accommodate waypoints between the FAF and MAP, even when the waypoint is named, the waypoints for these stepdown fixes may not appear in the sequence of waypoints in the navigation database. Pilots must continue to identify these stepdown fixes using ATD.

18.15 Missed Approach

18.15.1 A GPS missed approach requires pilot action to sequence the receiver past the MAWP to the missed approach portion of the procedure. The pilot must be thoroughly familiar with the activation procedure for the particular GPS receiver installed in the aircraft and must **initiate appropriate action after the MAWP.** Activating the missed approach prior to the MAWP will cause CDI sensitivity to immediately change to terminal (±1 NM) sensitivity and the receiver will continue to navigate to the MAWP. The receiver will not sequence past the MAWP. Turns should not begin prior to the MAWP. If the missed approach is not activated, the GPS receiver will display an extension of the inbound final approach course and the ATD will increase from the MAWP until it is manually sequenced after crossing the MAWP.

18.15.2 Missed approach routings in which the first track is via a course rather than direct to the next waypoint **require additional action by the pilot** to set the course. Being familiar with all of the inputs required is especially critical during this phase of flight.

18.16 GPS Familiarization

18.16.1 Pilots should practice GPS approaches under visual meteorological conditions (VMC) until thoroughly proficient with all aspects of their equipment (receiver and installation) prior to attempting flight by IFR in instrument meteorological conditions (IMC). Some of the areas which the pilot should practice are:

18.16.1.1 Utilizing the receiver autonomous integrity monitoring (RAIM) prediction function.

18.16.1.2 Inserting a DP into the flight plan, including setting terminal CDI sensitivity, if required, and the conditions under which terminal RAIM is available for departure. (Some receivers are not DP or STAR capable.)

18.16.1.3 Programming the destination airport.

18.16.1.4 Programming and flying the overlay approaches (especially procedure turns and arcs).

18.16.1.5 Changing to another approach after selecting an approach.

18.16.1.6 Programming and flying "direct" missed approaches.

18.16.1.7 Programming and flying "routed" missed approaches.

18.16.1.8 Entering, flying, and exiting holding patterns, particularly on overlay approaches with a second waypoint in the holding pattern.

18.16.1.9 Programming and flying a "route" from a holding pattern.

18.16.1.10 Programming and flying an approach with radar vectors to the intermediate segment.

18.16.1.11 Indication of the actions required for RAIM failure both before and after the FAWP.

18.16.1.12 Programming a radial and distance from a VOR (often used in departure instructions).

19. Wide Area Augmentation System (WAAS)

19.1 General

19.1.1 The FAA developed the Wide Area Augmentation System (WAAS) to improve the accuracy, integrity and availability of GPS signals. WAAS will allow GPS to be used, as the aviation navigation system, from takeoff through Category I precision approach when it is complete. WAAS is a critical component of the FAA's strategic objective for a seamless satellite navigation system for civil aviation, improving capacity and safety.

19.1.2 The International Civil Aviation Organization (ICAO) has defined Standards and Recommended Practices (SARPs) for satellite–based augmentation systems (SBAS) such as WAAS. Japan and Europe are building similar systems that are planned to be interoperable with WAAS: EGNOS, the European Geostationary Navigation Overlay System, and MSAS, the Japan Multifunctional Transport Satellite (MTSAT) Satellite–based Augmentation System. The merging of these systems will create a worldwide seamless navigation capability similar to GPS but with greater accuracy, availability and integrity.

19.1.3 Unlike traditional ground–based navigation aids, WAAS will cover a more extensive service area. Precisely surveyed wide–area ground reference stations (WRS) are linked to form the U.S. WAAS network. Signals from the GPS satellites are monitored by these WRSs to determine satellite clock and ephemeris corrections and to model the propagation effects of the ionosphere. Each station in the network relays the data to a wide–area master station (WMS) where the correction information is computed. A correction message is prepared and uplinked to a geostationary satellite (GEO) via a ground uplink station (GUS). The message is then broadcast on the same frequency as GPS (L1, 1575.42 MHz) to WAAS receivers within the broadcast coverage area of the WAAS GEO.

19.1.4 In addition to providing the correction signal, the WAAS GEO provides an additional pseudorange measurement to the aircraft receiver, improving the availability of GPS by providing, in effect, an additional GPS satellite in view. The integrity of GPS is improved through real–time monitoring, and the accuracy is improved by providing differential corrections to reduce errors. The performance improvement is sufficient to enable approach procedures with GPS/WAAS glide paths (vertical guidance).

19.1.5 The FAA has completed installation of 25 WRSs, 2 WMSs, 4 GUSs, and the required terrestrial communications to support the WAAS network. Prior to the commissioning of the WAAS for public use, the FAA has been conducting a series of test and validation activities. Enhancements to the initial phase of WAAS will include additional master and reference stations, communication satellites, and transmission frequencies as needed.

19.1.6 GNSS navigation, including GPS and WAAS, is referenced to the WGS–84 coordinate system. It should only be used where the Aeronautical Information Publications (including electronic data and aeronautical charts) conform to WGS–84 or equivalent. Other countries civil aviation authorities may impose additional limitations on the use of their SBAS systems.

19.2 Instrument Approach Capabilities

19.2.1 A new class of approach procedures which provide vertical guidance, but which do not meet the ICAO Annex 10 requirements for precision approaches has been developed to support satellite navigation use for aviation applications worldwide. These new procedures called Approach with Vertical Guidance (APV), are defined in ICAO Annex 6, and include approaches such as the LNAV/VNAV procedures presently being flown with barometric vertical navigation (Baro–VNAV). These approaches provide vertical guidance, but do not meet the more stringent standards of a precision approach. Properly certified WAAS receivers will be able to fly these LNAV/VNAV procedures using a WAAS electronic

glide path, which eliminates the errors that can be introduced by using Barometric altimetery.

19.2.2 A new type of APV approach procedure, in addition to LNAV/VNAV, is being implemented to take advantage of the high accuracy guidance and increased integrity provided by WAAS. This WAAS generated angular guidance allows the use of the same TERPS approach criteria used for ILS approaches. The resulting approach procedure minima, titled LPV (localizer performance with vertical guidance), may have a decision altitude as low as 200 feet height above touchdown with visibility minimums as low as $^1/_2$ mile, when the terrain and airport infrastructure support the lowest minima. LPV minima is published on the RNAV (GPS) approach charts (see paragraph 12., Instrument Approach Procedure Charts).

19.2.3 A new nonprecision WAAS approach, called Localizer Performance (LP) is being added in locations where the terrain or obstructions do not allow publication of vertically guided LPV procedures. This new approach takes advantage of the angular lateral guidance and smaller position errors provided by WAAS to provide a lateral only procedure similar to an ILS Localizer. LP procedures may provide lower minima than a LNAV procedure due to the narrower obstacle clearance surface.

NOTE−
WAAS receivers certified prior to TSO C−145b and TSO C−146b,even if they have LPV capability, do not contain LP capability unless the receiver has been upgraded. Receivers capable of flying LP procedures must contain a statement in the Flight Manual Supplement or Approved Supplemental Flight Manual stating that the receiver has LP capability, as well as the capability for the other WAAS and GPS approach procedure types.

19.2.4 WAAS provides a level of service that supports all phases of flight, including RNAV (GPS) approaches to LNAV, LP, LNAV/VNAV and LPV lines of minima, within system coverage. Some locations close to the edge of the coverage may have a lower availability of vertical guidance.

19.3 General Requirements

19.3.1 WAAS avionics must be certified in accordance with Technical Standard Order (TSO) C−145A, Airborne Navigation Sensors Using the (GPS) Augmented by the Wide Area Augmentation System (WAAS); or TSO−146A, Stand−Alone Airborne Navigation Equipment Using the Global Positioning System (GPS) Augmented by the Wide Area Augmentation System (WAAS), and installed in accordance with Advisory Circular (AC) 20−130A, Airworthiness Approval of Navigation or Flight Management Systems Integrating Multiple Navigation Sensors, or AC 20−138A, Airworthiness Approval of Global Positioning System (GPS) Navigation Equipment for Use as a VFR and IFR Navigation System.

19.3.2 GPS/WAAS operation must be conducted in accordance with the FAA−approved aircraft flight manual (AFM) and flight manual supplements. Flight manual supplements will state the level of approach procedure that the receiver supports. IFR approved WAAS receivers support all GPS only operations as long as lateral capability at the appropriate level is functional. WAAS monitors both GPS and WAAS satellites and provides integrity.

19.3.3 GPS/WAAS equipment is inherently capable of supporting oceanic and remote operations if the operator obtains a fault detection and exclusion (FDE) prediction program.

19.3.4 Air carrier and commercial operators must meet the appropriate provisions of their approved operations specifications.

19.3.5 Prior to GPS/WAAS IFR operation, the pilot must review appropriate Notices to Airmen (NOTAMs) and aeronautical information. This information is available on request from an Automated Flight Service Station. The FAA will provide NOTAMs to advise pilots of the status of the WAAS and level of service available.

19.3.5.1 The term UNRELIABLE is used in conjunction with GPS and WAAS NOTAMs. The term UNRELIABLE is an advisory to pilots indicating the expected level of WAAS service (LNAV/VNAV, LPV) may not be available; e.g., **!BOS BOS WAAS LPV AND LNAV/VNAV MNM UNREL WEF 0305231700 − 0305231815**. WAAS UNRELIABLE NOTAMs are predictive in nature and published for flight planning purposes. Upon commencing an approach at locations NOTAMed WAAS UNRELIABLE, if the WAAS avionics indicate LNAV/VNAV or LPV service is available, then vertical guidance may be used to complete the approach using the displayed level of service. Should an outage occur during the approach, reversion to LNAV minima may be required.

a) Area–wide WAAS UNAVAILABLE NOTAMs indicate loss or malfunction of the WAAS system. In flight, Air Traffic Control will advise pilots requesting a GPS or RNAV (GPS) approach of WAAS UNAVAILABLE NOTAMs if not contained in the ATIS broadcast.

b) Site–specific WAAS UNRELIABLE NOTAMs indicate an expected level of service, e.g., LNAV/VNAV or LPV may not be available. Pilots must request site–specific WAAS NOTAMs during flight planning. In flight, Air Traffic Control will not advise pilots of WAAS UNRELIABLE NOTAMs.

c) When the approach chart is annotated with the W symbol, site–specific WAAS UNRELIABLE NOTAMs or Air Traffic advisories are not provided for outages in WAAS LNAV/VNAV and LPV vertical service. Vertical outages may occur daily at these locations due to being close to the edge of WAAS system coverage. Use LNAV minima for flight planning at these locations, whether as a destination or alternate. For flight operations at these locations, when the WAAS avionics indicate that LNAV/VNAV or LPV service is available, then the vertical guidance may be used to complete the approach using the displayed level of service. Should an outage occur during the procedure, reversion to LNAV minima may be required.

NOTE–
Area–wide WAAS UNAVAILABLE NOTAMs apply to all airports in the WAAS UNAVAILABLE area designated in the NOTAM, including approaches at airports where an approach chart is annotated with the W symbol.

19.3.6 GPS/WAAS was developed to be used within SBAS GEO coverage (WAAS or other interoperable system) without the need for other radio navigation equipment appropriate to the route of flight to be flown. Outside the SBAS coverage or in the event of a WAAS failure, GPS/WAAS equipment reverts to GPS–only operation and satisfies the requirements for basic GPS equipment.

19.3.7 Unlike TSO–C129 avionics, which were certified as a supplement to other means of navigation, WAAS avionics are evaluated without reliance on other navigation systems. As such, installation of WAAS avionics does not require the aircraft to have other equipment appropriate to the route to be flown.

19.3.7.1 Pilots with WAAS receivers may flight plan to use any instrument approach procedure authorized for use with their WAAS avionics as the planned approach at a required alternate, with the following restrictions. When using WAAS at an alternate airport, flight planning must be based on flying the RNAV (GPS) LNAV minima line, or minima on a GPS approach procedure, or conventional approach procedure with “or GPS” in the title. Code of Federal Regulation (CFR) Part 91 nonprecision weather requirements must be used for planning. Upon arrival at an alternate, when the WAAS navigation system indicates that LNAV/VNAV or LPV service is available, then vertical guidance may be used to complete the approach using the displayed level of service. The FAA has begun removing the **NA** (Alternate Minimums Not Authorized) symbol from select RNAV (GPS) and GPS approach procedures so they may be used by approach approved WAAS receivers at alternate airports. Some approach procedures will still require the **NA** for other reasons, such as no weather reporting, so it cannot be removed from all procedures. Since every procedure must be individually evaluated, removal of the **NA** from RNAV (GPS) and GPS procedures will take some time.

19.4 Flying procedures with WAAS

19.4.1 WAAS receivers support all basic GPS approach functions and provide additional capabilities. One of the major improvements is the ability to generate glide path guidance, independent of ground equipment or barometric aiding. This eliminates several problems such as hot and cold temperature effects, incorrect altimeter setting or lack of a local altimeter source. It also allows approach procedures to be built without the cost of installing ground stations at each airport or runway. Some approach certified receivers may only generate a glide path with performance similar to Baro–VNAV and are only approved to fly the LNAV/VNAV line of minima on the RNAV (GPS) approach charts. Receivers with additional capability (including faster update rates and smaller integrity limits) are approved to fly the LPV line of minima. The lateral integrity changes dramatically from the 0.3 NM (556 meter) limit for GPS, LNAV and LNAV/VNAV approach mode, to 40 meters for LPV. It also provides vertical integrity monitoring, which bounds the vertical error to 50 meters for LNAV/VNAV and LPVs with minima of

250’ or above, and bounds the vertical error to 35 meters for LPVs with minima below 250’.

19.4.2 When an approach procedure is selected and active, the receiver will notify the pilot of the most accurate level of service supported by the combination of the WAAS signal, the receiver, and the selected approach, using the naming conventions on the minima lines of the selected approach procedure. For example, if an approach is published with LPV minima and the receiver is only certified for LNAV/VNAV, the equipment would indicate “LNAV/VNAV available,” even though the WAAS signal would support LPV. If flying an existing LNAV/VNAV procedure with no LPV minima, the receiver will notify the pilot “LNAV/VNAV available,” even if the receiver is certified for LPV and the signal supports LPV. If the signal does not support vertical guidance on procedures with LPV and/or LNAV/VNAV minima, the receiver annunciation will read “LNAV available.” On lateral only procedures with LP and LNAV minima the receiver will indicate “LP available” or “LNAV available” based on the level of lateral service available. Once the level of service notification has been given, the receiver will operate in this mode for the duration of the approach procedure, unless that level of service becomes unavailable. The receiver cannot change back to a more accurate level of service until the next time an approach is activated.

NOTE–
Receivers do not “fail down” to lower levels of service once the approach has been activated. If only the vertical off flag appears, the pilot may elect to use the LNAV minima if the rules under which the flight is operating allow changing the type of approach being flown after commencing the procedure. If the lateral integrity limit is exceeded on an LP approach, a missed approach will be necessary since there is no way to reset the lateral alarm limit while the approach is active.

19.4.3 Another additional feature of WAAS receivers is the ability to exclude a bad GPS signal and continue operating normally. This is normally accomplished by the WAAS correction information. Outside WAAS coverage or when WAAS is not available, it is accomplished through a receiver algorithm called FDE. In most cases this operation will be invisible to the pilot since the receiver will continue to operate with other available satellites after excluding the “bad” signal. This capability increases the reliability of navigation.

19.4.4 Both lateral and vertical scaling for the LNAV/VNAV and LPV approach procedures are different than the linear scaling of basic GPS. When the complete published procedure is flown, +/–1 NM linear scaling is provided until two (2) NM prior to the FAF, where the sensitivity increases to be similar to the angular scaling of an ILS. There are two differences in the WAAS scaling and ILS: 1) on long final approach segments, the initial scaling will be +/–0.3 NM to achieve equivalent performance to GPS (and better than ILS, which is less sensitive far from the runway); 2) close to the runway threshold, the scaling changes to linear instead of continuing to become more sensitive. The width of the final approach course is tailored so that the total width is usually 700 feet at the runway threshold. Since the origin point of the lateral splay for the angular portion of the final is not fixed due to antenna placement like localizer, the splay angle can remain fixed, making a consistent width of final for aircraft being vectored onto the final approach course on different length runways. When the complete published procedure is not flown, and instead the aircraft needs to capture the extended final approach course similar to ILS, the vector to final (VTF) mode is used. Under VTF the scaling is linear at +/–1 NM until the point where the ILS angular splay reaches a width of +/–1 NM regardless of the distance from the FAWP.

19.4.5 The WAAS scaling is also different than GPS TSO–C129 in the initial portion of the missed approach. Two differences occur here. First, the scaling abruptly changes from the approach scaling to the missed approach scaling, at approximately the departure end of the runway or when the pilot requests missed approach guidance rather than ramping as GPS does. Second, when the first leg of the missed approach is a Track to Fix (TF) leg aligned within 3 degrees of the inbound course, the receiver will change to 0.3 NM linear sensitivity until the turn initiation point for the first waypoint in the missed approach procedure, at which time it will abruptly change to terminal (+/–1 NM) sensitivity. This allows the elimination of close in obstacles in the early part of the missed approach that may cause the DA to be raised.

19.4.6 A new method has been added for selecting the final approach segment of an instrument approach. Along with the current method used by most receivers using menus where the pilot selects the airport, the runway, the specific approach procedure

and finally the IAF, there is also a channel number selection method. The pilot enters a unique 5−digit number provided on the approach chart, and the receiver recalls the matching final approach segment from the aircraft database. A list of information including the available IAFs is displayed and the pilot selects the appropriate IAF. The pilot should confirm that the correct final approach segment was loaded by cross checking the Approach ID, which is also provided on the approach chart.

19.4.7 The Along−Track Distance (ATD) during the final approach segment of an LNAV procedure (with a minimum descent altitude) will be to the MAWP. On LNAV/VNAV and LPV approaches to a decision altitude, there is no missed approach waypoint so the along−track distance is displayed to a point normally located at the runway threshold. In most cases the MAWP for the LNAV approach is located on the runway threshold at the centerline, so these distances will be the same. This distance will always vary slightly from any ILS DME that may be present, since the ILS DME is located further down the runway. Initiation of the missed approach on the LNAV/VNAV and LPV approaches is still based on reaching the decision altitude without any of the items listed in 14 CFR Section 91.175 being visible, and must not be delayed until the ATD reaches zero. The WAAS receiver, unlike a GPS receiver, will automatically sequence past the MAWP if the missed approach procedure has been designed for RNAV. The pilot may also select missed approach prior to the MAWP, however, navigation will continue to the MAWP prior to waypoint sequencing taking place.

20. Ground Based Augmentation System (GBAS) Landing System (GLS)

20.1 General

20.1.1 The GLS provides precision navigation guidance for exact alignment and descent of aircraft on approach to a runway. It provides differential augmentation to the Global Navigation Satellite System (GNSS).

20.1.2 LAAS was developed as an “ILS look−alike” system from the pilot perspective. LAAS is based on GPS signals augmented by ground equipment and has been developed to provide GLS precision approaches similar to ILS at airfields.

20.1.3 GLS provides guidance similar to ILS approaches for the final approach segment; portions of the GLS approach prior to and after the final approach segment will be based on Area Navigation (RNAV) or Required Navigation Performance (RNP).

20.1.4 The equipment consists of a GBAS Ground Facility (GGF), four reference stations, a VHF Data Broadcast (VDB) uplink antenna, and an aircraft GBAS receiver.

20.2 Procedure

20.2.1 Pilots will select the five digit GBAS channel number of the associated approach within the Flight Management System (FMS) menu or manually select the five digits (system dependent). Selection of the GBAS channel number also tunes the VDB.

20.2.2 Following procedure selection, confirmation that the correct LAAS procedure is loaded can be accomplished by cross checking the charted Reference Path Indicator (RPI) or approach ID with the cockpit displayed RPI or audio identification of the RPI with Morse Code (for some systems).

20.2.3 The pilot will fly the GLS approach using the same techniques as an ILS, once selected and identified.

21. Precision Approach Systems Other Than ILS, GLS, and MLS

21.1 General

Approval and use of precision approach systems other than ILS, GLS, and MLS require the issuance of special instrument approach procedures.

21.2 Special Instrument Approach Procedure

21.2.1 Special instrument approach procedures must be issued to the aircraft operator if pilot training, aircraft equipment, and/or aircraft performance is different than published procedures. Special instrument approach procedures are not distributed for general public use. These procedures are issued to an aircraft operator when the conditions for operations approval are satisfied.

21.2.2 General aviation operators requesting approval for special procedures should contact the local Flight Standards District Office to obtain a letter of authorization. Air carrier operators requesting approval for use of special procedures should contact

their Certificate Holding District Office for authorization through their Operations Specification.

21.3 Transponder Landing System (TLS)

21.3.1 The TLS is designed to provide approach guidance utilizing existing airborne ILS localizer, glide slope, and transponder equipment.

21.3.2 Ground equipment consists of a transponder interrogator, sensor arrays to detect lateral and vertical position, and ILS frequency transmitters. The TLS detects the aircraft's position by interrogating its transponder. It then broadcasts ILS frequency signals to guide the aircraft along the desired approach path.

21.3.3 TLS instrument approach procedures are designated Special Instrument Approach Procedures. Special aircrew training is required. TLS ground equipment provides approach guidance for only one aircraft at a time. Even though the TLS signal is received using the ILS receiver, no fixed course or glidepath is generated. The concept of operation is very similar to an air traffic controller providing radar vectors, and just as with radar vectors, the guidance is valid only for the intended aircraft. The TLS ground equipment tracks one aircraft, based on its transponder code, and provides correction signals to course and glidepath based on the position of the tracked aircraft. Flying the TLS corrections computed for another aircraft will not provide guidance relative to the approach; therefore, aircrews must not use the TLS signal for navigation unless they have received approach clearance and completed the required coordination with the TLS ground equipment operator. Navigation fixes based on conventional NAVAIDs or GPS are provided in the special instrument approach procedure to allow aircrews to verify the TLS guidance.

21.4 Special Category I Differential GPS (SCAT–I DGPS)

21.4.1 The SCAT–I DGPS is designed to provide approach guidance by broadcasting differential correction to GPS.

21.4.2 SCAT–I DGPS procedures require aircraft equipment and pilot training.

21.4.3 Ground equipment consists of GPS receivers and a VHF digital radio transmitter. The SCAT–I DGPS detects the position of GPS satellites relative to GPS receiver equipment and broadcasts differential corrections over the VHF digital radio.

21.4.4 Category I Ground Based Augmentation System (GBAS) will displace SCAT–I DGPS as the public–use service.

22. Area Navigation

22.1 General

22.1.1 Area Navigation (RNAV) provides enhanced navigational capability to the pilot. RNAV equipment can compute the airplane position, actual track and ground speed and then provide meaningful information relative to a route of flight selected by the pilot. Typical equipment will provide the pilot with distance, time, bearing and crosstrack error relative to the selected "TO" or "active" waypoint and the selected route. Several navigational systems with different navigational performance characteristics are capable of providing area navigational functions. Present day RNAV includes INS, VOR/DME, and GPS systems. Modern multi–sensor systems can integrate one or more of the above systems to provide a more accurate and reliable navigational system. Due to the different levels of performance, area navigational capabilities can satisfy different levels of required navigation performance (RNP).

22.2 RNAV Operations Incorporating RNP

22.2.1 During the past four decades, domestic and international air navigation have been conducted using a system of airways and instrument procedures based upon ground–based navigational systems such as NDB, VOR, and ILS. Reliance on ground–based navigational systems has served the aviation community well, but often results in less than optimal routes or instrument procedures and an inefficient use of airspace. With the widespread deployment of RNAV systems and the advent of GPS–based navigation, greater flexibility in defining routes, procedures, and airspace design is now possible with an associated increase in flight safety. To capitalize on the potential of RNAV systems, both the FAA and International Civil Aviation Organization (ICAO) are affecting a shift toward a new standard of navigation and airspace management called RNP.

22.2.2 Navigational systems are typically described as being sensor specific, such as a VOR or ILS system. By specifying airspace requirements as RNP, various navigation systems or combination of systems may be used as long as the aircraft can achieve the RNP. RNP is intended to provide a single performance standard that can be used and applied by

aircraft and aircraft equipment manufacturers, airspace planners, aircraft certification and operations, pilots and controllers, and international aviation authorities. RNP can be applied to obstacle clearance or aircraft separation requirements to ensure a consistent application level.

22.2.3 ICAO has defined RNP values for the four typical navigation phases of flight: oceanic, en route, terminal, and approach. The RNP applicable to a selected airspace, route, or procedure is designated by it's RNP Level or Type. As defined in the Pilot/Controller Glossary, the RNP Level or Type is a value typically expressed as a distance, in nautical miles, from the procedure, route or path within which an aircraft would typically operate. RNP applications also provide performance to protect against larger errors at some multiple of RNP level (e.g., twice the RNP level).

22.3 Standard RNP Levels

22.3.1 U.S. standard values supporting typical RNP airspace are as specified in TBL ENR 4.1−6 below. Other RNP levels as identified by ICAO, other states and the FAA may also be used.

TBL ENR 4.1−6
U.S. Standard RNP Levels

RNP Level	Typical Application
.3	Approach
1	Departure, Terminal
2	En Route

22.3.1.1 Application of Standard RNP Levels. U.S. standard levels of RNP typically used for various routes and procedures supporting RNAV operations may be based on use of a specific navigational system or sensor such as GPS, or on multi−sensor RNAV systems having suitable performance. New RNAV routes and procedures will be FAA's first public use procedures to include a specified RNP level. These procedures are being developed based on earth referenced navigation and do not rely on conventional ground−based navigational aids. Unless otherwise noted on affected charts or procedures, depiction of a specified RNP level will not preclude the use of other airborne RNAV navigational systems.

22.3.1.2 Depiction of Standard RNP Levels. The applicable RNP level will be depicted on affected charts and procedures. For example, an RNAV departure procedure may contain a notation referring to eligible aircraft by equipment suffix and a phrase "or RNP−1.0." A typical RNAV approach procedure may include a notation referring to eligible aircraft by specific navigation sensor(s), equipment suffix, and a phrase "or RNP−0.3." Specific guidelines for the depiction of RNP levels will be provided through chart bulletins and accompany affected charting changes.

22.4 Aircraft and Airborne Equipment Eligibility for RNP Operations. Aircraft meeting RNP criteria will have an appropriate entry including special conditions and limitations, if any, in its Aircraft/Rotorcraft Flight Manual (AFM), or supplement. RNAV installations with AFM−RNP certification based on GPS or systems integrating GPS are considered to meet U.S. standard RNP levels for all phases of flight. Aircraft with AFM−RNP certification without GPS may be limited to certain RNP levels, or phases of flight. For example, RNP based on DME/DME without other augmentation may not be appropriate for phases of flight outside the certified DME service volume. Operators of aircraft not having specific AFM−RNP certification may be issued operational approval including special conditions and limitations, if any, for specific RNP levels. Aircraft navigation systems eligible for RNP airspace will be indicated on charts, or announced through other FAA media such as NOTAMs and chart bulletins.

22.5 Understanding RNP Operations. Pilots should have a clear understanding of the aircraft requirements for operation in a given RNP environment, and advise ATC if an equipment failure or other malfunction causes the aircraft to lose its ability to continue operating in the designated RNP airspace. When a pilot determines a specified RNP level cannot be achieved, he/she should be prepared to revise the route, or delay the operation until an appropriate RNP level can be ensured. Some airborne systems use terms other than RNP to indicate the current level of performance. Depending on the airborne system implementation, this may be displayed, and referred to, as actual navigation performance (ANP), estimate of position error (EPE), or other.

22.6 Other RNP Applications Outside the U.S. The FAA, in cooperation with ICAO member states has led initiatives in implementing the RNP concept to oceanic operations. For example, RNP−10

routes have been established in the northern Pacific (NOPAC) which has increased capacity and efficiency by reducing the distance between tracks to 50 NM. Additionally, the FAA has assisted those U.S. air carriers operating in Europe where the routes have been designated as RNP–5. TBL ENR 4.1–7 below, shows examples of current and future RNP levels of airspace.

TBL ENR 4.1–7
RNP Levels Supported for International Operations

RNP Level	Typical Application
4	Projected for oceanic/remote areas where 30 NM horizontal separation is applied
5	European Basic RNAV (B–RNAV)
10	Oceanic/remote areas where 50 NM horizontal separation is applied

22.7 RNAV and RNP Operations

22.7.1 Pilot

22.7.1.1 If unable to comply with the requirements of an RNAV or RNP procedure, pilots must advise air traffic control as soon as possible. For example, "N1234, failure of GPS system, unable RNAV, request amended clearance."

22.7.1.2 Pilots are not authorized to fly a published RNAV or RNP procedure (instrument approach, departure, or arrival procedure) unless it is retrievable by the procedure name from the current aircraft navigation database and conforms to the charted procedure. The system must be able to retrieve the procedure by name from the aircraft navigation database, not just as a manually entered series of waypoints.

22.7.1.3 Whenever possible, RNAV routes (Q– or T–route) should be extracted from the database in their entirety, rather than loading RNAV route waypoints from the database into the flight plan individually. However, selecting and inserting individual, named fixes from the database is permitted, provided all fixes along the published route to be flown are inserted.

22.7.1.4 Pilots must not change any database waypoint type from a fly–by to fly–over, or vice versa. No other modification of database waypoints or the creation of user–defined waypoints on published RNAV or RNP procedures is permitted, except to:

a) Change altitude and/or airspeed waypoint constraints to comply with an ATC clearance/ instruction.

b) Insert a waypoint along the published route to assist in complying with ATC instruction, example, "Descend via the WILMS arrival except cross 30 north of BRUCE at/or below FL 210." This is limited only to systems that allow along–track waypoint construction.

22.7.1.5 Pilots of FMS–equipped aircraft, who are assigned an RNAV DP or STAR procedure and subsequently receive a change of runway, transition or procedure, must verify that the appropriate changes are loaded and available for navigation.

22.7.1.6 For RNAV 1 DPs and STARs, pilots must use a CDI, flight director and/or autopilot, in lateral navigation mode. Other methods providing an equivalent level of performance may also be acceptable.

22.7.1.7 For RNAV 1 DPs and STARs, pilots of aircraft without GPS, using DME/DME/IRU, must ensure the aircraft navigation system position is confirmed, within 1,000 feet, at the start point of take–off roll. The use of an automatic or manual runway update is an acceptable means of compliance with this requirement. Other methods providing an equivalent level of performance may also be acceptable.

22.7.1.8 For procedures or routes requiring the use of GPS, if the navigation system does not automatically alert the flight crew of a loss of GPS, the operator must develop procedures to verify correct GPS operation.

22.7.1.9 RNAV terminal procedures (DP and STAR) may be amended by ATC issuing radar vectors and/or clearances direct to a waypoint. Pilots should avoid premature manual deletion of waypoints from their active "legs" page to allow for rejoining procedures.

22.7.1.10 RAIM Prediction: If TSO–C129 equipment is used to solely satisfy the RNAV and RNP requirement, GPS RAIM availability must be confirmed for the intended route of flight (route and time). If RAIM is not available, pilots need an approved alternate means of navigation.

REFERENCE–
AIP, RNAV and RNP Operations, ENR 1.10 para 11.3.

22.7.1.11 Definition of "established" for RNAV and RNP operations: An aircraft is considered to be established on-course during RNAV and RNP operations anytime it is within 1 times the required accuracy for the segment being flown. For example, while operating on a Q-Route (RNAV 2), the aircraft is considered to be established on-course when it is within 2 nm of the course centerline.

NOTE–
Pilots must be aware of how their navigation system operates, along with any AFM limitations, and confirm that the aircraft's lateral deviation display (or map display if being used as an allowed alternate means) is suitable for the accuracy of the segment being flown. Automatic scaling and alerting changes are appropriate for some operations. For example, TSO-C129 systems change within 30 miles of destination and within 2 miles of FAF to support approach operations. For some navigation systems and operations, manual selection of scaling will be necessary.
(a) *Pilots flying FMS equipped aircraft with barometric vertical navigation (Baro-VNAV) may descend when the aircraft is established on-course following FMS leg transition to the next segment. Leg transition normally occurs at the turn bisector for a fly-by waypoint (reference paragraph 1-2-1 for more on waypoints). When using full automation, pilots should monitor the aircraft to ensure the aircraft is turning at appropriate lead times and descending once established on-course.*

(b) *Pilots flying TSO-C129 navigation system equipped aircraft without full automation should use normal lead points to begin the turn. Pilots may descend when established on-course on the next segment of the approach.*

23. NAVAID Identifier Removal During Maintenance

23.1 During periods of routine or emergency maintenance, coded identification (or code and voice, where applicable) is removed from certain FAA NAVAIDs. Removal of the identification serves as warning to pilots that the facility is officially off the air for tune–up or repair and may be unreliable even though intermittent or constant signals are received.

NOTE–
During periods of maintenance, VHF ranges may radiate a T–E–S–T code (– ● ●●● –).

NOTE–
DO NOT attempt to fly a procedure that is NOTAMed out of service even if the identification is present. In certain cases, the identification may be transmitted for short periods as part of the testing.

24. User Reports on NAVAID Performance

24.1 Users of the National Airspace System can render valuable assistance in the early correction of NAVAID malfunctions by reporting their observation of undesirable performance. Although NAVAIDs are monitored by electronic detectors adverse effects of electronic interference, new obstructions or changes in terrain near the NAVAID can exist without detection by the ground monitors. Some of the characteristics of malfunction or deteriorating performance which should be reported are: erratic course or bearing indications; intermittent, or full, flag alarm; garbled, missing or obviously improper coded identification; poor quality communications reception; or, in the case of frequency interference, an audible hum or tone accompanying radio communications or navaid identification.

24.2 Reporters should identify the NAVAID, location of the aircraft, time of the observation, type of aircraft and describe the condition observed; the type of receivers in use will also be useful information. Reports can be made in any of the following ways:

24.2.1 Immediately, by radio communication to the controlling Air Route Traffic Control Center, Control Tower, or Flight Service Station. This provides the quickest result.

24.2.2 By telephone to the nearest FAA facility.

24.2.3 By FAA Form 8740–5, Safety Improvement Report, a postage–paid card designed for this purpose. These cards may be obtained at FAA Flight Service Stations, Flight Standards District Offices, and General Aviation Fixed Base Operations.

24.3 In aircraft that have more than one receiver, there are many combinations of possible interference between units. This can cause either erroneous navigation indications or, complete or partial blanking out of the communications. Pilots should be familiar enough with the radio installation of particular airplanes they fly to recognize this type of interference.

25. Radio Communications and Navigation Facilities

25.1 A complete listing of air traffic radio communications facilities and frequencies and radio navigation facilities and frequencies are contained in the Airport/Facility Directory. Similar information for the Pacific and Alaskan areas is contained in the Pacific and Alaskan Supplements.

PART 3 – AERODROMES (AD)

AD 0.

AD 0.1 Preface – Not applicable
AD 0.2 Record of AIP Amendments – See GEN 0.2–1
AD 0.3 Record of AIP Supplements – Not applicable

AD 0.4 Checklist of Pages

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AD 0.5 List of Hand Amendments to the AIP – Not applicable

ICAO ID	Location	Airport Name	Designation
Texas			
KDFW	Dallas	Dallas–Fort Worth International	Regular
KELP	El Paso	El Paso International	Regular
KIAH	Houston	George Bush Intercontinental/ Houston	Regular
KLRD	Laredo	Laredo International	Regular
KSAT	San Antonio	San Antonio International	Regular
Utah			
KSLC	Salt Lake City	Salt Lake City International	Regular
Virgin Islands			
TIST	Charlotte Amalie St. Thomas	Cyril E King	Regular
TISX	Christiansted St. Croix	Henry E Rohlsen	Regular
Washington			
KPAE	Everett	Snohomish County (Paine Field)	Alternate
KSEA	Seattle	Seattle–Tacoma International	Regular
KGEG	Spokane	Spokane International	Alternate
Wisconsin			
KMKE	Milwaukee	General Mitchell International	Regular

1.1 Diagrams of these airports, arranged alphabetically by state and in the order listed above, are on the pages following. The most up–to–date diagrams of these and other U.S. airports are in the Terminal Procedures Publication (TPP). For additional information on these airports, see the U.S. Airport/ Facility Directory (A/FD).

1.2 Both the A/FD and TPP may be purchased from:
Aeronautical Navigation Products (AeroNav)
Logistics Group, AJV–372
Federal Aviation Administration
10201 Good Luck Road
Glenn Dale, MD 20769–9700
Telephone: 1–800–638–8972 (Toll free within U.S.)
301–436–8301
301–436–6829 (FAX)
e–mail: 9–AMC–Chartsales@faa.gov

Instrument Approach Procedures (Charts)
Airport Diagram/Airport Sketch

12096

LEGEND

INSTRUMENT APPROACH PROCEDURES (CHARTS)

AIRPORT DIAGRAM/AIRPORT SKETCH

31 MAY 2012 to 28 JUN 2012

Runways

Hard Surface | Other Than Hard Surface | Stopways, Taxiways, Parking Areas, Water Runways | Displaced Threshold

Closed Runway | Closed Taxiway | Under Construction | Metal Surface

ARRESTING GEAR: Specific arresting gear systems; e.g., BAK12, MA-1A etc., shown on airport diagrams, not applicable to Civil Pilots. Military Pilots refer to appropriate DOD publications.

uni-directional | bi-directional | Jet Barrier

ARRESTING SYSTEM

REFERENCE FEATURES

Buildings
Tanks
Obstructions
Airport Beacon #
Runway
Radar Reflectors
Hot Spot
Control Tower #.....TWR

When Control Tower and Rotating Beacon are co-located, Beacon symbol will be used and further identified as TWR.

Runway length depicted is the physical length of the runway (end-to-end, including displaced thresholds if any) but excluding areas designated as stopways.

A D symbol is shown to indicate runway declared distance information available, see appropriate A/FD, Alaska or Pacific Supplement for distance information.

Helicopter Alighting Areas

Negative Symbols used to identify Copter Procedures

landing point.....

Runway Threshold elevation.....THRE 123
Runway TDZ elevation.....TDZE 123

Runway Slope.....0.8% UP ⟶ (shown when runway slope is greater than or equal to 0.3%)

⟵ 0.3% DOWN

NOTE:
Runway Slope measured to midpoint on runways 8000 feet or longer.

U.S. Navy Optical Landing System (OLS) "OLS" location is shown because of its height of approximately 7 feet and proximity to edge of runway may create an obstruction for some types of aircraft.

Approach light symbols are shown in the Flight Information Handbook.

Airport diagram scales are variable.

True/magnetic North orientation may vary from diagram to diagram

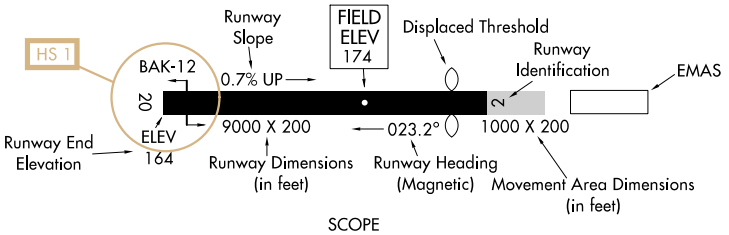
Coordinate values are shown in 1 or ½ minute increments. They are further broken down into 6 second ticks, within each 1 minute increments.

Positional accuracy within ±600 feet unless otherwise noted on the chart.

NOTE:
All new and revised airport diagrams are shown referenced to the World Geodetic System (WGS) (noted on appropriate diagram), and may not be compatible with local coordinates published in FLIP. (Foreign Only)

31 MAY 2012 to 28 JUN 2012

Runway Weight Bearing Capacity/or PCN Pavement Classification Number is shown as a codified expression.
Refer to the appropriate Supplement/Directory for applicable codes e.g.,
RWY 14-32 PCN 80 F/D/X/U S-75, D-185, 2S-175, 2D-325

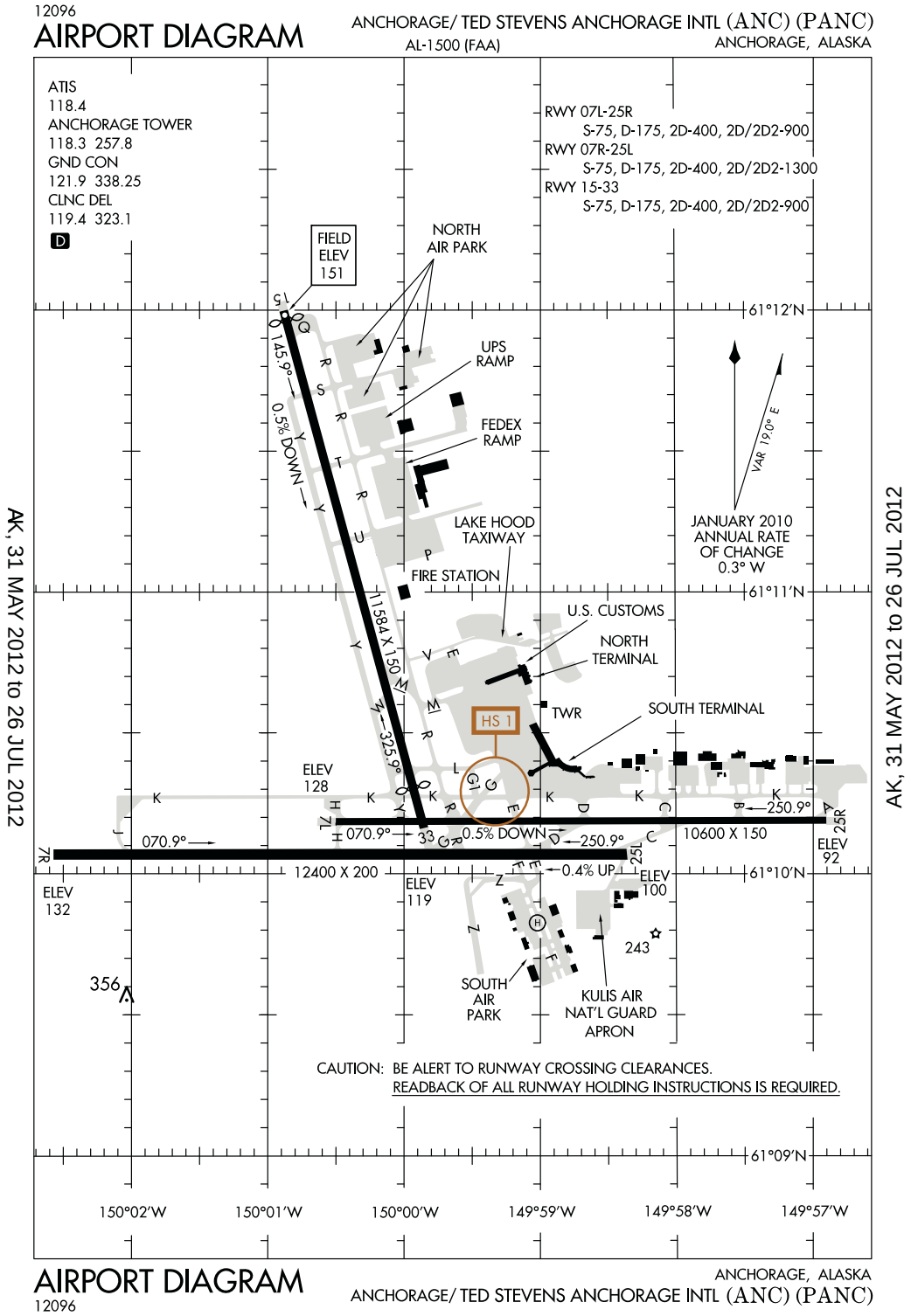


SCOPE

Airport diagrams are specifically designed to assist in the movement of ground traffic at locations with complex runway/taxiway configurations. Airport diagrams are not intended to be used for approach and landing or departure operations. For revisions to Airport Diagrams: Consult FAA Order 7910.4.

LEGEND

Anchorage, Alaska
Ted Stevens Anchorage International
ICAO Identifier PANC



Anchorage, AK
Ted Stevens Anchorage Intl
ICAO Identifier PANC

AD 2.2 Aerodrome geographical and administrative data
2.2.1 Reference Point: 61–10–26.70N / 149–59–53.50W
2.2.2 From City: 4 Miles SW Of Anchorage, AK
2.2.3 Elevation: 151 ft
2.2.5 Magnetic variation: 19E (2010)
2.2.6 Airport Contact: John Parrott
BOX 196960
Anchorage, AK 99519
(907–266–2525)
2.2.7 Traffic: IFR/VFR

AD 2.3 Operational hours
2.3.1 – 2.3.11: ALL Months, ALL Days, ALL Hours

AD 2.4 Handling services and facilities
2.4.1 Cargo handling facilities: No
2.4.2 Fuel types: 100,100LL,A,A1
2.4.4 De–icing facilities: None
2.4.5 Hangar space: Yes
2.4.6 Repair facilities: Major

AD 2.6 Rescue and firefighting services
2.6.1 Aerodrome category for firefighting: ARFF Index I E certified on 4/1/2005

AD 2.12 Runway physical characteristics
2.12.1 Designation: 07L
2.12.2 True Bearing: 90
2.12.3 Dimensions: 10600 ft x 150 ft
2.12.5 Coordinates: 61–10–11.15N / 150–00–30.00W
2.12.6 Threshold elevation: 128 ft
2.12.6 Touchdown zone elevation: 128 ft
2.12.7 Slope: 0.5DOWN

2.12.1 Designation: 25R
2.12.2 True Bearing: 270
2.12.3 Dimensions: 10600 ft x 150 ft
2.12.5 Coordinates: 61–10–11.32N / 149–56–53.88W
2.12.6 Threshold elevation: 92 ft
2.12.6 Touchdown zone elevation: 92 ft

2.12.1 Designation: 07R
2.12.2 True Bearing: 90
2.12.3 Dimensions: 12400 ft x 200 ft
2.12.5 Coordinates: 61–10–00.00N / 150–02–34.34W
2.12.6 Threshold elevation: 132 ft
2.12.6 Touchdown zone elevation: 132 ft

2.12.1 Designation: 25L
2.12.2 True Bearing: 270
2.12.3 Dimensions: 12400 ft x 200 ft
2.12.5 Coordinates: 61–10–00.00N / 149–58–21.54W
2.12.6 Threshold elevation: 100 ft
2.12.6 Touchdown zone elevation: 115 ft
2.12.7 Slope: 0.4UP

2.12.1 Designation: 15
2.12.2 True Bearing: 165
2.12.3 Dimensions: 11584 ft x 150 ft
2.12.5 Coordinates: 61–11–59.97N / 150–00–52.84W
2.12.6 Threshold elevation: 151 ft
2.12.6 Touchdown zone elevation: 151 ft
2.12.7 Slope: 0.5DOWN

2.12.1 Designation: 33
2.12.2 True Bearing: 345
2.12.3 Dimensions: 11584 ft x 150 ft
2.12.5 Coordinates: 61–10–00.00N / 149–59–51.21W
2.12.6 Threshold elevation: 119 ft
2.12.6 Touchdown zone elevation: 121 ft

AD 2.13 Declared distances
2.13.1 Designation: 07L
2.13.2 Takeoff run available: 10600
2.13.3 Takeoff distance available: 10600
2.13.4 Accelerate–stop distance available: 10600
2.13.5 Landing distance available: 10600

2.13.1 Designation: 25R
2.13.2 Takeoff run available: 10600
2.13.3 Takeoff distance available: 10600
2.13.4 Accelerate–stop distance available: 10600
2.13.5 Landing distance available: 10600

2.13.1 Designation: 07R
2.13.2 Takeoff run available: 10900
2.13.3 Takeoff distance available: 10900
2.13.4 Accelerate–stop distance available: 10900
2.13.5 Landing distance available: 12400

2.13.1 Designation: 25L

2.13.2 Takeoff run available: 12400
2.13.3 Takeoff distance available: 12400
2.13.4 Accelerate–stop distance available: 12000
2.13.5 Landing distance available: 12000

2.13.1 Designation: 15
2.13.2 Takeoff run available: 10493
2.13.3 Takeoff distance available: 10493
2.13.4 Accelerate–stop distance available: 10493
2.13.5 Landing distance available: 10493

2.13.1 Designation: 33
2.13.2 Takeoff run available: 11582
2.13.3 Takeoff distance available: 12582
2.13.4 Accelerate–stop distance available: 11582
2.13.5 Landing distance available: 10493

AD 2.14 Approach and runway lighting
2.14.1 Designation: 07L
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on right

2.14.1 Designation: 25R
2.14.4 Visual approach slope indicator system: 6–box VASI on left
2.14.10 Remarks: Upwind Threshold Crossing Height 64.19’ GA 3.25 Deg; Dwnwnd Threshold Crossing Height 39.31’ GA 3.00 Deg.

2.14.1 Designation: 07R
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration
2.14.4 Visual approach slope indicator system: 4–light PAPI on right

2.14.1 Designation: 25L
2.14.4 Visual approach slope indicator system: 4–light PAPI on left
2.14.10 Remarks: PAPI, Runway 25L, Upwind Threshold Crossing Height 101 Ft Glide Angle 3.25 Deg; Dwnwnd Threshold Crossing Height 75 Ft Glide Angle 3.00 Deg.

2.14.1 Designation: 15
2.14.2 Approach lighting system: Omnidirectional approach lighting system
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 33
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

AD 2.18 Air traffic services communication facilities
2.18.1 Service designation: LCL/P
2.18.3 Service designation: 118.3 MHz

2.18.1 Service designation: D–ATIS
2.18.3 Service designation: 118.4 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: APCH/P DEP/P CLASS C
2.18.3 Service designation: 118.6 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS C IC
2.18.3 Service designation: 118.6 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS C
2.18.3 Service designation: 119.1 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS C
2.18.3 Service designation: 119.1 MHz

2.18.1 Service designation: CD/P
2.18.3 Service designation: 119.4 MHz

2.18.1 Service designation: EMERG
2.18.3 Service designation: 121.5 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 121.9 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS C
2.18.3 Service designation: 123.8 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS C
2.18.3 Service designation: 126.4 MHz

2.18.1 Service designation: CD/S
2.18.3 Service designation: 128.65 MHz

2.18.1 Service designation: APCH/S

2.18.3 Service designation: 134.1 MHz

2.18.1 Service designation: EMERG
2.18.3 Service designation: 243 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 257.8 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS C
2.18.3 Service designation: 257.9 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS C
2.18.3 Service designation: 257.9 MHz

2.18.1 Service designation: RDR
2.18.3 Service designation: 259.1 MHz

2.18.1 Service designation: RDR
2.18.3 Service designation: 271.3 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS C IC
2.18.3 Service designation: 290.5 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS C
2.18.3 Service designation: 290.5 MHz

2.18.1 Service designation: RDR
2.18.3 Service designation: 320.1 MHz

2.18.1 Service designation: CD/P
2.18.3 Service designation: 323.1 MHz

2.18.1 Service designation: RDR
2.18.3 Service designation: 324.3 MHz

2.18.1 Service designation: RDR
2.18.3 Service designation: 327.1 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS C
2.18.3 Service designation: 363.2 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS C
2.18.3 Service designation: 363.2 MHz

2.18.1 Service designation: USB ANG OPS
2.18.3 Service designation: 4897.5 MHz

2.18.1 Service designation: ANG OPS
2.18.3 Service designation: 311 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 338.25 MHz

2.18.1 Service designation: ANG OPNS
2.18.3 Service designation: 140.15 MHz

AD 2.19 Radio navigation and landing aids

2.19.1 ILS type: Outer Marker for runway 07L.
Magnetic variation: 19E
2.19.2 ILS identification: TGN
2.19.5 Coordinates: 61–10–00.00N / 150–10–37.20W
2.19.6 Site elevation: ft

2.19.1 ILS type: Glide Slope for runway 07L.
Magnetic variation: 19E
2.19.2 ILS identification: TGN
2.19.5 Coordinates: 61–10–13.64N / 150–00–10.18W
2.19.6 Site elevation: 123 ft

2.19.1 ILS type: DME for runway 07L. Magnetic variation: 19E
2.19.2 ILS identification: TGN
2.19.5 Coordinates: 61–10–14.06N / 149–56–33.03W
2.19.6 Site elevation: 106 ft

2.19.1 ILS type: Localizer for runway 07L.
Magnetic variation: 19E
2.19.2 ILS identification: TGN
2.19.5 Coordinates: 61–10–11.33N / 149–56–32.65W
2.19.6 Site elevation: 85 ft

2.19.1 ILS type: Glide Slope for runway 07R.
Magnetic variation: 19E
2.19.2 ILS identification: ANC
2.19.5 Coordinates: 61–10–00.00N / 150–02–12.48W
2.19.6 Site elevation: 128 ft

2.19.1 ILS type: Outer Marker for runway 07R.
Magnetic variation: 19E
2.19.2 ILS identification: ANC
2.19.5 Coordinates: 61–10–00.00N / 150–10–37.20W
2.19.6 Site elevation: ft

2.19.1 ILS type: Inner Marker for runway 07R.
Magnetic variation: 19E

2.19.2 ILS identification: ANC
2.19.5 Coordinates: 61–10–00.00N / 150–02–51.67W
2.19.6 Site elevation: 127 ft

2.19.1 ILS type: Middle Marker for runway 07R. Magnetic variation: 19E
2.19.2 ILS identification: ANC
2.19.5 Coordinates: 61–10–00.00N / 150–02–56.82W
2.19.6 Site elevation: ft

2.19.1 ILS type: DME for runway 07R. Magnetic variation: 19E
2.19.2 ILS identification: ANC
2.19.5 Coordinates: 61–10–00.00N / 149–57–58.40W
2.19.6 Site elevation: 112 ft

2.19.1 ILS type: Localizer for runway 07R. Magnetic variation: 19E
2.19.2 ILS identification: ANC
2.19.5 Coordinates: 61–10–00.00N / 149–57–55.50W
2.19.6 Site elevation: 98 ft

2.19.1 ILS type: Localizer for runway 15. Magnetic variation: 19E
2.19.2 ILS identification: BSC
2.19.5 Coordinates: 61–09–59.92N / 149–59–45.64W
2.19.6 Site elevation: 121 ft

2.19.1 ILS type: DME for runway 15. Magnetic variation: 19E
2.19.2 ILS identification: BSC
2.19.5 Coordinates: 61–10–00.00N / 149–59–40.34W
2.19.6 Site elevation: 135 ft

2.19.1 ILS type: Glide Slope for runway 15. Magnetic variation: 19E
2.19.2 ILS identification: BSC
2.19.5 Coordinates: 61–11–45.22N / 150–00–52.61W
2.19.6 Site elevation: 142 ft

General Remarks:
MIGRATORY BIRDS IN THE VICINITY OF AIRPORT SPRING THROUGH FALL.

ONE HR PRIOR PERMISSION REQUIRED FOR NON–TRANSPONDER AIRCRAFT OPERATIONS. PRIOR PERMISSION REQUIRED FOR NON–RADIO AIRCRAFT OPERATIONS. NO NIGHTTIME NON–RADIO AIRCRAFT OPERATIONS PERMITTED. PILOTS MUST PROVIDE AN ESTIMATED TIME OF ARRIVAL & REMAIN WITHIN PLUS OR MINUS 15 MINUTES OF ESTIMATED TIME OF ARRIVAL.

FOR WEATHER SERVICE OFFICE PHONE 907–266–5105.

NOISE SENSITIVE AREA IN EFFECT; CONTACT AIRPORT MANAGER AT 907–266–2525 OR AIRPORT OPERATIONS 907–266–2600 FOR FURTHER INFORMATION.

TO COORDINATE NON–TRANSPONDER OR NON–RADIO OPERATIONS CONTACT AERONAUTICAL CHART ATCT AT 907–271–2700 DURING ADMIN HRS (0730–1600 WKDAYS). DURING NON–ADMIN HRS & HOLIDAYS CONTACT FAA AT 907–271–5936.

UNLIGHTED 489 FT TOWER 2 1/2 MILES NORTHEAST.

PORTIONS OF TAXIWAY K BETWEEN TAXIWAY H & TAXIWAY J NOT VISIBILITY FROM ATCT.

NO COMPASS CALIBRATION PAD.

RIGHT TURN OUT OF RAMP PARKING AREA R–2 THROUGH R–4 PROHIBITED.

USE FREQ 122.55 (RCO) FOR FILING, ACTIVATING & CANCELING FLIGHT PLANS IN THE ANCHORAGE BOWL AREA.

FAA RAMP PRIOR PERMISSION REQUIRED – CONTACT AERONAUTICAL CHART FLIGHT INSPECTION FIELD OFFICE FREQ 135.85, 907–271–2414 OR AVIATION 405–954–9780 MON–FRI 0600–1430L.

ANCHORAGE WX CAMERA AVAILABLE ON INTERNET AT HTTP://AKWEATHERCAMS.FAA.GOV

ANCHORAGE AIRPORT TRAFFIC CONTROL TOWER HAS BEEN GRANTED A WAIVER TO THE GUIDELINES THAT PROHIBIT THE CONTROL TOWER FROM DIRECTING AN AIRCRAFT TO ”LINEUP AND WAIT” AT AN INTERSECTION, BETWEEN SUNSET AND SUNRISE.

THIS WAIVER ALLOWS THE TOWER TO DIRECT THE AIRCRAFT TO ”LINEUP AND WAIT” DURING PERIODS OF DARKNESS AT THE FOLLOWING INTERSECTION: RUNWAY 33 AT TAXIWAY KILO.

AIRCRAFT SHALL NOT ”LINEUP AND WAIT” UNDER THE PROVISIONS OF THIS WAIVER WHEN THE SUBJECT INTERSECTION IS NOT VISIBLE FROM THE TOWER. WHEN THE PROVISIONS OF THIS WAIVER ARE BEING EXERCISED, THE AFFECTED RUNWAY SHALL BE USED FOR DEPARTURES ONLY.

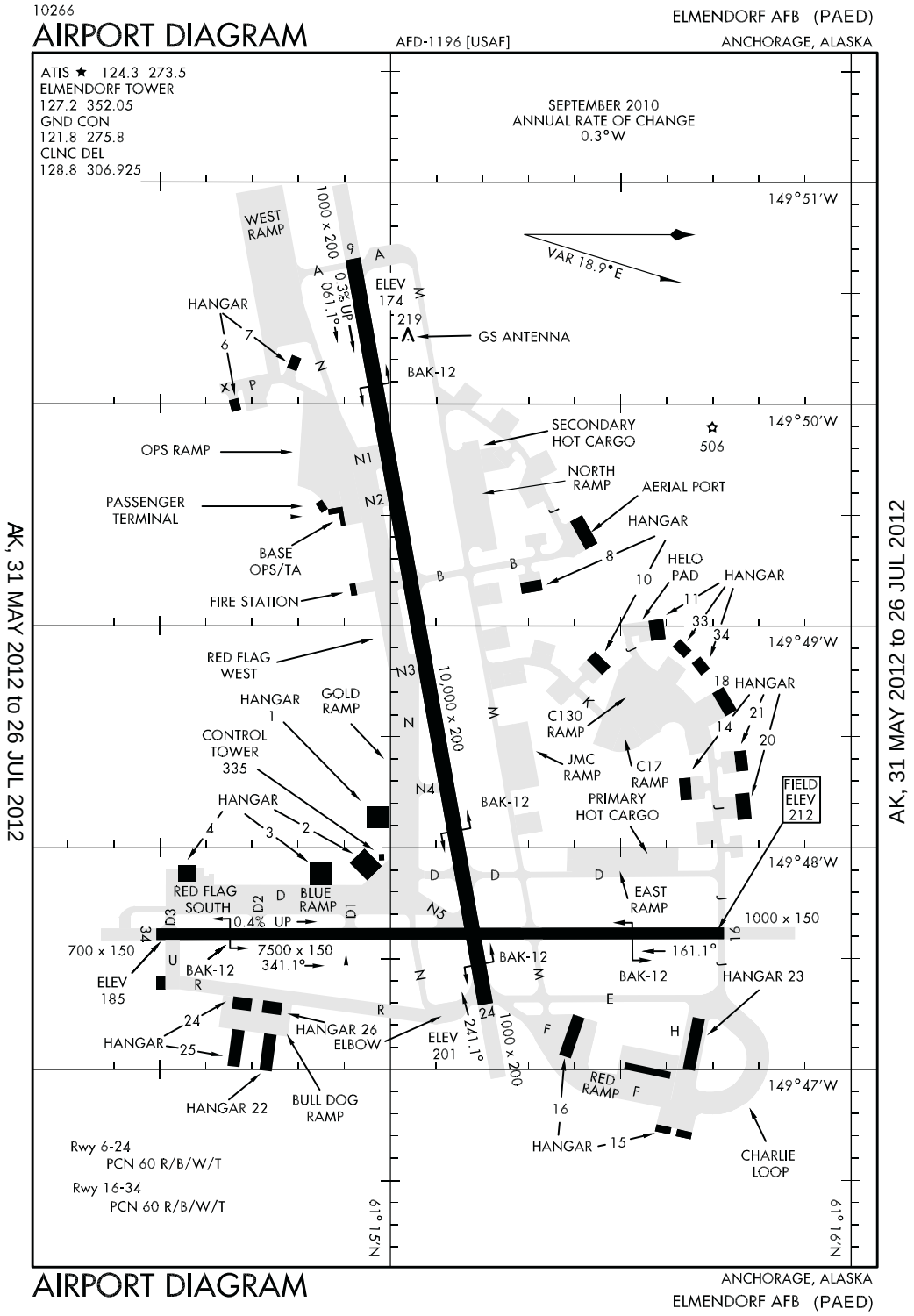
INTERSECTION DEPARTURES WILL CONTINUE TO BE UTILIZED AT OTHER LOCATIONS BETWEEN SUNSET AND SUNRISE. HOWEVER, AIRCRAFT CANNOT BE DIRECTED TO ”LINEUP AND WAIT ” PRIOR TO TAKEOFF CLEARANCE.

TAXIWAY V SECURITY GATE EAST OF TAXIWAY E; KEY 121.75 5 TIMES TO ACTIVATE.TWY V RESTRICTED TO AIRCRAFT WEIGHING 12500 LBS OR LESS. SUBJECT TO JET BLAST WEST OF TAXIWAY E.

TRANSIENT MILITARY AIRCRAFT PRIOR PERMISSION REQUIRED.

RUNWAY 07R: BACK TAXIING FROM TAXIWAY J FOR DEP PROHIBITED.

Anchorage, Alaska
Elmendorf AFB
ICAO Identifier PAED



Anchorage, AK
Elmendorf AFB
ICAO Identifier PAED

AD 2.2 Aerodrome geographical and administrative data
2.2.1 Reference Point: 61–15–00.00N / 149–48–23.45W
2.2.2 From City: 3 Miles NE Of Anchorage, AK
2.2.3 Elevation: 212 ft
2.2.5 Magnetic variation: 21E (2005)
2.2.6 Airport Contact: Airfield Mgr
300SS/DOFJ
Elmendorf AFB, AK 99506
(907–552–2444)
2.2.7 Traffic: IFR/VFR

AD 2.3 Operational hours
2.3.1 – 2.3.11: ALL Months, ALL Days, ALL Hours

AD 2.4 Handling services and facilities
2.4.1 Cargo handling facilities: No
2.4.2 Fuel types: None
2.4.4 De–icing facilities: Fluid: Presair, De–Ice, Nitrogen–Lhnit.
2.4.5 Hangar space: No
2.4.6 Repair facilities: None

AD 2.6 Rescue and firefighting services
2.6.1 Aerodrome category for firefighting: None

AD 2.10 Aerodrome obstacles
2.10.1.a. Runway designation: 34
2.10.1.b Type of obstacle: Pline Tree. Not Lighted or Marked

2.10.1.a. Runway designation: 16
2.10.1.b Type of obstacle: Trees Hill. Not Lighted or Marked

2.10.1.a. Runway designation: 24
2.10.1.b Type of obstacle: Pline Pole. Not Lighted or Marked

AD 2.12 Runway physical characteristics
2.12.1 Designation: 16
2.12.2 True Bearing: 180
2.12.3 Dimensions: 7505 ft x 150 ft
2.12.4 PCN: 60 R/B/W/T
2.12.5 Coordinates: 61–15–43.45N / 149–47–36.51W
2.12.6 Threshold elevation: 212 ft
2.12.6 Touchdown zone elevation: 212 ft

2.12.1 Designation: 34
2.12.2 True Bearing: 360
2.12.3 Dimensions: 7505 ft x 150 ft
2.12.4 PCN: 60 R/B/W/T
2.12.5 Coordinates: 61–14–29.54N / 149–47–36.55W
2.12.6 Threshold elevation: 185 ft
2.12.6 Touchdown zone elevation: 194 ft

2.12.1 Designation: 06
2.12.2 True Bearing: 80
2.12.3 Dimensions: 10000 ft x 200 ft
2.12.4 PCN: 60 R/B/W/T
2.12.5 Coordinates: 61–14–55.08N / 149–50–39.33W
2.12.6 Threshold elevation: 175 ft
2.12.6 Touchdown zone elevation: 174 ft

2.12.1 Designation: 24
2.12.2 True Bearing: 260
2.12.3 Dimensions: 10000 ft x 200 ft
2.12.4 PCN: 60 R/B/W/T
2.12.5 Coordinates: 61–15–12.17N / 149–47–18.01W
2.12.6 Threshold elevation: 201 ft
2.12.6 Touchdown zone elevation: 201 ft

AD 2.14 Approach and runway lighting
2.14.1 Designation: 16
2.14.4 Visual approach slope indicator system: 4–light PAPI on left
2.14.10 Remarks: Non–Standard PAPI Glide Angle 4.2 Degs On Runway 16 Due To High Terrain.

2.14.1 Designation: 34
2.14.2 Approach lighting system: ALSAF: 3000 feet high intensity approach lighting system with centerline sequence flashers
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 06
2.14.2 Approach lighting system: ALSAF: 3000 feet high intensity approach lighting system with centerline sequence flashers
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.10 Remarks: Approach Lights Extended 15'' Above Surface Up To 100' Prior To Threshold Runway 06 PAPI Unusable Beyond 8 Degs Either Side Of Course Path.

2.14.1 Designation: 24
2.14.4 Visual approach slope indicator system: 4–light PAPI on left
2.14.10 Remarks: PAPI Runway 24 Unusable Beyond 7 Degrees Right Of Course.

AD 2.18 Air traffic services communication facilities
2.18.1 Service designation: 11AF RESCUE COORD CNTR
2.18.3 Service designation: 123.1 MHz

2.18.1 Service designation: ATIS
2.18.3 Service designation: 124.3 MHz
2.18.4 Hours of operation: 0700–2300

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 127.2 MHz

2.18.1 Service designation: PTD
2.18.3 Service designation: 134.8 MHz

2.18.1 Service designation: ATIS
2.18.3 Service designation: 273.5 MHz
2.18.4 Hours of operation: 0700–2300

2.18.1 Service designation: 11AF RESCUE COORD CNTR
2.18.3 Service designation: 282.8 MHz

2.18.1 Service designation: PMSV
2.18.3 Service designation: 346.6 MHz

2.18.1 Service designation: AIR MOBILITY CTRL CNTR (CALL "DENALI")
2.18.3 Service designation: 349.4 MHz

2.18.1 Service designation: PTD
2.18.3 Service designation: 372.2 MHz

2.18.1 Service designation: 11AF COMD CEN
2.18.3 Service designation: 381 MHz

2.18.1 Service designation: AIR MOBILITY CTRL CNTR (CALL "DENALI")
2.18.3 Service designation: 134.1 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 352.05 MHz

2.18.1 Service designation: CD/P
2.18.3 Service designation: 128.8 MHz

2.18.1 Service designation: CD/P
2.18.3 Service designation: 306.925 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 121.8 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 275.8 MHz

AD 2.19 Radio navigation and landing aids
2.19.1 ILS type: Localizer for runway 06. Magnetic variation: 21E
2.19.2 ILS identification: EDF
2.19.5 Coordinates: 61–15–14.34N / 149–46–52.33W
2.19.6 Site elevation: 212 ft

2.19.1 ILS type: Glide Slope for runway 06. Magnetic variation: 21E
2.19.2 ILS identification: EDF
2.19.5 Coordinates: 61–15–00.00N / 149–50–16.98W
2.19.6 Site elevation: 168 ft

2.19.1 ILS type: Inner Marker for runway 06. Magnetic variation: 21E
2.19.2 ILS identification: EDF
2.19.5 Coordinates: 61–14–52.87N / 149–51–00.00W
2.19.6 Site elevation: 192 ft

2.19.1 ILS type: Middle Marker for runway 06. Magnetic variation: 21E
2.19.2 ILS identification: EDF
2.19.5 Coordinates: 61–14–49.02N / 149–51–49.94W
2.19.6 Site elevation: ft

General Remarks:
LANDING RUNWAY 16 NOT RECOMMENDED FOR JET AIRCRAFT EXCEPT DURING DAY VFR DUE OBSTRUCTION 337’ MSL LOCATED 1950’ FROM THR & 574’ W OF CENTERLINE.

HANGAR SPACE & WARM STORAGE EXTREMELY LIMITED OCT–MAY.

PREVENTIVE MAINT: TACAN WED AND FRI 1600–1700Z; ILS TUE AND THR 1500–1700Z; PRECISION APPROACH RADAR SAT–SUN 1800–2000Z; AIRPORT SURVEILLANCE RADAR SAT–SUN 2000–2200.

QUIET HR 0630–1400Z WEEKDAYS; 0630–1600Z WEEKEND & HOLS, AIR MOBILITY COMMAND AIRCRAFT EXEMPT.

CAUTION: MOOSE ON & IN THE VICINITY OF RUNWAY.

DURING VISUAL METEOROLOGICAL CONDITIONS DEPS/MISSED APCHS/GO AROUNDS; AIRCRAFT SHALL MAINTAIN AT OR BELOW 1200’ MSL UNTIL DEP END OF RUNWAY 05.

ALL FIGHTER AIRCRAFT ON ARR EXPECT REDUCED SEPARATION; SAME TYPE AIRCRAFT AND DAY 3000 FT; DISSIMILAR AIRCRAFT AND/OR NIGHT 6000 FT; AHEAD/BEHIND FORMATION LANDING–6000 FT.

NOTICE: A RIDGE EXTENDING FROM APPROXIMATELY 260 – 020 DEGREES ONE TO TWO MILES FROM THE TOWER PREVENTS OBSERVATION OF FOG OVER KNIK ARM. VISIBILITY MAY DROP RAPIDLY AS FOG POURS OVER RIDGE.

AIRCRAFT REQUIRING CUSTOMS CONTACT BASE OPERATIONS 90 MIN PRIOR TO ARRIVAL BY WAY OF GLOBAL RADIO.

ALL AIRCRAFT MAINTAIN IDLE POWER ON OUTBOARD ENGINE WHILE TAXIING.

NO SIGNS OR PAINTED HOLD SHORT LINES ON INTERSECTING RUNWAYS.

PRIOR PERMISSION REQUIRED NUMBERS WILL BE PROVIDED BETWEEN 24 HRS & 5 DAYS PRIOR TO ARR, CONTACT BASE OPERATIONS DSN 317–552–2107/1202 OR C907–552–2107/1202.

EXTENSIVE SERVICE DELAY FOR FUEL.

ALL VIP AIRCRAFT CONTACT BASE OPERATIONS 30 MIN PRIOR TO ARR.

FREQUENT ACTIVITY IN R2203. WHEN UNABLE TO AVOID CONTACT ATCT.

ALL TRANSIENT AIRCREWS OPER OUT OF ELMENDORF INTENDING ON LOCAL MISSIONS MUST RECIEVE A LOCAL BRIEFING FROM 3 OG/CC AT 317–552–2262.

SPECIAL AIR TRAFFIC RULES FAR PART 93, SEE REGULATORY NOTICES IN THE SUPPLEMENT.

FIRST 1000 FT RUNWAY 06 & FIRST 1200 FT RUNWAY 24 ARE CONCRETE, MIDDLE 7800 FT IS ASPHALT. FOR CURRENT RCR/RCS’S ON RUNWAY 06/24 AND RUNWAY 16/34, AND AIRFIELD RCRS CONTACT TOWER.

LIMITED MAINTENANCE CAPABILITIES ON WEEKEND.

JOAP, JOINT OIL ANALYSIS PROGRAM AVAILABLE. L/H NIT, LOW & HIGH PRESSURE NITROGEN SERVICING AVAILABLE.

CHANGE JET AIRCRAFT STARTING UNITS (JASU) TO, (A/M32A−86), MC−1A), (MC−2A), (AM32A−60A). (AM32−95)150 +/−5 LBS/MIN (2055 +/−68CFM) AT 51 +/−02 PSIA. LASS 150 +/−5 LBS/MIN @ 49 +/−2 PSIA.

FUEL: J8

OIL: O−123, O−128, O−133, O−148, O−156, JOAP.

JOAP & LOW & HIGH PRESURE NITROGEN SERVICING FURNISHED DURING NORMAL DUTY HOURS, OTHER TIMES ON REQUEST.

FLUID: PRESAIR, DE−ICE, NITROGEN−L/H NIT.

ALL AIRCRAFT REQUIRE BARRIER REMOVAL MUST CONTACT AIRFIELD MANAGEMENT PRIOR TO DEPARTING PREVIOUS STATION.

PRIOR PERMISSION REQUIRED NRS VALID 6 HRS PRIOR TO OR AFTER ESTIMATED TIME OF ARRIVAL.

UNITS DEPLOYING, INTENDING TO FLY ANY SORTIES THAT ORIGINATE AND TERMINATE AT ELMENDORF MUST DEPLOY WITH CREW CHIEFS AND CONTACT 3 WG SCHEDULING DSN 317−552−2406 NOT LATER THAN 90 DAYS PRIOR TO ARRIVAL TO OBTAIN SPONSORING UNIT INFORMATION.

RUNWAY 16/34 RUBBER ACCUMULATE NORTH & SOUTH 1000FT.

TRANSIENT MAINTENANCE: AIRCRAFT SERVICES ARE LIMITED TO POL SERVICING, INTAKE/EXHAUST INSPECTIONS, F−16 CHIP DETECTOR INSPECTIONS AND END OF RUNWAY INSPECTIONS.

IFF SERVICE AVAILABLE. AIRFIELD WX IS AUTOMATICALLY MONITOR BY AN/FQ−19 AUTOMATED WX OBSERVING SYSTEM AND BACKED−UP/ AUGMENTED BY HUMAN OBSERVER WHEN NECESSARY 24/7. DSN 317−552−4903/4397OR C907−552−4903/4397. FULL SERVICE WX BRIEFING 24HRS 17 OPERATIONAL WEATHER SQUADRON DSN 315−449−8333 OR C808−449−8333.

C17/C130 OVERT LIGHTS AVAILABLE ON RY16/34. C17/C130 COVERT LIGHTS AVAILABLE ON RUNWAY 16.

NIGHT VISION GOGGLE OPERATIONS ON RUNWAY 16/34 & RUNWAY 06/24 MON−FRI FROM 0400−1000Z++.

DURING EVACUATION OF WX STATION, CONTACT 17 OPERATIONAL WX SQUADRON AT DSN 315−449−8333.

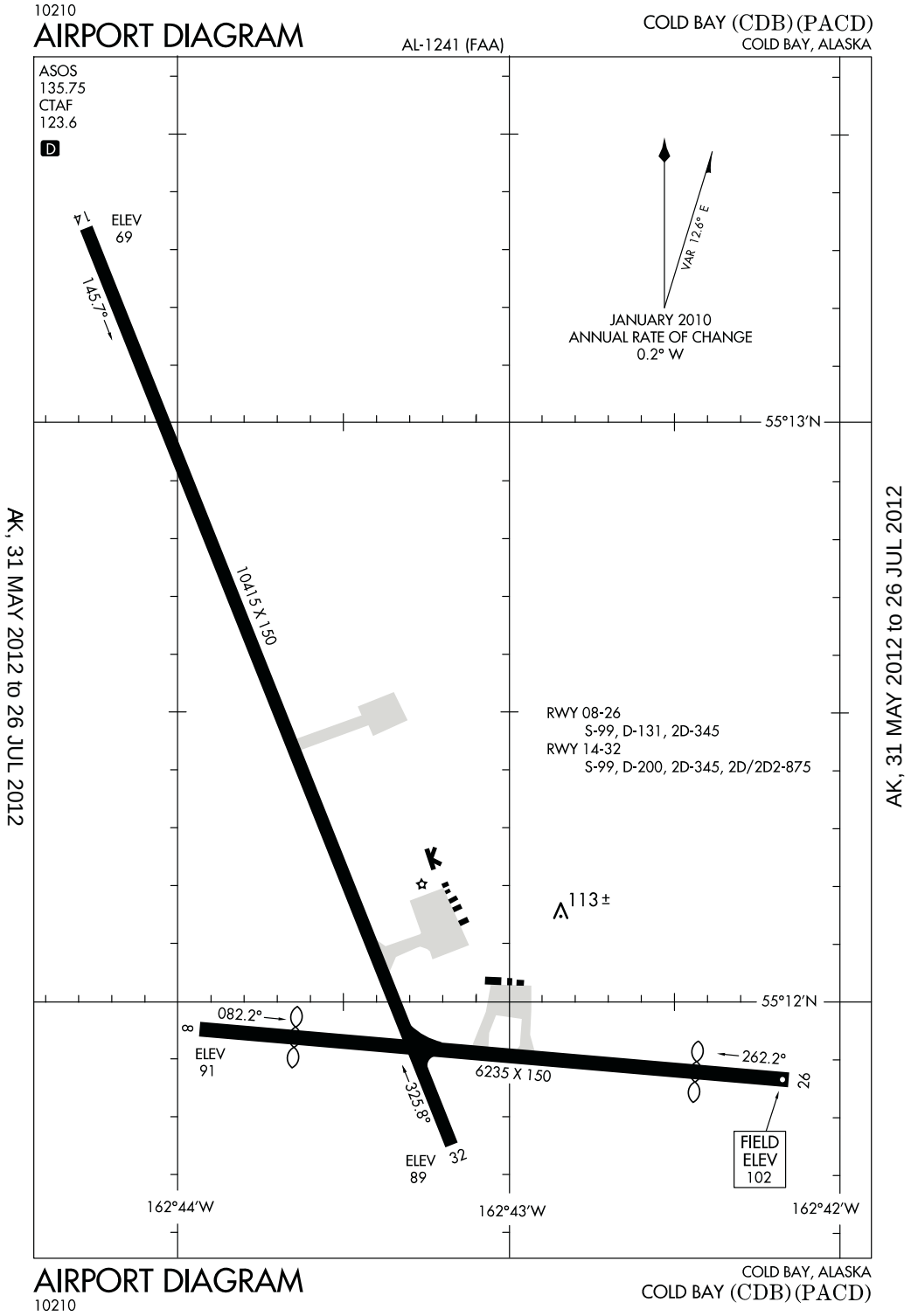
ALTERNATE WX LOCATION VISIBILITY OBSTRUCTED FROM SE−W DUE TO HANGARS. USE PHONE PATCH WHEN WX RELOCATES TO ALTERNATE LOCATION.PHONE PATCH CAPABILITY THROUGH 3 WG/CP AT 907−552−3000.

CAUTION: NUMEROUS AIRCRAFT WILL BE OPR IFR BETWEEN 1500−2000 MSL FROM BGQ 092/10 INTO R2203 TO EDF 320/07 IN THE VICINITY OF BIG LAKE, PALMER, BIRCHWOOD, GOOSEBAY AND WASILLA, AK., MON−SAT 0300−0800Z++, AND TUES AND THU 1800−2200Z++.

ALL NON−BASED ASSIGNED AIRCRAFT REQUIRE PRIOR PERMISSION REQUIRED.

CAUTION: HEAVY RAINFALL MAY CAUSE HIGH POTENTIAL FOR HYDROPLANING FOR CONCRETE ENDS OF RUNWAY 06 AND RUNWAY 24.

Cold Bay, Alaska
Cold Bay
ICAO Identifier PACD



Cold Bay, AK
Cold Bay
ICAO Identifier PACD

AD 2.2 Aerodrome geographical and administrative data
2.2.1 Reference Point: 55−12−18.54N / 162−43−28.08W
2.2.2 From City: 0 Miles N Of Cold Bay, AK
2.2.3 Elevation: 102 ft
2.2.5 Magnetic variation: 14E (2005)
2.2.6 Airport Contact: Jeff Doerning
BOX 97
Cold Bay, AK 99571
(907−532−5000)
2.2.7 Traffic: IFR/VFR

AD 2.3 Operational hours
2.3.1 – 2.3.11: MAY−SEP Months, ALL Days, 0800−1900 Hours

AD 2.4 Handling services and facilities
2.4.1 Cargo handling facilities: No
2.4.2 Fuel types: 100,A
2.4.4 De−icing facilities: None
2.4.5 Hangar space: Yes
2.4.6 Repair facilities: Minor
2.4.7 Remarks: Maint Duty Hrs: 0700 – 1800 Sun Thru Sat (1 May – 30 Sep); 0530 – 1800 (1 Oct – 30 Apr).

AD 2.6 Rescue and firefighting services
2.6.1 Aerodrome category for firefighting: ARFF Index I B certified on 4/1/2005
2.6.4 Remarks: Closed To Aircraft 0 Operations With More Than 30 Passenger Seats Except Prior Permission Required In Writing To Airport Manager Box 97 Cold Bay Ak 99571.

AD 2.12 Runway physical characteristics
2.12.1 Designation: 14
2.12.2 True Bearing: 158
2.12.3 Dimensions: 10415 ft x 150 ft
2.12.5 Coordinates: 55−13−20.62N / 162−44−16.51W
2.12.6 Threshold elevation: 69 ft
2.12.6 Touchdown zone elevation: 74 ft

2.12.1 Designation: 32
2.12.2 True Bearing: 338
2.12.3 Dimensions: 10415 ft x 150 ft
2.12.5 Coordinates: 55−11−45.16N / 162−43−10.26W
2.12.6 Threshold elevation: 89 ft
2.12.6 Touchdown zone elevation: 89 ft

2.12.1 Designation: 08
2.12.2 True Bearing: 95
2.12.3 Dimensions: 6235 ft x 150 ft
2.12.5 Coordinates: 55−11−57.13N / 162−43−56.05W
2.12.6 Threshold elevation: 91 ft
2.12.6 Touchdown zone elevation: 93 ft
2.12.7 Slope: 0.3UP

2.12.1 Designation: 26
2.12.2 True Bearing: 275
2.12.3 Dimensions: 6235 ft x 150 ft
2.12.5 Coordinates: 55−11−52.01N / 162−42−00.00W
2.12.6 Threshold elevation: 102 ft
2.12.6 Touchdown zone elevation: 96 ft

AD 2.13 Declared distances
2.13.1 Designation: 08
2.13.2 Takeoff run available: 6235
2.13.3 Takeoff distance available: 6235
2.13.4 Accelerate−stop distance available: 5235
2.13.5 Landing distance available: 4235

2.13.1 Designation: 26
2.13.2 Takeoff run available: 6235
2.13.3 Takeoff distance available: 6235
2.13.4 Accelerate−stop distance available: 5235
2.13.5 Landing distance available: 4235

AD 2.14 Approach and runway lighting
2.14.1 Designation: 14
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights

2.14.1 Designation: 32
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4−box VASI on left

2.14.1 Designation: 08
2.14.4 Visual approach slope indicator system: 4−box VASI on left
2.14.10 Remarks: Line Of Sight For VASI Rwy 08 Offset 5 Degrees To The North.

2.14.1 Designation: 26
2.14.4 Visual approach slope indicator system:
4–box VASI on left

AD 2.19 Radio navigation and landing aids
2.19.1 ILS type: Localizer for runway 14. Magnetic variation: 14E
2.19.2 ILS identification: CDB
2.19.5 Coordinates: 55–11–41.02N / 162–43–00.00W
2.19.6 Site elevation: 89 ft

2.19.1 ILS type: Glide Slope for runway 14. Magnetic variation: 14E
2.19.2 ILS identification: CDB
2.19.5 Coordinates: 55–13–12.78N / 162–44–00.00W
2.19.6 Site elevation: 68 ft

2.19.1 ILS type: Outer Marker for runway 14. Magnetic variation: 14E
2.19.2 ILS identification: CDB
2.19.5 Coordinates: 55–17–49.16N / 162–47–24.07W
2.19.6 Site elevation: 36 ft

2.19.1 ILS type: Middle Marker for runway 14. Magnetic variation: 14E
2.19.2 ILS identification: CDB
2.19.5 Coordinates: 55–13–53.76N / 162–44–39.55W
2.19.6 Site elevation: ft

General Remarks:
SNOW & ICE REMOVAL AND AIRPORT HAZARD REPORTING ONLY PERFORMED DURING DUTY HRS UNLESS BY PRIOR ARRANGEMENT IN WRITING WITH AIRPORT MANAGER.

LARGE BIRDS NEAR APPROACH ENDS OF ALL RUNWAYS.

BRAKELOCK TURNS NOT ALLOWED ON RUNWAYS.

CODE OF FEDERAL REGULATIONS INDEX B. INDEX MAY BE REDUCED FOR AIRCRAFT LESS THAN 90'.

NO CUSTOMS AVAILABLE; WRITTEN PERMISSION REQUIRED FOR REFUELING STOPS 24–48 HRS IN ADVANCE IF ARRIVING FROM A FOREIGN COUNTY; FAX 907–271–2684 OR 907–271–2686.

TOWER 4.8 NAUTICAL MILE NW OF AIRPORT UNLIGHTED.

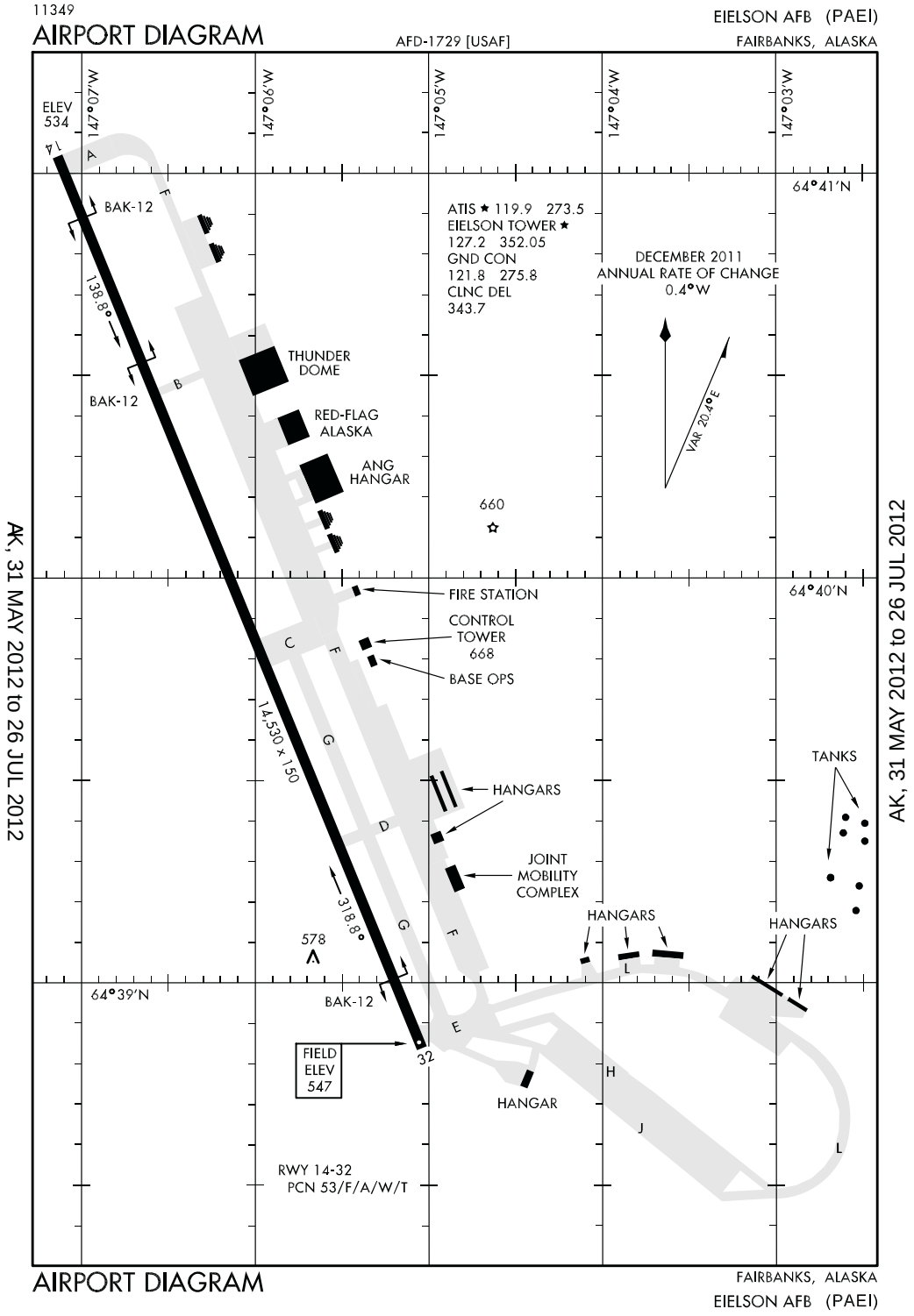
PERSONNEL AND EQUIPMENT MAY BE WORKING ON THE RUNWAY AT ANY TIME.

AIRPORT SAND LARGER GRADATION THAN FAA RECOMMENDED/SEE AC150/5200–30.

WX CAMERA AVAILABLE ON INTERNET AT HTTP://AKWEATHERCAMS.FAA.GOV

ROTATING BEACON OPERATIONS UNMONITORED WHEN CDB FSS UNMANNED.

Fairbanks, Alaska
Eielson AFB
ICAO Identifier PAEI



Fairbanks, AK
Eielson AFB
ICAO Identifier PAEI

AD 2.2 Aerodrome geographical and administrative data
2.2.1 Reference Point: 64–39–56.32N / 147–06–00.00W
2.2.2 From City: 17 Miles SE Of Fairbanks, AK
2.2.3 Elevation: 547 ft
2.2.5 Magnetic variation: 23E (2005)
2.2.6 Airport Contact: Chief Airfield Management
343 CSG/OTM
Eielson AFB, AK 99702
(907–377–3201)
2.2.7 Traffic: IFR/VFR

AD 2.3 Operational hours
2.3.1 – 2.3.11: ALL Months, ALL Days, 1600–0800Z++ Hours

AD 2.4 Handling services and facilities
2.4.1 Cargo handling facilities: No
2.4.2 Fuel types: None
2.4.4 De–icing facilities: None
2.4.5 Hangar space: Yes
2.4.6 Repair facilities: None

AD 2.6 Rescue and firefighting services
2.6.1 Aerodrome category for firefighting: None

AD 2.10 Aerodrome obstacles
2.10.1.a. Runway designation: 32
2.10.1.b Type of obstacle: Trees. Not Lighted or Marked

AD 2.12 Runway physical characteristics
2.12.1 Designation: 14
2.12.2 True Bearing: 159
2.12.3 Dimensions: 14530 ft x 150 ft
2.12.4 PCN: 53 F/A/W/T
2.12.5 Coordinates: 64–41–00.00N / 147–07–00.00W
2.12.6 Threshold elevation: 534 ft
2.12.6 Touchdown zone elevation: 536 ft

2.12.1 Designation: 32
2.12.2 True Bearing: 339
2.12.3 Dimensions: 14530 ft x 150 ft
2.12.4 PCN: 53 F/A/W/T
2.12.5 Coordinates: 64–38–49.49N / 147–05–00.00W
2.12.6 Threshold elevation: 547 ft
2.12.6 Touchdown zone elevation: 547 ft

AD 2.14 Approach and runway lighting
2.14.1 Designation: 14
2.14.2 Approach lighting system: NSTD: Lighting fails to meet FAA standards
2.14.4 Visual approach slope indicator system: 4–light PAPI on left
2.14.10 Remarks: Non Standard 2 Parallel Row Approach Lights–Af Type E .

2.14.1 Designation: 32
2.14.2 Approach lighting system: ALSAF: 3000 feet high intensity approach lighting system with centerline sequence flashers
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

AD 2.18 Air traffic services communication facilities
2.18.1 Service designation: RDR SFA
2.18.3 Service designation: 118.6 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 121.8 MHz

2.18.1 Service designation: SUAIS RADIO
2.18.3 Service designation: 125.3 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 127.2 MHz

2.18.1 Service designation: RDR SFA
2.18.3 Service designation: 259.1 MHz

2.18.1 Service designation: ATIS
2.18.3 Service designation: 273.5 MHz
2.18.4 Hours of operation: 1600–0800Z++

2.18.1 Service designation: GND/P
2.18.3 Service designation: 275.8 MHz

2.18.1 Service designation: RDR SFA
2.18.3 Service designation: 318.2 MHz

2.18.1 Service designation: RDR SFA
2.18.3 Service designation: 320.1 MHz

2.18.1 Service designation: RDR SFA
2.18.3 Service designation: 324.3 MHz

2.18.1 Service designation: CD
2.18.3 Service designation: 343.7 MHz

2.18.1 Service designation: PMSV
2.18.3 Service designation: 346.6 MHz

2.18.1 Service designation: PTD
2.18.3 Service designation: 372.2 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 352.05 MHz

2.18.1 Service designation: PTD
2.18.3 Service designation: 139.3 MHz

2.18.1 Service designation: WING OPS
2.18.3 Service designation: 259.5 MHz

2.18.1 Service designation: SOURDOUGH
2.18.3 Service designation: 139.6 MHz

2.18.1 Service designation: CP (HAVE QUICK)
2.18.3 Service designation: 289.4 MHz

2.18.1 Service designation: 168 ANG OPS
2.18.3 Service designation: 238.3 MHz

2.18.1 Service designation: 168 ANG OPS
2.18.3 Service designation: 293.6 MHz

2.18.1 Service designation: ATIS
2.18.3 Service designation: 119.9 MHz
2.18.4 Hours of operation: 1600–0800Z++

2.18.1 Service designation: SOURDOUGH
2.18.3 Service designation: 359.15 MHz

AD 2.19 Radio navigation and landing aids

2.19.1 ILS type: Localizer for runway 32. Magnetic variation: 23E
2.19.2 ILS identification: EAF
2.19.5 Coordinates: 64–41–22.13N / 147–07–21.41W
2.19.6 Site elevation: 528 ft

2.19.1 ILS type: Glide Slope for runway 32. Magnetic variation: 23E
2.19.2 ILS identification: EAF
2.19.5 Coordinates: 64–38–58.93N / 147–05–25.28W
2.19.6 Site elevation: 540 ft

2.19.1 ILS type: Middle Marker for runway 32. Magnetic variation: 23E
2.19.2 ILS identification: EAF
2.19.5 Coordinates: 64–38–10.49N / 147–04–32.62W
2.19.6 Site elevation: ft

2.19.1 ILS type: Glide Slope for runway 14. Magnetic variation: 23E
2.19.2 ILS identification: EIL
2.19.5 Coordinates: 64–40–51.59N / 147–07–00.00W
2.19.6 Site elevation: 532 ft

2.19.1 ILS type: Localizer for runway 14. Magnetic variation: 23E
2.19.2 ILS identification: EIL
2.19.5 Coordinates: 64–38–33.05N / 147–04–51.27W
2.19.6 Site elevation: 548 ft

General Remarks:

TRANSMIT ALERT SERVICE AVAILABLE 0700–0000 MON–FRI EXCEPT HOLIDAY; OTHER TIMES PRIOR PERMISSION REQUIRED THROUGH BASE OPERATIONS OFFICE.

CRYPTO MATERIALS NOT AVAILABLE TRANSIENT CREW. ALL AIRCRAFT WITH VIP CONTACT AIRFIELD MANAGEMENT 20–30 MINUTES PRIOR TO ESTIMATED TIME OF ARRIVAL WITH FIRM CHICK TIME. LIMITED FLEET SERVICE AVAILABLE, NO POTABLE WATER.

OVERHEAD TRAFFIC PATTERN ALTITUDE 2000 FT MSL; RECTANGULAR TRAFFIC PATTERN ALTITUDE 1500 FT MSL.

AVOID SMALL ARMS RANGE LOCATED 2.5 NAUTICAL MILE E OF APPROACH END RUNWAY 32. SMALL ARM RANGE ACTIVE WEEKEND 1700–0100Z++, SURFACE TO 3500 FT AGL.

CARGO & PASSENGER CARRYING AIRCRAFT CALL COMMAND POST 3 HRS PROIR TO LANDING AND 30 MIN PROIR TO LANDING AND STATE NUMBER OF PASSENGERS.

BASH PHASE II MONTHS ARE APR, MAY, AUG AND SEPT. DURING PERIODS OF STANDING WATER ON THE AIRFIELD, GULLS, DUCKS, GEESE AND OTHER BIRDS POSE A SIGNIFICANT HAZARD TO AIRCRAFT. REPORT ALL BIRD AND ANIMAL STRIKES ON & IN THE VICINITY OF EILSON TO AIRFIELD MANAGEMENT, DSN 317–377–186, PILOT TO DISPATCH OR 354 FW/SE DSN 317–377–4110.

TO AVOID DELAY FILE FLIGHT PLAN AT LEAST 2 HRS PRIOR TO ESTIMATED TIME OF DEPARTURE. ARRIVALS REQUIRING CUSTOMS MUST NOTIFY AIRFIELD MANAGEMENT 1.5 HRS PRIOR TO LANDING. U.S. IMMIGRATION SERVICE NOT AVAILABLE. AIR TERMINAL AND GROUND HANDLING SERVICE OPRS 1630–0030Z++ WEEKDAYS.

DEP AIRCRAFT REMAIN AT OR BELOW 1500 FT UNTIL DEP END OF RUNWAY.

ALL PACAF FIGHTER AIRCRAFT ON ARR EXPECT REDUCED RUNWAY SEPARATION; SIMILAR FIGHTER TYPE/DAY – 3000 FT; DISSIMILAR FIGHTER TYPE AND/OR NIGHT WET RUNWAY OR RUNWAY CONDITION READING REPORT LESS THAN 17 – 6000 FT; BEHIND FORMATION LANDING – 6000 FT; FIGHTER TYPE LANDING BEHIND NON–FTR TYPE – 9000 FT; RUNWAY CONDITION READING VALIDATED AS CONDITIONS WARRANT.

FLIGHTS ORIGINATING OUTSIDE OF THE STATE REFER TO ALASKA SECTION OF US AIR FORCE – FOREIGN CLEARANCE GUIDE.

TRANSMIT BILLETING EXTREMELY LIMITED/EXTENSIVE FUEL DELAYS DURING RED FLAG ALASKA EXERCISE (APR–OCT).

ARCTIC GEAR IS STRONGLY ENCOURAGED DUE TO POSSIBLE EXTREME COLD TEMPERATURES 1 OCT – 31 AT SEA; LIMITED SUPPLIES ON HAND.

QUIET HRS 0800–1600Z++ EXCEPT REQUIRE OG/CC APPROVAL.

AIR TERMINAL AND GROUND HANDLING SERVICE OPRS 1630–0030Z++ WEEKDAYS. AIRCRAFT REQUIRING TERMINAL AND GROUND HANDLING SERVICE ARE REQUIRED TO PROVIDE ADVANCE NOTICE OR DELAYS IN SERVICE MAY BE EXPERIENCED. AIRCRAFT REQUIRING SERVICE SHOULD MAKE PRIOR COORDINATION WITH AIRFIELD MANAGEMENT.

ALASKA ANG 168TH AREFS OPERATIONS DSN (317–377–8800, C 907–377–8800) ANG OPR 24 HRS. AIRFIELD MANAGEMENT DSN 317–377–1861/3201.

FOR FLIGHT ADVISORIES OR STATUS OF RESTRICTED & MOAS CONTACT EIELSON RANGE CONTROL ON SAUIS RADIO 125.3 OR CALL 1–800–758–8723.

TAXIING PROHIBITED ON TAXIWAY ’F’ FROM TAXIWAY ’C’ TO TAXIWAY ’D’ FOR AIRCRAFT WITH WINGSPAN GREATER THAN 133 FT WHEN ANY AIRCRAFT IS PARKED ON ’L’ ROW.

RUNWAY 14 & 32 PAPI GS NOT COINCIDENTAL WITH ILS GS.

AIRPORT REMARKS: PRIOR PERMISSION REQUIRED NUMBER REQUIRED 24 HRS IN ADVANCE PRIOR TO FILING FLIGHT PLAN; CONTACT DSN 317–377–1861 C907–377–1861. EXPECT ARRIVAL TIME RESTRICTION FOR ALL AIRCRAFT, EXCEPT AIREVAC & DV CODE 7 OR HIGHER

DURING BIRD WATCH CONDITION MODERATE LOCAL PATTERN WORK LIMITED TO MIN REQUIRE WITH OG/CC APPROVAL, NO TOUCH AND GO LANDING, FORMATION TKOF/LNDG

PROHIBITED AND LOW APPROACH LIMITED TO 300 FT AGL. DURING BIRD WATCH CONDITION SEVERE; TAKE−OFF, PATTERN, AND LANDING PROHIBITED WITHOUT OG/CC APPROVAL, EXCEPT FOR EMERGENCY.

MOOSE HAVE BEEN SPOTTED ON OR NEAR THE RUNWAY ENVIRONMENT ALL HRS OF THE DAY.

N & S BARRIER RUNOUT REDUCED TO 950 FT.

ALL TRANSIENT AIRCREWS MUST REGISTER WITH AIRFIELD MANAGEMENT UPON ARRIVAL. SEE AP1 SUPPLEMENTARY AIRPORT REMARKS. LIMITED SECRET AND COMSEC STORAGE AVAILABLE AT AIRFIELD MANAGEMENT.

LIMITED SECRET AND COMSEC STORAGE AVAILABLE AT BASE OPERATIONS. AIRFIELD MANAGEMENT DOES NOT HAVE COMSEC RESPONSIBILITIES. FOR TOP SECRET AND COMSEC ISSUE/STORAGE CONTACT COMMAND COMMAND POST DSN 317−377−1500.

PORTIONS OF APRON ’O’ ROW AND SOUTH RAMP NOT VISIBLE FROM TOWER.

ALL CONTINGENCY OPER CONTACT AIRPORT MANAGER FOR COORDINATION.

TRANSIENT ALERT: TRANSIENT MAINT LIMITED TO F16 SERVICING UPON AIRCREW REQ. THRU FLIGHT/BPO/PREFLIGHT INSPECTION OF F16 NOT AVAILABLE.

AIRPORT OPR 1600−0800Z++. QUIET HRS 0700−1600Z++, EXCEPTIONS REQUIRE OPERATIONS GROUP COMMANDER APPROVAL.

RADIO/NAV/WEATHER REMARKS − (F) 1500−0700Z ++ DAILY.

ARTIC GEAR IS STRONGLY ENCOURAGED DUE TO EXTREME COLD TEMPARTURES OCT1−MAR31.

PERSONNEL AND EQUIPMENT WORKING ON RUNWAY 14−32 WHEN TOWER UNMANNED.

PRE−COORDINATE WITH MAINT OPERATIONS CENTER DSN 317−377−1205 NO LATER THAN 48 HRS FROM ESTIMATED TIME OF ARRIVAL. UHF IS THE PREFERRED PATTERN FREQ.

AIRPORT REMARKS: PRIME KNIGHT NOT AVAILABLE.

AIRPORT REMARKS: RUNWAY 300 FT WIDE ENTIRE LENGTH, CENTER 150 FT USABLE.

FAIRBANKS FSS LOCAL CONTROL 474−0137. FOR FLIGHT ADVISORIES OR STATUS OF RESTRICTED AND MILITARY OPERATING AREAS, CONTACT EIELSON RANGE CONTROL ON SUAIS RADIO 125.3 OR TELEPHONE 1−800−758−8723. ASOS FREQ 119.275 IS ASSOCIATED WITH R−2205 YUKON TRAINING RANGE.

BASE OPERATIONS DOES NOT HAVE COMSEC RESPONSIBILITIES. BASE OPERATIONS WILL NOT ISSUE COMSEC.

ASOS FREQ 118.525 IS ASSOCIATED WITH R−2211 BLAIR LAKE TRAINING RANGE. PMSV: METRO BELOW 3000 FT RECEPTION FROM 300°−090° IS LIMITED BEYOND 15NM BY TERRAIN, BELOW 15000 FT LIMITED BEYOND 75NM, NO LIMITATIONS WITHIN 100NM AT 20000 FT.

AUGMENTATION CAPABLE DURING NORMAL OPR HR. DUR EVACUATION OF WX STATION CONTACT OP WX SQUADRON AT NUMBER ABOVE. ALTITUDE WX LOCATION VISIBILITY SEVERELY LIMITED DUE TO BUILDING AND PARK AIRCRAFT.

PHONE PATCH CAPABILITY THROUGH 354 FW/CP AT 907−377−1500. FMQ19 907−377−5846.

CAUTION: NONSTANDARD LIGHT, 2000 FT OF RUNWAY EDGE LIGHT BETWEEN DELTA−CHARLIE TAXIWAYS LOCATED 12 FT FR RUNWAY EDGE.

UNMONITORED WHEN PAEI TOWER CLOSED. FULL SERVICE AVAILABLE 1600−0800Z++, LIMITED SERVICE ON TIME. FULL SERVICE VARY WITH LOCAL FLYNG SCHEDULE. WX BRIEFING AVAILABLE DSN 317−377−3140/1160.

AWOS IN USE.

BRIEFING FOR TRANSIENT AIRCREWS BEYOND NORMAL OPERATING HRS BY WAY OF 17TH OWS AT JOINT BASE PEARL HARBOR−HICKAM DSN 315−449−8333/7950 C808−449−8333/7950 OR DSN 315−448−3809, C808−448−3809.

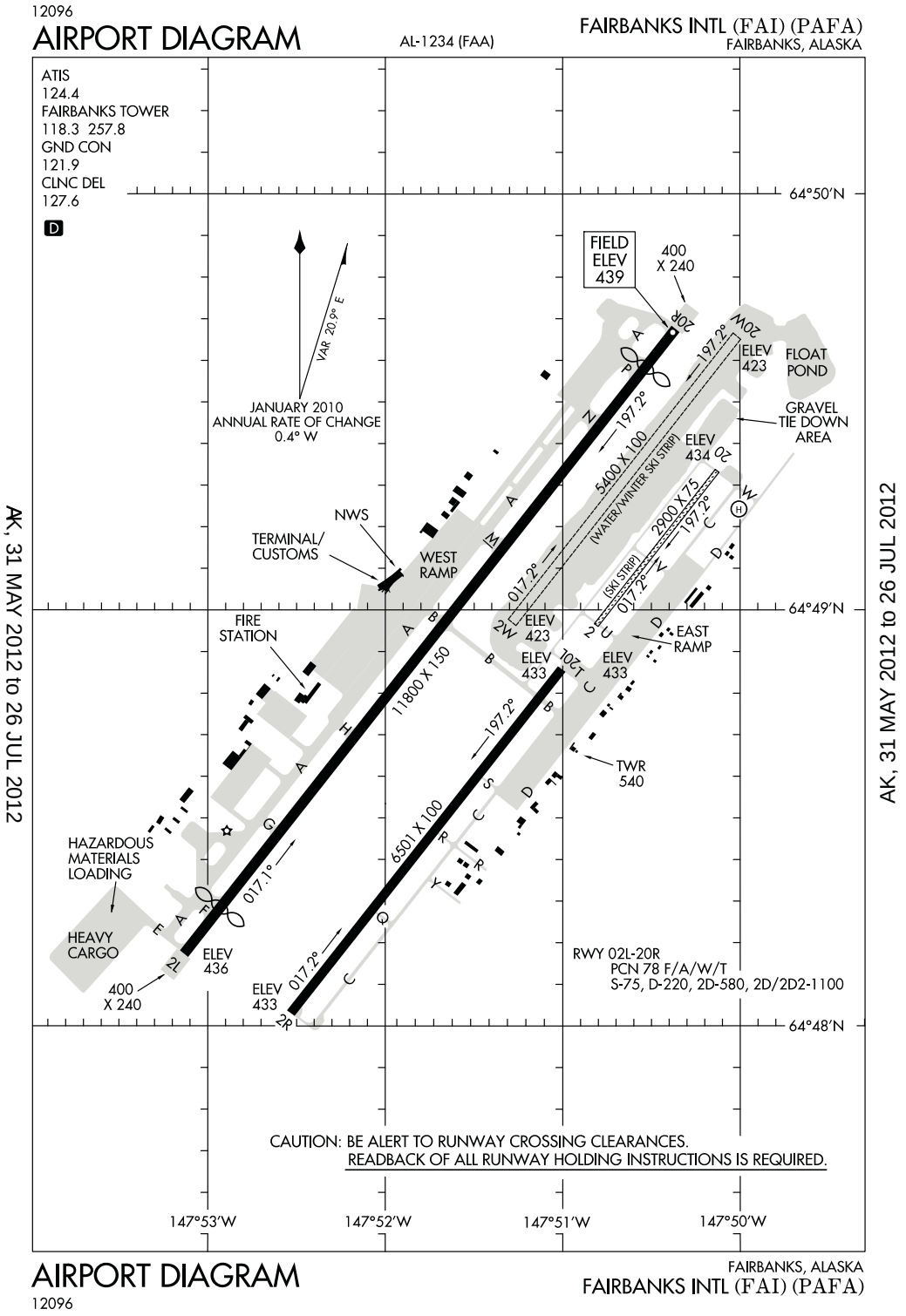
CAUTION: LOCALIZER AND GS CRITICAL AREAS ARE NOT PROTECTED FROM AIRFIELD ACCESS ROADS.

CAUTION: FIRE HYDRANTS LOCATED 64 FT NE OF TAXIWAY H CNTLN.

NO ENGINE RUNNING ON−LOADS/OFF−LOADS (ERO) SERVICES AVAILABLE FOR AIR MOBILITY COMMAND AIRCRAFT.

VHF PILOT TO DISPATCH FREQUENCY IS UNMONITORED.

Fairbanks, Alaska
Fairbanks International
ICAO Identifier PAFA



Fairbanks, AK
Fairbanks Intl
ICAO Identifier PAFA

AD 2.2 Aerodrome geographical and administrative data
2.2.1 Reference Point: 64–48–54.40N / 147–51–23.21W
2.2.2 From City: 3 Miles SW Of Fairbanks, AK
2.2.3 Elevation: 439 ft
2.2.5 Magnetic variation: 19E (2010)
2.2.6 Airport Contact: Jesse Vanderzanden
6450 AIRPORT WAY
SUITE 1
Fairbanks, AK 99709
(907–474–2500)
2.2.7 Traffic: IFR/VFR

AD 2.3 Operational hours
2.3.1 – 2.3.11: ALL Months, ALL Days, ALL Hours

AD 2.4 Handling services and facilities
2.4.1 Cargo handling facilities: No
2.4.2 Fuel types: 100LL,A1
2.4.4 De–icing facilities: None
2.4.5 Hangar space: Yes
2.4.6 Repair facilities: Major

AD 2.6 Rescue and firefighting services
2.6.1 Aerodrome category for firefighting: ARFF Index I C certified on 3/1/2005

AD 2.10 Aerodrome obstacles
2.10.1.a. Runway designation: 20W
2.10.1.b Type of obstacle: Fence (11 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 0 ft from Centerline

2.10.1.a. Runway designation: 02W
2.10.1.b Type of obstacle: Fence (14 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 170 ft from Centerline

2.10.1.a. Runway designation: 02R
2.10.1.b Type of obstacle: Trees (79 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 350 ft from Centerline

2.10.1.a. Runway designation: 02L
2.10.1.b Type of obstacle: Tree (72 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 652 ft from Centerline

2.10.1.a. Runway designation: 20R
2.10.1.b Type of obstacle: Tree (86 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 430 ft from Centerline

AD 2.12 Runway physical characteristics
2.12.1 Designation: 02W
2.12.2 True Bearing: 38
2.12.3 Dimensions: 5400 ft x 100 ft
2.12.5 Coordinates: 64–48–58.00N / 147–51–16.59W
2.12.6 Threshold elevation: 423 ft

2.12.1 Designation: 20W
2.12.2 True Bearing: 218
2.12.3 Dimensions: 5400 ft x 100 ft
2.12.5 Coordinates: 64–49–39.83N / 147–49–59.62W
2.12.6 Threshold elevation: 423 ft

2.12.1 Designation: 02R
2.12.2 True Bearing: 38
2.12.3 Dimensions: 6501 ft x 100 ft
2.12.5 Coordinates: 64–48–00.00N / 147–52–32.24W
2.12.6 Threshold elevation: 433 ft
2.12.6 Touchdown zone elevation: 433 ft

2.12.1 Designation: 20L
2.12.2 True Bearing: 218
2.12.3 Dimensions: 6501 ft x 100 ft
2.12.5 Coordinates: 64–48–51.24N / 147–50–59.67W
2.12.6 Threshold elevation: 433 ft
2.12.6 Touchdown zone elevation: 434 ft

2.12.1 Designation: 02L
2.12.2 True Bearing: 38
2.12.3 Dimensions: 11800 ft x 150 ft
2.12.4 PCN: 78 F/A/W/T
2.12.5 Coordinates: 64–48–00.00N / 147–53–00.00W
2.12.6 Threshold elevation: 436 ft
2.12.6 Touchdown zone elevation: 439 ft

2.12.1 Designation: 20R

2.12.2 True Bearing: 218
2.12.3 Dimensions: 11800 ft x 150 ft
2.12.4 PCN: 78 F/A/W/T
2.12.5 Coordinates: 64−49−40.91N / 147−50−21.13W
2.12.6 Threshold elevation: 439 ft
2.12.6 Touchdown zone elevation: 439 ft

2.12.1 Designation: 02
2.12.2 True Bearing: 38
2.12.3 Dimensions: 2900 ft x 75 ft
2.12.5 Coordinates: 64−48−57.80N / 147−50−47.60W
2.12.6 Threshold elevation: 433 ft

2.12.1 Designation: 20
2.12.2 True Bearing: 218
2.12.3 Dimensions: 2900 ft x 75 ft
2.12.5 Coordinates: 64−49−20.26N / 147−50−00.00W
2.12.6 Threshold elevation: 434 ft

AD 2.13 Declared distances
2.13.1 Designation: 02L
2.13.2 Takeoff run available: 11800
2.13.3 Takeoff distance available: 12800
2.13.4 Accelerate−stop distance available: 11800
2.13.5 Landing distance available: 11050

2.13.1 Designation: 20R
2.13.2 Takeoff run available: 11800
2.13.3 Takeoff distance available: 12800
2.13.4 Accelerate−stop distance available: 11800
2.13.5 Landing distance available: 11050

AD 2.14 Approach and runway lighting
2.14.1 Designation: 02R
2.14.4 Visual approach slope indicator system: 4−light PAPI on left

2.14.1 Designation: 20L
2.14.4 Visual approach slope indicator system: 4−light PAPI on left

2.14.1 Designation: 02L
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration
2.14.4 Visual approach slope indicator system: 4−light PAPI on left

2.14.1 Designation: 20R
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4−light PAPI on left

AD 2.18 Air traffic services communication facilities
2.18.1 Service designation: LCL/P
2.18.3 Service designation: 118.3 MHz

2.18.1 Service designation: APCH/S
2.18.3 Service designation: 118.6 MHz

2.18.1 Service designation: EMERG
2.18.3 Service designation: 121.5 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 121.9 MHz

2.18.1 Service designation: ATIS(907−456−1244)
2.18.3 Service designation: 124.4 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: APCH/P DEP/P TRSA IC
2.18.3 Service designation: 125.35 MHz

2.18.1 Service designation: APCH/P DEP/P TRSA
2.18.3 Service designation: 126.5 MHz

2.18.1 Service designation: CD/P
2.18.3 Service designation: 127.6 MHz

2.18.1 Service designation: EMERG
2.18.3 Service designation: 243 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 257.8 MHz

2.18.1 Service designation: DEP/S
2.18.3 Service designation: 327.1 MHz

2.18.1 Service designation: APCH/P DEP/P TRSA IC
2.18.3 Service designation: 363.2 MHz

2.18.1 Service designation: APCH/P DEP/P TRSA
2.18.3 Service designation: 381.4 MHz

AD 2.19 Radio navigation and landing aids
2.19.1 ILS type: Localizer for runway 02L. Magnetic variation: 19E

2.19.2 ILS identification: CNA
2.19.5 Coordinates: 64–49–49.84N / 147–50–00.00W
2.19.6 Site elevation: 438 ft

2.19.1 ILS type: Inner Marker for runway 02L. Magnetic variation: 19E
2.19.2 ILS identification: CNA
2.19.5 Coordinates: 64–48–00.00N / 147–53–12.52W
2.19.6 Site elevation: 430 ft

2.19.1 ILS type: Glide Slope for runway 02L. Magnetic variation: 19E
2.19.2 ILS identification: CNA
2.19.5 Coordinates: 64–48–21.00N / 147–52–36.30W
2.19.6 Site elevation: 431 ft

2.19.1 ILS type: Middle Marker for runway 02L. Magnetic variation: 19E
2.19.2 ILS identification: CNA
2.19.5 Coordinates: 64–47–53.40N / 147–53–39.80W
2.19.6 Site elevation: ft

2.19.1 ILS type: DME for runway 02L. Magnetic variation: 19E
2.19.2 ILS identification: CNA
2.19.5 Coordinates: 64–48–21.25N / 147–52–36.04W
2.19.6 Site elevation: 435 ft

2.19.1 ILS type: Middle Marker for runway 20R. Magnetic variation: 19E
2.19.2 ILS identification: FAI
2.19.5 Coordinates: 64–49–56.80N / 147–49–51.90W
2.19.6 Site elevation: ft

2.19.1 ILS type: Localizer for runway 20R. Magnetic variation: 19E
2.19.2 ILS identification: FAI
2.19.5 Coordinates: 64–48–00.00N / 147–53–23.88W
2.19.6 Site elevation: 429 ft

2.19.1 ILS type: Outer Marker for runway 20R. Magnetic variation: 19E
2.19.2 ILS identification: FAI
2.19.5 Coordinates: 64–53–59.27N / 147–42–24.01W
2.19.6 Site elevation: 655 ft

2.19.1 ILS type: Glide Slope for runway 20R. Magnetic variation: 19E
2.19.2 ILS identification: FAI
2.19.5 Coordinates: 64–49–24.42N / 147–50–39.71W
2.19.6 Site elevation: 434 ft

General Remarks:
MIGRATORY BIRDS IN THE VICINITY OF AIRPORT DURING SPRING THRU FALL.

ATCT LOCATED AT 64–48–39.438N 147–50–55.722W ELEVATION 538’ MSL.

SEAPLANE BASE CONTROLLED BY FAIRBANKS INTL ATCT. CONTACT ATCT ON FREQ 118.3 AS SOON AS PRACTICAL AFTER START UP FOR TAXI ON THE POND. FLOAT POND TRAFFIC AS ASSIGNED BY FAIRBANKS ATCT. LIMITED TRANSIENT FLOAT PLANE PARKING AVAILABLE, CONTACT OPERATIONS 907–474–2530 FOR INFORMATION. SURFACE FROZEN IN WINTER, NOT MONT, AIR OPERATIONS NOT RECOMMENDED.

BE ALERT FOR SNOW REMOVAL EQUIPMENT OPERATIONS FROM 1 OCT TO 15 MAY.

MILITARY CONTRACT FUEL AVAILABLE.

FOR FLIGHTS IN MOA’S EAST OF FAIRBANKS RECOMMEND CONTACTING EIELSON RANGR CONTROL ON 125.3 OR CALL 1–800–758–8723 FOR INFORMATION ON MILITARY ACTIVITES.

NOISE ABATEMENT PROCEDURES IN EFECT FROM 2200–0800 ALL LARGE AIRCRAFT, TURBINE ENGINE, AND HEAVY AIRCRAFT UTILIZE RUNWAY 01L FOR ARRS AND 19R FOR DEPS WHEN WIND IS NOT AN OPERATIOINAL FACTOR.

RUNWAY 02R/20L CLOSED TO JET AIRCRAFT.

TRANSIENT PARKING EAST RAMP FOR NON JET AIRCRAFT WITH WINGSPAN LESS THAN 79 FT. NO TRANSIENT AIRCRAFT PARKING ON WEST RAMP, CONTACT APT OPERATIONS 907−474−2530 FOR INFORMATION & MEDIVAC PARKING. HELICOPTER ARRIVALS & DEPS FR NEW COMPASS ROSE OPER TO/FR EAST.

RUNWAYS 02W & 20W TOUCHDOWN REFERENCE MARKERS 500 FT FROM SHORELINE, MARKED WITH BUOYS DURING FLOAT SEASON.

FOR AVAILABILITY OF SUMMER GRAVEL STRIP RUNWAY 02/20 AND WINTER SKI STRIP RUNWAY 02/20 CONSULT LOCAL NOTAMS AND CONTACT TOWER PRIOR TO ARRIVAL /DEPARTURE.

N/S TAXIWAY (TWY A) IS WEST AND PARALLEL TO RUNWAY 02L/20R. BE ALERT TO AVOID LANDING ON TAXIWAY.

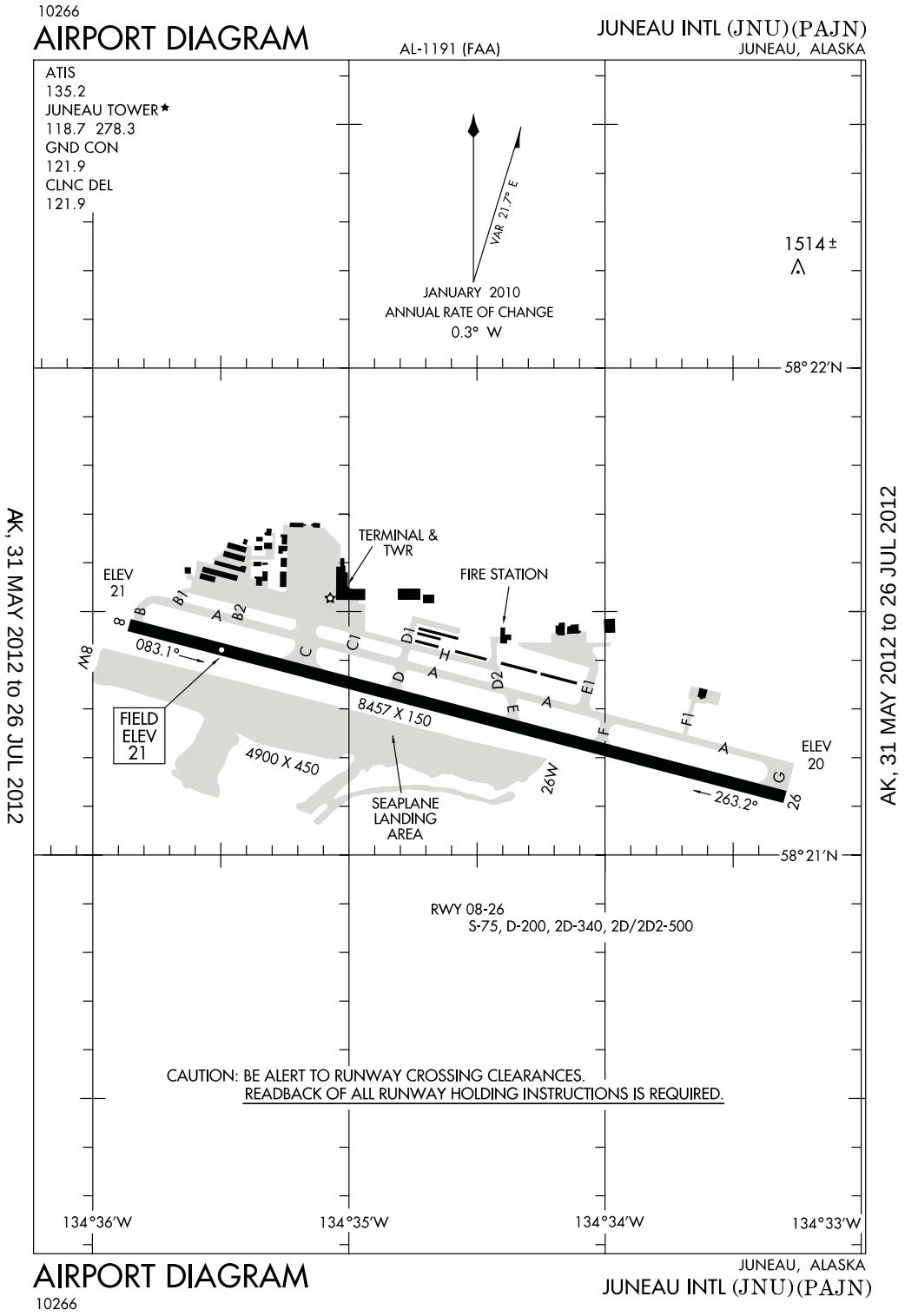
NO STEP TAXI EXCEPT IN CHANNEL.

RUNWAY 02/20 SKI STRIP HOLD LINES AND NE COMPASS ROSE MARKINGS OBSCURE FALL−SPRING.

NE COMPASS ROSE CLOSED TO HELICOPTERS OVER 12,500 LBS. FROST HEAVES SOUTH 2600 FT RUNWAY 02R/20L CONTACT AIRPORT OPERS 907−474−2530 WITH SAFETY CONCERNS. CONSULT NOTAMS FOR NW COMPASS ROSE AVAILABILITY.

TEMPORARY HELIPAD LOCATED ON EAST RAMP SOUTH OF TAXIWAY W IN GRASSY AREA MARKED BY ORANGE CONES (MAY 1 THRU OCT 1), APPROACH AND DEP FROM THE WEST (BE ALERT FOR FIXED WING AIRCRAFT ON THE GROUND).

Juneau, Alaska
Juneau International
ICAO Identifier PAJN



Juneau, AK
Juneau Intl
ICAO Identifier PAJN

AD 2.2 Aerodrome geographical and administrative data
2.2.1 Reference Point: 58–21–17.90N / 134–34–34.60W
2.2.2 From City: 7 Miles NW Of Juneau, AK
2.2.3 Elevation: 21 ft
2.2.5 Magnetic variation: 23E (2005)
2.2.6 Airport Contact: Jeannie Johnson
1873 SHELL SIMMONS DR, SUITE 201
Juneau, AK 99801
(907–789–7821)
2.2.7 Traffic: IFR/VFR

AD 2.3 Operational hours
2.3.1 – 2.3.11: ALL Months, ALL Days, ALL Hours

AD 2.4 Handling services and facilities
2.4.1 Cargo handling facilities: No
2.4.2 Fuel types: 100LL,80,A1+
2.4.4 De–icing facilities: None
2.4.5 Hangar space: Yes
2.4.6 Repair facilities: Major
2.4.7 Remarks: Airframe/Power Plant Service For Single/Twin Prop Eng Aircraft Turbin & Avionics.

AD 2.6 Rescue and firefighting services
2.6.1 Aerodrome category for firefighting: ARFF Index I B certified on 4/1/2005

AD 2.10 Aerodrome obstacles
2.10.1.a. Runway designation: 08
2.10.1.b Type of obstacle: Tower (573 ft). Marked and Lighted
2.10.1.c Location of obstacle: 900 ft from Centerline

AD 2.12 Runway physical characteristics
2.12.1 Designation: 08
2.12.2 True Bearing: 105
2.12.3 Dimensions: 8457 ft x 150 ft
2.12.5 Coordinates: 58–21–28.55N / 134–35–51.21W
2.12.6 Threshold elevation: 21 ft
2.12.6 Touchdown zone elevation: 21 ft

2.12.1 Designation: 26
2.12.2 True Bearing: 285
2.12.3 Dimensions: 8457 ft x 150 ft
2.12.5 Coordinates: 58–21–00.00N / 134–33–18.00W
2.12.6 Threshold elevation: 20 ft
2.12.6 Touchdown zone elevation: 20 ft

2.12.1 Designation: 08W
2.12.3 Dimensions: 4900 ft x 450 ft

2.12.1 Designation: 26W
2.12.3 Dimensions: 4900 ft x 450 ft

AD 2.14 Approach and runway lighting
2.14.1 Designation: 08
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–box VASI on left
2.14.10 Remarks: VASI Aligned Aprxly 13 Degs Right Of Runway Centerline And Is Not Visible On Runway Cntrl. VASI Unusable Beyond 06 Degs Left Of Crs. Ldin Lights.

2.14.1 Designation: 26
2.14.4 Visual approach slope indicator system: 4–box VASI on right
2.14.10 Remarks: VASI Usable Only Within 2 Nm.

AD 2.18 Air traffic services communication facilities
2.18.1 Service designation: LCL/P
2.18.3 Service designation: 118.7 MHz

2.18.1 Service designation: CD
2.18.3 Service designation: 121.9 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 121.9 MHz

2.18.1 Service designation: NG OPS
2.18.3 Service designation: 124.65 MHz

2.18.1 Service designation: ATIS
2.18.3 Service designation: 135.2 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 278.3 MHz

2.18.1 Service designation: NG OPS

2.18.3 Service designation: 64.7 MHz

2.18.1 Service designation: SEASONAL USE ONLY.
2.18.3 Service designation: 120.7 MHz

AD 2.19 Radio navigation and landing aids
2.19.1 ILS type: Localizer for runway 08. Magnetic variation: 23E
2.19.2 ILS identification: JDL
2.19.5 Coordinates: 58–21–32.04N / 134–38–10.36W
2.19.6 Site elevation: 161 ft

2.19.1 ILS type: DME for runway 08. Magnetic variation: 23E
2.19.2 ILS identification: JDL
2.19.5 Coordinates: 58–21–31.02N / 134–38–10.22W
2.19.6 Site elevation: 175 ft

General Remarks:
NATIONAL GUARD 24 HR PRIOR PERMISSION REQUIRED DUE TO LIMITED PARKING C907–789–3366. 0730–1600 WEEKDAYS CONTACT GUARD OPERATIONS 10 MIN PRIOR TO LANDING ON 124.65.

WILDLIFE & BIRDS ON & IN THE VICINITY OF AIRPORT.

BATTLESHIP ISLAND LDIN GROUPING; CENTER LIGHT 582132.88N 1344012.22W. IJDL–LOCALIZER LDIN GROUPING; CENTER LIGHT 582132.02N 1343810.39W.

INCREASED HELICOPTER/LIGH AIRCRAFT ACTIVITY APR 15–OCT 1 ENTIRE LENGTH ON GASTINEAU CHANNEL & WITHIN 5 MILES OF AIRPORT.

PARAGLIDING ACTIVITY 3 MILES N OF AIRPORT IN THE VICINITY OF THUNDER MOUNTAIN & OVER GASTINEAU CHANNEL NEARS DOWNTOWN APR 15–OCT 1 6000 FT & BELOW.

TRAFFIC PATTERN ALTITUDE 1500 AGL FOR LARGE TURBINE AIRCRAFT; 1000 FT AGL FOR FIXED WING AIRCRAFT; 500 FT AGL FOR HELICOPTERS.

FOR A LOCAL CALL TO JNU AUTOMATED FLIGHT SERVICE STATION CALL 907–789–7380.

TRANSIENT DOCK AVAILABLE FOR PUBLIC USE FOR UP TO SIX AIRCRAFT, SW CORNER.

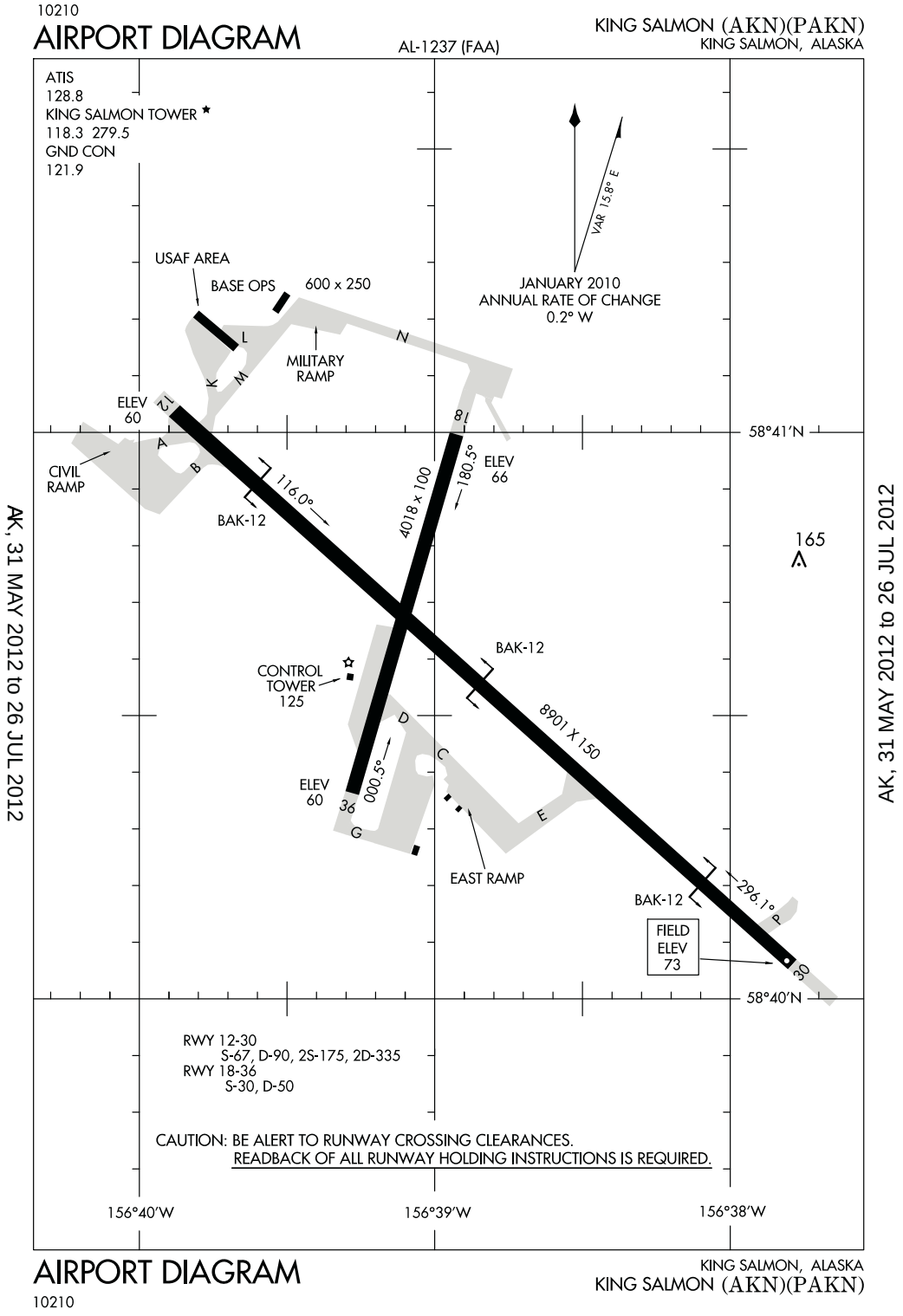
SEE SPECIAL NOTICES AND GENERAL NOTICES FOR ADDITIONAL INFORMATION ON OPERATIONS IN JUNEAU AREA.

LENA POINT, PEDERSON HILL AND SISTERS ISLAND WX CAMERAS AVAILABLE ON INTERNET AT HTTP://AKWEATHERCAMS.FAA.GOV

COMPASS ROSE LOCATED ON TAXIWAY G AT EAST END OF TAXIWAY A NEAR APPROACH END RUNWAY 26.

RUNWAY 08/26 SAND USED TO ENHANCE RUNWAY FRICTION MAY NOT MEET FAA SPECS.

King Salmon, Alaska
King Salmon
ICAO Identifier PAKN



King Salmon, AK
King Salmon
ICAO Identifier PAKN

AD 2.2 Aerodrome geographical and administrative data
2.2.1 Reference Point: 58–40–35.38N / 156–38–55.29W
2.2.2 From City: 0 Miles SE Of King Salmon, AK
2.2.3 Elevation: 73 ft
2.2.5 Magnetic variation: 16E (2010)
2.2.6 Airport Contact: Jay Knight
PO BOX 65
King Salmon, AK 99613
(907–246–3325)
2.2.7 Traffic: IFR/VFR

AD 2.3 Operational hours
2.3.1 – 2.3.11: ALL Months, ALL Days, 0800–1800 Hours

AD 2.4 Handling services and facilities
2.4.1 Cargo handling facilities: No
2.4.2 Fuel types: 100LL,A,B
2.4.4 De–icing facilities: None
2.4.5 Hangar space: No
2.4.6 Repair facilities: Major
2.4.7 Remarks: Transient Parking Marked At North End Of General Aviation Ramp And East End Of Cargo Ramp.

AD 2.6 Rescue and firefighting services
2.6.1 Aerodrome category for firefighting: ARFF Index I A certified on 3/21/2005
2.6.4 Remarks: Closed To Aircraft 0 Operations With More Than 30 Passenger Seats Except Prior Permission Required In Writing To Airport Manager PO Box 65 King Salmon Ak, 99613.

AD 2.10 Aerodrome obstacles
2.10.1.a. Runway designation: 18
2.10.1.b Type of obstacle: Trees (40 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 0 ft from Centerline

AD 2.12 Runway physical characteristics
2.12.1 Designation: 18
2.12.2 True Bearing: 196
2.12.3 Dimensions: 4018 ft x 100 ft
2.12.5 Coordinates: 58–40–59.78N / 156–38–55.61W
2.12.6 Threshold elevation: 66 ft
2.12.6 Touchdown zone elevation: 66 ft

2.12.1 Designation: 36
2.12.2 True Bearing: 16
2.12.3 Dimensions: 4018 ft x 100 ft
2.12.5 Coordinates: 58–40–21.80N / 156–39–16.96W
2.12.6 Threshold elevation: 60 ft
2.12.6 Touchdown zone elevation: 65 ft

2.12.1 Designation: NW
2.12.3 Dimensions: 4000 ft x 500 ft

2.12.1 Designation: SE
2.12.3 Dimensions: 4000 ft x 500 ft

2.12.1 Designation: 12
2.12.2 True Bearing: 132
2.12.3 Dimensions: 8901 ft x 150 ft
2.12.5 Coordinates: 58–41–00.00N / 156–39–53.02W
2.12.6 Threshold elevation: 60 ft
2.12.6 Touchdown zone elevation: 62 ft

2.12.1 Designation: 30
2.12.2 True Bearing: 312
2.12.3 Dimensions: 8901 ft x 150 ft
2.12.5 Coordinates: 58–40–00.00N / 156–37–47.63W
2.12.6 Threshold elevation: 73 ft
2.12.6 Touchdown zone elevation: 73 ft

AD 2.14 Approach and runway lighting
2.14.1 Designation: 12
2.14.2 Approach lighting system: SSALR: Simplified short approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 30
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

AD 2.18 Air traffic services communication facilities
2.18.1 Service designation: LCL/P
2.18.3 Service designation: 118.3 MHz

2.18.1 Service designation: GND/P

2.18.3 Service designation: 121.9 MHz

2.18.1 Service designation: ATIS
2.18.3 Service designation: 128.8 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: EMERG
2.18.3 Service designation: 243 MHz

2.18.1 Service designation: PTD
2.18.3 Service designation: 372.2 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 279.5 MHz

AD 2.19 Radio navigation and landing aids
2.19.1 ILS type: Localizer for runway 12. Magnetic variation: 16E
2.19.2 ILS identification: AKN
2.19.5 Coordinates: 58−39−56.55N / 156−37−32.37W
2.19.6 Site elevation: 78 ft

2.19.1 ILS type: Glide Slope for runway 12. Magnetic variation: 16E
2.19.2 ILS identification: AKN
2.19.5 Coordinates: 58−40−57.34N / 156−39−29.89W
2.19.6 Site elevation: 64 ft

2.19.1 ILS type: Middle Marker for runway 12. Magnetic variation: 16E
2.19.2 ILS identification: AKN
2.19.5 Coordinates: 58−41−25.44N / 156−40−42.92W
2.19.6 Site elevation: 1 ft

2.19.1 ILS type: Outer Marker for runway 12. Magnetic variation: 16E
2.19.2 ILS identification: AKN
2.19.5 Coordinates: 58−44−14.14N / 156−46−45.49W
2.19.6 Site elevation: ft

2.19.1 ILS type: DME for runway 12. Magnetic variation: 16E
2.19.2 ILS identification: AKN
2.19.5 Coordinates: 58−39−59.60N / 156−37−31.70W
2.19.6 Site elevation: 78 ft

General Remarks:
LANDING AREA RUNWAY NW/SE ALSO USED BY BOATS.

FLOCKS OF LARGE MIGRATORY BIRDS IN VICINITY DURING SEASON.

OFF PAVEMENT OPERATIONS BY AIRCRAFT; INCLUDING HELICOPTERS; NOT AUTHORIZED AT THE AIR CARRIER APRON. NO LANDING; PARKING OR TAKE−OFFS PERMITTED FROM DIRT OR GRASS.

AIR DEFENSE ALERT FIGHTERS MAY SCRAMBLE AT ANY TIME.

ONE INCH DIP ON CENTERLINE 1850 FT FROM APPROACH END RUNWAY 36 EXTENDS TO THREE INCH DIP 25 FT WIDE ON WEST EDGE.

CIVILIAN TRANSIENT PARKING ON SE RAMP ONLY; OTHER PARKING LONGER THAN 48 HRS REQUIRES PERMIT.

ALL FIGHTER AIRCRAFT ON ARR EXPECT REDUCED SEPARATION; SIMILAR APPROACH CHARACTERISTICS AND DAY − 3000 FT; DISSIMILAR APPROACH CHARACTERISTICS AND/OR NIGHT − 6000 FT; AHEAD/BEHIND FORMATION LANDING − 6000 FT.

200 FT SAFETY AREA APPROACH END RUNWAY 12.

RUNWAY CONDITION READING UPDATED AS REQUIRED DURING 11TH AF FIGHTER FLYING WINDOW. AIRCREWS COORDINATE FOR RUNWAY CONDITION READING CHECKS WITH KING SALMON OPERATIONS AT OTHER TIMES. AIRCRAFT OPERATIONS RESTRICTED TO LOW APPROACH/FULL STOP LANDING ONLY.

FIGHTER AIRCRAFT COORDINATE DESIRED BARRIER CONFIGURATION OR ENGAGEMENT AS EARLY AS POSSIBLE. EXPECT AT LEAST 30 MIN DELAY FOR SHORT–NOTICE REQUIREMENT.

FLIGHTS ORIG OUTSIDE ALASKA REFER TO USAF FOREIGN CLEARANCE GUIDE. NO CUSTOMS AVAILABLE.

SNOW, ICE REMOVAL & AIRPORT HAZARD CONDITION PERFORMED & REPORTED DURING MAINT DUTY HRS.

USAF FACILITIES MINIMALLY OPR BY CIVIL CONTRACTORS WITH LIMITED SUPPORT CAPABILITY. TO CONFIRM OPR HRS NOT LATER THAN 24 HRS IN ADVANCE OF EXPECTED ARRIVAL.

MILITARY FIGHTERS/EMERGENCY DIVERTS CALL HARMONY BEFORE 100 NAUTICAL MILE INBOUND ON 391.2/140.1. NON–EMERG/NON–FTR AIRCRAFT CALL KING SALMON OPERATIONS; 24 HR POINT NORMALLY MONITORS COMMON TRAFFIC ADVISORY FREQUENCY DURING OPR HRS.

RUNWAY 18/36 NOT INSPECTED FOR MILITARY OPERATIONS.

AIRCRAFT RESCUE AND FIRE FIGHTING EQUIPMENT STAFFED DURING PERIODS OF AIR CARRIER ACTIVITY ONLY.

PRIVATE JETS MAY PARK ON THE SE SECTION OF E RAMP; CALL AIRPORT MANAGER AT 907–246–3325 FOR INFORMATION.

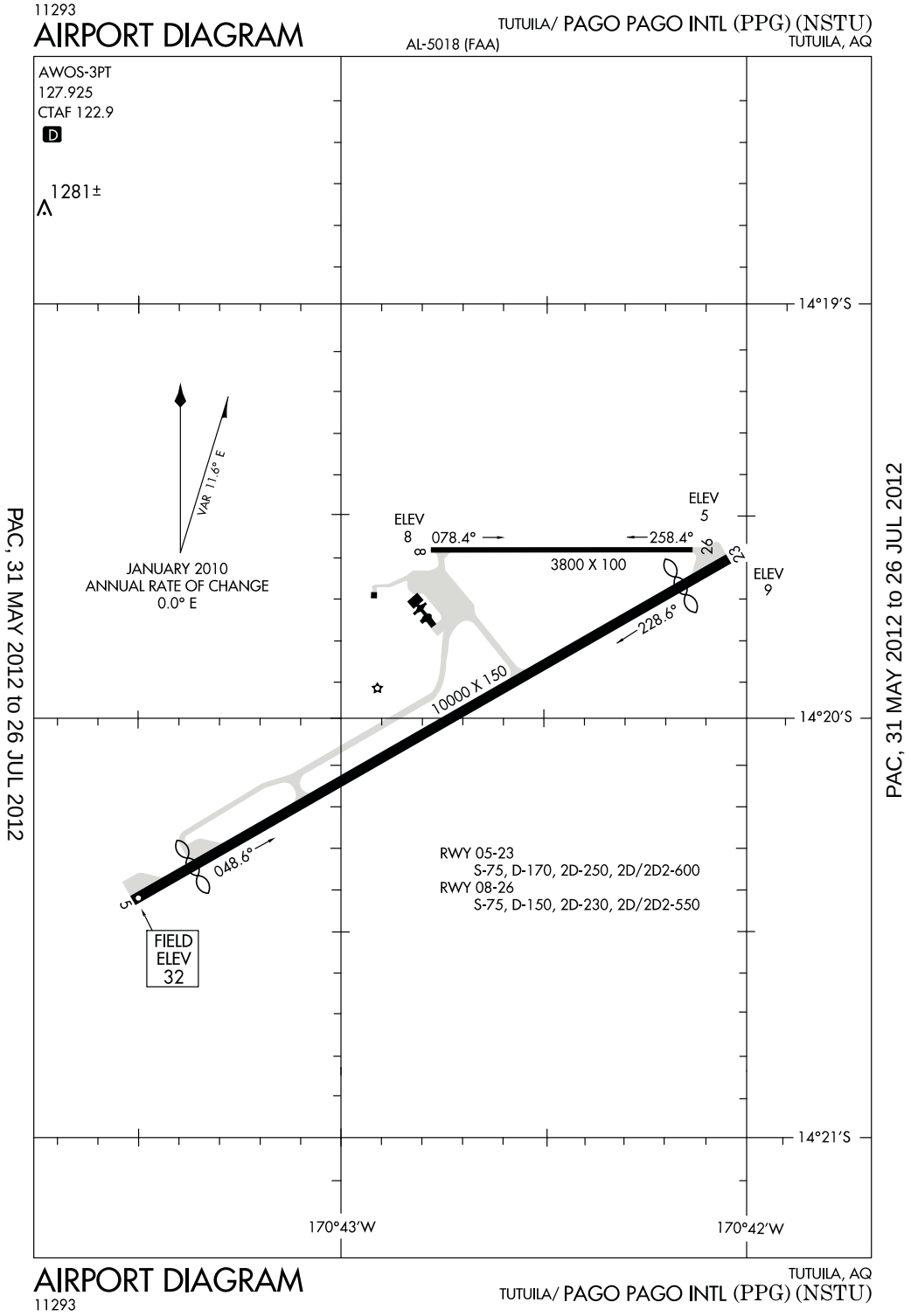
AIRPORT MAINT DUTY HRS 0800–1700.

AIRPORT SAND LARGER GRADATION THAN FAA RECOMMENDED/SEE AC150/5200–30.

EAST APRON: PAVEMENT CRUMBLING, POSSIBLE FOREIGN OBJECT DAMAGE HAZARD. JET AIRCRAFT BE ALERT DURING RUN–UP TO AVOID DAMAGE WITH JET WASH.

WX CAMERA AVAILABLE ON INTERNET AT HTTP://AKWEATHERCAMS.FAA.GOV.

Pago Pago, American Samoa
Pago Pago/International
ICAO Identifier NSTU



Pago Pago, AS
Pago Pago Intl
ICAO Identifier NSTU

AD 2.2 Aerodrome geographical and administrative data
2.2.1 Reference Point: 14–19–53.98S / 170–42–41.41W
2.2.2 From City: 3 Miles SW Of Pago Pago, AS
2.2.3 Elevation: 32 ft
2.2.5 Magnetic variation: 12E (1990)
2.2.6 Airport Contact: Matagi R.M. Mcmoore
DEPT OF PORT ADMIN,
BOX 1539
Pago Pago, AS 96799
(684–733–4510)
2.2.7 Traffic: IFR/VFR

AD 2.3 Operational hours
2.3.1 – 2.3.11: ALL Months, ALL Days, ALL Hours

AD 2.4 Handling services and facilities
2.4.1 Cargo handling facilities: No
2.4.2 Fuel types: 100,A1+
2.4.4 De–icing facilities: None
2.4.5 Hangar space: No
2.4.6 Repair facilities: None

AD 2.6 Rescue and firefighting services
2.6.1 Aerodrome category for firefighting: ARFF Index I C certified on 5/1/1973

AD 2.10 Aerodrome obstacles
2.10.1.a. Runway designation: 05
2.10.1.b Type of obstacle: Hill (446 ft). Lighted
2.10.1.c Location of obstacle: 1000 ft from Centerline

2.10.1.a. Runway designation: 23
2.10.1.b Type of obstacle: Fence (8 ft). Lighted

AD 2.12 Runway physical characteristics
2.12.1 Designation: 08
2.12.2 True Bearing: 90
2.12.3 Dimensions: 3800 ft x 100 ft
2.12.5 Coordinates: 14–19–35.13S / 170–42–46.75W
2.12.6 Threshold elevation: 8 ft
2.12.6 Touchdown zone elevation: 6 ft

2.12.1 Designation: 26
2.12.2 True Bearing: 270
2.12.3 Dimensions: 3800 ft x 100 ft
2.12.5 Coordinates: 14–19–35.10S / 170–42–00.00W
2.12.6 Threshold elevation: 5 ft
2.12.6 Touchdown zone elevation: 6 ft

2.12.1 Designation: 05
2.12.2 True Bearing: 60
2.12.3 Dimensions: 10000 ft x 150 ft
2.12.5 Coordinates: 14–20–25.82S / 170–43–30.84W
2.12.6 Threshold elevation: 32 ft
2.12.6 Touchdown zone elevation: 30 ft

2.12.1 Designation: 23
2.12.2 True Bearing: 240
2.12.3 Dimensions: 10000 ft x 150 ft
2.12.5 Coordinates: 14–19–36.47S / 170–42–00.00W
2.12.6 Threshold elevation: 9 ft
2.12.6 Touchdown zone elevation: 9 ft

AD 2.13 Declared distances
2.13.1 Designation: 05
2.13.2 Takeoff run available: 9200
2.13.3 Takeoff distance available: 10200
2.13.4 Accelerate–stop distance available: 9200
2.13.5 Landing distance available: 8200

2.13.1 Designation: 23
2.13.2 Takeoff run available: 10000
2.13.3 Takeoff distance available: 10000
2.13.4 Accelerate–stop distance available: 10000
2.13.5 Landing distance available: 9200

AD 2.14 Approach and runway lighting
2.14.1 Designation: 05
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–box VASI on left

2.14.1 Designation: 23
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

AD 2.19 Radio navigation and landing aids

2.19.1 ILS type: Localizer for runway 05. Magnetic variation: 12E
2.19.2 ILS identification: TUT
2.19.5 Coordinates: 14−19−38.78S / 170−42−12.90W
2.19.6 Site elevation: 6 ft

2.19.1 ILS type: Glide Slope for runway 05. Magnetic variation: 12E
2.19.2 ILS identification: TUT
2.19.5 Coordinates: 14−20−13.06S / 170−43−15.19W
2.19.6 Site elevation: 25 ft

2.19.1 ILS type: DME for runway 05. Magnetic variation: 12E
2.19.2 ILS identification: TUT
2.19.5 Coordinates: 14−19−37.63S / 170−42−14.71W
2.19.6 Site elevation: 22 ft

2.19.1 ILS type: Middle Marker for runway 05. Magnetic variation: 12E
2.19.2 ILS identification: TUT
2.19.5 Coordinates: 14−20−36.10S / 170−43−49.30W
2.19.6 Site elevation: 74 ft

General Remarks:
PERMANENT CABLE ACROSS MID PAGO PAGO HARBOR 4SM NNE AIRPORT, RISES ABRUPTLY TO 1609’ MOUNTAIN ALAVA N SIDE OF HARBOR, EXTREMELY HAZARDOUS TO AIRCRAFT.

ALL FLIGHTS (EXCEPT SCHEDULED) PRIOR PERMISSION FROM AIRPORT MANAGER WITH 24 HRS PRIOR NOTICE.

SEA SPRAY FROM SURF & BLOW HOLES MAY DRIFT ACROSS RUNWAY 05/23 UNDER ROUGH SEA CONDITIONS.

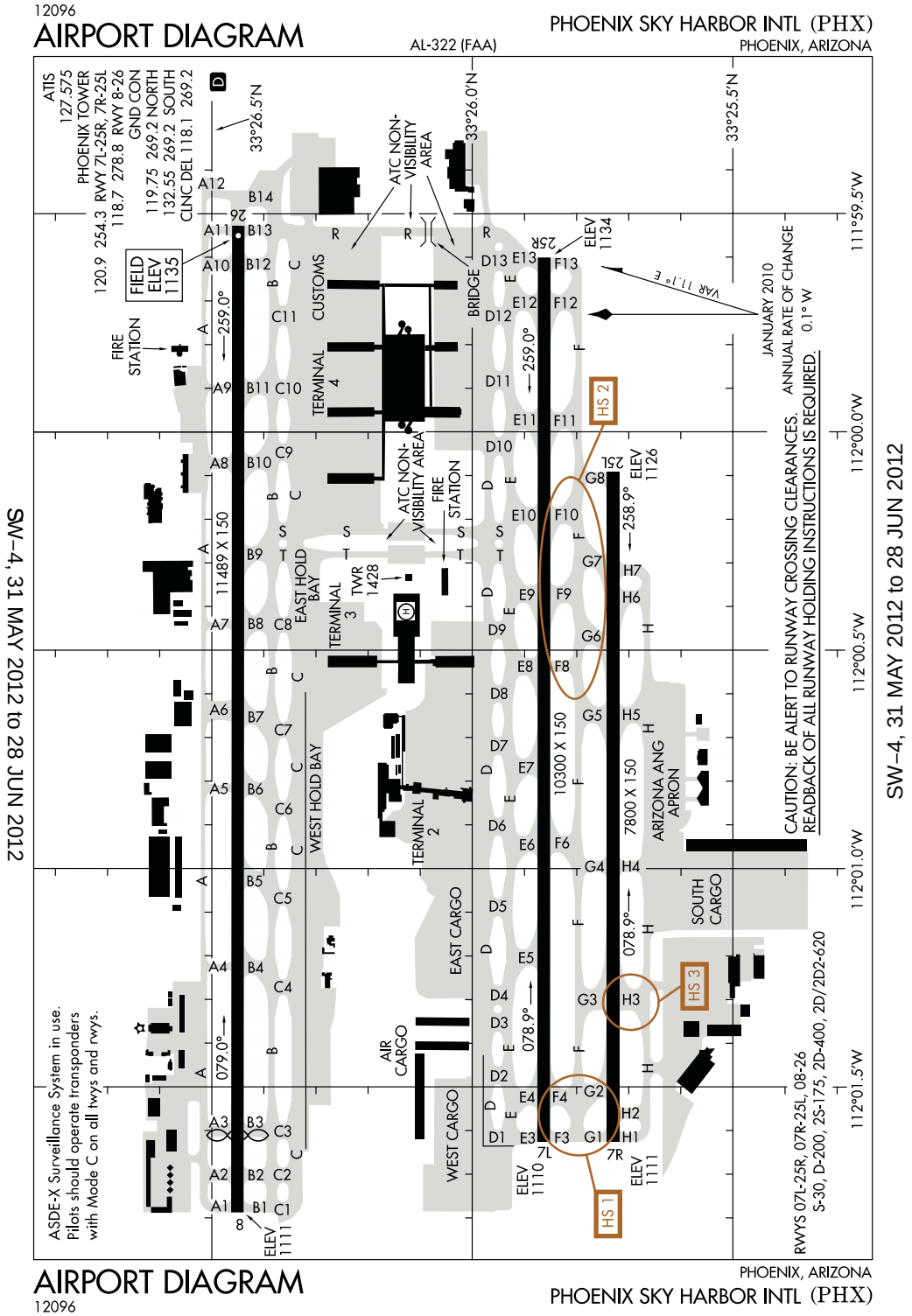
ALL AIRCRAFT TRANSITING PAGO PAGO (EXCEPT COMMERCIAL CARRIERS) MUST MAKE FUEL ARRANGEMENTS WITH PPG AT 684−733−3158.

ALL AIRCRAFT EXCEEDING 100000 GROSS WEIGHT UPON TOUCHDOWN TAXI TO THR TURN−AROUND BEFORE TAXIING TO APRON. AIRCRAFT UNDER 100000 MAKE TURN−ARND WHERE FEASIBLE.

OLOTELE MOUNTAIN 1617 FT MSL 3.5 MILES WEST OF THRESHOLD RUNWAY 08.

PERMANENTLY LIGHTED & MARKED 226’ TOWER ATOP MOUNTAIN ALAVA 4.3SM NNE AIRPORT.

Phoenix, Arizona
Phoenix Sky Harbor International
ICAO Identifier KPHX



Phoenix, AZ
Phoenix Sky Harbor Intl
ICAO Identifier KPHX

AD 2.2 Aerodrome geographical and administrative data
2.2.1 Reference Point: 33−26−00.00N / 112−00−41.70W
2.2.2 From City: 3 Miles E Of Phoenix, AZ
2.2.3 Elevation: 1135 ft
2.2.5 Magnetic variation: 12E (2000)
2.2.6 Airport Contact: Danny Murphy
3400 SKY HARBOR BLVD, SUITE 3300
Phoenix, AZ 85034
(602−273−3300)
2.2.7 Traffic: IFR/VFR

AD 2.3 Operational hours
2.3.1 – 2.3.11: ALL Months, ALL Days, ALL Hours

AD 2.4 Handling services and facilities
2.4.1 Cargo handling facilities: No
2.4.2 Fuel types: 100LL,A
2.4.4 De−icing facilities: None
2.4.5 Hangar space: Yes
2.4.6 Repair facilities: Major

AD 2.6 Rescue and firefighting services
2.6.1 Aerodrome category for firefighting: ARFF Index I D certified on 5/1/1973

AD 2.10 Aerodrome obstacles
2.10.1.a. Runway designation: 08
2.10.1.b Type of obstacle: Bldg (66 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 503 ft from Centerline

2.10.1.a. Runway designation: 26
2.10.1.b Type of obstacle: Road (9 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 540 ft from Centerline

2.10.1.a. Runway designation: 07L
2.10.1.b Type of obstacle: Pole (62 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 750 ft from Centerline

2.10.1.a. Runway designation: 25R
2.10.1.b Type of obstacle: Ant (416 ft). Marked and Lighted
2.10.1.c Location of obstacle: 600 ft from Centerline

2.10.1.a. Runway designation: 07R
2.10.1.b Type of obstacle: Pole (33 ft). Lighted
2.10.1.c Location of obstacle: 640 ft from Centerline

2.10.1.a. Runway designation: 25L
2.10.1.b Type of obstacle: Ant (424 ft). Marked and Lighted
2.10.1.c Location of obstacle: 1193 ft from Centerline

AD 2.12 Runway physical characteristics
2.12.1 Designation: 08
2.12.2 True Bearing: 90
2.12.3 Dimensions: 11489 ft x 150 ft
2.12.5 Coordinates: 33−26−27.10N / 112−01−47.26W
2.12.6 Threshold elevation: 1111 ft
2.12.6 Touchdown zone elevation: 1118 ft

2.12.1 Designation: 26
2.12.2 True Bearing: 270
2.12.3 Dimensions: 11489 ft x 150 ft
2.12.5 Coordinates: 33−26−26.96N / 111−59−31.69W
2.12.6 Threshold elevation: 1135 ft
2.12.6 Touchdown zone elevation: 1135 ft

2.12.1 Designation: 07L
2.12.2 True Bearing: 90
2.12.3 Dimensions: 10300 ft x 150 ft
2.12.5 Coordinates: 33−25−51.81N / 112−01−37.56W
2.12.6 Threshold elevation: 1110 ft
2.12.6 Touchdown zone elevation: 1116 ft

2.12.1 Designation: 25R
2.12.2 True Bearing: 270
2.12.3 Dimensions: 10300 ft x 150 ft
2.12.5 Coordinates: 33−25−51.73N / 111−59−36.05W
2.12.6 Threshold elevation: 1134 ft

2.12.6 Touchdown zone elevation: 1134 ft

2.12.1 Designation: 07R
2.12.2 True Bearing: 90
2.12.3 Dimensions: 7800 ft x 150 ft
2.12.5 Coordinates: 33−25−43.89N / 112−01−37.57W
2.12.6 Threshold elevation: 1111 ft
2.12.6 Touchdown zone elevation: 1116 ft

2.12.1 Designation: 25L
2.12.2 True Bearing: 270
2.12.3 Dimensions: 7800 ft x 150 ft
2.12.5 Coordinates: 33−25−43.84N / 112−00−00.00W
2.12.6 Threshold elevation: 1126 ft
2.12.6 Touchdown zone elevation: 1126 ft

2.12.1 Designation: H1
2.12.3 Dimensions: 60 ft x 60 ft

AD 2.13 Declared distances
2.13.1 Designation: 08
2.13.2 Takeoff run available: 11489
2.13.3 Takeoff distance available: 11489
2.13.4 Accelerate−stop distance available: 11489
2.13.5 Landing distance available: 10591

2.13.1 Designation: 26
2.13.2 Takeoff run available: 11489
2.13.3 Takeoff distance available: 11489
2.13.4 Accelerate−stop distance available: 11489
2.13.5 Landing distance available: 11489

AD 2.14 Approach and runway lighting
2.14.1 Designation: 08
2.14.4 Visual approach slope indicator system: 4−light PAPI on left

2.14.1 Designation: 26
2.14.4 Visual approach slope indicator system: 4−light PAPI on left

2.14.1 Designation: 07L
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4−light PAPI on left

2.14.1 Designation: 25R
2.14.4 Visual approach slope indicator system: 4−light PAPI on left

2.14.1 Designation: 07R
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4−light PAPI on left

2.14.1 Designation: 25L
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4−light PAPI on left

AD 2.18 Air traffic services communication facilities
2.18.1 Service designation: CD/P
2.18.3 Service designation: 118.1 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 118.7 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS B
2.18.3 Service designation: 119.2 MHz

2.18.1 Service designation: GND/P (NORTH)
2.18.3 Service designation: 119.75 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS B
2.18.3 Service designation: 120.7 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 120.9 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS B
2.18.3 Service designation: 123.7 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS B
2.18.3 Service designation: 123.7 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS B
2.18.3 Service designation: 124.1 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS B

2.18.3 Service designation: 124.1 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS B
2.18.3 Service designation: 126.8 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS B
2.18.3 Service designation: 126.8 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS B
2.18.3 Service designation: 126.8 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS B
2.18.3 Service designation: 126.8 MHz

2.18.1 Service designation: APCH/P DEP/P IC
2.18.3 Service designation: 128.65 MHz

2.18.1 Service designation: GND/P (SOUTH)
2.18.3 Service designation: 132.55 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS B
2.18.3 Service designation: 239 MHz

2.18.1 Service designation: EMERG
2.18.3 Service designation: 243 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 254.3 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS B
2.18.3 Service designation: 256.9 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS B
2.18.3 Service designation: 256.9 MHz

2.18.1 Service designation: GND/P CD/P
2.18.3 Service designation: 269.2 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS B
2.18.3 Service designation: 269.6 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS B
2.18.3 Service designation: 269.6 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS B
2.18.3 Service designation: 269.6 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS B
2.18.3 Service designation: 269.6 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS B
2.18.3 Service designation: 363 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS B
2.18.3 Service designation: 363 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS B
2.18.3 Service designation: 124.9 MHz

2.18.1 Service designation: APCH/P DEP/P IC
2.18.3 Service designation: 353.8 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS B
2.18.3 Service designation: 353.8 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS B
2.18.3 Service designation: 281.45 MHz

2.18.1 Service designation: ATIS
2.18.3 Service designation: 127.575 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 278.8 MHz

AD 2.19 Radio navigation and landing aids

2.19.1 ILS type: Localizer for runway 08. Magnetic variation: 12E
2.19.2 ILS identification: SYQ
2.19.5 Coordinates: 33−26−26.95N / 111−59−19.75W
2.19.6 Site elevation: 1145 ft

2.19.1 ILS type: DME for runway 08. Magnetic variation: 12E
2.19.2 ILS identification: SYQ
2.19.5 Coordinates: 33−26−24.32N / 111−59−19.70W
2.19.6 Site elevation: 1149 ft

2.19.1 ILS type: Glide Slope for runway 08. Magnetic variation: 12E

2.19.2 ILS identification: SYQ
2.19.5 Coordinates: 33–26–29.65N / 112–01–24.63W
2.19.6 Site elevation: 1111 ft

2.19.1 ILS type: DME for runway 26. Magnetic variation: 12E
2.19.2 ILS identification: CWJ
2.19.5 Coordinates: 33–26–24.18N / 112–01–59.25W
2.19.6 Site elevation: 1119 ft

2.19.1 ILS type: Glide Slope for runway 26. Magnetic variation: 12E
2.19.2 ILS identification: CWJ
2.19.5 Coordinates: 33–26–29.60N / 111–59–44.43W
2.19.6 Site elevation: 1129 ft

2.19.1 ILS type: Localizer for runway 26. Magnetic variation: 12E
2.19.2 ILS identification: CWJ
2.19.5 Coordinates: 33–26–27.11N / 112–01–59.23W
2.19.6 Site elevation: 1105 ft

2.19.1 ILS type: Localizer for runway 07L. Magnetic variation: 12E
2.19.2 ILS identification: PHX
2.19.5 Coordinates: 33–25–51.72N / 111–59–20.41W
2.19.6 Site elevation: 1133 ft

2.19.1 ILS type: Middle Marker for runway 07L. Magnetic variation: 12E
2.19.2 ILS identification: PHX
2.19.5 Coordinates: 33–25–51.76N / 112–02–00.00W
2.19.6 Site elevation: 1304 ft

2.19.1 ILS type: DME for runway 07L. Magnetic variation: 12E
2.19.2 ILS identification: PHX
2.19.5 Coordinates: 33–25–54.14N / 111–59–19.06W
2.19.6 Site elevation: 1142 ft

2.19.1 ILS type: Outer Marker for runway 07L. Magnetic variation: 12E
2.19.2 ILS identification: PHX
2.19.5 Coordinates: 33–25–53.81N / 112–06–23.58W
2.19.6 Site elevation: 1056 ft

2.19.1 ILS type: Glide Slope for runway 07L. Magnetic variation: 12E
2.19.2 ILS identification: PHX
2.19.5 Coordinates: 33–25–49.05N / 112–01–25.22W
2.19.6 Site elevation: 1106 ft

2.19.1 ILS type: Glide Slope for runway 07R. Magnetic variation: 12E
2.19.2 ILS identification: AHA
2.19.5 Coordinates: 33–25–46.63N / 112–01–25.09W
2.19.6 Site elevation: 1108 ft

2.19.1 ILS type: Localizer for runway 07R. Magnetic variation: 12E
2.19.2 ILS identification: AHA
2.19.5 Coordinates: 33–25–43.83N / 111–59–52.33W
2.19.6 Site elevation: 1135 ft

2.19.1 ILS type: DME for runway 07R. Magnetic variation: 12E
2.19.2 ILS identification: AHA
2.19.5 Coordinates: 33–25–43.83N / 111–59–52.33W
2.19.6 Site elevation: 1129 ft

2.19.1 ILS type: DME for runway 25L. Magnetic variation: 12E
2.19.2 ILS identification: RJG
2.19.5 Coordinates: 33–25–43.83N / 111–59–52.33W
2.19.6 Site elevation: 1135 ft

2.19.1 ILS type: Glide Slope for runway 25L. Magnetic variation: 12E
2.19.2 ILS identification: RJG
2.19.5 Coordinates: 33–25–41.06N / 112–00–16.87W
2.19.6 Site elevation: 1120 ft

2.19.1 ILS type: Localizer for runway 25L. Magnetic variation: 12E
2.19.2 ILS identification: RJG
2.19.5 Coordinates: 33–25–43.90N / 112–01–48.76W
2.19.6 Site elevation: 1104 ft

General Remarks:
FEE FOR ALL CHARTERS; TRAVEL CLUBS AND CERTAIN REVENUE PRODUCING AIRCRAFT.

TRAINING BY CIVIL TURBOJET AIRCRAFT PROHIBITED EXCEPT PRIOR PERMISSION REQUIRED.

TAXIWAY A BETWEEN TAXIWAY A1 AND TAXIWAY A10 RESTRICTED TO AIRCRAFT WINGSPAN 125 FT OR LESS.

TAXIWAY D RESTRICTED TO AIRCRAFT WINGSPAN 171 FT OR LESS.

ILS (PHX) RUNWAY 07L ANTENNA LOCATED 525 FT WEST OF TAXIWAY G3, 117 FT NORTH TAXIWAY F CENTERLINE.

ILS (AHA) RUNWAY 07R ANTENNA LOCATED 525 FT. WEST OF TAXIWAY H3, 113 FT NORTH TAXIWAY H CENTERLINE.

AIRCRAFT ENGINE RUN−UP FOR MAINTENANCE PROHIBITED EXCEPT PRIOR PERMISSION REQUIRED. CONTACT DUTY SUPERVISORY (602) 273− 2008. NO ENGINE RUNS ON AIRPORT BETWEEN 2300 AND 0500.

ANG: PHASE II BASH (THE HIGH BIRD POTENTIAL HAZARD TIME PERIOD) IS IN EFFECTIVE AUG−OCT AND MAR−MAY.PHASE I BASH IS IN EFFECTIVE NOV−FEB AND JUN−JUL.

NOISE ABATEMENT PROCEDURES ARE IN AFFECT AT ALL TIMES. CONTACT 602−273−4300 FOR MORE INFORMATION.

NO EXPERIMENTAL FLIGHT OR GROUND DEMONSTRATION WITHOUT WRITTEN APPROVAL OF AVIATION DIRECTOR PHONE 602−273−2072.

PERSONNEL AND EQUIPMENT WORKING IN THE VICINITY OF TERMINALS 2,3 & 4.

BIRD ACTIVITY WITHIN 10 MILES OF AIRPORT UP TO 10,000 MSL.

TAXIWAY R AND PORTIONS OF TAXIWAYS S AND T DIRECTLY BELOW THE ATCT ARE NON VISIBLE AREAS FROM THE ATCT. PHOENIX ATCT UNABLE TO PROVIDE AIR TRAFFIC CONTROL SERVICES TO AIRCRAFT WHILE ON TAXIWAY R, AND PORTIONS OF TAXIWAYS S AND T.

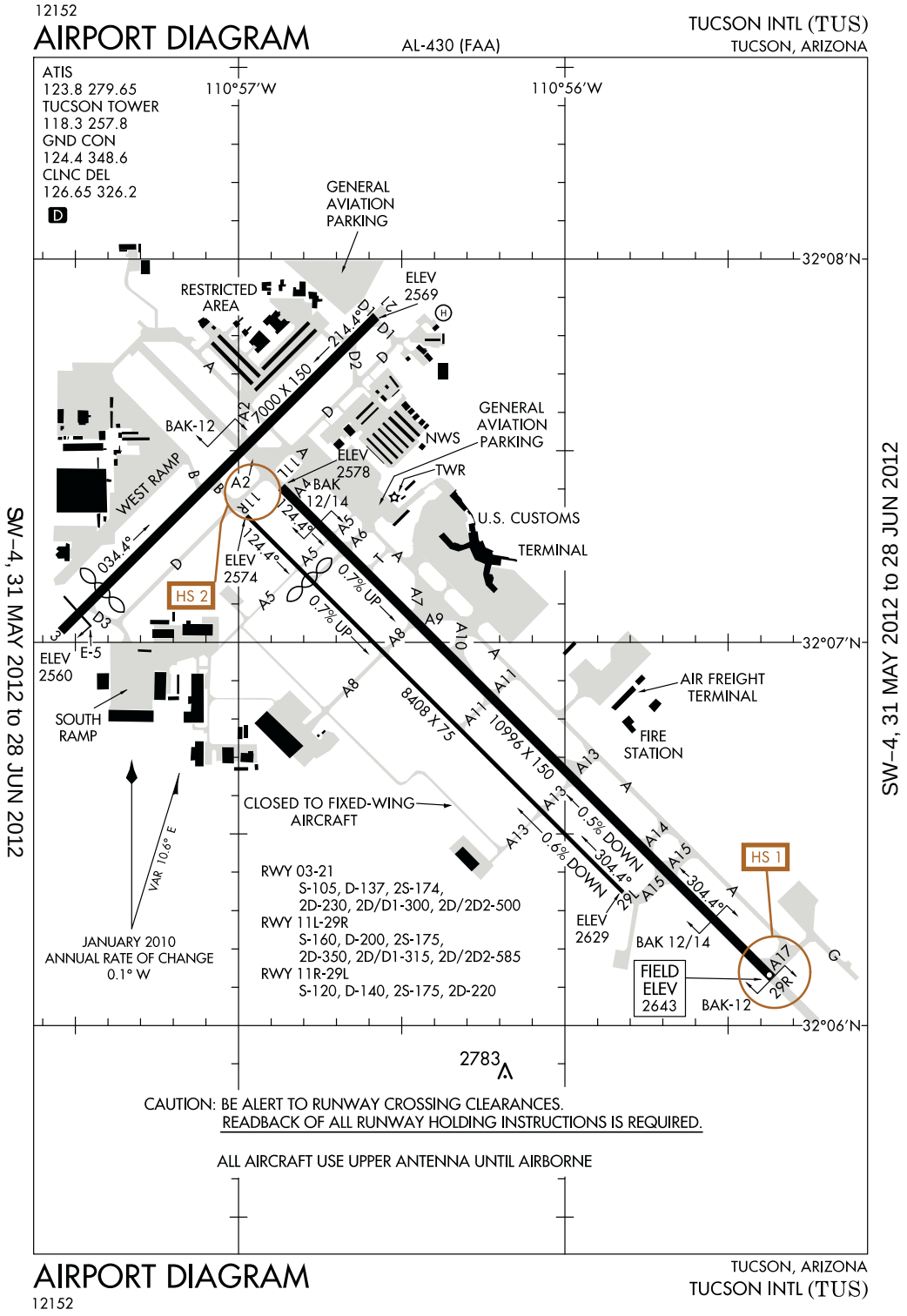
ASDE−X SURVEILLANCE SYSTEM IN USE: PILOTS SHOULD OPERATE TRANSPONDERS WITH MODE C ON ALL TAXIWAYS AND RUNWAYS.

TAXIWAY D BETWEEN INTERSECTIONS TAXIWAYS D8 & D9 RESTRICTED TO AIRCRAFT WITH WINGSPAN 135 FT OR LESS.

OVERHEAD TRAIN BRIDGE AT MIDPOINT OF TAXIWAY ’R’ PROVIDES 79 FT TAIL & UP TO 160 FT WINGTIP CLEARANCE FROM TAXIWAY CENTERLINE.

GA PILOTS SHOULD CONTACT AIRPORT MANAGER @ 602−273−3300 AS TO HOW TO VIEW/REVIEW AIRPORT SAFETY VIDEO.

Tucson, Arizona
Tucson International
ICAO Identifier KTUS



Tucson, AZ
Tucson Intl
ICAO Identifier KTUS

AD 2.2 Aerodrome geographical and administrative data
2.2.1 Reference Point: 32−06−57.90N / 110−56−27.70W
2.2.2 From City: 6 Miles S Of Tucson, AZ
2.2.3 Elevation: 2643 ft
2.2.5 Magnetic variation: 12E (1995)
2.2.6 Airport Contact: Bonnie Allin
TUCSON APT AUTH
7005 S PLUMER
Tucson, AZ 85706
(520−573−8100)
2.2.7 Traffic: IFR/VFR

AD 2.3 Operational hours
2.3.1 − 2.3.11: ALL Months, ALL Days, ALL Hours

AD 2.4 Handling services and facilities
2.4.1 Cargo handling facilities: No
2.4.2 Fuel types: 100LL,A
2.4.4 De−icing facilities: None
2.4.5 Hangar space: No
2.4.6 Repair facilities: Major

AD 2.6 Rescue and firefighting services
2.6.1 Aerodrome category for firefighting: ARFF Index I C certified on 5/1/1973

AD 2.10 Aerodrome obstacles
2.10.1.a. Runway designation: 29L
2.10.1.b Type of obstacle: Pole (37 ft). Lighted
2.10.1.c Location of obstacle: 350 ft from Centerline

2.10.1.a. Runway designation: 29R
2.10.1.b Type of obstacle: Gnd (8 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 500 ft from Centerline

2.10.1.a. Runway designation: 03
2.10.1.b Type of obstacle: Rr (21 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 250 ft from Centerline

AD 2.12 Runway physical characteristics
2.12.1 Designation: 11R
2.12.2 True Bearing: 135
2.12.3 Dimensions: 8408 ft x 75 ft
2.12.5 Coordinates: 32−07−19.57N / 110−56−58.75W
2.12.6 Threshold elevation: 2574 ft
2.12.6 Touchdown zone elevation: 2605 ft
2.12.7 Slope: 0.7UP

2.12.1 Designation: 29L
2.12.2 True Bearing: 315
2.12.3 Dimensions: 8408 ft x 75 ft
2.12.5 Coordinates: 32−06−20.72N / 110−55−49.66W
2.12.6 Threshold elevation: 2629 ft
2.12.6 Touchdown zone elevation: 2629 ft
2.12.7 Slope: 0.6DOWN

2.12.1 Designation: 11L
2.12.2 True Bearing: 135
2.12.3 Dimensions: 10996 ft x 150 ft
2.12.5 Coordinates: 32−07−24.13N / 110−56−52.48W
2.12.6 Threshold elevation: 2578 ft
2.12.6 Touchdown zone elevation: 2599 ft
2.12.7 Slope: 0.7UP

2.12.1 Designation: 29R
2.12.2 True Bearing: 315
2.12.3 Dimensions: 10996 ft x 150 ft
2.12.5 Coordinates: 32−06−00.00N / 110−55−22.15W
2.12.6 Threshold elevation: 2643 ft
2.12.6 Touchdown zone elevation: 2643 ft
2.12.7 Slope: 0.5DOWN

2.12.1 Designation: 03
2.12.2 True Bearing: 45
2.12.3 Dimensions: 7000 ft x 150 ft
2.12.5 Coordinates: 32−07−00.00N / 110−57−32.55W
2.12.6 Threshold elevation: 2560 ft
2.12.6 Touchdown zone elevation: 2572 ft

2.12.1 Designation: 21
2.12.2 True Bearing: 225
2.12.3 Dimensions: 7000 ft x 150 ft
2.12.5 Coordinates: 32−07−50.74N / 110−56−34.96W
2.12.6 Threshold elevation: 2569 ft
2.12.6 Touchdown zone elevation: 2572 ft

AD 2.13 Declared distances
2.13.1 Designation: 03
2.13.2 Takeoff run available: 7000
2.13.3 Takeoff distance available: 7000
2.13.4 Accelerate−stop distance available: 7000
2.13.5 Landing distance available: 6160

2.13.1 Designation: 21
2.13.2 Takeoff run available: 6000
2.13.3 Takeoff distance available: 7000
2.13.4 Accelerate−stop distance available: 6000
2.13.5 Landing distance available: 6000

AD 2.14 Approach and runway lighting
2.14.1 Designation: 11R
2.14.4 Visual approach slope indicator system: 4−light PAPI on left

2.14.1 Designation: 11L
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4−light PAPI on left

2.14.1 Designation: 29R
2.14.4 Visual approach slope indicator system: 4−light PAPI on left

2.14.1 Designation: 21
2.14.4 Visual approach slope indicator system: 4−light PAPI on left

AD 2.18 Air traffic services communication facilities
2.18.1 Service designation: LCL/P
2.18.3 Service designation: 118.3 MHz

2.18.1 Service designation: LCL/S
2.18.3 Service designation: 119 MHz

2.18.1 Service designation: EMERG
2.18.3 Service designation: 121.5 MHz

2.18.1 Service designation: ATIS
2.18.3 Service designation: 123.8 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: GND/P
2.18.3 Service designation: 124.4 MHz

2.18.1 Service designation: CD
2.18.3 Service designation: 126.65 MHz

2.18.1 Service designation: EMERG
2.18.3 Service designation: 243 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 257.8 MHz

2.18.1 Service designation: CD
2.18.3 Service designation: 326.2 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 348.6 MHz

2.18.1 Service designation: ANG COMD POST
2.18.3 Service designation: 138.525 MHz

2.18.1 Service designation: ATIS
2.18.3 Service designation: 279.65 MHz
2.18.4 Hours of operation: 24

AD 2.19 Radio navigation and landing aids
2.19.1 ILS type: Localizer for runway 11L. Magnetic variation: 12E
2.19.2 ILS identification: TUS
2.19.5 Coordinates: 32−05−53.51N / 110−55−00.00W
2.19.6 Site elevation: 2660 ft

2.19.1 ILS type: Glide Slope for runway 11L. Magnetic variation: 12E
2.19.2 ILS identification: TUS
2.19.5 Coordinates: 32−07−14.77N / 110−56−48.06W
2.19.6 Site elevation: 2580 ft

2.19.1 ILS type: Middle Marker for runway 11L. Magnetic variation: 12E
2.19.2 ILS identification: TUS
2.19.5 Coordinates: 32−07−51.90N / 110−57−22.60W
2.19.6 Site elevation: 2550 ft

2.19.1 ILS type: Outer Marker for runway 11L. Magnetic variation: 12E
2.19.2 ILS identification: TUS
2.19.5 Coordinates: 32−10−54.55N / 111−00−57.52W
2.19.6 Site elevation: 2500 ft

2.19.1 ILS type: DME for runway 11L. Magnetic variation: 12E
2.19.2 ILS identification: TUS

2.19.5 Coordinates: 32−05−54.93N / 110−55−00.00W

2.19.6 Site elevation: 2659 ft

General Remarks:
AIRCRAFT DEPG RUNWAY 11R REQUIRED TO ATTAIN AT LEAST 400’ AGL PRIOR TO STARTING TURN.

PORTIONS OF TAXIWAY D NOT VISIBLE FROM ATCT DUE TO HANGARS.

RUNWAY 11L/29R HAS DISTANCE REMAINING MARKINGS ON NE SIDE. RUNWAY 03/21 HAS DISTANCE REMAINING MARKERS ON SE SIDE.

NO B−747 TRAINING EXCEPT PRIOR PERMISSION REQUIRED; NO FLIGHT TRAINING 2200−0600 EXCEPT PRIOR PERMISSION REQUIRED; CALL FLIGHTLINE OFFICE 520−573−8128.

B747 AIRCRAFT TAXI WITH INBOARD ENGINES ONLY.

TAXIWAY T − GENERAL AVIATION TAXIWAY, 30,000 LBS OR LESS.

AIR CARRIERS USE RUNWAY 11L/29R.

RUNWAY 11R/29L RESTRICTED TO TKOF/LAND AIRCRAFT WITH WINGSPAN LESS THAN 73 FT & LANDING SPEED LESS THAN 120 KNOTS.

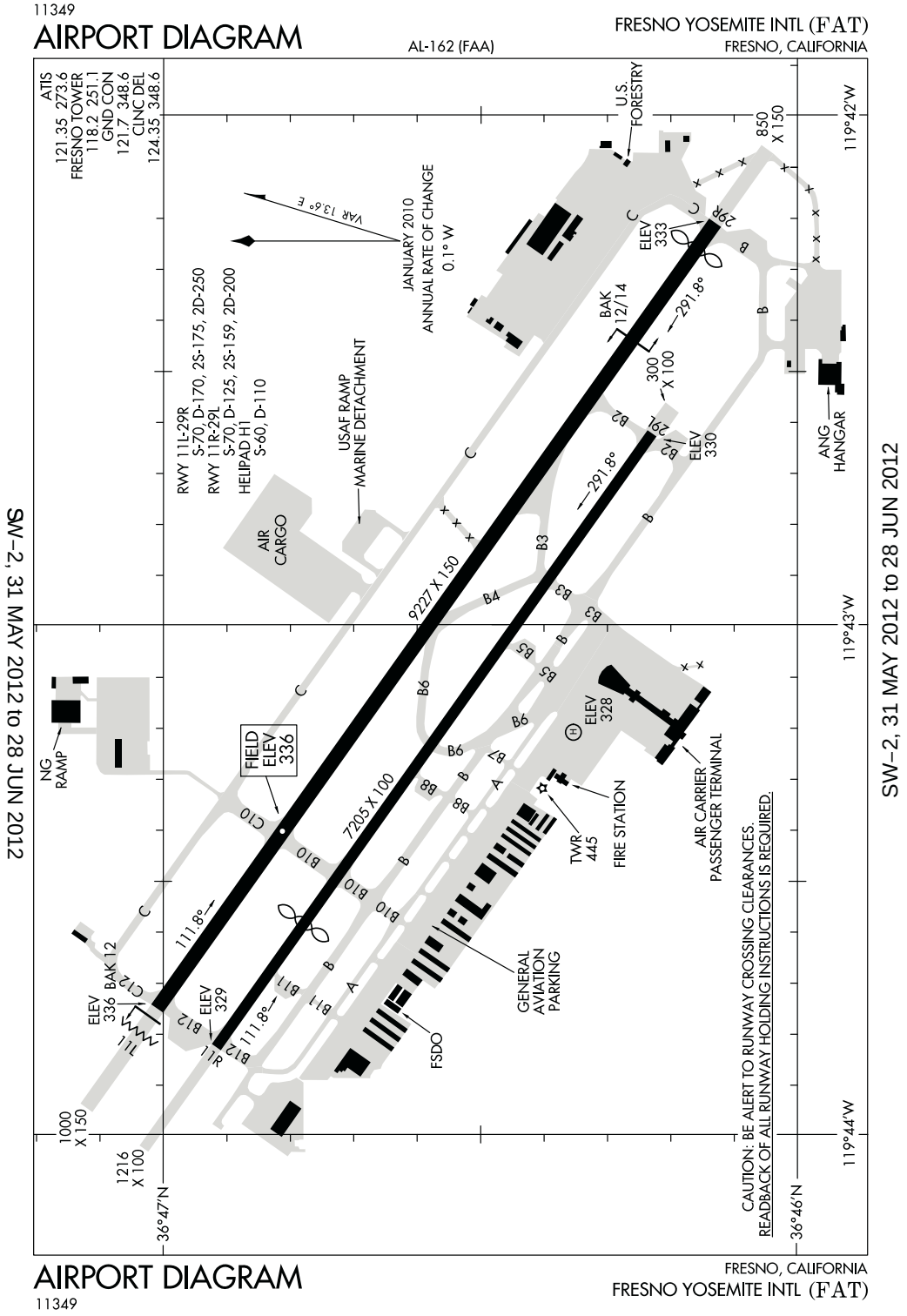
SERVICE−A−GEAR: BAK−12B IN RUNWAY 11L OVERRUN HAS 850’ RUN OUT.

HELICOPTER OPERATIONS LOCATED SOUTH OF RUNWAY 11R/29L & WEST OF TAXIWAY A13.

TAXIWAY A5 LIMITED TO 70,000 LBS OR LESS.

ANG − OFFICIAL BUSINESS ONLY. PRIOR PERMISSION REQUIRED DSN 844−6731, C520−295−6731, FAX EXTENSION 6732. 24 HR NOTIFICATION REQ FOR ALL PPR’S. BASE OPERATIONS OPR 1300−2200Z++ MON−FRI EXCEPT HOLIDAY. NO TRANSIENT ALERT MAINT AVAILABLE. NO CONTRACT FUEL AVAILABLE. TRANSIENT AIRCRAFT EXPECT STR−IN FULL STOP ONLY.

Fresno, California
Fresno Yosemite International
ICAO Identifier KFAT



Fresno, CA
Fresno Yosemite Intl
ICAO Identifier KFAT

AD 2.2 Aerodrome geographical and administrative data
2.2.1 Reference Point: 36–46–34.30N / 119–43–00.00W
2.2.2 From City: 5 Miles NE Of Fresno, CA
2.2.3 Elevation: 336 ft
2.2.5 Magnetic variation: 14E (2005)
2.2.6 Airport Contact: Russell C. Widmar, A.A.E.
4995 E CLINTON WAY
Fresno, CA 93727
(559–621–4500)
2.2.7 Traffic: IFR/VFR

AD 2.3 Operational hours
2.3.1 – 2.3.11: ALL Months, ALL Days, ALL Hours

AD 2.4 Handling services and facilities
2.4.1 Cargo handling facilities: No
2.4.2 Fuel types: 100,A
2.4.4 De–icing facilities: None
2.4.5 Hangar space: Yes
2.4.6 Repair facilities: Major

AD 2.6 Rescue and firefighting services
2.6.1 Aerodrome category for firefighting: ARFF Index I B certified on 5/1/1973

AD 2.10 Aerodrome obstacles
2.10.1.a. Runway designation: 11L
2.10.1.b Type of obstacle: Pole (31 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 650 ft from Centerline

2.10.1.a. Runway designation: 29R
2.10.1.b Type of obstacle: Road (16 ft). Lighted
2.10.1.c Location of obstacle: 580 ft from Centerline

AD 2.12 Runway physical characteristics
2.12.1 Designation: H1
2.12.3 Dimensions: 70 ft x 70 ft

2.12.1 Designation: 11L
2.12.2 True Bearing: 125
2.12.3 Dimensions: 9227 ft x 150 ft
2.12.5 Coordinates: 36–47–00.00N / 119–43–45.17W
2.12.6 Threshold elevation: 336 ft
2.12.6 Touchdown zone elevation: 336 ft

2.12.1 Designation: 29R
2.12.2 True Bearing: 305
2.12.3 Dimensions: 9227 ft x 150 ft
2.12.5 Coordinates: 36–46–00.00N / 119–42–12.68W
2.12.6 Threshold elevation: 333 ft
2.12.6 Touchdown zone elevation: 333 ft

2.12.1 Designation: 11R
2.12.2 True Bearing: 125
2.12.3 Dimensions: 7205 ft x 100 ft
2.12.5 Coordinates: 36–46–55.01N / 119–43–49.70W
2.12.6 Threshold elevation: 329 ft
2.12.6 Touchdown zone elevation: 333 ft

2.12.1 Designation: 29L
2.12.2 True Bearing: 305
2.12.3 Dimensions: 7205 ft x 100 ft
2.12.5 Coordinates: 36–46–13.79N / 119–42–37.48W
2.12.6 Threshold elevation: 330 ft
2.12.6 Touchdown zone elevation: 330 ft

AD 2.14 Approach and runway lighting
2.14.1 Designation: 11L
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 29R
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 29L
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

AD 2.18 Air traffic services communication facilities
2.18.1 Service designation: LCL/P
2.18.3 Service designation: 118.2 MHz

2.18.1 Service designation: APCH/S DEP/S

2.18.3 Service designation: 118.5 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS C IC
2.18.3 Service designation: 119.6 MHz

2.18.1 Service designation: ATIS
2.18.3 Service designation: 121.35 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: EMERG
2.18.3 Service designation: 121.5 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 121.7 MHz

2.18.1 Service designation: CD/P
2.18.3 Service designation: 124.35 MHz

2.18.1 Service designation: NG OPS
2.18.3 Service designation: 132 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS C
2.18.3 Service designation: 132.35 MHz

2.18.1 Service designation: EMERG
2.18.3 Service designation: 243 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 251.1 MHz

2.18.1 Service designation: NG OPNS
2.18.3 Service designation: 255.8 MHz

2.18.1 Service designation: ATIS
2.18.3 Service designation: 273.6 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: ANG
2.18.3 Service designation: 298.3 MHz

2.18.1 Service designation: GND/P CD/P
2.18.3 Service designation: 348.6 MHz

2.18.1 Service designation: NG OPNS
2.18.3 Service designation: 40.95 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS C
2.18.3 Service designation: 323.25 MHz

2.18.1 Service designation: APCH/S DEP/S
2.18.3 Service designation: 268.7 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS C IC
2.18.3 Service designation: 351.95 MHz

AD 2.19 Radio navigation and landing aids

2.19.1 ILS type: Localizer for runway 11L. Magnetic variation: 14E
2.19.2 ILS identification: RPW
2.19.5 Coordinates: 36–46–00.00N / 119–42–00.00W
2.19.6 Site elevation: 333 ft

2.19.1 ILS type: DME for runway 11L. Magnetic variation: 14E
2.19.2 ILS identification: RPW
2.19.5 Coordinates: 36–47–10.81N / 119–43–56.62W
2.19.6 Site elevation: 330 ft

2.19.1 ILS type: Localizer for runway 29R. Magnetic variation: 14E
2.19.2 ILS identification: FAT
2.19.5 Coordinates: 36–47–00.00N / 119–43–58.60W
2.19.6 Site elevation: 331 ft

2.19.1 ILS type: DME for runway 29R. Magnetic variation: 14E
2.19.2 ILS identification: FAT
2.19.5 Coordinates: 36–47–10.81N / 119–43–56.62W
2.19.6 Site elevation: 347 ft

2.19.1 ILS type: Middle Marker for runway 29R. Magnetic variation: 14E
2.19.2 ILS identification: FAT
2.19.5 Coordinates: 36–45–47.67N / 119–41–37.41W
2.19.6 Site elevation: 330 ft

2.19.1 ILS type: Outer Marker for runway 29R. Magnetic variation: 14E
2.19.2 ILS identification: FAT
2.19.5 Coordinates: 36–43–48.19N / 119–38–00.00W
2.19.6 Site elevation: 340 ft

2.19.1 ILS type: Inner Marker for runway 29R. Magnetic variation: 14E
2.19.2 ILS identification: FAT
2.19.5 Coordinates: 36–46–00.00N / 119–42–00.00W

2.19.6 Site elevation: 330 ft

2.19.1 ILS type: Glide Slope for runway 29R.
Magnetic variation: 14E

2.19.2 ILS identification: FAT
2.19.5 Coordinates: 36−46−18.84N / 119−42−23.48W
2.19.6 Site elevation: 331 ft

General Remarks:
NO INTERSECTION DEPS TO THE NW EXCEPT THE INTERSECTION OF RUNWAY 29R AT TAXIWAY B2 OR DURING SINGLE RUNWAY OPERATIONS.

FRESNO YOSEMITE INTL IS NOISE SENSITIVE; NOISE ABATEMENT PROCEDURES IN EFFECT.

NO MULTIPLE APPROACHES AND LANDINGS 2200−0700 MONDAY THRU SATURDAY; 1800−1000 SUNDAY.

POSSIBLE WAKE TURBULENCE OR WIND SHEAR ARR TO RUNWAY 29L OR DEP FROM RUNWAY 11R. JET TESTING CONDUCTED AT AIR NATIONAL GUARD RAMP LOCATED AT SE CORNER OF AIRPORT.

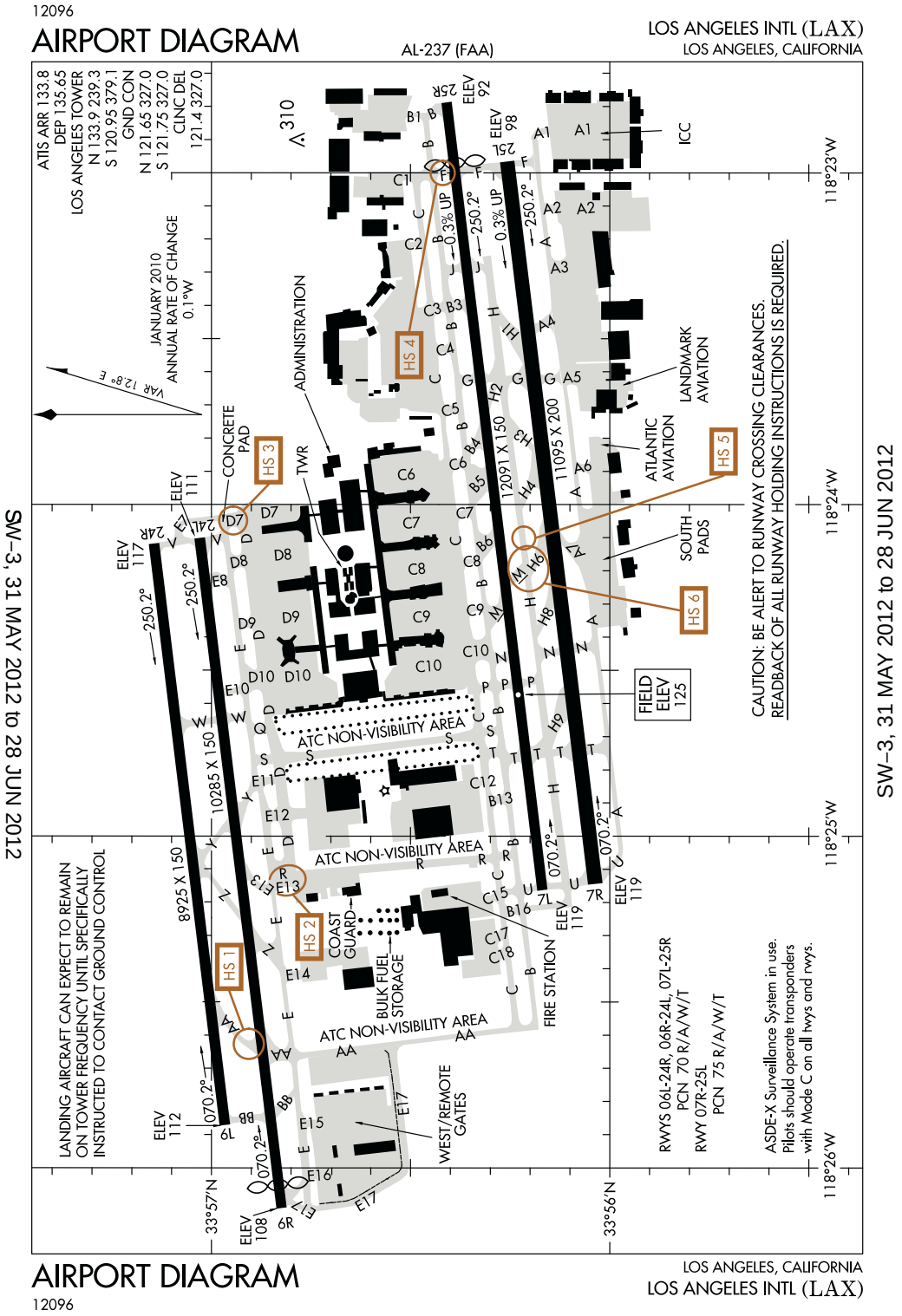
(E93) HELIPORT LOCATED LATITUDE 36−46−20.82N LONG 119−43−11.51W.

NUMEROUS BIRDS IN THE VICINITY OF AIRPORT.

LIGHTED RUNWAY DISTANCE REMAINING MARKERS S SIDE OF RUNWAY 11R/29L; LIGHTED RUNWAY DISTANCE REMAINING MARKERS BOTH SIDES OF RUNWAY 11L/29R.

RUNWAY 11R/29L CLOSED INDEFINITELY.

Los Angeles, California
Los Angeles International
ICAO Identifier KLAX



Los Angeles, CA
Los Angeles Intl
ICAO Identifier KLAX

AD 2.2 Aerodrome geographical and administrative data
2.2.1 Reference Point: 33–56–32.98N / 118–24–29.05W
2.2.2 From City: 9 Miles SW Of Los Angeles, CA
2.2.3 Elevation: 125 ft
2.2.5 Magnetic variation: 14E (1980)
2.2.6 Airport Contact: Jacqueline Yaft
ONE WORLD WAY
Los Angeles, CA 90009
(424–646–5060)
2.2.7 Traffic: IFR/VFR

AD 2.3 Operational hours
2.3.1 – 2.3.11: ALL Months, ALL Days, ALL Hours

AD 2.4 Handling services and facilities
2.4.1 Cargo handling facilities: No
2.4.2 Fuel types: A
2.4.4 De–icing facilities: None
2.4.5 Hangar space: No
2.4.6 Repair facilities: Major

AD 2.6 Rescue and firefighting services
2.6.1 Aerodrome category for firefighting: ARFF Index I E certified on 5/1/1973

AD 2.10 Aerodrome obstacles
2.10.1.a. Runway designation: 25R
2.10.1.b Type of obstacle: Rr (25 ft). Lighted
2.10.1.c Location of obstacle: 0 ft from Centerline

2.10.1.a. Runway designation: 07R
2.10.1.b Type of obstacle: Pole (67 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 825 ft from Centerline

2.10.1.a. Runway designation: 25L
2.10.1.b Type of obstacle: Rr (21 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 600 ft from Centerline

2.10.1.a. Runway designation: 06L
2.10.1.b Type of obstacle: Pole (61 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 300 ft from Centerline

2.10.1.a. Runway designation: 24R
2.10.1.b Type of obstacle: Sign (42 ft). Lighted
2.10.1.c Location of obstacle: 350 ft from Centerline

2.10.1.a. Runway designation: 06R
2.10.1.b Type of obstacle: Pole (9 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 375 ft from Centerline

AD 2.12 Runway physical characteristics
2.12.1 Designation: 07L
2.12.2 True Bearing: 83
2.12.3 Dimensions: 12091 ft x 150 ft
2.12.4 PCN: 70 R/A/W/T
2.12.5 Coordinates: 33–56–00.00N / 118–25–00.00W
2.12.6 Threshold elevation: 118 ft
2.12.6 Touchdown zone elevation: 126 ft

2.12.1 Designation: 25R
2.12.2 True Bearing: 263
2.12.3 Dimensions: 12091 ft x 150 ft
2.12.4 PCN: 70 R/A/W/T
2.12.5 Coordinates: 33–56–23.54N / 118–22–47.18W
2.12.6 Threshold elevation: 92 ft
2.12.6 Touchdown zone elevation: 102 ft

2.12.1 Designation: 07R
2.12.2 True Bearing: 83
2.12.3 Dimensions: 11095 ft x 200 ft
2.12.4 PCN: 75 R/A/W/T
2.12.5 Coordinates: 33–56–00.00N / 118–25–00.00W
2.12.6 Threshold elevation: 119 ft
2.12.6 Touchdown zone elevation: 125 ft

2.12.1 Designation: 25L
2.12.2 True Bearing: 263
2.12.3 Dimensions: 11095 ft x 200 ft
2.12.4 PCN: 75 R/A/W/T
2.12.5 Coordinates: 33–56–14.49N / 118–22–57.75W
2.12.6 Threshold elevation: 98 ft
2.12.6 Touchdown zone elevation: 104 ft

2.12.1 Designation: 06L
2.12.2 True Bearing: 83
2.12.3 Dimensions: 8925 ft x 150 ft
2.12.4 PCN: 70 R/A/W/T
2.12.5 Coordinates: 33–56–56.79N / 118–25–52.16W
2.12.6 Threshold elevation: 112 ft
2.12.6 Touchdown zone elevation: 117 ft

2.12.1 Designation: 24R
2.12.2 True Bearing: 263
2.12.3 Dimensions: 8925 ft x 150 ft
2.12.4 PCN: 70 R/A/W/T
2.12.5 Coordinates: 33–57–00.00N / 118–24–00.00W
2.12.6 Threshold elevation: 117 ft
2.12.6 Touchdown zone elevation: 120 ft

2.12.1 Designation: 06R
2.12.2 True Bearing: 83
2.12.3 Dimensions: 10285 ft x 150 ft
2.12.4 PCN: 70 R/A/W/T
2.12.5 Coordinates: 33–56–48.27N / 118–26–00.00W
2.12.6 Threshold elevation: 108 ft
2.12.6 Touchdown zone elevation: 114 ft

2.12.1 Designation: 24L
2.12.2 True Bearing: 263
2.12.3 Dimensions: 10285 ft x 150 ft
2.12.4 PCN: 70 R/A/W/T
2.12.5 Coordinates: 33–57–00.00N / 118–24–00.00W
2.12.6 Threshold elevation: 111 ft
2.12.6 Touchdown zone elevation: 121 ft

AD 2.14 Approach and runway lighting
2.14.1 Designation: 07L
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 25R
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights

2.14.1 Designation: 07R
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 25L
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration
2.14.10 Remarks: Runway 25L ALSF2 Operates As SSALR Till Weather Goes Below Vfr.

2.14.1 Designation: 06L
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 24R
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration
2.14.4 Visual approach slope indicator system: 4–light PAPI on left
2.14.10 Remarks: Runway 24R ALSF2 Operates As SSALR Till Weather Goes Below Vfr.

2.14.1 Designation: 06R
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 24L
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on right

AD 2.18 Air traffic services communication facilities
2.18.1 Service designation: LCL/P
2.18.3 Service designation: 119.8 MHz

2.18.1 Service designation: CD/S
2.18.3 Service designation: 120.35 MHz

2.18.1 Service designation: LCL/P IC
2.18.3 Service designation: 120.95 MHz

2.18.1 Service designation: CD/P
2.18.3 Service designation: 121.4 MHz

2.18.1 Service designation: EMERG
2.18.3 Service designation: 121.5 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 121.65 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 121.75 MHz

2.18.1 Service designation: SPECIAL FLIGHT RULE AREA
2.18.3 Service designation: 128.55 MHz

2.18.1 Service designation: D−ATIS
2.18.3 Service designation: 133.8 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: LCL/P IC
2.18.3 Service designation: 133.9 MHz

2.18.1 Service designation: D−ATIS
2.18.3 Service designation: 135.65 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: LCL/P IC
2.18.3 Service designation: 239.3 MHz

2.18.1 Service designation: EMERG
2.18.3 Service designation: 243 MHz

2.18.1 Service designation: GND/P CD
2.18.3 Service designation: 327 MHz

2.18.1 Service designation: SAMSO FLT OPS
2.18.3 Service designation: 372.2 MHz

2.18.1 Service designation: LCL/P IC
2.18.3 Service designation: 379.1 MHz

AD 2.19 Radio navigation and landing aids

2.19.1 ILS type: DME for runway 07L. Magnetic variation: 14E
2.19.2 ILS identification: IAS
2.19.5 Coordinates: 33−56−00.00N / 118−25−19.64W
2.19.6 Site elevation: 126 ft

2.19.1 ILS type: Localizer for runway 07L. Magnetic variation: 14E
2.19.2 ILS identification: IAS
2.19.5 Coordinates: 33−56−24.72N / 118−22−35.64W
2.19.6 Site elevation: 88 ft

2.19.1 ILS type: Glide Slope for runway 07L. Magnetic variation: 14E
2.19.2 ILS identification: IAS
2.19.5 Coordinates: 33−56−00.00N / 118−24−56.42W
2.19.6 Site elevation: 119 ft

2.19.1 ILS type: Middle Marker for runway 07L. Magnetic variation: 14E
2.19.2 ILS identification: IAS
2.19.5 Coordinates: 33−56−00.00N / 118−25−46.90W
2.19.6 Site elevation: ft

2.19.1 ILS type: DME for runway 25R. Magnetic variation: 13E
2.19.2 ILS identification: CFN
2.19.5 Coordinates: 33−56−00.00N / 118−25−19.64W
2.19.6 Site elevation: 126 ft

2.19.1 ILS type: Outer Marker for runway 25R. Magnetic variation: 13E
2.19.2 ILS identification: CFN
2.19.5 Coordinates: 33−56−53.50N / 118−16−32.20W
2.19.6 Site elevation: ft

2.19.1 ILS type: Localizer for runway 25R. Magnetic variation: 13E
2.19.2 ILS identification: CFN
2.19.5 Coordinates: 33−56−00.00N / 118−25−17.98W
2.19.6 Site elevation: 119 ft

2.19.1 ILS type: Glide Slope for runway 25R. Magnetic variation: 13E
2.19.2 ILS identification: CFN
2.19.5 Coordinates: 33−56−17.85N / 118−23−10.21W
2.19.6 Site elevation: 96 ft

2.19.1 ILS type: Middle Marker for runway 25R. Magnetic variation: 13E
2.19.2 ILS identification: CFN

2.19.5 Coordinates: 33–56–25.90N / 118–22–24.40W
2.19.6 Site elevation: 87 ft

2.19.1 ILS type: Localizer for runway 07R. Magnetic variation: 14E
2.19.2 ILS identification: MKZ
2.19.5 Coordinates: 33–56–15.76N / 118–22–45.34W
2.19.6 Site elevation: 92 ft

2.19.1 ILS type: DME for runway 07R. Magnetic variation: 14E
2.19.2 ILS identification: MKZ
2.19.5 Coordinates: 33–56–00.00N / 118–25–19.78W
2.19.6 Site elevation: 126 ft

2.19.1 ILS type: Glide Slope for runway 07R. Magnetic variation: 14E
2.19.2 ILS identification: MKZ
2.19.5 Coordinates: 33–56–00.00N / 118–24–55.54W
2.19.6 Site elevation: 119 ft

2.19.1 ILS type: Middle Marker for runway 07R. Magnetic variation: 14E
2.19.2 ILS identification: MKZ
2.19.5 Coordinates: 33–55–58.50N / 118–25–41.70W
2.19.6 Site elevation: 104 ft

2.19.1 ILS type: Localizer for runway 25L. Magnetic variation: 12E
2.19.2 ILS identification: LAX
2.19.5 Coordinates: 33–55–59.85N / 118–25–20.81W
2.19.6 Site elevation: 119 ft

2.19.1 ILS type: Inner Marker for runway 25L. Magnetic variation: 12E
2.19.2 ILS identification: LAX
2.19.5 Coordinates: 33–56–16.30N / 118–22–46.10W
2.19.6 Site elevation: 91 ft

2.19.1 ILS type: Outer Marker for runway 25L. Magnetic variation: 12E
2.19.2 ILS identification: LAX
2.19.5 Coordinates: 33–56–53.50N / 118–16–32.20W
2.19.6 Site elevation: 127 ft

2.19.1 ILS type: Middle Marker for runway 25L. Magnetic variation: 12E
2.19.2 ILS identification: LAX
2.19.5 Coordinates: 33–56–18.50N / 118–22–23.90W
2.19.6 Site elevation: 84 ft

2.19.1 ILS type: Glide Slope for runway 25L. Magnetic variation: 12E
2.19.2 ILS identification: LAX
2.19.5 Coordinates: 33–56–17.75N / 118–23–10.20W
2.19.6 Site elevation: 96 ft

2.19.1 ILS type: DME for runway 25L. Magnetic variation: 12E
2.19.2 ILS identification: LAX
2.19.5 Coordinates: 33–56–00.00N / 118–25–19.78W
2.19.6 Site elevation: 126 ft

2.19.1 ILS type: Localizer for runway 06L. Magnetic variation: 14E
2.19.2 ILS identification: UWU
2.19.5 Coordinates: 33–57–00.00N / 118–23–57.09W
2.19.6 Site elevation: 106 ft

2.19.1 ILS type: Glide Slope for runway 06L. Magnetic variation: 14E
2.19.2 ILS identification: UWU
2.19.5 Coordinates: 33–56–54.57N / 118–25–39.81W
2.19.6 Site elevation: 109 ft

2.19.1 ILS type: DME for runway 06L. Magnetic variation: 14E
2.19.2 ILS identification: UWU
2.19.5 Coordinates: 33–56–51.00N / 118–26–27.00W
2.19.6 Site elevation: 133 ft

2.19.1 ILS type: Middle Marker for runway 06L. Magnetic variation: 14E
2.19.2 ILS identification: UWU
2.19.5 Coordinates: 33–56–50.80N / 118–26–25.80W
2.19.6 Site elevation: 121 ft

2.19.1 ILS type: DME for runway 24R. Magnetic variation: 12E
2.19.2 ILS identification: OSS

2.19.5 Coordinates: 33–56–51.00N / 118–26–27.00W
2.19.6 Site elevation: 133 ft

2.19.1 ILS type: Glide Slope for runway 24R. Magnetic variation: 12E
2.19.2 ILS identification: OSS
2.19.5 Coordinates: 33–57–00.00N / 118–24–18.51W
2.19.6 Site elevation: 115 ft

2.19.1 ILS type: Inner Marker for runway 24R. Magnetic variation: 12E
2.19.2 ILS identification: OSS
2.19.5 Coordinates: 33–57–00.00N / 118–23–56.00W
2.19.6 Site elevation: 105 ft

2.19.1 ILS type: Middle Marker for runway 24R. Magnetic variation: 12E
2.19.2 ILS identification: OSS
2.19.5 Coordinates: 33–57–11.00N / 118–23–33.00W
2.19.6 Site elevation: 104 ft

2.19.1 ILS type: Outer Marker for runway 24R. Magnetic variation: 12E
2.19.2 ILS identification: OSS
2.19.5 Coordinates: 33–57–53.70N / 118–16–40.70W
2.19.6 Site elevation: 136 ft

2.19.1 ILS type: Localizer for runway 24R. Magnetic variation: 12E
2.19.2 ILS identification: OSS
2.19.5 Coordinates: 33–56–53.17N / 118–26–27.50W
2.19.6 Site elevation: 123 ft

2.19.1 ILS type: Localizer for runway 06R. Magnetic variation: 14E
2.19.2 ILS identification: GPE
2.19.5 Coordinates: 33–57–00.00N / 118–23–55.57W
2.19.6 Site elevation: 106 ft

2.19.1 ILS type: Glide Slope for runway 06R. Magnetic variation: 14E
2.19.2 ILS identification: GPE
2.19.5 Coordinates: 33–56–52.61N / 118–25–54.09W
2.19.6 Site elevation: 106 ft

2.19.1 ILS type: Middle Marker for runway 06R. Magnetic variation: 14E
2.19.2 ILS identification: GPE
2.19.5 Coordinates: 33–56–45.50N / 118–26–33.30W
2.19.6 Site elevation: 65 ft

2.19.1 ILS type: DME for runway 06R. Magnetic variation: 14E
2.19.2 ILS identification: GPE
2.19.5 Coordinates: 33–56–49.97N / 118–26–22.78W
2.19.6 Site elevation: 133 ft

2.19.1 ILS type: DME for runway 24L. Magnetic variation: 13E
2.19.2 ILS identification: HQB
2.19.5 Coordinates: 33–56–49.97N / 118–26–22.78W
2.19.6 Site elevation: 133 ft

2.19.1 ILS type: Outer Marker for runway 24L. Magnetic variation: 13E
2.19.2 ILS identification: HQB
2.19.5 Coordinates: 33–57–53.70N / 118–16–40.70W
2.19.6 Site elevation: 136 ft

2.19.1 ILS type: Localizer for runway 24L. Magnetic variation: 13E
2.19.2 ILS identification: HQB
2.19.5 Coordinates: 33–56–46.73N / 118–26–22.18W
2.19.6 Site elevation: 122 ft

2.19.1 ILS type: Glide Slope for runway 24L. Magnetic variation: 13E
2.19.2 ILS identification: HQB
2.19.5 Coordinates: 33–57–00.00N / 118–24–18.49W
2.19.6 Site elevation: 115 ft

2.19.1 ILS type: Middle Marker for runway 24L. Magnetic variation: 13E
2.19.2 ILS identification: HQB
2.19.5 Coordinates: 33–57–00.00N / 118–23–31.30W
2.19.6 Site elevation: 103 ft

General Remarks:
NUMEROUS BIRDS ON AND IN VICINITY OF AIRPORT.

TURBULENCE MAY BE DEFLECTED UPWARD FROM THE BLAST FENCE 180’ E OF RUNWAY 25R.

A 700 X 500’ CLEARWAY HAS BEEN REESTABLISHED AT WEST END OF RUNWAY 24R.

NOISE SENSITIVE AIRPORT. ON WESTERLY TAKE−OFFS NO TURNS BEFORE CROSSING SHORELINE. OVER−OCEAN APPROACHES UTILIZED 2400−0630.

PRACTICE INSTRUMENT APPROACHES & TOUCH AND GO LANDINGS ARE PROHIBITED.

RUNWAY 25L PREFERRED EMERGENCY RUNWAY.

SIMULTANEOUS AIRCRAFT OPERATIONS PROHIBITED ON TAXIWAYS T AND H9 BETWEEN RUNWAY 07L/25R AND 07R/25L.

SIMULTANEOUS AIRCRAFT OPERATIONS PROHIBITED ON TAXIWAY H2 AND G BETWEEN RUNWAYS 07L/25R AND 07R/25L.

ASDE−X SURVEILLANCE SYSTEM IN USE: PILOTS SHOULD OPERATE TRANSPONDERS WITH MODE C ON ALL TAXIWAYS AND RUNWAYS.

MILITARY RESTRICTED: ALL MILITARY AIRCRAFT OFFICIAL BUSINESS ONLY, MIN 24 HR PRIOR PERMISSION REQUIRED, CONTACT 61 ABW/CP FLIGHT OPERATIONS DSN 633−3779/4014, C310−653−3779/4014.

MILITARY AF: ALL MILITARY AIRCREWS MUST CONTACT 61 ABW/CP FLIGHT OPERATIONS FOR PARK LOCATION/INSTR. NO GOVERNMENT TRANSPORTATION, QUARTERS OR SECURITY AVAILABLE. VIP NOTIFICATION PRO APPLY. USER FEES ASSESSED USING AVCARD CREDIT. CONTACT ATLANTIC AVIATION FBO 131.6 INBOUND. INBOUND RELAY ESTIMATED TIME OF ARRIVAL, VIP CODE, SERVICE REQUIRE 30 MIN PRIOR TO ARR.

WESTBOUND B747−400 AIRCRAFT ON TAXIWAY C PROHIBITED FROM SOUTHBOUND TURNS ONTO TAXIWAY P.

TAXIWAY D BETWEEN TAXIWAY D−7 AND D−8 (NORTH OF TERMINAL ONE) CLOSED TO AIRCRAFT WITH WINGSPAN GREATER THAN 157 FT.

WEST REMOTE GATES: AIRCRAFT USE OF OPEN GATES AS TAXI PATH IS PROHIBITED (GATES 206, 207,208,209).

TAXIWAY E13 BEING CONFUSED WITH ADJACENT TAXIWAY R.

TAXIWAY E13 S OF TAXIWAY E CLOSED TO AIRCRAFT WITH WINGSPAN OVER 125.

AIRCRAFT TAXIING VICINITY TERMINALS REQUESTED TO USE MIN POWER.

FOR A380, B¿777¿300 AND 300ER, A340¿600, AND B−747−8 AIRCRAFT OPERATIONS RESTRICTIONS CONTACT LAX AIRPORT OPERATIONS (424) 646¿LAWA (5292).

MAJOR CONSTRUCTION ON AIRPORT, DAILY.

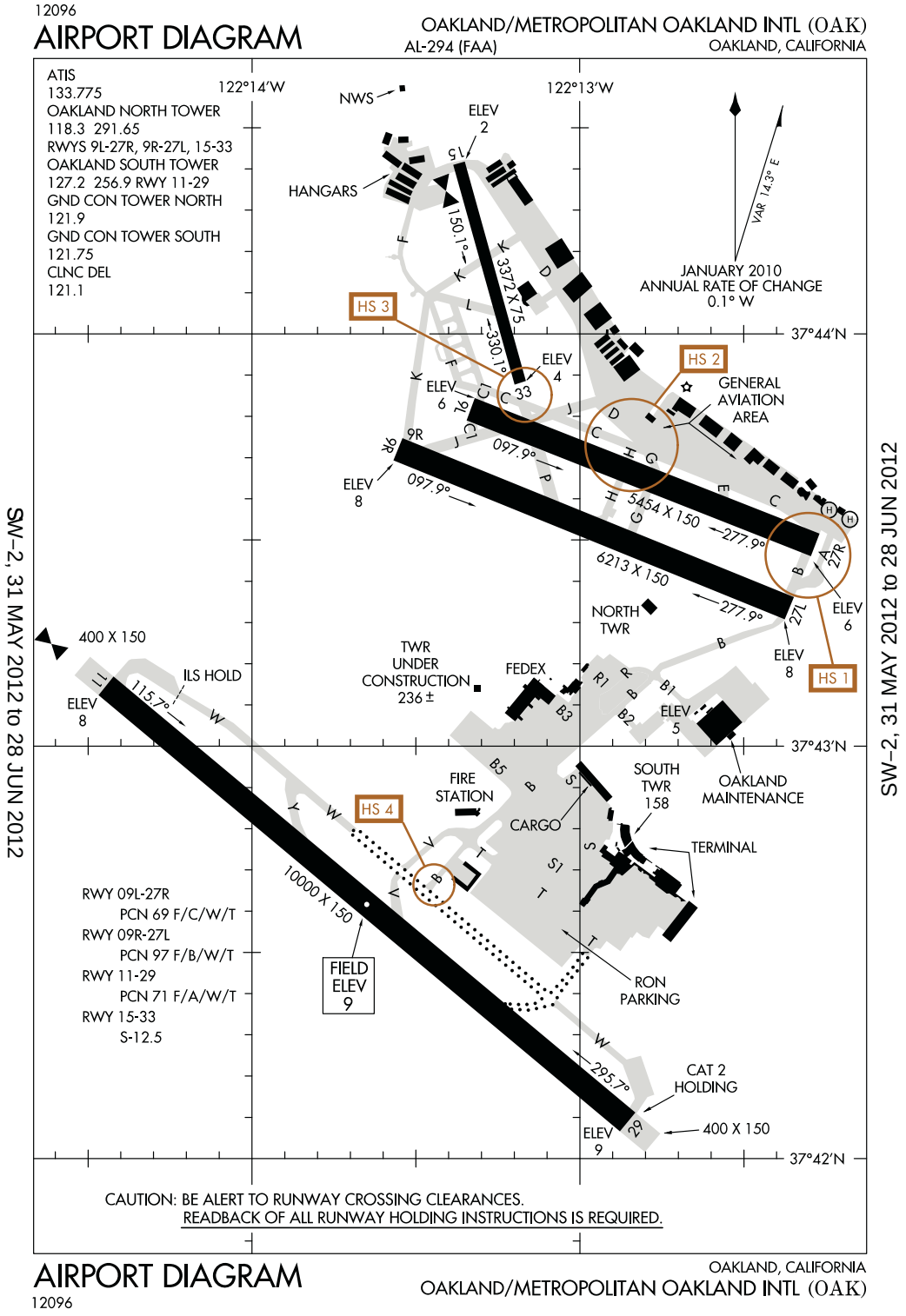
TAXIWAY E−13 BEING CONFUSED WITH ADJACENT TAXIWAY R.

TAXIWAY E13, S OF TAXIWAY E CLOSED TO AIRCRAFT WITH WINGSPAN EXCEEDING 125 FT.

AIRCRAFT TAXIING VICINITY OF TERMINALS REQUESTED TO USE MINIMUM POWER.

FOR A−380, B−747−800, B−777−300 AND 300ER/A340−600 AIRCRAFT OPERATION RESTRICTIONS CONTACT LAX AIRFIELD OPERATIONS (310)646−4265, FOR AIRCRAFT MOVEMENT PROCEDURES.

Oakland, California
Metropolitan Oakland International
ICAO Identifier KOAK



Oakland, CA
Metropolitan Oakland Intl
ICAO Identifier KOAK

AD 2.2 Aerodrome geographical and administrative data
2.2.1 Reference Point: 37–43–16.60N / 122–13–14.60W
2.2.2 From City: 4 Miles S Of Oakland, CA
2.2.3 Elevation: 9 ft
2.2.5 Magnetic variation: 16E (1995)
2.2.6 Airport Contact: Rob Forester
METROPOLITAN OAK LAND INTL ARPT
Oakland, CA 94621
(510–563–6436)
2.2.7 Traffic: IFR/VFR

AD 2.3 Operational hours
2.3.1 – 2.3.11: ALL Months, ALL Days, ALL Hours

AD 2.4 Handling services and facilities
2.4.1 Cargo handling facilities: No
2.4.2 Fuel types: 100LL,A
2.4.4 De–icing facilities: None
2.4.5 Hangar space: No
2.4.6 Repair facilities: Major

AD 2.6 Rescue and firefighting services
2.6.1 Aerodrome category for firefighting: ARFF Index I D certified on 5/1/1973

AD 2.10 Aerodrome obstacles
2.10.1.a. Runway designation: 27R
2.10.1.b Type of obstacle: Bldg (11 ft). Lighted
2.10.1.c Location of obstacle: 480 ft from Centerline

AD 2.12 Runway physical characteristics
2.12.1 Designation: 09L
2.12.2 True Bearing: 112
2.12.3 Dimensions: 5454 ft x 150 ft
2.12.4 PCN: 69 F/C/W/T
2.12.5 Coordinates: 37–43–49.67N / 122–13–19.80W
2.12.6 Threshold elevation: 6 ft
2.12.6 Touchdown zone elevation: 6 ft

2.12.1 Designation: 27R
2.12.2 True Bearing: 292
2.12.3 Dimensions: 5454 ft x 150 ft
2.12.4 PCN: 69 F/C/W/T
2.12.5 Coordinates: 37–43–29.32N / 122–12–16.93W
2.12.6 Threshold elevation: 6 ft
2.12.6 Touchdown zone elevation: 7 ft

2.12.1 Designation: 09R
2.12.2 True Bearing: 112
2.12.3 Dimensions: 6213 ft x 150 ft
2.12.4 PCN: 97 F/B/W/T
2.12.5 Coordinates: 37–43–43.35N / 122–13–33.25W
2.12.6 Threshold elevation: 8 ft
2.12.6 Touchdown zone elevation: 9 ft

2.12.1 Designation: 27L
2.12.2 True Bearing: 292
2.12.3 Dimensions: 6213 ft x 150 ft
2.12.4 PCN: 97 F/B/W/T
2.12.5 Coordinates: 37–43–20.18N / 122–12–21.63W
2.12.6 Threshold elevation: 8 ft
2.12.6 Touchdown zone elevation: 9 ft

2.12.1 Designation: 11
2.12.2 True Bearing: 129
2.12.3 Dimensions: 10000 ft x 150 ft
2.12.4 PCN: 71 F/A/W/T
2.12.5 Coordinates: 37–43–00.00N / 122–14–26.65W
2.12.6 Threshold elevation: 8 ft
2.12.6 Touchdown zone elevation: 9 ft

2.12.1 Designation: 29
2.12.2 True Bearing: 310
2.12.3 Dimensions: 10000 ft x 150 ft
2.12.4 PCN: 71 F/A/W/T
2.12.5 Coordinates: 37–42–00.00N / 122–12–51.32W
2.12.6 Threshold elevation: 9 ft
2.12.6 Touchdown zone elevation: 9 ft

2.12.1 Designation: 15
2.12.2 True Bearing: 164
2.12.3 Dimensions: 3372 ft x 75 ft
2.12.5 Coordinates: 37–44–25.01N / 122–13–22.09W
2.12.6 Threshold elevation: 2 ft
2.12.6 Touchdown zone elevation: 5 ft

2.12.1 Designation: 33

2.12.2 True Bearing: 344
2.12.3 Dimensions: 3372 ft x 75 ft
2.12.5 Coordinates: 37–43–52.90N / 122–13–10.83W
2.12.6 Threshold elevation: 4 ft
2.12.6 Touchdown zone elevation: 5 ft

AD 2.14 Approach and runway lighting
2.14.1 Designation: 09L
2.14.4 Visual approach slope indicator system: 4–light PAPI on right

2.14.1 Designation: 27R
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 09R
2.14.4 Visual approach slope indicator system: 4–light PAPI on right

2.14.1 Designation: 27L
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 11
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 29
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

AD 2.18 Air traffic services communication facilities
2.18.1 Service designation: LCL/P
2.18.3 Service designation: 118.3 MHz

2.18.1 Service designation: CD
2.18.3 Service designation: 121.1 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 121.75 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 121.9 MHz

2.18.1 Service designation: LCL/S
2.18.3 Service designation: 124.9 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 127.2 MHz

2.18.1 Service designation: D–ATIS
2.18.3 Service designation: 133.775 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: EMERG
2.18.3 Service designation: 243 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 256.9 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 291.65 MHz

AD 2.19 Radio navigation and landing aids
2.19.1 ILS type: Localizer for runway 27R. Magnetic variation: 16E
2.19.2 ILS identification: OAK
2.19.5 Coordinates: 37–43–54.33N / 122–13–34.24W
2.19.6 Site elevation: 3 ft

2.19.1 ILS type: Middle Marker for runway 27R. Magnetic variation: 16E
2.19.2 ILS identification: OAK
2.19.5 Coordinates: 37–43–16.88N / 122–11–38.86W
2.19.6 Site elevation: 10 ft

2.19.1 ILS type: Glide Slope for runway 27R. Magnetic variation: 16E
2.19.2 ILS identification: OAK
2.19.5 Coordinates: 37–43–28.59N / 122–12–30.62W
2.19.6 Site elevation: 3 ft

2.19.1 ILS type: Outer Marker for runway 27R. Magnetic variation: 16E
2.19.2 ILS identification: OAK
2.19.5 Coordinates: 37–41–54.13N / 122–07–25.03W
2.19.6 Site elevation: 30 ft

2.19.1 ILS type: Outer Marker for runway 11.
Magnetic variation: 16E
2.19.2 ILS identification: AAZ
2.19.5 Coordinates: 37−46−54.04N /
122−19−53.69W
2.19.6 Site elevation: 5 ft

2.19.1 ILS type: Middle Marker for runway 11.
Magnetic variation: 16E
2.19.2 ILS identification: AAZ
2.19.5 Coordinates: 37−43−31.45N /
122−15−00.00W
2.19.6 Site elevation: 5 ft

2.19.1 ILS type: Localizer for runway 11. Magnetic variation: 16E
2.19.2 ILS identification: AAZ
2.19.5 Coordinates: 37−42−00.00N /
122−12−46.64W
2.19.6 Site elevation: 6.4 ft

2.19.1 ILS type: Glide Slope for runway 11.
Magnetic variation: 16E
2.19.2 ILS identification: AAZ
2.19.5 Coordinates: 37−43−00.00N /
122−14−13.82W
2.19.6 Site elevation: 4 ft

2.19.1 ILS type: Glide Slope for runway 29.
Magnetic variation: 14E
2.19.2 ILS identification: INB
2.19.5 Coordinates: 37−42−00.00N /
122−13−00.00W
2.19.6 Site elevation: 5 ft

2.19.1 ILS type: Outer Marker for runway 29.
Magnetic variation: 14E
2.19.2 ILS identification: INB
2.19.5 Coordinates: 37−39−00.00N /
122−08−25.68W
2.19.6 Site elevation: 5 ft

2.19.1 ILS type: Localizer for runway 29. Magnetic variation: 14E
2.19.2 ILS identification: INB
2.19.5 Coordinates: 37−43−29.86N /
122−14−58.10W
2.19.6 Site elevation: 9 ft

2.19.1 ILS type: Middle Marker for runway 29.
Magnetic variation: 14E
2.19.2 ILS identification: INB
2.19.5 Coordinates: 37−41−44.61N /
122−12−20.00W
2.19.6 Site elevation: 10 ft

2.19.1 ILS type: Inner Marker for runway 29.
Magnetic variation: 14E
2.19.2 ILS identification: INB
2.19.5 Coordinates: 37−41−59.92N /
122−12−43.09W
2.19.6 Site elevation: 10 ft

General Remarks:
BIRDS ON & IN THE VICINITY OF AIRPORT.

400 FT BLAST PAD RUNWAY 29 & 500 FT BLAST PAD RUNWAY 11.

RUNWAYS 09L/27R & 09R/27L HAVE CENTERLINE REFLECTORS.

NOISE PROHIBITIONS NOT APPLICABLE IN EMERGENCY OR WHENEVER RUNWAY 11/29 IS CLOSED DUE TO MAINT, SAFETY, WINDS OR WEATHER.

AIRCRAFT WITH EXPERIMENTAL OR LIMITED CERTIFICATION HAVING OVER 1000 HORSEPOWER OR 4000 LBS ARE RESTRICTED TO RUNWAY 11/29.

1000’CLEARWAYS RUNWAY 11 & 29.

100’ LIGHTED MICROWAVE ANTENNA TOWER LOCATED 1320’ WSW OF OAK VORTAC; S OF UPWIND END OF RUNWAY 27L.

RUNWAYS 29, 27R AND RUNWAY 27L DISTANCE REMAINING SIGNS LEFT SIDE.

FOR NOISE ABATEMENT INFORMATION CONTACT NOISE ABATEMENT OFFICE AT (510) 563−6463.

RUNWAY 15/33 CLOSED TO AIR CARRIER AIRCRAFT.

PREFERENTIAL RUNWAY USE PROGRAM IN EFFECT 2200–0600. NORTH FIELD PREFERRED ARR RUNWAY 27L, NORTH FIELD PREFERRED DEP RUNWAYS 09R OR 27R. IF THESE RUNWAYS UNACCEPTABLE FOR SAFETY OR ATC INSTRUCTION THEN RUNWAY 11/29 MUST BE USED.

24 HR NOISE ABATEMENT PROCEDURE – TURBOJET AND TURBOFAN POWERED AIRCRAFT, TURBOROPS OVER 17, 000 LBS, FOUR–ENGINE RECIPROCATING POWERED AIRCRAFT, AND SURPLUS MILITARY AIRCRAFT OVER 12,500 POUNDS SHOULD NOT DEPART RUNWAYS 27R & 27R OR LAND ON RUNWAYS 09R & 09L.

INTERSECTION OF TAXIWAYS B, W AND V NOT VISIBLE FROM ATCT. TAXIWAY K BETWEEN RUNWAY 33 AND TAXIWAY D AND PORTIONS OF TAXIWAY D NOT VISIBLE FROM ATCT.

TAXIWAY A, E, G, H BETWEEN RUNWAY 27R AND TAXIWAY C MAX AIRCRAFT WEIGHT 150,000 LBS.

TAXIWAY G & H BETWEEN RUNWAY 27 L & 27R: MAX AIRCRAFT WEIGHT 12,500 LBS.

TAXIWAY P MAX AIRCRAFT WEIGHT 24,000 LBS SINGLE; 40,000 LBS DUAL.

TAXIWAY C BETWEEN RUNWAY 27R & TAXIWAY G AND TAXIWAYS B, J, AND D MAX AIRCRAFT WEIGHT 900,000 LBS.

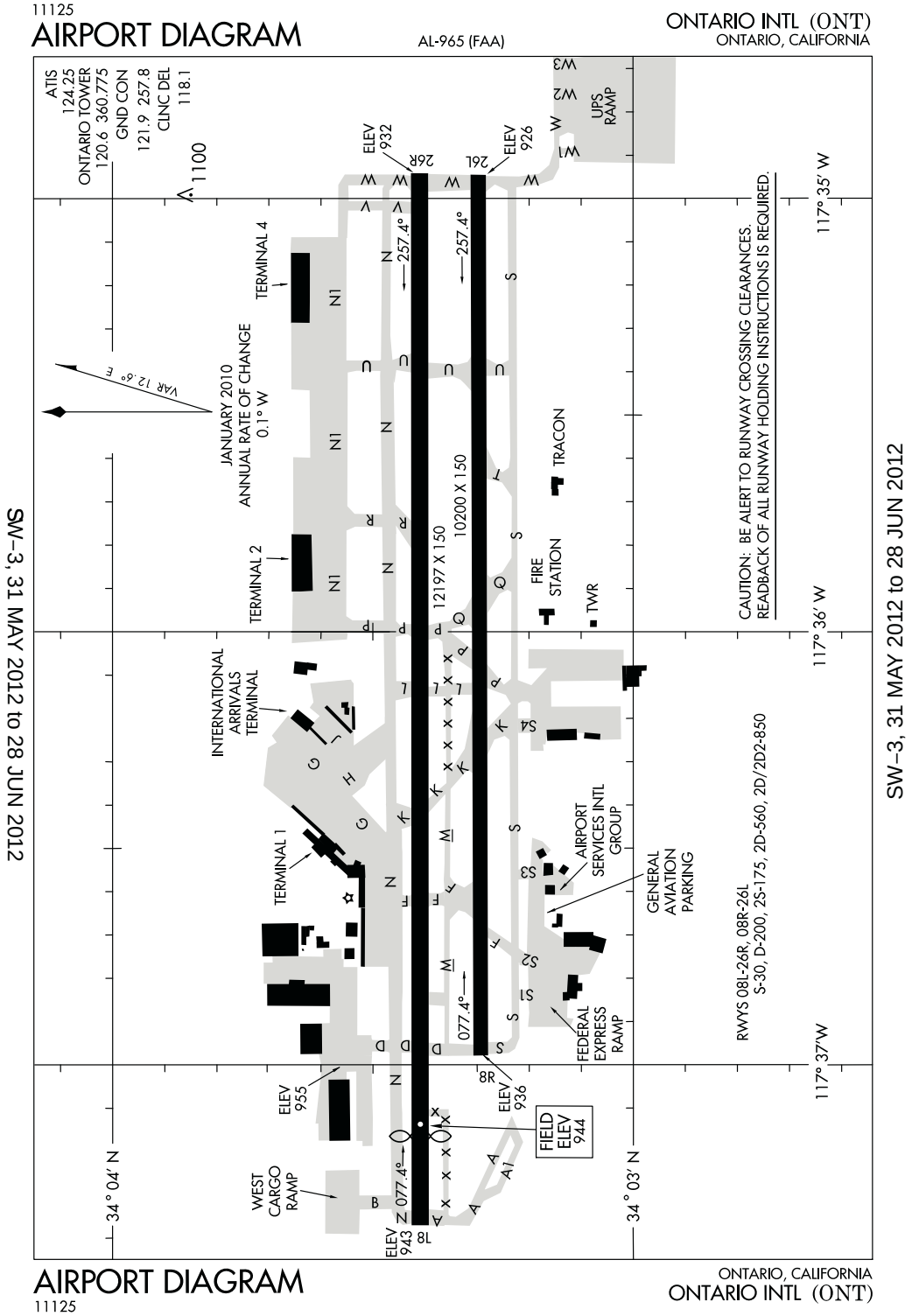
TAXIWAY C BETWEEN TAXIWAY G & J MAX AIRCRAFT WEIGHT 25,000 LBS SINGLE; 175,000 LBS DUAL; 400,000 LBS TANDEM.

TAXIWAY C BETWEEN TAXIWAY J & F MAX AIRCRAFT WEIGHT 25,000 LBS SINGLE; 150,000 LBS DUAL; 155,000 LBS TANDEM (DUAL TANDEM NOT AUTHORIZED).

TAXIWAY K BETWEEN TAXIWAY D & INTERSECTION TAXIWAYS F, L, K MAX AIRCRAFT WEIGHT 25,000 LBS SINGLE; 115,000 LBS DUAL; 140,000 LBS TANDEM.

TAXIWAY K BETWEEN RUNWAY 9R AND INTERSECTION TAXIWAYS F, L, K MAX AIRCRAFT WEIGHT 25,000 LBS SINGLE; 45,000 LBS DUAL; TANDEM NOT AUTHORIZED.

Ontario, California
Ontario International
ICAO Identifier KONT



Ontario, CA
Ontario Intl
ICAO Identifier KONT

AD 2.2 Aerodrome geographical and administrative data
2.2.1 Reference Point: 34–03–21.60N / 117–36–00.00W
2.2.2 From City: 2 Miles E Of Ontario, CA
2.2.3 Elevation: 944 ft
2.2.5 Magnetic variation: 14E (1990)
2.2.6 Airport Contact: Jess Romo
ONTARIO
INTERNATIONAL
AIRPORT
Ontario, CA 91761
(909–544–5300)
2.2.7 Traffic: IFR/VFR

AD 2.3 Operational hours
2.3.1 – 2.3.11: ALL Months, ALL Days, ALL Hours

AD 2.4 Handling services and facilities
2.4.1 Cargo handling facilities: No
2.4.2 Fuel types: 100LL,A
2.4.4 De–icing facilities: None
2.4.5 Hangar space: No
2.4.6 Repair facilities: Major

AD 2.6 Rescue and firefighting services
2.6.1 Aerodrome category for firefighting: ARFF Index I C certified on 5/1/1973

AD 2.10 Aerodrome obstacles
2.10.1.a. Runway designation: 08L
2.10.1.b Type of obstacle: Rr (20 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 250 ft from Centerline

2.10.1.a. Runway designation: 26R
2.10.1.b Type of obstacle: Pole (40 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 400 ft from Centerline

2.10.1.a. Runway designation: 26L
2.10.1.b Type of obstacle: Pole (40 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 400 ft from Centerline

AD 2.12 Runway physical characteristics
2.12.1 Designation: 08L
2.12.2 True Bearing: 90
2.12.3 Dimensions: 12197 ft x 150 ft
2.12.5 Coordinates: 34–03–24.75N / 117–37–22.15W
2.12.6 Threshold elevation: 943 ft
2.12.6 Touchdown zone elevation: 944 ft

2.12.1 Designation: 26R
2.12.2 True Bearing: 270
2.12.3 Dimensions: 12197 ft x 150 ft
2.12.5 Coordinates: 34–03–24.82N / 117–34–57.19W
2.12.6 Threshold elevation: 932 ft
2.12.6 Touchdown zone elevation: 932 ft

2.12.1 Designation: 08R
2.12.2 True Bearing: 90
2.12.3 Dimensions: 10200 ft x 150 ft
2.12.5 Coordinates: 34–03–17.85N / 117–36–58.41W
2.12.6 Threshold elevation: 936 ft
2.12.6 Touchdown zone elevation: 936 ft

2.12.1 Designation: 26L
2.12.2 True Bearing: 270
2.12.3 Dimensions: 10200 ft x 150 ft
2.12.5 Coordinates: 34–03–17.89N / 117–34–57.19W
2.12.6 Threshold elevation: 926 ft
2.12.6 Touchdown zone elevation: 926 ft

AD 2.14 Approach and runway lighting
2.14.1 Designation: 08L
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 26R
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 08R

2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 26L
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration
2.14.4 Visual approach slope indicator system: 4–light PAPI on right

AD 2.18 Air traffic services communication facilities
2.18.1 Service designation: CD/P
2.18.3 Service designation: 118.1 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 120.6 MHz

2.18.1 Service designation: EMERG
2.18.3 Service designation: 121.5 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 121.9 MHz

2.18.1 Service designation: D–ATIS
2.18.3 Service designation: 124.25 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: EMERG
2.18.3 Service designation: 243 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 257.8 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 360.775 MHz

AD 2.19 Radio navigation and landing aids
2.19.1 ILS type: Glide Slope for runway 08L. Magnetic variation: 14E
2.19.2 ILS identification: AOD
2.19.5 Coordinates: 34–03–21.21N / 117–36–59.90W
2.19.6 Site elevation: 936 ft

2.19.1 ILS type: Middle Marker for runway 08L. Magnetic variation: 14E
2.19.2 ILS identification: AOD
2.19.5 Coordinates: 34–03–25.80N / 117–37–51.55W
2.19.6 Site elevation: 947 ft

2.19.1 ILS type: Localizer for runway 08L. Magnetic variation: 14E
2.19.2 ILS identification: AOD
2.19.5 Coordinates: 34–03–24.82N / 117–34–45.84W
2.19.6 Site elevation: 929 ft

2.19.1 ILS type: Glide Slope for runway 26R. Magnetic variation: 14E
2.19.2 ILS identification: ONT
2.19.5 Coordinates: 34–03–22.01N / 117–35–10.97W
2.19.6 Site elevation: 926 ft

2.19.1 ILS type: Outer Marker for runway 26R. Magnetic variation: 14E
2.19.2 ILS identification: ONT
2.19.5 Coordinates: 34–03–22.33N / 117–28–17.72W
2.19.6 Site elevation: 1010 ft

2.19.1 ILS type: Middle Marker for runway 26R. Magnetic variation: 14E
2.19.2 ILS identification: ONT
2.19.5 Coordinates: 34–03–24.79N / 117–34–24.33W
2.19.6 Site elevation: 940 ft

2.19.1 ILS type: DME for runway 26R. Magnetic variation: 14E
2.19.2 ILS identification: ONT
2.19.5 Coordinates: 34–03–22.15N / 117–37–26.54W
2.19.6 Site elevation: 958 ft

2.19.1 ILS type: Localizer for runway 26R. Magnetic variation: 14E
2.19.2 ILS identification: ONT
2.19.5 Coordinates: 34–03–24.76N / 117–37–26.68W
2.19.6 Site elevation: 945 ft

2.19.1 ILS type: DME for runway 26L. Magnetic variation: 12E
2.19.2 ILS identification: TWO
2.19.5 Coordinates: 34–03–20.47N / 117–37–00.00W
2.19.6 Site elevation: 948 ft

2.19.1 ILS type: Middle Marker for runway 26L. Magnetic variation: 12E
2.19.2 ILS identification: TWO

2.19.5 Coordinates: 34–03–17.88N / 117–34–24.41W
2.19.6 Site elevation: 924 ft

2.19.1 ILS type: Glide Slope for runway 26L.
Magnetic variation: 12E
2.19.2 ILS identification: TWO
2.19.5 Coordinates: 34–03–21.89N / 117–35–10.97W
2.19.6 Site elevation: 925 ft

2.19.1 ILS type: Inner Marker for runway 26L.
Magnetic variation: 12E
2.19.2 ILS identification: TWO
2.19.5 Coordinates: 34–03–17.89N / 117–34–47.85W
2.19.6 Site elevation: 921 ft

2.19.1 ILS type: Outer Marker for runway 26L.
Magnetic variation: 12E
2.19.2 ILS identification: TWO
2.19.5 Coordinates: 34–03–22.33N / 117–28–17.72W
2.19.6 Site elevation: 1010 ft

2.19.1 ILS type: Localizer for runway 26L.
Magnetic variation: 12E
2.19.2 ILS identification: TWO
2.19.5 Coordinates: 34–03–17.84N / 117–37–10.29W
2.19.6 Site elevation: 931 ft

General Remarks:
NO ACCESS TO RUNWAY 08R FROM TAXIWAY A.

FBO'S ON FREQ 130.75 AND 131.6.

TAXIWAY H RESTRICTED TO AIRCRAFT WITH WINGSPAN OF 124 FT OR SMALLER WHEN GATE 35A OCCUPIED BY B747 OR LARGER AIRCRAFT.

TAXIWAY J RESTRICTED TO AIRCRAFT WITH WINGSPAN OF 108 FT OR SMALLER.

WILDLIFE HAZARD MANAGEMENT PLAN IN EFFECT; POTENTIAL BIRD HAZARDS MAY EXIST ON AND IN THE VICINITY OF AIRPORT; BE ALERT TO LARGE NUMBERS OF STARLINGS AND CROWS POSSIBLE ON APPROACH TO RUNWAY 26L AND RUNWAY 26R, HAWKS, EAGLES, FALCONS AND OWLS SPOTTED ON OCCASION.

TAXIWAY M, TAXIWAY A, TAXIWAY S–3 AND TAXIWAY S–4 RESTRICTED TO AIRCRAFT WITH WINGSPAN 117 FT OR SMALLER.

PILOTS SHOULD USE JUDGEMENTAL OVERSTEER ON TAXIWAY A, TAXIWAY M, TAXIWAY H, TAXIWAY J, TAXIWAY S–3 AND TAXIWAY S–4.

NOISE ABATEMENT PROCEDURES IN EFFECT; FULL–LENGTH TURBOJET DEP ENCOURAGED, NIGHTLY PREFERENTIAL RUNWAY USAGE, 2100–0600.

EASTBOUND B747, B777, A330, A340 OR LARGER AIRCRAFT ON TAXIWAY S PROHIBITED FROM NORTHBOUND TURNS ONTO TAXIWAY K.

B747, B777, A330, A340 OR LARGER AIRCRAFT ON TAXIWAY S PROHIBITED FROM NORTHBOUND TURNS ONTO TAXIWAY P.

AIRCRAFT PARKING AND CONTRACT GROUND SERVICES ARE LIMITED FOR NON–SCHEDULED OPERATIONS. FOR SCHEDULING INFORMATION CALL AIRFIELD OPERATIONS (909) 544–5344.

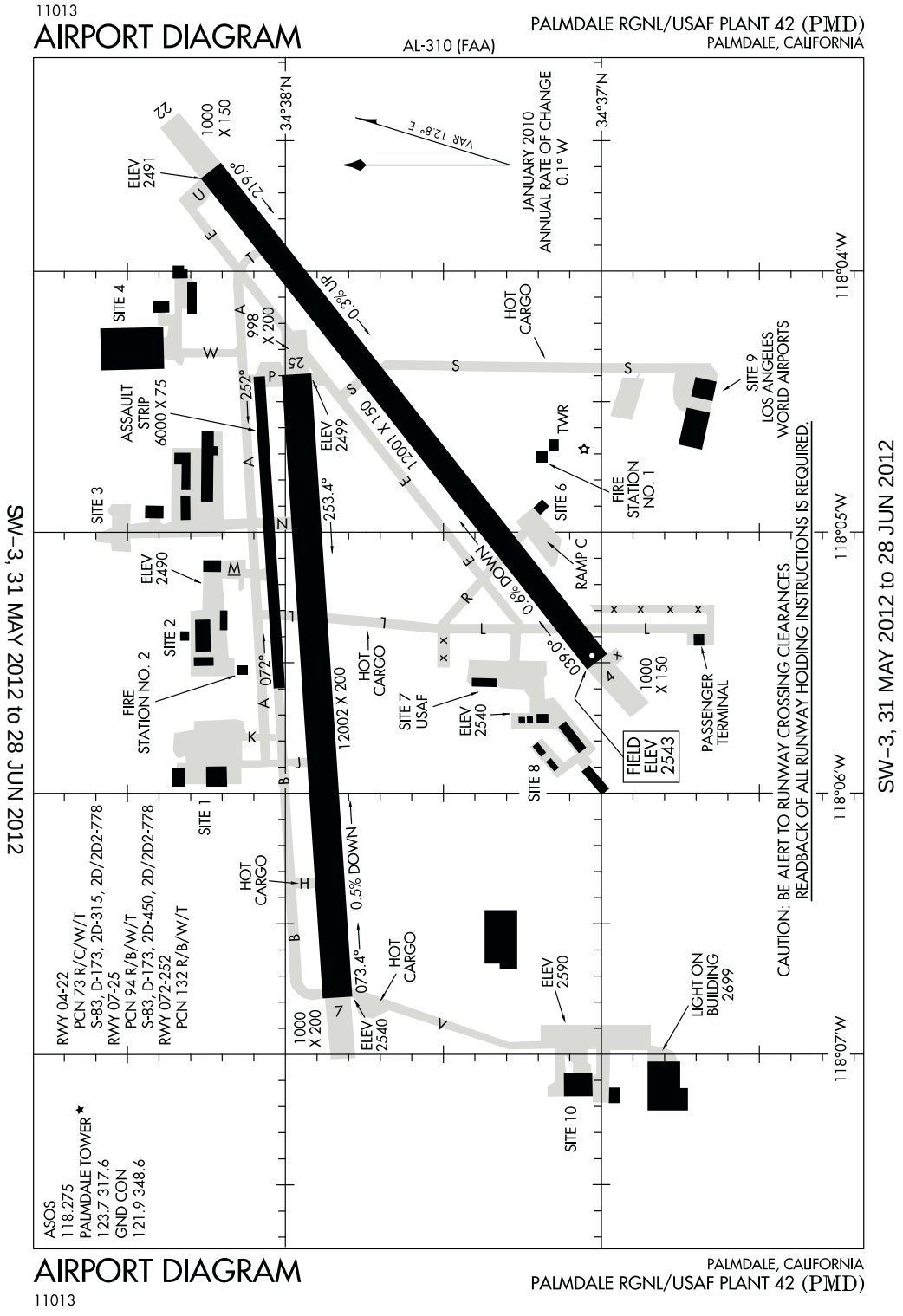
TAXIWAY W SOUTH OF TAXIWAY S IS A NON–MOVEMENT AREA; ALL AIRCRAFT CONTACT RAMP CONTROL 131.325 FOR ACCESS.

ALL MILITARY AND GENERAL AVIATION (FIXED OR ROTOR WING) AIRCRAFT OPERATIONS ARE RESTRICTED TO FBO FACILITIES WITH ADVANCE COORDINATION; OVERNIGHT TIEDOWN AND PARKING FEE.

TAXIWAY S SOUTH OF CENTERLINE BETWEEN TXLN S–2 AND S–3, AND THE SOUTHERN HALF OF TXLN S–2 AND S–3 ARE NOT VISIBLE FROM ATCT; PILOTS USE CAUTION ENTERING TXLN S–2 AND S–3.

TAXIWAY M FIRST 1,275 FT CLOSED EAST OF TAXIWAY A.

Palmdale, California
Palmdale Regional/USAF Plant 42
ICAO Identifier KPMD



Palmdale, CA
Palmdale Rgnl/USAF Plant 42
ICAO Identifier KPMD

AD 2.2 Aerodrome geographical and administrative data
2.2.1 Reference Point: 34−37−45.80N / 118−05−00.00W
2.2.2 From City: 3 Miles NE Of Palmdale, CA
2.2.3 Elevation: 2543 ft
2.2.5 Magnetic variation: 15E (1980)
2.2.6 Airport Contact: Ken Neitzel
2503 E AVE P
Palmdale, CA 93550
(661−272−6715)
2.2.7 Traffic: IFR/VFR

AD 2.3 Operational hours
2.3.1 − 2.3.11: ALL Months, MON−FRI Days, 1330−0600Z++ Hours

AD 2.4 Handling services and facilities
2.4.1 Cargo handling facilities: No
2.4.2 Fuel types: None
2.4.4 De−icing facilities: None
2.4.5 Hangar space: No
2.4.6 Repair facilities: None

AD 2.6 Rescue and firefighting services
2.6.1 Aerodrome category for firefighting: None

AD 2.10 Aerodrome obstacles
2.10.1.a. Runway designation: 04
2.10.1.b Type of obstacle: Hill. Not Lighted or Marked

AD 2.12 Runway physical characteristics
2.12.1 Designation: 07
2.12.2 True Bearing: 86
2.12.3 Dimensions: 12002 ft x 200 ft
2.12.4 PCN: 94 R/B/W/T
2.12.5 Coordinates: 34−37−50.11N / 118−06−47.03W
2.12.6 Threshold elevation: 2540 ft
2.12.6 Touchdown zone elevation: 2540 ft
2.12.7 Slope: 0.5DOWN

2.12.1 Designation: 25
2.12.2 True Bearing: 266
2.12.3 Dimensions: 12002 ft x 200 ft
2.12.4 PCN: 94 R/B/W/T
2.12.5 Coordinates: 34−37−57.99N / 118−04−23.74W
2.12.6 Threshold elevation: 2499 ft
2.12.6 Touchdown zone elevation: 2503 ft
2.12.7 Slope: 0.2UP

2.12.1 Designation: 04
2.12.2 True Bearing: 52
2.12.3 Dimensions: 12001 ft x 150 ft
2.12.4 PCN: 73 R/C/W/T
2.12.5 Coordinates: 34−37−00.00N / 118−05−29.80W
2.12.6 Threshold elevation: 2542 ft
2.12.6 Touchdown zone elevation: 2542 ft
2.12.7 Slope: 0.6DOWN

2.12.1 Designation: 22
2.12.2 True Bearing: 232
2.12.3 Dimensions: 12001 ft x 150 ft
2.12.4 PCN: 73 R/C/W/T
2.12.5 Coordinates: 34−38−14.24N / 118−03−36.97W
2.12.6 Threshold elevation: 2491 ft
2.12.6 Touchdown zone elevation: 2498 ft
2.12.7 Slope: 0.3UP

2.12.1 Designation: 072
2.12.3 Dimensions: 6000 ft x 75 ft
2.12.4 PCN: 132 R/B/W/T

2.12.1 Designation: 252
2.12.3 Dimensions: 6000 ft x 75 ft
2.12.4 PCN: 132 R/B/W/T

AD 2.14 Approach and runway lighting
2.14.1 Designation: 25
2.14.4 Visual approach slope indicator system: 4−light PAPI on left

2.14.1 Designation: 22
2.14.4 Visual approach slope indicator system: 4−light PAPI on left

AD 2.19 Radio navigation and landing aids
2.19.1 ILS type: Outer Marker for runway 25. Magnetic variation: 15E
2.19.2 ILS identification: PMD
2.19.5 Coordinates: 34−38−22.66N / 117−57−30.34W

2.19.6 Site elevation: 2550 ft

2.19.1 ILS type: Middle Marker for runway 25. Magnetic variation: 15E
2.19.2 ILS identification: PMD
2.19.5 Coordinates: 34−38−00.00N / 118−03−46.16W
2.19.6 Site elevation: 2492 ft

2.19.1 ILS type: Localizer for runway 25. Magnetic variation: 15E
2.19.2 ILS identification: PMD
2.19.5 Coordinates: 34−37−48.79N / 118−07−10.91W
2.19.6 Site elevation: 2552 ft

2.19.1 ILS type: Glide Slope for runway 25. Magnetic variation: 15E
2.19.2 ILS identification: PMD
2.19.5 Coordinates: 34−38−00.00N / 118−04−40.08W
2.19.6 Site elevation: 2492 ft

General Remarks:
MISC: INDUSTRIAL INSTALL − NO TRANSPORTATION, LODGING OR NORMAL SERVICE AVAILABLE ON SITE.

WHEN ATCT CLOSED AIRPORT CLOSED TO ALL TRAFFIC WITHOUT WRITTEN APPROVAL.

PARKING RAMP LOCATED S OF RUNWAY 22 & TAXIWAY V NOT VISIBLE FROM ATCT.

UNLIGHTED OBSTRUCTION SURROUND AIRFIELD.

DRAINAGE DITCHES PARALLEL ALL RUNWAYS.

BIRD HAZARD POTENTIAL EXISTS. MIGRATORY SEASON PHASE II 1 OCT − 31 AT SEA. DURING BIRD WATCH CONDITION MODERATE, TAKE−OFF AND LANDING PERMITTED. DURING BIRD WATCH CONDITION SEVERE, TAKE−OFF AND LANDING PROHIBITED.

MILITARY USE: ASSAULT LANDING ZONE LOCATED 1ST 6,000 EAST END OF TAXIWAY B, ASSAULT LANDING ZONE 25 OPEN TO C−130 AIRCRAFT, PRIOR PERMISSION REQUIRED ONLY; CALL 661−272−6715. ASSAULT LANDING ZONE ONE−WAY LANDING ASSAULT LANDING ZONE 25 ONLY.

MISC: WINDS ARE ESTIMATE DUE TO FMQ−13 WIND SENSORS BEING ACCURATE TO WITHIN ONLY +/− 2 KNOTS. ATC/WX WILL NOT INCLUDE/RELAY WIND CORRECTION INTO FORECAST/PHRASEOLOGY. THEREFORE, AIRCREWS WILL INCORPORATE A +/− 2 KNOTS ACCURACY INTO THEIR DECISION MAKING PROCESS FOR FLYING OPR.

SERVICE−LGT: GATED THRESHOLD LIGHT RUNWAY 07−25 AND RUNWAY 04−22.

TRANSIENT ALERT (1 OF 2): NO FLEET SERVICE AVAILABLE. LIMITED TRANSIENT SERVICE DUR NORMAL HR, WEEKEND AND HOLIDAY CAPABILITY EXTREMELY LIMITED AND MAY BE POSTPONED UNTIL NEXT DUTY DAY. NO FOLLOW ME SERVICE AVAILABLE. EXPECT PROGRESSIVE TAXI TO PARK. AIRCREW RESPONSIBLE FOR AIRCRAFT PINNING/SAFING.

MISC: COMSEC STORAGE UNAVAILABLE.

CAUTION: USE EXTREME CAUTION FOR UNMANNED AERIAL SYSTEMS (UAS) OPERATIONS IN VICINITY.

FUEL: LIMITED FUELING AVAILABLE TO GOVERNMENT AIRCRAFT ONLY 1530−0130Z++ WEEKDAY, EXCEPT HOLIDAYS.

RESTRICTED − OFFICIAL BUSINESS ONLY. MILITARY AIRPORT. CIVIL USE REQUIRE USAF APPROVAL AND DD FORM 2400/01/02. PRIOR PERMISSION REQUIRED REQUIRE FOR FULL

STOP LANDING ONLY. CALL C661−272−6619/6614. RUNWAY 252 MRK ONLY FOR C−130 ASSAULT OPR; ONE−WAY LANDING ONLY. USE OF ASSAULT STRIP LANDING ZONE PRIOR PERMISSION REQUIRED WITH 146 OSF/OSK DSN 893−7590, C805−986−7590.

TRANSIENT ALERT (2 OF 2): UNABLE TO SERVICE AIRCRAFT WITH ORDNANCE. LIMITED GRD SUPPORT EQUIPMENT AVAILABLE. NO POTABLE WATER SERVICE. NO TRANSIENT MAINT AVAILABLE. GROUND SERVICE UNAVAILABLE WHEN LIGHTNING WITHIN 5 NAUTICAL MILE.

MISC: FLIGHT PLANS MUST BE ACTIVATED WITH PRESCOTT FSS.

RUNWAY 22 EDGE LIGHT LOCATED 14 FT FR OUTSIDE SIDE STRIPE.

CAUTION: LAST 7000 FT OF RUNWAY 25, S SIDE, 300 FT FROM RUNWAY CNTLN, GRD SURFACE HAS TERRAIN IRREGULARITIES AND VIOLATES GRADED AREA REQUIRE.

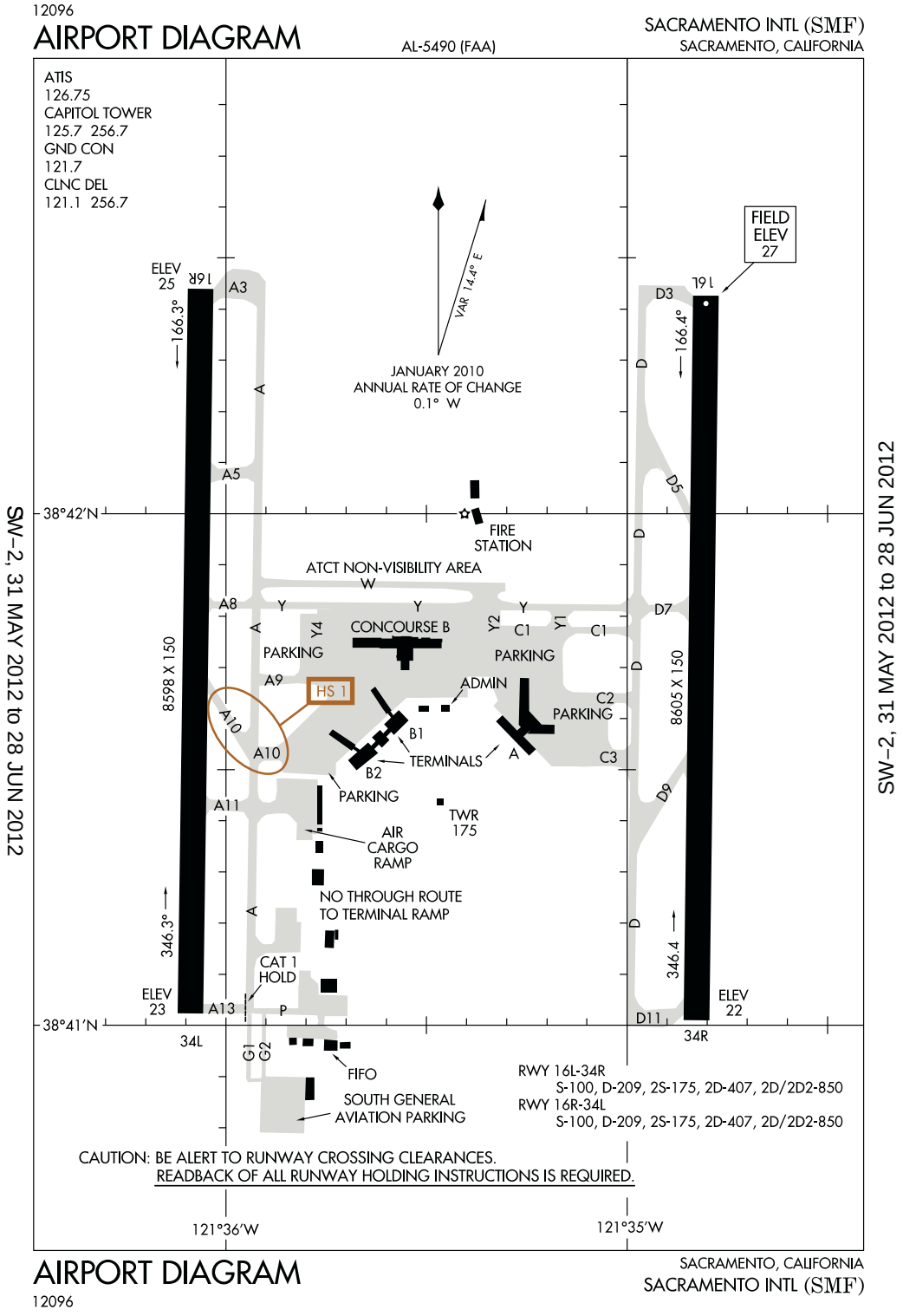
CAUTION: VARIOUS AIRCRAFT TEST OPERATIONS MARKINGS PAINTED IN WHITE ON TAXIWAY UNIFORM.

CAUTION: RUNWAY 25 NONSTANDARD MRK: SPOT LANDING ZONE MRK LOCATED AT 6000 FT REMAINING MRK. RUNWAY 07/25 DECEPTIVE SURFACE MRK PAINTED ENTIRE WIDTH OF SHOULDER.

RESTRICTED: OVERNIGHT PARK UNAUTHD ON C−RAMP.

RESTRICTED: TAXIWAY L BETWEEN RUNWAY 04/22 AND PASSENGER TERMINAL UNLIGHTED AND USABLE FOR DAYLT VFR ONLY.

Sacramento, California
Sacramento International
ICAO Identifier KSMF



Sacramento, CA
Sacramento Intl
ICAO Identifier KSMF

AD 2.2 Aerodrome geographical and administrative data
2.2.1 Reference Point: 38−41−43.60N / 121−35−26.80W
2.2.2 From City: 10 Miles NW Of Sacramento, CA
2.2.3 Elevation: 27 ft
2.2.5 Magnetic variation: 17E (1980)
2.2.6 Airport Contact: Lance Mccasland
6900 AIRPORT BLVD
Sacramento, CA 95837
(916−874−0566)
2.2.7 Traffic: IFR/VFR

AD 2.3 Operational hours
2.3.1 – 2.3.11: ALL Months, ALL Days, ALL Hours

AD 2.4 Handling services and facilities
2.4.1 Cargo handling facilities: No
2.4.2 Fuel types: 100LL,A
2.4.4 De−icing facilities: None
2.4.5 Hangar space: No
2.4.6 Repair facilities: Minor

AD 2.6 Rescue and firefighting services
2.6.1 Aerodrome category for firefighting: ARFF Index I C certified on 5/1/1973

AD 2.12 Runway physical characteristics
2.12.1 Designation: 16L
2.12.2 True Bearing: 181
2.12.3 Dimensions: 8605 ft x 150 ft
2.12.5 Coordinates: 38−42−25.70N / 121−34−48.21W
2.12.6 Threshold elevation: 27 ft
2.12.6 Touchdown zone elevation: 27 ft

2.12.1 Designation: 34R
2.12.2 True Bearing: 1
2.12.3 Dimensions: 8605 ft x 150 ft
2.12.5 Coordinates: 38−41−00.00N / 121−34−49.64W
2.12.6 Threshold elevation: 22 ft
2.12.6 Touchdown zone elevation: 24 ft

2.12.1 Designation: 16R
2.12.2 True Bearing: 181
2.12.3 Dimensions: 8598 ft x 150 ft
2.12.5 Coordinates: 38−42−26.42N / 121−36−00.00W
2.12.6 Threshold elevation: 25 ft
2.12.6 Touchdown zone elevation: 25 ft

2.12.1 Designation: 34L
2.12.2 True Bearing: 1
2.12.3 Dimensions: 8598 ft x 150 ft
2.12.5 Coordinates: 38−41−00.00N / 121−36−00.00W
2.12.6 Threshold elevation: 22 ft
2.12.6 Touchdown zone elevation: 24 ft

AD 2.14 Approach and runway lighting
2.14.1 Designation: 16L
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4−light PAPI on left

2.14.1 Designation: 34R
2.14.4 Visual approach slope indicator system: 4−light PAPI on left

2.14.1 Designation: 16R
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration
2.14.4 Visual approach slope indicator system: 4−light PAPI on right
2.14.10 Remarks: ALSF2 Unmonitored.

2.14.1 Designation: 34L
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4−box VASI on left

AD 2.18 Air traffic services communication facilities
2.18.1 Service designation: CD/P
2.18.3 Service designation: 121.1 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 121.7 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 125.7 MHz

2.18.1 Service designation: D−ATIS

2.18.3 Service designation: 126.75 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: CD/P GND/P LCL/P
2.18.3 Service designation: 256.7 MHz

AD 2.19 Radio navigation and landing aids
2.19.1 ILS type: Localizer for runway 16L.
Magnetic variation: 17E
2.19.2 ILS identification: MDK
2.19.5 Coordinates: 38–40–50.25N /
121–34–49.82W
2.19.6 Site elevation: 17 ft

2.19.1 ILS type: DME for runway 16L. Magnetic variation: 17E
2.19.2 ILS identification: MDK
2.19.5 Coordinates: 38–40–50.22N /
121–34–46.30W
2.19.6 Site elevation: 31 ft

2.19.1 ILS type: Glide Slope for runway 16L.
Magnetic variation: 17E
2.19.2 ILS identification: MDK
2.19.5 Coordinates: 38–42–15.23N /
121–34–44.36W
2.19.6 Site elevation: 22 ft

2.19.1 ILS type: Localizer for runway 16R.
Magnetic variation: 15E
2.19.2 ILS identification: SMF
2.19.5 Coordinates: 38–40–35.75N /
121–36–00.00W
2.19.6 Site elevation: 20 ft

2.19.1 ILS type: DME for runway 16R. Magnetic variation: 15E
2.19.2 ILS identification: SMF
2.19.5 Coordinates: 38–40–34.70N /
121–36–00.00W
2.19.6 Site elevation: 34 ft

2.19.1 ILS type: Inner Marker for runway 16R.
Magnetic variation: 15E
2.19.2 ILS identification: SMF
2.19.5 Coordinates: 38–42–34.10N /
121–36–00.00W
2.19.6 Site elevation: 23 ft

2.19.1 ILS type: Middle Marker for runway 16R.
Magnetic variation: 15E
2.19.2 ILS identification: SMF
2.19.5 Coordinates: 38–42–53.08N /
121–36–00.00W
2.19.6 Site elevation: 22 ft

2.19.1 ILS type: Glide Slope for runway 16R.
Magnetic variation: 15E
2.19.2 ILS identification: SMF
2.19.5 Coordinates: 38–42–15.86N /
121–36–00.00W
2.19.6 Site elevation: 23 ft

2.19.1 ILS type: Outer Marker for runway 16R.
Magnetic variation: 15E
2.19.2 ILS identification: SMF
2.19.5 Coordinates: 38–47–41.76N /
121–35–57.70W
2.19.6 Site elevation: 22 ft

2.19.1 ILS type: Localizer for runway 34L.
Magnetic variation: 17E
2.19.2 ILS identification: HUX
2.19.5 Coordinates: 38–42–35.75N /
121–36–00.00W
2.19.6 Site elevation: 23 ft

2.19.1 ILS type: Glide Slope for runway 34L.
Magnetic variation: 17E
2.19.2 ILS identification: HUX
2.19.5 Coordinates: 38–41–12.50N /
121–36–00.00W
2.19.6 Site elevation: 22 ft

2.19.1 ILS type: Outer Marker for runway 34L.
Magnetic variation: 17E
2.19.2 ILS identification: HUX
2.19.5 Coordinates: 38–37–00.00N /
121–36–11.87W
2.19.6 Site elevation: 15 ft

2.19.1 ILS type: Middle Marker for runway 34L.
Magnetic variation: 17E
2.19.2 ILS identification: HUX
2.19.5 Coordinates: 38–40–32.75N /
121–36–00.00W
2.19.6 Site elevation: 17 ft

2.19.1 ILS type: DME for runway 34L. Magnetic variation: 17E
2.19.2 ILS identification: HUX
2.19.5 Coordinates: 38–42–36.91N /
121–36–00.00W
2.19.6 Site elevation: 37 ft

General Remarks:
BIRDS ON AND IN VICINITY OF AIRPORT.

FAA GROSS WEIGHT STRENGTH EVALUATION DC−10−10 = 410000 LBS; DC−10−30 = 530000 LBS.

NOISE SENSITIVE AREAS W OF AIRPORT ON SAC RIVER. LOCAL TURN DISCOURAGED FOR JET AIRCRAFT. WHEN CONDUCTING IFR APPROACH IN VFR CONDITIONS EXECUTE MISSED APPROACH AT DEP END OF RUNWAYS. PLAN VFR PATTERNS TO E. USE MIN POWER SETTINGS.

ALL AIRCRAFT CONTACT ATC GROUND CONTROL PRIOR TO MOVEMENT ON RAMP.

CROP DUSTERS OPER IN THE VICINITY OF AIRPORT AT OR BELOW 200 FT AGL.

(A49A−16R) ALSF2 OPERS AS SSALR TILL WEATHER GOES BELOW VFR.

TAXIWAY REMARK #2: THE MAXIMUM ALLOWABLE GROSS AIRCRAFT LOAD FOR TAXIWAYS G1, G2, AND THE GENERAL AVIATION PARKING APRON IS: 70,000 LBS FOR SINGLE GEAR AIRCRAFT; 170,000 LBS FOR DUAL GEAR AIRCRAFT; AND 250,000 LBS FOR DUAL TANDEM GEAR AIRCRAFT.

TAXIWAY REMARK #2 CONT'D: AN AIRCRAFT CANNOT EXCEED THE AIRPLANE DESIGN GROUP III CRITERIA AND MUST HAVE A WHEEL BASE OF LESS THAN 60 FT.

MILITARY AIRCRAFT PARKING WILL BE LIMITED DUE TO CONSTRUCTION. CONTACT AIRPORT OPERATIONS IF PARKING IS REQUIRED (916) 806−5351.

PORTION OF TAXIWAY W 500 FT EAST OF TAXIWAY A TO 2100 FT EAST OF TAXIWAY A IS NOT VISIBLE FROM ATCT.

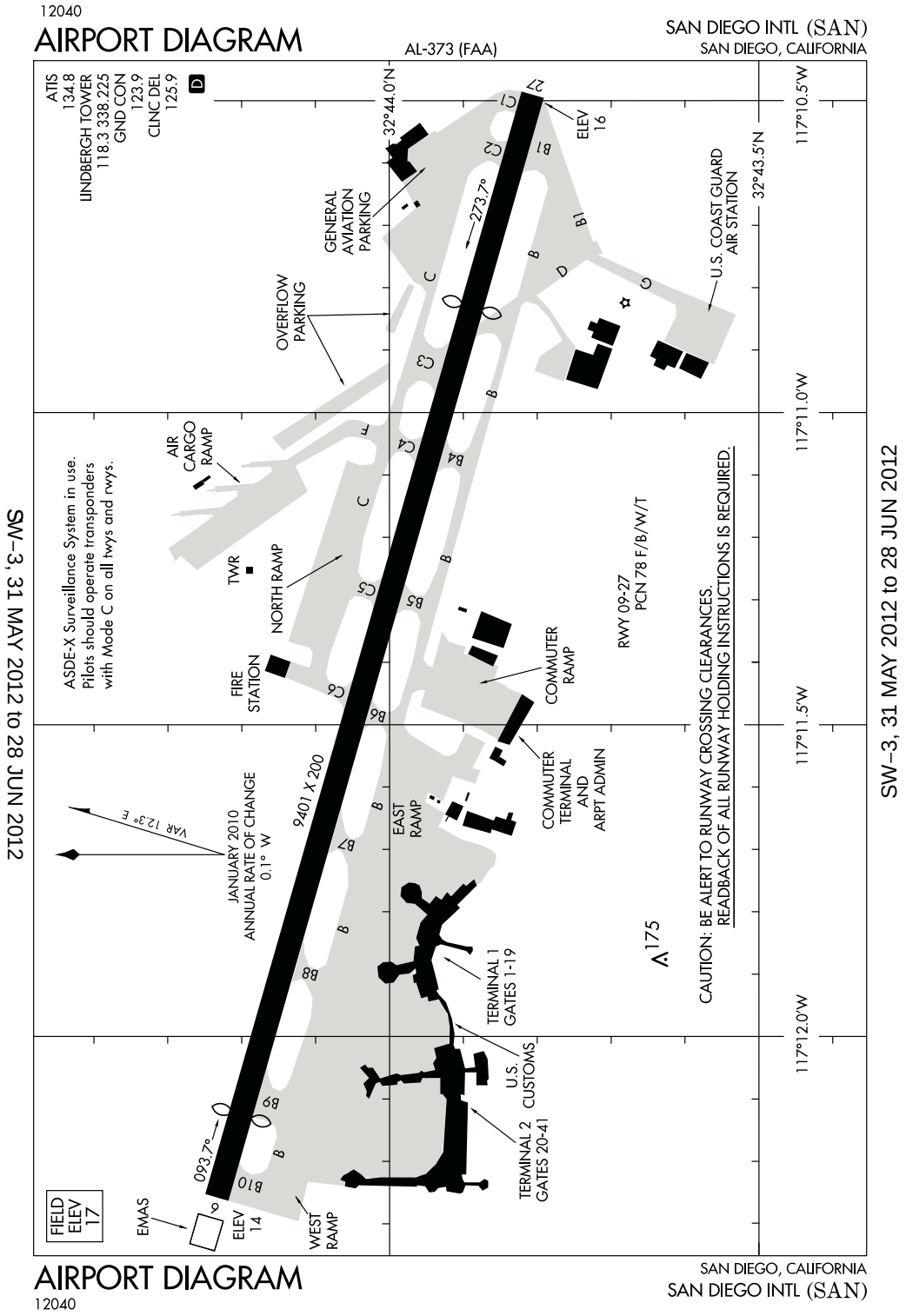
TAXIWAY Y4 WILL BE OPEN AND RESTRICTED TO AIRCRAFT WITH A WINGSPAN OF LESS THAN 118 FT (GROUP III) AND WILL BE CLOSED NIGHTLY FOR REMAINING OVERNIGHT PARKING OR ANYTIME REMAINING OVERNIGHT PAD IS UTILIZED.

DUE TO CONSTRUCTION ACTIVITY, AIRCRAFT MAY ENCOUNTER DIFFICULTIES PERFORMING TRANSPONDER CHECKS IN AND AROUND GATES LOCATED AT TERMINAL B1 AND B2. PROBLEM MAY BE ALLEIVIATED BY PERFORMING TRANSPONDER CHECKS WHILE TAXIING OUT TO TAXIWAY A.

NUMEROUS CONSTRUCTION CRANES AND EQUIPMENT WILL BE OPERATING SOUTH OF TAXIWAY W BETWEEN TAXIWAY Y2 AND THE REMAINING OVERNIGHT PAD. NO CRANE OR OTHER EQUIPMENT WILL BE MORE THAN 275 FT AGL. EQUIPMENT WILL BE FLAGGED AND LIGHTED OR LOWERED DURING THE HOURS OF LOW VISIBILTY OR DARKNESS.

RUNWAY 16R/34L CRANE 265 FT AGL 1600 FT EAST MIDPOINT LIGHTED AND LOWERED AT NIGHT.

San Diego, California
San Diego International
ICAO Identifier KSAN



San Diego, CA
San Diego Intl
ICAO Identifier KSAN

AD 2.2 Aerodrome geographical and administrative data
2.2.1 Reference Point: 32−44−00.00N / 117−11−22.80W
2.2.2 From City: 2 Miles W Of San Diego, CA
2.2.3 Elevation: 17 ft
2.2.5 Magnetic variation: 14E (1980)
2.2.6 Airport Contact: Angela Shafer−Payne
3225 N HARBOR DRIVE
San Diego, CA 92101
(619−400−2455)
2.2.7 Traffic: IFR/VFR

AD 2.3 Operational hours
2.3.1 – 2.3.11: ALL Months, ALL Days, ALL Hours

AD 2.4 Handling services and facilities
2.4.1 Cargo handling facilities: No
2.4.2 Fuel types: 100LL,A
2.4.4 De−icing facilities: None
2.4.5 Hangar space: Yes
2.4.6 Repair facilities: Minor

AD 2.6 Rescue and firefighting services
2.6.1 Aerodrome category for firefighting: ARFF Index I D certified on 5/1/1973

AD 2.10 Aerodrome obstacles
2.10.1.a. Runway designation: 09
2.10.1.b Type of obstacle: Tree (31 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 385 ft from Centerline

2.10.1.a. Runway designation: 27
2.10.1.b Type of obstacle: Sign (61 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 500 ft from Centerline

AD 2.12 Runway physical characteristics
2.12.1 Designation: 09
2.12.2 True Bearing: 106
2.12.3 Dimensions: 9401 ft x 200 ft
2.12.4 PCN: 78 F/B/W/T
2.12.5 Coordinates: 32−44−13.62N / 117−12−15.66W
2.12.6 Threshold elevation: 14 ft
2.12.6 Touchdown zone elevation: 17 ft

2.12.1 Designation: 27
2.12.2 True Bearing: 286
2.12.3 Dimensions: 9401 ft x 200 ft
2.12.4 PCN: 78 F/B/W/T
2.12.5 Coordinates: 32−43−47.98N / 117−10−29.88W
2.12.6 Threshold elevation: 16 ft
2.12.6 Touchdown zone elevation: 17 ft

AD 2.13 Declared distances
2.13.1 Designation: 09
2.13.2 Takeoff run available: 9401
2.13.3 Takeoff distance available: 9401
2.13.4 Accelerate−stop distance available: 8280
2.13.5 Landing distance available: 7580

2.13.1 Designation: 27
2.13.2 Takeoff run available: 9401
2.13.3 Takeoff distance available: 9401
2.13.4 Accelerate−stop distance available: 9401
2.13.5 Landing distance available: 7591

AD 2.14 Approach and runway lighting
2.14.1 Designation: 09
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights

2.14.1 Designation: 27
2.14.2 Approach lighting system: MALS: 1400 feet medium intensity approach lighting system
2.14.4 Visual approach slope indicator system: 4−light PAPI on left
2.14.10 Remarks: PAPI 4−Box(L) 3.5 Degrees Angle; Threshold Crossing Height 66’ From Displaced Thr; Baffled Horizontally 4.8 Degrees N Of Centerline And 10.0 Degrees S Of Centerline ; Lateral Coverage Has Been Narrowed To Avoid Obstacles; Close Alignment To Runway Centerline Is Necessary; Use Of Localizer Recommended. MALS Rwy 27 Threshold To 1400’.

AD 2.18 Air traffic services communication facilities
2.18.1 Service designation: LCL/P
2.18.3 Service designation: 118.3 MHz

2.18.1 Service designation: GND/P

2.18.3 Service designation: 123.9 MHz

2.18.1 Service designation: CD
2.18.3 Service designation: 125.9 MHz

2.18.1 Service designation: D–ATIS
2.18.3 Service designation: 134.8 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 338.225 MHz

AD 2.19 Radio navigation and landing aids
2.19.1 ILS type: Localizer for runway 09. Magnetic variation: 14E
2.19.2 ILS identification: SAN
2.19.5 Coordinates: 32–43–47.58N / 117–10–28.21W
2.19.6 Site elevation: 18 ft

2.19.1 ILS type: Middle Marker for runway 09. Magnetic variation: 14E
2.19.2 ILS identification: SAN
2.19.5 Coordinates: 32–44–23.65N / 117–12–57.08W
2.19.6 Site elevation: ft

2.19.1 ILS type: Glide Slope for runway 09. Magnetic variation: 14E
2.19.2 ILS identification: SAN
2.19.5 Coordinates: 32–44–10.40N / 117–11–49.98W
2.19.6 Site elevation: 13 ft

2.19.1 ILS type: DME for runway 09. Magnetic variation: 14E
2.19.2 ILS identification: SAN
2.19.5 Coordinates: 32–43–46.80N / 117–10–28.50W
2.19.6 Site elevation: 29 ft

2.19.1 ILS type: Localizer for runway 27. Magnetic variation: 14E
2.19.2 ILS identification: UBR
2.19.5 Coordinates: 32–44–14.77N / 117–12–20.38W
2.19.6 Site elevation: 11 ft

2.19.1 ILS type: DME for runway 27. Magnetic variation: 14E
2.19.2 ILS identification: UBR
2.19.5 Coordinates: 32–44–11.40N / 117–12–19.91W
2.19.6 Site elevation: 26 ft

General Remarks:
TERRAIN & BUILDINGS TO 500’ MSL N & E WITHIN 1 1/2 MI.

PRACTICE APPROACHES AND TOUCH AND GO LANDING PROHIBITED.

POSSIBLE ERRONEOUS GROUND PROXIMITY WARNING SYSTEM ALERTS BETWEEN 1.6 & 1.3 DME WHILE ON PAPI APPROACH PATH FOR RUNWAY 27.

TO REDUCE JET BLAST IMPACT AT N END OF TAXIWAY F AIRCRAFT WILL NOT START ENGINE UNTIL 800 FT FROM N END OF TAXIWAY F; ABEAM THE SECOND PARKING PAD.

ULTRALIGHT VEHICLES PROHIBITED ON AIRPORT.

747 AND LARGER AIRCRAFT ARE PROHIBITED FROM MAKING INTERSECTION TAKE–OFFS.

INTERMITTENT PRESENCE OF BIRDS ON AND IN THE VICINITY OF OF AIRPORT.

CROSS–BLEED ENGINE STARTS PERMITTED ONLY ON PARALLEL TAXIWAY WITH AIRCRAFT ALIGNED ON TAXIWAY CENTERLINE.

OUTBOARD ENGINES OF FOUR–ENGINE AIRCRAFT ARE TO BE KEPT AT IDLE POWER FOR ALL GROUND MANEUVERING.

TAXIING AIRCRAFT ARE PROHIBITED FROM PASSING TO THE SOUTH OF AIRCRAFT LOCATED ON TAXIWAY B INTO ALLEY LOCATED BETWEEN GATES 7 AND 14. TAXIING

AIRCRAFT SHALL FOLLOW LEAD−IN LINES UNTIL THE NOSE WHEEL OF THE AIRCRAFT HAS ENTERED THE NON−MOVEMENT AREA OF THE ALLEY.

PILOTS REQUIRED TO CONTACT ATCT GROUND CONTROLLER PRIOR TO PUSHBACK, TOW OUT AND TAXI FOR TRAFFIC ADVISORIES.

MILITARY AIRCRAFT ON OFFICIAL BUSINESS ONLY CONTACT AIRPORT OPERATIONS AT 619−400−2710 FOR PRIOR PERMISSION REQUIRED.

ASDE−X SURVEILLANCE SYSTEM IN USE. PILOTS SHOULD OPERATE TRANSPONDERS WITH MODE C ON ALL TAXIWAYS AND RUNWAYS.

TAXIWAY C EDGE LIGHTS OUT OF SERVICE INDEFINITELY.

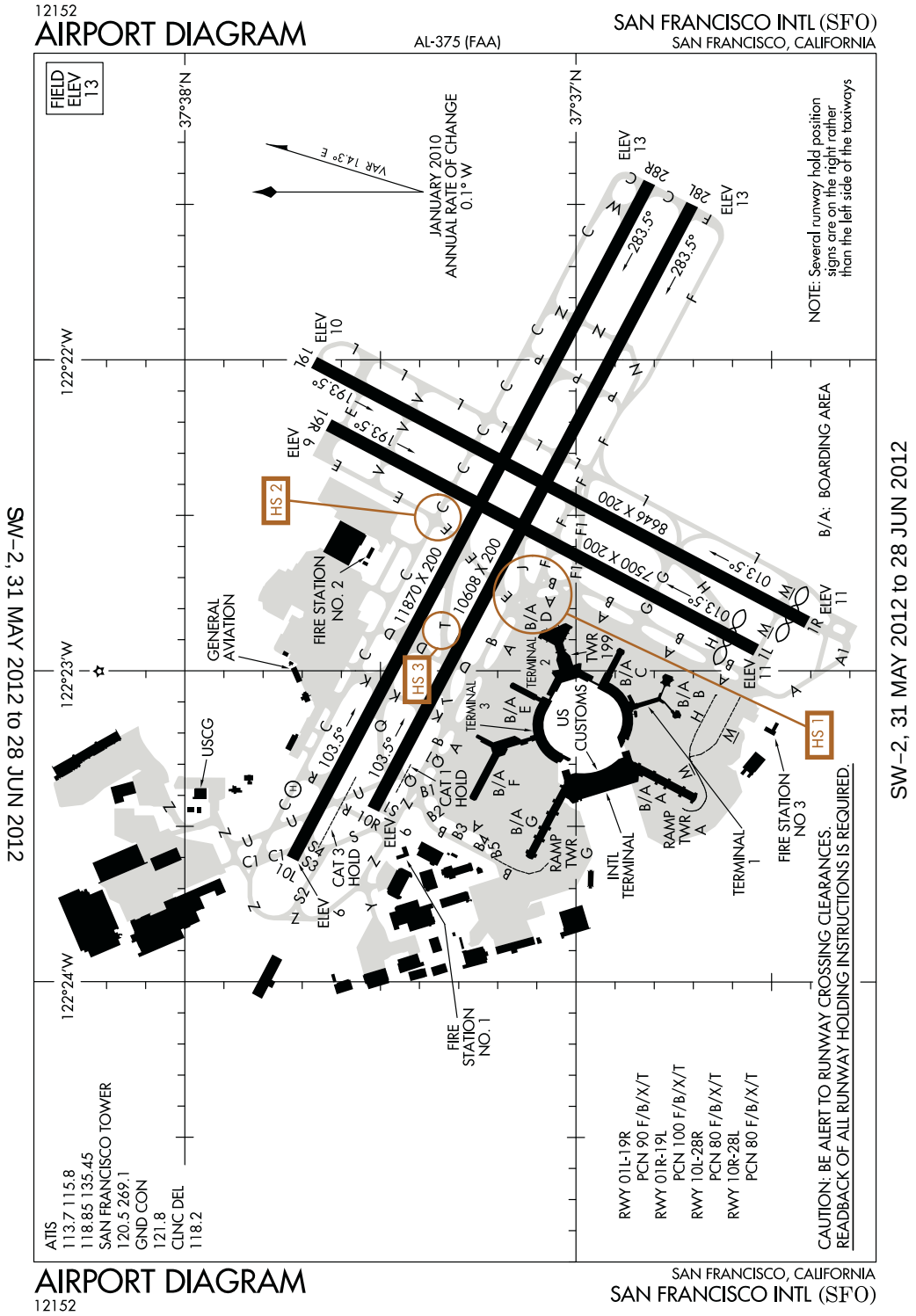
AIRCRAFT TAXIING ON TAXIWAY B EAST OF TAXIWAY B−6 RESTRICTED TO GROUP IV AIRCRAFT AND BELOW.

AIRCRAFT CROSSING RUNWAY 09/27 ON TAXIWAY C6, HOLD SHORT OF TAXIWAY C6 FACING WEST ON TAXIWAY C, PARALLEL TO RUNWAY.

DUE TO PERSONNEL AND EQUIPMENT WORKING ON RUNWAY 09−27, 30 MINUTE PRIOR PERMISSION REQUIRED 0030−0400 FOR ALL LANDINGS AND DEPARTURES CALL 619 400−2710.

30 MIN PRIOR PERMISSION REQUIRED (619−400−2710) FOR AIRCRAFT WITH OVER 171 FT WINGSPAN.

San Francisco, California
San Francisco International
ICAO Identifier KSFO



San Francisco, CA
San Francisco Intl
ICAO Identifier KSFO

AD 2.2 Aerodrome geographical and administrative data
2.2.1 Reference Point: 37−37−00.00N / 122−22−29.60W
2.2.2 From City: 8 Miles SE Of San Francisco, CA
2.2.3 Elevation: 13 ft
2.2.5 Magnetic variation: 17E (1975)
2.2.6 Airport Contact: John L. Martin
PO BOX 8097
San Francisco, CA 94128
(650−821−5000)
2.2.7 Traffic: IFR/VFR

AD 2.3 Operational hours
2.3.1 – 2.3.11: ALL Months, ALL Days, ALL Hours

AD 2.4 Handling services and facilities
2.4.1 Cargo handling facilities: No
2.4.2 Fuel types: 100,100LL,A
2.4.4 De−icing facilities: None
2.4.5 Hangar space: Yes
2.4.6 Repair facilities: Major

AD 2.6 Rescue and firefighting services
2.6.1 Aerodrome category for firefighting: ARFF Index I E certified on 5/1/1973

AD 2.10 Aerodrome obstacles
2.10.1.a. Runway designation: 10L
2.10.1.b Type of obstacle: Tower (88 ft). Marked and Lighted
2.10.1.c Location of obstacle: 1300 ft from Centerline

2.10.1.a. Runway designation: 10R
2.10.1.b Type of obstacle: Tower (87 ft). Marked and Lighted
2.10.1.c Location of obstacle: 950 ft from Centerline

2.10.1.a. Runway designation: 01R
2.10.1.b Type of obstacle: Tree (177 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 200 ft from Centerline

AD 2.12 Runway physical characteristics
2.12.1 Designation: 28X
2.12.3 Dimensions: 0 ft x 0 ft

2.12.1 Designation: 01L
2.12.2 True Bearing: 27
2.12.3 Dimensions: 7500 ft x 200 ft
2.12.4 PCN: 90 F/B/X/T
2.12.5 Coordinates: 37−36−32.36N / 122−22−55.93W
2.12.6 Threshold elevation: 10 ft
2.12.6 Touchdown zone elevation: 11 ft

2.12.1 Designation: 19R
2.12.2 True Bearing: 207
2.12.3 Dimensions: 7500 ft x 200 ft
2.12.4 PCN: 90 F/B/X/T
2.12.5 Coordinates: 37−37−37.95N / 122−22−12.45W
2.12.6 Threshold elevation: 9 ft
2.12.6 Touchdown zone elevation: 11 ft

2.12.1 Designation: 10L
2.12.2 True Bearing: 117
2.12.3 Dimensions: 11870 ft x 200 ft
2.12.4 PCN: 80 F/B/X/T
2.12.5 Coordinates: 37−37−43.46N / 122−23−36.21W
2.12.6 Threshold elevation: 6 ft
2.12.6 Touchdown zone elevation: 7 ft

2.12.1 Designation: 28R
2.12.2 True Bearing: 297
2.12.3 Dimensions: 11870 ft x 200 ft
2.12.4 PCN: 80 F/B/X/T
2.12.5 Coordinates: 37−36−48.72N / 122−21−25.71W
2.12.6 Threshold elevation: 13 ft
2.12.6 Touchdown zone elevation: 13 ft

2.12.1 Designation: 10R
2.12.2 True Bearing: 117
2.12.3 Dimensions: 10608 ft x 200 ft
2.12.4 PCN: 80 F/B/X/T
2.12.5 Coordinates: 37−37−31.07N / 122−23−26.65W
2.12.6 Threshold elevation: 6 ft
2.12.6 Touchdown zone elevation: 10 ft

2.12.1 Designation: 28L
2.12.2 True Bearing: 297
2.12.3 Dimensions: 10608 ft x 200 ft

2.12.4 PCN: 80 F/B/X/T
2.12.5 Coordinates: 37–36–42.15N / 122–21–30.03W
2.12.6 Threshold elevation: 13 ft
2.12.6 Touchdown zone elevation: 13 ft

2.12.1 Designation: 01R
2.12.2 True Bearing: 27
2.12.3 Dimensions: 8646 ft x 200 ft
2.12.4 PCN: 100 F/B/X/T
2.12.5 Coordinates: 37–36–24.58N / 122–22–50.56W
2.12.6 Threshold elevation: 11 ft
2.12.6 Touchdown zone elevation: 11 ft

2.12.1 Designation: 19L
2.12.2 True Bearing: 207
2.12.3 Dimensions: 8646 ft x 200 ft
2.12.4 PCN: 100 F/B/X/T
2.12.5 Coordinates: 37–37–40.18N / 122–22–00.00W
2.12.6 Threshold elevation: 10 ft
2.12.6 Touchdown zone elevation: 11 ft

AD 2.14 Approach and runway lighting
2.14.1 Designation: 19R
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 10L
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 28R
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 10R
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 28L
2.14.2 Approach lighting system: SSALR: Simplified short approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 19L
2.14.4 Visual approach slope indicator system: 4–light PAPI on left
2.14.10 Remarks: Runway 19L MALSf Has A Non Standard Length Of 1,115 Ft With 3 Sequenced Flashers.

AD 2.18 Air traffic services communication facilities
2.18.1 Service designation: D–ATIS
2.18.3 Service designation: 113.7 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: D–ATIS
2.18.3 Service designation: 115.8 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: CD/P PTC
2.18.3 Service designation: 118.2 MHz

2.18.1 Service designation: D–ATIS
2.18.3 Service designation: 118.85 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 120.5 MHz

2.18.1 Service designation: ILS PRM RY 28L IC
2.18.3 Service designation: 120.5 MHz

2.18.1 Service designation: LDA PRM RY 28R IC
2.18.3 Service designation: 120.5 MHz

2.18.1 Service designation: EMERG
2.18.3 Service designation: 121.5 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 121.8 MHz

2.18.1 Service designation: AS ASGND
2.18.3 Service designation: 128.65 MHz

2.18.1 Service designation: D–ATIS
2.18.3 Service designation: 135.45 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 269.1 MHz

2.18.1 Service designation: IC
2.18.3 Service designation: 351.8 MHz

2.18.1 Service designation: MONITOR ILS PRM RY 28L

2.18.3 Service designation: 125.15 MHz

2.18.1 Service designation: MONITOR LDA PRM RY 28R
2.18.3 Service designation: 127.675 MHz

AD 2.19 Radio navigation and landing aids
2.19.1 ILS type: Localizer for runway 28X.
Magnetic variation: 17E
2.19.2 ILS identification: FNP
2.19.5 Coordinates: 37–37–16.68N /
122–22–00.00W
2.19.6 Site elevation: 8.7 ft

2.19.1 ILS type: DME for runway 28X. Magnetic variation: 17E
2.19.2 ILS identification: FNP
2.19.5 Coordinates: 37–37–14.92N /
122–22–00.00W
2.19.6 Site elevation: 22.2 ft

2.19.1 ILS type: Glide Slope for runway 28X.
Magnetic variation: 17E
2.19.2 ILS identification: FNP
2.19.5 Coordinates: 37–36–49.92N /
122–21–40.22W
2.19.6 Site elevation: 9 ft

2.19.1 ILS type: DME for runway 28R. Magnetic variation: 15E
2.19.2 ILS identification: GWQ
2.19.5 Coordinates: 37–37–48.19N /
122–23–40.61W
2.19.6 Site elevation: 17.4 ft

2.19.1 ILS type: Middle Marker for runway 28R.
Magnetic variation: 15E
2.19.2 ILS identification: GWQ
2.19.5 Coordinates: 37–36–33.79N /
122–20–50.18W
2.19.6 Site elevation: 11 ft

2.19.1 ILS type: Outer Marker for runway 28R.
Magnetic variation: 15E
2.19.2 ILS identification: GWQ
2.19.5 Coordinates: 37–34–19.93N /
122–15–35.65W
2.19.6 Site elevation: 11 ft

2.19.1 ILS type: Inner Marker for runway 28R.
Magnetic variation: 15E
2.19.2 ILS identification: GWQ
2.19.5 Coordinates: 37–36–44.80N /
122–21–16.37W
2.19.6 Site elevation: 13.5 ft

2.19.1 ILS type: Localizer for runway 28R.
Magnetic variation: 15E
2.19.2 ILS identification: GWQ
2.19.5 Coordinates: 37–37–46.35N /
122–23–43.12W
2.19.6 Site elevation: 5.2 ft

2.19.1 ILS type: Glide Slope for runway 28R.
Magnetic variation: 15E
2.19.2 ILS identification: GWQ
2.19.5 Coordinates: 37–36–50.25N /
122–21–40.02W
2.19.6 Site elevation: 9.3 ft

2.19.1 ILS type: Glide Slope for runway 28L.
Magnetic variation: 17E
2.19.2 ILS identification: SFO
2.19.5 Coordinates: 37–36–50.13N /
122–21–40.10W
2.19.6 Site elevation: 9.2 ft

2.19.1 ILS type: Outer Marker for runway 28L.
Magnetic variation: 17E
2.19.2 ILS identification: SFO
2.19.5 Coordinates: 37–34–19.93N /
122–15–35.65W
2.19.6 Site elevation: ft

2.19.1 ILS type: Localizer for runway 28L.
Magnetic variation: 17E
2.19.2 ILS identification: SFO
2.19.5 Coordinates: 37–37–35.93N /
122–23–38.25W
2.19.6 Site elevation: 8.3 ft

2.19.1 ILS type: DME for runway 28L. Magnetic variation: 17E
2.19.2 ILS identification: SFO
2.19.5 Coordinates: 37–37–34.57N /
122–23–39.34W
2.19.6 Site elevation: 25.6 ft

2.19.1 ILS type: Localizer for runway 19L.
Magnetic variation: 17E
2.19.2 ILS identification: SIA
2.19.5 Coordinates: 37–36–16.28N /
122–22–56.06W
2.19.6 Site elevation: 10.3 ft

2.19.1 ILS type: Glide Slope for runway 19L. Magnetic variation: 17E
2.19.2 ILS identification: SIA
2.19.5 Coordinates: 37−37−31.58N / 122−22−10.50W
2.19.6 Site elevation: 6.9 ft

2.19.1 ILS type: Middle Marker for runway 19L. Magnetic variation: 17E
2.19.2 ILS identification: SIA
2.19.5 Coordinates: 37−38−10.77N / 122−21−40.14W
2.19.6 Site elevation: ft

2.19.1 ILS type: DME for runway 19L. Magnetic variation: 17E
2.19.2 ILS identification: SIA
2.19.5 Coordinates: 37−36−18.71N / 122−22−59.41W
2.19.6 Site elevation: 21 ft

General Remarks:
FLOCKS OF BIRDS FEEDING ALONG SHORELINE ADJACENT TO AIRPORT; ON OCCASIONS FLY ACROSS VARIOUS PARTS OF THE AIRPORT.

HIGH SPEED TAXIWAY (T) GRAVELLED FULL WIDTH BETWEEN RUNWAY 28R AND 28L.

NOISE SENSITIVE AIRPORT; FOR NOISE ABATEMENT PROCEDURES CONTACT AIRPORT NOISE OFFICE MON−FRI 0800−1700 BY CALLING 650−821−5100.

747−400'S SHALL TAXI AT A SPEED OF LESS THAN 10 MPH ON ALL NON−RESTRICTED TAXIWAYS ON THE TERMINAL SIDE OF THE INTERSECTING RUNWAYS. MOVEMENT SPEED OF NOT MORE THAN 5 MPH IS REQUIRED WHEN TWO 747−400'S PASS OR OVERTAKE EACH OTHER ON PARALLEL TAXIWAYS A & B.

SEVERAL RUNWAY HOLD POSITION SIGNS ARE ON THE RIGHT RATHER THAN THE LEFT SIDE OF THE TAXIWAYS.

NO GROOVING EXISTS AT AIRPORT RUNWAY INTERSECTIONS.

RUNWAY 10 PREFERRED RUNWAY BETWEEN 0100−0600 WEATHER AND FLIGHT CONDITIONS PERMITTING.

AIRLINE PILOTS SHALL STRICTLY FOLLOW THE PAINTED NOSE GEAR LINES AND NO OVERSTEERING ADJUSTMENT IS PERMITTED.

PERSONNEL AND EQUIPMENT WORKING APPROACH END RUNWAYS 28L, 28R, 19L INDEFINITELY.

RUNWAYS 01L/19R, 01R/19L, 10R/28L, 10L/28R GROOVED FULL LENGTH EXCEPT AT RUNWAY INTERSECTIONS.

B747, B777, A330, A340 OR LARGER AIRCRAFT ARE RESTRICTED FROM USING TAXIWAY A1 WHEN B747−400, A340−600, OR LARGER AIRCRAFT ARE HOLDING SHORT OF RUNWAY 1R ON TAXIWAY A.

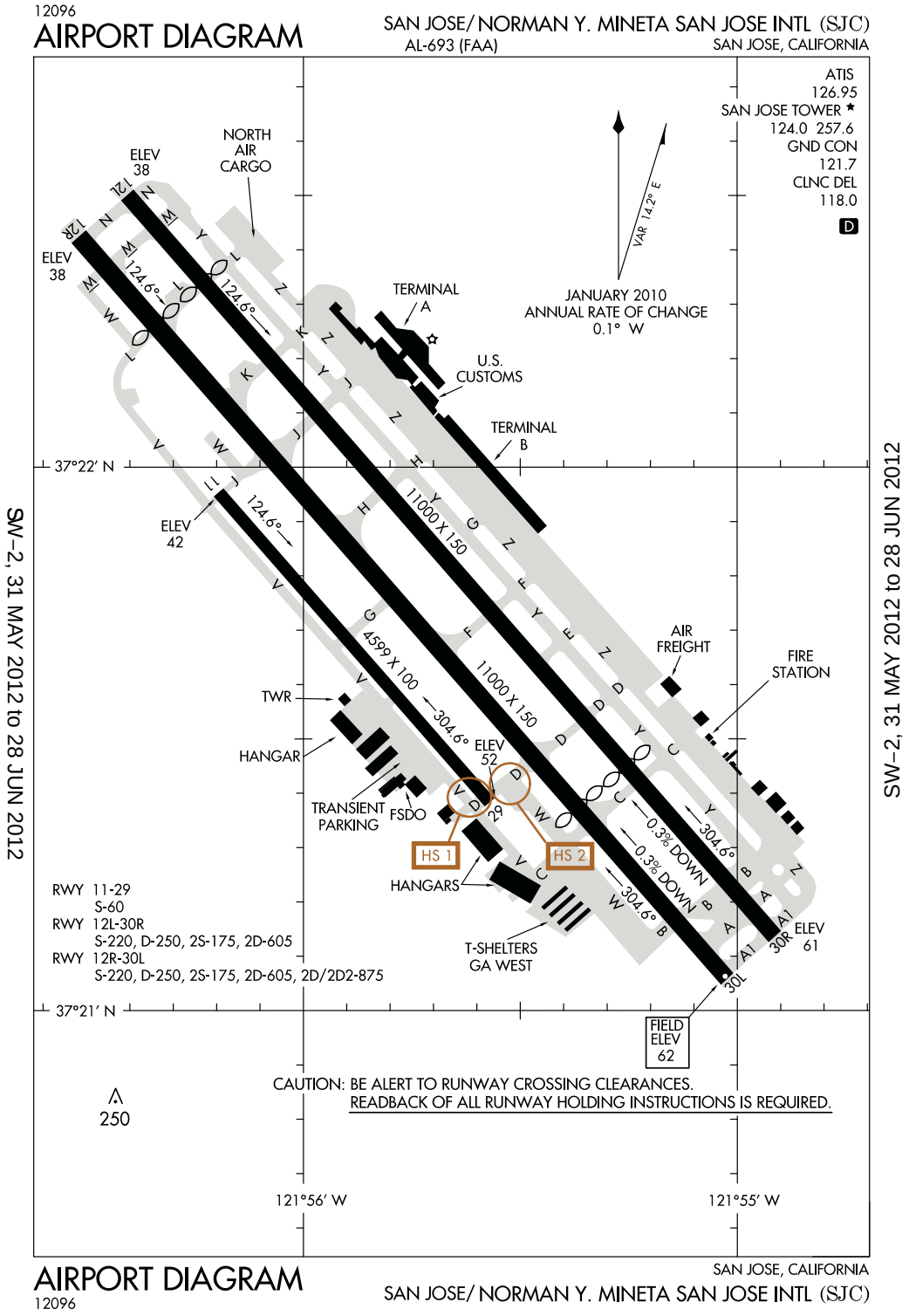
RAMP CLOSED TO AIRCRAFT WITH WINGSPANS OVER 117 FT AT TERMINAL 1, GATE C41 INDEFINITELY.

ALL OUTBOUND TAXIWAY YANKEE HEAVY AIRCRAFT WITH A WINGSPAN OF 171 FT. OR GREATER UNDER POWER PROHIBITED FROM ENTERING WESTBOUND TAXIWAY ZULU.

SIMULTANEOUS OPERATIONS IN EFFECT ALL RUNWAYS.

HELICOPTER LANDING AREA MARKED ON TAXIWAY (C) WEST OF TAXIWAY (R) OPERATIONS FOR CIVIL AND MILITARY USE.

San Jose, California
Norman Y. Mineta San Jose International
ICAO Identifier KSJC



San Jose, CA
Norman Y. Mineta San Jose Intl
ICAO Identifier KSJC

AD 2.2 Aerodrome geographical and administrative data
2.2.1 Reference Point: 37–21–45.60N / 121–55–44.80W
2.2.2 From City: 2 Miles NW Of San Jose, CA
2.2.3 Elevation: 62 ft
2.2.5 Magnetic variation: 16E (1990)
2.2.6 Airport Contact: William Sherry, Aae
1701 AIRPORT BLVD.,
SUITE B–1130
San Jose, CA 95110
(408–392–3600)
2.2.7 Traffic: IFR/VFR

AD 2.3 Operational hours
2.3.1 – 2.3.11: ALL Months, ALL Days, ALL Hours

AD 2.4 Handling services and facilities
2.4.1 Cargo handling facilities: No
2.4.2 Fuel types: 100LL,A
2.4.4 De–icing facilities: None
2.4.5 Hangar space: Yes
2.4.6 Repair facilities: Major

AD 2.6 Rescue and firefighting services
2.6.1 Aerodrome category for firefighting: ARFF Index I C certified on 5/1/1973

AD 2.10 Aerodrome obstacles
2.10.1.a. Runway designation: 29
2.10.1.b Type of obstacle: Tree (79 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 100 ft from Centerline

2.10.1.a. Runway designation: 12L
2.10.1.b Type of obstacle: Pole (32 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 580 ft from Centerline

2.10.1.a. Runway designation: 30R
2.10.1.b Type of obstacle: Tree (54 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 550 ft from Centerline

2.10.1.a. Runway designation: 12R
2.10.1.b Type of obstacle: Pole (29 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 480 ft from Centerline

2.10.1.a. Runway designation: 30L
2.10.1.b Type of obstacle: Fence (14 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 170 ft from Centerline

AD 2.12 Runway physical characteristics
2.12.1 Designation: 11
2.12.2 True Bearing: 139
2.12.3 Dimensions: 4599 ft x 100 ft
2.12.5 Coordinates: 37–21–57.21N / 121–56–11.75W
2.12.6 Threshold elevation: 42 ft
2.12.6 Touchdown zone elevation: 49 ft

2.12.1 Designation: 29
2.12.2 True Bearing: 319
2.12.3 Dimensions: 4599 ft x 100 ft
2.12.5 Coordinates: 37–21–23.01N / 121–55–34.26W
2.12.6 Threshold elevation: 52 ft
2.12.6 Touchdown zone elevation: 52 ft

2.12.1 Designation: 12L
2.12.2 True Bearing: 139
2.12.3 Dimensions: 11000 ft x 150 ft
2.12.5 Coordinates: 37–22–29.97N / 121–56–24.63W
2.12.6 Threshold elevation: 38 ft
2.12.6 Touchdown zone elevation: 44 ft

2.12.1 Designation: 30R
2.12.2 True Bearing: 319
2.12.3 Dimensions: 11000 ft x 150 ft
2.12.5 Coordinates: 37–21–00.00N / 121–54–54.92W
2.12.6 Threshold elevation: 61 ft
2.12.6 Touchdown zone elevation: 55 ft
2.12.7 Slope: 0.3DOWN

2.12.1 Designation: 12R
2.12.2 True Bearing: 139

2.12.3 Dimensions: 11000 ft x 150 ft
2.12.5 Coordinates: 37–22–25.42N / 121–56–31.15W
2.12.6 Threshold elevation: 38 ft
2.12.6 Touchdown zone elevation: 46 ft

2.12.1 Designation: 30L
2.12.2 True Bearing: 319
2.12.3 Dimensions: 11000 ft x 150 ft
2.12.5 Coordinates: 37–21–00.00N / 121–55–00.00W
2.12.6 Threshold elevation: 62 ft
2.12.6 Touchdown zone elevation: 57 ft
2.12.7 Slope: 0.3DOWN

AD 2.13 Declared distances
2.13.1 Designation: 12L
2.13.2 Takeoff run available: 10139
2.13.3 Takeoff distance available: 11000
2.13.4 Accelerate–stop distance available: 10139
2.13.5 Landing distance available: 8833

2.13.1 Designation: 30R
2.13.2 Takeoff run available: 10134
2.13.3 Takeoff distance available: 11000
2.13.4 Accelerate–stop distance available: 10134
2.13.5 Landing distance available: 7597

2.13.1 Designation: 12R
2.13.2 Takeoff run available: 9883
2.13.3 Takeoff distance available: 11000
2.13.4 Accelerate–stop distance available: 9883
2.13.5 Landing distance available: 8587

2.13.1 Designation: 30L
2.13.2 Takeoff run available: 10134
2.13.3 Takeoff distance available: 11000
2.13.4 Accelerate–stop distance available: 10152
2.13.5 Landing distance available: 7614

AD 2.14 Approach and runway lighting
2.14.1 Designation: 11
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 29
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 12L
2.14.4 Visual approach slope indicator system: 4–light PAPI on right

2.14.1 Designation: 30R
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 12R
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on right

2.14.1 Designation: 30L
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

AD 2.18 Air traffic services communication facilities
2.18.1 Service designation: CD/P PTC
2.18.3 Service designation: 118 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 121.7 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 124 MHz

2.18.1 Service designation: D–ATIS
2.18.3 Service designation: 126.95 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: LCL/P IC
2.18.3 Service designation: 257.6 MHz

AD 2.19 Radio navigation and landing aids
2.19.1 ILS type: Localizer for runway 12R. Magnetic variation: 16E
2.19.2 ILS identification: SLV
2.19.5 Coordinates: 37–21–00.00N / 121–55–00.00W
2.19.6 Site elevation: 61 ft

2.19.1 ILS type: DME for runway 12R. Magnetic variation: 16E
2.19.2 ILS identification: SLV
2.19.5 Coordinates: 37–21–00.00N / 121–55–00.00W
2.19.6 Site elevation: 81 ft

2.19.1 ILS type: Glide Slope for runway 12R. Magnetic variation: 16E

2.19.2 ILS identification: SLV
2.19.5 Coordinates: 37−22−00.00N / 121−56−14.58W
2.19.6 Site elevation: 37 ft

2.19.1 ILS type: Middle Marker for runway 12R.
Magnetic variation: 16E
2.19.2 ILS identification: SLV
2.19.5 Coordinates: 37−22−36.25N / 121−56−43.05W
2.19.6 Site elevation: 32 ft

2.19.1 ILS type: Outer Marker for runway 30L.
Magnetic variation: 16E
2.19.2 ILS identification: SJC
2.19.5 Coordinates: 37−17−30.79N / 121−51−11.03W
2.19.6 Site elevation: ft

2.19.1 ILS type: Middle Marker for runway 30L.
Magnetic variation: 16E
2.19.2 ILS identification: SJC
2.19.5 Coordinates: 37−20−56.13N / 121−54−53.62W
2.19.6 Site elevation: ft

2.19.1 ILS type: Glide Slope for runway 30L.
Magnetic variation: 16E
2.19.2 ILS identification: SJC
2.19.5 Coordinates: 37−21−33.00N / 121−55−27.87W
2.19.6 Site elevation: 49 ft

2.19.1 ILS type: Localizer for runway 30L.
Magnetic variation: 16E
2.19.2 ILS identification: SJC
2.19.5 Coordinates: 37−22−27.19N / 121−56−33.10W
2.19.6 Site elevation: 35 ft

2.19.1 ILS type: DME for runway 30L. Magnetic variation: 16E
2.19.2 ILS identification: SJC
2.19.5 Coordinates: 37−22−27.56N / 121−56−32.60W
2.19.6 Site elevation: 56 ft

General Remarks:
BIRDS FREQUENTLY ON OR IN VICINITY OF AIRPORT.

TAXIWAY Y WILL BE PERIODICALLY RESTRICTED TO AIRCRAFT WITH A WINGSPAN OF LESS THAN 171 FT (MD−11 OR SMALLER) DURING B−777 OPERATIONS ON RUNWAY 12L/30R.

TAXIWAY Z WILL BE PERIODICALLY RESTRICTED TO AIRCRAFT WITH A WINGSPAN OF LESS THAN 118 FT (BBJ OR SMALLER) DURING B−777 OPERATIONS.

RUNWAY 11/29 LIMITED TO AIRCRAFT WITH WINGSPAN OF LESS THAN 79 FT AND APPROACH SPEED OF LESS THAN 121 KNOTS (GULFSTREAM I OR SMALLER).

TAXIWAY V LIMITED TO AIRCRAFT WITH WINGSPAN OF LESS THAN 118 FT (A321 OR SMALLER).

UNSCHEDULED OPERATIONS BY GROUP 5 AIRCRAFT (B747) AND LARGER NOT AUTH EXCEPT WITH PRIOR AIRPORT APPROVAL CONTACT AIRPORT MANAGER (408) 392−3501.

NOISE ABATEMENT PROCEDURE: RUNWAY 30L/12R IS PREFERRED ARRIVAL RUNWAY FOR JET AIRCRAFT AND RUNWAY 12L/30R IS THE PREFERRED DEP RUNWAY FOR JET AIRCRAFT. ALL JET AIRCRAFT TAKE−OFFS ARE TO BE INITIATED FROM END OF RUNWAY UNLESS DIRECTED OTHERWISE BY ATCT.

CURFEW HRS 2300−0700 FAR 36 STAGE II, 2330−0630 FAR 36 STAGE III AIRCRAFT LISTED ON THE SCHEDULE OF AUTHORIZED AIRCRAFT ISSUED BY THE DIRECTOR OF AVIATION. DELAYED SCHEDULED FLIGHTS, AND ALTERNATE/EMERGENCY OPERATIONS MAY BE EXEMPT FROM CURFEW HOUR RESTRICTIONS.

PRIOR AIRPORT NOTIFICATION IS REQUIRED FOR ALL LATE/EARLY ARRIVALS. CONTACT MANAGER ON DUTY AT (408) 392−3501.

FIRST 400 FT RUNWAY 30R & RUNWAY 30L CLOSED FOR TAKE−OFF DC10, MD11, L1011.

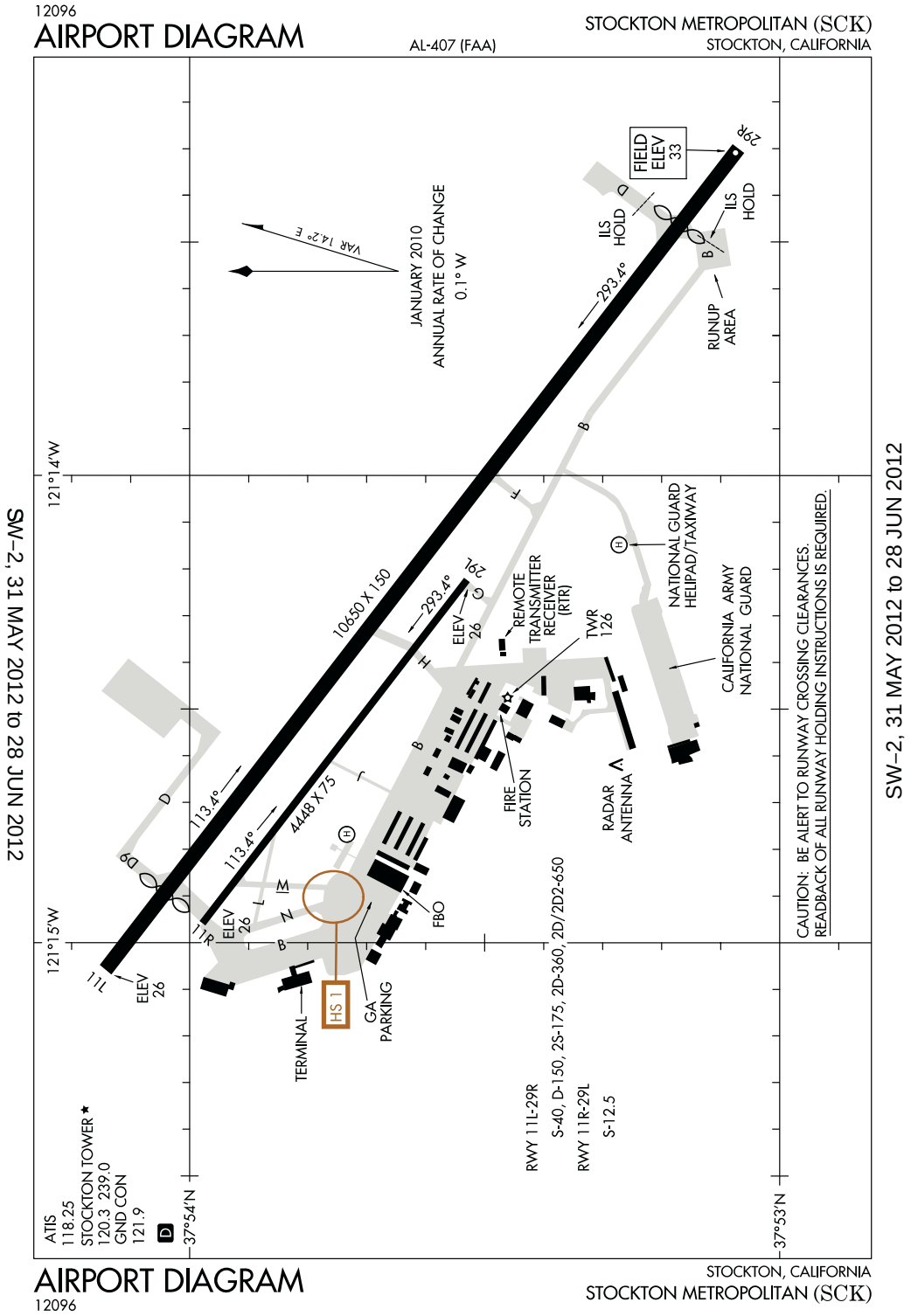
ALL ENGINE RUN−UPS REQUIRE PRIOR AIRPORT APPROVAL, CONTACT MANAGER ON DUTY (408) 392−3501.

RUNWAY 11−29 RUN−UP AREA LIMITED TO AIRCRAFT 12,500 LBS OR LIGHTER.

TAXIWAY D BETWEEN TAXIWAY W AND TAXIWAY V LIMITED TO AIRCRAFT WITH A WINGSPAN OF LESS THAN 118 FT (A−321 OR SMALLER).

TAXIWAY G AND TAXIWAY J BETWEEN RUNWAY 12R/30L AND TAXIWAY V LIMITED TO 100,000 LBS GROSS TAKE−OFF WEIGHT.

Stockton, California
Stockton Metropolitan
ICAO Identifier KSCK



Stockton, CA
Stockton Metropolitan
ICAO Identifier KSCK

AD 2.2 Aerodrome geographical and administrative data
2.2.1 Reference Point: 37−53−39.00N / 121−14−17.90W
2.2.2 From City: 3 Miles SE Of Stockton, CA
2.2.3 Elevation: 33 ft
2.2.5 Magnetic variation: 14E (2010)
2.2.6 Airport Contact: Patrick Carreno
5000 S. AIRPORT WAY
ROOM 202
Stockton, CA 95206
(209−468−4700)
2.2.7 Traffic: IFR/VFR

AD 2.3 Operational hours
2.3.1 − 2.3.11: ALL Months, ALL Days, ALL Hours

AD 2.4 Handling services and facilities
2.4.1 Cargo handling facilities: No
2.4.2 Fuel types: 100,100LL,A
2.4.4 De−icing facilities: None
2.4.5 Hangar space: Yes
2.4.6 Repair facilities: Major

AD 2.6 Rescue and firefighting services
2.6.1 Aerodrome category for firefighting: ARFF Index I B certified on 5/1/1973
2.6.4 Remarks: Closed To Unscheduled Air Carrier Operations With More Than 30 Passenger Seats Except One Hr Prior Permission Required Call Airport Manager (209) 468−4700 Or 4722; After Hrs Call (209) 468−4722.

AD 2.12 Runway physical characteristics
2.12.1 Designation: H1
2.12.3 Dimensions: 70 ft x 70 ft

2.12.1 Designation: 11L
2.12.2 True Bearing: 128
2.12.3 Dimensions: 10650 ft x 150 ft
2.12.5 Coordinates: 37−54−00.00N / 121−15−00.00W
2.12.6 Threshold elevation: 26 ft
2.12.6 Touchdown zone elevation: 29 ft

2.12.1 Designation: 29R
2.12.2 True Bearing: 308
2.12.3 Dimensions: 10650 ft x 150 ft
2.12.5 Coordinates: 37−53−00.00N / 121−13−17.91W
2.12.6 Threshold elevation: 33 ft
2.12.6 Touchdown zone elevation: 32 ft

2.12.1 Designation: 11R
2.12.2 True Bearing: 128
2.12.3 Dimensions: 4448 ft x 75 ft
2.12.5 Coordinates: 37−53−58.67N / 121−14−57.42W
2.12.6 Threshold elevation: 26 ft
2.12.6 Touchdown zone elevation: 26 ft

2.12.1 Designation: 29L
2.12.2 True Bearing: 308
2.12.3 Dimensions: 4448 ft x 75 ft
2.12.5 Coordinates: 37−53−31.86N / 121−14−13.45W
2.12.6 Threshold elevation: 26 ft
2.12.6 Touchdown zone elevation: 26 ft

AD 2.13 Declared distances
2.13.1 Designation: 11L
2.13.2 Takeoff run available: 9600
2.13.3 Takeoff distance available: 10600
2.13.4 Accelerate−stop distance available: 9690
2.13.5 Landing distance available: 8690

2.13.1 Designation: 29R
2.13.2 Takeoff run available: 10037
2.13.3 Takeoff distance available: 11037
2.13.4 Accelerate−stop distance available: 9701
2.13.5 Landing distance available: 8701

AD 2.14 Approach and runway lighting
2.14.1 Designation: 11L
2.14.4 Visual approach slope indicator system: 4−light PAPI on left

2.14.1 Designation: 29R
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4−light PAPI on left

AD 2.18 Air traffic services communication facilities
2.18.1 Service designation: ATIS
2.18.3 Service designation: 118.25 MHz

2.18.4 Hours of operation: 24

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 120.3 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 121.9 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 239 MHz

2.18.1 Service designation: ANG OPNS
2.18.3 Service designation: 49 MHz

2.18.1 Service designation: NG OPS
2.18.3 Service designation: 139.4 MHz

2.18.1 Service designation: NG OPS
2.18.3 Service designation: 356.9 MHz

AD 2.19 Radio navigation and landing aids

2.19.1 ILS type: Localizer for runway 29R.
Magnetic variation: 14E
2.19.2 ILS identification: SCK
2.19.5 Coordinates: 37–54–14.45N / 121–15–13.08W
2.19.6 Site elevation: 31 ft

2.19.1 ILS type: Glide Slope for runway 29R.
Magnetic variation: 14E
2.19.2 ILS identification: SCK
2.19.5 Coordinates: 37–53–20.81N / 121–13–36.95W
2.19.6 Site elevation: 29 ft

2.19.1 ILS type: Middle Marker for runway 29R.
Magnetic variation: 14E
2.19.2 ILS identification: SCK
2.19.5 Coordinates: 37–52–53.73N / 121–13–00.00W
2.19.6 Site elevation: 30 ft

2.19.1 ILS type: Outer Marker for runway 29R.
Magnetic variation: 14E
2.19.2 ILS identification: SCK
2.19.5 Coordinates: 37–49–54.29N / 121–08–00.00W
2.19.6 Site elevation: 52 ft

General Remarks:

SEAGULLS ON AND IN VICINITY OF AIRPORT MOSTLY DURING RAINY WEATHER.

AVOID OVERFLYING SAN JOAQUIN GENERAL HOSPITAL & THE CITY OF MANTECA.

AIRPORT CLOSED TO TOUCH AND GO LANDING & PLANNED LOW APPROACHES FOR TURBOJET AIRCRAFT 2200–0700 EXCEPT BY PRIOR PERMISSION REQUIRED FROM AIRPORT MANAGER PART 36 STAGE 3 AIRCRAFT.

PRACTICE CIRCLING APPROACHES TO RUNWAYS 11L/11R NOT AUTHORIZED FOR ANY TURBINE POWERED ACFT/PROP DRIVEN AIRCRAFT EXCEEDING 12500 LBS EXCEPT BY PRIOR PERMISSION REQUIRED FROM AIRPORT MANAGER.

MILITARY USE: ARRANGE OPR 1500–2330Z++ MON–FRI. DSN 466–5319, C209–983–5319, FAX 5391. PRIOR PERMISSION REQUIREDUIRED. LIMITED TRANSIENT SERVICE AND MAINT AVAILABLE FOR CH47.

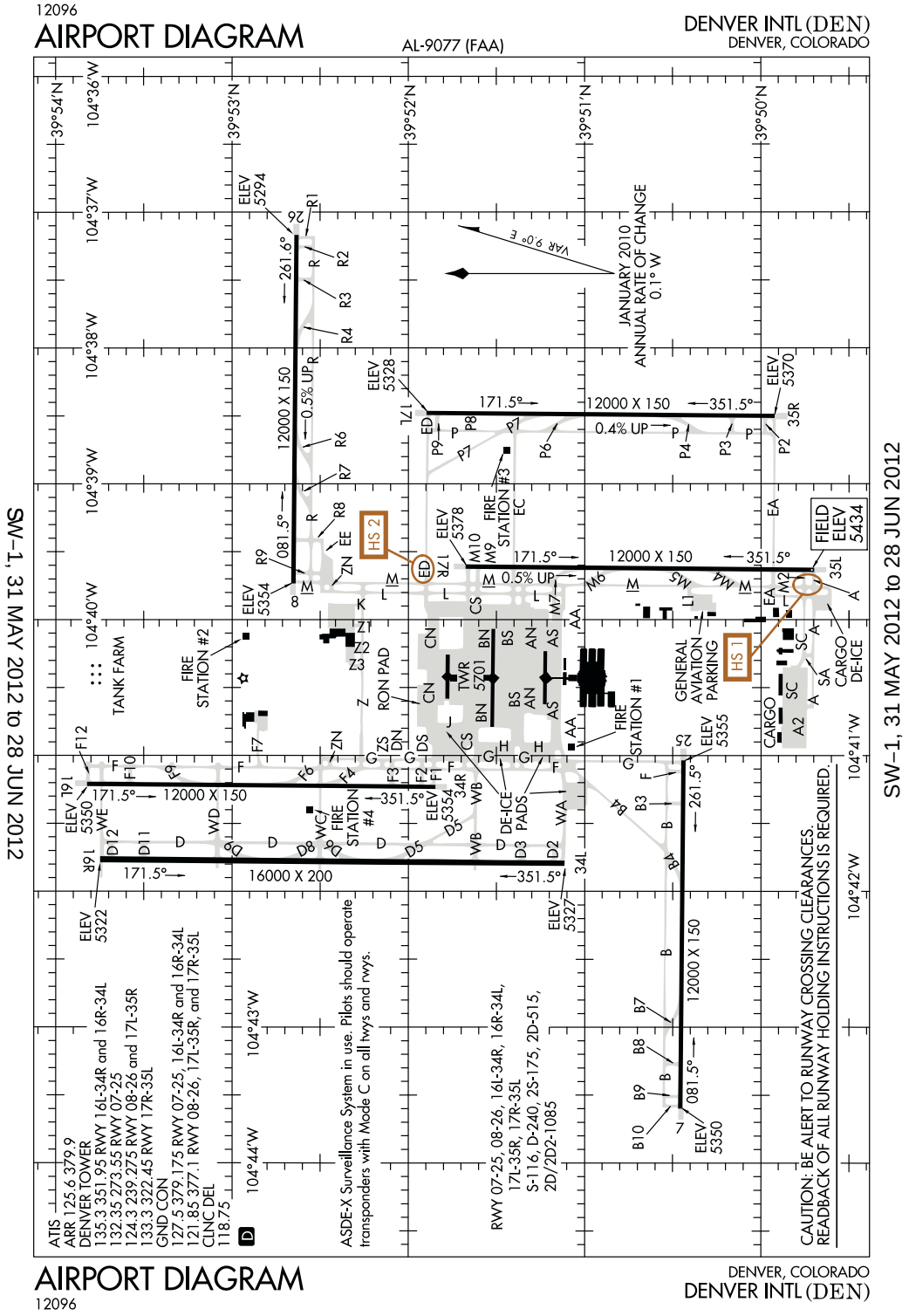
THE FOLLOWING AREAS NOT VISIBLE FROM ATCT: TAXIWAY B FROM NORTH SIDE OF TERMINAL BUILDING TO 25 FT WEST OF TAXIWAY J. SOUTH HALF OF TAXIWAY B INTERMITTENTLY FROM TAXIWAY J TO 200 FT WEST OF TAXIWAY H. TRANSIENT PARKING AREA. ALL TERMINAL RAMPS. TAXIWAY B FROM APPROXIMATE 200 FT WEST AND EAST OF TAXIWAY J.

TRANSIENT PARKING AVAILABLE AT FBO.

BE ALERT TO ELEVATED MALSR APPROACH END RUNWAY 29R LOCATED AT DSPLCD THRESHOLD DEMARCATION BAR WHEN USING FULL LENGTH OF RUNWAY 29R.

APRON TAXIWAY AND TAXIWAY B,F, D, D9, N, AND H FOR AIRCRAFT ABOVE 12,500 LBS. ALL OTHER TAXIWAYS RESTRICTED TO AIRCRAFT LESS THAN 12,500 LBS.

Denver, Colorado
Denver International
ICAO Identifier KDEN



Denver, CO
Denver Intl
ICAO Identifier KDEN

AD 2.2 Aerodrome geographical and administrative data
2.2.1 Reference Point: 39–51–42.00N / 104–40–23.40W
2.2.2 From City: 16 Miles NE Of Denver, CO
2.2.3 Elevation: 5433.8 ft
2.2.5 Magnetic variation: 11E (2015)
2.2.6 Airport Contact: Kim Day
ADMIN BLDG,
8500 PENA BLVD
Denver, CO 80249
(303–342–2200)
2.2.7 Traffic: IFR/VFR

AD 2.3 Operational hours
2.3.1 – 2.3.11: ALL Months, ALL Days, ALL Hours

AD 2.4 Handling services and facilities
2.4.1 Cargo handling facilities: No
2.4.2 Fuel types: 100,100LL,A,MOGAS
2.4.4 De–icing facilities: None
2.4.5 Hangar space: Yes
2.4.6 Repair facilities: Major

AD 2.6 Rescue and firefighting services
2.6.1 Aerodrome category for firefighting: ARFF Index I E certified on 2/1/1995

AD 2.12 Runway physical characteristics
2.12.1 Designation: 07
2.12.2 True Bearing: 90
2.12.3 Dimensions: 12000 ft x 150 ft
2.12.4 PCN: 92 R/B/W/T
2.12.5 Coordinates: 39–50–27.40N / 104–43–35.96W
2.12.6 Threshold elevation: 5350 ft
2.12.6 Touchdown zone elevation: 5352 ft

2.12.1 Designation: 25
2.12.2 True Bearing: 271
2.12.3 Dimensions: 12000 ft x 150 ft
2.12.4 PCN: 92 R/B/W/T
2.12.5 Coordinates: 39–50–26.37N / 104–41–00.00W
2.12.6 Threshold elevation: 5355 ft
2.12.6 Touchdown zone elevation: 5355 ft

2.12.1 Designation: 16L
2.12.2 True Bearing: 181
2.12.3 Dimensions: 12000 ft x 150 ft
2.12.4 PCN: 92 R/B/W/T
2.12.5 Coordinates: 39–53–49.33N / 104–41–12.50W
2.12.6 Threshold elevation: 5350 ft
2.12.6 Touchdown zone elevation: 5357 ft

2.12.1 Designation: 34R
2.12.2 True Bearing: 1
2.12.3 Dimensions: 12000 ft x 150 ft
2.12.4 PCN: 92 R/B/W/T
2.12.5 Coordinates: 39–51–50.77N / 104–41–13.88W
2.12.6 Threshold elevation: 5354 ft
2.12.6 Touchdown zone elevation: 5354 ft

2.12.1 Designation: 08
2.12.2 True Bearing: 91
2.12.3 Dimensions: 12000 ft x 150 ft
2.12.4 PCN: 92 R/B/W/T
2.12.5 Coordinates: 39–52–39.20N / 104–39–44.03W
2.12.6 Threshold elevation: 5354 ft
2.12.6 Touchdown zone elevation: 5354 ft

2.12.1 Designation: 26
2.12.2 True Bearing: 271
2.12.3 Dimensions: 12000 ft x 150 ft
2.12.4 PCN: 92 R/B/W/T
2.12.5 Coordinates: 39–52–38.08N / 104–37–10.15W
2.12.6 Threshold elevation: 5294 ft
2.12.6 Touchdown zone elevation: 5309 ft

2.12.1 Designation: 17L
2.12.2 True Bearing: 181
2.12.3 Dimensions: 12000 ft x 150 ft
2.12.4 PCN: 92 R/B/W/T
2.12.5 Coordinates: 39–51–53.83N / 104–38–28.70W
2.12.6 Threshold elevation: 5328 ft
2.12.6 Touchdown zone elevation: 5338 ft

2.12.1 Designation: 35R
2.12.2 True Bearing: 1
2.12.3 Dimensions: 12000 ft x 150 ft
2.12.4 PCN: 92 R/B/W/T
2.12.5 Coordinates: 39–49–55.27N / 104–38–30.16W
2.12.6 Threshold elevation: 5370 ft

2.12.6 Touchdown zone elevation: 5370 ft

2.12.1 Designation: 17R
2.12.2 True Bearing: 181
2.12.3 Dimensions: 12000 ft x 150 ft
2.12.4 PCN: 92 R/B/W/T
2.12.5 Coordinates: 39–51–40.48N / 104–39–36.56W
2.12.6 Threshold elevation: 5378 ft
2.12.6 Touchdown zone elevation: 5392 ft

2.12.1 Designation: 35L
2.12.2 True Bearing: 1
2.12.3 Dimensions: 12000 ft x 150 ft
2.12.4 PCN: 92 R/B/W/T
2.12.5 Coordinates: 39–49–41.93N / 104–39–37.98W
2.12.6 Threshold elevation: 5434 ft
2.12.6 Touchdown zone elevation: 5434 ft

2.12.1 Designation: 16R
2.12.2 True Bearing: 180
2.12.3 Dimensions: 16000 ft x 200 ft
2.12.4 PCN: 92 R/B/W/T
2.12.5 Coordinates: 39–53–44.87N / 104–41–45.90W
2.12.6 Threshold elevation: 5322 ft
2.12.6 Touchdown zone elevation: 5326 ft

2.12.1 Designation: 34L
2.12.2 True Bearing: 1
2.12.3 Dimensions: 16000 ft x 200 ft
2.12.4 PCN: 92 R/B/W/T
2.12.5 Coordinates: 39–51–00.00N / 104–41–47.72W
2.12.6 Threshold elevation: 5327 ft
2.12.6 Touchdown zone elevation: 5327 ft

AD 2.13 Declared distances

2.13.1 Designation: 07
2.13.2 Takeoff run available: 12000
2.13.3 Takeoff distance available: 12000
2.13.4 Accelerate–stop distance available: 12000
2.13.5 Landing distance available: 12000

2.13.1 Designation: 25
2.13.2 Takeoff run available: 12000
2.13.3 Takeoff distance available: 13000
2.13.4 Accelerate–stop distance available: 12000
2.13.5 Landing distance available: 12000

2.13.1 Designation: 16L
2.13.2 Takeoff run available: 12000
2.13.3 Takeoff distance available: 12000
2.13.4 Accelerate–stop distance available: 12000
2.13.5 Landing distance available: 12000

2.13.1 Designation: 34R
2.13.2 Takeoff run available: 12000
2.13.3 Takeoff distance available: 13000
2.13.4 Accelerate–stop distance available: 12000
2.13.5 Landing distance available: 12000

2.13.1 Designation: 08
2.13.2 Takeoff run available: 12000
2.13.3 Takeoff distance available: 13000
2.13.4 Accelerate–stop distance available: 12000
2.13.5 Landing distance available: 12000

2.13.1 Designation: 26
2.13.2 Takeoff run available: 12000
2.13.3 Takeoff distance available: 12000
2.13.4 Accelerate–stop distance available: 12000
2.13.5 Landing distance available: 12000

2.13.1 Designation: 17L
2.13.2 Takeoff run available: 12000
2.13.3 Takeoff distance available: 12000
2.13.4 Accelerate–stop distance available: 12000
2.13.5 Landing distance available: 12000

2.13.1 Designation: 35R
2.13.2 Takeoff run available: 12000
2.13.3 Takeoff distance available: 12000
2.13.4 Accelerate–stop distance available: 12000
2.13.5 Landing distance available: 12000

2.13.1 Designation: 17R
2.13.2 Takeoff run available: 12000
2.13.3 Takeoff distance available: 12000
2.13.4 Accelerate–stop distance available: 12000
2.13.5 Landing distance available: 12000

2.13.1 Designation: 35L
2.13.2 Takeoff run available: 12000
2.13.3 Takeoff distance available: 12000
2.13.4 Accelerate–stop distance available: 12000
2.13.5 Landing distance available: 12000

2.13.1 Designation: 16R
2.13.2 Takeoff run available: 16000
2.13.3 Takeoff distance available: 16000
2.13.4 Accelerate–stop distance available: 16000
2.13.5 Landing distance available: 16000

2.13.1 Designation: 34L

2.13.2 Takeoff run available: 16000
2.13.3 Takeoff distance available: 16000
2.13.4 Accelerate–stop distance available: 16000
2.13.5 Landing distance available: 16000

AD 2.14 Approach and runway lighting
2.14.1 Designation: 07
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on right

2.14.1 Designation: 25
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 16L
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 34R
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 08
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 26
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 17L
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 35R
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration
2.14.4 Visual approach slope indicator system: 4–light PAPI on right

2.14.1 Designation: 17R
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 35L
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration
2.14.4 Visual approach slope indicator system: 4–light PAPI on right

2.14.1 Designation: 16R
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on right

2.14.1 Designation: 34L
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

AD 2.18 Air traffic services communication facilities
2.18.1 Service designation: CD/P
2.18.3 Service designation: 118.75 MHz

2.18.1 Service designation: APCH/P
2.18.3 Service designation: 120.35 MHz

2.18.1 Service designation: FINAL CTL

2.18.3 Service designation: 120.8 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 121.85 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 124.3 MHz

2.18.1 Service designation: CLASS B DEP/P
2.18.3 Service designation: 126.1 MHz

2.18.1 Service designation: DEP/P
2.18.3 Service designation: 127.05 MHz

2.18.1 Service designation: CLASS B DEP/P
2.18.3 Service designation: 128.25 MHz

2.18.1 Service designation: CLASS B DEP/P
2.18.3 Service designation: 128.45 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 133.3 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 134.85 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 322.45 MHz

2.18.1 Service designation: CLASS B DEP/P
2.18.3 Service designation: 360.75 MHz

2.18.1 Service designation: DEP/P
2.18.3 Service designation: 363.25 MHz

2.18.1 Service designation: CLASS B DEP/P
2.18.3 Service designation: 371.95 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 377.1 MHz

2.18.1 Service designation: CLASS B DEP/P
2.18.3 Service designation: 251.075 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 251.125 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 127.5 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 273.55 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 132.35 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 135.3 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 351.95 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 379.175 MHz

2.18.1 Service designation: APCH/P
2.18.3 Service designation: 379.3 MHz

2.18.1 Service designation: APCH/S
2.18.3 Service designation: 124.95 MHz

2.18.1 Service designation: APCH/S
2.18.3 Service designation: 346.4 MHz

2.18.1 Service designation: APCH/S
2.18.3 Service designation: 126.55 MHz

2.18.1 Service designation: APCH/S
2.18.3 Service designation: 269.525 MHz

2.18.1 Service designation: APCH/P
2.18.3 Service designation: 119.3 MHz

2.18.1 Service designation: APCH/P
2.18.3 Service designation: 307.3 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 239.275 MHz

2.18.1 Service designation: D–ATIS
2.18.3 Service designation: 134.025 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: D–ATIS
2.18.3 Service designation: 125.6 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: D–ATIS
2.18.3 Service designation: 379.9 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: CD/P
2.18.3 Service designation: 118.75 MHz

2.18.1 Service designation: APCH/P
2.18.3 Service designation: 120.35 MHz

2.18.1 Service designation: FINAL CTL

2.18.3 Service designation: 120.8 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 121.85 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 124.3 MHz

2.18.1 Service designation: CLASS B DEP/P
2.18.3 Service designation: 126.1 MHz

2.18.1 Service designation: DEP/P
2.18.3 Service designation: 127.05 MHz

2.18.1 Service designation: CLASS B DEP/P
2.18.3 Service designation: 128.25 MHz

2.18.1 Service designation: CLASS B DEP/P
2.18.3 Service designation: 128.45 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 133.3 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 134.85 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 322.45 MHz

2.18.1 Service designation: CLASS B DEP/P
2.18.3 Service designation: 360.75 MHz

2.18.1 Service designation: DEP/P
2.18.3 Service designation: 363.25 MHz

2.18.1 Service designation: CLASS B DEP/P
2.18.3 Service designation: 371.95 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 377.1 MHz

2.18.1 Service designation: CLASS B DEP/P
2.18.3 Service designation: 251.075 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 251.125 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 127.5 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 273.55 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 132.35 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 135.3 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 351.95 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 379.175 MHz

2.18.1 Service designation: APCH/P
2.18.3 Service designation: 379.3 MHz

2.18.1 Service designation: APCH/S
2.18.3 Service designation: 124.95 MHz

2.18.1 Service designation: APCH/S
2.18.3 Service designation: 346.4 MHz

2.18.1 Service designation: APCH/S
2.18.3 Service designation: 126.55 MHz

2.18.1 Service designation: APCH/S
2.18.3 Service designation: 269.525 MHz

2.18.1 Service designation: APCH/P
2.18.3 Service designation: 119.3 MHz

2.18.1 Service designation: APCH/P
2.18.3 Service designation: 307.3 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 239.275 MHz

2.18.1 Service designation: D–ATIS
2.18.3 Service designation: 134.025 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: D–ATIS
2.18.3 Service designation: 125.6 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: D–ATIS
2.18.3 Service designation: 379.9 MHz
2.18.4 Hours of operation: 24

AD 2.19 Radio navigation and landing aids

2.19.1 ILS type: Glide Slope for runway 07.
Magnetic variation: 11E
2.19.2 ILS identification: DZG
2.19.5 Coordinates: 39–50–23.27N /
104–43–22.66W

2.19.6 Site elevation: 5341 ft

2.19.1 ILS type: Outer Marker for runway 07.
Magnetic variation: 11E
2.19.2 ILS identification: DZG
2.19.5 Coordinates: 39–50–31.70N /
104–49–41.50W
2.19.6 Site elevation: 5215 ft

2.19.1 ILS type: Middle Marker for runway 07.
Magnetic variation: 11E
2.19.2 ILS identification: DZG
2.19.5 Coordinates: 39–50–27.60N /
104–44–11.80W
2.19.6 Site elevation: 5283 ft

2.19.1 ILS type: Localizer for runway 07. Magnetic variation: 11E
2.19.2 ILS identification: DZG
2.19.5 Coordinates: 39–50–26.28N /
104–40–49.06W
2.19.6 Site elevation: 5355 ft

2.19.1 ILS type: DME for runway 07. Magnetic variation: 11E
2.19.2 ILS identification: DZG
2.19.5 Coordinates: 39–50–23.66N /
104–40–48.62W
2.19.6 Site elevation: 5359 ft

2.19.1 ILS type: Localizer for runway 25. Magnetic variation: 11E
2.19.2 ILS identification: ERP
2.19.5 Coordinates: 39–50–27.49N /
104–43–49.07W
2.19.6 Site elevation: 5349 ft

2.19.1 ILS type: DME for runway 25. Magnetic variation: 11E
2.19.2 ILS identification: ERP
2.19.5 Coordinates: 39–50–23.66N /
104–40–48.62W
2.19.6 Site elevation: 5359 ft

2.19.1 ILS type: Glide Slope for runway 25.
Magnetic variation: 11E
2.19.2 ILS identification: ERP
2.19.5 Coordinates: 39–50–22.41N /
104–41–15.79W
2.19.6 Site elevation: 5344 ft

2.19.1 ILS type: Middle Marker for runway 25.
Magnetic variation: 11E
2.19.2 ILS identification: ERP
2.19.5 Coordinates: 39–50–26.10N /
104–40–25.50W
2.19.6 Site elevation: 5325 ft

2.19.1 ILS type: Outer Marker for runway 25.
Magnetic variation: 11E
2.19.2 ILS identification: ERP
2.19.5 Coordinates: 39–50–15.80N /
104–34–56.30W
2.19.6 Site elevation: 5319 ft

2.19.1 ILS type: Glide Slope for runway 34R.
Magnetic variation: 9E
2.19.2 ILS identification: OUF
2.19.5 Coordinates: 39–52–00.00N /
104–41–19.01W
2.19.6 Site elevation: 5346 ft

2.19.1 ILS type: Inner Marker for runway 34R.
Magnetic variation: 9E
2.19.2 ILS identification: OUF
2.19.5 Coordinates: 39–51–42.29N /
104–41–13.98W
2.19.6 Site elevation: 5345 ft

2.19.1 ILS type: Middle Marker for runway 34R.
Magnetic variation: 9E
2.19.2 ILS identification: OUF
2.19.5 Coordinates: 39–51–23.40N /
104–41–14.10W
2.19.6 Site elevation: 5298 ft

2.19.1 ILS type: DME for runway 34R. Magnetic variation: 9E
2.19.2 ILS identification: OUF
2.19.5 Coordinates: 39–53–59.61N /
104–41–15.77W
2.19.6 Site elevation: 5357 ft

2.19.1 ILS type: Outer Marker for runway 34R.
Magnetic variation: 9E
2.19.2 ILS identification: OUF
2.19.5 Coordinates: 39–47–00.00N /
104–41–33.80W
2.19.6 Site elevation: 5561 ft

2.19.1 ILS type: Localizer for runway 34R.
Magnetic variation: 9E
2.19.2 ILS identification: OUF

2.19.5 Coordinates: 39–53–59.44N / 104–41–12.38W
2.19.6 Site elevation: 5350 ft

2.19.1 ILS type: Outer Marker for runway 16L. Magnetic variation: 11E
2.19.2 ILS identification: LTT
2.19.5 Coordinates: 39–58–19.70N / 104–41–26.10W
2.19.6 Site elevation: 5161 ft

2.19.1 ILS type: Middle Marker for runway 16L. Magnetic variation: 11E
2.19.2 ILS identification: LTT
2.19.5 Coordinates: 39–54–18.00N / 104–41–12.20W
2.19.6 Site elevation: 5347 ft

2.19.1 ILS type: Localizer for runway 16L. Magnetic variation: 11E
2.19.2 ILS identification: LTT
2.19.5 Coordinates: 39–51–40.67N / 104–41–14.00W
2.19.6 Site elevation: 5343 ft

2.19.1 ILS type: DME for runway 16L. Magnetic variation: 11E
2.19.2 ILS identification: LTT
2.19.5 Coordinates: 39–53–59.61N / 104–41–15.77W
2.19.6 Site elevation: 5357 ft

2.19.1 ILS type: Glide Slope for runway 16L. Magnetic variation: 11E
2.19.2 ILS identification: LTT
2.19.5 Coordinates: 39–53–39.55N / 104–41–17.87W
2.19.6 Site elevation: 5347 ft

2.19.1 ILS type: DME for runway 08. Magnetic variation: 11E
2.19.2 ILS identification: FUI
2.19.5 Coordinates: 39–52–41.88N / 104–39–57.51W
2.19.6 Site elevation: 5360 ft

2.19.1 ILS type: Glide Slope for runway 08. Magnetic variation: 11E
2.19.2 ILS identification: FUI
2.19.5 Coordinates: 39–52–43.15N / 104–39–29.86W
2.19.6 Site elevation: 5342 ft

2.19.1 ILS type: Outer Marker for runway 08. Magnetic variation: 11E
2.19.2 ILS identification: FUI
2.19.5 Coordinates: 39–52–40.50N / 104–46–20.00W
2.19.6 Site elevation: 5245 ft

2.19.1 ILS type: Localizer for runway 08. Magnetic variation: 11E
2.19.2 ILS identification: FUI
2.19.5 Coordinates: 39–52–37.98N / 104–36–57.04W
2.19.6 Site elevation: 5283 ft

2.19.1 ILS type: Middle Marker for runway 08. Magnetic variation: 11E
2.19.2 ILS identification: FUI
2.19.5 Coordinates: 39–52–39.40N / 104–40–19.50W
2.19.6 Site elevation: 5352 ft

2.19.1 ILS type: Localizer for runway 26. Magnetic variation: 11E
2.19.2 ILS identification: JOY
2.19.5 Coordinates: 39–52–39.30N / 104–39–57.14W
2.19.6 Site elevation: 5348 ft

2.19.1 ILS type: Glide Slope for runway 26. Magnetic variation: 11E
2.19.2 ILS identification: JOY
2.19.5 Coordinates: 39–52–42.22N / 104–37–22.39W
2.19.6 Site elevation: 5293 ft

2.19.1 ILS type: Outer Marker for runway 26. Magnetic variation: 11E
2.19.2 ILS identification: JOY
2.19.5 Coordinates: 39–52–34.30N / 104–29–18.70W
2.19.6 Site elevation: 5111 ft

2.19.1 ILS type: Middle Marker for runway 26. Magnetic variation: 11E
2.19.2 ILS identification: JOY
2.19.5 Coordinates: 39–52–37.80N / 104–36–31.00W
2.19.6 Site elevation: 5256 ft

2.19.1 ILS type: DME for runway 26. Magnetic variation: 11E
2.19.2 ILS identification: JOY

2.19.5 Coordinates: 39–52–41.88N / 104–39–57.51W
2.19.6 Site elevation: 5360 ft

2.19.1 ILS type: Localizer for runway 17L.
Magnetic variation: 11E
2.19.2 ILS identification: BXP
2.19.5 Coordinates: 39–49–45.17N / 104–38–30.28W
2.19.6 Site elevation: 5363 ft

2.19.1 ILS type: Outer Marker for runway 17L.
Magnetic variation: 11E
2.19.2 ILS identification: BXP
2.19.5 Coordinates: 39–56–35.40N / 104–38–23.70W
2.19.6 Site elevation: 5161 ft

2.19.1 ILS type: Middle Marker for runway 17L.
Magnetic variation: 11E
2.19.2 ILS identification: BXP
2.19.5 Coordinates: 39–52–23.20N / 104–38–28.30W
2.19.6 Site elevation: 5323 ft

2.19.1 ILS type: Glide Slope for runway 17L.
Magnetic variation: 11E
2.19.2 ILS identification: BXP
2.19.5 Coordinates: 39–51–44.06N / 104–38–23.56W
2.19.6 Site elevation: 5326 ft

2.19.1 ILS type: DME for runway 17L. Magnetic variation: 11E
2.19.2 ILS identification: BXP
2.19.5 Coordinates: 39–52–00.00N / 104–38–25.19W
2.19.6 Site elevation: 5345 ft

2.19.1 ILS type: DME for runway 35R. Magnetic variation: 9E
2.19.2 ILS identification: DPP
2.19.5 Coordinates: 39–52–00.00N / 104–38–25.19W
2.19.6 Site elevation: 5345 ft

2.19.1 ILS type: Glide Slope for runway 35R.
Magnetic variation: 9E
2.19.2 ILS identification: DPP
2.19.5 Coordinates: 39–50–00.00N / 104–38–24.77W
2.19.6 Site elevation: 5360 ft

2.19.1 ILS type: Inner Marker for runway 35R.
Magnetic variation: 9E
2.19.2 ILS identification: DPP
2.19.5 Coordinates: 39–49–46.78N / 104–38–30.27W
2.19.6 Site elevation: 5365 ft

2.19.1 ILS type: Outer Marker for runway 35R.
Magnetic variation: 9E
2.19.2 ILS identification: DPP
2.19.5 Coordinates: 39–45–13.10N / 104–38–27.20W
2.19.6 Site elevation: 5504 ft

2.19.1 ILS type: Localizer for runway 35R.
Magnetic variation: 9E
2.19.2 ILS identification: DPP
2.19.5 Coordinates: 39–52–00.00N / 104–38–28.57W
2.19.6 Site elevation: 5336 ft

2.19.1 ILS type: Middle Marker for runway 35R.
Magnetic variation: 9E
2.19.2 ILS identification: DPP
2.19.5 Coordinates: 39–49–27.90N / 104–38–30.60W
2.19.6 Site elevation: 5356 ft

2.19.1 ILS type: Localizer for runway 17R.
Magnetic variation: 11E
2.19.2 ILS identification: ACX
2.19.5 Coordinates: 39–49–31.82N / 104–39–38.10W
2.19.6 Site elevation: 5427.6 ft

2.19.1 ILS type: DME for runway 17R. Magnetic variation: 11E
2.19.2 ILS identification: ACX
2.19.5 Coordinates: 39–51–50.92N / 104–39–33.05W
2.19.6 Site elevation: 5388 ft

2.19.1 ILS type: Outer Marker for runway 17R.
Magnetic variation: 11E
2.19.2 ILS identification: ACX
2.19.5 Coordinates: 39–56–35.50N / 104–39–32.20W
2.19.6 Site elevation: 5286 ft

2.19.1 ILS type: Middle Marker for runway 17R.
Magnetic variation: 11E
2.19.2 ILS identification: ACX

2.19.5 Coordinates: 39–52–10.50N / 104–39–36.20W
2.19.6 Site elevation: 5365 ft

2.19.1 ILS type: Glide Slope for runway 17R. Magnetic variation: 11E
2.19.2 ILS identification: ACX
2.19.5 Coordinates: 39–51–30.91N / 104–39–31.42W
2.19.6 Site elevation: 5378 ft

2.19.1 ILS type: Localizer for runway 35L. Magnetic variation: 9E
2.19.2 ILS identification: AQD
2.19.5 Coordinates: 39–51–50.60N / 104–39–36.44W
2.19.6 Site elevation: 5377 ft

2.19.1 ILS type: DME for runway 35L. Magnetic variation: 9E
2.19.2 ILS identification: AQD
2.19.5 Coordinates: 39–51–50.92N / 104–39–33.05W
2.19.6 Site elevation: 5388 ft

2.19.1 ILS type: Glide Slope for runway 35L. Magnetic variation: 9E
2.19.2 ILS identification: AQD
2.19.5 Coordinates: 39–49–52.76N / 104–39–32.60W
2.19.6 Site elevation: 5419 ft

2.19.1 ILS type: Outer Marker for runway 35L. Magnetic variation: 9E
2.19.2 ILS identification: AQD
2.19.5 Coordinates: 39–45–13.30N / 104–39–48.60W
2.19.6 Site elevation: 5606 ft

2.19.1 ILS type: Middle Marker for runway 35L. Magnetic variation: 9E
2.19.2 ILS identification: AQD
2.19.5 Coordinates: 39–49–14.60N / 104–39–38.40W
2.19.6 Site elevation: 5411 ft

2.19.1 ILS type: Inner Marker for runway 35L. Magnetic variation: 9E
2.19.2 ILS identification: AQD
2.19.5 Coordinates: 39–49–33.44N / 104–39–38.09W
2.19.6 Site elevation: 5429 ft

2.19.1 ILS type: Glide Slope for runway 16R. Magnetic variation: 11E
2.19.2 ILS identification: DQQ
2.19.5 Coordinates: 39–53–34.82N / 104–41–51.28W
2.19.6 Site elevation: 5317 ft

2.19.1 ILS type: DME for runway 16R. Magnetic variation: 11E
2.19.2 ILS identification: DQQ
2.19.5 Coordinates: 39–53–55.74N / 104–41–50.90W
2.19.6 Site elevation: 5324 ft

2.19.1 ILS type: Localizer for runway 16R. Magnetic variation: 11E
2.19.2 ILS identification: DQQ
2.19.5 Coordinates: 39–50–56.78N / 104–41–47.83W
2.19.6 Site elevation: 5321 ft

2.19.1 ILS type: DME for runway 34L. Magnetic variation: 9E
2.19.2 ILS identification: DXU
2.19.5 Coordinates: 39–53–55.74N / 104–41–50.90W
2.19.6 Site elevation: 5324 ft

2.19.1 ILS type: Localizer for runway 34L. Magnetic variation: 9E
2.19.2 ILS identification: DXU
2.19.5 Coordinates: 39–53–54.88N / 104–41–45.78W
2.19.6 Site elevation: 5320 ft

2.19.1 ILS type: Glide Slope for runway 34L. Magnetic variation: 9E
2.19.2 ILS identification: DXU
2.19.5 Coordinates: 39–51–17.60N / 104–41–52.85W
2.19.6 Site elevation: 5318 ft

2.19.1 ILS type: Inner Marker for runway 34L. Magnetic variation: 9E
2.19.2 ILS identification: DXU
2.19.5 Coordinates: 39–50–58.30N / 104–41–47.81W
2.19.6 Site elevation: 5321 ft

General Remarks:
OVERHEAD PASSENGER BRIDGE ON SOUTH SIDE OF CONCOURSE 'A' PROVIDES 42 FT TAIL & 118 FT WINGSPAN CLEARANCE WHEN ON TAXIWAY CENTERLINE.

INSUFFICIENT TAXIWAY CORNER FILLET PAVEMENT IN THE SE CORNER OF THE TAXIWAY M/M2 INTERSECTION FOR AIRCRAFT WITH WINGSPANS OVER 107 FT.

CUSTOMS AVAILABLE WITH PRIOR PERMISSION.

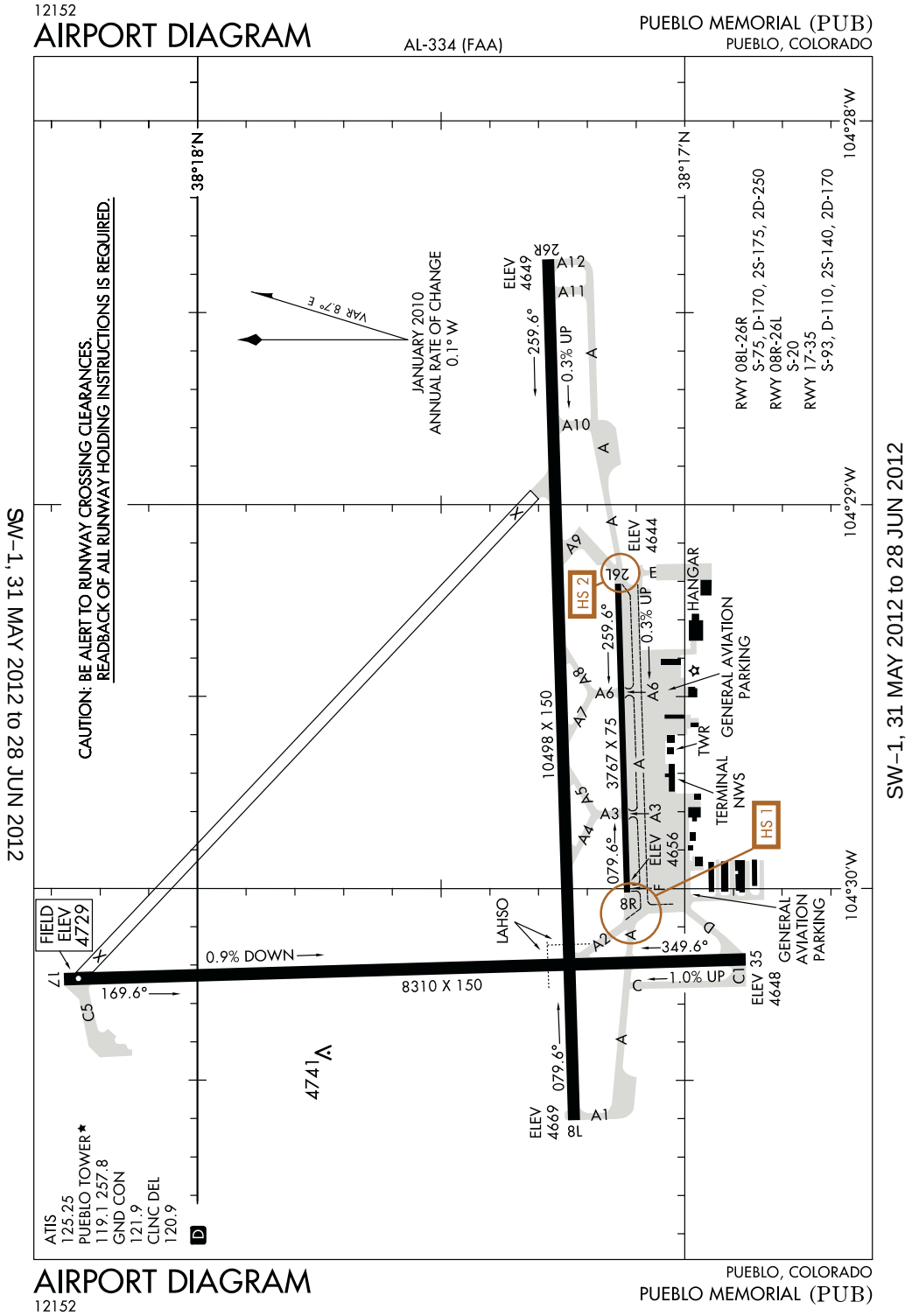
INFORMAL RUNWAY USE PROGRAM IS IN EFFECT 24 HRS A DAY. FOR ADDITIONAL NOISE ABATEMENT INFORMATION CONTACT AIRPORT MANAGEMENT AT 303−342−4200.

WATERFOWL AND MIGRATORY BIRD ACTIVITY IN THE VICINITY OF AIRPORT YEAR ROUND.

ASDE−X SURVEILLANCE SYSTEM IN USE: PILOTS SHOULD OPERATE TRANSPONDERS WITH MODE C ON ALL TAXIWAYS AND RUNWAYS.

AIRPORT MAINTAINS CLEARWAYS (500 FT X 1,000 FT, 1.25% SLOPE) ON DEP RUNWAY 08, RUNWAY 25, & RUNWAY 34R.

Pueblo, Colorado
Pueblo Memorial
ICAO Identifier KPUB



Pueblo, CO
Pueblo Memorial
ICAO Identifier KPUB

AD 2.2 Aerodrome geographical and administrative data
2.2.1 Reference Point: 38−17−20.90N / 104−29−47.40W
2.2.2 From City: 5 Miles E Of Pueblo, CO
2.2.3 Elevation: 4729 ft
2.2.5 Magnetic variation: 11E (1985)
2.2.6 Airport Contact: Mark Lovin
31201 BRYAN CIRCLE
Pueblo, CO 81001
(719−553−2760)
2.2.7 Traffic: IFR/VFR

AD 2.3 Operational hours
2.3.1 – 2.3.11: ALL Months, M−F Days, 0400−2300 Hours

AD 2.4 Handling services and facilities
2.4.1 Cargo handling facilities: No
2.4.2 Fuel types: 100LL,A
2.4.4 De−icing facilities: None
2.4.5 Hangar space: Yes
2.4.6 Repair facilities: Major

AD 2.6 Rescue and firefighting services
2.6.1 Aerodrome category for firefighting: ARFF Index Ii A certified on 5/1/1973

AD 2.10 Aerodrome obstacles
2.10.1.a. Runway designation: 26L
2.10.1.b Type of obstacle: Gnd (7 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 245 ft from Centerline

2.10.1.a. Runway designation: 08R
2.10.1.b Type of obstacle: Gnd (20 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 0 ft from Centerline

AD 2.12 Runway physical characteristics
2.12.1 Designation: 17
2.12.2 True Bearing: 178
2.12.3 Dimensions: 8310 ft x 150 ft
2.12.5 Coordinates: 38−18−15.06N / 104−30−14.69W
2.12.6 Threshold elevation: 4729 ft
2.12.6 Touchdown zone elevation: 4729 ft
2.12.7 Slope: 0.9DOWN

2.12.1 Designation: 35
2.12.2 True Bearing: 358
2.12.3 Dimensions: 8310 ft x 150 ft
2.12.5 Coordinates: 38−16−52.97N / 104−30−11.65W
2.12.6 Threshold elevation: 4648 ft
2.12.6 Touchdown zone elevation: 4677 ft
2.12.7 Slope: 1UP

2.12.1 Designation: 08L
2.12.2 True Bearing: 88
2.12.3 Dimensions: 10498 ft x 150 ft
2.12.5 Coordinates: 38−17−13.64N / 104−30−36.24W
2.12.6 Threshold elevation: 4669 ft
2.12.6 Touchdown zone elevation: 4671 ft
2.12.7 Slope: 0DOWN

2.12.1 Designation: 26R
2.12.2 True Bearing: 268
2.12.3 Dimensions: 10498 ft x 150 ft
2.12.5 Coordinates: 38−17−16.75N / 104−28−24.66W
2.12.6 Threshold elevation: 4649 ft
2.12.6 Touchdown zone elevation: 4659 ft
2.12.7 Slope: 0.3UP

2.12.1 Designation: 08R
2.12.2 True Bearing: 88
2.12.3 Dimensions: 3767 ft x 75 ft
2.12.5 Coordinates: 38−17−00.00N / 104−30−00.00W
2.12.6 Threshold elevation: 4656 ft
2.12.6 Touchdown zone elevation: 4656 ft

2.12.1 Designation: 26L
2.12.2 True Bearing: 268
2.12.3 Dimensions: 3767 ft x 75 ft
2.12.5 Coordinates: 38−17−00.00N / 104−29−14.23W
2.12.6 Threshold elevation: 4644 ft
2.12.6 Touchdown zone elevation: 4655 ft
2.12.7 Slope: 0.3UP

AD 2.13 Declared distances
2.13.1 Designation: 17
2.13.2 Takeoff run available: 8308
2.13.3 Takeoff distance available: 8308

2.13.4 Accelerate–stop distance available: 8308
2.13.5 Landing distance available: 8308

2.13.1 Designation: 35
2.13.2 Takeoff run available: 8308
2.13.3 Takeoff distance available: 8308
2.13.4 Accelerate–stop distance available: 8308
2.13.5 Landing distance available: 8308

2.13.1 Designation: 08L
2.13.2 Takeoff run available: 10496
2.13.3 Takeoff distance available: 10496
2.13.4 Accelerate–stop distance available: 10496
2.13.5 Landing distance available: 10496

2.13.1 Designation: 26R
2.13.2 Takeoff run available: 10496
2.13.3 Takeoff distance available: 10496
2.13.4 Accelerate–stop distance available: 10496
2.13.5 Landing distance available: 10496

2.13.1 Designation: 08R
2.13.2 Takeoff run available: 3767
2.13.3 Takeoff distance available: 3767
2.13.4 Accelerate–stop distance available: 3767
2.13.5 Landing distance available: 3767

2.13.1 Designation: 26L
2.13.2 Takeoff run available: 3767
2.13.3 Takeoff distance available: 3767
2.13.4 Accelerate–stop distance available: 3767
2.13.5 Landing distance available: 3767

AD 2.14 Approach and runway lighting
2.14.1 Designation: 17
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 35
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 08L
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 26R
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

AD 2.18 Air traffic services communication facilities
2.18.1 Service designation: LCL/P
2.18.3 Service designation: 119.1 MHz

2.18.1 Service designation: EMERG
2.18.3 Service designation: 121.5 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 121.9 MHz

2.18.1 Service designation: ATIS
2.18.3 Service designation: 125.25 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: EMERG
2.18.3 Service designation: 243 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 257.8 MHz

2.18.1 Service designation: CLNC DEL
2.18.3 Service designation: 120.9 MHz

AD 2.19 Radio navigation and landing aids
2.19.1 ILS type: Localizer for runway 08L.
Magnetic variation: 11E
2.19.2 ILS identification: PUB
2.19.5 Coordinates: 38–17–17.20N / 104–28–00.00W
2.19.6 Site elevation: 4653 ft

2.19.1 ILS type: Glide Slope for runway 08L.
Magnetic variation: 11E
2.19.2 ILS identification: PUB
2.19.5 Coordinates: 38–17–18.93N / 104–30–21.58W
2.19.6 Site elevation: 4673 ft

2.19.1 ILS type: Outer Marker for runway 08L.
Magnetic variation: 11E
2.19.2 ILS identification: PUB
2.19.5 Coordinates: 38–17–00.00N / 104–38–49.50W
2.19.6 Site elevation: 4730 ft

2.19.1 ILS type: Middle Marker for runway 08L.
Magnetic variation: 11E
2.19.2 ILS identification: PUB
2.19.5 Coordinates: 38–17–12.61N / 104–31–20.10W
2.19.6 Site elevation: ft

2.19.1 ILS type: Glide Slope for runway 26R.
Magnetic variation: 11E

2.19.2 ILS identification: TFR
2.19.5 Coordinates: 38−17−21.36N / 104−28−39.20W
2.19.6 Site elevation: 4650 ft

2.19.1 ILS type: Outer Marker for runway 26R.
Magnetic variation: 11E
2.19.2 ILS identification: TFR
2.19.5 Coordinates: 38−17−26.64N / 104−21−17.89W
2.19.6 Site elevation: 4660 ft

2.19.1 ILS type: Localizer for runway 26R.
Magnetic variation: 11E
2.19.2 ILS identification: TFR
2.19.5 Coordinates: 38−17−13.25N / 104−30−52.56W
2.19.6 Site elevation: 4668 ft

2.19.1 ILS type: Middle Marker for runway 26R.
Magnetic variation: 11E
2.19.2 ILS identification: TFR
2.19.5 Coordinates: 38−17−17.69N / 104−27−45.32W
2.19.6 Site elevation: 4640 ft

General Remarks:
HIGH VOLUME TRAINING DA−20 AIRCRAFT SR−SS MON−FRI. OVERHEAD PATTERN DURING TRAINING. EXTENSIVE USE OF TRAINING AREA 12−28 DME N−SW OF AIRPORT 500 FT AGL−8500 FT MSL.

FREQUENT USAGE OF RUNWAYS 8R/26L AFTER SUNSET BY UNLIGHTED MILITARY TRANSIENT AIRCRAFT.

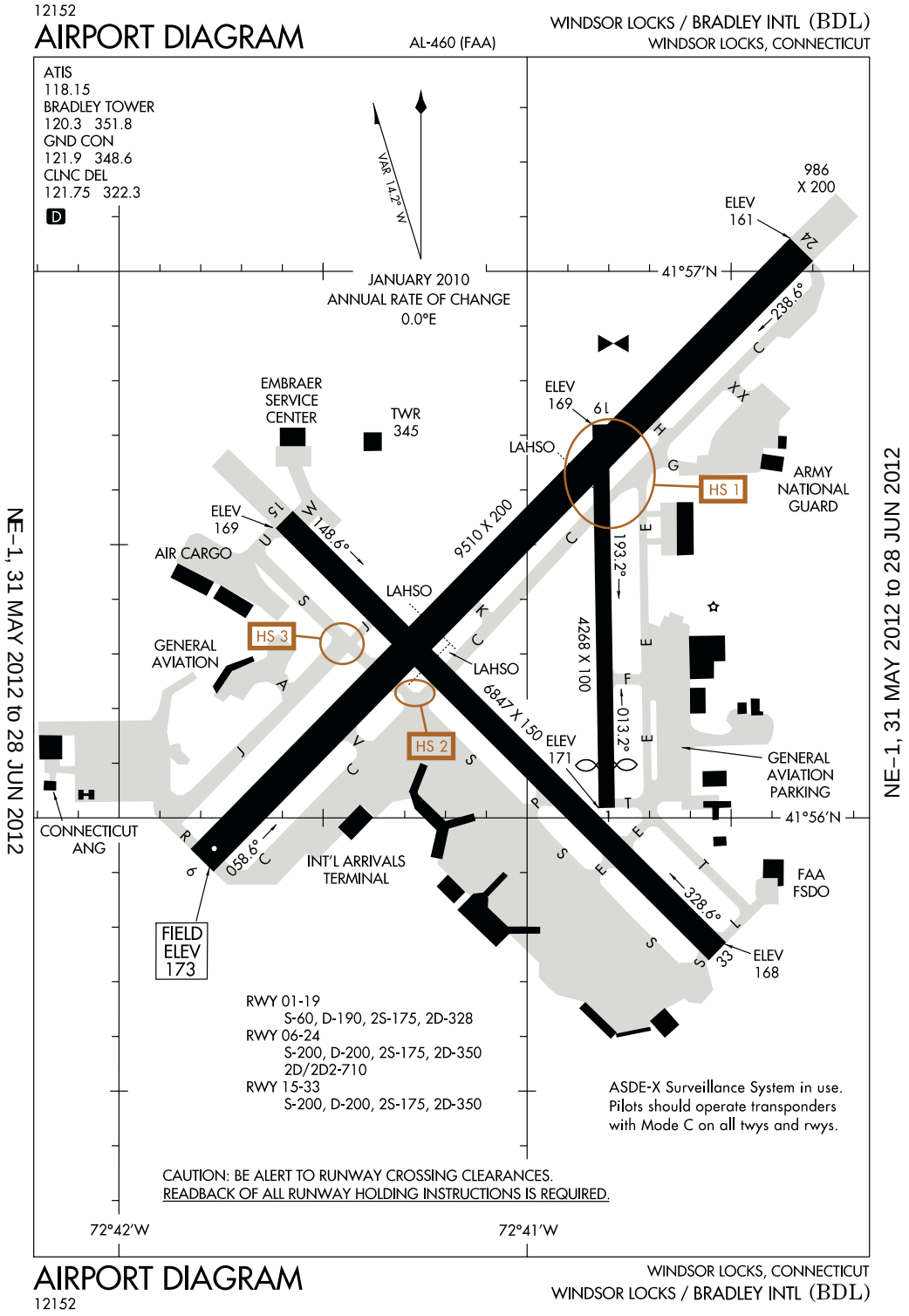
RUNWAY 8R/26L UNLIGHTED AND UNAVAILABLE AT NIGHT.

RUNWAY 8R/26L HAS BLUE TAXIWAY EDGE LIGHTS ON N EDGE.

BE ALERT; INTENSIVE USAF STUDENT TRAINING IN VICINITY OF COLORADO SPRINGS & PUEBLO COLORADO.

SEE FLIGHT INFORMATION PUBLICATION AP/1 SUPPLEMENTARY AIRPORT INFORMATION.

Windsor Locks, Connecticut
Bradley International
ICAO Identifier KBDL



Windsor Locks, CT
Bradley Intl
ICAO Identifier KBDL

AD 2.2 Aerodrome geographical and administrative data
2.2.1 Reference Point: 41−56−20.92N / 72−41−00.00W
2.2.2 From City: 3 Miles W Of Windsor Locks, CT
2.2.3 Elevation: 173 ft
2.2.5 Magnetic variation: 14W (1980)
2.2.6 Airport Contact: Eric Waldron, A.A.E. Ace
BRADLEY INTL
AIRPORT
Windsor Locks, CT 6096
(860−292−2001)
2.2.7 Traffic: IFR/VFR

AD 2.3 Operational hours
2.3.1 − 2.3.11: ALL Months, ALL Days, ALL Hours

AD 2.4 Handling services and facilities
2.4.1 Cargo handling facilities: No
2.4.2 Fuel types: 100LL,A
2.4.4 De−icing facilities: None
2.4.5 Hangar space: Yes
2.4.6 Repair facilities: Major

AD 2.6 Rescue and firefighting services
2.6.1 Aerodrome category for firefighting: ARFF Index I D certified on 5/1/1973

AD 2.10 Aerodrome obstacles
2.10.1.a. Runway designation: 15
2.10.1.b Type of obstacle: Trees (75 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 0 ft from Centerline

2.10.1.a. Runway designation: 33
2.10.1.b Type of obstacle: Trees (44 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 430 ft from Centerline

2.10.1.a. Runway designation: 06
2.10.1.b Type of obstacle: Trees (185 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 400 ft from Centerline

2.10.1.a. Runway designation: 24
2.10.1.b Type of obstacle: Trees (71 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 0 ft from Centerline

2.10.1.a. Runway designation: 19
2.10.1.b Type of obstacle: Trees (90 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 0 ft from Centerline

2.10.1.a. Runway designation: 01
2.10.1.b Type of obstacle: Acft (40 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 350 ft from Centerline

AD 2.12 Runway physical characteristics
2.12.1 Designation: 15
2.12.2 True Bearing: 134
2.12.3 Dimensions: 6847 ft x 150 ft
2.12.5 Coordinates: 41−56−32.63N / 72−41−35.71W
2.12.6 Threshold elevation: 169 ft
2.12.6 Touchdown zone elevation: 171 ft

2.12.1 Designation: 33
2.12.2 True Bearing: 314
2.12.3 Dimensions: 6847 ft x 150 ft
2.12.5 Coordinates: 41−55−45.32N / 72−40−30.96W
2.12.6 Threshold elevation: 168 ft
2.12.6 Touchdown zone elevation: 171 ft

2.12.1 Designation: 06
2.12.2 True Bearing: 44
2.12.3 Dimensions: 9510 ft x 200 ft
2.12.5 Coordinates: 41−55−55.25N / 72−41−47.69W
2.12.6 Threshold elevation: 173 ft
2.12.6 Touchdown zone elevation: 173 ft

2.12.1 Designation: 24
2.12.2 True Bearing: 224
2.12.3 Dimensions: 9510 ft x 200 ft
2.12.5 Coordinates: 41−57−00.00N / 72−40−19.68W
2.12.6 Threshold elevation: 161 ft
2.12.6 Touchdown zone elevation: 170 ft

2.12.1 Designation: 01
2.12.2 True Bearing: 359
2.12.3 Dimensions: 4268 ft x 100 ft

2.12.5 Coordinates: 41–56–00.00N / 72–40–46.63W
2.12.6 Threshold elevation: 171 ft
2.12.6 Touchdown zone elevation: 171 ft

2.12.1 Designation: 19
2.12.2 True Bearing: 179
2.12.3 Dimensions: 4268 ft x 100 ft
2.12.5 Coordinates: 41–56–43.56N / 72–40–47.58W
2.12.6 Threshold elevation: 169 ft
2.12.6 Touchdown zone elevation: 170 ft

AD 2.13 Declared distances
2.13.1 Designation: 15
2.13.2 Takeoff run available: 6847
2.13.3 Takeoff distance available: 6847
2.13.4 Accelerate–stop distance available: 6847
2.13.5 Landing distance available: 6847

2.13.1 Designation: 33
2.13.2 Takeoff run available: 6847
2.13.3 Takeoff distance available: 6847
2.13.4 Accelerate–stop distance available: 6847
2.13.5 Landing distance available: 6847

2.13.1 Designation: 06
2.13.2 Takeoff run available: 9509
2.13.3 Takeoff distance available: 9509
2.13.4 Accelerate–stop distance available: 9509
2.13.5 Landing distance available: 9509

2.13.1 Designation: 24
2.13.2 Takeoff run available: 9509
2.13.3 Takeoff distance available: 9509
2.13.4 Accelerate–stop distance available: 9509
2.13.5 Landing distance available: 9509

2.13.1 Designation: 01
2.13.2 Takeoff run available: 4268
2.13.3 Takeoff distance available: 4268
2.13.4 Accelerate–stop distance available: 4268

2.13.1 Designation: 19
2.13.5 Landing distance available: 4268

AD 2.14 Approach and runway lighting
2.14.1 Designation: 15
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 33
2.14.4 Visual approach slope indicator system: 4–light PAPI on right
2.14.10 Remarks: Vgsi And Glidepath Not Coincident.

2.14.1 Designation: 06
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration
2.14.4 Visual approach slope indicator system: 4–light PAPI on left
2.14.10 Remarks: Vgsi And Glidepath Not Coincident.

2.14.1 Designation: 24
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on left
2.14.10 Remarks: Vgsi And Glidepath Not Coincident.

AD 2.18 Air traffic services communication facilities
2.18.1 Service designation: D–ATIS
2.18.3 Service designation: 118.15 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 120.3 MHz

2.18.1 Service designation: EMERG
2.18.3 Service designation: 121.5 MHz

2.18.1 Service designation: CD/P
2.18.3 Service designation: 121.75 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 121.9 MHz

2.18.1 Service designation: NG OPS
2.18.3 Service designation: 123.45 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS C IC
2.18.3 Service designation: 123.95 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS C IC
2.18.3 Service designation: 125.35 MHz

2.18.1 Service designation: AS ASGND

2.18.3 Service designation: 125.65 MHz

2.18.1 Service designation: APCH/P CLASS C
2.18.3 Service designation: 127.225 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS IC
2.18.3 Service designation: 127.8 MHz

2.18.1 Service designation: EMERG
2.18.3 Service designation: 243 MHz

2.18.1 Service designation: NG OPS
2.18.3 Service designation: 243.9 MHz

2.18.1 Service designation: CD/P
2.18.3 Service designation: 322.3 MHz

2.18.1 Service designation: APCH/P CLASS C
2.18.3 Service designation: 323.2 MHz

2.18.1 Service designation: APCH/S DEP/S CLASS C
2.18.3 Service designation: 327.1 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 348.6 MHz

2.18.1 Service designation: ANG–OPS
2.18.3 Service designation: 349.7 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 351.8 MHz

2.18.1 Service designation: NG OPS
2.18.3 Service designation: 41.9 MHz

2.18.1 Service designation: ANG OPS
2.18.3 Service designation: 138.55 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS C IC
2.18.3 Service designation: 290.55 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS C IC
2.18.3 Service designation: 269.325 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS C IC
2.18.3 Service designation: 281.5 MHz

AD 2.19 Radio navigation and landing aids

2.19.1 ILS type: Glide Slope for runway 33. Magnetic variation: 14W
2.19.2 ILS identification: IKX
2.19.5 Coordinates: 41–55–54.77N / 72–40–38.59W
2.19.6 Site elevation: 167 ft

2.19.1 ILS type: DME for runway 33. Magnetic variation: 14W
2.19.2 ILS identification: IKX
2.19.5 Coordinates: 41–56–37.97N / 72–41–47.43W
2.19.6 Site elevation: 183 ft

2.19.1 ILS type: Outer Marker for runway 33. Magnetic variation: 14W
2.19.2 ILS identification: IKX
2.19.5 Coordinates: 41–52–13.60N / 72–35–40.58W
2.19.6 Site elevation: 125 ft

2.19.1 ILS type: Localizer for runway 33. Magnetic variation: 14W
2.19.2 ILS identification: IKX
2.19.5 Coordinates: 41–56–40.16N / 72–41–46.01W
2.19.6 Site elevation: 168 ft

2.19.1 ILS type: Localizer for runway 06. Magnetic variation: 14W
2.19.2 ILS identification: BDL
2.19.5 Coordinates: 41–57–17.85N / 72–39–59.41W
2.19.6 Site elevation: 149 ft

2.19.1 ILS type: DME for runway 06. Magnetic variation: 14W
2.19.2 ILS identification: BDL
2.19.5 Coordinates: 41–57–17.28N / 72–39–56.50W
2.19.6 Site elevation: 164 ft

2.19.1 ILS type: Glide Slope for runway 06. Magnetic variation: 14W
2.19.2 ILS identification: BDL
2.19.5 Coordinates: 41–56–00.00N / 72–41–41.89W
2.19.6 Site elevation: 169 ft

2.19.1 ILS type: Inner Marker for runway 06. Magnetic variation: 14W
2.19.2 ILS identification: BDL

2.19.5 Coordinates: 41–55–49.46N / 72–41–56.05W
2.19.6 Site elevation: 173 ft

2.19.1 ILS type: Outer Marker for runway 06. Magnetic variation: 14W
2.19.2 ILS identification: BDL
2.19.5 Coordinates: 41–52–38.58N / 72–45–58.34W
2.19.6 Site elevation: ft

2.19.1 ILS type: Middle Marker for runway 06. Magnetic variation: 14W
2.19.2 ILS identification: BDL
2.19.5 Coordinates: 41–55–35.77N / 72–42–13.17W
2.19.6 Site elevation: 166 ft

2.19.1 ILS type: Localizer for runway 24. Magnetic variation: 14W
2.19.2 ILS identification: MYQ
2.19.5 Coordinates: 41–55–47.66N / 72–41–57.63W
2.19.6 Site elevation: 170 ft

2.19.1 ILS type: DME for runway 24. Magnetic variation: 14W
2.19.2 ILS identification: MYQ
2.19.5 Coordinates: 41–57–17.28N / 72–39–56.50W
2.19.6 Site elevation: 164 ft

2.19.1 ILS type: Outer Marker for runway 24. Magnetic variation: 14W
2.19.2 ILS identification: MYQ
2.19.5 Coordinates: 42–01–16.18N / 72–34–53.96W
2.19.6 Site elevation: 114 ft

2.19.1 ILS type: Inner Marker for runway 24. Magnetic variation: 14W
2.19.2 ILS identification: MYQ
2.19.5 Coordinates: 41–57–12.08N / 72–40–00.00W
2.19.6 Site elevation: 141 ft

2.19.1 ILS type: Glide Slope for runway 24. Magnetic variation: 14W
2.19.2 ILS identification: MYQ
2.19.5 Coordinates: 41–56–53.58N / 72–40–25.96W
2.19.6 Site elevation: 157 ft

2.19.1 ILS type: Middle Marker for runway 24. Magnetic variation: 14W
2.19.2 ILS identification: MYQ
2.19.5 Coordinates: 41–57–20.88N / 72–39–55.38W
2.19.6 Site elevation: 159 ft

General Remarks:
NUMEROUS BIRDS FREQUENTLY ON OR IN VICINITY OF AIRPORT.

OPERATIONS CONTACT AUTOVON 636–8385; COMMERCIAL 860–627–3001

ANG – OPR 0700–1530 TUES/FRI/SAT; 0700–2300 WED/THUR.

ANG – PRIOR PERMISSION REQUIRED V220–2356.

NO DE–ICING AVAILABLE AT ANG.

TAXIWAY J CLOSED BETWEEN S & R TO AIRCRAFT WITH WINGSPANS IN EXCESS OF 170 FT.

NO TRAINING FLIGHTS; NO PRACTICE APPROACHES; NO TOUCH AND GO LANDING BETWEEN: 2300 – 0700 MON THRU SAT & 2300 – 1200 SUN.

(E117) CT ANG AND U.S. ARMY NATIONAL GUARD.

ASDE–X SURVEILLANCE SYSTEM IN USE. PILOTS SHOULD OPERATE TRANSPONDERS WITH MODE 'C' ON ALL TAXIWAYS & RUNWAYS.

RUNWAY 01/19 OPEN FOR AIRCRAFT WITH WINGSPAN LESS THAN 79 FT.

RUNWAY 01 IS CLOSED FOR ARRS TO ALL FIXED WING AIRCRAFT.

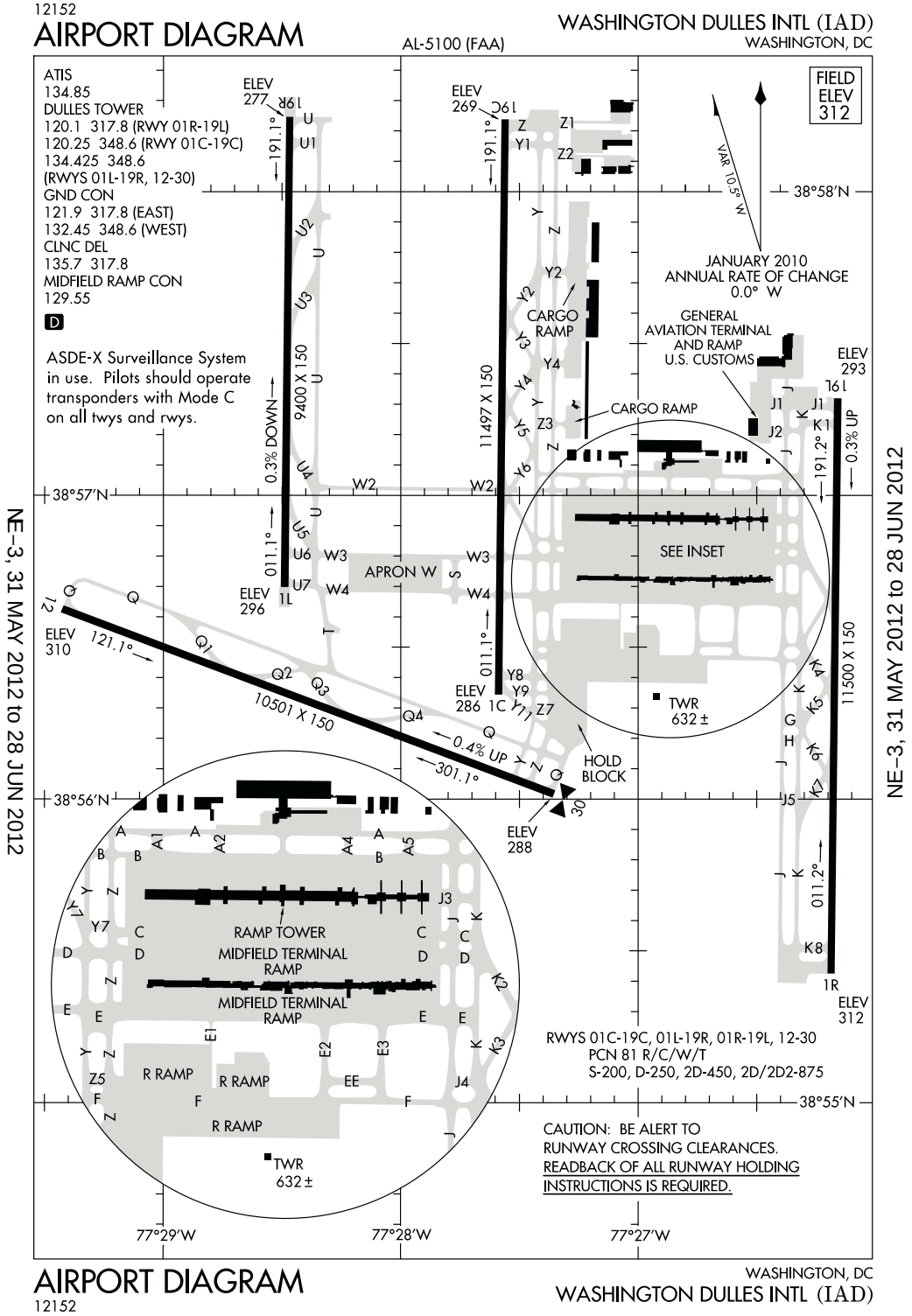
RUNWAY 19 CLOSED FOR DEPS TO ALL FIXED WING AIRCRAFT.

RAMP AIR NATIONAL GUARD RAMP PERSONNEL AND EQUIPMENT WORKING BARRICADED ADJACENT NE SIDE.

ANG: NONSTANDARD YELLOW AEROSPACE GROUND EQUIPMENT AND FIRE BOTTLE BOXES PAINTED ON ANG RAMP.

ARRANGE − DSN 636−7519/7520. C860−292−4519/4520.

Washington, District of Columbia
Washington Dulles International
ICAO Identifier KIAD



Washington, DC
Washington Dulles Intl
ICAO Identifier KIAD

AD 2.2 Aerodrome geographical and administrative data
2.2.1 Reference Point: 38–56–50.80N / 77–27–35.80W
2.2.2 From City: 20 Miles W Of Washington, VA
2.2.3 Elevation: 312 ft
2.2.5 Magnetic variation: 10W (2000)
2.2.6 Airport Contact: Christopher Browne
1 SAARINEN CIRCLE
Dulles, VA 20166
(703–572–2730)
2.2.7 Traffic: IFR/VFR
2.2.8 Remarks: Located In Both Fairfax County Va And Loudoun County Va.

AD 2.3 Operational hours
2.3.1 – 2.3.11: ALL Months, ALL Days, ALL Hours

AD 2.4 Handling services and facilities
2.4.1 Cargo handling facilities: No
2.4.2 Fuel types: 100LL,A
2.4.4 De–icing facilities: None
2.4.5 Hangar space: Yes
2.4.6 Repair facilities: Major

AD 2.6 Rescue and firefighting services
2.6.1 Aerodrome category for firefighting: ARFF Index I E certified on 5/1/1973

AD 2.10 Aerodrome obstacles
2.10.1.a. Runway designation: 01R
2.10.1.b Type of obstacle: Bldg (16 ft). Lighted
2.10.1.c Location of obstacle: 200 ft from Centerline

2.10.1.a. Runway designation: 19L
2.10.1.b Type of obstacle: Pole (38 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 720 ft from Centerline

AD 2.12 Runway physical characteristics
2.12.1 Designation: 12
2.12.2 True Bearing: 111
2.12.3 Dimensions: 10501 ft x 150 ft
2.12.4 PCN: 81 R/C/W/T
2.12.5 Coordinates: 38–56–37.58N / 77–29–25.60W
2.12.6 Threshold elevation: 310 ft
2.12.6 Touchdown zone elevation: 310 ft

2.12.1 Designation: 30
2.12.2 True Bearing: 291
2.12.3 Dimensions: 10501 ft x 150 ft
2.12.4 PCN: 81 R/C/W/T
2.12.5 Coordinates: 38–56–00.00N / 77–27–21.23W
2.12.6 Threshold elevation: 288 ft
2.12.6 Touchdown zone elevation: 288 ft
2.12.7 Slope: 0.4UP

2.12.1 Designation: 01L
2.12.2 True Bearing: 1
2.12.3 Dimensions: 9400 ft x 150 ft
2.12.4 PCN: 81 R/C/W/T
2.12.5 Coordinates: 38–56–41.88N / 77–28–29.32W
2.12.6 Threshold elevation: 296 ft
2.12.6 Touchdown zone elevation: 296 ft
2.12.7 Slope: 0.3DOWN

2.12.1 Designation: 19R
2.12.2 True Bearing: 181
2.12.3 Dimensions: 9400 ft x 150 ft
2.12.4 PCN: 81 R/C/W/T
2.12.5 Coordinates: 38–58–14.78N / 77–28–27.98W
2.12.6 Threshold elevation: 277 ft
2.12.6 Touchdown zone elevation: 278 ft

2.12.1 Designation: 01C
2.12.2 True Bearing: 1
2.12.3 Dimensions: 11497 ft x 150 ft
2.12.4 PCN: 81 R/C/W/T
2.12.5 Coordinates: 38–56–20.66N / 77–27–35.21W
2.12.6 Threshold elevation: 286 ft
2.12.6 Touchdown zone elevation: 286 ft

2.12.1 Designation: 19C
2.12.2 True Bearing: 181
2.12.3 Dimensions: 11497 ft x 150 ft
2.12.4 PCN: 81 R/C/W/T
2.12.5 Coordinates: 38–58–14.29N / 77–27–33.56W
2.12.6 Threshold elevation: 269 ft
2.12.6 Touchdown zone elevation: 271 ft

2.12.1 Designation: 01R
2.12.2 True Bearing: 1
2.12.3 Dimensions: 11500 ft x 150 ft
2.12.4 PCN: 81 R/C/W/T
2.12.5 Coordinates: 38–55–25.53N / 77–26–11.22W
2.12.6 Threshold elevation: 312 ft
2.12.6 Touchdown zone elevation: 312 ft
2.12.7 Slope: 0.3DOWN

2.12.1 Designation: 19L
2.12.2 True Bearing: 181
2.12.3 Dimensions: 11500 ft x 150 ft
2.12.4 PCN: 81 R/C/W/T
2.12.5 Coordinates: 38–57–19.19N / 77–26–00.00W
2.12.6 Threshold elevation: 293 ft
2.12.6 Touchdown zone elevation: 302 ft
2.12.7 Slope: 0.3UP

AD 2.13 Declared distances
2.13.1 Designation: 12
2.13.2 Takeoff run available: 10501
2.13.3 Takeoff distance available: 10501
2.13.4 Accelerate–stop distance available: 10501
2.13.5 Landing distance available: 10501

2.13.1 Designation: 30
2.13.2 Takeoff run available: 10501
2.13.3 Takeoff distance available: 10501
2.13.4 Accelerate–stop distance available: 10501
2.13.5 Landing distance available: 10501

2.13.1 Designation: 01L
2.13.2 Takeoff run available: 9400
2.13.3 Takeoff distance available: 9400
2.13.4 Accelerate–stop distance available: 9400
2.13.5 Landing distance available: 9400

2.13.1 Designation: 19R
2.13.2 Takeoff run available: 9400
2.13.3 Takeoff distance available: 9400
2.13.4 Accelerate–stop distance available: 9400
2.13.5 Landing distance available: 9400

2.13.1 Designation: 01C
2.13.2 Takeoff run available: 11497
2.13.3 Takeoff distance available: 11497
2.13.4 Accelerate–stop distance available: 11497
2.13.5 Landing distance available: 11497

2.13.1 Designation: 19C
2.13.2 Takeoff run available: 11497
2.13.3 Takeoff distance available: 11497
2.13.4 Accelerate–stop distance available: 11497
2.13.5 Landing distance available: 11497

2.13.1 Designation: 01R
2.13.2 Takeoff run available: 11500
2.13.3 Takeoff distance available: 11500
2.13.4 Accelerate–stop distance available: 11500
2.13.5 Landing distance available: 11500

2.13.1 Designation: 19L
2.13.2 Takeoff run available: 11500
2.13.3 Takeoff distance available: 11500
2.13.4 Accelerate–stop distance available: 11500
2.13.5 Landing distance available: 11500

AD 2.14 Approach and runway lighting
2.14.1 Designation: 12
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on right

2.14.1 Designation: 30
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 01L
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 19R
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 01C
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 19C

2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration
2.14.4 Visual approach slope indicator system: 4–light PAPI on right

2.14.1 Designation: 01R
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration
2.14.4 Visual approach slope indicator system: 4–light PAPI on right

2.14.1 Designation: 19L
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

AD 2.18 Air traffic services communication facilities
2.18.1 Service designation: LCL/P IC
2.18.3 Service designation: 120.1 MHz

2.18.1 Service designation: EMERG
2.18.3 Service designation: 121.5 MHz

2.18.1 Service designation: GND/P IC
2.18.3 Service designation: 121.9 MHz

2.18.1 Service designation: AS ASGND
2.18.3 Service designation: 125.8 MHz

2.18.1 Service designation: AS ASGND
2.18.3 Service designation: 128.42 MHz

2.18.1 Service designation: MIDFLD RAMP CTL
2.18.3 Service designation: 129.55 MHz

2.18.1 Service designation: GND/P IC
2.18.3 Service designation: 132.45 MHz

2.18.1 Service designation: AS ASGND
2.18.3 Service designation: 132.45 MHz

2.18.1 Service designation: D–ATIS
2.18.3 Service designation: 134.85 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: CD/P
2.18.3 Service designation: 135.7 MHz

2.18.1 Service designation: EMERG
2.18.3 Service designation: 243 MHz

2.18.1 Service designation: LCL/P IC
2.18.3 Service designation: 348.6 MHz

2.18.1 Service designation: GND/P IC
2.18.3 Service designation: 348.6 MHz

2.18.1 Service designation: LCL/P IC
2.18.3 Service designation: 348.6 MHz

2.18.1 Service designation: GND/P IC
2.18.3 Service designation: 317.8 MHz

2.18.1 Service designation: LCL/P IC
2.18.3 Service designation: 317.8 MHz

2.18.1 Service designation: CD/P
2.18.3 Service designation: 317.8 MHz

2.18.1 Service designation: LCL/P IC
2.18.3 Service designation: 120.25 MHz

2.18.1 Service designation: LCL/P IC
2.18.3 Service designation: 134.425 MHz

AD 2.19 Radio navigation and landing aids
2.19.1 ILS type: Localizer for runway 12. Magnetic variation: 10W
2.19.2 ILS identification: AJU
2.19.5 Coordinates: 38–55–57.51N / 77–27–00.00W
2.19.6 Site elevation: 281 ft

2.19.1 ILS type: Glide Slope for runway 12. Magnetic variation: 10W
2.19.2 ILS identification: AJU
2.19.5 Coordinates: 38–56–30.40N / 77–29–15.54W
2.19.6 Site elevation: 304 ft

2.19.1 ILS type: Outer Marker for runway 12. Magnetic variation: 10W
2.19.2 ILS identification: AJU
2.19.5 Coordinates: 38–58–35.61N / 77–36–00.00W
2.19.6 Site elevation: 382 ft

2.19.1 ILS type: Middle Marker for runway 12. Magnetic variation: 10W

2.19.2 ILS identification: AJU
2.19.5 Coordinates: 38–56–47.20N / 77–29–58.37W
2.19.6 Site elevation: 319 ft

2.19.1 ILS type: Inner Marker for runway 01L. Magnetic variation: 10W
2.19.2 ILS identification: OIU
2.19.5 Coordinates: 38–56–33.39N / 77–28–29.45W
2.19.6 Site elevation: 275 ft

2.19.1 ILS type: Localizer for runway 01L. Magnetic variation: 10W
2.19.2 ILS identification: OIU
2.19.5 Coordinates: 38–58–24.77N / 77–28–27.84W
2.19.6 Site elevation: 277 ft

2.19.1 ILS type: Glide Slope for runway 01L. Magnetic variation: 10W
2.19.2 ILS identification: OIU
2.19.5 Coordinates: 38–56–52.87N / 77–28–34.35W
2.19.6 Site elevation: 288 ft

2.19.1 ILS type: DME for runway 01L. Magnetic variation: 10W
2.19.2 ILS identification: OIU
2.19.5 Coordinates: 38–58–25.08N / 77–28–31.16W
2.19.6 Site elevation: 279 ft

2.19.1 ILS type: Inner Marker for runway 19R. Magnetic variation: 10W
2.19.2 ILS identification: ISU
2.19.5 Coordinates: 38–58–23.51N / 77–28–27.86W
2.19.6 Site elevation: 276 ft

2.19.1 ILS type: Localizer for runway 19R. Magnetic variation: 10W
2.19.2 ILS identification: ISU
2.19.5 Coordinates: 38–56–31.90N / 77–28–29.46W
2.19.6 Site elevation: 298 ft

2.19.1 ILS type: Glide Slope for runway 19R. Magnetic variation: 10W
2.19.2 ILS identification: ISU
2.19.5 Coordinates: 38–58–00.00N / 77–28–33.32W
2.19.6 Site elevation: 272 ft

2.19.1 ILS type: DME for runway 19R. Magnetic variation: 10W
2.19.2 ILS identification: ISU
2.19.5 Coordinates: 38–58–25.08N / 77–28–31.16W
2.19.6 Site elevation: 279 ft

2.19.1 ILS type: Glide Slope for runway 19C. Magnetic variation: 10W
2.19.2 ILS identification: DLX
2.19.5 Coordinates: 38–58–00.00N / 77–27–38.00W
2.19.6 Site elevation: 265 ft

2.19.1 ILS type: Middle Marker for runway 19C. Magnetic variation: 10W
2.19.2 ILS identification: DLX
2.19.5 Coordinates: 38–58–46.70N / 77–27–33.10W
2.19.6 Site elevation: ft

2.19.1 ILS type: Outer Marker for runway 19C. Magnetic variation: 10W
2.19.2 ILS identification: DLX
2.19.5 Coordinates: 39–01–50.27N / 77–27–29.64W
2.19.6 Site elevation: 234 ft

2.19.1 ILS type: Localizer for runway 19C. Magnetic variation: 10W
2.19.2 ILS identification: DLX
2.19.5 Coordinates: 38–56–14.61N / 77–27–35.29W
2.19.6 Site elevation: 284 ft

2.19.1 ILS type: Inner Marker for runway 19C. Magnetic variation: 10W
2.19.2 ILS identification: DLX
2.19.5 Coordinates: 38–58–22.94N / 77–27–33.42W
2.19.6 Site elevation: 263 ft

2.19.1 ILS type: Localizer for runway 01C. Magnetic variation: 10W
2.19.2 ILS identification: OSZ
2.19.5 Coordinates: 38–58–24.67N / 77–27–33.39W

2.19.6 Site elevation: 263 ft

2.19.1 ILS type: Outer Marker for runway 01C.
Magnetic variation: 10W
2.19.2 ILS identification: OSZ
2.19.5 Coordinates: 38–50–31.20N /
77–27–35.06W
2.19.6 Site elevation: 219 ft

2.19.1 ILS type: Glide Slope for runway 01C.
Magnetic variation: 10W
2.19.2 ILS identification: OSZ
2.19.5 Coordinates: 38–56–31.06N /
77–27–40.74W
2.19.6 Site elevation: 283 ft

2.19.1 ILS type: Middle Marker for runway 01C.
Magnetic variation: 10W
2.19.2 ILS identification: OSZ
2.19.5 Coordinates: 38–55–53.17N /
77–27–35.57W
2.19.6 Site elevation: 272 ft

2.19.1 ILS type: Localizer for runway 01R.
Magnetic variation: 10W
2.19.2 ILS identification: IAD
2.19.5 Coordinates: 38–57–30.87N /
77–26–00.00W
2.19.6 Site elevation: 302 ft

2.19.1 ILS type: Inner Marker for runway 01R.
Magnetic variation: 10W
2.19.2 ILS identification: IAD
2.19.5 Coordinates: 38–55–17.13N /
77–26–11.35W
2.19.6 Site elevation: 319 ft

2.19.1 ILS type: Middle Marker for runway 01R.
Magnetic variation: 10W
2.19.2 ILS identification: IAD
2.19.5 Coordinates: 38–54–53.77N /
77–26–11.67W
2.19.6 Site elevation: 317 ft

2.19.1 ILS type: DME for runway 01R. Magnetic variation: 10W
2.19.2 ILS identification: IAD
2.19.5 Coordinates: 38–55–11.08N /
77–26–00.00W
2.19.6 Site elevation: 314 ft

2.19.1 ILS type: Outer Marker for runway 01R.
Magnetic variation: 10W
2.19.2 ILS identification: IAD
2.19.5 Coordinates: 38–50–50.18N /
77–26–16.38W
2.19.6 Site elevation: 242 ft

2.19.1 ILS type: Glide Slope for runway 01R.
Magnetic variation: 10W
2.19.2 ILS identification: IAD
2.19.5 Coordinates: 38–55–35.85N /
77–26–00.00W
2.19.6 Site elevation: 307 ft

2.19.1 ILS type: Outer Marker for runway 19L.
Magnetic variation: 10W
2.19.2 ILS identification: SGC
2.19.5 Coordinates: 39–01–14.61N /
77–25–55.33W
2.19.6 Site elevation: ft

2.19.1 ILS type: DME for runway 19L. Magnetic variation: 10W
2.19.2 ILS identification: SGC
2.19.5 Coordinates: 38–55–11.08N /
77–26–00.00W
2.19.6 Site elevation: 314 ft

2.19.1 ILS type: Localizer for runway 19L.
Magnetic variation: 10W
2.19.2 ILS identification: SGC
2.19.5 Coordinates: 38–55–11.81N /
77–26–11.43W
2.19.6 Site elevation: 315 ft

2.19.1 ILS type: Glide Slope for runway 19L.
Magnetic variation: 10W
2.19.2 ILS identification: SGC
2.19.5 Coordinates: 38–57–00.00N /
77–26–00.00W
2.19.6 Site elevation: 291 ft

2.19.1 ILS type: Middle Marker for runway 19L.
Magnetic variation: 10W
2.19.2 ILS identification: SGC
2.19.5 Coordinates: 38–57–43.15N /
77–26–00.00W
2.19.6 Site elevation: ft

General Remarks:
ITINERANT AIRCRAFT CONTACT FBO ON 122.95 FOR SERVICES.

AIR CARRIER PUSH BACKS & POWER FROM ALL APRON POSITIONS REQUIRE CLEARANCE FROM MWAA RAMP TOWER.

DEER/LARGE FLOCKS OF BIRDS ON & IN THE VICINITY OF AIRPORT.

DURING PERIODS OF AIRCRAFT SATURATION LONG TERM PARKING MAY NOT BE AVAILABLE. SERVICES FOR FUEL AND GO ONLY WILL BE AVAILABLE.

FLIGHT TRAINING BETWEEN 2200–0700 IS PROHIBITED.

TAXILANE 'C' ACTIVE; PUSHBACK CLEARANCES ON NORTH SIDE OF MIDFIELD TERMINAL ARE ONTO TAXILANE 'D' ONLY UNLESS OTHERWISE AUTH.

PERSONNEL AND EQUIPMENT WORKING ADJACENT ALL RUNWAYS & TAXIWAYS INDEFINITELY.

ALL AIRCRAFT WITH WINGSPAN EXCEEDING 118 FT ARE RESTRICTED FROM USING TAXILANE A BETWEEN A1 & A5.

RUNUP BLOCKS FOR RUNWAY 30 DESIGNATED AS NON–MOVEMENT AREA.

ALL 180 DEGREE TURNS OUT OF APRON POSITIONS SHALL BE MADE USING MINIMUM POWER.

LANDING FEE. FLIGHT NOTIFICATION SERVICE (ADCUS) AVAILABLE. NOTE: SEE SPECIAL NOTICES ––CONTINUOUS POWER FACILITIES.

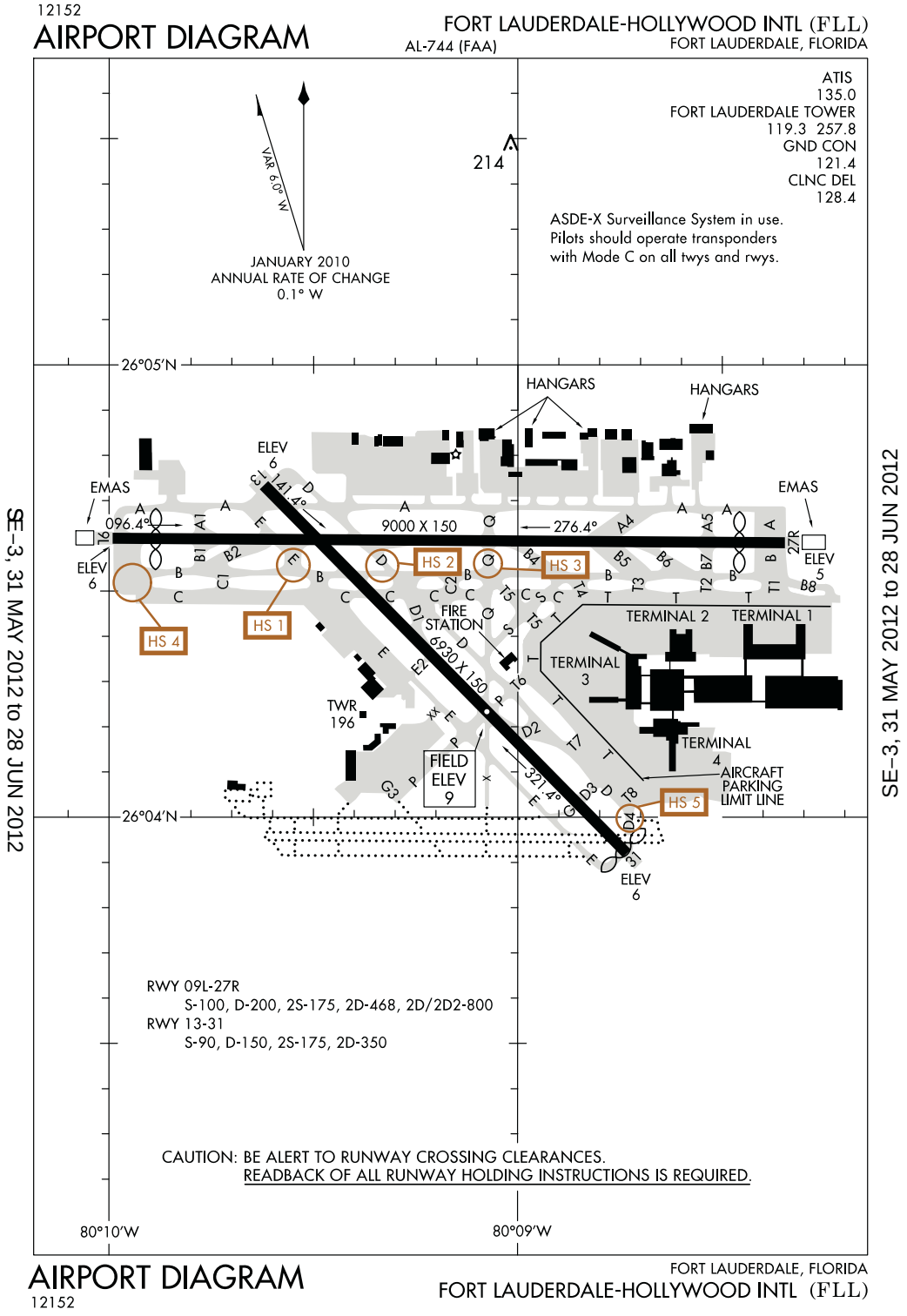
ASDE–X SURVEILLANCE SYSTEM IN USE: PIILOTS SHOULD OPERATE ADDED TRANSPONDERS WITH MODE C ON ALL TAXIWAYS AND RUNWAYS.

TAXIWAY E1 RESTRICTED TO AIRCRAFT WITH A WINGSPAN LESS THAN 79 FT.

B747–800 RESTRICTED TO MAXIMUM TAXI SPEED 17KTS (20MPH) ON TAXIWAY J.

ENGINE RUN–UPS BETWEEN 2200L & 0700L REQUIRE PRIOR APPROVAL FROM AIRPORT OPERATIONS.

Fort Lauderdale, Florida
Fort Lauderdale–Hollywood International
ICAO Identifier KFLL



Fort Lauderdale, FL
Fort Lauderdale/Hollywood Intl
ICAO Identifier KFLL

AD 2.2 Aerodrome geographical and administrative data
2.2.1 Reference Point: 26–04–21.35N / 80–09–00.00W
2.2.2 From City: 3 Miles SW Of Fort Lauderdale, FL
2.2.3 Elevation: 9 ft
2.2.5 Magnetic variation: 3W (1985)
2.2.6 Airport Contact: Kent George
100 AVIATION BLVD
Ft Lauderdale, FL 33315
(954–359–6100)
2.2.7 Traffic: IFR/VFR

AD 2.3 Operational hours
2.3.1 – 2.3.11: ALL Months, ALL Days, ALL Hours

AD 2.4 Handling services and facilities
2.4.1 Cargo handling facilities: No
2.4.2 Fuel types: 100LL,A
2.4.4 De–icing facilities: None
2.4.5 Hangar space: Yes
2.4.6 Repair facilities: Major

AD 2.6 Rescue and firefighting services
2.6.1 Aerodrome category for firefighting: ARFF Index I E certified on 4/25/2005

AD 2.10 Aerodrome obstacles
2.10.1.a. Runway designation: 09L
2.10.1.b Type of obstacle: Road (14 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 0 ft from Centerline

2.10.1.a. Runway designation: 27R
2.10.1.b Type of obstacle: Rr (33 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 530 ft from Centerline

2.10.1.a. Runway designation: 31
2.10.1.b Type of obstacle: Rr (49 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 10 ft from Centerline

AD 2.12 Runway physical characteristics
2.12.1 Designation: 09L
2.12.2 True Bearing: 90
2.12.3 Dimensions: 9000 ft x 150 ft
2.12.5 Coordinates: 26–04–37.02N / 80–09–59.54W
2.12.6 Threshold elevation: 6 ft
2.12.6 Touchdown zone elevation: 7 ft

2.12.1 Designation: 27R
2.12.2 True Bearing: 270
2.12.3 Dimensions: 9000 ft x 150 ft
2.12.5 Coordinates: 26–04–36.45N / 80–08–20.84W
2.12.6 Threshold elevation: 5 ft
2.12.6 Touchdown zone elevation: 7 ft

2.12.1 Designation: 13
2.12.2 True Bearing: 135
2.12.3 Dimensions: 6930 ft x 150 ft
2.12.5 Coordinates: 26–04–44.06N / 80–09–37.40W
2.12.6 Threshold elevation: 6 ft
2.12.6 Touchdown zone elevation: 7 ft

2.12.1 Designation: 31
2.12.2 True Bearing: 315
2.12.3 Dimensions: 6930 ft x 150 ft
2.12.5 Coordinates: 26–03–55.21N / 80–08–44.01W
2.12.6 Threshold elevation: 6 ft
2.12.6 Touchdown zone elevation: 9 ft

2.12.1 Designation: 09R
2.12.2 True Bearing: 90
2.12.3 Dimensions: 5276 ft x 100 ft
2.12.5 Coordinates: 26–03–57.51N / 80–09–37.15W

2.12.1 Designation: 27L
2.12.2 True Bearing: 270
2.12.3 Dimensions: 5276 ft x 100 ft
2.12.5 Coordinates: 26–03–57.16N / 80–08–39.29W

AD 2.13 Declared distances
2.13.1 Designation: 09L
2.13.2 Takeoff run available: 9000
2.13.3 Takeoff distance available: 9000
2.13.4 Accelerate–stop distance available: 9000
2.13.5 Landing distance available: 8423

2.13.1 Designation: 27R
2.13.2 Takeoff run available: 9000
2.13.3 Takeoff distance available: 9000
2.13.4 Accelerate–stop distance available: 9000
2.13.5 Landing distance available: 8396

2.13.1 Designation: 13
2.13.2 Takeoff run available: 6930
2.13.3 Takeoff distance available: 6930
2.13.4 Accelerate–stop distance available: 6930
2.13.5 Landing distance available: 6930

2.13.1 Designation: 31
2.13.2 Takeoff run available: 6930
2.13.3 Takeoff distance available: 6930
2.13.4 Accelerate–stop distance available: 6930
2.13.5 Landing distance available: 6860

AD 2.14 Approach and runway lighting
2.14.1 Designation: 09L
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 27R
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 13
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 31
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

AD 2.18 Air traffic services communication facilities
2.18.1 Service designation: LCL/P
2.18.3 Service designation: 119.3 MHz

2.18.1 Service designation: LCL/S
2.18.3 Service designation: 120.2 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 121.4 MHz

2.18.1 Service designation: GND/ALTERNATE
2.18.3 Service designation: 121.7 MHz

2.18.1 Service designation: CD/P PTC
2.18.3 Service designation: 128.4 MHz

2.18.1 Service designation: D–ATIS
2.18.3 Service designation: 135 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 257.8 MHz

2.18.1 Service designation: RAMP CTL
2.18.3 Service designation: 118.175 MHz

AD 2.19 Radio navigation and landing aids
2.19.1 ILS type: Localizer for runway 09L. Magnetic variation: 3W
2.19.2 ILS identification: LHI
2.19.5 Coordinates: 26–04–36.41N / 80–08–13.15W
2.19.6 Site elevation: 4 ft

2.19.1 ILS type: DME for runway 09L. Magnetic variation: 3W
2.19.2 ILS identification: LHI
2.19.5 Coordinates: 26–04–40.18N / 80–08–15.67W
2.19.6 Site elevation: 11 ft

2.19.1 ILS type: Glide Slope for runway 09L. Magnetic variation: 3W
2.19.2 ILS identification: LHI
2.19.5 Coordinates: 26–04–39.64N / 80–09–42.34W
2.19.6 Site elevation: 3 ft

2.19.1 ILS type: Middle Marker for runway 09L. Magnetic variation: 3W
2.19.2 ILS identification: LHI
2.19.5 Coordinates: 26–04–37.62N / 80–10–35.57W
2.19.6 Site elevation: ft

2.19.1 ILS type: Localizer for runway 27R. Magnetic variation: 3W
2.19.2 ILS identification: UDL
2.19.5 Coordinates: 26–04–37.04N / 80–10–00.00W
2.19.6 Site elevation: 5 ft

2.19.1 ILS type: DME for runway 27R. Magnetic variation: 3W

2.19.2 ILS identification: UDL
2.19.5 Coordinates: 26–04–34.53N / 80–10–00.00W
2.19.6 Site elevation: 11 ft

2.19.1 ILS type: Glide Slope for runway 27R. Magnetic variation: 3W
2.19.2 ILS identification: UDL
2.19.5 Coordinates: 26–04–39.63N / 80–08–39.07W
2.19.6 Site elevation: 5 ft

2.19.1 ILS type: Middle Marker for runway 27R. Magnetic variation: 3W
2.19.2 ILS identification: UDL
2.19.5 Coordinates: 26–04–36.29N / 80–07–54.09W
2.19.6 Site elevation: 10 ft

2.19.1 ILS type: Localizer for runway 13. Magnetic variation: 3W
2.19.2 ILS identification: LID
2.19.5 Coordinates: 26–03–50.87N / 80–08–39.27W
2.19.6 Site elevation: 5 ft

General Remarks:
CLOSED TO AIR CARRIER TRAINING. CLOSED TO LARGE AIRCRAFT TRAINING OVER 58000 LBS MAX CERTIFIED GROSS TAKE–OFF WEIGHT. CLOSED TO ALL TRAINING 2300–0700.

NOISE ABATEMENT IN EFFECT CONTACT AIRPORT NOISE ABATEMENT OFFICE–954–359–6181 FOR DETAILS.

JET RUNUPS PROHIBITED 2300–0700.

ALL RUNWAYS ARE NOISE SENSITIVE.

FLOCKS OF BIRDS ON AND IN THE VICINITY OF THE AIRPORT.

ALL WIDE BODY TYPE AIRCRAFT DEPARTING RUNWAY 9L SHOULD FOLLOW TAXIWAY CENTERLINE INTO POSITION ON RUNWAY.

PRIOR PERMISSION REQUIRED FOR AIRCRAFT WITH EXPLOSIVES.

AIRCRAFT WITH WINGSPANS GREATER THAN 112 FT MAY UTILIZE TAXIWAY ’E’ BETWEEN TAXIWAYS ’C’/’P’ BY PRIOR PERMISSION REQUIRED ONLY.

ARR AIRCRAFT FROM THE NORTH MAINTAIN 6000 FT UNTIL ABEAM RUNWAY 09L ON DOWNWIND.

ARR AIRCRAFT FROM ’N’ & ’W’ MAINTAIN 6000 FT UNTIL ABEAM RUNWAY 27R ON DOWNWIND.

NO VFR APPROACHES OR BASE LEGS UNTIL OFFSHORE.

TAXIWAY B8 CLOSED TO AIRCRAFT WITH WINGSPAN GREATER THAN 126 FT AND TAIL HEIGHT GREATER THAN 46 FT.

AIR CARRIER AIRCRAFT USE RAMP PUSH BACK PROCEDURES AS PRESCRIBED BY AIRPORT OPERATIONS.

EAST SIDE OF CONCOURSE B AVAILBLE ONLY TO AIRCRAFT WITH A WINGSPAN OF LESS THAN 124.9 FT.

AIRCRAFT OPERATING FROM TERMINAL 1, 2 AND GATES E1, E5, E7, E9, E10 AT TERMINAL 3 MUST CONTACT RAMP CONTROL. RAMP CONTROL EFFECTIVE 0600–2200.

ASDE−X SURVEILLANCE SYSTEM IN USE: PILOTS SHOULD OPERATE TRANSPONDERS WITH MODE ’C’ ON ALL TAXIWAYS AND RUNWAYS.

CONCENTRATION OF BIRDS BELOW 500 FT, 2.0 NAUTICAL MILE WEST OF THE APPROACH ENDS OF RUNWAY 9L.

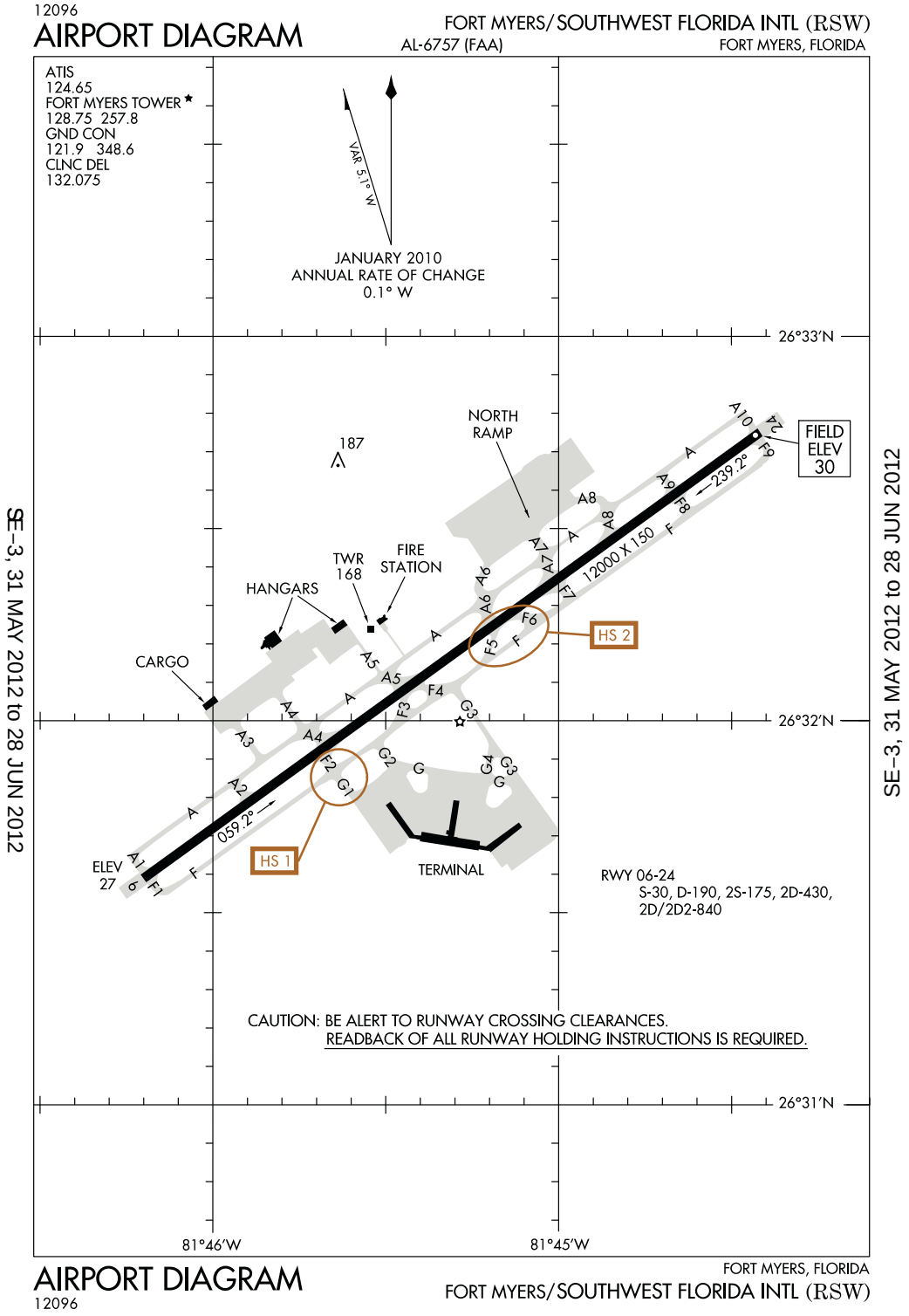
TURBULENCE BELOW 1000 FT OVER LANDFILL LOCATED 2NM W, AND OVER ELECTRIC POWER PLANT LOCATED 1 1/4 NAUTICAL MILE ENE.

SURFACE MOUNTED CENTERLINE REFLECTORS HAVE BEEN ADDED TO HOTSPOTS 4 AND 5.

TAXIWAY E AND G INTERSECTION REFLECTORS INSTALLED FOR RUNWAY 13/31 LEAD IN LINES. TAXIWAY B AND C CENTERLINE REFLECTORS INSTALLED APPROACH END RUNWAY 9L.

RUNWAY 09R/27L CLOSED IDEFINITELY FOR CONSTRUCTION.

Fort Myers, Florida
Southwest Florida International
ICAO Identifier KRSW



Fort Myers, FL
Southwest Florida Intl
ICAO Identifier KRSW

AD 2.2 Aerodrome geographical and administrative data
2.2.1 Reference Point: 26−32−10.20N / 81−45−18.60W
2.2.2 From City: 10 Miles SE Of Fort Myers, FL
2.2.3 Elevation: 30 ft
2.2.5 Magnetic variation: 4W (2000)
2.2.6 Airport Contact: Robert M. Ball
11000 TERMINAL ACCESS RD.
Fort Myers, FL 33913
(239−−590−4800)
2.2.7 Traffic: IFR/VFR

AD 2.3 Operational hours
2.3.1 − 2.3.11: ALL Months, ALL Days, ALL Hours

AD 2.4 Handling services and facilities
2.4.1 Cargo handling facilities: No
2.4.2 Fuel types: 100LL,A
2.4.4 De−icing facilities: None
2.4.5 Hangar space: Yes
2.4.6 Repair facilities: Major

AD 2.6 Rescue and firefighting services
2.6.1 Aerodrome category for firefighting: ARFF Index I D certified on 5/1/1983
2.6.4 Remarks: Closed To Unscheduled Aircraft 0 Operations With More Than 30 Passenger Seats Except Prior Permission Required Call Airport Manager (239) 590−4810.

AD 2.12 Runway physical characteristics
2.12.1 Designation: 06
2.12.2 True Bearing: 54
2.12.3 Dimensions: 12000 ft x 150 ft
2.12.5 Coordinates: 26−31−35.35N / 81−46−12.07W
2.12.6 Threshold elevation: 26 ft
2.12.6 Touchdown zone elevation: 27 ft

2.12.1 Designation: 24
2.12.2 True Bearing: 234
2.12.3 Dimensions: 12000 ft x 150 ft
2.12.5 Coordinates: 26−32−45.02N / 81−44−25.03W
2.12.6 Threshold elevation: 30 ft
2.12.6 Touchdown zone elevation: 30 ft

AD 2.14 Approach and runway lighting
2.14.1 Designation: 06
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4−box VASI on left

2.14.1 Designation: 24
2.14.4 Visual approach slope indicator system: 4−light PAPI on left

AD 2.18 Air traffic services communication facilities
2.18.1 Service designation: APCH/P DEP/P CLASS C
2.18.3 Service designation: 119.75 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 121.9 MHz

2.18.1 Service designation: ATIS
2.18.3 Service designation: 124.65 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: APCH/P DEP/P CLASS C
2.18.3 Service designation: 125.15 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS C IC
2.18.3 Service designation: 126.8 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 128.75 MHz

2.18.1 Service designation: CD/P
2.18.3 Service designation: 132.075 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 257.8 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS C
2.18.3 Service designation: 306.2 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS C
2.18.3 Service designation: 327.8 MHz

2.18.1 Service designation: GND/P

2.18.3 Service designation: 348.6 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS C IC
2.18.3 Service designation: 343.75 MHz

AD 2.19 Radio navigation and landing aids

2.19.1 ILS type: Glide Slope for runway 06. Magnetic variation: 4W
2.19.2 ILS identification: RSW
2.19.5 Coordinates: 26–31–43.49N / 81–46–00.00W
2.19.6 Site elevation: 26 ft

2.19.1 ILS type: Localizer for runway 06. Magnetic variation: 4W
2.19.2 ILS identification: RSW
2.19.5 Coordinates: 26–32–51.12N / 81–44–15.66W
2.19.6 Site elevation: 28 ft

2.19.1 ILS type: Outer Marker for runway 06. Magnetic variation: 4W
2.19.2 ILS identification: RSW
2.19.5 Coordinates: 26–29–00.00N / 81–50–00.00W
2.19.6 Site elevation: 10 ft

General Remarks:

PRIOR PERMISSION REQUIRED FOR TERMINAL RAMP CALL (239–590–4810)

AIR CARRIER PILOTS USE RAMP PROC AS PRESCRIBED BY AIRPORT OPERATIONS.

BIRDS & WILDLIFE ON AND IN THE VICINITY OF AIRPORT.

NO HELICOPTER OPERATIONS PERMITTED ON TERMINAL APRON.

LIGHTS ON PARALLEL ROAD & PARKING LOT NW OF RUNWAY 06/24 CAN BE MISTAKEN FOR THE RUNWAY & APPROACH ENVIRONMENT.

ATCT CLEARANCE REQUIRED PRIOR TO ENTERING TAXIWAY 'F'.

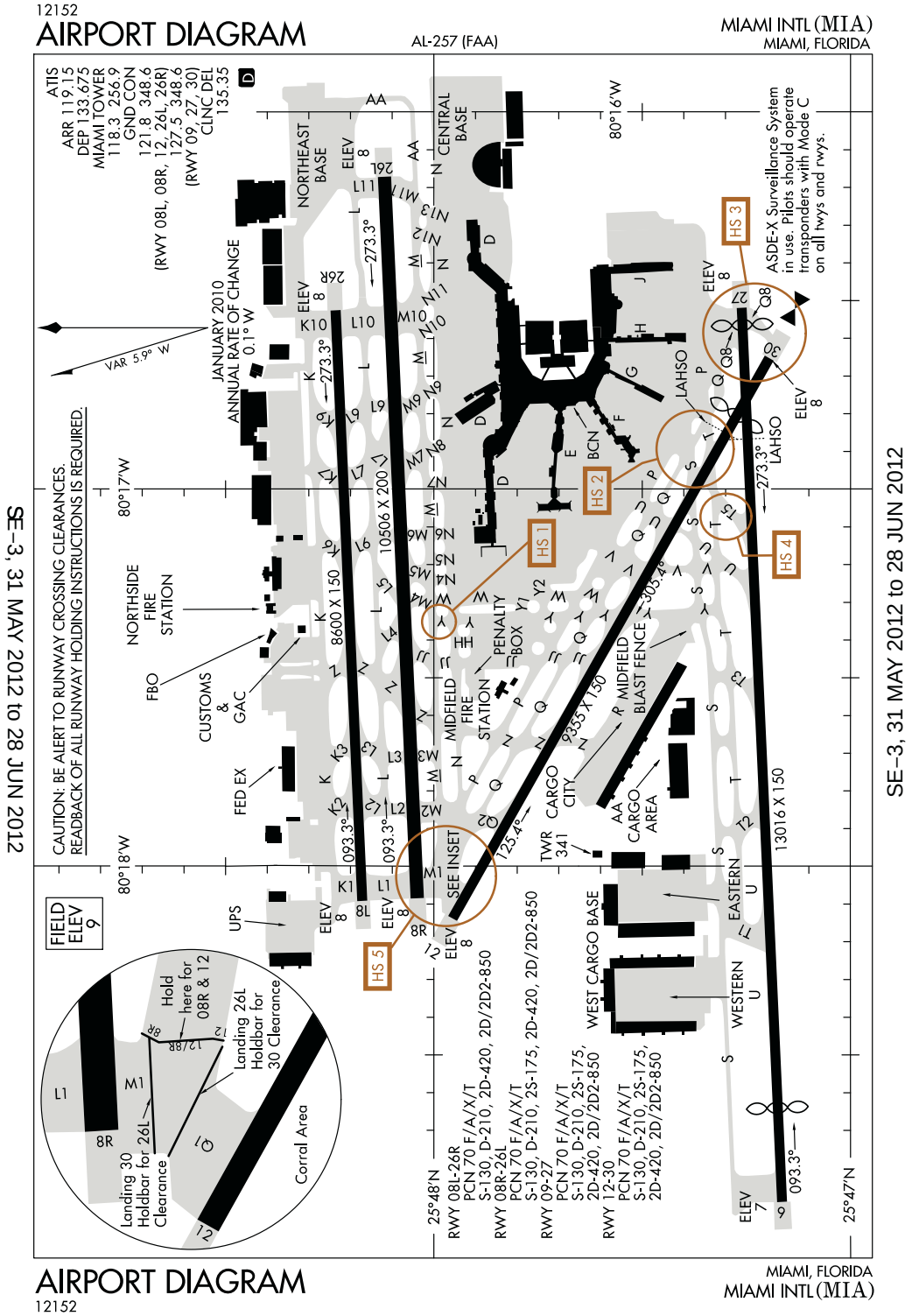
AIRPORT HAS RUNWAY USE PROGRAM. USE DISTANT NOISE ABATEMENT DEP PROFILE. VISUAL APPROACHES TO RUNWAY 06 W OF FORT MYERS BEACH ARE REQUESTED TO MAINTAIN 3000 FT UNTIL CROSSING FORT MYERS BEACH SHORELINE 12 NAUTICAL MILE SW OF AIRPORT. FOR NOISE ABATEMENT PROCEDURES CONTACT AIRPORT MANAGER 239–590–4810

CAUTION: OPEN BAGGAGE BAYS WITHIN TERMINAL AREA. AIRCREWS SHOULD USE MINIMUM THRUST SETTINGS IN THESE AREAS, ESPECIALLY DURING SINGLE ENGINE TAXI. CROSS–BLEED STARTS ONLY ALLOWED AFTER REACHING THE TUG RELEASE POINT.

DO NOT CONTACT GROUND CONTROL FOR PUSHBACK.

RUNWAY GUARD LIGHTS AT INTERSECTION OF TAXIWAY F2 AND RUNWAY 06/24.

Miami, Florida
Miami International
ICAO Identifier KMIA



Miami, FL
Miami Intl
ICAO Identifier KMIA

AD 2.2 Aerodrome geographical and administrative data
2.2.1 Reference Point: 25–47–43.30N / 80–17–24.40W
2.2.2 From City: 8 Miles NW Of Miami, FL
2.2.3 Elevation: 9 ft
2.2.5 Magnetic variation: 5W (2000)
2.2.6 Airport Contact: Jose Abreu, P.E.
PO BOX 025504
Miami, FL 33102
(305–876–7077)
2.2.7 Traffic: IFR/VFR

AD 2.3 Operational hours
2.3.1 – 2.3.11: ALL Months, ALL Days, ALL Hours

AD 2.4 Handling services and facilities
2.4.1 Cargo handling facilities: No
2.4.2 Fuel types: 100,A
2.4.4 De–icing facilities: None
2.4.5 Hangar space: Yes
2.4.6 Repair facilities: Major

AD 2.6 Rescue and firefighting services
2.6.1 Aerodrome category for firefighting: ARFF Index I E certified on 5/1/1973

AD 2.10 Aerodrome obstacles
2.10.1.a. Runway designation: 30
2.10.1.b Type of obstacle: Tree (52 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 300 ft from Centerline

2.10.1.a. Runway designation: 12
2.10.1.b Type of obstacle: Tower (40 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 200 ft from Centerline

2.10.1.a. Runway designation: 09
2.10.1.b Type of obstacle: Rr (23 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 580 ft from Centerline

AD 2.12 Runway physical characteristics
2.12.1 Designation: 12
2.12.2 True Bearing: 119
2.12.3 Dimensions: 9355 ft x 150 ft
2.12.4 PCN: 70 F/A/X/T
2.12.5 Coordinates: 25–47–57.43N / 80–18–00.00W
2.12.6 Threshold elevation: 8 ft
2.12.6 Touchdown zone elevation: 8 ft

2.12.1 Designation: 30
2.12.2 True Bearing: 299
2.12.3 Dimensions: 9355 ft x 150 ft
2.12.4 PCN: 70 F/A/X/T
2.12.5 Coordinates: 25–47–11.85N / 80–16–39.14W
2.12.6 Threshold elevation: 8 ft
2.12.6 Touchdown zone elevation: 8 ft

2.12.1 Designation: 08L
2.12.2 True Bearing: 87
2.12.3 Dimensions: 8600 ft x 150 ft
2.12.4 PCN: 70 F/A/X/T
2.12.5 Coordinates: 25–48–10.43N / 80–18–00.00W
2.12.6 Threshold elevation: 8 ft
2.12.6 Touchdown zone elevation: 8 ft

2.12.1 Designation: 26R
2.12.2 True Bearing: 267
2.12.3 Dimensions: 8600 ft x 150 ft
2.12.4 PCN: 70 F/A/X/T
2.12.5 Coordinates: 25–48–14.32N / 80–16–31.55W
2.12.6 Threshold elevation: 8 ft
2.12.6 Touchdown zone elevation: 8 ft

2.12.1 Designation: 08R
2.12.2 True Bearing: 87
2.12.3 Dimensions: 10506 ft x 200 ft
2.12.4 PCN: 70 F/A/X/T
2.12.5 Coordinates: 25–48–00.00N / 80–18–00.00W
2.12.6 Threshold elevation: 8 ft
2.12.6 Touchdown zone elevation: 8 ft

2.12.1 Designation: 26L
2.12.2 True Bearing: 267
2.12.3 Dimensions: 10506 ft x 200 ft
2.12.4 PCN: 70 F/A/X/T
2.12.5 Coordinates: 25–48–00.00N / 80–16–10.33W

2.12.6 Threshold elevation: 8 ft
2.12.6 Touchdown zone elevation: 8 ft

2.12.1 Designation: 09
2.12.2 True Bearing: 87
2.12.3 Dimensions: 13016 ft x 150 ft
2.12.4 PCN: 70 F/A/X/T
2.12.5 Coordinates: 25–47–00.00N / 80–18–53.42W
2.12.6 Threshold elevation: 7 ft
2.12.6 Touchdown zone elevation: 7 ft

2.12.1 Designation: 27
2.12.2 True Bearing: 267
2.12.3 Dimensions: 13016 ft x 150 ft
2.12.4 PCN: 70 F/A/X/T
2.12.5 Coordinates: 25–47–15.83N / 80–16–31.17W
2.12.6 Threshold elevation: 8 ft
2.12.6 Touchdown zone elevation: 8 ft

AD 2.13 Declared distances
2.13.1 Designation: 12
2.13.2 Takeoff run available: 9355
2.13.3 Takeoff distance available: 9355
2.13.4 Accelerate–stop distance available: 8579
2.13.5 Landing distance available: 8579

2.13.1 Designation: 30
2.13.2 Takeoff run available: 9355
2.13.3 Takeoff distance available: 9355
2.13.4 Accelerate–stop distance available: 8853
2.13.5 Landing distance available: 7913

2.13.1 Designation: 08L
2.13.2 Takeoff run available: 8600
2.13.3 Takeoff distance available: 8600
2.13.4 Accelerate–stop distance available: 8600
2.13.5 Landing distance available: 8600

2.13.1 Designation: 26R
2.13.2 Takeoff run available: 8600
2.13.3 Takeoff distance available: 8600
2.13.4 Accelerate–stop distance available: 8600
2.13.5 Landing distance available: 8600

2.13.1 Designation: 08R
2.13.2 Takeoff run available: 10506
2.13.3 Takeoff distance available: 10506
2.13.4 Accelerate–stop distance available: 10506
2.13.5 Landing distance available: 10506

2.13.1 Designation: 26L
2.13.2 Takeoff run available: 10506
2.13.3 Takeoff distance available: 10506
2.13.4 Accelerate–stop distance available: 10506
2.13.5 Landing distance available: 10506

2.13.1 Designation: 09
2.13.2 Takeoff run available: 13016
2.13.3 Takeoff distance available: 13016
2.13.4 Accelerate–stop distance available: 12755
2.13.5 Landing distance available: 11397

2.13.1 Designation: 27
2.13.2 Takeoff run available: 13016
2.13.3 Takeoff distance available: 13016
2.13.4 Accelerate–stop distance available: 13016
2.13.5 Landing distance available: 12755

AD 2.14 Approach and runway lighting
2.14.1 Designation: 12
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on right

2.14.1 Designation: 30
2.14.2 Approach lighting system: MALS: 1400 feet medium intensity approach lighting system
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 08L
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 26R
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 08R
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 26L
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 09
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights

2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 27
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

AD 2.18 Air traffic services communication facilities
2.18.1 Service designation: LCL/P IC
2.18.3 Service designation: 118.3 MHz

2.18.1 Service designation: D–ATIS
2.18.3 Service designation: 119.15 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: APCH/P DEP/P CLASS B
2.18.3 Service designation: 120.5 MHz

2.18.1 Service designation: EMERG
2.18.3 Service designation: 121.5 MHz

2.18.1 Service designation: GND/P IC
2.18.3 Service designation: 121.8 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 123.9 MHz

2.18.1 Service designation: RTIS(120–300 WITHIN 25 NM)
2.18.3 Service designation: 125.25 MHz

2.18.1 Service designation: DEP/P
2.18.3 Service designation: 125.5 MHz

2.18.1 Service designation: APCH/S
2.18.3 Service designation: 125.75 MHz

2.18.1 Service designation: GND/P IC
2.18.3 Service designation: 127.5 MHz

2.18.1 Service designation: CD/P IC
2.18.3 Service designation: 135.35 MHz

2.18.1 Service designation: LCL/P IC
2.18.3 Service designation: 256.9 MHz

2.18.1 Service designation: DEP/P
2.18.3 Service designation: 290.325 MHz

2.18.1 Service designation: APCH/S
2.18.3 Service designation: 263.025 MHz

2.18.1 Service designation: APCH/P CLASS B IC
2.18.3 Service designation: 322.3 MHz

2.18.1 Service designation: GND/P IC
2.18.3 Service designation: 348.6 MHz

2.18.1 Service designation: DEP/P
2.18.3 Service designation: 354.1 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS B
2.18.3 Service designation: 379.9 MHz

2.18.1 Service designation: D–ATIS
2.18.3 Service designation: 133.675 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: GATE HOLD
2.18.3 Service designation: 120.35 MHz

2.18.1 Service designation: APCH/P IC
2.18.3 Service designation: 124.85 MHz

2.18.1 Service designation: DEP/P IC
2.18.3 Service designation: 119.45 MHz

2.18.1 Service designation: LCL/P IC
2.18.3 Service designation: 118.3 MHz

2.18.1 Service designation: D–ATIS
2.18.3 Service designation: 119.15 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: APCH/P DEP/P CLASS B
2.18.3 Service designation: 120.5 MHz

2.18.1 Service designation: EMERG
2.18.3 Service designation: 121.5 MHz

2.18.1 Service designation: GND/P IC
2.18.3 Service designation: 121.8 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 123.9 MHz

2.18.1 Service designation: RTIS(120–300 WITHIN 25 NM)
2.18.3 Service designation: 125.25 MHz

2.18.1 Service designation: DEP/P
2.18.3 Service designation: 125.5 MHz

2.18.1 Service designation: APCH/S
2.18.3 Service designation: 125.75 MHz

2.18.1 Service designation: GND/P IC
2.18.3 Service designation: 127.5 MHz

2.18.1 Service designation: CD/P IC
2.18.3 Service designation: 135.35 MHz

2.18.1 Service designation: LCL/P IC
2.18.3 Service designation: 256.9 MHz

2.18.1 Service designation: DEP/P
2.18.3 Service designation: 290.325 MHz

2.18.1 Service designation: APCH/S
2.18.3 Service designation: 263.025 MHz

2.18.1 Service designation: APCH/P CLASS B IC
2.18.3 Service designation: 322.3 MHz

2.18.1 Service designation: GND/P IC
2.18.3 Service designation: 348.6 MHz

2.18.1 Service designation: DEP/P
2.18.3 Service designation: 354.1 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS B
2.18.3 Service designation: 379.9 MHz

2.18.1 Service designation: D–ATIS
2.18.3 Service designation: 133.675 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: GATE HOLD
2.18.3 Service designation: 120.35 MHz

2.18.1 Service designation: APCH/P IC
2.18.3 Service designation: 124.85 MHz

2.18.1 Service designation: DEP/P IC
2.18.3 Service designation: 119.45 MHz

AD 2.19 Radio navigation and landing aids

2.19.1 ILS type: Localizer for runway 30. Magnetic variation: 5W
2.19.2 ILS identification: DCX
2.19.5 Coordinates: 25–47–59.88N / 80–18–13.04W
2.19.6 Site elevation: 8 ft

2.19.1 ILS type: DME for runway 30. Magnetic variation: 5W
2.19.2 ILS identification: DCX
2.19.5 Coordinates: 25–47–57.77N / 80–18–14.51W
2.19.6 Site elevation: 13 ft

2.19.1 ILS type: Glide Slope for runway 30. Magnetic variation: 5W
2.19.2 ILS identification: DCX
2.19.5 Coordinates: 25–47–17.64N / 80–16–59.57W
2.19.6 Site elevation: 8 ft

2.19.1 ILS type: Glide Slope for runway 12. Magnetic variation: 5W
2.19.2 ILS identification: GEM
2.19.5 Coordinates: 25–47–49.35N / 80–17–59.90W
2.19.6 Site elevation: 6 ft

2.19.1 ILS type: DME for runway 12. Magnetic variation: 5W
2.19.2 ILS identification: GEM
2.19.5 Coordinates: 25–47–11.28N / 80–16–32.41W
2.19.6 Site elevation: 14 ft

2.19.1 ILS type: Localizer for runway 12. Magnetic variation: 5W
2.19.2 ILS identification: GEM
2.19.5 Coordinates: 25–47–00.00N / 80–16–34.81W
2.19.6 Site elevation: 8 ft

2.19.1 ILS type: DME for runway 08L. Magnetic variation: 5W
2.19.2 ILS identification: ROY
2.19.5 Coordinates: 25–48–17.24N / 80–16–20.63W
2.19.6 Site elevation: 8 ft

2.19.1 ILS type: Localizer for runway 08L. Magnetic variation: 5W
2.19.2 ILS identification: ROY
2.19.5 Coordinates: 25–48–14.77N / 80–16–20.62W

2.19.6 Site elevation: 9 ft

2.19.1 ILS type: DME for runway 26R. Magnetic variation: 5W
2.19.2 ILS identification: CNV
2.19.5 Coordinates: 25–48–00.00N / 80–18–16.47W
2.19.6 Site elevation: 8 ft

2.19.1 ILS type: Localizer for runway 26R. Magnetic variation: 5W
2.19.2 ILS identification: CNV
2.19.5 Coordinates: 25–48–00.00N / 80–18–16.48W
2.19.6 Site elevation: 9 ft

2.19.1 ILS type: Localizer for runway 08R. Magnetic variation: 5W
2.19.2 ILS identification: MFA
2.19.5 Coordinates: 25–48–00.00N / 80–16–00.00W
2.19.6 Site elevation: 6 ft

2.19.1 ILS type: Middle Marker for runway 08R. Magnetic variation: 5W
2.19.2 ILS identification: MFA
2.19.5 Coordinates: 25–48–00.00N / 80–18–43.38W
2.19.6 Site elevation: 7 ft

2.19.1 ILS type: DME for runway 08R. Magnetic variation: 5W
2.19.2 ILS identification: MFA
2.19.5 Coordinates: 25–48–00.00N / 80–16–00.00W
2.19.6 Site elevation: 8 ft

2.19.1 ILS type: Glide Slope for runway 08R. Magnetic variation: 5W
2.19.2 ILS identification: MFA
2.19.5 Coordinates: 25–48–00.00N / 80–17–54.81W
2.19.6 Site elevation: 5 ft

2.19.1 ILS type: Glide Slope for runway 26L. Magnetic variation: 5W
2.19.2 ILS identification: VIN
2.19.5 Coordinates: 25–48–00.00N / 80–16–22.51W
2.19.6 Site elevation: 5 ft

2.19.1 ILS type: Localizer for runway 26L. Magnetic variation: 5W
2.19.2 ILS identification: VIN
2.19.5 Coordinates: 25–48–00.00N / 80–18–13.77W
2.19.6 Site elevation: 7 ft

2.19.1 ILS type: DME for runway 26L. Magnetic variation: 5W
2.19.2 ILS identification: VIN
2.19.5 Coordinates: 25–48–00.00N / 80–18–13.80W
2.19.6 Site elevation: 12 ft

2.19.1 ILS type: Middle Marker for runway 26L. Magnetic variation: 5W
2.19.2 ILS identification: VIN
2.19.5 Coordinates: 25–48–00.00N / 80–15–44.08W
2.19.6 Site elevation: ft

2.19.1 ILS type: Outer Marker for runway 26L. Magnetic variation: 5W
2.19.2 ILS identification: VIN
2.19.5 Coordinates: 25–48–18.83N / 80–11–42.26W
2.19.6 Site elevation: ft

2.19.1 ILS type: Localizer for runway 09. Magnetic variation: 5W
2.19.2 ILS identification: BUL
2.19.5 Coordinates: 25–47–16.17N / 80–16–23.05W
2.19.6 Site elevation: 8 ft

2.19.1 ILS type: Outer Marker for runway 09. Magnetic variation: 5W
2.19.2 ILS identification: BUL
2.19.5 Coordinates: 25–46–59.33N / 80–23–00.00W
2.19.6 Site elevation: 5 ft

2.19.1 ILS type: Middle Marker for runway 09. Magnetic variation: 5W
2.19.2 ILS identification: BUL
2.19.5 Coordinates: 25–47–00.00N / 80–19–00.00W
2.19.6 Site elevation: 5 ft

2.19.1 ILS type: Glide Slope for runway 09. Magnetic variation: 5W
2.19.2 ILS identification: BUL

2.19.5 Coordinates: 25−47−00.00N / 80−18−26.71W
2.19.6 Site elevation: 7 ft

2.19.1 ILS type: Glide Slope for runway 27. Magnetic variation: 5W
2.19.2 ILS identification: MIA
2.19.5 Coordinates: 25−47−11.73N / 80−16−45.40W
2.19.6 Site elevation: 7 ft

2.19.1 ILS type: Outer Marker for runway 27. Magnetic variation: 5W
2.19.2 ILS identification: MIA
2.19.5 Coordinates: 25−47−26.47N / 80−11−39.14W
2.19.6 Site elevation: ft

2.19.1 ILS type: Localizer for runway 27. Magnetic variation: 5W
2.19.2 ILS identification: MIA
2.19.5 Coordinates: 25−47−00.00N / 80−19−00.00W
2.19.6 Site elevation: 7 ft

2.19.1 ILS type: Middle Marker for runway 27. Magnetic variation: 5W
2.19.2 ILS identification: MIA
2.19.5 Coordinates: 25−47−16.87N / 80−16−12.26W
2.19.6 Site elevation: 5 ft

General Remarks:
CLOSED NON ENGINE AIRCRAFT.

AIRCRAFT WITH A WINGSPAN GREATER THAN 171 FT ARE PROHIBITED FROM TAXIING ON TAXIWAY P EAST OF TAXIWAY U. AIRCRAFT WITH A WINGSPAN GREATER THAN 143 FT ARE PROHIBITED FROM USING TAXIWAY AA.

ALL TURBOJET AIRCRAFT USE DISTANT NOISE ABATEMENT DEP PROFILE FROM ALL RUNWAYS EXCEPT A320, B727, B737−800, B767−400, AND DC9 WHICH SHOULD USE CLOSE−IN NOISE ABATEMENT ABATEMENT PROFILE.

BIRDS ON & IN THE VICINITY OF AIRPORT.

PRIOR PERMISSION REQUIRED 3 HRS PRIOR TO ALL ARRIVALS ON THE GENERAL AVIATION CENTER (GAC) RAMP. CONTACT RAMP CONTROL AT 305−876−7550 AND UPON ARRIVAL ON FREQ 130.5. AIRCRAFT WITH WINGSPAN GREATER THAN 78 FT ARE PROHIBITED FROM ENTERING THE GENERAL AVIATION AIRCRAFT RAMP.

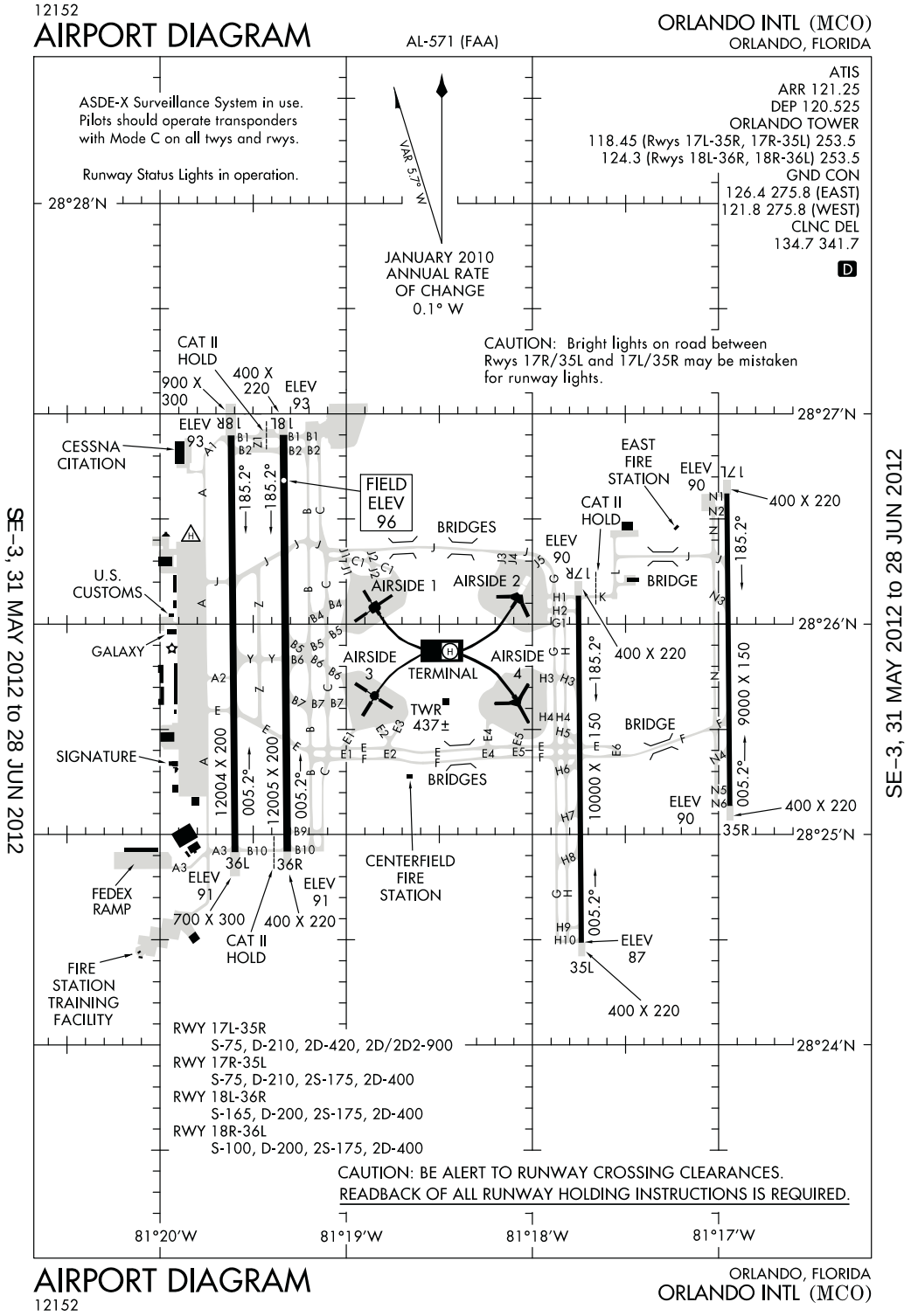
ALL MEDICAL EMERGENCIES ARRIVALS, WITH THE EXCEPTION OF AIR AMBULANCE FLIGHTS, MUST SECURE DOORS UNTIL AIRCRAFT RESCUE AND FIRE FIGHTING IS ON SCENE.

ASDE−X SURVEILLANCE SYSTEM IN USE: PILOTS SHOULD OPERATE TRANSPONDERS WITH MODE C ON ALL TAXIWAYS AND RUNWAYS.

PRIOR PERMISSION REQUIRED FOR INBOUND MILITARY FLIGHTS 100 NAUTICAL MILE ON FREQ 130.5.

APRON SPOT 4 CLOSED.

Orlando, Florida
Orlando International
ICAO Identifier KMCO



Orlando, FL
Orlando Intl
ICAO Identifier KMCO

AD 2.2 Aerodrome geographical and administrative data
2.2.1 Reference Point: 28–25–45.82N / 81–18–32.38W
2.2.2 From City: 6 Miles SE Of Orlando, FL
2.2.3 Elevation: 96 ft
2.2.5 Magnetic variation: 5W (2000)
2.2.6 Airport Contact: Phil Brown
ONE AIRPORT BLVD
Orlando, FL 32827
(407–825–2001)
2.2.7 Traffic: IFR/VFR

AD 2.3 Operational hours
2.3.1 – 2.3.11: ALL Months, ALL Days, ALL Hours

AD 2.4 Handling services and facilities
2.4.1 Cargo handling facilities: No
2.4.2 Fuel types: 100LL,A
2.4.4 De–icing facilities: None
2.4.5 Hangar space: Yes
2.4.6 Repair facilities: Minor

AD 2.6 Rescue and firefighting services
2.6.1 Aerodrome category for firefighting: ARFF Index I E certified on 4/1/2005

AD 2.12 Runway physical characteristics
2.12.1 Designation: 17R
2.12.2 True Bearing: 179
2.12.3 Dimensions: 10000 ft x 150 ft
2.12.5 Coordinates: 28–26–00.00N / 81–17–45.17W
2.12.6 Threshold elevation: 90 ft
2.12.6 Touchdown zone elevation: 90 ft

2.12.1 Designation: 35L
2.12.2 True Bearing: 359
2.12.3 Dimensions: 10000 ft x 150 ft
2.12.5 Coordinates: 28–24–29.20N / 81–17–44.13W
2.12.6 Threshold elevation: 87 ft
2.12.6 Touchdown zone elevation: 88 ft

2.12.1 Designation: 18L
2.12.2 True Bearing: 179
2.12.3 Dimensions: 12005 ft x 200 ft
2.12.5 Coordinates: 28–26–54.00N / 81–19–20.30W
2.12.6 Threshold elevation: 92 ft
2.12.6 Touchdown zone elevation: 96 ft

2.12.1 Designation: 36R
2.12.2 True Bearing: 359
2.12.3 Dimensions: 12005 ft x 200 ft
2.12.5 Coordinates: 28–24–55.15N / 81–19–19.04W
2.12.6 Threshold elevation: 91 ft
2.12.6 Touchdown zone elevation: 92 ft

2.12.1 Designation: 18R
2.12.2 True Bearing: 179
2.12.3 Dimensions: 12004 ft x 200 ft
2.12.5 Coordinates: 28–26–53.86N / 81–19–37.11W
2.12.6 Threshold elevation: 92 ft
2.12.6 Touchdown zone elevation: 94 ft

2.12.1 Designation: 36L
2.12.2 True Bearing: 359
2.12.3 Dimensions: 12004 ft x 200 ft
2.12.5 Coordinates: 28–24–55.01N / 81–19–35.83W
2.12.6 Threshold elevation: 91 ft
2.12.6 Touchdown zone elevation: 93 ft

2.12.1 Designation: 17L
2.12.2 True Bearing: 179
2.12.3 Dimensions: 9000 ft x 150 ft
2.12.5 Coordinates: 28–26–37.31N / 81–16–57.29W
2.12.6 Threshold elevation: 90 ft
2.12.6 Touchdown zone elevation: 90 ft

2.12.1 Designation: 35R
2.12.2 True Bearing: 359
2.12.3 Dimensions: 9000 ft x 150 ft
2.12.5 Coordinates: 28–25–00.00N / 81–16–56.38W
2.12.6 Threshold elevation: 90 ft
2.12.6 Touchdown zone elevation: 90 ft

2.12.1 Designation: H1
2.12.3 Dimensions: 44 ft x 44 ft

AD 2.13 Declared distances
2.13.1 Designation: 18L
2.13.2 Takeoff run available: 12005

2.13.3 Takeoff distance available: 12005
2.13.4 Accelerate–stop distance available: 12005
2.13.5 Landing distance available: 12005

2.13.1 Designation: 36R
2.13.2 Takeoff run available: 12005
2.13.3 Takeoff distance available: 12005
2.13.4 Accelerate–stop distance available: 11601
2.13.5 Landing distance available: 11601

2.13.1 Designation: 18R
2.13.2 Takeoff run available: 12004
2.13.3 Takeoff distance available: 12004
2.13.4 Accelerate–stop distance available: 12004
2.13.5 Landing distance available: 12004

2.13.1 Designation: 36L
2.13.2 Takeoff run available: 12004
2.13.3 Takeoff distance available: 12004
2.13.4 Accelerate–stop distance available: 11621
2.13.5 Landing distance available: 11621

AD 2.14 Approach and runway lighting
2.14.1 Designation: 17R
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration

2.14.1 Designation: 35L
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration

2.14.1 Designation: 18L
2.14.4 Visual approach slope indicator system: 6–box VASI on left
2.14.10 Remarks: VASI Upwind Threshold Crossing Height 89.7’ GA 3.25 Degs Downwind Threshold Crossing Height 52.4’ GA 3.00 Degs.

2.14.1 Designation: 36R
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration

2.14.1 Designation: 18R
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights

2.14.1 Designation: 36L
2.14.4 Visual approach slope indicator system: 6–box VASI on left
2.14.10 Remarks: VASI Upwind Threshold Crossing Height 94’ GA 3.25 Degs; Downwind Threshold Crossing Height 52’ GA 3.00 Degs.

2.14.1 Designation: 17L
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 35R
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration
2.14.4 Visual approach slope indicator system: 4–light PAPI on right

AD 2.18 Air traffic services communication facilities
2.18.1 Service designation: APCH/P DEP/P CLASS B
2.18.3 Service designation: 119.4 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS B
2.18.3 Service designation: 120.15 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS B
2.18.3 Service designation: 121.1 MHz

2.18.1 Service designation: D–ATIS ARR
2.18.3 Service designation: 121.25 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: EMERG
2.18.3 Service designation: 121.5 MHz

2.18.1 Service designation: APCH/S
2.18.3 Service designation: 123.85 MHz

2.18.1 Service designation: LCL/P (RYS 18L/36R & 18R/36L)
2.18.3 Service designation: 124.3 MHz

2.18.1 Service designation: APCH/P DEP/P IC CLASS B

2.18.3 Service designation: 124.8 MHz

2.18.1 Service designation: APCH/S
2.18.3 Service designation: 125.55 MHz

2.18.1 Service designation: APCH/S
2.18.3 Service designation: 134.05 MHz

2.18.1 Service designation: CD/P
2.18.3 Service designation: 134.7 MHz

2.18.1 Service designation: AR OPS
2.18.3 Service designation: 148.8 MHz

2.18.1 Service designation: EMERG
2.18.3 Service designation: 243 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS B
2.18.3 Service designation: 284.7 MHz

2.18.1 Service designation: APCH/P DEP/P IC CLASS B
2.18.3 Service designation: 307 MHz

2.18.1 Service designation: APCH/S
2.18.3 Service designation: 339.8 MHz

2.18.1 Service designation: CD/P
2.18.3 Service designation: 341.7 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS B
2.18.3 Service designation: 351.9 MHz

2.18.1 Service designation: AR OPS
2.18.3 Service designation: 41.5 MHz

2.18.1 Service designation: D–ATIS
2.18.3 Service designation: 120.525 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 253.5 MHz

2.18.1 Service designation: LCL/P (RYS 17L/35R & 17R/35L)
2.18.3 Service designation: 118.45 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 121.8 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 275.8 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 126.4 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS B
2.18.3 Service designation: 119.475 MHz

AD 2.19 Radio navigation and landing aids

2.19.1 ILS type: Localizer for runway 17R. Magnetic variation: 5W
2.19.2 ILS identification: DIZ
2.19.5 Coordinates: 28–24–18.77N / 81–17–44.02W
2.19.6 Site elevation: 82 ft

2.19.1 ILS type: DME for runway 17R. Magnetic variation: 5W
2.19.2 ILS identification: DIZ
2.19.5 Coordinates: 28–24–18.95N / 81–17–47.07W
2.19.6 Site elevation: 86 ft

2.19.1 ILS type: Glide Slope for runway 17R. Magnetic variation: 5W
2.19.2 ILS identification: DIZ
2.19.5 Coordinates: 28–25–57.84N / 81–17–40.58W
2.19.6 Site elevation: 87 ft

2.19.1 ILS type: Inner Marker for runway 17R. Magnetic variation: 5W
2.19.2 ILS identification: DIZ
2.19.5 Coordinates: 28–26–16.70N / 81–17–45.26W
2.19.6 Site elevation: 86 ft

2.19.1 ILS type: Middle Marker for runway 17R. Magnetic variation: 5W
2.19.2 ILS identification: DIZ
2.19.5 Coordinates: 28–26–34.25N / 81–17–45.43W
2.19.6 Site elevation: 82 ft

2.19.1 ILS type: DME for runway 35L. Magnetic variation: 5W
2.19.2 ILS identification: DDO
2.19.5 Coordinates: 28–26–18.45N / 81–17–48.12W
2.19.6 Site elevation: 100 ft

2.19.1 ILS type: Glide Slope for runway 35L. Magnetic variation: 5W

2.19.2 ILS identification: DDO
2.19.5 Coordinates: 28–24–39.53N / 81–17–39.76W
2.19.6 Site elevation: 84 ft

2.19.1 ILS type: Inner Marker for runway 35L. Magnetic variation: 5W
2.19.2 ILS identification: DDO
2.19.5 Coordinates: 28–24–20.54N / 81–17–44.05W
2.19.6 Site elevation: 87 ft

2.19.1 ILS type: Middle Marker for runway 35L. Magnetic variation: 5W
2.19.2 ILS identification: DDO
2.19.5 Coordinates: 28–24–00.00N / 81–17–43.84W
2.19.6 Site elevation: 83 ft

2.19.1 ILS type: Localizer for runway 35L. Magnetic variation: 5W
2.19.2 ILS identification: DDO
2.19.5 Coordinates: 28–26–18.60N / 81–17–45.27W
2.19.6 Site elevation: 87 ft

2.19.1 ILS type: Glide Slope for runway 36R. Magnetic variation: 5W
2.19.2 ILS identification: OJP
2.19.5 Coordinates: 28–25–00.00N / 81–19–23.63W
2.19.6 Site elevation: 88 ft

2.19.1 ILS type: Inner Marker for runway 36R. Magnetic variation: 5W
2.19.2 ILS identification: OJP
2.19.5 Coordinates: 28–24–46.65N / 81–19–18.94W
2.19.6 Site elevation: 87 ft

2.19.1 ILS type: Outer Marker for runway 36R. Magnetic variation: 5W
2.19.2 ILS identification: OJP
2.19.5 Coordinates: 28–20–38.35N / 81–19–18.23W
2.19.6 Site elevation: 68 ft

2.19.1 ILS type: Localizer for runway 36R. Magnetic variation: 5W
2.19.2 ILS identification: OJP
2.19.5 Coordinates: 28–27–00.00N / 81–19–20.38W
2.19.6 Site elevation: 91 ft

2.19.1 ILS type: Middle Marker for runway 36R. Magnetic variation: 5W
2.19.2 ILS identification: OJP
2.19.5 Coordinates: 28–24–31.89N / 81–19–18.77W
2.19.6 Site elevation: 85 ft

2.19.1 ILS type: DME for runway 36R. Magnetic variation: 5W
2.19.2 ILS identification: OJP
2.19.5 Coordinates: 28–27–00.00N / 81–19–18.03W
2.19.6 Site elevation: 91 ft

2.19.1 ILS type: Localizer for runway 18R. Magnetic variation: 5W
2.19.2 ILS identification: TFE
2.19.5 Coordinates: 28–24–42.58N / 81–19–35.70W
2.19.6 Site elevation: 87 ft

2.19.1 ILS type: Glide Slope for runway 18R. Magnetic variation: 5W
2.19.2 ILS identification: TFE
2.19.5 Coordinates: 28–26–43.50N / 81–19–32.52W
2.19.6 Site elevation: 89 ft

2.19.1 ILS type: Outer Marker for runway 18R. Magnetic variation: 5W
2.19.2 ILS identification: TFE
2.19.5 Coordinates: 28–33–00.00N / 81–19–38.75W
2.19.6 Site elevation: 103 ft

2.19.1 ILS type: Middle Marker for runway 18R. Magnetic variation: 5W
2.19.2 ILS identification: TFE
2.19.5 Coordinates: 28–27–20.04N / 81–19–37.39W
2.19.6 Site elevation: 90 ft

2.19.1 ILS type: DME for runway 18R. Magnetic variation: 5W
2.19.2 ILS identification: TFE
2.19.5 Coordinates: 28–24–42.05N / 81–19–38.48W

2.19.6 Site elevation: 86 ft

2.19.1 ILS type: DME for runway 17L. Magnetic variation: 5W
2.19.2 ILS identification: ARK
2.19.5 Coordinates: 28−24−58.00N / 81−16−51.68W
2.19.6 Site elevation: 88 ft

2.19.1 ILS type: Glide Slope for runway 17L. Magnetic variation: 5W
2.19.2 ILS identification: ARK
2.19.5 Coordinates: 28−26−27.05N / 81−16−52.59W
2.19.6 Site elevation: 88 ft

2.19.1 ILS type: Inner Marker for runway 17L. Magnetic variation: 5W
2.19.2 ILS identification: ARK
2.19.5 Coordinates: 28−26−45.82N / 81−16−57.38W
2.19.6 Site elevation: 90 ft

2.19.1 ILS type: Localizer for runway 17L. Magnetic variation: 5W
2.19.2 ILS identification: ARK
2.19.5 Coordinates: 28−24−57.81N / 81−16−56.27W
2.19.6 Site elevation: 88 ft

2.19.1 ILS type: Middle Marker for runway 17L. Magnetic variation: 5W
2.19.2 ILS identification: ARK
2.19.5 Coordinates: 28−26−59.78N / 81−16−57.52W
2.19.6 Site elevation: 90 ft

2.19.1 ILS type: Glide Slope for runway 35R. Magnetic variation: 5W
2.19.2 ILS identification: CER
2.19.5 Coordinates: 28−25−18.63N / 81−16−51.89W
2.19.6 Site elevation: 88 ft

2.19.1 ILS type: Inner Marker for runway 35R. Magnetic variation: 5W
2.19.2 ILS identification: CER
2.19.5 Coordinates: 28−24−59.68N / 81−16−56.29W
2.19.6 Site elevation: 90 ft

2.19.1 ILS type: DME for runway 35R. Magnetic variation: 5W
2.19.2 ILS identification: CER
2.19.5 Coordinates: 28−26−48.23N / 81−16−52.81W
2.19.6 Site elevation: 88 ft

2.19.1 ILS type: Localizer for runway 35R. Magnetic variation: 5W
2.19.2 ILS identification: CER
2.19.5 Coordinates: 28−26−47.70N / 81−16−57.40W
2.19.6 Site elevation: 88 ft

2.19.1 ILS type: Middle Marker for runway 35R. Magnetic variation: 5W
2.19.2 ILS identification: CER
2.19.5 Coordinates: 28−24−45.67N / 81−16−56.15W
2.19.6 Site elevation: 90 ft

General Remarks:
BIRDS & DEER ON & IN THE VICINITY OF AIRPORT.

24 HR PRIOR PERMISSION REQUIRED FOR HELIPAD LANDING CALL 407−825−2036. COMMERCIAL OPERATIONS ONLY, NO PRIVATE OPERATIONS.

AVOID CONTACT WITH TAXIWAY EDGE LIGHTS; ALL AIRCRAFT DETERMINED TO BE FAA DESIGN GROUP IV AND ABOVE MUST PERFORM JUDGEMENTAL OVERSTEERING INSTEAD OF COCKPIT CENTERLINE STEERING WHEN TAXIING.

WHEN OVERRUN LIGHTS ILS RUNWAY 7 AND MCO ILS RUNWAYS 17 & 18R SIMULTANEOUS OPERATIONS ARE CONDUCTED, ATC RADAR REQUIRED.

BRIGHT LIGHTS ON ROAD BETWEEN RUNWAY 17R/35L AND RUNWAY 17L/35R MAY BE MISTAKEN FOR RUNWAY LIGHTS.

GROUND OPERATIONS OF AIRCRAFT WITH WINGSPAN GREATER THAN 213 FT MUST USE TAXIWAYS WEST OF RUNWAY 18L/36R EXCEPT NORTH OF TAXIWAY A WHICH IS

RESTRICTED TO WINGSPAN LESS THAN 171 FT. ASDE–X SURVEILLANCE SYSTEM IN USE: PILOTS SHOULD OPERATE TRANSPONDERS WITH MODE 'C' ON ALL TAXIWAYS & RUNWAYS.

AIRCRAFT PARKED ON AIRSIDE 2 CENTERLINE WEST OF TAXIWAY G1 AND/OR SOUTH OF TAXIWAY J3 BETWEEN 2200 & 0700.

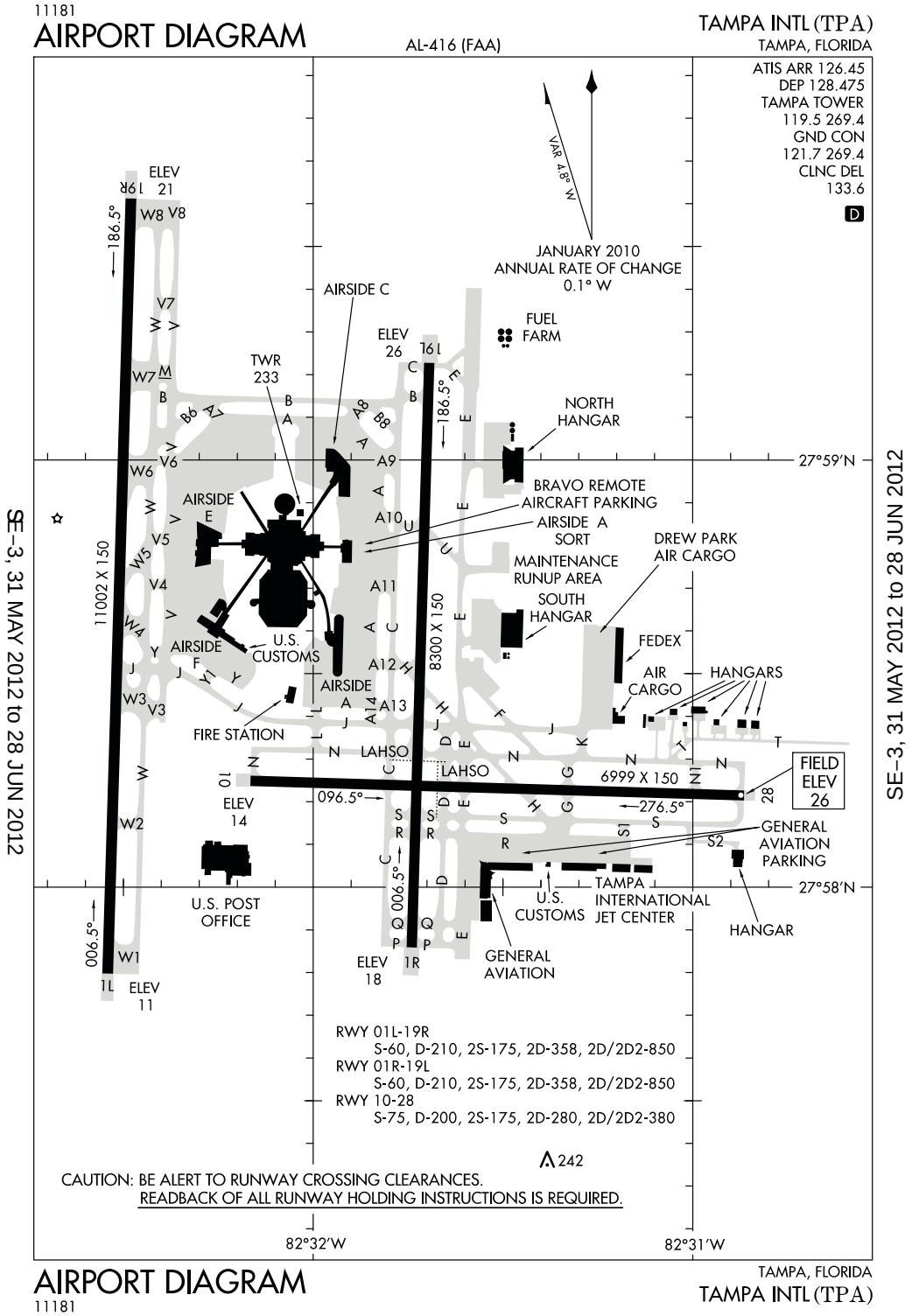
GROUND OPERATIONS OF AIRCRAFT WITH WINGSPAN GREATER THAT 213 FT MUST USE TAXIWAYS WEST OF RUNWAY 18L/36R EXCEPT NORTH OF TAXIWAY A WHICH IS RESTRICTED TO WINGSPAN LESS THAT 213 FT.

USE CAUTION IN VICINITY OF TAXIWAY "A" ALONG WEST RAMP.

UNLESS ADV BY AUTOMATIC TERMINAL INFORMATION SERVICE, DEP FLIGHTS ON INITIAL CONTACT WITH GROUND CONTROL: AIRCRAFT ON WEST RAMP, AIRSIDE 1 & 3 (GATES 1–59) USE GROUND CONTROL 121.8. AIRCRAFT AT AIRSIDE 2 & 4 (GATES 60 AND HIGHER), USE GROUND CONTROL 126.4.

TAXIWAY J3 & J4 RESTRICTED TO WINGSPAN OF LESS THAN 118 FT.

Tampa, Florida
Tampa International
ICAO Identifier KTPA



Tampa, FL
Tampa Intl
ICAO Identifier KTPA

AD 2.2 Aerodrome geographical and administrative data
2.2.1 Reference Point: 27–58–31.70N / 82–31–59.70W
2.2.2 From City: 6 Miles W Of Tampa, FL
2.2.3 Elevation: 26 ft
2.2.5 Magnetic variation: 5W (2010)
2.2.6 Airport Contact: Ed Cooley
PO BOX 22287
Tampa, FL 33622
(813–870–8700)
2.2.7 Traffic: IFR/VFR

AD 2.3 Operational hours
2.3.1 – 2.3.11: ALL Months, ALL Days, ALL Hours

AD 2.4 Handling services and facilities
2.4.1 Cargo handling facilities: No
2.4.2 Fuel types: 100LL,A
2.4.4 De–icing facilities: None
2.4.5 Hangar space: Yes
2.4.6 Repair facilities: Major

AD 2.6 Rescue and firefighting services
2.6.1 Aerodrome category for firefighting: ARFF Index I E certified on 5/1/1973

AD 2.10 Aerodrome obstacles
2.10.1.a. Runway designation: 10
2.10.1.b Type of obstacle: Trees (26 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 301 ft from Centerline

AD 2.12 Runway physical characteristics
2.12.1 Designation: 10
2.12.2 True Bearing: 92
2.12.3 Dimensions: 6999 ft x 150 ft
2.12.5 Coordinates: 27–58–14.99N / 82–32–00.00W
2.12.6 Threshold elevation: 14 ft
2.12.6 Touchdown zone elevation: 20 ft

2.12.1 Designation: 28
2.12.2 True Bearing: 272
2.12.3 Dimensions: 6999 ft x 150 ft
2.12.5 Coordinates: 27–58–12.89N / 82–30–51.89W
2.12.6 Threshold elevation: 26 ft
2.12.6 Touchdown zone elevation: 26 ft

2.12.1 Designation: 01R
2.12.2 True Bearing: 2
2.12.3 Dimensions: 8300 ft x 150 ft
2.12.5 Coordinates: 27–57–51.52N / 82–31–44.37W
2.12.6 Threshold elevation: 18 ft
2.12.6 Touchdown zone elevation: 20 ft

2.12.1 Designation: 19L
2.12.2 True Bearing: 182
2.12.3 Dimensions: 8300 ft x 150 ft
2.12.5 Coordinates: 27–59–13.66N / 82–31–41.57W
2.12.6 Threshold elevation: 26 ft
2.12.6 Touchdown zone elevation: 26 ft

2.12.1 Designation: 01L
2.12.2 True Bearing: 2
2.12.3 Dimensions: 11002 ft x 150 ft
2.12.5 Coordinates: 27–57–47.86N / 82–32–32.48W
2.12.6 Threshold elevation: 11 ft
2.12.6 Touchdown zone elevation: 11 ft

2.12.1 Designation: 19R
2.12.2 True Bearing: 182
2.12.3 Dimensions: 11002 ft x 150 ft
2.12.5 Coordinates: 27–59–36.74N / 82–32–28.78W
2.12.6 Threshold elevation: 21 ft
2.12.6 Touchdown zone elevation: 21 ft

AD 2.13 Declared distances
2.13.1 Designation: 10
2.13.2 Takeoff run available: 6999
2.13.3 Takeoff distance available: 6999
2.13.4 Accelerate–stop distance available: 6999
2.13.5 Landing distance available: 6999

2.13.1 Designation: 28
2.13.2 Takeoff run available: 6999
2.13.3 Takeoff distance available: 6999
2.13.4 Accelerate–stop distance available: 6500
2.13.5 Landing distance available: 6500

2.13.1 Designation: 01R

2.13.2 Takeoff run available: 8300
2.13.3 Takeoff distance available: 8300
2.13.4 Accelerate–stop distance available: 8300
2.13.5 Landing distance available: 8300

2.13.1 Designation: 19L
2.13.2 Takeoff run available: 8300
2.13.3 Takeoff distance available: 8300
2.13.4 Accelerate–stop distance available: 8300
2.13.5 Landing distance available: 8300

2.13.1 Designation: 01L
2.13.2 Takeoff run available: 11002
2.13.3 Takeoff distance available: 11002
2.13.4 Accelerate–stop distance available: 10800
2.13.5 Landing distance available: 10800

2.13.1 Designation: 19R
2.13.2 Takeoff run available: 11002
2.13.3 Takeoff distance available: 11002
2.13.4 Accelerate–stop distance available: 11002
2.13.5 Landing distance available: 11002

AD 2.14 Approach and runway lighting
2.14.1 Designation: 10
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 28
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 01R
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 19L
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 01L
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 19R
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

AD 2.18 Air traffic services communication facilities
2.18.1 Service designation: APCH/P DEP/P
2.18.3 Service designation: 118.15 MHz

2.18.1 Service designation: FINAL–CTL IC
2.18.3 Service designation: 118.5 MHz

2.18.1 Service designation: APCH/P DEP/P
2.18.3 Service designation: 118.8 MHz

2.18.1 Service designation: LCL/S
2.18.3 Service designation: 119.05 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 119.5 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS B
2.18.3 Service designation: 119.65 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 119.9 MHz

2.18.1 Service designation: GND/S
2.18.3 Service designation: 121.35 MHz

2.18.1 Service designation: EMERG
2.18.3 Service designation: 121.5 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 121.7 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 125.3 MHz

2.18.1 Service designation: D–ATIS
2.18.3 Service designation: 126.45 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: D–ATIS
2.18.3 Service designation: 128.475 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: CD/P
2.18.3 Service designation: 133.6 MHz

2.18.1 Service designation: EMERG
2.18.3 Service designation: 243 MHz

2.18.1 Service designation: APCH/P DEP/P
2.18.3 Service designation: 269.1 MHz

2.18.1 Service designation: GND/P LCL/P
2.18.3 Service designation: 269.4 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 290.3 MHz

2.18.1 Service designation: APCH/P DEP/P
2.18.3 Service designation: 285.625 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS B
2.18.3 Service designation: 353.575 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 316.05 MHz

2.18.1 Service designation: APCH/S DEP/S
2.18.3 Service designation: 353.75 MHz

AD 2.19 Radio navigation and landing aids

2.19.1 ILS type: Glide Slope for runway 19L. Magnetic variation: 5W
2.19.2 ILS identification: TPA
2.19.5 Coordinates: 27–59–00.00N / 82–31–37.46W
2.19.6 Site elevation: 23 ft

2.19.1 ILS type: Localizer for runway 19L. Magnetic variation: 5W
2.19.2 ILS identification: TPA
2.19.5 Coordinates: 27–57–40.97N / 82–31–44.73W
2.19.6 Site elevation: 14 ft

2.19.1 ILS type: Outer Marker for runway 19L. Magnetic variation: 5W
2.19.2 ILS identification: TPA
2.19.5 Coordinates: 28–05–00.00N / 82–31–30.91W
2.19.6 Site elevation: ft

2.19.1 ILS type: Inner Marker for runway 19L. Magnetic variation: 5W
2.19.2 ILS identification: TPA
2.19.5 Coordinates: 27–59–23.66N / 82–31–41.23W
2.19.6 Site elevation: ft

2.19.1 ILS type: Middle Marker for runway 19L. Magnetic variation: 5W
2.19.2 ILS identification: TPA
2.19.5 Coordinates: 27–59–40.38N / 82–31–40.66W
2.19.6 Site elevation: ft

2.19.1 ILS type: DME for runway 01R. Magnetic variation: 5W
2.19.2 ILS identification: TWJ
2.19.5 Coordinates: 27–59–22.99N / 82–31–38.43W
2.19.6 Site elevation: 36 ft

2.19.1 ILS type: Localizer for runway 01R. Magnetic variation: 5W
2.19.2 ILS identification: TWJ
2.19.5 Coordinates: 27–59–23.93N / 82–31–41.22W
2.19.6 Site elevation: 26 ft

2.19.1 ILS type: Localizer for runway 01L. Magnetic variation: 5W
2.19.2 ILS identification: AMP
2.19.5 Coordinates: 27–59–44.79N / 82–32–28.51W
2.19.6 Site elevation: 21 ft

2.19.1 ILS type: Inner Marker for runway 01L. Magnetic variation: 5W
2.19.2 ILS identification: AMP
2.19.5 Coordinates: 27–57–39.62N / 82–32–32.76W
2.19.6 Site elevation: 6 ft

2.19.1 ILS type: Middle Marker for runway 01L. Magnetic variation: 5W
2.19.2 ILS identification: AMP
2.19.5 Coordinates: 27–57–15.71N / 82–32–33.57W
2.19.6 Site elevation: ft

2.19.1 ILS type: Glide Slope for runway 01L. Magnetic variation: 5W
2.19.2 ILS identification: AMP
2.19.5 Coordinates: 27–57–58.24N / 82–32–36.59W

2.19.6 Site elevation: 8 ft

2.19.1 ILS type: Outer Marker for runway 01L.
Magnetic variation: 5W
2.19.2 ILS identification: AMP
2.19.5 Coordinates: 27−51−40.26N /
82−32−44.87W
2.19.6 Site elevation: 6 ft

2.19.1 ILS type: Localizer for runway 19R.
Magnetic variation: 5W
2.19.2 ILS identification: JRT
2.19.5 Coordinates: 27−57−38.21N /
82−32−32.81W
2.19.6 Site elevation: 5 ft

2.19.1 ILS type: Glide Slope for runway 19R.
Magnetic variation: 5W
2.19.2 ILS identification: JRT
2.19.5 Coordinates: 27−59−26.45N /
82−32−33.59W
2.19.6 Site elevation: 17 ft

2.19.1 ILS type: Middle Marker for runway 19R.
Magnetic variation: 5W
2.19.2 ILS identification: JRT
2.19.5 Coordinates: 28−00−00.00N /
82−32−27.94W
2.19.6 Site elevation: 21 ft

2.19.1 ILS type: DME for runway 19R. Magnetic variation: 5W
2.19.2 ILS identification: JRT
2.19.5 Coordinates: 27−57−38.34N /
82−32−30.27W
2.19.6 Site elevation: 12 ft

General Remarks:
RUNWAY 19L IS NOISE SENSITIVE TO TURBOJET DEPARTURES. RUNWAY 01R IS NOISE SENSITIVE TO TURBOJET ARRIVALS. PUBLISHED NOISE ABATEMENT PROCEDURES IN EFFECT.

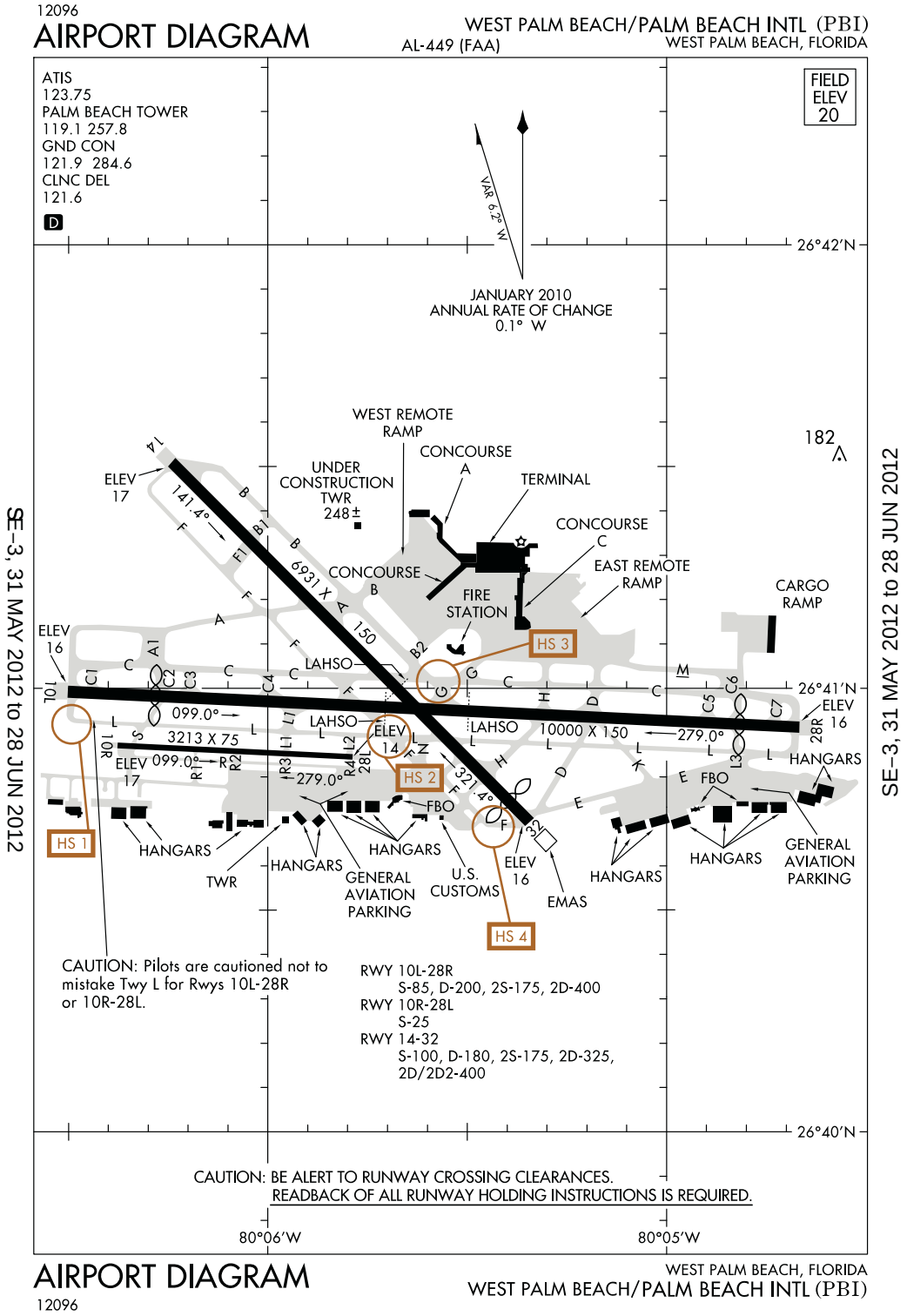
ONLY AIRCRAFT WITH PRIOR PERMISSION MAY USE TERMINAL APRON; ALL OTHERS USE GA APRON.

BIRD ACTIVITY ON AND IN VICINITY OF AIRPORT.

TAXIWAY RSTRS: AIRPLANE DESIGN GRP V OR LGR − TAXIWAY N WEST OF TAXIWAY L UNAVAILABLE. NORTH 1500 FT TAXIWAY E ALSO UNAVAILABLE FOR WINGSPAN GREATER THAN 171 FT UNLESS PRIOR PERMISSION REQUIRED FROM AIRPORT OPERATIONS.

TAXIWAY RSTRS: GRP IV AIRCRAFT WITH WINGSPAN GREATER THAN 117 FT −− TAXIWAY LANE E SOUTH OF TAXIWAY S, AND TAXIWAY R EAST OF TAXIWAY D ARE NON−MOVEMENT AREAS AND UNAVAILABLE WO PRIOR PERMISSION REQUIRED FROM AIRPORT OPERATIONS.

West Palm Beach, Florida
Palm Beach International
ICAO Identifier KPBI



West Palm Beach, FL
Palm Beach Intl
ICAO Identifier KPBI

AD 2.2 Aerodrome geographical and administrative data
2.2.1 Reference Point: 26−40−59.40N / 80−05−44.10W
2.2.2 From City: 3 Miles W Of West Palm Beach, FL
2.2.3 Elevation: 20 ft
2.2.5 Magnetic variation: 6W (2010)
2.2.6 Airport Contact: Bruce V Pelly
BLDG 846−PALM BEACH INTL
West Palm Beach, FL 33406
(561−471−7412)
2.2.7 Traffic: IFR/VFR

AD 2.3 Operational hours
2.3.1 – 2.3.11: ALL Months, ALL Days, ALL Hours

AD 2.4 Handling services and facilities
2.4.1 Cargo handling facilities: No
2.4.2 Fuel types: 100LL,A
2.4.4 De−icing facilities: None
2.4.5 Hangar space: No
2.4.6 Repair facilities: Major

AD 2.6 Rescue and firefighting services
2.6.1 Aerodrome category for firefighting: ARFF Index I D certified on 4/29/2005

AD 2.10 Aerodrome obstacles
2.10.1.a. Runway designation: 14
2.10.1.b Type of obstacle: Trees (84 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 150 ft from Centerline

2.10.1.a. Runway designation: 32
2.10.1.b Type of obstacle: Road (32 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 250 ft from Centerline

AD 2.12 Runway physical characteristics
2.12.1 Designation: 10L
2.12.2 True Bearing: 93
2.12.3 Dimensions: 10000 ft x 150 ft
2.12.5 Coordinates: 26−40−59.55N / 80−06−30.13W
2.12.6 Threshold elevation: 19 ft
2.12.6 Touchdown zone elevation: 20 ft

2.12.1 Designation: 28R
2.12.2 True Bearing: 273
2.12.3 Dimensions: 10000 ft x 150 ft
2.12.5 Coordinates: 26−40−54.74N / 80−04−40.01W
2.12.6 Threshold elevation: 16 ft
2.12.6 Touchdown zone elevation: 18 ft

2.12.1 Designation: 10R
2.12.2 True Bearing: 93
2.12.3 Dimensions: 3213 ft x 75 ft
2.12.5 Coordinates: 26−40−52.28N / 80−06−22.64W
2.12.6 Threshold elevation: 17 ft
2.12.6 Touchdown zone elevation: 17 ft

2.12.1 Designation: 28L
2.12.2 True Bearing: 273
2.12.3 Dimensions: 3213 ft x 75 ft
2.12.5 Coordinates: 26−40−50.74N / 80−05−47.26W
2.12.6 Threshold elevation: 14 ft
2.12.6 Touchdown zone elevation: 17 ft

2.12.1 Designation: 14
2.12.2 True Bearing: 135
2.12.3 Dimensions: 6931 ft x 150 ft
2.12.5 Coordinates: 26−41−30.60N / 80−06−14.48W
2.12.6 Threshold elevation: 17 ft
2.12.6 Touchdown zone elevation: 17 ft

2.12.1 Designation: 32
2.12.2 True Bearing: 315
2.12.3 Dimensions: 6931 ft x 150 ft
2.12.5 Coordinates: 26−40−41.91N / 80−05−20.62W
2.12.6 Threshold elevation: 16 ft
2.12.6 Touchdown zone elevation: 16 ft

AD 2.13 Declared distances
2.13.1 Designation: 10L
2.13.2 Takeoff run available: 10000
2.13.3 Takeoff distance available: 10000
2.13.4 Accelerate−stop distance available: 10000
2.13.5 Landing distance available: 8800

2.13.1 Designation: 28R
2.13.2 Takeoff run available: 10000
2.13.3 Takeoff distance available: 10000
2.13.4 Accelerate–stop distance available: 10000
2.13.5 Landing distance available: 9187

2.13.1 Designation: 10R
2.13.2 Takeoff run available: 3213
2.13.3 Takeoff distance available: 3213
2.13.4 Accelerate–stop distance available: 3213
2.13.5 Landing distance available: 3213

2.13.1 Designation: 28L
2.13.2 Takeoff run available: 3213
2.13.3 Takeoff distance available: 3213
2.13.4 Accelerate–stop distance available: 3213
2.13.5 Landing distance available: 3213

2.13.1 Designation: 14
2.13.2 Takeoff run available: 6931
2.13.3 Takeoff distance available: 6931
2.13.4 Accelerate–stop distance available: 6000
2.13.5 Landing distance available: 6000

2.13.1 Designation: 32
2.13.2 Takeoff run available: 6931
2.13.3 Takeoff distance available: 6931
2.13.4 Accelerate–stop distance available: 6931
2.13.5 Landing distance available: 6513

AD 2.14 Approach and runway lighting
2.14.1 Designation: 10L
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on right

2.14.1 Designation: 28R
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 10R
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 28L
2.14.4 Visual approach slope indicator system: 4–light PAPI on right

2.14.1 Designation: 14
2.14.4 Visual approach slope indicator system: 4–light PAPI on right

2.14.1 Designation: 32
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

AD 2.18 Air traffic services communication facilities
2.18.1 Service designation: LCL/S
2.18.3 Service designation: 118.75 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 119.1 MHz

2.18.1 Service designation: EMERG
2.18.3 Service designation: 121.5 MHz

2.18.1 Service designation: CD/P
2.18.3 Service designation: 121.6 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 121.9 MHz

2.18.1 Service designation: D–ATIS
2.18.3 Service designation: 123.75 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: APCH/P CLASS C IC
2.18.3 Service designation: 124.6 MHz

2.18.1 Service designation: FINAL APCH
2.18.3 Service designation: 125 MHz

2.18.1 Service designation: DEP/P
2.18.3 Service designation: 125.2 MHz

2.18.1 Service designation: APCH/P CLASS C
2.18.3 Service designation: 125.2 MHz

2.18.1 Service designation: CLASS C /S
2.18.3 Service designation: 127.35 MHz

2.18.1 Service designation: DEP/P CLASS C
2.18.3 Service designation: 128.3 MHz

2.18.1 Service designation: EMERG
2.18.3 Service designation: 243 MHz

2.18.1 Service designation: APCH/P CLASS C IC
2.18.3 Service designation: 317.4 MHz

2.18.1 Service designation: DEP/P CLASS C
2.18.3 Service designation: 343.6 MHz

2.18.1 Service designation: LCL/S
2.18.3 Service designation: 384.6 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 284.6 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 257.8 MHz

AD 2.19 Radio navigation and landing aids
2.19.1 ILS type: Localizer for runway 28R.
Magnetic variation: 6W
2.19.2 ILS identification: PWB
2.19.5 Coordinates: 26−40−59.91N / 80−06−38.53W
2.19.6 Site elevation: 18 ft

2.19.1 ILS type: Glide Slope for runway 28R.
Magnetic variation: 6W
2.19.2 ILS identification: PWB
2.19.5 Coordinates: 26−40−51.94N / 80−05−00.00W
2.19.6 Site elevation: 14 ft

2.19.1 ILS type: Outer Marker for runway 10L.
Magnetic variation: 6W
2.19.2 ILS identification: PBI
2.19.5 Coordinates: 26−41−15.72N / 80−12−36.74W
2.19.6 Site elevation: 17 ft

2.19.1 ILS type: Glide Slope for runway 10L.
Magnetic variation: 6W
2.19.2 ILS identification: PBI
2.19.5 Coordinates: 26−40−55.98N / 80−06−00.00W
2.19.6 Site elevation: 14 ft

2.19.1 ILS type: Localizer for runway 10L.
Magnetic variation: 6W
2.19.2 ILS identification: PBI
2.19.5 Coordinates: 26−40−54.27N / 80−04−28.92W
2.19.6 Site elevation: 13 ft

2.19.1 ILS type: Middle Marker for runway 10L.
Magnetic variation: 6W
2.19.2 ILS identification: PBI
2.19.5 Coordinates: 26−41−00.00N / 80−06−56.66W
2.19.6 Site elevation: 18 ft

General Remarks:
MIGRATORY BIRDS ON AND IN THE VICINITY OF AIRPORT.

NOISE ABATEMENT PROCEDURES IN EFFECT. MULTIENGINE FLIGHT TRAINING PROHIBITED SS TO SR SUN AND HOLIDAY; STRICT ENVIRONMENTAL OPERATING STAGE 2 AIRCRAFT 0300−1200Z CALL NOISE ABATEMENT OFFICER 561−471−7467.

ULTRALIGHT ACTIVITY IN THE VICINITY OF AIRPORT.

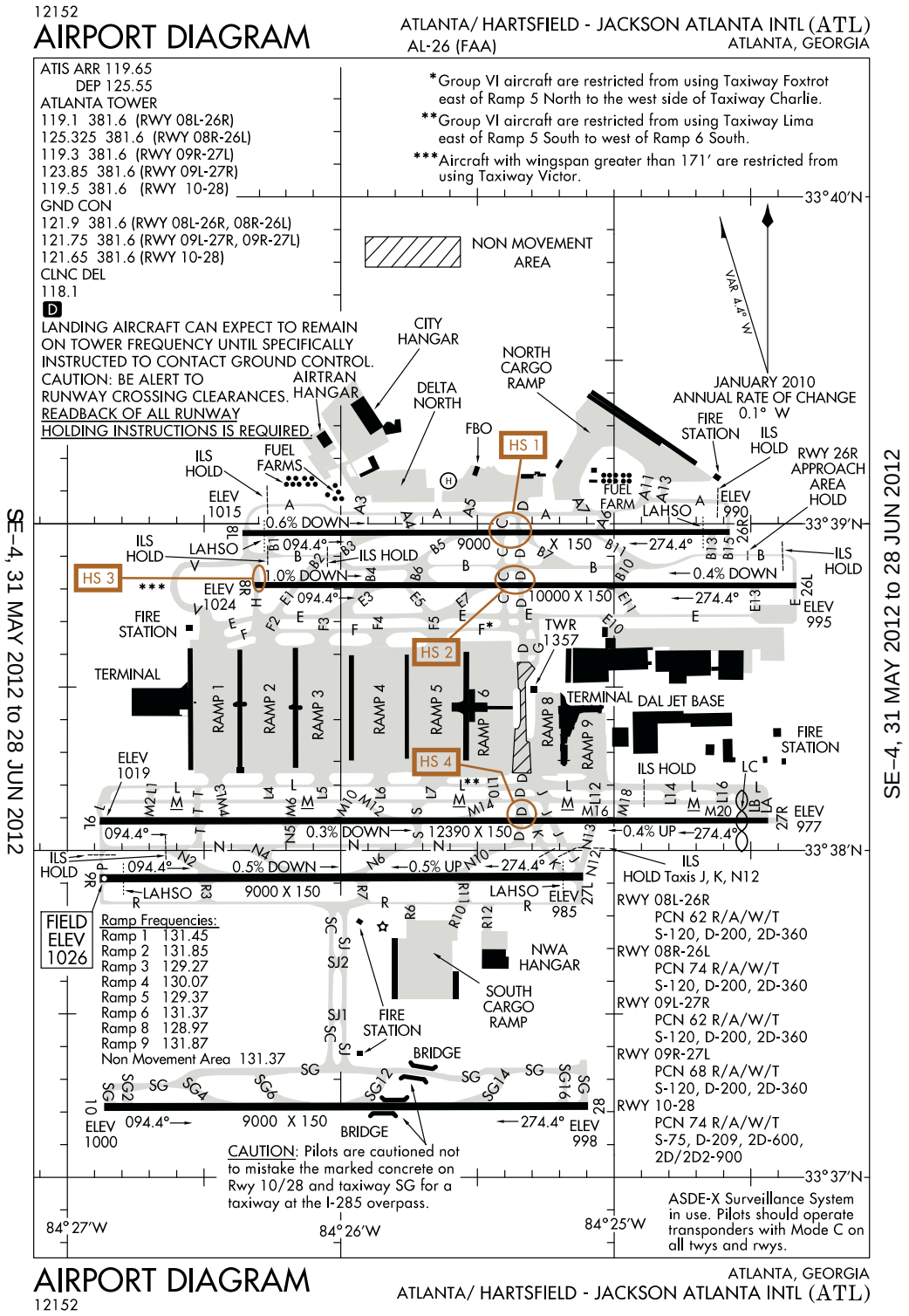
PORTIONS OF TAXIWAY ’F’ S OF TAXIWAY ’G’ TO APPROACH END RUNWAY 32 NOT VISIBLE FROM ATCT DUE TO BUILDINGS & PARKED AIRCRAFT.

BE ALERT; RUNWAYS 28L & 28R THRESHOLDS STAGGERED BY 5400 FT.

RUNWAY 10R/28L NON−AIR CARRIER AIRCRAFT ONLY.

BE ALERT: TAXIWAY L IS LOCATED BETWEEN RUNWAYS 10L/28R & 10R/28L. TAXIWAY L IS WIDER AND LONGER THAN RUNWAY 10R/28L − DO NOT CONFUSE TAXIWAY L FOR RUNWAY. AIRCRAFT WITH WINGSPAN OF 118 FT OR GREATER IS PROHIBITED ON TAXIWAY L.

Atlanta, Georgia
Hartsfield–Jackson Atlanta International
ICAO Identifier KATL



SE–4, 31 MAY 2012 to 28 JUN 2012

SE–4, 31 MAY 2012 to 28 JUN 2012

Atlanta, GA
Hartsfield − Jackson Atlanta Intl
ICAO Identifier KATL

AD 2.2 Aerodrome geographical and administrative data
2.2.1 Reference Point: 33−38−12.12N / 84−25−40.31W
2.2.2 From City: 7 Miles S Of Atlanta, GA
2.2.3 Elevation: 1026 ft
2.2.5 Magnetic variation: 2W (1985)
2.2.6 Airport Contact: Louis E. Miller
PO BOX 20509 AIRPORT OPNS
Atlanta, GA 30320
(404−530−6600)
2.2.7 Traffic: IFR/VFR

AD 2.3 Operational hours
2.3.1 − 2.3.11: ALL Months, ALL Days, ALL Hours

AD 2.4 Handling services and facilities
2.4.1 Cargo handling facilities: No
2.4.2 Fuel types: 100,100LL,A
2.4.4 De−icing facilities: None
2.4.5 Hangar space: Yes
2.4.6 Repair facilities: Major

AD 2.6 Rescue and firefighting services
2.6.1 Aerodrome category for firefighting: ARFF Index I E certified on 5/1/1973

AD 2.10 Aerodrome obstacles
2.10.1.a. Runway designation: 09L
2.10.1.b Type of obstacle: Other (108 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 200 ft from Centerline

2.10.1.a. Runway designation: 09R
2.10.1.b Type of obstacle: Tower (88 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 1000 ft from Centerline

2.10.1.a. Runway designation: 08L
2.10.1.b Type of obstacle: Sign (14 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 400 ft from Centerline

2.10.1.a. Runway designation: 26R
2.10.1.b Type of obstacle: Ant (53 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 800 ft from Centerline

2.10.1.a. Runway designation: 08R
2.10.1.b Type of obstacle: Rr (64 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 500 ft from Centerline

2.10.1.a. Runway designation: 26L
2.10.1.b Type of obstacle: Vent (13 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 560 ft from Centerline

2.10.1.a. Runway designation: 10
2.10.1.b Type of obstacle: Sign (51 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 770 ft from Centerline

2.10.1.a. Runway designation: 28
2.10.1.b Type of obstacle: Tower (136 ft). Lighted
2.10.1.c Location of obstacle: 410 ft from Centerline

AD 2.12 Runway physical characteristics
2.12.1 Designation: H1
2.12.3 Dimensions: 52 ft x 52 ft

2.12.1 Designation: 09L
2.12.2 True Bearing: 90
2.12.3 Dimensions: 12390 ft x 150 ft
2.12.4 PCN: 62 R/A/W/T
2.12.5 Coordinates: 33−38−00.00N / 84−26−52.68W
2.12.6 Threshold elevation: 1019 ft
2.12.6 Touchdown zone elevation: 1019 ft
2.12.7 Slope: 0.3DOWN

2.12.1 Designation: 27R
2.12.2 True Bearing: 270
2.12.3 Dimensions: 12390 ft x 150 ft
2.12.4 PCN: 62 R/A/W/T
2.12.5 Coordinates: 33−38−00.00N / 84−24−26.16W
2.12.6 Threshold elevation: 977 ft

2.12.6 Touchdown zone elevation: 985 ft
2.12.7 Slope: 0.4UP

2.12.1 Designation: 09R
2.12.2 True Bearing: 90
2.12.3 Dimensions: 9000 ft x 150 ft
2.12.4 PCN: 68 R/A/W/T
2.12.5 Coordinates: 33–37–54.53N / 84–26–52.68W
2.12.6 Threshold elevation: 1026 ft
2.12.6 Touchdown zone elevation: 1026 ft
2.12.7 Slope: 0.4DOWN

2.12.1 Designation: 27L
2.12.2 True Bearing: 270
2.12.3 Dimensions: 9000 ft x 150 ft
2.12.4 PCN: 68 R/A/W/T
2.12.5 Coordinates: 33–37–54.56N / 84–25–00.00W
2.12.6 Threshold elevation: 985 ft
2.12.6 Touchdown zone elevation: 999 ft
2.12.7 Slope: 0.5DOWN

2.12.1 Designation: 08L
2.12.2 True Bearing: 90
2.12.3 Dimensions: 9000 ft x 150 ft
2.12.4 PCN: 62 R/A/W/T
2.12.5 Coordinates: 33–38–58.32N / 84–26–20.49W
2.12.6 Threshold elevation: 1015 ft
2.12.6 Touchdown zone elevation: 1015 ft
2.12.7 Slope: 0.6DOWN

2.12.1 Designation: 26R
2.12.2 True Bearing: 270
2.12.3 Dimensions: 9000 ft x 150 ft
2.12.4 PCN: 62 R/A/W/T
2.12.5 Coordinates: 33–38–58.35N / 84–24–34.03W
2.12.6 Threshold elevation: 990 ft
2.12.6 Touchdown zone elevation: 990 ft

2.12.1 Designation: 08R
2.12.2 True Bearing: 90
2.12.3 Dimensions: 10000 ft x 150 ft
2.12.4 PCN: 74 R/A/W/T
2.12.5 Coordinates: 33–38–48.43N / 84–26–18.11W
2.12.6 Threshold elevation: 1024 ft
2.12.6 Touchdown zone elevation: 1024 ft
2.12.7 Slope: 1DOWN

2.12.1 Designation: 26L
2.12.2 True Bearing: 270
2.12.3 Dimensions: 10000 ft x 150 ft
2.12.4 PCN: 74 R/A/W/T
2.12.5 Coordinates: 33–38–48.46N / 84–24–19.83W
2.12.6 Threshold elevation: 995 ft
2.12.6 Touchdown zone elevation: 995 ft
2.12.7 Slope: 0.4DOWN

2.12.1 Designation: 10
2.12.2 True Bearing: 90
2.12.3 Dimensions: 9000 ft x 150 ft
2.12.4 PCN: 74 R/A/W/T
2.12.5 Coordinates: 33–37–12.98N / 84–26–52.36W
2.12.6 Threshold elevation: 1000 ft
2.12.6 Touchdown zone elevation: 1000 ft

2.12.1 Designation: 28
2.12.2 True Bearing: 270
2.12.3 Dimensions: 9000 ft x 150 ft
2.12.4 PCN: 74 R/A/W/T
2.12.5 Coordinates: 33–37–13.02N / 84–25–00.00W
2.12.6 Threshold elevation: 998 ft
2.12.6 Touchdown zone elevation: 998 ft

AD 2.13 Declared distances
2.13.1 Designation: 09L
2.13.2 Takeoff run available: 11890
2.13.3 Takeoff distance available: 11890
2.13.4 Accelerate–stop distance available: 11730
2.13.5 Landing distance available: 11730

2.13.1 Designation: 27R
2.13.2 Takeoff run available: 11890
2.13.3 Takeoff distance available: 11890
2.13.4 Accelerate–stop distance available: 11690
2.13.5 Landing distance available: 11690

2.13.1 Designation: 09R
2.13.2 Takeoff run available: 9000
2.13.3 Takeoff distance available: 9000
2.13.4 Accelerate–stop distance available: 9000
2.13.5 Landing distance available: 9000

2.13.1 Designation: 27L
2.13.2 Takeoff run available: 9000
2.13.3 Takeoff distance available: 9000
2.13.4 Accelerate–stop distance available: 8865
2.13.5 Landing distance available: 8865

2.13.1 Designation: 08L
2.13.2 Takeoff run available: 9000
2.13.3 Takeoff distance available: 9000
2.13.4 Accelerate–stop distance available: 8800
2.13.5 Landing distance available: 8800

2.13.1 Designation: 26R
2.13.2 Takeoff run available: 9000
2.13.3 Takeoff distance available: 9000
2.13.4 Accelerate–stop distance available: 8800
2.13.5 Landing distance available: 8800

AD 2.14 Approach and runway lighting
2.14.1 Designation: 09L
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on right

2.14.1 Designation: 27R
2.14.2 Approach lighting system: MALS: 1400 feet medium intensity approach lighting system
2.14.4 Visual approach slope indicator system: 4–light PAPI on right

2.14.1 Designation: 09R
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 27L
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration
2.14.4 Visual approach slope indicator system: 4–light PAPI on right

2.14.1 Designation: 08L
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 26R
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 08R
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 26L
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 10
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration

2.14.1 Designation: 28
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration

AD 2.18 Air traffic services communication facilities
2.18.1 Service designation: D–ATIS
2.18.3 Service designation: 119.65 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: EMERG
2.18.3 Service designation: 121.5 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 121.75 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 121.9 MHz

2.18.1 Service designation: D–ATIS
2.18.3 Service designation: 125.55 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: EMERG
2.18.3 Service designation: 243 MHz

2.18.1 Service designation: CD/P
2.18.3 Service designation: 118.1 MHz

2.18.1 Service designation: ILS PRM LCL/P
2.18.3 Service designation: 119.1 MHz

2.18.1 Service designation: ILS PRM LCL/P
2.18.3 Service designation: 125.325 MHz

2.18.1 Service designation: ILS PRM LCL/P
2.18.3 Service designation: 123.85 MHz

2.18.1 Service designation: ILS PRM LCL/P
2.18.3 Service designation: 119.3 MHz

2.18.1 Service designation: ILS PRM LCL/P
2.18.3 Service designation: 119.5 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 121.65 MHz

2.18.1 Service designation: LCL/P GND/P
2.18.3 Service designation: 381.6 MHz

2.18.1 Service designation: ILS PRM MONITOR/P
2.18.3 Service designation: 126.9 MHz

2.18.1 Service designation: ILS PRM MONITOR/P
2.18.3 Service designation: 132.55 MHz

2.18.1 Service designation: ILS PRM MONITOR/P
2.18.3 Service designation: 133.425 MHz

2.18.1 Service designation: DEP/P
2.18.3 Service designation: 135.375 MHz

AD 2.19 Radio navigation and landing aids

2.19.1 ILS type: Outer Marker for runway 09L.
Magnetic variation: 2W
2.19.2 ILS identification: HZK
2.19.5 Coordinates: 33–37–57.07N /
84–32–34.28W
2.19.6 Site elevation: ft

2.19.1 ILS type: Localizer for runway 09L.
Magnetic variation: 2W
2.19.2 ILS identification: HZK
2.19.5 Coordinates: 33–38–00.00N /
84–24–19.08W
2.19.6 Site elevation: 950 ft

2.19.1 ILS type: Glide Slope for runway 09L.
Magnetic variation: 2W
2.19.2 ILS identification: HZK
2.19.5 Coordinates: 33–38–00.00N /
84–26–39.67W
2.19.6 Site elevation: 1017 ft

2.19.1 ILS type: Middle Marker for runway 09L.
Magnetic variation: 2W
2.19.2 ILS identification: HZK
2.19.5 Coordinates: 33–38–00.00N /
84–27–20.50W
2.19.6 Site elevation: 987 ft

2.19.1 ILS type: DME for runway 09L. Magnetic variation: 2W
2.19.2 ILS identification: HZK
2.19.5 Coordinates: 33–38–00.00N /
84–24–44.38W
2.19.6 Site elevation: 978 ft

2.19.1 ILS type: Middle Marker for runway 27R.
Magnetic variation: 2W
2.19.2 ILS identification: AFA
2.19.5 Coordinates: 33–38–00.00N /
84–23–54.35W
2.19.6 Site elevation: 954 ft

2.19.1 ILS type: Outer Marker for runway 27R.
Magnetic variation: 2W
2.19.2 ILS identification: AFA
2.19.5 Coordinates: 33–38–00.00N /
84–18–36.44W
2.19.6 Site elevation: 905 ft

2.19.1 ILS type: Localizer for runway 27R.
Magnetic variation: 2W
2.19.2 ILS identification: AFA
2.19.5 Coordinates: 33–38–00.00N /
84–27–00.00W
2.19.6 Site elevation: 1020 ft

2.19.1 ILS type: Glide Slope for runway 27R.
Magnetic variation: 2W
2.19.2 ILS identification: AFA
2.19.5 Coordinates: 33–38–00.00N /
84–24–44.13W
2.19.6 Site elevation: 978 ft

2.19.1 ILS type: DME for runway 09R. Magnetic variation: 5W
2.19.2 ILS identification: FUN
2.19.5 Coordinates: 33–37–56.63N /
84–24–54.23W

2.19.6 Site elevation: 987 ft

2.19.1 ILS type: Outer Marker for runway 09R.
Magnetic variation: 5W
2.19.2 ILS identification: FUN
2.19.5 Coordinates: 33–37–57.07N /
84–32–34.28W
2.19.6 Site elevation: ft

2.19.1 ILS type: Inner Marker for runway 09R.
Magnetic variation: 5W
2.19.2 ILS identification: FUN
2.19.5 Coordinates: 33–37–54.52N /
84–27–00.00W
2.19.6 Site elevation: ft

2.19.1 ILS type: Localizer for runway 09R.
Magnetic variation: 5W
2.19.2 ILS identification: FUN
2.19.5 Coordinates: 33–37–54.57N /
84–24–52.61W
2.19.6 Site elevation: 976 ft

2.19.1 ILS type: Glide Slope for runway 09R.
Magnetic variation: 5W
2.19.2 ILS identification: FUN
2.19.5 Coordinates: 33–37–58.49N /
84–26–39.06W
2.19.6 Site elevation: 1017 ft

2.19.1 ILS type: Middle Marker for runway 09R.
Magnetic variation: 5W
2.19.2 ILS identification: FUN
2.19.5 Coordinates: 33–37–55.50N /
84–27–19.55W
2.19.6 Site elevation: ft

2.19.1 ILS type: Localizer for runway 27L.
Magnetic variation: 4W
2.19.2 ILS identification: FSQ
2.19.5 Coordinates: 33–37–54.53N /
84–27–00.00W
2.19.6 Site elevation: 1022 ft

2.19.1 ILS type: Glide Slope for runway 27L.
Magnetic variation: 4W
2.19.2 ILS identification: FSQ
2.19.5 Coordinates: 33–37–58.52N /
84–25–18.96W
2.19.6 Site elevation: 986 ft

2.19.1 ILS type: Outer Marker for runway 27L.
Magnetic variation: 4W
2.19.2 ILS identification: FSQ
2.19.5 Coordinates: 33–38–00.00N /
84–18–36.44W
2.19.6 Site elevation: 905 ft

2.19.1 ILS type: Middle Marker for runway 27L.
Magnetic variation: 4W
2.19.2 ILS identification: FSQ
2.19.5 Coordinates: 33–37–53.22N /
84–24–32.44W
2.19.6 Site elevation: 940 ft

2.19.1 ILS type: Inner Marker for runway 27L.
Magnetic variation: 4W
2.19.2 ILS identification: FSQ
2.19.5 Coordinates: 33–37–54.59N /
84–24–52.99W
2.19.6 Site elevation: 984 ft

2.19.1 ILS type: DME for runway 27L. Magnetic variation: 4W
2.19.2 ILS identification: FSQ
2.19.5 Coordinates: 33–37–52.64N /
84–27–00.00W
2.19.6 Site elevation: 1025 ft

2.19.1 ILS type: Localizer for runway 08L.
Magnetic variation: 4W
2.19.2 ILS identification: HFW
2.19.5 Coordinates: 33–38–58.35N /
84–24–23.39W
2.19.6 Site elevation: 985 ft

2.19.1 ILS type: Outer Marker for runway 08L.
Magnetic variation: 4W
2.19.2 ILS identification: HFW
2.19.5 Coordinates: 33–38–48.52N /
84–32–31.60W
2.19.6 Site elevation: 956 ft

2.19.1 ILS type: Inner Marker for runway 08L.
Magnetic variation: 4W
2.19.2 ILS identification: HFW
2.19.5 Coordinates: 33–38–58.32N /
84–26–30.52W
2.19.6 Site elevation: 985 ft

2.19.1 ILS type: DME for runway 08L. Magnetic variation: 4W
2.19.2 ILS identification: HFW

2.19.5 Coordinates: 33–39–00.00N / 84–24–24.70W
2.19.6 Site elevation: 993 ft

2.19.1 ILS type: Glide Slope for runway 08L. Magnetic variation: 4W
2.19.2 ILS identification: HFW
2.19.5 Coordinates: 33–39–00.00N / 84–26–00.00W
2.19.6 Site elevation: 1002 ft

2.19.1 ILS type: Middle Marker for runway 08L. Magnetic variation: 4W
2.19.2 ILS identification: HFW
2.19.5 Coordinates: 33–38–58.31N / 84–26–47.75W
2.19.6 Site elevation: 1024 ft

2.19.1 ILS type: Glide Slope for runway 26R. Magnetic variation: 4W
2.19.2 ILS identification: GXZ
2.19.5 Coordinates: 33–39–00.00N / 84–24–47.63W
2.19.6 Site elevation: 979 ft

2.19.1 ILS type: Outer Marker for runway 26R. Magnetic variation: 4W
2.19.2 ILS identification: GXZ
2.19.5 Coordinates: 33–38–43.61N / 84–18–39.88W
2.19.6 Site elevation: 834 ft

2.19.1 ILS type: Inner Marker for runway 26R. Magnetic variation: 4W
2.19.2 ILS identification: GXZ
2.19.5 Coordinates: 33–38–58.36N / 84–24–22.79W
2.19.6 Site elevation: ft

2.19.1 ILS type: DME for runway 26R. Magnetic variation: 4W
2.19.2 ILS identification: GXZ
2.19.5 Coordinates: 33–39–00.00N / 84–26–27.65W
2.19.6 Site elevation: 1016 ft

2.19.1 ILS type: Middle Marker for runway 26R. Magnetic variation: 4W
2.19.2 ILS identification: GXZ
2.19.5 Coordinates: 33–38–56.36N / 84–23–56.86W
2.19.6 Site elevation: 945 ft

2.19.1 ILS type: Localizer for runway 26R. Magnetic variation: 4W
2.19.2 ILS identification: GXZ
2.19.5 Coordinates: 33–38–58.32N / 84–26–28.21W
2.19.6 Site elevation: 1012 ft

2.19.1 ILS type: Localizer for runway 08R. Magnetic variation: 5W
2.19.2 ILS identification: ATL
2.19.5 Coordinates: 33–38–48.46N / 84–24–00.00W
2.19.6 Site elevation: 987 ft

2.19.1 ILS type: DME for runway 08R. Magnetic variation: 5W
2.19.2 ILS identification: ATL
2.19.5 Coordinates: 33–38–45.79N / 84–24–00.00W
2.19.6 Site elevation: 990 ft

2.19.1 ILS type: Outer Marker for runway 08R. Magnetic variation: 5W
2.19.2 ILS identification: ATL
2.19.5 Coordinates: 33–38–48.52N / 84–32–31.60W
2.19.6 Site elevation: 956 ft

2.19.1 ILS type: Middle Marker for runway 08R. Magnetic variation: 5W
2.19.2 ILS identification: ATL
2.19.5 Coordinates: 33–38–49.70N / 84–26–48.56W
2.19.6 Site elevation: 1008 ft

2.19.1 ILS type: Inner Marker for runway 08R. Magnetic variation: 5W
2.19.2 ILS identification: ATL
2.19.5 Coordinates: 33–38–48.43N / 84–26–28.57W
2.19.6 Site elevation: 1033 ft

2.19.1 ILS type: Glide Slope for runway 08R. Magnetic variation: 5W
2.19.2 ILS identification: ATL
2.19.5 Coordinates: 33–38–52.40N / 84–26–00.00W
2.19.6 Site elevation: 1006 ft

2.19.1 ILS type: DME for runway 26L. Magnetic variation: 2W
2.19.2 ILS identification: BRU

2.19.5 Coordinates: 33–38–49.06N / 84–26–30.15W
2.19.6 Site elevation: 1004 ft

2.19.1 ILS type: Outer Marker for runway 26L. Magnetic variation: 2W
2.19.2 ILS identification: BRU
2.19.5 Coordinates: 33–38–43.61N / 84–18–39.88W
2.19.6 Site elevation: ft

2.19.1 ILS type: Glide Slope for runway 26L. Magnetic variation: 2W
2.19.2 ILS identification: BRU
2.19.5 Coordinates: 33–38–52.41N / 84–24–32.84W
2.19.6 Site elevation: 988 ft

2.19.1 ILS type: Localizer for runway 26L. Magnetic variation: 2W
2.19.2 ILS identification: BRU
2.19.5 Coordinates: 33–38–48.42N / 84–26–30.15W
2.19.6 Site elevation: 1004 ft

2.19.1 ILS type: Middle Marker for runway 26L. Magnetic variation: 2W
2.19.2 ILS identification: BRU
2.19.5 Coordinates: 33–38–48.55N / 84–23–43.60W
2.19.6 Site elevation: ft

2.19.1 ILS type: Localizer for runway 10. Magnetic variation: 4W
2.19.2 ILS identification: OMO
2.19.5 Coordinates: 33–37–13.02N / 84–24–53.99W
2.19.6 Site elevation: 970 ft

2.19.1 ILS type: DME for runway 10. Magnetic variation: 4W
2.19.2 ILS identification: OMO
2.19.5 Coordinates: 33–37–12.45N / 84–24–53.96W
2.19.6 Site elevation: 970 ft

2.19.1 ILS type: Glide Slope for runway 10. Magnetic variation: 4W
2.19.2 ILS identification: OMO
2.19.5 Coordinates: 33–37–00.00N / 84–26–38.76W
2.19.6 Site elevation: 985 ft

2.19.1 ILS type: Inner Marker for runway 10. Magnetic variation: 4W
2.19.2 ILS identification: OMO
2.19.5 Coordinates: 33–37–12.98N / 84–27–00.00W
2.19.6 Site elevation: 993 ft

2.19.1 ILS type: DME for runway 28. Magnetic variation: 4W
2.19.2 ILS identification: PKU
2.19.5 Coordinates: 33–37–12.41N / 84–27–00.00W
2.19.6 Site elevation: 970 ft

2.19.1 ILS type: Localizer for runway 28. Magnetic variation: 4W
2.19.2 ILS identification: PKU
2.19.5 Coordinates: 33–37–12.97N / 84–27–00.00W
2.19.6 Site elevation: 970 ft

2.19.1 ILS type: Glide Slope for runway 28. Magnetic variation: 4W
2.19.2 ILS identification: PKU
2.19.5 Coordinates: 33–37–17.07N / 84–25–18.95W
2.19.6 Site elevation: 990 ft

2.19.1 ILS type: Inner Marker for runway 28. Magnetic variation: 4W
2.19.2 ILS identification: PKU
2.19.5 Coordinates: 33–37–13.02N / 84–24–55.77W
2.19.6 Site elevation: 974 ft

General Remarks:
BE ALERT TO RUNWAY CROSSING CLEARANCES. READBACK OF ALL RUNWAY HOLDING INSTRUCTIONS IS REQUIRED.

PREFERENTIAL RUNWAY USE IN EFFECT, EXPECT TO USE RUNWAYS 08R/26L, 09L/27R FOR DEPS; RUNWAYS 08L/26R, 09R/27L ARE USED PRIMARILY FOR ARRIVALS.

RUNUPS ARE PERMITTED AT VARIOUS SITES; COORDINATE USE OF CITY FACILITIES, MOVEMENT AREAS, ALLOWABLE NON−MOVEMENT AREAS WITH DEPT OF AVIATION OPERATIONS, 404−530−6620; AND COORDINATE THE USE OF THE AIRLINES' FACILITIES WITH THEM.

NOISE & OPERATIONS MONITORING SYSTEM (NOMS) PROGRAM IN EFFECT; CALL THE ATLANTA DEPT OF AVIATION 770−43−NOISE OR 770−436−6473 FOR MORE INFORMATION.

ALL RUNWAYS, TOUCH AND GO OPERATIONS, LOW APPROACHES, AND PRACTICE INSTRUMENT APPROACHES NOT PERMITTED.

GROUP VI AIRCRAFT(LOCKHEED GALAXY C−5; ANTONOV AN−124 & AN−125) WITH A WINGSPAN OF GREATER THAN 214 FT ARE RESTRICTED FROM USING TAXIWAY 'L' EAST OF RAMP 5 SOUTH TO THE WEST SIDE OF RAMP 6 SOUTH, AND TAXIWAY 'F' EAST OF RAMP 5 NORTH AND WEST OF TAXIWAY DIXIE.

ASDE−X SURVEILLANCE SYSTEM IN USE: PILOTS SHOULD OPERATE TRANSPONDERS WITH MODE C ON ALL TAXIWAYS AND RUNWAYS.

AIRCRAFT WITH WINGSPAN GREATER THAN 171 FT ARE RESTRICTED FROM USING TAXIWAY V.

RUNWAY 9L DEPARTURES CAN EXPECT INTERSECTION DEPARTURE FROM M2 WITH RUNWAY REMAINING 10,940 FT.

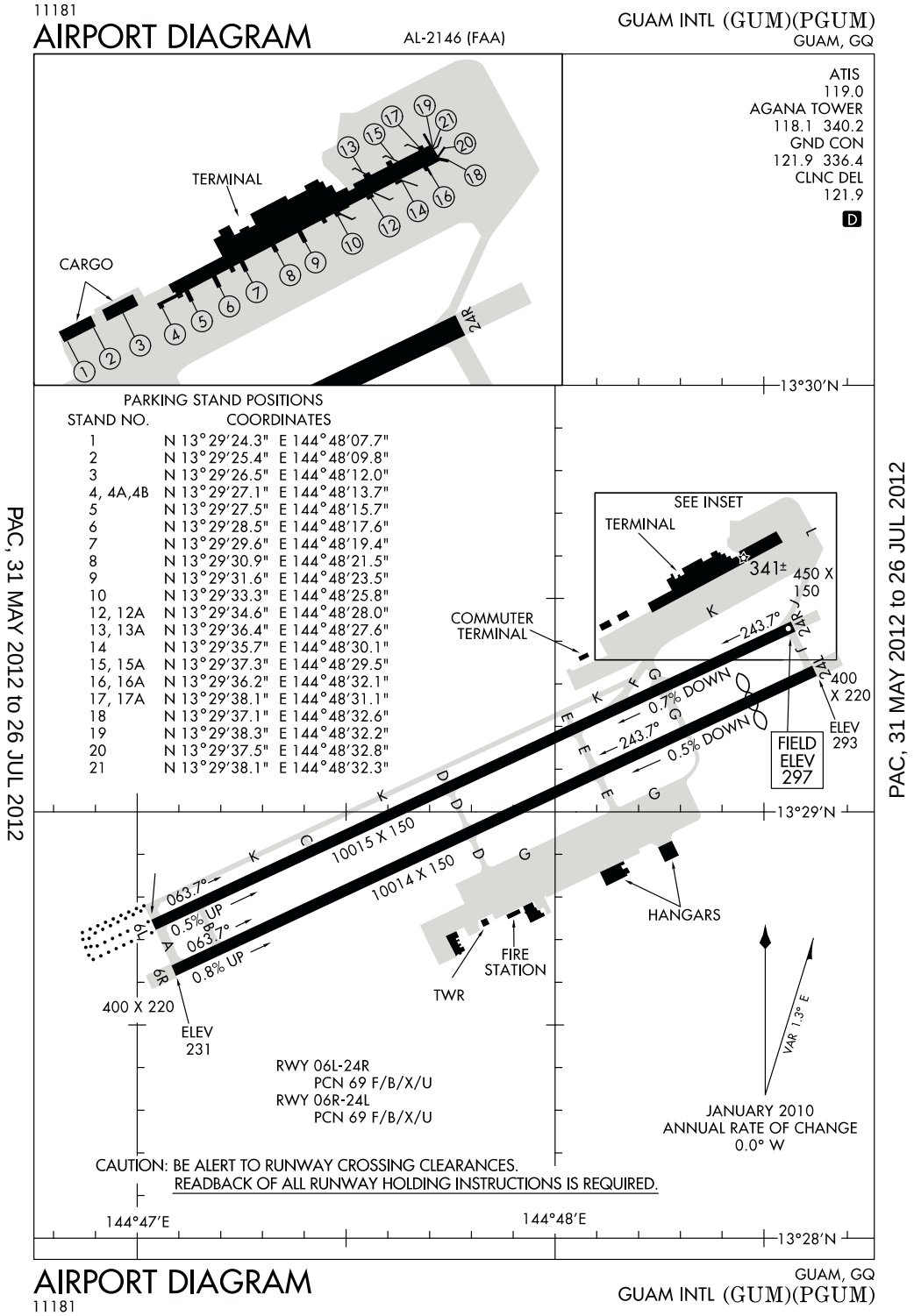
ALL AIRCRAFT WITH WINGSPANS GREATER THAN 199 FT ARE REQUIRED TO USE TAXI SPEEDS NOT GREATER THAN 15 MPH AT ALL TIMES ON ALL TAXIING AIRFIELD PAVEMENT SURFACES.

WHEN AIRCRAFT WITH WINGSPANS GREATER THAN 214 FT ARE PRESENT ON THE FIELD, ALL OTHER AIRCRAFT MUST ADHERE TO THE TAXIWAY CENTERLINE ON TAXIWAYS L AND M, TAXIWAYS E AND F, AND TAXIWAYS STRATOCUMULUS AND SJ BETWEEN SNOW GRAINS AND R DUE TO SEPARATION BETWEEN THE PARALLEL TAXIWAYS.

AIRCRAFT WITH WINGSPANS GREATER THAN 214 FT SHOULD EXPECT TO USE RUNWAYS 09L/27R, 9R/27L, AND 10/28.

TWO AIRCRAFT WITH WINGSPANS GREATER THAN 214 FT MAY NOT TAXI SIMULTANEOUSLY ON ADJACENT PARALLEL TAXIWAYS (L/M, E/F, AND SC/SJ BETWEEN SNOW GRAINS AND R) WITHOUT GUIDANCE FROM THE ATL TOWER.

Agana, Guam
Guam International
ICAO Identifier PGUM



Agana, GU
Guam Intl
ICAO Identifier PGUM

AD 2.2 Aerodrome geographical and administrative data
2.2.1 Reference Point: 13–29–00.00N / 144–47–49.81E
2.2.2 From City: 3 Miles NE Of Agana, GU
2.2.3 Elevation: 297 ft
2.2.5 Magnetic variation: 2E (2000)
2.2.6 Airport Contact: Charles H. Ada Ii
P.O. BOX 8770
Tamuning, GU 96931
(671–646–0300)
2.2.7 Traffic: IFR/VFR

AD 2.3 Operational hours
2.3.1 – 2.3.11: ALL Months, ALL Days, ALL Hours

AD 2.4 Handling services and facilities
2.4.1 Cargo handling facilities: No
2.4.2 Fuel types: 100LL,A1
2.4.4 De–icing facilities: None
2.4.5 Hangar space: Yes
2.4.6 Repair facilities: Minor

AD 2.6 Rescue and firefighting services
2.6.1 Aerodrome category for firefighting: ARFF Index I E certified on 4/1/1995

AD 2.10 Aerodrome obstacles
2.10.1.a. Runway designation: 06L
2.10.1.b Type of obstacle: Tower (420 ft). Marked
2.10.1.c Location of obstacle: 1500 ft from Centerline

2.10.1.a. Runway designation: 06R
2.10.1.b Type of obstacle: Tower (420 ft). Marked
2.10.1.c Location of obstacle: 1500 ft from Centerline

2.10.1.a. Runway designation: 24L
2.10.1.b Type of obstacle: Hill (220 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 1200 ft from Centerline

AD 2.12 Runway physical characteristics
2.12.1 Designation: 06L
2.12.2 True Bearing: 65
2.12.3 Dimensions: 10015 ft x 150 ft
2.12.4 PCN: 69 F/B/X/U
2.12.5 Coordinates: 13–28–44.07N / 144–47–00.00E
2.12.6 Threshold elevation: 239 ft
2.12.6 Touchdown zone elevation: 256 ft

2.12.1 Designation: 24R
2.12.2 True Bearing: 245
2.12.3 Dimensions: 10015 ft x 150 ft
2.12.4 PCN: 69 F/B/X/U
2.12.5 Coordinates: 13–29–26.12N / 144–48–34.29E
2.12.6 Threshold elevation: 297 ft
2.12.6 Touchdown zone elevation: 297 ft

2.12.1 Designation: 06R
2.12.2 True Bearing: 65
2.12.3 Dimensions: 10014 ft x 150 ft
2.12.4 PCN: 69 F/B/X/U
2.12.5 Coordinates: 13–28–37.78N / 144–47–00.00E
2.12.6 Threshold elevation: 231 ft
2.12.6 Touchdown zone elevation: 258 ft

2.12.1 Designation: 24L
2.12.2 True Bearing: 245
2.12.3 Dimensions: 10014 ft x 150 ft
2.12.4 PCN: 69 F/B/X/U
2.12.5 Coordinates: 13–29–19.82N / 144–48–37.29E
2.12.6 Threshold elevation: 293 ft
2.12.6 Touchdown zone elevation: 289 ft

AD 2.13 Declared distances
2.13.1 Designation: 06L
2.13.2 Takeoff run available: 10015
2.13.3 Takeoff distance available: 10015
2.13.4 Accelerate–stop distance available: 10015
2.13.5 Landing distance available: 10015

2.13.1 Designation: 24R
2.13.2 Takeoff run available: 10015
2.13.3 Takeoff distance available: 10015
2.13.4 Accelerate–stop distance available: 10015
2.13.5 Landing distance available: 10015

2.13.1 Designation: 06R
2.13.2 Takeoff run available: 10014
2.13.3 Takeoff distance available: 10014

2.13.4 Accelerate−stop distance available: 10014
2.13.5 Landing distance available: 10014

2.13.1 Designation: 24L
2.13.2 Takeoff run available: 10014
2.13.3 Takeoff distance available: 10014
2.13.4 Accelerate−stop distance available: 10014
2.13.5 Landing distance available: 9014

AD 2.14 Approach and runway lighting
2.14.1 Designation: 06L
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4−light PAPI on left

2.14.1 Designation: 24R
2.14.4 Visual approach slope indicator system: 4−light PAPI on left

2.14.1 Designation: 06R
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4−light PAPI on right

2.14.1 Designation: 24L
2.14.4 Visual approach slope indicator system: PVASI on left

AD 2.19 Radio navigation and landing aids
2.19.1 ILS type: Localizer for runway 06L. Magnetic variation: 2E
2.19.2 ILS identification: GUM
2.19.5 Coordinates: 13−29−30.59N / 144−48−44.07E
2.19.6 Site elevation: 308 ft

2.19.1 ILS type: Glide Slope for runway 06L. Magnetic variation: 2E
2.19.2 ILS identification: GUM
2.19.5 Coordinates: 13−28−51.82N / 144−47−00.00E
2.19.6 Site elevation: 246 ft

2.19.1 ILS type: Outer Marker for runway 06L. Magnetic variation: 2E
2.19.2 ILS identification: GUM
2.19.5 Coordinates: 13−26−41.70N / 144−42−29.30E
2.19.6 Site elevation: ft

2.19.1 ILS type: Middle Marker for runway 06L. Magnetic variation: 2E
2.19.2 ILS identification: GUM
2.19.5 Coordinates: 13−28−33.30N / 144−46−31.80E
2.19.6 Site elevation: ft

2.19.1 ILS type: DME for runway 06L. Magnetic variation: 2E
2.19.2 ILS identification: GUM
2.19.5 Coordinates: 13−29−34.10N / 144−48−42.94E
2.19.6 Site elevation: 317 ft

2.19.1 ILS type: Glide Slope for runway 06R. Magnetic variation: 2E
2.19.2 ILS identification: AWD
2.19.5 Coordinates: 13−28−38.00N / 144−47−15.40E
2.19.6 Site elevation: 237 ft

2.19.1 ILS type: Localizer for runway 06R. Magnetic variation: 2E
2.19.2 ILS identification: AWD
2.19.5 Coordinates: 13−29−24.23N / 144−48−46.93E
2.19.6 Site elevation: 311 ft

2.19.1 ILS type: DME for runway 06R. Magnetic variation: 2E
2.19.2 ILS identification: AWD
2.19.5 Coordinates: 13−29−21.74N / 144−48−48.12E
2.19.6 Site elevation: 316 ft

General Remarks:
1000’ OVERRUN S END & 450’ OVERRUN N END RUNWAY 6L−24R.

FOR PARKING INFORMATION ALL AIRCRAFT CONTACT RAMP CONTROL. ALL AIRCRAFT DEP TERMINAL PARKING CONTACT RAMP CONTROL FOR ENGINE START AND PUSHBACK.

TRANSIENT AIRCRAFT PROVIDE 24 HRS ADVANCE INFORMATION TO EXECUTIVE MANAGER GUAM INTL AIRPORT AUTHORITY; 1–671–642–4455 MON–FRI 0800–1700 OR FAX 1–671–646–8823.

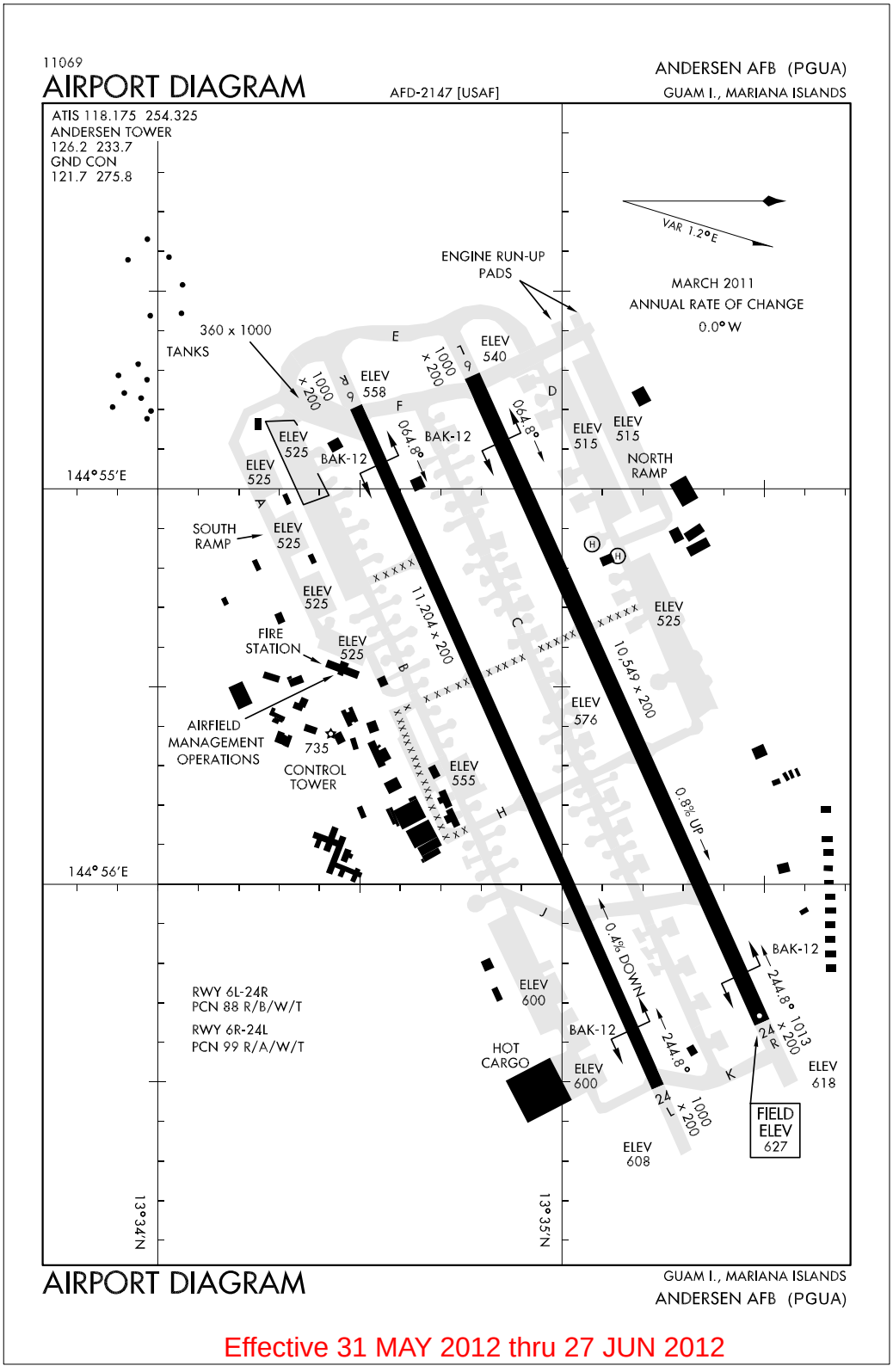
EFFECTIVE RUNWAY GRADIENT RUNWAY 06L 0.46% UP NE; RUNWAY 24R 0.70% DOWN SW; RUNWAY 06R 0.80 % UP NE; RUNWAY 24L 0.52% DOWN SW.

LIGHTED TOWER 780 FT 1.3 NAUTICAL MILE ENE OF RUNWAY 24L THRESHOLD.

RISING TERRAIN 75 FT FROM RUNWAY 24L THRESHOLD 140 FT EAST OF CENTERLINE EXTENDED +8 FT.

DEP VFR AIRCRAFT MAINT RUNWAY HEADING UNTIL PAST DEP END OF RUNWAY AND REACHING 1000 FT AGL; RIGHT PATTERN 24L/R DO NOT EXCEED 1500 FT AGL IN TRAFFIC PATTERN.

Guam Island, Guam
Andersen AFB
ICAO Identifier PGUA



Effective 31 MAY 2012 thru 27 JUN 2012

Andersen,Mariana Island, GU
Andersen AFB
ICAO Identifier PGUA

AD 2.2 Aerodrome geographical and administrative data
2.2.1 Reference Point: 13–35–00.00N / 144–55–48.24E
2.2.2 From City: 0 Miles N Of Andersen,Mariana Island, GU
2.2.3 Elevation: 612 ft
2.2.5 Magnetic variation: 2E (1980)
2.2.7 Traffic: IFR/VFR

AD 2.3 Operational hours
2.3.1 – 2.3.11: ALL Months, ALL Days, ALL Hours

AD 2.4 Handling services and facilities
2.4.1 Cargo handling facilities: No
2.4.2 Fuel types: None
2.4.4 De–icing facilities: None
2.4.5 Hangar space: Yes
2.4.6 Repair facilities: None

AD 2.6 Rescue and firefighting services
2.6.1 Aerodrome category for firefighting: None

AD 2.10 Aerodrome obstacles
2.10.1.a. Runway designation: 06R
2.10.1.b Type of obstacle: Tower–L. Not Lighted or Marked

AD 2.12 Runway physical characteristics
2.12.1 Designation: 06L
2.12.3 Dimensions: 10549 ft x 200 ft
2.12.4 PCN: 88 R/B/W/T
2.12.5 Coordinates: 13–34–49.24N / 144–54–56.24E
2.12.6 Threshold elevation: 535 ft

2.12.1 Designation: 24R
2.12.3 Dimensions: 10549 ft x 200 ft
2.12.4 PCN: 88 R/B/W/T
2.12.5 Coordinates: 13–35–31.98N / 144–56–33.86E
2.12.6 Threshold elevation: 613 ft

2.12.1 Designation: 06R
2.12.3 Dimensions: 11204 ft x 200 ft
2.12.4 PCN: 99 R/A/W/T
2.12.5 Coordinates: 13–34–31.15N / 144–54–59.35E
2.12.6 Threshold elevation: 558 ft
2.12.6 Touchdown zone elevation: 558 ft

2.12.1 Designation: 24L
2.12.3 Dimensions: 11204 ft x 200 ft
2.12.4 PCN: 99 R/A/W/T
2.12.5 Coordinates: 13–35–16.58N / 144–56–43.01E
2.12.6 Threshold elevation: 608 ft
2.12.6 Touchdown zone elevation: 608 ft

AD 2.14 Approach and runway lighting
2.14.1 Designation: 06L
2.14.2 Approach lighting system: SALS: Short approach lighting system
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 24R
2.14.2 Approach lighting system: ALSF1: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category 1 configuration
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 06R
2.14.2 Approach lighting system: ALSF1: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category 1 configuration
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 24L
2.14.2 Approach lighting system: SALS: Short approach lighting system
2.14.4 Visual approach slope indicator system: 4–light PAPI on left
2.14.10 Remarks: Mod 1300’ Length.

General Remarks:
FREQUENT RAIN SHOWERS OF SHORT DURATION, EXPECT WET RUNWAY BRAKING ACTION.

HAZARDOUS AIR TURBULENCE FINAL APPROACH RUNWAYS 24L/24R. NO VISIBILITY REFERENCE AVAILABLE ON NIGHT TAKE–OFF BEYOND END RUNWAY 6.

ARRESTING GEAR BAK–12 RUNWAYS 06L & 06R 30 MIN NOTICE REQUIRE.

AREA BETWEEN 1000’ ROLL BAR AND THU LIGHT RUNWAY 06R AND 06L UNLIGHTED. LAST 642’ PRIOR TO THU LIGHT 24R UNLIGHTED.

MAINT AVAILABLE 0100–0400 WEEKDAY ONLY; CLOSED WEEKEND & HOLIDAY.

BASE OPERATIONS V366–4188; FAX V366–6217.

TAXIWAY B AND C BETWEEN TAXIWAY J AND K CLOSED DUE TO CONSTRUCTION.

NO ARRESTING GEAR MARKERS LOCATED ON THE LEFT SIDE OF ALL APPROACH END BARRIERS.

RESTRICTED: BRAKING ACTION ON BOTH RUNWAYS MAY BE LESS THAN EXPECT DUE TO RUBBER BUILD–UP; PROBABILITY OF HYDROPLANING EXISTS.

RESTRICTED: PRIOR PERMISSION NOT REQUIRED FOR AIR MOBILITY COMMAND MSN. ALL AEROMEDICAL EVACUATION MISSIONS ARE REQUIRED TO CONTACT AMCC (DSN 366–2961, C671–366–2961) BY ANY MEANS AVAIL 3 HRS PRIOR TO ARR. ALL AIR MOBILITY COMMAND AIRCRAFT REQUIRE TO MAKE UHF CALL 30 MIN PRIOR ARR.

MISC: AIRFIELD MANAGEMENT HAS NO COMSEC STORAGE AVAILABLE FOR TRANSIENT AIRCREWS. TRANSMIT AIRCREWS CAN STORE COMSEC AT 36WG CIRCULAR POLARIZATION; AIR MOBILITY COMMAND AIRCREWS CAN STORE COMSEC AT AMCC.

MISC: ALL NON–AMC AIRCREWS INTENDING TO REMAINING OVERNIGHT MUST CHECK INTO AIRFIELD MANAGEMENT OPERATIONS AND PROVIDE POC INFORMATION UPON ARRIVAL.

MISC: BASE WX STATION PROVIDES CONTINUOUS 24–HOUR SERVICE OBSN, LIMITED WX BRIEF SUPPORT. WX OBSERVERS VIEW OBSTRUCTED BY BUILDINGS N–SSW. REMOTE BRIEF AVAILABLE CONTINUOUS 24–HOUR SERVICE FOR USN/USMC FR FWCAD PH AT DSN 315–449–8333/7950.

RESTRICTED: ALL NON–AMC AIRCRAFT CONTACT 36 WG COMMAND POST 90 MIN OUT AND AT 30 MIN OUT PRIOR TO ARR.

MISC: AIRCRAFT EXCEEDING AIRFIELD WEIGHTS MUST REQUEST WEIGHT BEARING CAPACITY WAIVER WITH 24 HR NOTICE TO AIRFIELD OPERATIONS TO PROCESS ANY APPROVALS NEEDED. IF REQUESTS ARE NOT MADE WITHIN 24 HRS EXPECT DELAYS.

RESTRICTED #1 PART A: ALL AIRCRAFT DEP PGUA ARE REQUIRED TO HAVE A BROWN TREE SNAKE INSPECTION CONDUCTED BY USDA PRIOR TO ENGINE START.

RESTRICTED #1 PART B: OUTBND AIRCRAFT MUST CONTACT 36 WG COMMAND POST DSN 366–2981 3 HR PRIOR TO DEP AND/OR 3 HR PRIOR TO ESTIMATED TIME OF DEPARTURE CHANGE.

RESTRICTED #1 PART C: CONTACT 36 WG COMMAND POST AT DSN 366–2981 TO SCHEDULE BTS INSPECTIONS. FAILURE TO RECEIVE THIS INSPECTION WILL RESULT IN UNNECESSARY DELAYS AND PROBABLE DENIAL OF DEPARTURE CLEARANCE.

SERVICE–A–GEAR: CONTACT CONTROL TOWER 30 MIN PRIOR FOR DEPARTURE END BAK12 CABLE CONFIGURATION. 30 MIN PRIOR NOTICE REQ FOR CHANGE CONFIGURATION. BAK12

HOUSING LOCATED 317’ FROM RUNWAY CENTERLINE, 217’ FROM RUNWAY EDGE, MAX HEIGHT 8’. NO ARRESTING–GEAR MARKER LOCATED ON LEFT SIDE OF ALL APPROACH END BARRIERS.

RESTRICTED: PRIOR PERMISSION REQUIRED DSN 366–4188/2260.

MISC: ATTENTION: ALL DRY ICE REQ MUST BE MADE THRU 734TH MS/ATOC DSN 315–366–3125/3137/3162 OR C671–366–3125/3137/3162. REQ MUST BE MADE AT LEAST 24 HR IN ADVANCE FOR AIRCRAFT LANDING TUE–FRI AND 72 HR IN ADVANCE FOR AIRCRAFT LANDING SAT–MON. DUR HOLIDAY, ADD 2 HR TO COORD TIME.

RESTRICTED: RESTRICTIONS TO FLIGHT OPERATIONS DUR EA BIRD WATCH CONDITION. MODERATE: NO TOUCH AND GO LANDING. RESTRICTED LOW APPROACH NO LOWER THAN 200’ OR AS DETERMINED BY SOF. SEVERE: RESTRICTED LOW APPROACH NO LOWER THAN 200’ OR AS DETERMINED BY SOF. EMERGENCY LANDING AND 36 OG/CC APPROVE DEP ONLY. PHASE I: PHASE I:1 APR – 31 JUL. PHASE II: 1 AUG – 31 AT SEA.

RESTRICTED 1 OF 2: THERE WILL BE NO OVERFLIGHT OF MARIANA CROW TERRITORIES BELOW 1,000 FT AGL FROM SEP–MAY. OVERFLIGHT BELOW 1,000 FT AGL IS ALLOWED BETWEEN JUNE AND AUG, THE CROW NON–BREEDING SEASON.

RESTRICTED 2 OF 2: CROW NESTING TERRITORIES ARE IDENT BY DEPARTMENT OF AQUATIC AND WILDLIFE RESOURCES (DAWR) AND UPDATES WILL BE PROVIDED TO 36 CES/CEV AND 36TH OSS STAFFS.

MISC: RUNWAY 06L AND 06R UNDERRUNS 1000’ AVAILABLE FOR TWY/TKOF. RUNWAY 24R UNDERRUN AVAILABLE 500’ FOR TAXI/TKOF.

CAUTION: USE EXTREME CAUTION FOR EXTV UAS OPERATIONS IN VICINITY OF ANDERSEN AFB.

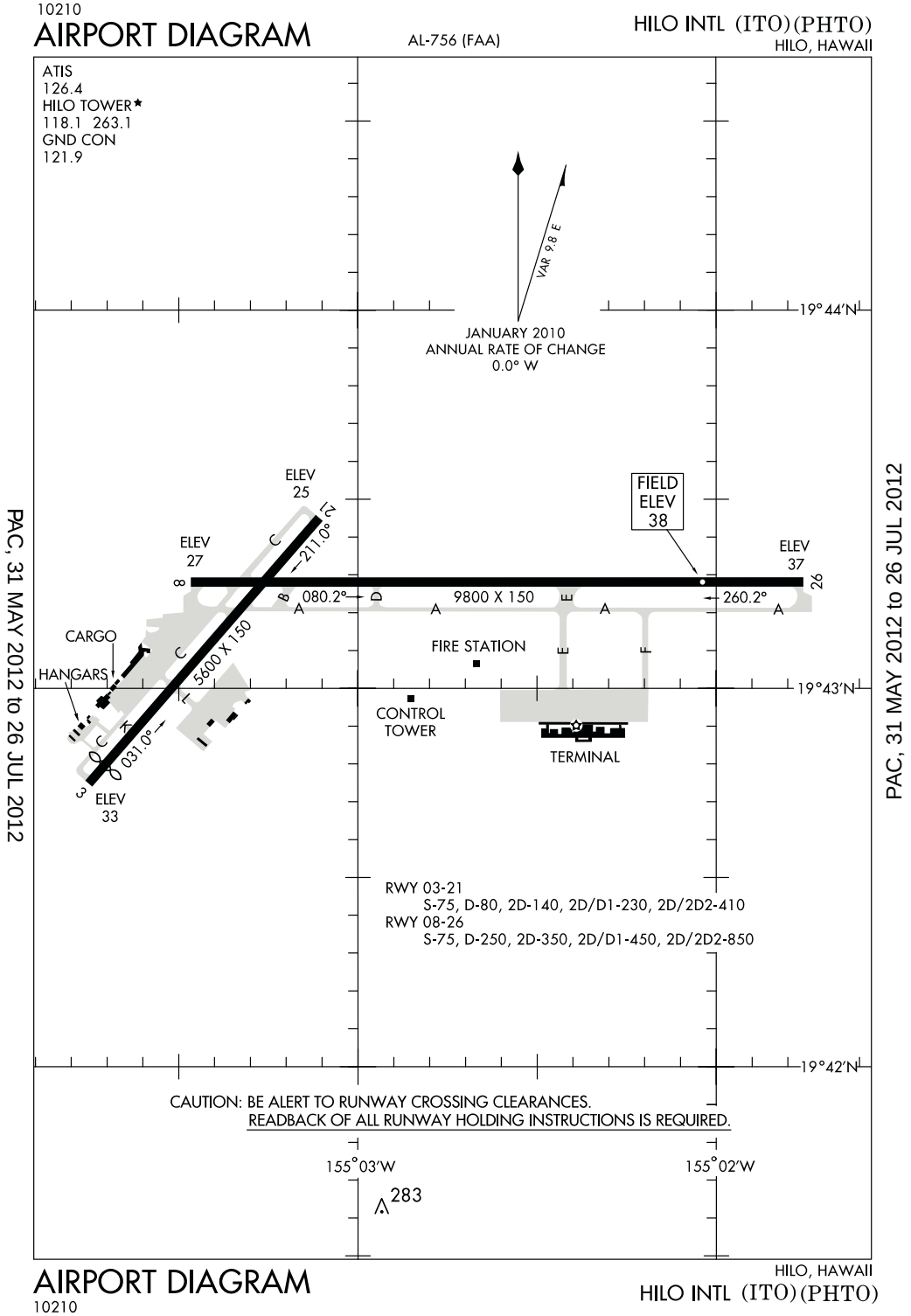
NS ABATEMENT: QUIET HR 1200–2000Z (2200–0600L) DAILY. NO AFTERBURNER, OR OVER FLIGHT OF BASE AND LOCAL POPULATED AREAS. OTHER RESTRICTIONS BY NOTAM.

CAUTION: 47’ TACAN ANTENNAE LOCATED 1,300 FT NE OF RUNWAY 24L & 1,300 FT SE OF RUNWAY 24R THRESHOLDS.

CAUTION: NONSTANDARD DSPLCD THRESHOLD MARKINGS FOR RUNWAYS 06R, 06L, AND 24R.

RESTRICTED: AIRCRAFT WITH WINGSPANS GREATER THAN 261’ NO LONGER AUTHORIZED AT ANDERSEN AFB.

Hilo, Hawaii
Hilo International
ICAO Identifier PHTO



Hilo, HI
Hilo Intl
ICAO Identifier PHTO

AD 2.2 Aerodrome geographical and administrative data
2.2.1 Reference Point: 19–43–12.95N / 155–02–54.49W
2.2.2 From City: 2 Miles E Of Hilo, HI
2.2.3 Elevation: 38 ft
2.2.5 Magnetic variation: 11E (1985)
2.2.6 Airport Contact: Steven J. Santiago
ASSISTANT AIRPORT DISTRICT MANAGER
Hilo, HI 96720
(808–961–9300)
2.2.7 Traffic: IFR/VFR

AD 2.3 Operational hours
2.3.1 – 2.3.11: ALL Months, ALL Days, 0700–2030 Hours

AD 2.4 Handling services and facilities
2.4.1 Cargo handling facilities: No
2.4.2 Fuel types: 100LL,A
2.4.4 De–icing facilities: None
2.4.5 Hangar space: No
2.4.6 Repair facilities: Minor

AD 2.6 Rescue and firefighting services
2.6.1 Aerodrome category for firefighting: ARFF Index I C certified on 5/1/1973

AD 2.10 Aerodrome obstacles
2.10.1.a. Runway designation: 08
2.10.1.b Type of obstacle: Tree (32 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 600 ft from Centerline

2.10.1.a. Runway designation: 26
2.10.1.b Type of obstacle: Tree (25 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 400 ft from Centerline

2.10.1.a. Runway designation: 03
2.10.1.b Type of obstacle: Fence (7 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 0 ft from Centerline

2.10.1.a. Runway designation: 21
2.10.1.b Type of obstacle: Pole (37 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 20 ft from Centerline

AD 2.12 Runway physical characteristics
2.12.1 Designation: 08
2.12.2 True Bearing: 90
2.12.3 Dimensions: 9800 ft x 150 ft
2.12.5 Coordinates: 19–43–16.93N / 155–03–27.99W
2.12.6 Threshold elevation: 27 ft
2.12.6 Touchdown zone elevation: 30 ft

2.12.1 Designation: 26
2.12.2 True Bearing: 270
2.12.3 Dimensions: 9800 ft x 150 ft
2.12.5 Coordinates: 19–43–16.92N / 155–01–45.41W
2.12.6 Threshold elevation: 37 ft
2.12.6 Touchdown zone elevation: 38 ft

2.12.1 Designation: 03
2.12.2 True Bearing: 41
2.12.3 Dimensions: 5600 ft x 150 ft
2.12.5 Coordinates: 19–42–44.96N / 155–03–44.78W
2.12.6 Threshold elevation: 33 ft
2.12.6 Touchdown zone elevation: 34 ft
2.12.7 Slope: 0.1DOWN

2.12.1 Designation: 21
2.12.2 True Bearing: 221
2.12.3 Dimensions: 5600 ft x 150 ft
2.12.5 Coordinates: 19–43–26.99N / 155–03–00.00W
2.12.6 Threshold elevation: 25 ft
2.12.6 Touchdown zone elevation: 31 ft
2.12.7 Slope: 0.1UP

AD 2.14 Approach and runway lighting
2.14.1 Designation: 08
2.14.2 Approach lighting system: Omnidirectional approach lighting system
2.14.4 Visual approach slope indicator system: 6–box VASI on left
2.14.10 Remarks: VASI Upwind Threshold Crossing Height 110.3’ Glide Angle 3.25 Degs; Downwind Threshold Crossing Height 59.6’ Glide Angle 3.00 Degs.

2.14.1 Designation: 26

2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–box VASI on left

2.14.1 Designation: 03
2.14.4 Visual approach slope indicator system: 4–box VASI on left
2.14.10 Remarks: VASI Usable Dist Limited To 4 Nm From Threshold Due Obstruction.

AD 2.18 Air traffic services communication facilities
2.18.1 Service designation: LCL/P
2.18.3 Service designation: 118.1 MHz

2.18.1 Service designation: APCH/P DEP/P
2.18.3 Service designation: 119.7 MHz

2.18.1 Service designation: EMERG
2.18.3 Service designation: 121.5 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 121.9 MHz

2.18.1 Service designation: ATIS
2.18.3 Service designation: 126.4 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: EMERG
2.18.3 Service designation: 243 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 263.1 MHz

2.18.1 Service designation: APCH/P DEP/P
2.18.3 Service designation: 269.2 MHz

2.18.1 Service designation: APCH/S DEP/S
2.18.3 Service designation: 323 MHz

2.18.1 Service designation: APCH/S DEP/S
2.18.3 Service designation: 120.25 MHz

AD 2.19 Radio navigation and landing aids
2.19.1 ILS type: DME for runway 26. Magnetic variation: 11E
2.19.2 ILS identification: ITO
2.19.5 Coordinates: 19–43–13.74N / 155–03–39.51W
2.19.6 Site elevation: 39 ft

2.19.1 ILS type: Glide Slope for runway 26. Magnetic variation: 11E
2.19.2 ILS identification: ITO
2.19.5 Coordinates: 19–43–20.89N / 155–01–58.10W
2.19.6 Site elevation: 33 ft

2.19.1 ILS type: Middle Marker for runway 26. Magnetic variation: 11E
2.19.2 ILS identification: ITO
2.19.5 Coordinates: 19–43–16.90N / 155–01–00.00W
2.19.6 Site elevation: 26 ft

2.19.1 ILS type: Localizer for runway 26. Magnetic variation: 11E
2.19.2 ILS identification: ITO
2.19.5 Coordinates: 19–43–16.93N / 155–03–38.78W
2.19.6 Site elevation: 26 ft

General Remarks:
RUNWAY 08 PAVED 1325’ MARKED BY CHEVRONS, UNUSABLE FOR LANDING/TAKEOFF/OVERUN/STY; CANNOT BE USED IN COMPUTING TAKE–OFF DATA.

ATCT CONTROLS ENTRY/EXIT TRAFFIC ON TAXIWAYS F&E TO EAST TERMINAL RAMP.

181’ LIGHTED SMOKE STACK 1/2 STATUTE MILE SOUTH OF FIELD.

PRIOR PERMISSION REQUIRED FROM AIRPORT MANAGER FOR TRANSIENT PARKING.

BE ALERT OCCASIONAL BIRD FLOCKS ON AIRPORT AND IN FLIGHT ACROSS RUNWAY 08/26 AND 03/21.

(A70A) JET FUEL AVAILABLE MON–SAT 0800–1700 CALL (808) 935–6881/6122 OR 961–6601.

(E93) NO MARKED PAD, HELICOPTER OPER FROM FBO HANGER AREA.

CLASS A AND B EXPLOSIVES PROHIBITED.

PRIOR PERMISSION REQUIRED FROM AIRPORT MANAGER FOR TRANSPORTATION OF CLASS C EXPLOSIVES AND HAZARDOUS MATERIAL IN OR OUT OF AIRPORT.

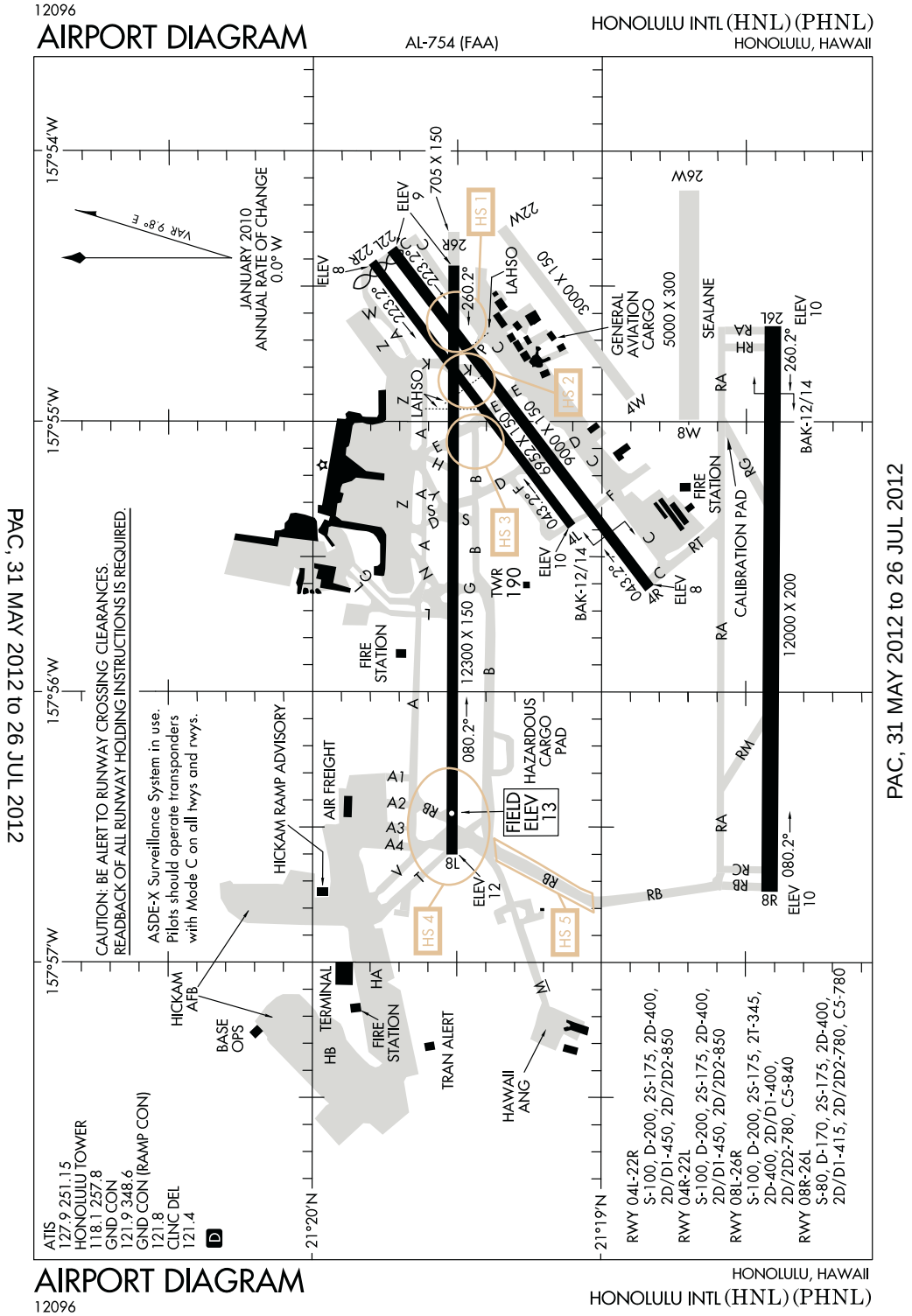
NOISE ABATEMENT: AVOID OVERFLIGHT OF NOISE SENSITIVE RESIDENTIAL AREAS N, W AND SW OF AIRPORT.

RUNWAY 3/21 CLOSED TO TURBINE AIRCRAFT 1800–0600.

RUNWAY 08/26 SINGLE–BELLY TWIN TANDEM (SBTT) GROSS WEIGHT 450,000 LBS.

RUNWAY 03/21 SINGLE–BELLY TWIN TANDEM (SBTT) GROSS WEIGHT 230,000 LBS.

Honolulu, Hawaii
Honolulu International
ICAO Identifier PHNL



Honolulu, HI
Honolulu Intl
ICAO Identifier PHNL

AD 2.2 Aerodrome geographical and administrative data
2.2.1 Reference Point: 21–19–00.00N / 157–55–20.74W
2.2.2 From City: 3 Miles NW Of Honolulu, HI
2.2.3 Elevation: 13 ft
2.2.5 Magnetic variation: 11E (1990)
2.2.6 Airport Contact: Jim Pratt
300 RODGERS BLVD. #12
Honolulu, HI 96819
(808–836–6533)
2.2.7 Traffic: IFR/VFR

AD 2.3 Operational hours
2.3.1 – 2.3.11: ALL Months, ALL Days, ALL Hours

AD 2.4 Handling services and facilities
2.4.1 Cargo handling facilities: No
2.4.2 Fuel types: 100,80,A,A1+,B
2.4.4 De–icing facilities: None
2.4.5 Hangar space: No
2.4.6 Repair facilities: Major

AD 2.6 Rescue and firefighting services
2.6.1 Aerodrome category for firefighting: ARFF Index I E certified on 5/1/1973

AD 2.10 Aerodrome obstacles
2.10.1.a. Runway designation: 22L
2.10.1.b Type of obstacle: Stack (74 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 475 ft from Centerline

2.10.1.a. Runway designation: 04R
2.10.1.b Type of obstacle: Tree (20 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 200 ft from Centerline

2.10.1.a. Runway designation: 26R
2.10.1.b Type of obstacle: Road (15 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 500 ft from Centerline

2.10.1.a. Runway designation: 22R
2.10.1.b Type of obstacle: Ant (50 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 20 ft from Centerline

AD 2.12 Runway physical characteristics
2.12.1 Designation: 08R
2.12.2 True Bearing: 90
2.12.3 Dimensions: 12000 ft x 200 ft
2.12.5 Coordinates: 21–18–24.49N / 157–56–45.07W
2.12.6 Threshold elevation: 10 ft
2.12.6 Touchdown zone elevation: 10 ft

2.12.1 Designation: 26L
2.12.2 True Bearing: 270
2.12.3 Dimensions: 12000 ft x 200 ft
2.12.5 Coordinates: 21–18–24.48N / 157–54–38.15W
2.12.6 Threshold elevation: 10 ft
2.12.6 Touchdown zone elevation: 10 ft

2.12.1 Designation: 04R
2.12.2 True Bearing: 53
2.12.3 Dimensions: 9000 ft x 150 ft
2.12.5 Coordinates: 21–18–50.10N / 157–55–37.69W
2.12.6 Threshold elevation: 8 ft
2.12.6 Touchdown zone elevation: 9 ft

2.12.1 Designation: 22L
2.12.2 True Bearing: 233
2.12.3 Dimensions: 9000 ft x 150 ft
2.12.5 Coordinates: 21–19–43.76N / 157–54–21.65W
2.12.6 Threshold elevation: 9 ft
2.12.6 Touchdown zone elevation: 9 ft

2.12.1 Designation: 08L
2.12.2 True Bearing: 90
2.12.3 Dimensions: 12300 ft x 150 ft
2.12.5 Coordinates: 21–19–30.89N / 157–56–35.64W
2.12.6 Threshold elevation: 12 ft
2.12.6 Touchdown zone elevation: 13 ft

2.12.1 Designation: 26R
2.12.2 True Bearing: 270
2.12.3 Dimensions: 12300 ft x 150 ft
2.12.5 Coordinates: 21–19–30.88N / 157–54–25.54W
2.12.6 Threshold elevation: 9 ft

2.12.6 Touchdown zone elevation: 9 ft

2.12.1 Designation: 04L
2.12.2 True Bearing: 53
2.12.3 Dimensions: 6952 ft x 150 ft
2.12.5 Coordinates: 21−19−00.00N / 157−55−23.95W
2.12.6 Threshold elevation: 10 ft
2.12.6 Touchdown zone elevation: 10 ft

2.12.1 Designation: 22R
2.12.2 True Bearing: 233
2.12.3 Dimensions: 6952 ft x 150 ft
2.12.5 Coordinates: 21−19−47.45N / 157−54−25.22W
2.12.6 Threshold elevation: 8 ft
2.12.6 Touchdown zone elevation: 10 ft

2.12.1 Designation: 04W
2.12.2 True Bearing: 51
2.12.3 Dimensions: 3000 ft x 150 ft
2.12.5 Coordinates: 21−18−53.09N / 157−54−46.44W

2.12.1 Designation: 22W
2.12.2 True Bearing: 231
2.12.3 Dimensions: 3000 ft x 150 ft
2.12.5 Coordinates: 21−19−11.80N / 157−54−21.78W

2.12.1 Designation: 08W
2.12.2 True Bearing: 91
2.12.3 Dimensions: 5000 ft x 300 ft
2.12.5 Coordinates: 21−18−40.85N / 157−55−00.00W

2.12.1 Designation: 26W
2.12.2 True Bearing: 271
2.12.3 Dimensions: 5000 ft x 300 ft
2.12.5 Coordinates: 21−18−39.98N / 157−54−00.00W

AD 2.13 Declared distances
2.13.1 Designation: 04L
2.13.2 Takeoff run available: 6948
2.13.3 Takeoff distance available: 6948
2.13.4 Accelerate−stop distance available: 6398
2.13.5 Landing distance available: 6398

2.13.1 Designation: 22R
2.13.2 Takeoff run available: 6948
2.13.3 Takeoff distance available: 6948
2.13.4 Accelerate−stop distance available: 6948
2.13.5 Landing distance available: 6798

AD 2.14 Approach and runway lighting
2.14.1 Designation: 08R
2.14.4 Visual approach slope indicator system: 4−light PAPI on left

2.14.1 Designation: 26L
2.14.4 Visual approach slope indicator system: 4−light PAPI on left

2.14.1 Designation: 04R
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4−light PAPI on left

2.14.1 Designation: 22L
2.14.4 Visual approach slope indicator system: 4−box VASI on left
2.14.10 Remarks: VASI Unusable Beyond 2 Nm From Threshold
ry 22L VASI GA 3.0deg Threshold Crossing Height 52 Ft.

2.14.1 Designation: 08L
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4−light PAPI on left

2.14.1 Designation: 26R
2.14.4 Visual approach slope indicator system: 6−box VASI on left
2.14.10 Remarks: VASI Upper GA 3.25 Degrees Threshold Crossing Height 96 Ft ; Lower GA 3.00 Degrees Threshold Crossing Height 52 Ft .

2.14.1 Designation: 04L
2.14.4 Visual approach slope indicator system: 4−light PAPI on left

AD 2.18 Air traffic services communication facilities
2.18.1 Service designation: LCL/P
2.18.3 Service designation: 118.1 MHz

2.18.1 Service designation: DEP/P
2.18.3 Service designation: 118.3 MHz

2.18.1 Service designation: APCH/P

2.18.3 Service designation: 118.3 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 119.1 MHz

2.18.1 Service designation: AS ASGND
2.18.3 Service designation: 120.9 MHz

2.18.1 Service designation: CD
2.18.3 Service designation: 121.4 MHz

2.18.1 Service designation: EMERG
2.18.3 Service designation: 121.5 MHz

2.18.1 Service designation: HONOLULU RAMP ADVISORY
2.18.3 Service designation: 121.8 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 121.9 MHz

2.18.1 Service designation: LCL/S
2.18.3 Service designation: 123.9 MHz

2.18.1 Service designation: DEP/P CLASS B
2.18.3 Service designation: 124.8 MHz

2.18.1 Service designation: D–ATIS
2.18.3 Service designation: 127.9 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: PTD
2.18.3 Service designation: 133.6 MHz

2.18.1 Service designation: HICKAM ADVSY RAMP
2.18.3 Service designation: 133.6 MHz

2.18.1 Service designation: CP
2.18.3 Service designation: 141.8 MHz

2.18.1 Service designation: EMERG
2.18.3 Service designation: 243 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 257.8 MHz

2.18.1 Service designation: DEP/P
2.18.3 Service designation: 269 MHz

2.18.1 Service designation: APCH/P
2.18.3 Service designation: 269 MHz

2.18.1 Service designation: CD
2.18.3 Service designation: 281.4 MHz

2.18.1 Service designation: AS ASGND
2.18.3 Service designation: 285.4 MHz

2.18.1 Service designation: ANG–OPNS
2.18.3 Service designation: 293.7 MHz

2.18.1 Service designation: SAC–OPNS
2.18.3 Service designation: 311 MHz

2.18.1 Service designation: DEP/P CLASS B
2.18.3 Service designation: 317.6 MHz

2.18.1 Service designation: APCH/P DEP/P
2.18.3 Service designation: 338.2 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 348.6 MHz

2.18.1 Service designation: PTD
2.18.3 Service designation: 372.2 MHz

2.18.1 Service designation: COMD POST
2.18.3 Service designation: 292.5 MHz

2.18.1 Service designation: SHAKA OPS
2.18.3 Service designation: 125.3 MHz

2.18.1 Service designation: SHAKA OPS
2.18.3 Service designation: 349.4 MHz

2.18.1 Service designation: HICKAM RAMP ADVISORY
2.18.3 Service designation: 234.8 MHz

2.18.1 Service designation: D–ATIS
2.18.3 Service designation: 251.15 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 239.05 MHz

2.18.1 Service designation: LCL/S
2.18.3 Service designation: 273.575 MHz

AD 2.19 Radio navigation and landing aids

2.19.1 ILS type: Localizer for runway 26L. Magnetic variation: 11E
2.19.2 ILS identification: EPC
2.19.5 Coordinates: 21–19–34.96N / 157–54–28.18W

2.19.6 Site elevation: 7 ft

2.19.1 ILS type: DME for runway 26L. Magnetic variation: 11E
2.19.2 ILS identification: EPC
2.19.5 Coordinates: 21–19–36.96N / 157–54–25.90W
2.19.6 Site elevation: 21 ft

2.19.1 ILS type: Localizer for runway 04R. Magnetic variation: 11E
2.19.2 ILS identification: IUM
2.19.5 Coordinates: 21–19–49.82N / 157–54–13.05W
2.19.6 Site elevation: 5 ft

2.19.1 ILS type: DME for runway 04R. Magnetic variation: 11E
2.19.2 ILS identification: IUM
2.19.5 Coordinates: 21–19–47.83N / 157–54–12.09W
2.19.6 Site elevation: 21 ft

2.19.1 ILS type: Glide Slope for runway 04R. Magnetic variation: 11E
2.19.2 ILS identification: IUM
2.19.5 Coordinates: 21–18–53.99N / 157–55–26.90W
2.19.6 Site elevation: 6 ft

2.19.1 ILS type: Middle Marker for runway 04R. Magnetic variation: 11E
2.19.2 ILS identification: IUM
2.19.5 Coordinates: 21–18–33.00N / 157–55–59.70W
2.19.6 Site elevation: 4 ft

2.19.1 ILS type: Localizer for runway 08L. Magnetic variation: 11E
2.19.2 ILS identification: HNL
2.19.5 Coordinates: 21–19–30.88N / 157–54–16.41W
2.19.6 Site elevation: 6 ft

2.19.1 ILS type: Middle Marker for runway 08L. Magnetic variation: 11E
2.19.2 ILS identification: HNL
2.19.5 Coordinates: 21–19–31.00N / 157–57–10.30W
2.19.6 Site elevation: ft

2.19.1 ILS type: Glide Slope for runway 08L. Magnetic variation: 11E
2.19.2 ILS identification: HNL
2.19.5 Coordinates: 21–19–26.68N / 157–56–22.59W
2.19.6 Site elevation: 7 ft

2.19.1 ILS type: Outer Marker for runway 08L. Magnetic variation: 11E
2.19.2 ILS identification: HNL
2.19.5 Coordinates: 21–19–29.70N / 158–02–55.90W
2.19.6 Site elevation: ft

General Remarks:
REMAIN AT LEAST 1 MILE OFF SHORE OF WAIKIKI DIAMOND HEAD KOKO HEAD & EWA BEACH. ARR RUNWAY 08L; FLY ILS APPROACH PROC OR A CLOSE–IN BASE LEG REMAINING OVER CENTER OF PEARL HARBOR CHANNEL. ARR 26L/R; RNM AT TRAFFIC PATTERN ALTITUDES AS LONG AS POSSIBLE BEFORE BEGINNING DESCENT FOR LANDING.

RUNWAY 04R/22L DC10 450000+; L–1011 450000+; RUNWAY 04L/22R DC10 450000; L–1011 450000+; RUNWAY 08L/26R DC10 400000; L–1011 410000; RUNWAY 08R/26L DC10 415000; L–1011 400000.

PRIOR PERMISSION REQUIRED FROM AIRPORT MANAGER FOR TRANSPORATION OF CLASS A OR B EXPLOSIVES IN AND/OR OUT OF HNL.

DUE TO NON–VISIBILITY TOWER UNABLE TO DETERMINE IF THE FOLLOWING AREAS ARE CLEAR OF OBSTRUCTIONS AND/OR TRAFFIC: PORTIONS OF TAXIWAY RB BETWEEN TAXIWAY B & RUNWAY 08R; PORTIONS OF INTER–ISLAND AIRCRAFT PARKING RAMP.

MILITARY: PRIOR PERMISSION REQUIRED ALL AIRCRAFT UNITS PLANNING TO STAGE OPERATIONS FROM HICKAM AFB MUST CONTACT 15 OSS/OSX DSN 315–449–3129 NOT LATER THAN 3 WEEKS PRIOR REGARDLESS.

PERSONNEL AND EQUIPMENT WORKING 600–1300 FT EAST RUNWAY 22L & 22R THRESHOLD, 0700–1530 MON–FRI.

DUE TO LOCATION OF ATCT, CONTROLLERS UNABLE TO DETERMINE WHETHER AIRCRAFT ARE ON CORRECT FINAL APPROACH TO RUNWAYS 04L–04R AND 22L–22R.

TAXIWAYS G AND L BETWEEN TAXIWAY A AND INTER–ISLAND RAMP CLOSED TO WIDE–BODIED AND 4–ENGINE TURBO–JET AIRCRAFT UNDER POWER WITHOUT PRIOR PERMISSION FROM AIRPORT OPERATIONS MANAGER (808) 836–6428 MON–FRI 0745–1630.

RUNWAYS CLOSED 0730–0930 EVERY MONTH AS FOLLOWS; RUNWAY 04R/22L FIRST TUE; RUNWAY 08R/26L SECOND TUE; AND RUNWAY 08L/26R THIRD TUE.

CAUTION: DURING PERIODS OF REPEATED PRECIPITATION ANTICIPATE WET RUNWAY CONDTIONS, IF CURRENT CONDITIONS REQUIRE CONFIRMATION CONTACT HONOLULU TOWER ON INITIAL CONTACT.

CAUTION: RECREATIONAL BOATING ACTIVITIES ON AND IN THE VICINITY OF WATERWAYS.

MILITARY: ALL AIRCRAFT INBOUND TO HICKAM SHOULD ADDRESS FLIGHT PLAN TO PHIK.

MILITARY: ALL MILITARY AIRCRAFT WITH VIP CODE 7 OR ABOVE CONTACT 15AB COMMAND POST OR RELAY THRU HF/SSB AIRWAY 1 HOUR OUT TO CONFIRM BLOCKTIME.

TRAFFIC PATTERN OVERHEAD ALTITUDE 2000 FT, RESTRICTED TO HIANG AIRCRAFT.

MILITARY: ALL MILITARY AIRCRAFT REQUIRE CUSTOMS/AGRICULTURE/IMIGRATION INSPECTION MUST CONTACT HICKAM PILOT TO DISPATCH OR IF AIR MOBILITY COMMAND CONTACT HICKAM AMCC, NOT LATER THAN 3 HRS PRIOR TO ARR WITH ESTIMATE BLOCK TIME, NR OF CIV/MIL PAX/FOREIGN NATIONALS/AND DV CODES.*

RUNWAYS 04W/22W AND 08W/26W RECREATIONAL BOATING ACTIVITIES ON AND IN THE VICINITY OF WATERWAYS.

BIRD STRIKE HAZARD ALL RUNWAYS.

MILITARY ARRESTING GEAR: HOOK MB100(B) LOCATED 200 FT FROM THRESHOLD RUNWAY 26R.

MILITARY: TO MINIMIZE FOREIGN OBJECT DAMAGE POTENTIAL, ALL AIRCRAFT SHOULD USE MINIMUM THRUST, EXPECIALLY OUTBOARD ENGINES, WHEN TAXIING PAST THE F–15 ALERT FACILITY ON TAXIWAY TANGO.

MILITARY CAUTION: FOREIGN OBJECT DAMAGE HAZARD EXISTS ON ALL MOVEMENT AREAS EAST OF TAXIWAY SIERRA. FIGHTER AIRCRAFT EXERCISE EXTREME CAUTION WHEN TAXING.

MILITARY CAUTION: A FOREIGN OBJECT DAMAGE HAZARD EXISTS ON ALL TAXIWAYS AND RUNWAYS BUT ESPECIALLY ON RUNWAY 4L/22R AND TAXIWAYS NORTH OF RUNWAY 8L/26R.

MILITARY CAUTION: NO F–16 TRANSIENT SUPPORT AVAILABLE IN ACCORDANCE WITH AREA CONTROL CENTER LSET FLASH SAFETY 06–02. TRANSIENT F–16 UNITS SHOULD PROVIDE THEIR OWN MAINTENANCE SUPPORT.

MILITARY RESTRICTED: ALL TRANSIENT AIRCRAFT, NOT ON AN AIR MOBILITY COMMAND MSN, WILL PROVIDE A 2–3 HR OUT CALL, AS WELL AS 20–30 MIN OUT CALL ON 292.5 TO THE

15 AW/CP (KOA CONTROL). UPON ARRIVAL, CREWS WILL PROCEED DIRECTLY TO COMMAND POST (BLDG 2050) AND COMPLETE AN OUTBOUND SETUP SHEET TO FACILITATE DEPARTURE REQUIREMENTS.

MILITARY/COMMUNICATIONS: BEDTIME ”(613AOC/AMD CORONET MSN COMMANDER WILL MEET AIRCRAFT UPON ARR; ALL CORONET W TANKERS USE 311.0 FOR TANKER−FIGHTER INTER−PLANE ON LAUNCH DAY. AFTER DUTY HR DSN 448−8888 613AOC/AMD, FLIGHT MANAGEMENT.)

MILITARY MISC (1 OF 2): HICKAM BASE WX STATION OPEN MON−FRI 1400Z−0800Z; CLOSED WEEKENDS/HOL EXCEPT DUR LOCAL FLYING, AS MANNING PERMITS.

MILITARY MISC (2 OF 2 CONT’D): LIMITED WX BRIEF SUPPORT.REMOTE FLIGHT WX BRIEFINGS CONTACT 17TH WX SQUALL CONTINUOUS 24−HOUR SERVICE, DSN 315−449−7950/8333, FAX DSN 315−449−8336; 2 HR PRIOR NOTICE REQUIRE FOR TIMELY BRIEF.OFFICIAL OBSN TAKEN BY FAA. COOPERATIVE WX WATCH PROCEDURES DO NOT EXIST BETWEEN WX AND ATC.

MILITARY MISC: NO COMSEC MATERIAL AVAILABLE THRU HICKAM AIRFIELD OPERATIONS. TRANSIENT AIRCREWS SHOULD PLAN TO ARR WITH APPROPRIATE AMOUNT OF COMSEC TO COMPLETE ENTIRE MSN.

MILITARY REMARKS: SEE FLIGHT INFORMATION PUBLICATION AP/3 SUPPLEMENTARY AIRPORT INFORMATION, ROUTE AND AREA RESTRICTED, AND OAKLAND FIR FLIGHT HAZARD.

ASDE−X SURVEILLANCE SYSTEM IN USE: PILOTS SHOULD OPERATE TRANSPONDERS WITH MODE C ON ALL TAXIWAYS AND RUNWAYS.

MILITARY CAUTION: USE CAUTION FOR OBST 76¿ FR TAXIWAY ”M” CENTERLINE ON OCEANSIDE, APPROXIMATELY 200¿ FR PARK APRON.

MILITARY MISC: AIRFIELD OPERATIONS DSN 449−0046/0048 FAX DSN 449−7624.

MILITARY RESTRICTED: WIDE BODY AND 4 ENGINE TURBO−JETS LANDING ON RUNWAY 04R ROLL TO END OF RUNWAY, NO LEFT TURN AT TAXIWAY K WITHOUT TOWER APPROVAL. TAXIWAY K NOT A HIGH SPEED EXIT TAXIWAY. TAXIWAY RA HOLD SHORT APPROACH ZONE RUNWAY 04L/R AT HOLD LINE. TAXIWAY P CLOSED TO AIRCRAFT OVER 12,500 LB.

MILITARY SERVICE−A−GEAR: RUNWAY 4R/22L AND 8R/26L SURFACE GROOVED WITHIN 10 FT OF A−G SYSTEM. POTENTIAL FOR FIGHTER AIRCRAFT TAIL HOOK SKIP EXISTS.

MILITARY MISC 1 OF 2: DUE TO SENSITIVITIES OF CITIZENS, FIGHTER AIRCRAFT AND WATER−AUGMENTED AIRCRAFT DEP ONLY AUTHORIZED FR 1700−0700Z MON−SAT, AND 1800−0700Z SUN AND HOLIDAY. ALL REQ FOR WAIVERS WILL BE SENT TO THE 15/OG/CC AT LEAST 5 WORKING DAYS IN ADVANCE.

MILITARY MISC 2 OF 2: WAIVERS WILL BE GRANTED ON EXTREME NECESSARY. IF SHORT NOTICE MSN ESSENTIAL WAIVERS ARE NECESSARY, CONTACT 15OG/CC BY TELEPHONE THRU 15 WG COMMAND POST(15 WG/CP). 15 WG COMP POST WILL PASS APPROVAL TO HICKAM FLIGHT SERVICE AND HICKAM RAMP ADVSY.

MILITARY TRANSIENT ALERT: 15 WG CAN PROVIDE EQUIPMENT BUT CREWS MUST PROVIDE OWN PERS WHEN NEEDED.

MILITARY RESTRICTED: BPH–H IS PRIOR PERMISSION REQUIRED TO ALL NON–AMC AIRCRAFT AND AIR MOBILITY COMMAND TRAINING MSN (QEN KEN PEN AEN).

MILITARY RESTRICTED 1 OF 2: ALL TRANSIENT AIRCRAFT NOT ON AN AMC/TWCF MSN AND HOME STATION AIRCRAFT TERMINATING AT JBPH–H, WILL PROVIDE A 3 HR OUT CALL (COMM 808–448–6900) AS WELL AS A 20–30 MIN OUT CALL ON 292.5 TO THE 15 WG/CP (KOA CONTROL).

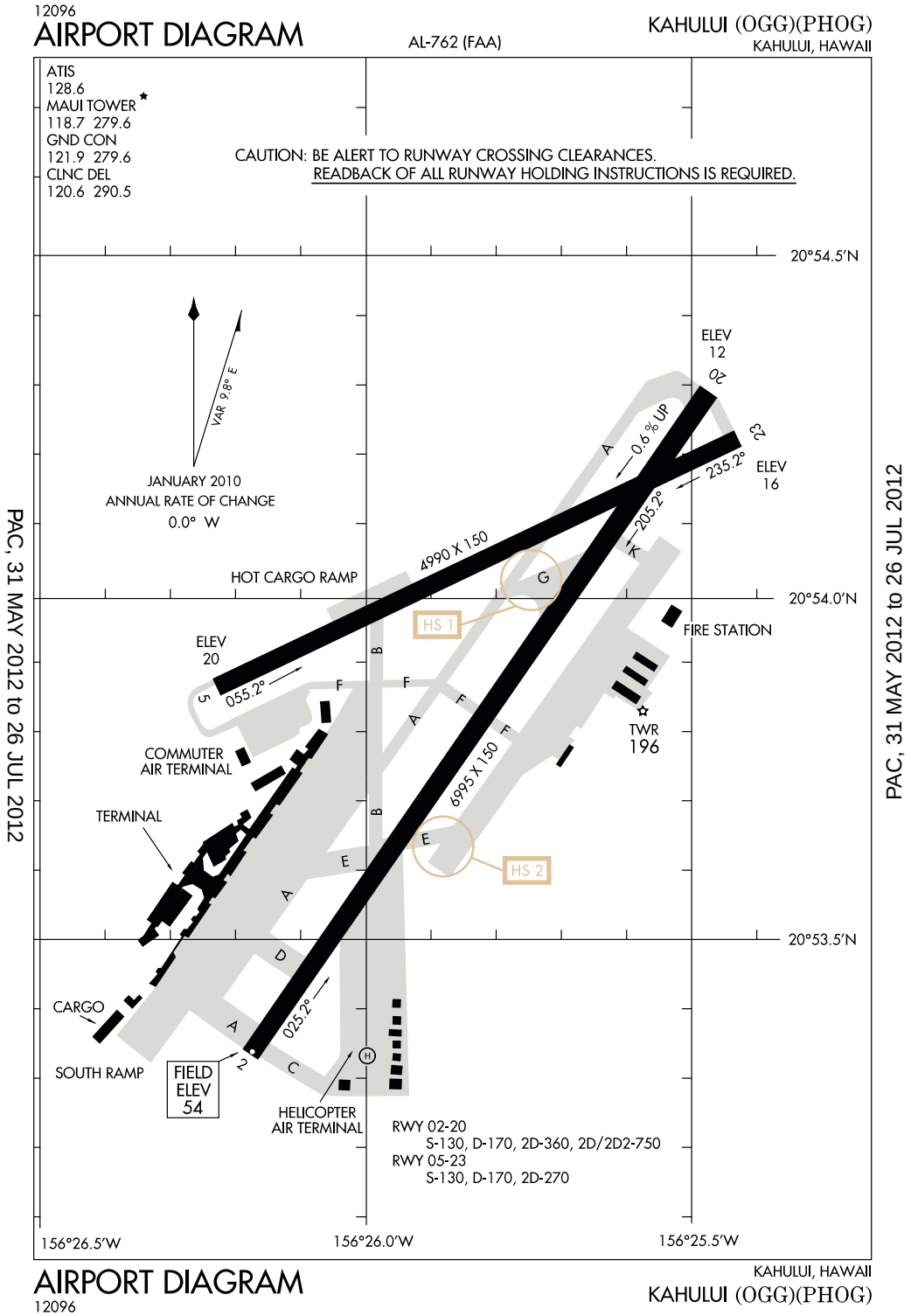
MILITARY RESTRICTED 2 OF 2: ALL TRANSIENT AIRCRAFT, NOT ON AIR MOBILITY COMMAND MSN, WILL PROVIDE 2–3 HR OUT CALL, AS WELL AS 20–30 MIN OUT CALL ON 292.5 TO 15 WG/CP (KOA CONTROL).

MILITARY RESTRICTED: MILITARY AIRCRAFT OPR DUR BIRD WATCH CONDITION MODERATE (INITIAL TAKE–OFF OR FULL STOP LANDING ONLY, NO MULTIPLE IFR/VFR APCH) AND SEVERE (TKOF AND LANDING PROH WO 15 OG/CC APPROVAL OR 154 OG/CC APPROVAL FOR HIANG ACFT) CONTACT HIK RAMP, PILOT TO DISPATCH, 15 WG COMMAND POST, 735 AIR MOBILITY COMMAND COMMAND POST, 154 WG COMMAND POST FOR CURRENT CONDITION.

ALL JET AIRCRAFT CONTACT RAMP CONTROL PRIOR TO ENGINE START.

CRANE 290 FT AGL APPROX 2,600 FT NORTH RUNWAY 08L, 2,500 FT WEST INTERMITTENT ISLAND TERMINAL 0630 – 1730 DAILY.

Kahului, Hawaii
Kahului
ICAO Identifier PHOG



Kahului, HI
Kahului
ICAO Identifier PHOG

AD 2.2 Aerodrome geographical and administrative data
2.2.1 Reference Point: 20–53–55.14N / 156–25–49.65W
2.2.2 From City: 3 Miles E Of Kahului, HI
2.2.3 Elevation: 54 ft
2.2.5 Magnetic variation: 11E (1990)
2.2.6 Airport Contact: Marvin Moniz
1 KAHULUI AIRPORT ROAD, UNIT 5
Kahului, HI 96732
(808–872–3808)
2.2.7 Traffic: IFR/VFR

AD 2.3 Operational hours
2.3.1 – 2.3.11: ALL Months, ALL Days, ALL Hours

AD 2.4 Handling services and facilities
2.4.1 Cargo handling facilities: No
2.4.2 Fuel types: 100,A
2.4.4 De–icing facilities: None
2.4.5 Hangar space: No
2.4.6 Repair facilities: Minor

AD 2.6 Rescue and firefighting services
2.6.1 Aerodrome category for firefighting: ARFF Index I D certified on 5/1/1973

AD 2.10 Aerodrome obstacles
2.10.1.a. Runway designation: 02
2.10.1.b Type of obstacle: Stack (198 ft). Lighted
2.10.1.c Location of obstacle: 500 ft from Centerline

2.10.1.a. Runway designation: 20
2.10.1.b Type of obstacle: Bldg (5 ft). Marked
2.10.1.c Location of obstacle: 250 ft from Centerline

2.10.1.a. Runway designation: 05
2.10.1.b Type of obstacle: Trees (31 ft). Not Lighted or Marked

2.10.1.a. Runway designation: 23
2.10.1.b Type of obstacle: Pole (35 ft). Not Lighted or Marked

AD 2.12 Runway physical characteristics
2.12.1 Designation: 02
2.12.2 True Bearing: 35
2.12.3 Dimensions: 6995 ft x 150 ft
2.12.5 Coordinates: 20–53–20.90N / 156–26–10.75W
2.12.6 Threshold elevation: 54 ft
2.12.6 Touchdown zone elevation: 54 ft

2.12.1 Designation: 20
2.12.2 True Bearing: 215
2.12.3 Dimensions: 6995 ft x 150 ft
2.12.5 Coordinates: 20–54–17.71N / 156–25–28.47W
2.12.6 Threshold elevation: 12 ft
2.12.6 Touchdown zone elevation: 25 ft

2.12.1 Designation: H1
2.12.3 Dimensions: 125 ft x 125 ft

2.12.1 Designation: 05
2.12.2 True Bearing: 65
2.12.3 Dimensions: 4990 ft x 150 ft
2.12.5 Coordinates: 20–53–52.88N / 156–26–13.56W
2.12.6 Threshold elevation: 20 ft
2.12.6 Touchdown zone elevation: 20 ft

2.12.1 Designation: 23
2.12.2 True Bearing: 245
2.12.3 Dimensions: 4990 ft x 150 ft
2.12.5 Coordinates: 20–54–13.75N / 156–25–25.85W
2.12.6 Threshold elevation: 16 ft
2.12.6 Touchdown zone elevation: 17 ft

AD 2.14 Approach and runway lighting
2.14.1 Designation: 02
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–box VASI on left

2.14.1 Designation: 20
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 05
2.14.4 Visual approach slope indicator system: 4–box VASI on left

2.14.10 Remarks: VASI Unusable Beyond 4 Nm From Threshold Due To Rapidly Rising Terrain.

AD 2.18 Air traffic services communication facilities
2.18.1 Service designation: LCL/P
2.18.3 Service designation: 118.7 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS C IC
2.18.3 Service designation: 119.5 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS C IC
2.18.3 Service designation: 120.2 MHz

2.18.1 Service designation: CD
2.18.3 Service designation: 120.6 MHz

2.18.1 Service designation: EMERG
2.18.3 Service designation: 121.5 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 121.9 MHz

2.18.1 Service designation: ATIS
2.18.3 Service designation: 128.6 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: EMERG
2.18.3 Service designation: 243 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 279.6 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 279.6 MHz

2.18.1 Service designation: CD/P
2.18.3 Service designation: 290.5 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS C IC
2.18.3 Service designation: 322.4 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS C IC
2.18.3 Service designation: 225.4 MHz

AD 2.19 Radio navigation and landing aids
2.19.1 ILS type: Localizer for runway 02. Magnetic variation: 11E
2.19.2 ILS identification: OGG
2.19.5 Coordinates: 20−54−22.18N / 156−25−25.15W
2.19.6 Site elevation: 7 ft

2.19.1 ILS type: Glide Slope for runway 02. Magnetic variation: 11E
2.19.2 ILS identification: OGG
2.19.5 Coordinates: 20−53−29.55N / 156−25−59.23W
2.19.6 Site elevation: 48 ft

2.19.1 ILS type: Middle Marker for runway 02. Magnetic variation: 11E
2.19.2 ILS identification: OGG
2.19.5 Coordinates: 20−52−59.70N / 156−26−26.50W
2.19.6 Site elevation: 66 ft

2.19.1 ILS type: Outer Marker for runway 02. Magnetic variation: 11E
2.19.2 ILS identification: OGG
2.19.5 Coordinates: 20−48−13.30N / 156−29−59.30W
2.19.6 Site elevation: 39 ft

2.19.1 ILS type: DME for runway 02. Magnetic variation: 11E
2.19.2 ILS identification: OGG
2.19.5 Coordinates: 20−54−18.74N / 156−25−23.97W
2.19.6 Site elevation: 9 ft

General Remarks:
570’ LIGHTED TOWER APPROXIMATE 3 MI. W.

24 HRS PRIOR PERMISSION REQUIRED FOR CLASS A & B EXPLOSIVES AND 4 HRS PRIOR PERMISSION REQUIRED FOR OTHER HAZARDOUS CARGO IN/OUT OF AIRPORT; CONTACT (808) 872−3830 0745−1630 OTHER TIMES (808) 872−3888.

RAMP AREA E SIDE RUNWAY 02 UNDER STATE AUTHORITY. FAA NOT RESPONSIBLE FOR DIRECTION & CONTROL GROUND TRAFFIC IN AREA.

MIGRATORY BIRD ACTIVITY BELOW 1500 FT WITHIN 5 NAUTICAL MILE RADIUS OF AIRPORT DURING AUG–MAY.

MILITARY HELICOPTER OPERATIONS RESTRICTED TO HAZMAT AREA N OF RUNWAY 05/23.

COMMUTER TERMINAL RAMP RESTRICTED TO AIRCRAFT 140000 LBS OR LESS.

AREA E OF APPROACH END RUNWAY 02 DESIGNATED AS HELICOPTER OPER AREA. NO FIXED WING AIRCRAFT MAY OPER ON HELIPAD DURING OPERATIONAL HRS SR–SS.

PRIOR PERMISSION REQUIRED FOR FIXED WING AIRCRAFT OPERATIONS ON HELIPAD DURING NON–OPERATIONAL HRS CALL (808) 872–3880 5:15A–10:00P.

ACCESS TO HELIPAD FROM TAXIWAY C ONLY.

DUE TO NONVISIBILITY ATCT UNABLE TO DETERMINE IF FOLLOWING AREA IS CLEAR OF OBSTRUCTIONS AND/OR TRAFFIC: PORTION OF TAXIWAY F BETWEEN THE COMMUTER AIR TERMINAL & APPROACH END RUNWAY 05.

DUE TO NONVISIBILITY ATCT UNABLE TO PROVIDE ATC SERVICE BETWEEN AIRCRAFT & GROUND VEHICLES ON THE COMMUTER AIR TERMINAL S OF TAXIWAY F AND THE HELICOPTER AIR TERMINAL E OF APPROACH END RUNWAY 02.

TRANSIENT PARKING LOCATED ON NE SECTION OF E RAMP.

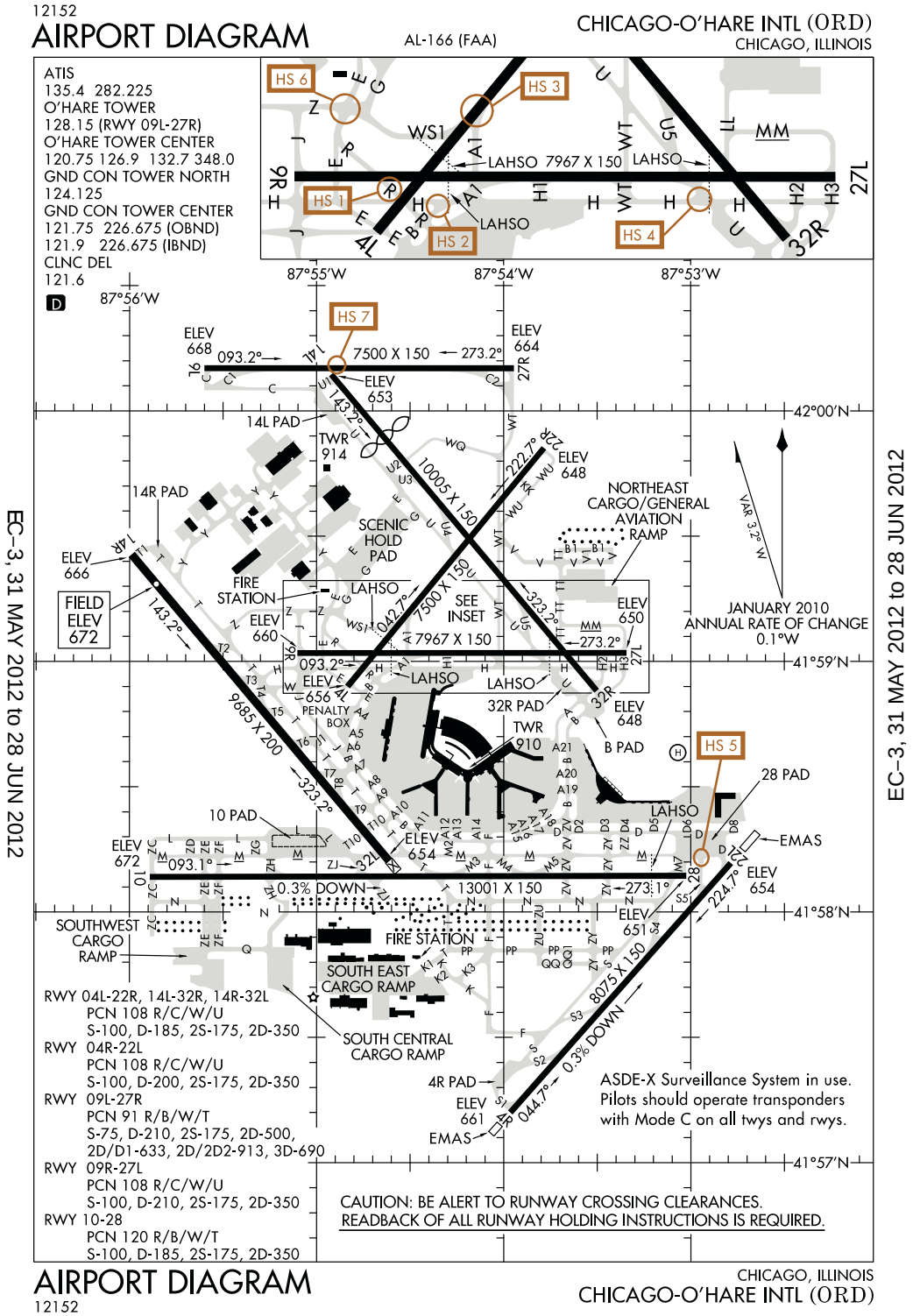
RUNWAY 02/20 SINGLE–BELLY TWIN TANDEM (SBTT) GROSS WEIGHT 460,000 LBS.

TAXIWAY G CLOSED TO AIRCRAFT OVER 30,000 LBS.

AIRCRAFT ABOVE 80,000 LBS LANDING RUNWAY 02 UNABLE TO TURN OFF ONTO RUNWAY 05 DUE TO RUNWAY 05 PAVEMENT CONDITION.

TAXIWAY F CLOSED TO LEFT TURNS FROM RUNWAY 02 AIRCRAFT ABOVE 80,000 LBS.

Chicago, Illinois
Chicago–O'Hare International
ICAO Identifier KORD



Chicago, IL
Chicago O'Hare Intl
ICAO Identifier KORD

AD 2.2 Aerodrome geographical and administrative data
2.2.1 Reference Point: 41–58–53.94N / 87–54–24.02W
2.2.2 From City: 14 Miles NW Of Chicago, IL
2.2.3 Elevation: 672 ft
2.2.5 Magnetic variation: 3W (2010)
2.2.7 Traffic: IFR/VFR
2.2.8 Remarks: And Du Page Co.

AD 2.3 Operational hours
2.3.1 – 2.3.11: ALL Months, ALL Days, ALL Hours

AD 2.4 Handling services and facilities
2.4.1 Cargo handling facilities: No
2.4.2 Fuel types: 100LL,A1
2.4.4 De–icing facilities: None
2.4.5 Hangar space: No
2.4.6 Repair facilities: Major

AD 2.6 Rescue and firefighting services
2.6.1 Aerodrome category for firefighting: ARFF Index I E certified on 5/1/1973

AD 2.10 Aerodrome obstacles
2.10.1.a. Runway designation: 14R
2.10.1.b Type of obstacle: Trees (63 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 56 ft from Centerline

2.10.1.a. Runway designation: 32R
2.10.1.b Type of obstacle: Pole (43 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 725 ft from Centerline

2.10.1.a. Runway designation: 10
2.10.1.b Type of obstacle: Pole (43 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 630 ft from Centerline

2.10.1.a. Runway designation: 28
2.10.1.b Type of obstacle: Sign (56 ft). Lighted
2.10.1.c Location of obstacle: 723 ft from Centerline

2.10.1.a. Runway designation: 09L
2.10.1.b Type of obstacle: Ant (743 ft). Marked and Lighted
2.10.1.c Location of obstacle: 4443 ft from Centerline

2.10.1.a. Runway designation: 27R
2.10.1.b Type of obstacle: Ant (87 ft). Marked and Lighted
2.10.1.c Location of obstacle: 118 ft from Centerline

2.10.1.a. Runway designation: 04L
2.10.1.b Type of obstacle: Lt Std (29 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 411 ft from Centerline

2.10.1.a. Runway designation: 22L
2.10.1.b Type of obstacle: Ant (109 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 545 ft from Centerline

2.10.1.a. Runway designation: 27L
2.10.1.b Type of obstacle: Ant (24 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 587 ft from Centerline

AD 2.12 Runway physical characteristics
2.12.1 Designation: 14R
2.12.2 True Bearing: 140
2.12.3 Dimensions: 9685 ft x 200 ft
2.12.4 PCN: 108 R/C/W/U
2.12.5 Coordinates: 41–59–25.57N / 87–55–59.30W
2.12.6 Threshold elevation: 666 ft
2.12.6 Touchdown zone elevation: 668 ft

2.12.1 Designation: 32L
2.12.2 True Bearing: 320
2.12.3 Dimensions: 9685 ft x 200 ft
2.12.4 PCN: 108 R/C/W/U
2.12.5 Coordinates: 41–58–12.30N / 87–54–36.84W
2.12.6 Threshold elevation: 654 ft
2.12.6 Touchdown zone elevation: 655 ft

2.12.1 Designation: 14L

2.12.2 True Bearing: 140
2.12.3 Dimensions: 10005 ft x 150 ft
2.12.4 PCN: 108 R/C/W/U
2.12.5 Coordinates: 42–00–00.00N / 87–54–55.33W
2.12.6 Threshold elevation: 653 ft
2.12.6 Touchdown zone elevation: 653 ft

2.12.1 Designation: 32R
2.12.2 True Bearing: 320
2.12.3 Dimensions: 10005 ft x 150 ft
2.12.4 PCN: 108 R/C/W/U
2.12.5 Coordinates: 41–58–53.06N / 87–53–30.17W
2.12.6 Threshold elevation: 648 ft
2.12.6 Touchdown zone elevation: 653 ft

2.12.1 Designation: H1
2.12.3 Dimensions: 200 ft x 100 ft

2.12.1 Designation: 10
2.12.2 True Bearing: 90
2.12.3 Dimensions: 13001 ft x 150 ft
2.12.4 PCN: 120 R/B/W/T
2.12.5 Coordinates: 41–58–00.00N / 87–55–53.51W
2.12.6 Threshold elevation: 672 ft
2.12.6 Touchdown zone elevation: 672 ft

2.12.1 Designation: 28
2.12.2 True Bearing: 270
2.12.3 Dimensions: 13001 ft x 150 ft
2.12.4 PCN: 120 R/B/W/T
2.12.5 Coordinates: 41–58–00.00N / 87–53–00.00W
2.12.6 Threshold elevation: 651 ft
2.12.6 Touchdown zone elevation: 652 ft

2.12.1 Designation: 09L
2.12.2 True Bearing: 90
2.12.3 Dimensions: 7500 ft x 150 ft
2.12.4 PCN: 91 R/B/W/T
2.12.5 Coordinates: 42–00–10.19N / 87–55–36.03W
2.12.6 Threshold elevation: 668 ft
2.12.6 Touchdown zone elevation: 668 ft
2.12.7 Slope: 0.1DOWN

2.12.1 Designation: 27R
2.12.2 True Bearing: 270
2.12.3 Dimensions: 7500 ft x 150 ft
2.12.4 PCN: 91 R/B/W/T
2.12.5 Coordinates: 42–00–10.19N / 87–53–56.70W
2.12.6 Threshold elevation: 664 ft
2.12.6 Touchdown zone elevation: 664 ft
2.12.7 Slope: 0.1UP

2.12.1 Designation: 04L
2.12.2 True Bearing: 39
2.12.3 Dimensions: 7500 ft x 150 ft
2.12.4 PCN: 108 R/C/W/U
2.12.5 Coordinates: 41–58–53.96N / 87–54–50.10W
2.12.6 Threshold elevation: 656 ft
2.12.6 Touchdown zone elevation: 658 ft

2.12.1 Designation: 22R
2.12.2 True Bearing: 219
2.12.3 Dimensions: 7500 ft x 150 ft
2.12.4 PCN: 108 R/C/W/U
2.12.5 Coordinates: 41–59–51.13N / 87–53–46.94W
2.12.6 Threshold elevation: 648 ft
2.12.6 Touchdown zone elevation: 651 ft

2.12.1 Designation: 04R
2.12.2 True Bearing: 42
2.12.3 Dimensions: 8075 ft x 150 ft
2.12.4 PCN: 108 R/C/W/U
2.12.5 Coordinates: 41–57–11.98N / 87–53–57.91W
2.12.6 Threshold elevation: 661 ft
2.12.6 Touchdown zone elevation: 661 ft

2.12.1 Designation: 22L
2.12.2 True Bearing: 222
2.12.3 Dimensions: 8075 ft x 150 ft
2.12.4 PCN: 108 R/C/W/U
2.12.5 Coordinates: 41–58–11.72N / 87–52–47.08W
2.12.6 Threshold elevation: 654 ft
2.12.6 Touchdown zone elevation: 654 ft

2.12.1 Designation: 09R
2.12.2 True Bearing: 90
2.12.3 Dimensions: 7967 ft x 150 ft
2.12.4 PCN: 108 R/C/W/U
2.12.5 Coordinates: 41–59–00.00N / 87–55–00.00W
2.12.6 Threshold elevation: 660 ft
2.12.6 Touchdown zone elevation: 660 ft

2.12.1 Designation: 27L

2.12.2 True Bearing: 270
2.12.3 Dimensions: 7967 ft x 150 ft
2.12.4 PCN: 108 R/C/W/U
2.12.5 Coordinates: 41–59–00.00N / 87–53–20.58W
2.12.6 Threshold elevation: 650 ft
2.12.6 Touchdown zone elevation: 653 ft

AD 2.13 Declared distances
2.13.1 Designation: 14R
2.13.2 Takeoff run available: 9685
2.13.3 Takeoff distance available: 9685
2.13.4 Accelerate–stop distance available: 9662
2.13.5 Landing distance available: 8650

2.13.1 Designation: 32L
2.13.2 Takeoff run available: 9685
2.13.3 Takeoff distance available: 9685
2.13.4 Accelerate–stop distance available: 9685

2.13.1 Designation: 14L
2.13.2 Takeoff run available: 10005
2.13.3 Takeoff distance available: 10005
2.13.4 Accelerate–stop distance available: 10005
2.13.5 Landing distance available: 8007

2.13.1 Designation: 32R
2.13.2 Takeoff run available: 10005
2.13.3 Takeoff distance available: 10005
2.13.4 Accelerate–stop distance available: 10005
2.13.5 Landing distance available: 10005

2.13.1 Designation: 10
2.13.2 Takeoff run available: 13000
2.13.3 Takeoff distance available: 13000
2.13.4 Accelerate–stop distance available: 13000
2.13.5 Landing distance available: 12246

2.13.1 Designation: 28
2.13.2 Takeoff run available: 13000
2.13.3 Takeoff distance available: 13000
2.13.4 Accelerate–stop distance available: 13000
2.13.5 Landing distance available: 13000

2.13.1 Designation: 09L
2.13.2 Takeoff run available: 7500
2.13.3 Takeoff distance available: 7500
2.13.4 Accelerate–stop distance available: 7500
2.13.5 Landing distance available: 7500

2.13.1 Designation: 27R
2.13.2 Takeoff run available: 7500
2.13.3 Takeoff distance available: 7500
2.13.4 Accelerate–stop distance available: 7500
2.13.5 Landing distance available: 7500

2.13.1 Designation: 04L
2.13.2 Takeoff run available: 7500
2.13.3 Takeoff distance available: 7500
2.13.4 Accelerate–stop distance available: 7500
2.13.5 Landing distance available: 7500

2.13.1 Designation: 22R
2.13.2 Takeoff run available: 7500
2.13.3 Takeoff distance available: 7500
2.13.4 Accelerate–stop distance available: 7500
2.13.5 Landing distance available: 7500

2.13.1 Designation: 04R
2.13.2 Takeoff run available: 8075
2.13.3 Takeoff distance available: 8075
2.13.4 Accelerate–stop distance available: 8075
2.13.5 Landing distance available: 8075

2.13.1 Designation: 22L
2.13.2 Takeoff run available: 8075
2.13.3 Takeoff distance available: 8075
2.13.4 Accelerate–stop distance available: 8075
2.13.5 Landing distance available: 8075

2.13.1 Designation: 09R
2.13.2 Takeoff run available: 7967
2.13.3 Takeoff distance available: 7967
2.13.4 Accelerate–stop distance available: 7967
2.13.5 Landing distance available: 7967

2.13.1 Designation: 27L
2.13.2 Takeoff run available: 7967
2.13.3 Takeoff distance available: 7967
2.13.4 Accelerate–stop distance available: 7967
2.13.5 Landing distance available: 7967

AD 2.14 Approach and runway lighting
2.14.1 Designation: 14R
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration
2.14.4 Visual approach slope indicator system: 4–light PAPI on right

2.14.1 Designation: 14L
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration

2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 32R
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights

2.14.1 Designation: 10
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 28
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 09L
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration

2.14.1 Designation: 27R
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration

2.14.1 Designation: 22R
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on left
2.14.10 Remarks: Vgsi And ILS Glidepath Not Coincident.

2.14.1 Designation: 04R
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights

2.14.1 Designation: 22L
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights

2.14.1 Designation: 09R
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 27L
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration
2.14.4 Visual approach slope indicator system: 4–light PAPI on right

AD 2.18 Air traffic services communication facilities

2.18.1 Service designation: APCH/P CLASS B IC
2.18.3 Service designation: 119 MHz

2.18.1 Service designation: CD/S PTC/S
2.18.3 Service designation: 119.25 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 120.55 MHz

2.18.1 Service designation: APCH/S
2.18.3 Service designation: 121.15 MHz

2.18.1 Service designation: EMERG
2.18.3 Service designation: 121.5 MHz

2.18.1 Service designation: GND METERING
2.18.3 Service designation: 121.675 MHz

2.18.1 Service designation: DEP/P
2.18.3 Service designation: 125.4 MHz

2.18.1 Service designation: VFR ADV
2.18.3 Service designation: 126.8 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 133.5 MHz

2.18.1 Service designation: CLASS B/S
2.18.3 Service designation: 134.4 MHz

2.18.1 Service designation: D–ATIS
2.18.3 Service designation: 135.4 MHz

2.18.4 Hours of operation: 24

2.18.1 Service designation: EMERG
2.18.3 Service designation: 243 MHz

2.18.1 Service designation: ALCP
2.18.3 Service designation: 252.1 MHz

2.18.1 Service designation: APCH/P CLASS B
2.18.3 Service designation: 284 MHz

2.18.1 Service designation: DEP/P
2.18.3 Service designation: 307.2 MHz

2.18.1 Service designation: DEP/P
2.18.3 Service designation: 337.4 MHz

2.18.1 Service designation: APCH/P CLASS B IC
2.18.3 Service designation: 393.1 MHz

2.18.1 Service designation: APCH/P DEP/P
2.18.3 Service designation: 349 MHz

2.18.1 Service designation: APCH/P CLASS B
2.18.3 Service designation: 133.625 MHz

2.18.1 Service designation: APCH/S
2.18.3 Service designation: 124.35 MHz

2.18.1 Service designation: DEP/P
2.18.3 Service designation: 125 MHz

2.18.1 Service designation: APCH/S
2.18.3 Service designation: 125.7 MHz

2.18.1 Service designation: O'HARE TWR CENTER LCL/P
2.18.3 Service designation: 126.9 MHz

2.18.1 Service designation: O'HARE TWR CENTER LCL/P
2.18.3 Service designation: 120.75 MHz

2.18.1 Service designation: O'HARE TWR CENTER LCL/P
2.18.3 Service designation: 132.7 MHz

2.18.1 Service designation: LCL/S
2.18.3 Service designation: 127.925 MHz

2.18.1 Service designation: CLNC DEL/P
2.18.3 Service designation: 121.6 MHz

2.18.1 Service designation: O'HARE TWR NORTH GC/P
2.18.3 Service designation: 124.125 MHz

2.18.1 Service designation: O'HARE TWR LCL/P
2.18.3 Service designation: 128.15 MHz

2.18.1 Service designation: DEP/P
2.18.3 Service designation: 126.625 MHz

2.18.1 Service designation: D–ATIS
2.18.3 Service designation: 282.225 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: GND CON CENTER (INBOUND)
2.18.3 Service designation: 121.9 MHz

2.18.1 Service designation: GND CON CENTER (OUTBOUND)
2.18.3 Service designation: 121.75 MHz

2.18.1 Service designation: O'HARE TWR CENTER GND/P
2.18.3 Service designation: 226.675 MHz

2.18.1 Service designation: O'HARE TWR CENTER LCL/P
2.18.3 Service designation: 348 MHz

2.18.1 Service designation: APCH/P
2.18.3 Service designation: 377.15 MHz

2.18.1 Service designation: DEP/P
2.18.3 Service designation: 327.075 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 306.925 MHz

AD 2.19 Radio navigation and landing aids

2.19.1 ILS type: DME for runway 14R. Magnetic variation: 3W
2.19.2 ILS identification: ORD
2.19.5 Coordinates: 41–57–37.71N / 87–54–00.00W
2.19.6 Site elevation: 665 ft

2.19.1 ILS type: Glide Slope for runway 14R. Magnetic variation: 3W
2.19.2 ILS identification: ORD
2.19.5 Coordinates: 41–59–15.81N / 87–55–55.22W
2.19.6 Site elevation: 662 ft

2.19.1 ILS type: Outer Marker for runway 14R.
Magnetic variation: 3W
2.19.2 ILS identification: ORD
2.19.5 Coordinates: 42–03–21.36N /
88–00–28.05W
2.19.6 Site elevation: 693 ft

2.19.1 ILS type: Inner Marker for runway 14R.
Magnetic variation: 3W
2.19.2 ILS identification: ORD
2.19.5 Coordinates: 41–59–32.74N /
87–56–00.00W
2.19.6 Site elevation: 659 ft

2.19.1 ILS type: Localizer for runway 14R.
Magnetic variation: 3W
2.19.2 ILS identification: ORD
2.19.5 Coordinates: 41–58–00.00N /
87–54–28.47W
2.19.6 Site elevation: 653 ft

2.19.1 ILS type: Middle Marker for runway 14R.
Magnetic variation: 3W
2.19.2 ILS identification: ORD
2.19.5 Coordinates: 41–59–46.54N /
87–56–22.90W
2.19.6 Site elevation: 674 ft

2.19.1 ILS type: Localizer for runway 32L.
Magnetic variation: 3W
2.19.2 ILS identification: RVG
2.19.5 Coordinates: 41–59–30.50N /
87–56–00.00W
2.19.6 Site elevation: 663 ft

2.19.1 ILS type: DME for runway 32L. Magnetic variation: 3W
2.19.2 ILS identification: RVG
2.19.5 Coordinates: 41–59–34.48N /
87–56–00.00W
2.19.6 Site elevation: 677 ft

2.19.1 ILS type: Glide Slope for runway 32L.
Magnetic variation: 3W
2.19.2 ILS identification: RVG
2.19.5 Coordinates: 41–57–52.64N /
87–54–21.11W
2.19.6 Site elevation: 648 ft

2.19.1 ILS type: Outer Marker for runway 32L.
Magnetic variation: 3W
2.19.2 ILS identification: RVG
2.19.5 Coordinates: 41–53–39.91N /
87–49–34.69W
2.19.6 Site elevation: ft

2.19.1 ILS type: Middle Marker for runway 32L.
Magnetic variation: 3W
2.19.2 ILS identification: RVG
2.19.5 Coordinates: 41–57–22.13N /
87–53–40.44W
2.19.6 Site elevation: 653 ft

2.19.1 ILS type: DME for runway 14L. Magnetic variation: 3W
2.19.2 ILS identification: OHA
2.19.5 Coordinates: 41–58–43.19N /
87–53–23.65W
2.19.6 Site elevation: 665 ft

2.19.1 ILS type: Inner Marker for runway 14L.
Magnetic variation: 3W
2.19.2 ILS identification: OHA
2.19.5 Coordinates: 42–00–00.00N /
87–54–43.27W
2.19.6 Site elevation: ft

2.19.1 ILS type: Glide Slope for runway 14L.
Magnetic variation: 3W
2.19.2 ILS identification: OHA
2.19.5 Coordinates: 41–59–48.18N /
87–54–25.13W
2.19.6 Site elevation: 648 ft

2.19.1 ILS type: Middle Marker for runway 14L.
Magnetic variation: 3W
2.19.2 ILS identification: OHA
2.19.5 Coordinates: 42–00–29.46N /
87–55–18.64W
2.19.6 Site elevation: ft

2.19.1 ILS type: Outer Marker for runway 14L.
Magnetic variation: 3W
2.19.2 ILS identification: OHA
2.19.5 Coordinates: 42–04–00.00N /
87–59–27.18W
2.19.6 Site elevation: ft

2.19.1 ILS type: Localizer for runway 14L.
Magnetic variation: 3W
2.19.2 ILS identification: OHA
2.19.5 Coordinates: 41–58–44.36N /
87–53–20.39W
2.19.6 Site elevation: 650 ft

2.19.1 ILS type: Glide Slope for runway 32R.
Magnetic variation: 3W
2.19.2 ILS identification: IDN
2.19.5 Coordinates: 41–59–00.00N /
87–53–36.78W
2.19.6 Site elevation: 646 ft

2.19.1 ILS type: Outer Marker for runway 32R.
Magnetic variation: 3W
2.19.2 ILS identification: IDN
2.19.5 Coordinates: 41–54–17.50N /
87–48–24.90W
2.19.6 Site elevation: ft

2.19.1 ILS type: Inner Marker for runway 32R.
Magnetic variation: 3W
2.19.2 ILS identification: IDN
2.19.5 Coordinates: 42–00–16.11N /
87–55–00.00W
2.19.6 Site elevation: ft

2.19.1 ILS type: Localizer for runway 32R.
Magnetic variation: 3W
2.19.2 ILS identification: IDN
2.19.5 Coordinates: 42–00–17.04N /
87–55–00.00W
2.19.6 Site elevation: 648 ft

2.19.1 ILS type: Middle Marker for runway 32R.
Magnetic variation: 3W
2.19.2 ILS identification: IDN
2.19.5 Coordinates: 41–58–33.83N /
87–53–00.00W
2.19.6 Site elevation: 645 ft

2.19.1 ILS type: Localizer for runway 10. Magnetic variation: 3W
2.19.2 ILS identification: MED
2.19.5 Coordinates: 41–58–00.00N /
87–52–39.69W
2.19.6 Site elevation: 645 ft

2.19.1 ILS type: DME for runway 10. Magnetic variation: 3W
2.19.2 ILS identification: MED
2.19.5 Coordinates: 41–58–00.00N /
87–52–41.69W
2.19.6 Site elevation: 656 ft

2.19.1 ILS type: Middle Marker for runway 10.
Magnetic variation: 3W
2.19.2 ILS identification: MED
2.19.5 Coordinates: 41–58–00.00N /
87–55–52.10W
2.19.6 Site elevation: ft

2.19.1 ILS type: Outer Marker for runway 10.
Magnetic variation: 3W
2.19.2 ILS identification: MED
2.19.5 Coordinates: 41–58–00.00N /
88–01–35.55W
2.19.6 Site elevation: ft

2.19.1 ILS type: Glide Slope for runway 10.
Magnetic variation: 3W
2.19.2 ILS identification: MED
2.19.5 Coordinates: 41–58–00.00N /
87–55–38.76W
2.19.6 Site elevation: 665 ft

2.19.1 ILS type: DME for runway 28. Magnetic variation: 3W
2.19.2 ILS identification: TSL
2.19.5 Coordinates: 41–58–00.00N /
87–52–41.69W
2.19.6 Site elevation: 656 ft

2.19.1 ILS type: Glide Slope for runway 28.
Magnetic variation: 3W
2.19.2 ILS identification: TSL
2.19.5 Coordinates: 41–58–00.00N /
87–53–15.05W
2.19.6 Site elevation: 648 ft

2.19.1 ILS type: Outer Marker for runway 28.
Magnetic variation: 3W
2.19.2 ILS identification: TSL
2.19.5 Coordinates: 41–58–00.00N /
87–47–22.63W
2.19.6 Site elevation: ft

2.19.1 ILS type: Inner Marker for runway 28.
Magnetic variation: 3W
2.19.2 ILS identification: TSL
2.19.5 Coordinates: 41–58–00.00N /
87–52–49.13W
2.19.6 Site elevation: 649 ft

2.19.1 ILS type: Middle Marker for runway 28.
Magnetic variation: 3W
2.19.2 ILS identification: TSL
2.19.5 Coordinates: 41–58–00.00N /
87–52–23.76W
2.19.6 Site elevation: ft

2.19.1 ILS type: Localizer for runway 28. Magnetic variation: 3W
2.19.2 ILS identification: TSL
2.19.5 Coordinates: 41–58–00.00N / 87–56–00.00W
2.19.6 Site elevation: 679 ft

2.19.1 ILS type: DME for runway 09L. Magnetic variation: 3W
2.19.2 ILS identification: SAJ
2.19.5 Coordinates: 42–00–14.10N / 87–55–48.23W
2.19.6 Site elevation: 670 ft

2.19.1 ILS type: Glide Slope for runway 09L. Magnetic variation: 3W
2.19.2 ILS identification: SAJ
2.19.5 Coordinates: 42–00–14.22N / 87–55–20.67W
2.19.6 Site elevation: 651 ft

2.19.1 ILS type: Localizer for runway 09L. Magnetic variation: 3W
2.19.2 ILS identification: SAJ
2.19.5 Coordinates: 42–00–10.19N / 87–53–43.32W
2.19.6 Site elevation: 661 ft

2.19.1 ILS type: Inner Marker for runway 09L. Magnetic variation: 3W
2.19.2 ILS identification: SAJ
2.19.5 Coordinates: 42–00–10.18N / 87–55–47.42W
2.19.6 Site elevation: 668 ft

2.19.1 ILS type: Inner Marker for runway 27R. Magnetic variation: 3W
2.19.2 ILS identification: ABU
2.19.5 Coordinates: 42–00–10.20N / 87–53–44.38W
2.19.6 Site elevation: 663 ft

2.19.1 ILS type: Localizer for runway 27R. Magnetic variation: 3W
2.19.2 ILS identification: ABU
2.19.5 Coordinates: 42–00–10.19N / 87–55–50.20W
2.19.6 Site elevation: 668 ft

2.19.1 ILS type: Glide Slope for runway 27R. Magnetic variation: 3W
2.19.2 ILS identification: ABU
2.19.5 Coordinates: 42–00–14.21N / 87–54–11.75W
2.19.6 Site elevation: 648 ft

2.19.1 ILS type: DME for runway 27R. Magnetic variation: 3W
2.19.2 ILS identification: ABU
2.19.5 Coordinates: 42–00–14.10N / 87–55–48.23W
2.19.6 Site elevation: 670 ft

2.19.1 ILS type: Localizer for runway 04L. Magnetic variation: 3W
2.19.2 ILS identification: HNA
2.19.5 Coordinates: 41–59–56.39N / 87–53–41.13W
2.19.6 Site elevation: 644 ft

2.19.1 ILS type: Outer Marker for runway 04L. Magnetic variation: 3W
2.19.2 ILS identification: HNA
2.19.5 Coordinates: 41–54–51.77N / 87–59–19.46W
2.19.6 Site elevation: ft

2.19.1 ILS type: Localizer for runway 22R. Magnetic variation: 3W
2.19.2 ILS identification: RXZ
2.19.5 Coordinates: 41–58–46.49N / 87–54–58.36W
2.19.6 Site elevation: 662 ft

2.19.1 ILS type: Glide Slope for runway 22R. Magnetic variation: 3W
2.19.2 ILS identification: RXZ
2.19.5 Coordinates: 41–59–45.44N / 87–53–58.39W
2.19.6 Site elevation: 645 ft

2.19.1 ILS type: Outer Marker for runway 22R. Magnetic variation: 3W
2.19.2 ILS identification: RXZ
2.19.5 Coordinates: 42–03–20.68N / 87–50–00.00W
2.19.6 Site elevation: 665 ft

2.19.1 ILS type: Middle Marker for runway 22R. Magnetic variation: 3W
2.19.2 ILS identification: RXZ
2.19.5 Coordinates: 42–00–10.86N / 87–53–25.14W
2.19.6 Site elevation: 636 ft

2.19.1 ILS type: Glide Slope for runway 04R.
Magnetic variation: 3W
2.19.2 ILS identification: FJU
2.19.5 Coordinates: 41–57–16.86N /
87–53–44.35W
2.19.6 Site elevation: 654 ft

2.19.1 ILS type: Middle Marker for runway 04R.
Magnetic variation: 3W
2.19.2 ILS identification: FJU
2.19.5 Coordinates: 41–56–48.83N /
87–54–28.68W
2.19.6 Site elevation: 655 ft

2.19.1 ILS type: Outer Marker for runway 04R.
Magnetic variation: 3W
2.19.2 ILS identification: FJU
2.19.5 Coordinates: 41–53–54.57N /
87–57–51.36W
2.19.6 Site elevation: ft

2.19.1 ILS type: Localizer for runway 04R.
Magnetic variation: 3W
2.19.2 ILS identification: FJU
2.19.5 Coordinates: 41–58–16.20N /
87–52–41.76W
2.19.6 Site elevation: 647 ft

2.19.1 ILS type: Outer Marker for runway 22L.
Magnetic variation: 3W
2.19.2 ILS identification: LQQ
2.19.5 Coordinates: 42–02–16.02N /
87–47–46.00W
2.19.6 Site elevation: 629 ft

2.19.1 ILS type: Localizer for runway 22L.
Magnetic variation: 3W
2.19.2 ILS identification: LQQ
2.19.5 Coordinates: 41–57–00.00N /
87–54–00.00W
2.19.6 Site elevation: 653 ft

2.19.1 ILS type: Glide Slope for runway 22L.
Magnetic variation: 3W
2.19.2 ILS identification: LQQ
2.19.5 Coordinates: 41–58–00.00N /
87–52–52.61W
2.19.6 Site elevation: 646 ft

2.19.1 ILS type: Middle Marker for runway 22L.
Magnetic variation: 3W
2.19.2 ILS identification: LQQ
2.19.5 Coordinates: 41–58–34.71N /
87–52–19.73W
2.19.6 Site elevation: 642 ft

2.19.1 ILS type: Glide Slope for runway 27L.
Magnetic variation: 3W
2.19.2 ILS identification: IAC
2.19.5 Coordinates: 41–59–00.00N /
87–53–34.35W
2.19.6 Site elevation: 646 ft

2.19.1 ILS type: Outer Marker for runway 27L.
Magnetic variation: 3W
2.19.2 ILS identification: IAC
2.19.5 Coordinates: 41–59–00.00N /
87–47–20.48W
2.19.6 Site elevation: ft

2.19.1 ILS type: Middle Marker for runway 27L.
Magnetic variation: 3W
2.19.2 ILS identification: IAC
2.19.5 Coordinates: 41–59–00.00N /
87–52–41.36W
2.19.6 Site elevation: ft

2.19.1 ILS type: Localizer for runway 27L.
Magnetic variation: 3W
2.19.2 ILS identification: IAC
2.19.5 Coordinates: 41–59–00.00N /
87–55–17.98W
2.19.6 Site elevation: 664 ft

2.19.1 ILS type: DME for runway 27L. Magnetic variation: 3W
2.19.2 ILS identification: IAC
2.19.5 Coordinates: 41–59–00.00N /
87–53–10.21W
2.19.6 Site elevation: 654 ft

2.19.1 ILS type: Inner Marker for runway 27L.
Magnetic variation: 3W
2.19.2 ILS identification: IAC
2.19.5 Coordinates: 41–59–00.00N /
87–53–00.00W
2.19.6 Site elevation: 642 ft

2.19.1 ILS type: Localizer for runway 09R.
Magnetic variation: 3W
2.19.2 ILS identification: JAV
2.19.5 Coordinates: 41–59–00.00N /
87–53–10.49W
2.19.6 Site elevation: 643 ft

2.19.1 ILS type: Outer Marker for runway 09R.
Magnetic variation: 3W
2.19.2 ILS identification: JAV
2.19.5 Coordinates: 41−59−00.00N /
88−01−39.29W
2.19.6 Site elevation: 717 ft

2.19.1 ILS type: DME for runway 09R. Magnetic variation: 3W
2.19.2 ILS identification: JAV
2.19.5 Coordinates: 41−59−00.00N /
87−53−10.21W
2.19.6 Site elevation: 654 ft

2.19.1 ILS type: Glide Slope for runway 09R.
Magnetic variation: 3W
2.19.2 ILS identification: JAV
2.19.5 Coordinates: 41−59−00.00N /
87−54−51.31W
2.19.6 Site elevation: 658 ft

2.19.1 ILS type: Middle Marker for runway 09R.
Magnetic variation: 3W
2.19.2 ILS identification: JAV
2.19.5 Coordinates: 41−59−00.00N /
87−55−54.53W
2.19.6 Site elevation: 659 ft

General Remarks:
AIRPORT NIGHTTIME NOISE ABATEMENT PROCEDURES ARE IN EFFECT FROM 2200 TO 0700; CONTACT AIRPORT MANAGER ON 773−686−2255.

BIRDS ON & IN THE VICINITY OF AIRPORT. PYROTECHNICS & BIRD CANNONS IN USE FOR BIRD CONTROL.

AIRCRAFT WITH WINGSPAN GREATER THAN 214 FT REQUIRE 48 HRS PRIOR PERMISSION REQUIRED − CALL 773−686−2255.

SEE LAND AND HOLD SHORT OPERATIONS SECTION.

DURING PERIODS OF COLD WEATHER; THE APPROACH CONTROL END OF RUNWAY 32R MAY NOT BE VISIBLE FROM THE ATCT DUE TO STEAM PLUME FROM AIRPORT HEATING PLANT.

BE ALERT: OF DUPLICATE ALPHA−NUMERIC TAXIWAY DESIGNATORS & TERMINAL GATE DESIGNATIONS INVOLVING THE LETTERS G, H, K L & M.

MAGNETIC DEVIATION POSSIBLE IMMEDIATELY WEST OF TAXIWAY M7 & RUNWAY 22L APPROACH ON TAXIWAY M.

PERSONNEL AND EQUIPMENT WORKING NEAR VARIOUS TAXIWAYS.

PERIODIC FIRE DEPT TRAINING AT N SECTOR OF THE AIRPORT.

PRIMARY RUN−UP LOCATION GROUND RUN UP ENCLOSURE; SECONDARY RUN UP LOCATIONS AVAILABLE UPON REQ CONTACT CITY OPERATIONS 773−686−2255.

LINE UP & WAIT AUTHORIZATION IN EFFECT AFTER DARK AT THE FOLLOWING INTERSECTIONS; RUNWAY 32L AT TAXIWAY T−10, RUNWAY 28 AT TAXIWAY ZY AND ZV, RUNWAY 14L AT TAXIWAY U2 & TAXIWAY WEIGHT, RUNWAY 32R AT TAXIWAY WEIGHT & RUNWAY 10 AT TAXIWAY ZH. THESE RUNWAYS WILL BE USED FOR DEPS ONLY WHEN EXERCISING THE PROVISIONS OF THIS AUTHORIZATION.

ALL PART 91 & UNSCHEDULED PART 125, 133 & 135 CHARTER OPERATORS CONTACT SIGNATURE FLIGHT SUPPORT AT 773−686−7000 REGARDING NEW SECURITY REGULATIONS PRIOR TO DEP.

RUNWAY H1, APPROACH/ DEP PATHS ARE EAST & WEST.

B747–400, B747–8, B777–300ER, B777–200LR(F), A340–600 OR A340–500 CANNOT PASS ON TAXIWAYS ’A’ & ’B’ INSUFFICIENT WINGTIP CLEARANCE.

BE ALERT: THE NORTHEAST/SOUTHWEST PORTION OF TAXIWAY Y IS NOT VISIBLE FROM THE CENTER ATCT. TAXIWAY ’ZE’ SOUTH OF TAXIWAY ’N’ NOT VISIBLE FROM CENTER TOWER DUE TO BLAST FENCE.

GENERAL AVIATION RAMP AND FBO LOCATED AT THE NORTH EAST RAMP VICINITY OF RUNWAY 27L APPROACH.

ATCT IS AUTHORIZED TO CONDUCT ARRS TO RUNWAYS 14L & 14R WHILE CONDUCTING SIMULTANEOUS OPPOSITE DIRECTION DEPS OFF OF RUNWAY 09R & RUNWAY 28 DURING IFR WEATHER CONDITIONS. ATCT IS AUTHORIZED TO CONDUCT SIMULTANEOUS CONVERGING INSTRUMENT APPROACHES TO RUNWAY 14R & RUNWAY 22R WHILE CONDUCTING SIMULTANEOUS OPPOSITE DIRECTION DEPS OFF OF RUNWAY 09R & 28 DURING IFR WEATHER CONDITIONS.

ATCT IS AUTHORIZED TO CONDUCT SIMULTANEOUS OPPOSITE DIRECTION DEPS ON RUNWAY 09R AND RUNWAY 28 DURING INSTRUMENT FLIGHT RULES (IFR) WX CONDITIONS.

ASDE–X SURVEILLANCE SYSTEM IN USE: PILOTS SHOULD OPERATE TRANSPONDERS WITH MODE C ON ALL TAXIWAYS & RUNWAYS.

RUNWAY 9L/27R TRIPLE DUAL TANDEM 690,000 LBS; DUAL TANDUM W/DUAL WHEEL (2D/D1) 633,000 LBS.

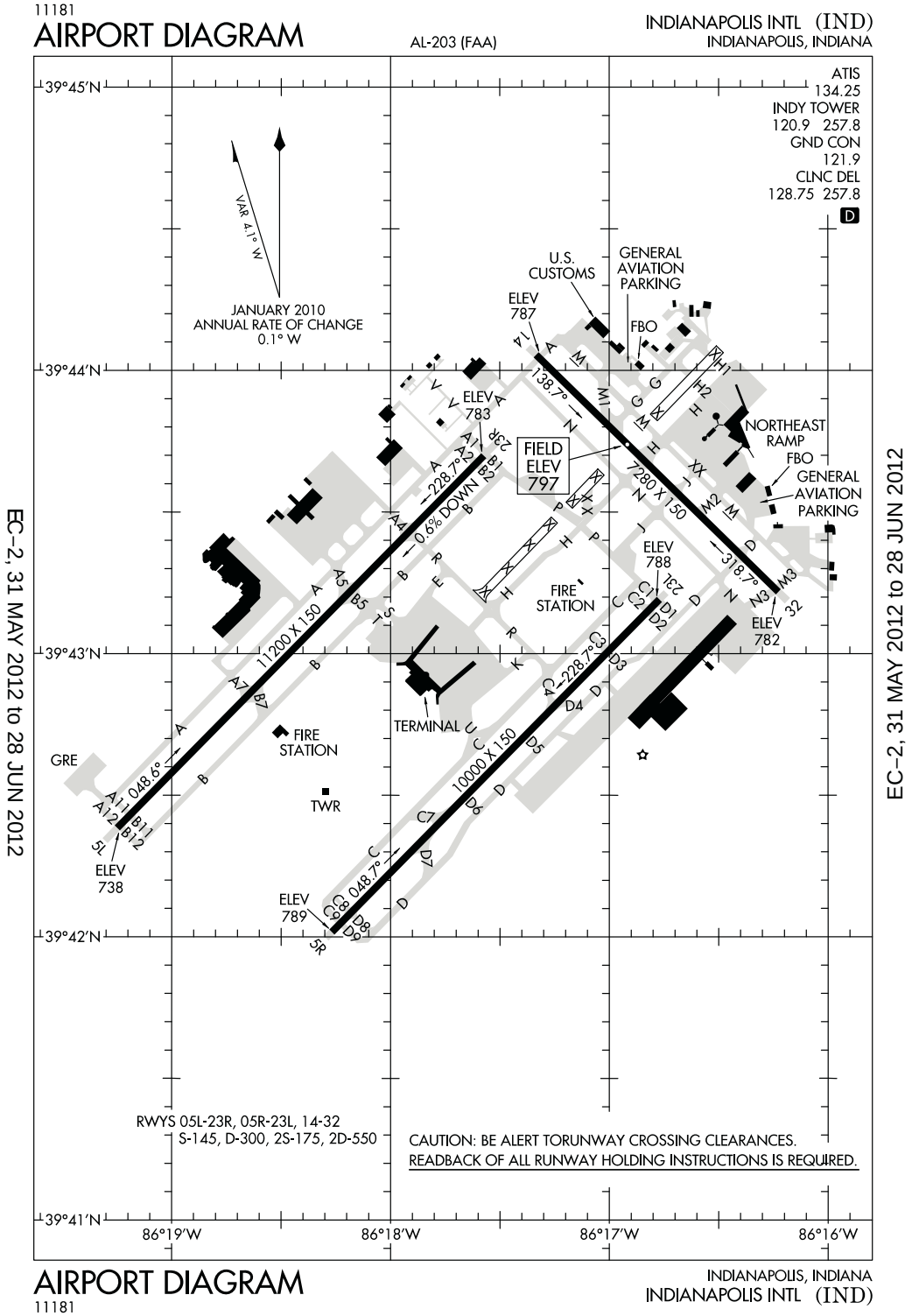
YANKEE ECHO GATE IS MANNED 24 HRS A DAY. YANKEE TANGO GATE IS MANNED 24 HRS A DAY.

RUNWAY 32L CLOSED TO ARRIVALS.

ATC IS AUTHORIZED TO CONDUCT SIMULTANEOUS DEPS FROM RUNWAYS 14R/14L, 32L/32R, 4L/4R, 22R/22L, 9R WITH 9L OR 10, AND 27L WITH 28 OR 27R WITH COURSE DIVERGENCE BEGINNING NO LATER THAN 4 MILES FROM RUNWAY END.

BE ALERT: TAXIWAY K–1 OUTBOUND OR EASTBOUND ONLY, TAXIWAY K–2 INBOUND OR WESTBOUND ONLY AND TAXIWAY S5 NORTHBOUND ONLY EXITING RUNWAY, TAXIWAY TELETYPEWRITER NORTHBOUND ONLY BETWEEN RUNWAY 14L–32R AND TAXIWAY MM.

Indianapolis, Indiana
Indianapolis International
ICAO Identifier KIND



Indianapolis, IN
Indianapolis Intl
ICAO Identifier KIND

AD 2.2 Aerodrome geographical and administrative data
2.2.1 Reference Point: 39–43–00.00N / 86–17–40.78W
2.2.2 From City: 7 Miles SW Of Indianapolis, IN
2.2.3 Elevation: 797 ft
2.2.5 Magnetic variation: 2W (1985)
2.2.6 Airport Contact: John Clark
7800 COL. H. WEIR COOK MEMORIAL DR.
Indianapolis, IN 46241
(317–487–9594)
2.2.7 Traffic: IFR/VFR

AD 2.3 Operational hours
2.3.1 – 2.3.11: ALL Months, ALL Days, ALL Hours

AD 2.4 Handling services and facilities
2.4.1 Cargo handling facilities: No
2.4.2 Fuel types: 100LL,A,A1+
2.4.4 De–icing facilities: None
2.4.5 Hangar space: No
2.4.6 Repair facilities: Major

AD 2.6 Rescue and firefighting services
2.6.1 Aerodrome category for firefighting: ARFF Index I D certified on 5/1/1973

AD 2.10 Aerodrome obstacles
2.10.1.a. Runway designation: 23R
2.10.1.b Type of obstacle: Ant (140 ft). Lighted
2.10.1.c Location of obstacle: 138 ft from Centerline

2.10.1.a. Runway designation: 23L
2.10.1.b Type of obstacle: Ant (78 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 484 ft from Centerline

2.10.1.a. Runway designation: 14
2.10.1.b Type of obstacle: Ant (61 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 756 ft from Centerline

2.10.1.a. Runway designation: 32
2.10.1.b Type of obstacle: Trees (56 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 391 ft from Centerline

AD 2.12 Runway physical characteristics
2.12.1 Designation: 05L
2.12.2 True Bearing: 45
2.12.3 Dimensions: 11200 ft x 150 ft
2.12.5 Coordinates: 39–42–23.03N / 86–19–14.94W
2.12.6 Threshold elevation: 738 ft
2.12.6 Touchdown zone elevation: 748 ft

2.12.1 Designation: 23R
2.12.2 True Bearing: 225
2.12.3 Dimensions: 11200 ft x 150 ft
2.12.5 Coordinates: 39–43–41.91N / 86–17–34.40W
2.12.6 Threshold elevation: 783 ft
2.12.6 Touchdown zone elevation: 783 ft

2.12.1 Designation: 05R
2.12.2 True Bearing: 45
2.12.3 Dimensions: 10000 ft x 150 ft
2.12.5 Coordinates: 39–42–00.00N / 86–18–15.94W
2.12.6 Threshold elevation: 789 ft
2.12.6 Touchdown zone elevation: 791 ft

2.12.1 Designation: 23L
2.12.2 True Bearing: 225
2.12.3 Dimensions: 10000 ft x 150 ft
2.12.5 Coordinates: 39–43–11.28N / 86–16–46.17W
2.12.6 Threshold elevation: 788 ft
2.12.6 Touchdown zone elevation: 790 ft

2.12.1 Designation: 14
2.12.2 True Bearing: 135
2.12.3 Dimensions: 7280 ft x 150 ft
2.12.5 Coordinates: 39–44–00.00N / 86–17–19.81W
2.12.6 Threshold elevation: 787 ft
2.12.6 Touchdown zone elevation: 796 ft

2.12.1 Designation: 32

2.12.2 True Bearing: 315
2.12.3 Dimensions: 7280 ft x 150 ft
2.12.5 Coordinates: 39–43–12.73N / 86–16–13.42W
2.12.6 Threshold elevation: 782 ft
2.12.6 Touchdown zone elevation: 792 ft

AD 2.13 Declared distances
2.13.1 Designation: 05L
2.13.2 Takeoff run available: 11200
2.13.3 Takeoff distance available: 11200
2.13.4 Accelerate–stop distance available: 11200
2.13.5 Landing distance available: 11200

2.13.1 Designation: 23R
2.13.2 Takeoff run available: 11200
2.13.3 Takeoff distance available: 11200
2.13.4 Accelerate–stop distance available: 11200
2.13.5 Landing distance available: 11200

2.13.1 Designation: 05R
2.13.2 Takeoff run available: 10000
2.13.3 Takeoff distance available: 10000
2.13.4 Accelerate–stop distance available: 10000
2.13.5 Landing distance available: 10000

2.13.1 Designation: 23L
2.13.2 Takeoff run available: 10000
2.13.3 Takeoff distance available: 10000
2.13.4 Accelerate–stop distance available: 10000
2.13.5 Landing distance available: 10000

2.13.1 Designation: 14
2.13.2 Takeoff run available: 7280
2.13.3 Takeoff distance available: 7280
2.13.4 Accelerate–stop distance available: 7280
2.13.5 Landing distance available: 7280

2.13.1 Designation: 32
2.13.2 Takeoff run available: 7280
2.13.3 Takeoff distance available: 7280
2.13.4 Accelerate–stop distance available: 7280
2.13.5 Landing distance available: 7280

AD 2.14 Approach and runway lighting
2.14.1 Designation: 05L
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 23R
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 05R
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 23L
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on right

2.14.1 Designation: 14
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on left
2.14.10 Remarks: Unusable Beyond 8 Degrees Right Of Course.

2.14.1 Designation: 32
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on right

AD 2.18 Air traffic services communication facilities
2.18.1 Service designation: APCH/P IC
2.18.3 Service designation: 119.3 MHz

2.18.1 Service designation: EMERG
2.18.3 Service designation: 121.5 MHz

2.18.1 Service designation: GND/S
2.18.3 Service designation: 121.8 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 121.9 MHz

2.18.1 Service designation: APCH/P CLASS C

2.18.3 Service designation: 124.65 MHz

2.18.1 Service designation: APCH/P CLASS C
2.18.3 Service designation: 127.15 MHz

2.18.1 Service designation: CD PRE TAXI CLNC
2.18.3 Service designation: 128.75 MHz

2.18.1 Service designation: EMERG
2.18.3 Service designation: 243 MHz

2.18.1 Service designation: CD LCL/P
2.18.3 Service designation: 257.8 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS C
2.18.3 Service designation: 317.8 MHz

2.18.1 Service designation: DEP/P
2.18.3 Service designation: 119.05 MHz

2.18.1 Service designation: D–ATIS
2.18.3 Service designation: 134.25 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: DEP/P CLASS C
2.18.3 Service designation: 124.95 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 120.9 MHz

AD 2.19 Radio navigation and landing aids

2.19.1 ILS type: Glide Slope for runway 05L.
Magnetic variation: 4W
2.19.2 ILS identification: IND
2.19.5 Coordinates: 39–42–32.78N / 86–19–00.00W
2.19.6 Site elevation: 735 ft

2.19.1 ILS type: Outer Marker for runway 05L.
Magnetic variation: 4W
2.19.2 ILS identification: IND
2.19.5 Coordinates: 39–37–44.40N / 86–25–00.00W
2.19.6 Site elevation: 689 ft

2.19.1 ILS type: DME for runway 05L. Magnetic variation: 4W
2.19.2 ILS identification: IND
2.19.5 Coordinates: 39–43–51.36N / 86–17–27.60W
2.19.6 Site elevation: 784 ft

2.19.1 ILS type: Inner Marker for runway 05L.
Magnetic variation: 4W
2.19.2 ILS identification: IND
2.19.5 Coordinates: 39–42–15.71N / 86–19–24.44W
2.19.6 Site elevation: 736 ft

2.19.1 ILS type: Localizer for runway 05L.
Magnetic variation: 4W
2.19.2 ILS identification: IND
2.19.5 Coordinates: 39–43–49.02N / 86–17–25.33W
2.19.6 Site elevation: 788 ft

2.19.1 ILS type: Middle Marker for runway 05L.
Magnetic variation: 4W
2.19.2 ILS identification: IND
2.19.5 Coordinates: 39–42–00.00N / 86–19–43.10W
2.19.6 Site elevation: 726 ft

2.19.1 ILS type: Localizer for runway 23R.
Magnetic variation: 2W
2.19.2 ILS identification: UZK
2.19.5 Coordinates: 39–42–15.92N / 86–19–24.00W
2.19.6 Site elevation: 737 ft

2.19.1 ILS type: Glide Slope for runway 23R.
Magnetic variation: 2W
2.19.2 ILS identification: UZK
2.19.5 Coordinates: 39–43–36.51N / 86–17–48.46W
2.19.6 Site elevation: 772 ft

2.19.1 ILS type: Outer Marker for runway 23R.
Magnetic variation: 2W
2.19.2 ILS identification: UZK
2.19.5 Coordinates: 39–47–44.67N / 86–12–24.00W
2.19.6 Site elevation: 731 ft

2.19.1 ILS type: Middle Marker for runway 23R.
Magnetic variation: 2W
2.19.2 ILS identification: UZK
2.19.5 Coordinates: 39–44–24.76N / 86–16–00.00W
2.19.6 Site elevation: 789 ft

2.19.1 ILS type: DME for runway 23R. Magnetic variation: 2W
2.19.2 ILS identification: UZK

2.19.5 Coordinates: 39–43–51.36N / 86–17–27.60W
2.19.6 Site elevation: 784 ft

2.19.1 ILS type: Outer Marker for runway 05R.
Magnetic variation: 4W
2.19.2 ILS identification: OQV
2.19.5 Coordinates: 39–37–00.00N / 86–24–28.30W
2.19.6 Site elevation: 789 ft

2.19.1 ILS type: DME for runway 05R. Magnetic variation: 4W
2.19.2 ILS identification: OQV
2.19.5 Coordinates: 39–43–20.20N / 86–16–39.55W
2.19.6 Site elevation: 788 ft

2.19.1 ILS type: Middle Marker for runway 05R.
Magnetic variation: 4W
2.19.2 ILS identification: OQV
2.19.5 Coordinates: 39–42–00.00N / 86–19–43.10W
2.19.6 Site elevation: 770 ft

2.19.1 ILS type: Inner Marker for runway 05R.
Magnetic variation: 4W
2.19.2 ILS identification: OQV
2.19.5 Coordinates: 39–41–54.66N / 86–18–23.77W
2.19.6 Site elevation: 776 ft

2.19.1 ILS type: Localizer for runway 05R.
Magnetic variation: 4W
2.19.2 ILS identification: OQV
2.19.5 Coordinates: 39–43–18.37N / 86–16–37.12W
2.19.6 Site elevation: 785 ft

2.19.1 ILS type: Glide Slope for runway 05R.
Magnetic variation: 4W
2.19.2 ILS identification: OQV
2.19.5 Coordinates: 39–42–00.00N / 86–18–00.00W
2.19.6 Site elevation: 789 ft

2.19.1 ILS type: Localizer for runway 23L.
Magnetic variation: 2W
2.19.2 ILS identification: FVJ
2.19.5 Coordinates: 39–41–54.18N / 86–18–24.47W
2.19.6 Site elevation: 779 ft

2.19.1 ILS type: Glide Slope for runway 23L.
Magnetic variation: 2W
2.19.2 ILS identification: FVJ
2.19.5 Coordinates: 39–43–00.00N / 86–16–54.54W
2.19.6 Site elevation: 785 ft

2.19.1 ILS type: Middle Marker for runway 23L.
Magnetic variation: 2W
2.19.2 ILS identification: FVJ
2.19.5 Coordinates: 39–43–30.36N / 86–16–21.76W
2.19.6 Site elevation: 785 ft

2.19.1 ILS type: DME for runway 23L. Magnetic variation: 2W
2.19.2 ILS identification: FVJ
2.19.5 Coordinates: 39–43–20.20N / 86–16–39.55W
2.19.6 Site elevation: 788 ft

2.19.1 ILS type: Outer Marker for runway 23L.
Magnetic variation: 2W
2.19.2 ILS identification: FVJ
2.19.5 Coordinates: 39–47–11.15N / 86–11–46.46W
2.19.6 Site elevation: 710 ft

2.19.1 ILS type: Middle Marker for runway 14.
Magnetic variation: 2W
2.19.2 ILS identification: BJP
2.19.5 Coordinates: 39–44–19.96N / 86–17–42.27W
2.19.6 Site elevation: 776 ft

2.19.1 ILS type: Outer Marker for runway 14.
Magnetic variation: 2W
2.19.2 ILS identification: BJP
2.19.5 Coordinates: 39–47–34.36N / 86–22–00.00W
2.19.6 Site elevation: 865 ft

2.19.1 ILS type: Glide Slope for runway 14.
Magnetic variation: 2W
2.19.2 ILS identification: BJP
2.19.5 Coordinates: 39–43–59.30N / 86–17–00.00W
2.19.6 Site elevation: 790 ft

2.19.1 ILS type: Localizer for runway 14. Magnetic variation: 2W
2.19.2 ILS identification: BJP

2.19.5 Coordinates: 39–43–00.00N / 86–16–00.00W
2.19.6 Site elevation: 764 ft

2.19.1 ILS type: Glide Slope for runway 32. Magnetic variation: 2W
2.19.2 ILS identification: COA
2.19.5 Coordinates: 39–43–16.26N / 86–16–25.54W
2.19.6 Site elevation: 783 ft

2.19.1 ILS type: Outer Marker for runway 32. Magnetic variation: 2W
2.19.2 ILS identification: COA
2.19.5 Coordinates: 39–39–24.69N / 86–11–00.00W
2.19.6 Site elevation: ft

2.19.1 ILS type: Middle Marker for runway 32. Magnetic variation: 2W
2.19.2 ILS identification: COA
2.19.5 Coordinates: 39–42–52.06N / 86–15–44.56W
2.19.6 Site elevation: 752 ft

2.19.1 ILS type: Localizer for runway 32. Magnetic variation: 2W
2.19.2 ILS identification: COA
2.19.5 Coordinates: 39–44–10.34N / 86–17–29.16W
2.19.6 Site elevation: 782 ft

General Remarks:
PRIMARY STUDENT TOUCH AND GO LANDING NOT PERMITTED.

LARGE FLOCKS OF BIRDS ON & IN THE VICINITY OF AIRPORT.

NOISE ABATEMENT PROCEDURES IN EFFECT CONTACT AIRPORT MANAGEMENT ON 317–487–9594.

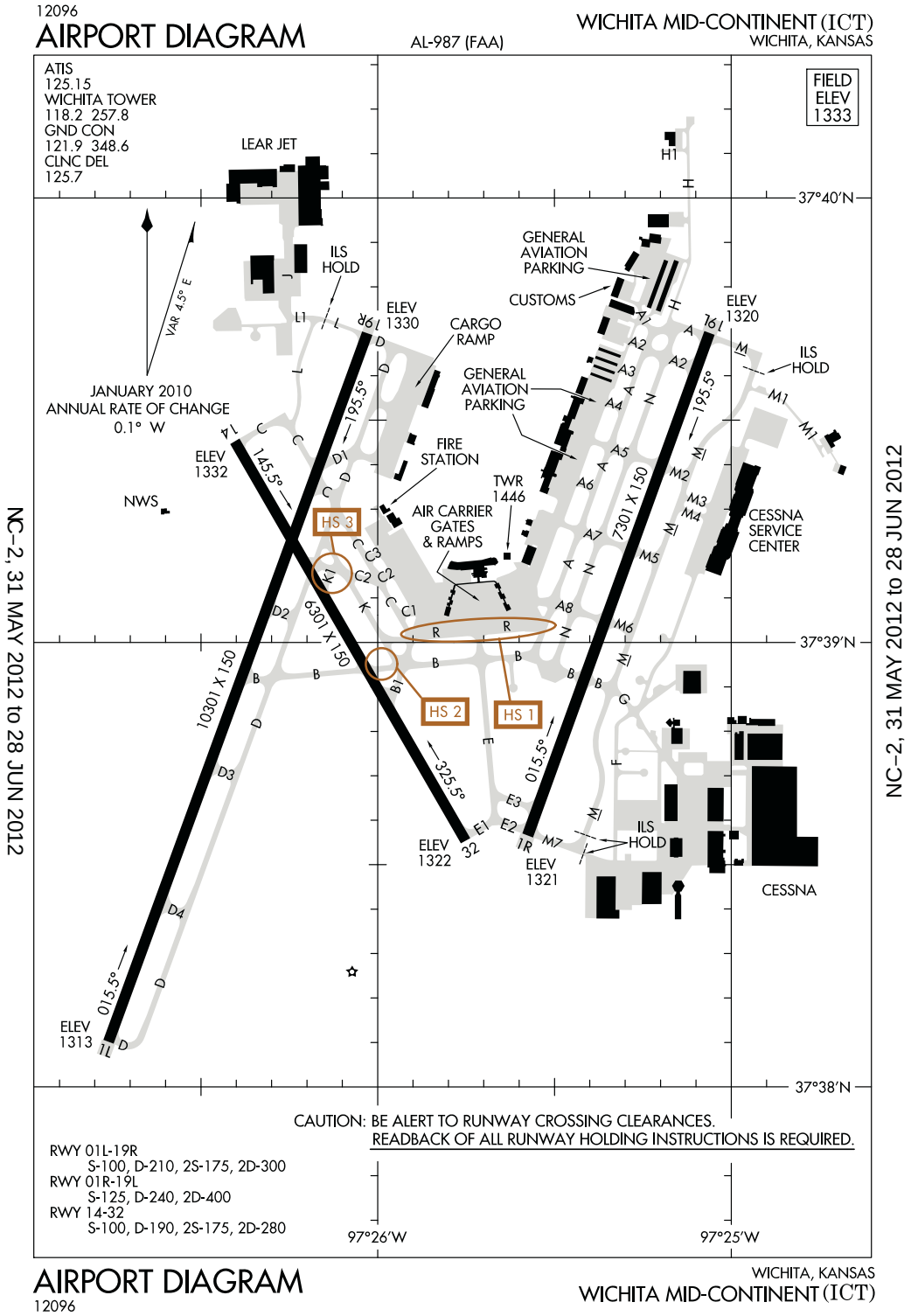
BE ALERT TO CLOSE PROXIMITY OF RUNWAY 14/32 TO NORTHEAST RAMP.

TAXIWAY ’H’ RUNS CONTIGUOUS AT NORTHEAST RAMP.

TAXIWAY H NE OF TAXIWAY M NOT AVAILABLE FOR GROUP V AIRCRAFT.

RUNWAY 05R/23L & RUNWAY 14/32 HAVE 200 FT BLAST PADS BOTH ENDS. RUNWAY 5L/23R HAS 400 FT BLAST PAD AT BOTH ENDS.

Wichita, Kansas
Wichita Mid–Continent
ICAO Identifier KICT



Wichita, KS
Wichita Mid–Continent
ICAO Identifier KICT

AD 2.2 Aerodrome geographical and administrative data
2.2.1 Reference Point: 37–38–59.80N / 97–25–59.00W
2.2.2 From City: 5 Miles SW Of Wichita, KS
2.2.3 Elevation: 1333 ft
2.2.5 Magnetic variation: 7E (1985)
2.2.6 Airport Contact: Mr. Victor White, A.A.E.
2173 AIR CARGO ROAD
Wichita, KS 67209
(316–946–4700)
2.2.7 Traffic: IFR/VFR

AD 2.3 Operational hours
2.3.1 – 2.3.11: ALL Months, ALL Days, ALL Hours

AD 2.4 Handling services and facilities
2.4.1 Cargo handling facilities: No
2.4.2 Fuel types: 100LL,A
2.4.4 De–icing facilities: None
2.4.5 Hangar space: Yes
2.4.6 Repair facilities: Major

AD 2.6 Rescue and firefighting services
2.6.1 Aerodrome category for firefighting: ARFF Index I C certified on 5/1/1973

AD 2.12 Runway physical characteristics
2.12.1 Designation: 14
2.12.2 True Bearing: 150
2.12.3 Dimensions: 6301 ft x 150 ft
2.12.5 Coordinates: 37–39–27.16N / 97–26–24.27W
2.12.6 Threshold elevation: 1332 ft
2.12.6 Touchdown zone elevation: 1332 ft

2.12.1 Designation: 32
2.12.2 True Bearing: 330
2.12.3 Dimensions: 6301 ft x 150 ft
2.12.5 Coordinates: 37–38–33.22N / 97–25–45.10W
2.12.6 Threshold elevation: 1322 ft
2.12.6 Touchdown zone elevation: 1322 ft

2.12.1 Designation: 01L
2.12.2 True Bearing: 20
2.12.3 Dimensions: 10301 ft x 150 ft
2.12.5 Coordinates: 37–38–00.00N / 97–26–45.59W
2.12.6 Threshold elevation: 1313 ft
2.12.6 Touchdown zone elevation: 1314 ft

2.12.1 Designation: 19R
2.12.2 True Bearing: 200
2.12.3 Dimensions: 10301 ft x 150 ft
2.12.5 Coordinates: 37–39–41.76N / 97–26–00.00W
2.12.6 Threshold elevation: 1330 ft
2.12.6 Touchdown zone elevation: 1330 ft

2.12.1 Designation: 01R
2.12.2 True Bearing: 20
2.12.3 Dimensions: 7301 ft x 150 ft
2.12.5 Coordinates: 37–38–33.95N / 97–25–34.63W
2.12.6 Threshold elevation: 1321 ft
2.12.6 Touchdown zone elevation: 1321 ft

2.12.1 Designation: 19L
2.12.2 True Bearing: 200
2.12.3 Dimensions: 7301 ft x 150 ft
2.12.5 Coordinates: 37–39–41.77N / 97–25–00.00W
2.12.6 Threshold elevation: 1320 ft
2.12.6 Touchdown zone elevation: 1320 ft

AD 2.14 Approach and runway lighting
2.14.1 Designation: 14
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 32
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 01L
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration

2.14.1 Designation: 19R
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights

2.14.1 Designation: 01R

2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights

2.14.1 Designation: 19L
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

AD 2.18 Air traffic services communication facilities
2.18.1 Service designation: LCL/P
2.18.3 Service designation: 118.2 MHz

2.18.1 Service designation: EMERG
2.18.3 Service designation: 121.5 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 121.9 MHz

2.18.1 Service designation: APCH/P
2.18.3 Service designation: 125.5 MHz

2.18.1 Service designation: CD/P
2.18.3 Service designation: 125.7 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS C IC
2.18.3 Service designation: 126.7 MHz

2.18.1 Service designation: CLASS C
2.18.3 Service designation: 134.85 MHz

2.18.1 Service designation: APCH/P DEP/P
2.18.3 Service designation: 134.85 MHz

2.18.1 Service designation: EMERG
2.18.3 Service designation: 243 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 257.8 MHz

2.18.1 Service designation: APCH/P
2.18.3 Service designation: 269.1 MHz

2.18.1 Service designation: APCH/P
2.18.3 Service designation: 325.8 MHz

2.18.1 Service designation: APCH/S DEP/S
2.18.3 Service designation: 327.1 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 348.6 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS C IC
2.18.3 Service designation: 353.5 MHz

2.18.1 Service designation: APCH/P DEP/P
2.18.3 Service designation: 385.55 MHz

2.18.1 Service designation: CLASS C
2.18.3 Service designation: 385.55 MHz

2.18.1 Service designation: CLASS C
2.18.3 Service designation: 134.8 MHz

2.18.1 Service designation: ATIS
2.18.3 Service designation: 125.15 MHz
2.18.4 Hours of operation: 24

AD 2.19 Radio navigation and landing aids
2.19.1 ILS type: Glide Slope for runway 01L.
Magnetic variation: 4E
2.19.2 ILS identification: TWI
2.19.5 Coordinates: 37–38–16.71N / 97–26–46.01W
2.19.6 Site elevation: 1310 ft

2.19.1 ILS type: Middle Marker for runway 01L.
Magnetic variation: 4E
2.19.2 ILS identification: TWI
2.19.5 Coordinates: 37–37–39.47N / 97–26–57.83W
2.19.6 Site elevation: 1323 ft

2.19.1 ILS type: Outer Marker for runway 01L.
Magnetic variation: 4E
2.19.2 ILS identification: TWI
2.19.5 Coordinates: 37–33–33.95N / 97–28–51.78W
2.19.6 Site elevation: 1310 ft

2.19.1 ILS type: Inner Marker for runway 01L.
Magnetic variation: 4E
2.19.2 ILS identification: TWI
2.19.5 Coordinates: 37–37–57.14N / 97–26–49.69W
2.19.6 Site elevation: 1317 ft

2.19.1 ILS type: Localizer for runway 01L.
Magnetic variation: 4E
2.19.2 ILS identification: TWI
2.19.5 Coordinates: 37–39–51.34N / 97–25–57.41W

2.19.6 Site elevation: 1320 ft

2.19.1 ILS type: Localizer for runway 19R.
Magnetic variation: 7E
2.19.2 ILS identification: HOV
2.19.5 Coordinates: 37–37–54.74N /
97–26–50.78W
2.19.6 Site elevation: 1319 ft

2.19.1 ILS type: Glide Slope for runway 19R.
Magnetic variation: 7E
2.19.2 ILS identification: HOV
2.19.5 Coordinates: 37–39–33.86N /
97–26–10.83W
2.19.6 Site elevation: 1326 ft

2.19.1 ILS type: Middle Marker for runway 19R.
Magnetic variation: 7E
2.19.2 ILS identification: HOV
2.19.5 Coordinates: 37–40–00.00N /
97–25–49.89W
2.19.6 Site elevation: ft

2.19.1 ILS type: Outer Marker for runway 19R.
Magnetic variation: 7E
2.19.2 ILS identification: HOV
2.19.5 Coordinates: 37–44–16.61N /
97–24–00.00W
2.19.6 Site elevation: 8 ft

2.19.1 ILS type: Localizer for runway 01R.
Magnetic variation: 7E
2.19.2 ILS identification: ICT
2.19.5 Coordinates: 37–39–50.13N /
97–24–59.73W
2.19.6 Site elevation: 1312 ft

2.19.1 ILS type: DME for runway 01R. Magnetic variation: 7E
2.19.2 ILS identification: ICT
2.19.5 Coordinates: 37–39–52.04N /
97–25–00.00W
2.19.6 Site elevation: 1327 ft

2.19.1 ILS type: Glide Slope for runway 01R.
Magnetic variation: 7E
2.19.2 ILS identification: ICT
2.19.5 Coordinates: 37–38–42.64N /
97–25–24.70W
2.19.6 Site elevation: 1315 ft

2.19.1 ILS type: Middle Marker for runway 01R.
Magnetic variation: 7E
2.19.2 ILS identification: ICT
2.19.5 Coordinates: 37–38–00.00N /
97–25–49.07W
2.19.6 Site elevation: ft

2.19.1 ILS type: Outer Marker for runway 01R.
Magnetic variation: 7E
2.19.2 ILS identification: ICT
2.19.5 Coordinates: 37–34–41.50N /
97–27–21.09W
2.19.6 Site elevation: ft

2.19.1 ILS type: DME for runway 19L. Magnetic variation: 7E
2.19.2 ILS identification: MVP
2.19.5 Coordinates: 37–38–21.53N /
97–25–43.26W
2.19.6 Site elevation: 1320 ft

2.19.1 ILS type: Glide Slope for runway 19L.
Magnetic variation: 7E
2.19.2 ILS identification: MVP
2.19.5 Coordinates: 37–39–30.78N /
97–25–00.00W
2.19.6 Site elevation: 1312 ft

2.19.1 ILS type: Localizer for runway 19L.
Magnetic variation: 7E
2.19.2 ILS identification: MVP
2.19.5 Coordinates: 37–38–21.32N /
97–25–40.42W
2.19.6 Site elevation: 1318 ft

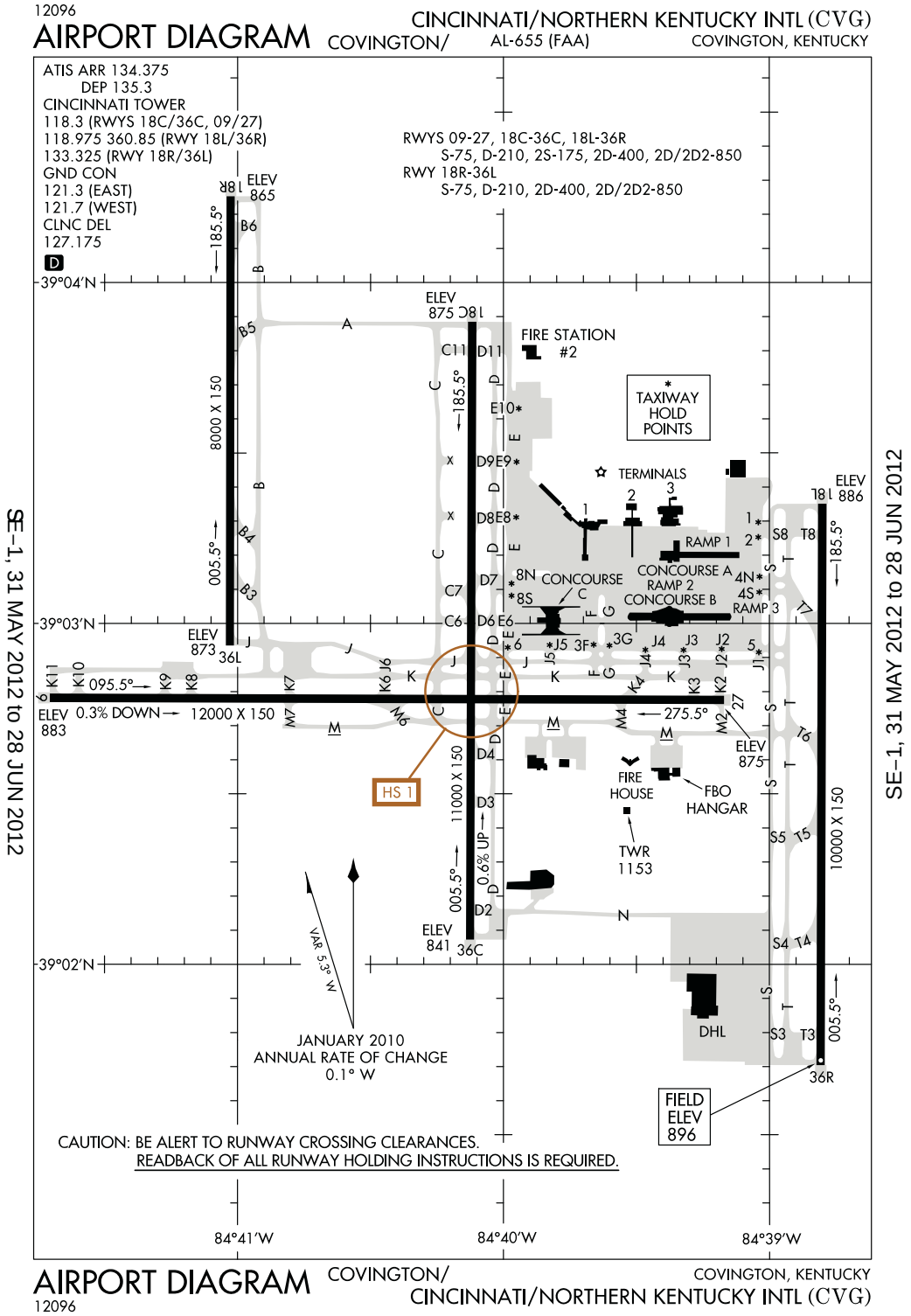
General Remarks:
MIGRATORY BIRDS ON & IN THE VICINITY OF AIRPORT.

PRIOR PERMISSION REQUIREDUIRED FOR AIRCRAFT CARRYING CLASS 1 – DIVISION 1.1; 1.2 OR 1.3 EXPLOSIVES AS DEFINED BY 49 CODE OF FEDERAL REGULATIONS 173.50.

TAXIWAYS F, G, H, J, M1 AND ALL PARKING RAMPS ARE NON–MOVEMENT AREAS.

PUSHBACK CLEARANCE REQUIRED AT TERMINAL GATES 5, 6, 11 AND 12. PUSHBACK ENTERS TAXIWAY R.

Covington, Kentucky
Cincinnati/Northern Kentucky International
ICAO Identifier KCVG



Covington, KY
Cincinnati/Northern Kentucky Intl
ICAO Identifier KCVG

AD 2.2 Aerodrome geographical and administrative data
2.2.1 Reference Point: 39–02–55.81N / 84–40–00.00W
2.2.2 From City: 8 Miles SW Of Covington, KY
2.2.3 Elevation: 896 ft
2.2.5 Magnetic variation: 4W (1995)
2.2.6 Airport Contact: Candace Mcgraw
PO BOX 752000
Cincinnati, OH 45275
(859–767–3151)
2.2.7 Traffic: IFR/VFR

AD 2.3 Operational hours
2.3.1 – 2.3.11: ALL Months, ALL Days, ALL Hours

AD 2.4 Handling services and facilities
2.4.1 Cargo handling facilities: No
2.4.2 Fuel types: 100LL,A
2.4.4 De–icing facilities: None
2.4.5 Hangar space: Yes
2.4.6 Repair facilities: Major

AD 2.6 Rescue and firefighting services
2.6.1 Aerodrome category for firefighting: ARFF Index I C certified on 5/1/1973

AD 2.12 Runway physical characteristics
2.12.1 Designation: 18L
2.12.2 True Bearing: 180
2.12.3 Dimensions: 10000 ft x 150 ft
2.12.5 Coordinates: 39–03–21.08N / 84–38–48.00W
2.12.6 Threshold elevation: 886 ft
2.12.6 Touchdown zone elevation: 889 ft

2.12.1 Designation: 36R
2.12.2 True Bearing: 0
2.12.3 Dimensions: 10000 ft x 150 ft
2.12.5 Coordinates: 39–01–42.24N / 84–38–48.46W
2.12.6 Threshold elevation: 896 ft
2.12.6 Touchdown zone elevation: 896 ft

2.12.1 Designation: 18C
2.12.2 True Bearing: 180
2.12.3 Dimensions: 11000 ft x 150 ft
2.12.5 Coordinates: 39–03–53.07N / 84–40–00.00W
2.12.6 Threshold elevation: 875 ft
2.12.6 Touchdown zone elevation: 875 ft

2.12.1 Designation: 36C
2.12.2 True Bearing: 0
2.12.3 Dimensions: 11000 ft x 150 ft
2.12.5 Coordinates: 39–02–00.00N / 84–40–00.00W
2.12.6 Threshold elevation: 841 ft
2.12.6 Touchdown zone elevation: 851 ft

2.12.1 Designation: 09
2.12.2 True Bearing: 90
2.12.3 Dimensions: 12000 ft x 150 ft
2.12.5 Coordinates: 39–02–46.91N / 84–41–42.36W
2.12.6 Threshold elevation: 883 ft
2.12.6 Touchdown zone elevation: 883 ft

2.12.1 Designation: 27
2.12.2 True Bearing: 270
2.12.3 Dimensions: 12000 ft x 150 ft
2.12.5 Coordinates: 39–02–46.54N / 84–39–10.26W
2.12.6 Threshold elevation: 875 ft
2.12.6 Touchdown zone elevation: 875 ft

2.12.1 Designation: 18R
2.12.2 True Bearing: 180
2.12.3 Dimensions: 8000 ft x 150 ft
2.12.5 Coordinates: 39–04–15.18N / 84–41–00.00W
2.12.6 Threshold elevation: 865 ft
2.12.6 Touchdown zone elevation: 868 ft

2.12.1 Designation: 36L
2.12.2 True Bearing: 0
2.12.3 Dimensions: 8000 ft x 150 ft
2.12.5 Coordinates: 39–02–56.11N / 84–41–00.00W
2.12.6 Threshold elevation: 873 ft
2.12.6 Touchdown zone elevation: 873 ft

AD 2.13 Declared distances
2.13.1 Designation: 18L
2.13.2 Takeoff run available: 10000
2.13.3 Takeoff distance available: 10000
2.13.4 Accelerate–stop distance available: 10000
2.13.5 Landing distance available: 10000

2.13.1 Designation: 36R
2.13.2 Takeoff run available: 10000
2.13.3 Takeoff distance available: 10000
2.13.4 Accelerate–stop distance available: 10000
2.13.5 Landing distance available: 10000

2.13.1 Designation: 18C
2.13.2 Takeoff run available: 11000
2.13.3 Takeoff distance available: 11000
2.13.4 Accelerate–stop distance available: 11000
2.13.5 Landing distance available: 11000

2.13.1 Designation: 36C
2.13.2 Takeoff run available: 11000
2.13.3 Takeoff distance available: 11000
2.13.4 Accelerate–stop distance available: 11000
2.13.5 Landing distance available: 11000

2.13.1 Designation: 09
2.13.2 Takeoff run available: 12000
2.13.3 Takeoff distance available: 12000
2.13.4 Accelerate–stop distance available: 11880
2.13.5 Landing distance available: 11880

2.13.1 Designation: 27
2.13.2 Takeoff run available: 12000
2.13.3 Takeoff distance available: 12000
2.13.4 Accelerate–stop distance available: 12000
2.13.5 Landing distance available: 12000

2.13.1 Designation: 18R
2.13.2 Takeoff run available: 8000
2.13.3 Takeoff distance available: 8000
2.13.4 Accelerate–stop distance available: 8000
2.13.5 Landing distance available: 8000

2.13.1 Designation: 36L
2.13.2 Takeoff run available: 8000
2.13.3 Takeoff distance available: 8000
2.13.4 Accelerate–stop distance available: 8000
2.13.5 Landing distance available: 8000

AD 2.14 Approach and runway lighting
2.14.1 Designation: 18L
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 36R
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration
2.14.4 Visual approach slope indicator system: 4–light PAPI on right

2.14.1 Designation: 18C
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–box VASI on right

2.14.1 Designation: 36C
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 09
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 27
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–box VASI on left

2.14.1 Designation: 18R
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration

2.14.1 Designation: 36L
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration

AD 2.18 Air traffic services communication facilities
2.18.1 Service designation: LCL/P
2.18.3 Service designation: 118.975 MHz

2.18.1 Service designation: APCH/P CLASS B
2.18.3 Service designation: 119.7 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 121.3 MHz

2.18.1 Service designation: EMERG
2.18.3 Service designation: 121.5 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 121.7 MHz

2.18.1 Service designation: APCH/P CLASS B
2.18.3 Service designation: 123.875 MHz

2.18.1 Service designation: (001–180)
2.18.3 Service designation: 126.65 MHz

2.18.1 Service designation: CD/P
2.18.3 Service designation: 127.175 MHz

2.18.1 Service designation: DEP/P CLASS B
2.18.3 Service designation: 128.7 MHz

2.18.1 Service designation: D–ATIS
2.18.3 Service designation: 134.375 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: D–ATIS
2.18.3 Service designation: 135.3 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: EMERG
2.18.3 Service designation: 243 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 360.85 MHz

2.18.1 Service designation: APCH/P CLASS B
2.18.3 Service designation: 254.25 MHz

2.18.1 Service designation: APCH/P CLASS B
2.18.3 Service designation: 363.15 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 118.3 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 133.325 MHz

AD 2.19 Radio navigation and landing aids

2.19.1 ILS type: DME for runway 18L. Magnetic variation: 4W
2.19.2 ILS identification: CIZ
2.19.5 Coordinates: 39–01–31.58N / 84–38–45.41W
2.19.6 Site elevation: 915 ft

2.19.1 ILS type: Localizer for runway 18L. Magnetic variation: 4W
2.19.2 ILS identification: CIZ
2.19.5 Coordinates: 39–01–31.79N / 84–38–48.50W
2.19.6 Site elevation: 899 ft

2.19.1 ILS type: Glide Slope for runway 18L. Magnetic variation: 4W
2.19.2 ILS identification: CIZ
2.19.5 Coordinates: 39–03–10.88N / 84–38–42.98W
2.19.6 Site elevation: 881 ft

2.19.1 ILS type: Middle Marker for runway 18L. Magnetic variation: 4W
2.19.2 ILS identification: CIZ
2.19.5 Coordinates: 39–03–47.57N / 84–38–48.51W
2.19.6 Site elevation: 872 ft

2.19.1 ILS type: DME for runway 36R. Magnetic variation: 6W
2.19.2 ILS identification: EEI
2.19.5 Coordinates: 39–03–30.88N / 84–38–51.18W
2.19.6 Site elevation: 905 ft

2.19.1 ILS type: Middle Marker for runway 36R. Magnetic variation: 6W
2.19.2 ILS identification: EEI
2.19.5 Coordinates: 39–01–16.54N / 84–38–48.58W
2.19.6 Site elevation: 915 ft

2.19.1 ILS type: Localizer for runway 36R. Magnetic variation: 6W
2.19.2 ILS identification: EEI
2.19.5 Coordinates: 39–03–31.50N / 84–38–47.96W
2.19.6 Site elevation: 892 ft

2.19.1 ILS type: Glide Slope for runway 36R. Magnetic variation: 6W

2.19.2 ILS identification: EEI
2.19.5 Coordinates: 39–01–52.80N / 84–38–43.34W
2.19.6 Site elevation: 890 ft

2.19.1 ILS type: Inner Marker for runway 36R. Magnetic variation: 6W
2.19.2 ILS identification: EEI
2.19.5 Coordinates: 39–01–33.56N / 84–38–48.50W
2.19.6 Site elevation: 899 ft

2.19.1 ILS type: Localizer for runway 36C. Magnetic variation: 6W
2.19.2 ILS identification: CVG
2.19.5 Coordinates: 39–04–00.00N / 84–40–00.00W
2.19.6 Site elevation: 882 ft

2.19.1 ILS type: DME for runway 36C. Magnetic variation: 6W
2.19.2 ILS identification: CVG
2.19.5 Coordinates: 39–04–00.00N / 84–40–10.17W
2.19.6 Site elevation: 886 ft

2.19.1 ILS type: Glide Slope for runway 36C. Magnetic variation: 6W
2.19.2 ILS identification: CVG
2.19.5 Coordinates: 39–02–15.48N / 84–40–12.49W
2.19.6 Site elevation: 834 ft

2.19.1 ILS type: Inner Marker for runway 36C. Magnetic variation: 6W
2.19.2 ILS identification: CVG
2.19.5 Coordinates: 39–01–54.05N / 84–40–00.00W
2.19.6 Site elevation: 956 ft

2.19.1 ILS type: Middle Marker for runway 36C. Magnetic variation: 6W
2.19.2 ILS identification: CVG
2.19.5 Coordinates: 39–01–31.79N / 84–40–00.00W
2.19.6 Site elevation: ft

2.19.1 ILS type: Localizer for runway 18C. Magnetic variation: 4W
2.19.2 ILS identification: SIC
2.19.5 Coordinates: 39–01–59.67N / 84–40–00.00W
2.19.6 Site elevation: 839 ft

2.19.1 ILS type: Middle Marker for runway 18C. Magnetic variation: 4W
2.19.2 ILS identification: SIC
2.19.5 Coordinates: 39–04–10.50N / 84–40–00.00W
2.19.6 Site elevation: ft

2.19.1 ILS type: DME for runway 18C. Magnetic variation: 4W
2.19.2 ILS identification: SIC
2.19.5 Coordinates: 39–01–59.68N / 84–40–00.00W
2.19.6 Site elevation: 845 ft

2.19.1 ILS type: Outer Marker for runway 18C. Magnetic variation: 4W
2.19.2 ILS identification: SIC
2.19.5 Coordinates: 39–07–30.20N / 84–40–00.00W
2.19.6 Site elevation: ft

2.19.1 ILS type: Glide Slope for runway 18C. Magnetic variation: 4W
2.19.2 ILS identification: SIC
2.19.5 Coordinates: 39–03–42.65N / 84–40–12.14W
2.19.6 Site elevation: 868 ft

2.19.1 ILS type: Glide Slope for runway 09. Magnetic variation: 4W
2.19.2 ILS identification: URN
2.19.5 Coordinates: 39–02–42.92N / 84–41–28.27W
2.19.6 Site elevation: 874 ft

2.19.1 ILS type: Outer Marker for runway 09. Magnetic variation: 4W
2.19.2 ILS identification: URN
2.19.5 Coordinates: 39–02–44.69N / 84–46–22.67W
2.19.6 Site elevation: ft

2.19.1 ILS type: Middle Marker for runway 09. Magnetic variation: 4W
2.19.2 ILS identification: URN
2.19.5 Coordinates: 39–02–46.92N / 84–41–27.61W

2.19.6 Site elevation: ft

2.19.1 ILS type: Localizer for runway 09. Magnetic variation: 4W
2.19.2 ILS identification: URN
2.19.5 Coordinates: 39–02–46.53N / 84–39–00.00W
2.19.6 Site elevation: 874 ft

2.19.1 ILS type: DME for runway 09. Magnetic variation: 4W
2.19.2 ILS identification: URN
2.19.5 Coordinates: 39–02–43.95N / 84–39–00.00W
2.19.6 Site elevation: 872 ft

2.19.1 ILS type: Localizer for runway 27. Magnetic variation: 4W
2.19.2 ILS identification: JDP
2.19.5 Coordinates: 39–02–46.94N / 84–41–55.34W
2.19.6 Site elevation: 884 ft

2.19.1 ILS type: Middle Marker for runway 27. Magnetic variation: 4W
2.19.2 ILS identification: JDP
2.19.5 Coordinates: 39–02–46.46N / 84–38–37.56W
2.19.6 Site elevation: 890 ft

2.19.1 ILS type: Outer Marker for runway 27. Magnetic variation: 4W
2.19.2 ILS identification: JDP
2.19.5 Coordinates: 39–02–46.53N / 84–32–59.24W
2.19.6 Site elevation: 860 ft

2.19.1 ILS type: Glide Slope for runway 27. Magnetic variation: 4W
2.19.2 ILS identification: JDP
2.19.5 Coordinates: 39–02–42.63N / 84–39–25.16W
2.19.6 Site elevation: 867 ft

2.19.1 ILS type: DME for runway 36L. Magnetic variation: 6W
2.19.2 ILS identification: VAC
2.19.5 Coordinates: 39–04–25.03N / 84–41–00.00W
2.19.6 Site elevation: 848 ft

2.19.1 ILS type: Localizer for runway 36L. Magnetic variation: 6W
2.19.2 ILS identification: VAC
2.19.5 Coordinates: 39–04–25.49N / 84–41–00.00W
2.19.6 Site elevation: 855 ft

2.19.1 ILS type: Glide Slope for runway 36L. Magnetic variation: 6W
2.19.2 ILS identification: VAC
2.19.5 Coordinates: 39–03–00.00N / 84–41–00.00W
2.19.6 Site elevation: 867 ft

2.19.1 ILS type: Localizer for runway 18R. Magnetic variation: 6W
2.19.2 ILS identification: CJN
2.19.5 Coordinates: 39–02–41.27N / 84–41–00.00W
2.19.6 Site elevation: 871 ft

2.19.1 ILS type: Inner Marker for runway 18R. Magnetic variation: 6W
2.19.2 ILS identification: CJN
2.19.5 Coordinates: 39–04–23.57N / 84–41–00.00W
2.19.6 Site elevation: 856 ft

2.19.1 ILS type: Glide Slope for runway 18R. Magnetic variation: 6W
2.19.2 ILS identification: CJN
2.19.5 Coordinates: 39–04–00.00N / 84–41–00.00W
2.19.6 Site elevation: 861 ft

2.19.1 ILS type: DME for runway 18R. Magnetic variation: 6W
2.19.2 ILS identification: CJN
2.19.5 Coordinates: 39–02–41.52N / 84–41–00.00W
2.19.6 Site elevation: 869 ft

General Remarks:
NOISE SENSITIVE AREAS NORTH & SOUTH OF AIRPORT. RUNWAY ASSIGNMENTS BETWEEN 2200–0700 WILL BE PREDICATED ON NOISE ABATEMENT CONSIDERATIONS.

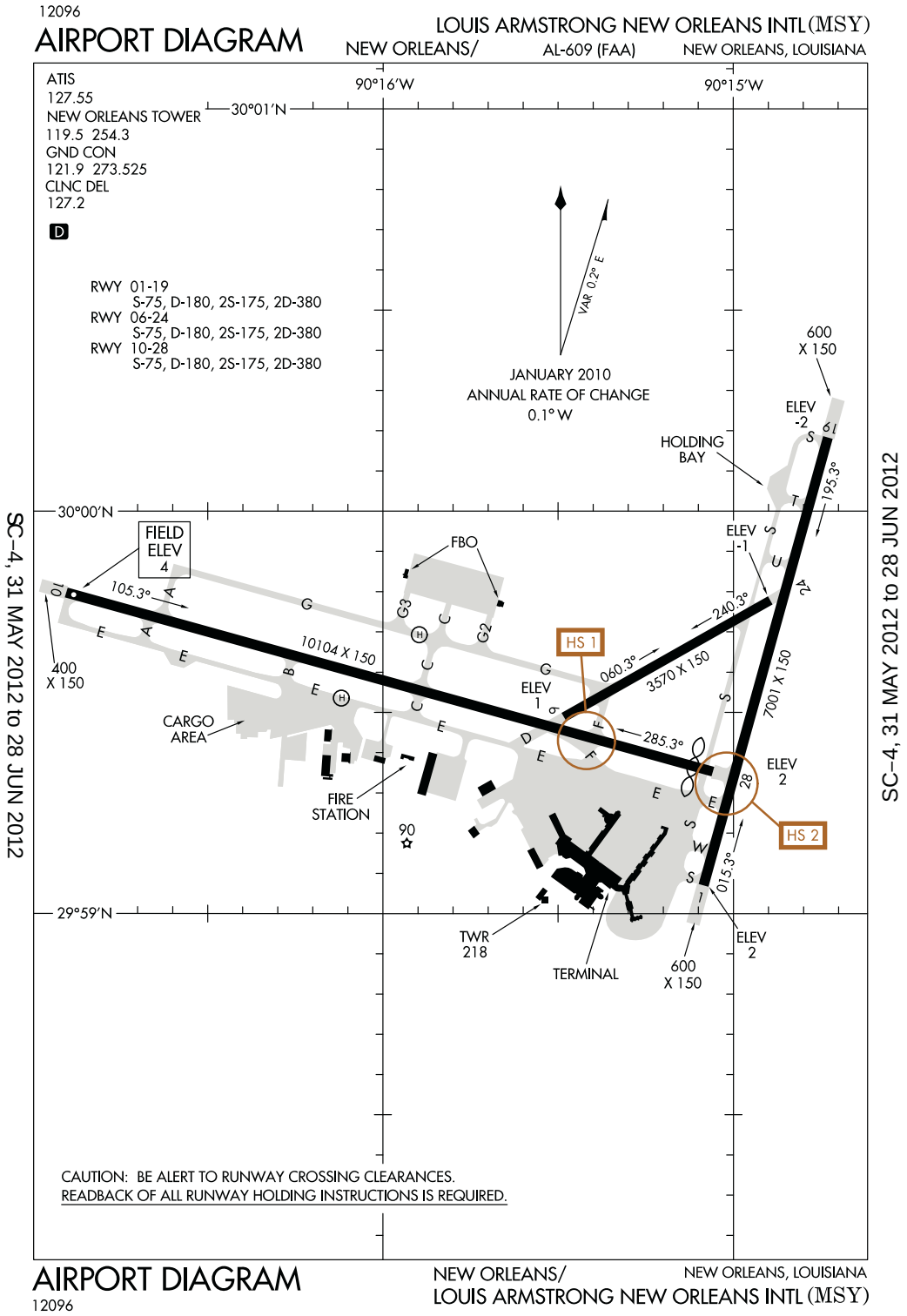
SUCCESSIVE OR SIMULTANEOUS DEPS FROM RUNWAYS 18L AND RUNWAY 18C ARE APPROVED WITH COURSE DIVERGENCE BEGINNING NO FURTHER THAN 2 MILES FROM END OF RUNWAY DUE TO NOISE ABATEMENT RESTRICTIONS.

RUNWAY 09/27 WEST 4200 FT CONCRETE; EAST 750 FT CONCRETE; REMAINDER ASPHALT OVERLAY.

SUCCESSIVE OR SIMULTANEOUS DEPS FROM RUNWAY 36C & RUNWAY 36R ARE APPROVED WITH COURSE DIVERGENCE BEGINNING NO FURTHER THAN 2 MILES FROM END OF RUNWAY DUE TO NOISE ABATEMENT RESTRICTIONS.

TAXIWAY S SOUTH OF TAXIWAY N TO TAXIWAY S3 CLOSED TO AIRCRAFT WITH WINGSPANS 171 FT AND GREATER.

New Orleans, Louisana
Louis Armstrong New Orleans International
ICAO Identifier KMSY



New Orleans, LA
Louis Armstrong New Orleans Intl
ICAO Identifier KMSY

AD 2.2 Aerodrome geographical and administrative data
2.2.1 Reference Point: 29−59−36.20N / 90−15−28.90W
2.2.2 From City: 10 Miles W Of New Orleans, LA
2.2.3 Elevation: 4 ft
2.2.5 Magnetic variation: 2E (1990)
2.2.6 Airport Contact: Iftikhar Ahmad
PO BOX 20007
New Orleans, LA 70141
(504−628−2426)
2.2.7 Traffic: IFR/VFR

AD 2.3 Operational hours
2.3.1 − 2.3.11: ALL Months, ALL Days, ALL Hours

AD 2.4 Handling services and facilities
2.4.1 Cargo handling facilities: No
2.4.2 Fuel types: 100LL,A
2.4.4 De−icing facilities: None
2.4.5 Hangar space: No
2.4.6 Repair facilities: None

AD 2.6 Rescue and firefighting services
2.6.1 Aerodrome category for firefighting: ARFF Index I D certified on 5/1/1973

AD 2.10 Aerodrome obstacles
2.10.1.a. Runway designation: 01
2.10.1.b Type of obstacle: Road (12 ft). Lighted
2.10.1.c Location of obstacle: 365 ft from Centerline

2.10.1.a. Runway designation: 19
2.10.1.b Type of obstacle: Road (13 ft). Lighted
2.10.1.c Location of obstacle: 289 ft from Centerline

2.10.1.a. Runway designation: 06
2.10.1.b Type of obstacle: Pole (30 ft). Lighted
2.10.1.c Location of obstacle: 343 ft from Centerline

2.10.1.a. Runway designation: 24
2.10.1.b Type of obstacle: Tree (33 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 315 ft from Centerline

2.10.1.a. Runway designation: 28
2.10.1.b Type of obstacle: Tree (53 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 694 ft from Centerline

AD 2.12 Runway physical characteristics
2.12.1 Designation: 01
2.12.2 True Bearing: 15
2.12.3 Dimensions: 7001 ft x 150 ft
2.12.5 Coordinates: 29−59−00.00N / 90−15−00.00W
2.12.6 Threshold elevation: 2 ft
2.12.6 Touchdown zone elevation: 3 ft

2.12.1 Designation: 19
2.12.2 True Bearing: 195
2.12.3 Dimensions: 7001 ft x 150 ft
2.12.5 Coordinates: 30−00−10.99N / 90−14−43.84W
2.12.6 Threshold elevation: −2 ft
2.12.6 Touchdown zone elevation: 0 ft

2.12.1 Designation: 06
2.12.2 True Bearing: 60
2.12.3 Dimensions: 3570 ft x 150 ft
2.12.5 Coordinates: 29−59−29.27N / 90−15−28.99W
2.12.6 Threshold elevation: 1 ft
2.12.6 Touchdown zone elevation: 1 ft

2.12.1 Designation: 24
2.12.2 True Bearing: 240
2.12.3 Dimensions: 3570 ft x 150 ft
2.12.5 Coordinates: 29−59−46.68N / 90−14−53.67W
2.12.6 Threshold elevation: −1 ft
2.12.6 Touchdown zone elevation: 1 ft

2.12.1 Designation: 10
2.12.2 True Bearing: 105
2.12.3 Dimensions: 10104 ft x 150 ft
2.12.5 Coordinates: 29−59−47.86N / 90−16−54.22W
2.12.6 Threshold elevation: 4 ft
2.12.6 Touchdown zone elevation: 4 ft

2.12.1 Designation: 28

2.12.2 True Bearing: 285
2.12.3 Dimensions: 10104 ft x 150 ft
2.12.5 Coordinates: 29–59–21.17N / 90–15–00.00W
2.12.6 Threshold elevation: 2 ft
2.12.6 Touchdown zone elevation: 3 ft

AD 2.13 Declared distances
2.13.1 Designation: 01
2.13.2 Takeoff run available: 7001
2.13.3 Takeoff distance available: 7001
2.13.4 Accelerate–stop distance available: 7001
2.13.5 Landing distance available: 7001

2.13.1 Designation: 19
2.13.2 Takeoff run available: 7001
2.13.3 Takeoff distance available: 7001
2.13.4 Accelerate–stop distance available: 7001
2.13.5 Landing distance available: 7001

2.13.1 Designation: 06
2.13.2 Takeoff run available: 3570
2.13.3 Takeoff distance available: 3570
2.13.4 Accelerate–stop distance available: 3570
2.13.5 Landing distance available: 3570

2.13.1 Designation: 24
2.13.2 Takeoff run available: 3570
2.13.3 Takeoff distance available: 3570
2.13.4 Accelerate–stop distance available: 3570
2.13.5 Landing distance available: 3570

2.13.1 Designation: 10
2.13.2 Takeoff run available: 10104
2.13.3 Takeoff distance available: 10104
2.13.4 Accelerate–stop distance available: 10104
2.13.5 Landing distance available: 10104

2.13.1 Designation: 28
2.13.2 Takeoff run available: 10104
2.13.3 Takeoff distance available: 10104
2.13.4 Accelerate–stop distance available: 10104
2.13.5 Landing distance available: 9800

AD 2.14 Approach and runway lighting
2.14.1 Designation: 01
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 19
2.14.2 Approach lighting system: MALS: 1400 feet medium intensity approach lighting system
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 10
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration
2.14.4 Visual approach slope indicator system: 4–light PAPI on right

2.14.1 Designation: 28
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on right

AD 2.18 Air traffic services communication facilities
2.18.1 Service designation: LCL/P
2.18.3 Service designation: 119.5 MHz

2.18.1 Service designation: APCH/P
2.18.3 Service designation: 120.1 MHz

2.18.1 Service designation: EMERG
2.18.3 Service designation: 121.5 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 121.9 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS B
2.18.3 Service designation: 123.85 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS B
2.18.3 Service designation: 125.5 MHz

2.18.1 Service designation: IC
2.18.3 Service designation: 125.5 MHz

2.18.1 Service designation: CD/P PTC
2.18.3 Service designation: 127.2 MHz

2.18.1 Service designation: D–ATIS
2.18.3 Service designation: 127.55 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: APCH/P DEP/P CLASS B
2.18.3 Service designation: 133.15 MHz

2.18.1 Service designation: EMERG
2.18.3 Service designation: 243 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 254.3 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS B
2.18.3 Service designation: 256.9 MHz

2.18.1 Service designation: APCH/S
2.18.3 Service designation: 269.2 MHz

2.18.1 Service designation: IC
2.18.3 Service designation: 284.7 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS B
2.18.3 Service designation: 290.3 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS B
2.18.3 Service designation: 350.35 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 273.525 MHz

AD 2.19 Radio navigation and landing aids

2.19.1 ILS type: DME for runway 01. Magnetic variation: 2E
2.19.2 ILS identification: JFI
2.19.5 Coordinates: 30−00−21.65N / 90−14−43.24W
2.19.6 Site elevation: 10 ft

2.19.1 ILS type: Glide Slope for runway 01. Magnetic variation: 2E
2.19.2 ILS identification: JFI
2.19.5 Coordinates: 29−59−13.61N / 90−14−58.55W
2.19.6 Site elevation: −0.5 ft

2.19.1 ILS type: Outer Marker for runway 01. Magnetic variation: 2E
2.19.2 ILS identification: JFI
2.19.5 Coordinates: 29−54−53.36N / 90−16−26.35W
2.19.6 Site elevation: ft

2.19.1 ILS type: Localizer for runway 01. Magnetic variation: 2E
2.19.2 ILS identification: JFI
2.19.5 Coordinates: 30−00−20.51N / 90−14−40.81W
2.19.6 Site elevation: −4 ft

2.19.1 ILS type: Middle Marker for runway 01. Magnetic variation: 2E
2.19.2 ILS identification: JFI
2.19.5 Coordinates: 29−58−28.53N / 90−15−15.88W
2.19.6 Site elevation: ft

2.19.1 ILS type: DME for runway 19. Magnetic variation: 2E
2.19.2 ILS identification: ONW
2.19.5 Coordinates: 30−00−21.65N / 90−14−43.24W
2.19.6 Site elevation: 10 ft

2.19.1 ILS type: Localizer for runway 19. Magnetic variation: 2E
2.19.2 ILS identification: ONW
2.19.5 Coordinates: 29−58−56.76N / 90−15−00.00W
2.19.6 Site elevation: 2 ft

2.19.1 ILS type: Glide Slope for runway 10. Magnetic variation: 0E
2.19.2 ILS identification: MSY
2.19.5 Coordinates: 29−59−48.61N / 90−16−39.25W
2.19.6 Site elevation: −2.5 ft

2.19.1 ILS type: Outer Marker for runway 10. Magnetic variation: 0E
2.19.2 ILS identification: MSY
2.19.5 Coordinates: 30−01−30.85N / 90−23−59.58W
2.19.6 Site elevation: ft

2.19.1 ILS type: Inner Marker for runway 10. Magnetic variation: 0E
2.19.2 ILS identification: MSY
2.19.5 Coordinates: 29−59−50.26N / 90−17−00.00W
2.19.6 Site elevation: ft

2.19.1 ILS type: DME for runway 10. Magnetic variation: 0E
2.19.2 ILS identification: MSY
2.19.5 Coordinates: 29−59−17.34N / 90−14−56.02W
2.19.6 Site elevation: 12.5 ft

2.19.1 ILS type: Localizer for runway 10. Magnetic variation: 0E
2.19.2 ILS identification: MSY
2.19.5 Coordinates: 29–59–19.32N / 90–14–55.85W
2.19.6 Site elevation: ft

2.19.1 ILS type: Middle Marker for runway 10. Magnetic variation: 0E
2.19.2 ILS identification: MSY
2.19.5 Coordinates: 29–59–56.63N / 90–17–22.12W
2.19.6 Site elevation: ft

2.19.1 ILS type: DME for runway 28. Magnetic variation: 2E
2.19.2 ILS identification: HOX
2.19.5 Coordinates: 29–59–17.34N / 90–14–56.02W
2.19.6 Site elevation: 13 ft

2.19.1 ILS type: Glide Slope for runway 28. Magnetic variation: 2E
2.19.2 ILS identification: HOX
2.19.5 Coordinates: 29–59–27.97N / 90–15–16.78W
2.19.6 Site elevation: 1 ft

2.19.1 ILS type: Middle Marker for runway 28. Magnetic variation: 2E
2.19.2 ILS identification: HOX
2.19.5 Coordinates: 29–59–15.11N / 90–14–37.70W
2.19.6 Site elevation: 1 ft

2.19.1 ILS type: Outer Marker for runway 28. Magnetic variation: 2E
2.19.2 ILS identification: HOX
2.19.5 Coordinates: 29–58–12.35N / 90–10–27.99W
2.19.6 Site elevation: 5 ft

2.19.1 ILS type: Localizer for runway 28. Magnetic variation: 2E
2.19.2 ILS identification: HOX
2.19.5 Coordinates: 29–59–50.53N / 90–17–00.00W
2.19.6 Site elevation: 5 ft

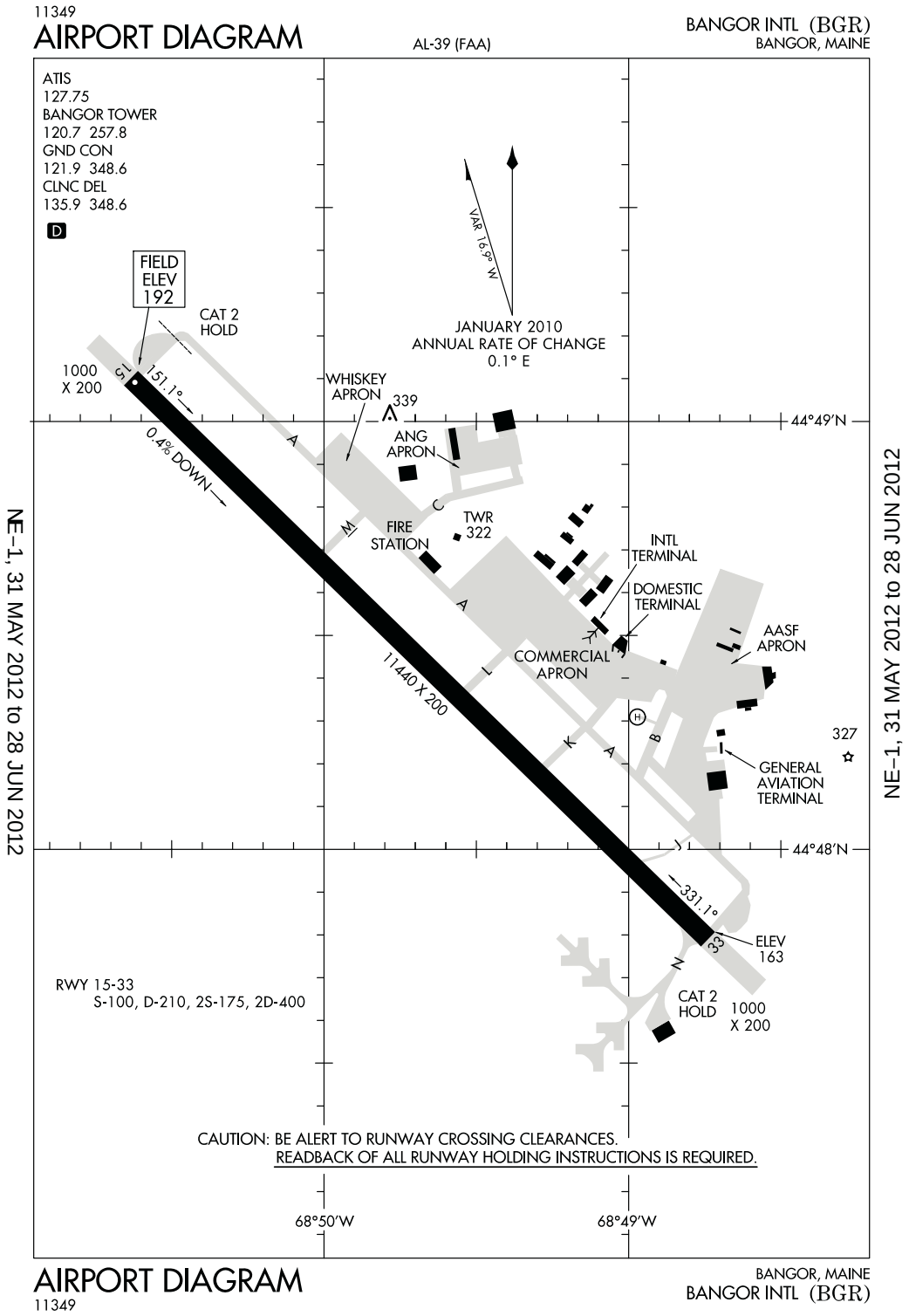
General Remarks:
180 DEGREE & LOCKED WHEEL TURNS PROHIBITED ON ASPHALT SURFACE AIRCRAFT 12500 LBS & OVER.

FLOCKS OF BIRDS ON & IN VICINITY OF AIRPORT.

RUNWAY 10 NOISE SENSITIVE FOR DEP; AVAILABLE FOR OPERATIONAL NECESSITY. ALL RUNWAYS NOISE SENSITIVE FOR ARR. ARRIVING TURBOJETS MUST MAKE 5 MILE FINAL APPROACH TO MINIMIZE NOISE.

RUNWAY 06/24 CLOSED TO TAKEOFFS AND LANDINGS INDEFINITELY.

Bangor, Maine
Bangor International
ICAO Identifier KBGR



Bangor, ME
Bangor Intl
ICAO Identifier KBGR

AD 2.2 Aerodrome geographical and administrative data
2.2.1 Reference Point: 44−48−26.80N / 68−49−41.30W
2.2.2 From City: 3 Miles W Of Bangor, ME
2.2.3 Elevation: 192 ft
2.2.5 Magnetic variation: 19W (1985)
2.2.6 Airport Contact: Rebecca Hupp
BANGOR
INTERNATIONAL ARPT
Bangor, ME 4401
(207−992−4600)
2.2.7 Traffic: IFR/VFR

AD 2.3 Operational hours
2.3.1 − 2.3.11: ALL Months, ALL Days, ALL Hours

AD 2.4 Handling services and facilities
2.4.1 Cargo handling facilities: No
2.4.2 Fuel types: 100LL,A
2.4.4 De−icing facilities: None
2.4.5 Hangar space: Yes
2.4.6 Repair facilities: Major

AD 2.6 Rescue and firefighting services
2.6.1 Aerodrome category for firefighting: ARFF Index I E certified on 5/1/1973

AD 2.10 Aerodrome obstacles
2.10.1.a. Runway designation: 33
2.10.1.b Type of obstacle: Trees (76 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 0 ft from Centerline

AD 2.12 Runway physical characteristics
2.12.1 Designation: H1
2.12.3 Dimensions: 100 ft x 100 ft

2.12.1 Designation: 15
2.12.2 True Bearing: 134
2.12.3 Dimensions: 11440 ft x 200 ft
2.12.5 Coordinates: 44−49−00.00N / 68−50−38.15W
2.12.6 Threshold elevation: 192 ft
2.12.6 Touchdown zone elevation: 192 ft

2.12.1 Designation: 33
2.12.2 True Bearing: 314
2.12.3 Dimensions: 11440 ft x 200 ft
2.12.5 Coordinates: 44−47−47.41N / 68−48−44.36W
2.12.6 Threshold elevation: 163 ft
2.12.6 Touchdown zone elevation: 163 ft

AD 2.13 Declared distances
2.13.1 Designation: 15
2.13.2 Takeoff run available: 11440
2.13.3 Takeoff distance available: 11440
2.13.4 Accelerate−stop distance available: 11440
2.13.5 Landing distance available: 11440

AD 2.14 Approach and runway lighting
2.14.1 Designation: 15
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration
2.14.4 Visual approach slope indicator system: 4−light PAPI on left

2.14.1 Designation: 33
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4−light PAPI on left

AD 2.18 Air traffic services communication facilities
2.18.1 Service designation: LCL/P
2.18.3 Service designation: 120.7 MHz

2.18.1 Service designation: EMERG
2.18.3 Service designation: 121.5 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 121.9 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS C IC
2.18.3 Service designation: 124.5 MHz

2.18.1 Service designation: ATIS
2.18.3 Service designation: 127.75 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: CD/P
2.18.3 Service designation: 135.9 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS C

2.18.3 Service designation: 239.3 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS C IC
2.18.3 Service designation: 239.3 MHz

2.18.1 Service designation: EMERG
2.18.3 Service designation: 243 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 257.8 MHz

2.18.1 Service designation: GND/P CD/P
2.18.3 Service designation: 348.6 MHz

2.18.1 Service designation: NG OPS
2.18.3 Service designation: 41.2 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS C
2.18.3 Service designation: 118.925 MHz

AD 2.19 Radio navigation and landing aids
2.19.1 ILS type: Localizer for runway 33. Magnetic variation: 19W
2.19.2 ILS identification: BGR
2.19.5 Coordinates: 44–49–13.62N / 68–50–48.98W
2.19.6 Site elevation: 182 ft

2.19.1 ILS type: Outer Marker for runway 33. Magnetic variation: 19W
2.19.2 ILS identification: BGR
2.19.5 Coordinates: 44–43–39.19N / 68–42–46.33W
2.19.6 Site elevation: ft

2.19.1 ILS type: Middle Marker for runway 33. Magnetic variation: 19W
2.19.2 ILS identification: BGR
2.19.5 Coordinates: 44–47–30.62N / 68–48–20.24W
2.19.6 Site elevation: ft

2.19.1 ILS type: Glide Slope for runway 33. Magnetic variation: 19W
2.19.2 ILS identification: BGR
2.19.5 Coordinates: 44–47–53.70N / 68–48–59.71W
2.19.6 Site elevation: 149 ft

2.19.1 ILS type: DME for runway 33. Magnetic variation: 19W
2.19.2 ILS identification: BGR
2.19.5 Coordinates: 44–47–42.50N / 68–48–31.81W
2.19.6 Site elevation: 166 ft

2.19.1 ILS type: Localizer for runway 15. Magnetic variation: 17W
2.19.2 ILS identification: JVH
2.19.5 Coordinates: 44–47–40.37N / 68–48–34.19W
2.19.6 Site elevation: 162 ft

2.19.1 ILS type: Glide Slope for runway 15. Magnetic variation: 17W
2.19.2 ILS identification: JVH
2.19.5 Coordinates: 44–49–00.00N / 68–50–22.48W
2.19.6 Site elevation: 188 ft

2.19.1 ILS type: Inner Marker for runway 15. Magnetic variation: 17W
2.19.2 ILS identification: JVH
2.19.5 Coordinates: 44–49–12.06N / 68–50–46.72W
2.19.6 Site elevation: 184 ft

2.19.1 ILS type: DME for runway 15. Magnetic variation: 17W
2.19.2 ILS identification: JVH
2.19.5 Coordinates: 44–47–42.50N / 68–48–31.81W
2.19.6 Site elevation: 166 ft

2.19.1 ILS type: Outer Marker for runway 15. Magnetic variation: 17W
2.19.2 ILS identification: JVH
2.19.5 Coordinates: 44–52–49.62N / 68–55–59.54W
2.19.6 Site elevation: 129 ft

2.19.1 ILS type: Middle Marker for runway 15. Magnetic variation: 17W
2.19.2 ILS identification: JVH
2.19.5 Coordinates: 44–49–23.69N / 68–51–00.00W
2.19.6 Site elevation: 158 ft

General Remarks:
TAXIWAY J LIMITED TO AIRCRAFT 75000 LBS GROSS TAKEOFF WEIGHT

TRANSIENT AIRCRAFT MAY BE DIVERTED TO CIVILIAN SIDE DURING NON–DUTY HRS & WEEKENDS. FEE REQUIRED; NO ANG TRANSIENT ALERT.

RESTRICTED: TAXIWAY 'J' CLOSED DURING WINTER.

TRAFFIC PATTERN: RUNWAY 33 LEFT TRAFFIC, TURBO JET TRAFFIC 2000' MSL UNLESS OTHERWISE INSTR.

MISC: RUNWAY 15–33 GROOVED.

ANG: PRIOR PERMISSION REQUIREDUIRED DSN 698–7232 (COMM 207–990–7232), 3 HR OUT CALL (HF 6761) & 30 MIN OUT CALL (311.0) REQUIRED TO ENSURE CUSTOMS/AG AVAIL & TIMELY TRANSIENT SERVICE. TRANSIENT MAINT AVAILABLE BY PRIOR PERMISSION REQUIRED. TRANSIENT AIRCRAFT MAY BE DIVERTED TO CIVIL SIDE DUR OPERATING HRS.

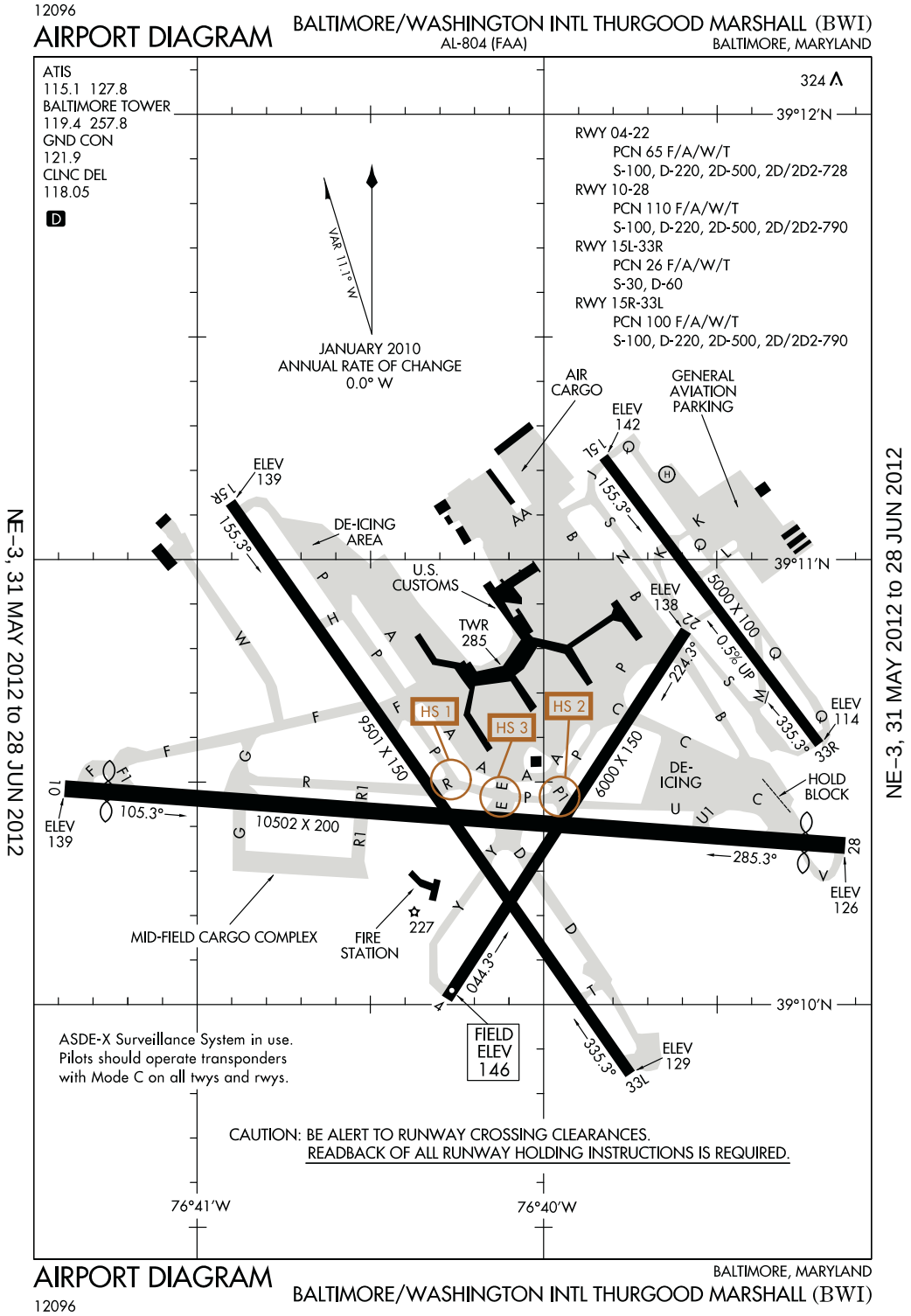
ANG: FEE REQUIRE. ANG NOT EQUIPMENT OR MANNED WITH AN AERIAL PORT FLIGHT 30 OR MORE PASSENGER WILL BE SENT TO CITY FOR PROCESSING. CAN HANDLE ALL AIR MOBILITY COMMAND AIRCRAFT. SERVICE AVAILABLE 24/7.ALL HAZARD CARGO SHOULD BE PRE–COORD FOR SAFETY REASONS, NO HOT CARGO PAD AVAILABLE.

ARRANGE: OPR 1230–2100Z++ MON–FRI EXCEPT HOLIDAY. LIMITED MAINT. J8. PRIOR PERMISSION REQUIRED MAY–OCT SERVICE DSN 626–1100.

CAUTION: BASH PHASE II PERIOD OCT–NOV, APR–MAY. EXPECT INCREASED BIRD ACTIVITY. CONTACT BASE OPS/COMMAND POST/SOF FOR CURRENT BIRDWATCH CONDITION.

SERVICE–FLUID: REMARKS: FOREIGN MILITARY ONLY: ON BASE LOX SERVICE UNAVAILABLE. OFF–BASE CONTRACTED LOX AVAILABLE 24/7, CONTACT ADVANTAGE GAS (207–942–6393) FOR PRECOORDINATION.

Baltimore, Maryland
Baltimore–Washington International Thurgood Marshall
ICAO Identifier KBWI



Baltimore, MD
Baltimore/Washington Intl Thurgood Marshal
ICAO Identifier KBWI

AD 2.2 Aerodrome geographical and administrative data
2.2.1 Reference Point: 39–10–31.30N / 76–40–00.00W
2.2.2 From City: 9 Miles S Of Baltimore, MD
2.2.3 Elevation: 146 ft
2.2.5 Magnetic variation: 11W (2000)
2.2.6 Airport Contact: John Stewart
PO BOX 8766
BWI Airport, MD 21240
(410–859–7018)
2.2.7 Traffic: IFR/VFR

AD 2.3 Operational hours
2.3.1 – 2.3.11: ALL Months, ALL Days, ALL Hours

AD 2.4 Handling services and facilities
2.4.1 Cargo handling facilities: No
2.4.2 Fuel types: 100LL,A
2.4.4 De–icing facilities: RWY 28 De–Ice Pad Lane 1 R Standard To Aircraft With Wingspan 171 Ft Or Less, Lane 2 R Standard To Aircraft With Wingspan 135 Ft Or Less, Lane 3 Is Used By Large Aircraft Max Wingspan 215 Ft And When In Use– Lanes 2 And 4 Are Unavailable. Lanes 4, 5 And 6 Are R Standard To Aircraft Wingspan 135 Ft Or Less.
2.4.5 Hangar space: Yes
2.4.6 Repair facilities: Major

AD 2.6 Rescue and firefighting services
2.6.1 Aerodrome category for firefighting: ARFF Index I D certified on 5/1/1973

AD 2.10 Aerodrome obstacles
2.10.1.a. Runway designation: 15L
2.10.1.b Type of obstacle: Pole (31 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 615 ft from Centerline

2.10.1.a. Runway designation: 33R
2.10.1.b Type of obstacle: Tree (39 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 585 ft from Centerline

2.10.1.a. Runway designation: 15R
2.10.1.b Type of obstacle: Ant (126 ft). Lighted
2.10.1.c Location of obstacle: 908 ft from Centerline

2.10.1.a. Runway designation: 33L
2.10.1.b Type of obstacle: Tower (154 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 906 ft from Centerline

2.10.1.a. Runway designation: 10
2.10.1.b Type of obstacle: Tree (35 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 305 ft from Centerline

2.10.1.a. Runway designation: 28
2.10.1.b Type of obstacle: Tree (31 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 425 ft from Centerline

2.10.1.a. Runway designation: 04
2.10.1.b Type of obstacle: Tree (51 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 500 ft from Centerline

2.10.1.a. Runway designation: 22
2.10.1.b Type of obstacle: Pole (60 ft). Lighted
2.10.1.c Location of obstacle: 328 ft from Centerline

AD 2.12 Runway physical characteristics
2.12.1 Designation: H1
2.12.3 Dimensions: 100 ft x 100 ft

2.12.1 Designation: 15L
2.12.2 True Bearing: 144
2.12.3 Dimensions: 5000 ft x 100 ft
2.12.4 PCN: 26 F/A/W/T
2.12.5 Coordinates: 39–11–14.54N / 76–39–48.74W
2.12.6 Threshold elevation: 142 ft
2.12.6 Touchdown zone elevation: 142 ft

2.12.1 Designation: 33R
2.12.2 True Bearing: 324
2.12.3 Dimensions: 5000 ft x 100 ft

2.12.4 PCN: 26 F/A/W/T
2.12.5 Coordinates: 39–10–34.45N / 76–39–11.63W
2.12.6 Threshold elevation: 114 ft
2.12.6 Touchdown zone elevation: 124 ft

2.12.1 Designation: 15R
2.12.2 True Bearing: 144
2.12.3 Dimensions: 9501 ft x 150 ft
2.12.4 PCN: 100 F/A/W/T
2.12.5 Coordinates: 39–11–00.00N / 76–40–55.14W
2.12.6 Threshold elevation: 139 ft
2.12.6 Touchdown zone elevation: 139 ft

2.12.1 Designation: 33L
2.12.2 True Bearing: 324
2.12.3 Dimensions: 9501 ft x 150 ft
2.12.4 PCN: 100 F/A/W/T
2.12.5 Coordinates: 39–09–51.15N / 76–39–44.58W
2.12.6 Threshold elevation: 129 ft
2.12.6 Touchdown zone elevation: 142 ft

2.12.1 Designation: 10
2.12.2 True Bearing: 94
2.12.3 Dimensions: 10502 ft x 200 ft
2.12.4 PCN: 110 F/A/W/T
2.12.5 Coordinates: 39–10–29.09N / 76–41–22.63W
2.12.6 Threshold elevation: 139 ft
2.12.6 Touchdown zone elevation: 143 ft

2.12.1 Designation: 28
2.12.2 True Bearing: 274
2.12.3 Dimensions: 10502 ft x 200 ft
2.12.4 PCN: 110 F/A/W/T
2.12.5 Coordinates: 39–10–21.48N / 76–39–00.00W
2.12.6 Threshold elevation: 126 ft
2.12.6 Touchdown zone elevation: 142 ft

2.12.1 Designation: 04
2.12.2 True Bearing: 33
2.12.3 Dimensions: 6000 ft x 150 ft
2.12.4 PCN: 65 F/A/W/T
2.12.5 Coordinates: 39–10–00.00N / 76–40–16.92W
2.12.6 Threshold elevation: 146 ft
2.12.6 Touchdown zone elevation: 146 ft

2.12.1 Designation: 22
2.12.2 True Bearing: 213
2.12.3 Dimensions: 6000 ft x 150 ft
2.12.4 PCN: 65 F/A/W/T
2.12.5 Coordinates: 39–10–50.38N / 76–39–35.21W
2.12.6 Threshold elevation: 138 ft
2.12.6 Touchdown zone elevation: 143 ft

AD 2.13 Declared distances

2.13.1 Designation: 15L
2.13.2 Takeoff run available: 5000
2.13.3 Takeoff distance available: 5000
2.13.4 Accelerate–stop distance available: 5000
2.13.5 Landing distance available: 5000

2.13.1 Designation: 33R
2.13.2 Takeoff run available: 5000
2.13.3 Takeoff distance available: 5000
2.13.4 Accelerate–stop distance available: 5000
2.13.5 Landing distance available: 5000

2.13.1 Designation: 15R
2.13.2 Takeoff run available: 9501
2.13.3 Takeoff distance available: 9501
2.13.4 Accelerate–stop distance available: 9501
2.13.5 Landing distance available: 9501

2.13.1 Designation: 33L
2.13.2 Takeoff run available: 9501
2.13.3 Takeoff distance available: 9501
2.13.4 Accelerate–stop distance available: 9501
2.13.5 Landing distance available: 9501

2.13.1 Designation: 10
2.13.2 Takeoff run available: 10502
2.13.3 Takeoff distance available: 10502
2.13.4 Accelerate–stop distance available: 10502
2.13.5 Landing distance available: 9952

2.13.1 Designation: 28
2.13.2 Takeoff run available: 10502
2.13.3 Takeoff distance available: 10502
2.13.4 Accelerate–stop distance available: 10502
2.13.5 Landing distance available: 10002

2.13.1 Designation: 04
2.13.2 Takeoff run available: 6000
2.13.3 Takeoff distance available: 6000
2.13.4 Accelerate–stop distance available: 6000
2.13.5 Landing distance available: 6000

2.13.1 Designation: 22

2.13.2 Takeoff run available: 6000
2.13.3 Takeoff distance available: 6000
2.13.4 Accelerate–stop distance available: 6000
2.13.5 Landing distance available: 6000

AD 2.14 Approach and runway lighting
2.14.1 Designation: 15L
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 33R
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 15R
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights

2.14.1 Designation: 33L
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–box VASI on left

2.14.1 Designation: 10
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration

2.14.1 Designation: 28
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–box VASI on left

2.14.1 Designation: 04
2.14.4 Visual approach slope indicator system: 4–box VASI on left

2.14.1 Designation: 22
2.14.4 Visual approach slope indicator system: 4–box VASI on left

AD 2.18 Air traffic services communication facilities
2.18.1 Service designation: D–ATIS
2.18.3 Service designation: 115.1 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: CD/P
2.18.3 Service designation: 118.05 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 119.4 MHz

2.18.1 Service designation: EMERG
2.18.3 Service designation: 121.5 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 121.9 MHz

2.18.1 Service designation: D–ATIS
2.18.3 Service designation: 127.8 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: EMERG
2.18.3 Service designation: 243 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 257.8 MHz

AD 2.19 Radio navigation and landing aids
2.19.1 ILS type: Localizer for runway 15L.
Magnetic variation: 11W
2.19.2 ILS identification: UQC
2.19.5 Coordinates: 39–10–31.22N / 76–39–00.00W
2.19.6 Site elevation: 102 ft

2.19.1 ILS type: Outer Marker for runway 15L.
Magnetic variation: 11W
2.19.2 ILS identification: UQC
2.19.5 Coordinates: 39–14–55.34N / 76–43–16.63W
2.19.6 Site elevation: 301 ft

2.19.1 ILS type: Glide Slope for runway 15L.
Magnetic variation: 11W
2.19.2 ILS identification: UQC
2.19.5 Coordinates: 39–11–00.00N / 76–39–44.24W
2.19.6 Site elevation: 138 ft

2.19.1 ILS type: Middle Marker for runway 15L.
Magnetic variation: 11W

2.19.2 ILS identification: UQC
2.19.5 Coordinates: 39–11–37.14N / 76–40–00.00W
2.19.6 Site elevation: 180 ft

2.19.1 ILS type: Localizer for runway 33R.
Magnetic variation: 11W
2.19.2 ILS identification: BWI
2.19.5 Coordinates: 39–11–16.97N / 76–39–50.99W
2.19.6 Site elevation: 135 ft

2.19.1 ILS type: Middle Marker for runway 33R.
Magnetic variation: 11W
2.19.2 ILS identification: BWI
2.19.5 Coordinates: 39–10–00.00N / 76–38–48.58W
2.19.6 Site elevation: 80 ft

2.19.1 ILS type: Glide Slope for runway 33R.
Magnetic variation: 11W
2.19.2 ILS identification: BWI
2.19.5 Coordinates: 39–10–40.05N / 76–39–21.19W
2.19.6 Site elevation: 110 ft

2.19.1 ILS type: DME for runway 33R. Magnetic variation: 11W
2.19.2 ILS identification: BWI
2.19.5 Coordinates: 39–11–18.90N / 76–39–48.50W
2.19.6 Site elevation: 129 ft

2.19.1 ILS type: Localizer for runway 15R.
Magnetic variation: 11W
2.19.2 ILS identification: FND
2.19.5 Coordinates: 39–09–36.97N / 76–39–31.44W
2.19.6 Site elevation: 102 ft

2.19.1 ILS type: Glide Slope for runway 15R.
Magnetic variation: 11W
2.19.2 ILS identification: FND
2.19.5 Coordinates: 39–10–56.54N / 76–40–49.44W
2.19.6 Site elevation: 132 ft

2.19.1 ILS type: Middle Marker for runway 15R.
Magnetic variation: 11W
2.19.2 ILS identification: FND
2.19.5 Coordinates: 39–11–33.15N / 76–41–19.11W
2.19.6 Site elevation: ft

2.19.1 ILS type: Outer Marker for runway 15R.
Magnetic variation: 11W
2.19.2 ILS identification: FND
2.19.5 Coordinates: 39–14–13.45N / 76–43–52.10W
2.19.6 Site elevation: ft

2.19.1 ILS type: Localizer for runway 33L.
Magnetic variation: 11W
2.19.2 ILS identification: RUX
2.19.5 Coordinates: 39–11–10.77N / 76–40–58.34W
2.19.6 Site elevation: 132 ft

2.19.1 ILS type: Glide Slope for runway 33L.
Magnetic variation: 11W
2.19.2 ILS identification: RUX
2.19.5 Coordinates: 39–10–00.00N / 76–39–48.83W
2.19.6 Site elevation: 129 ft

2.19.1 ILS type: Outer Marker for runway 33L.
Magnetic variation: 11W
2.19.2 ILS identification: RUX
2.19.5 Coordinates: 39–06–36.92N / 76–36–43.69W
2.19.6 Site elevation: 151 ft

2.19.1 ILS type: Middle Marker for runway 33L.
Magnetic variation: 11W
2.19.2 ILS identification: RUX
2.19.5 Coordinates: 39–09–29.15N / 76–39–26.74W
2.19.6 Site elevation: 92 ft

2.19.1 ILS type: DME for runway 33L. Magnetic variation: 11W
2.19.2 ILS identification: RUX
2.19.5 Coordinates: 39–11–00.00N / 76–41–00.00W
2.19.6 Site elevation: 127 ft

2.19.1 ILS type: Localizer for runway 10. Magnetic variation: 11W
2.19.2 ILS identification: BAL
2.19.5 Coordinates: 39–10–20.59N / 76–38–54.29W

2.19.6 Site elevation: 138 ft

2.19.1 ILS type: Glide Slope for runway 10.
Magnetic variation: 11W
2.19.2 ILS identification: BAL
2.19.5 Coordinates: 39−10−24.02N /
76−41−00.00W
2.19.6 Site elevation: 138 ft

2.19.1 ILS type: Outer Marker for runway 10.
Magnetic variation: 11W
2.19.2 ILS identification: BAL
2.19.5 Coordinates: 39−10−45.89N /
76−46−00.00W
2.19.6 Site elevation: ft

2.19.1 ILS type: Inner Marker for runway 10.
Magnetic variation: 11W
2.19.2 ILS identification: BAL
2.19.5 Coordinates: 39−10−31.24N /
76−41−27.11W
2.19.6 Site elevation: 131 ft

2.19.1 ILS type: Middle Marker for runway 10.
Magnetic variation: 11W
2.19.2 ILS identification: BAL
2.19.5 Coordinates: 39−10−30.85N /
76−41−53.99W
2.19.6 Site elevation: ft

2.19.1 ILS type: Localizer for runway 28. Magnetic variation: 11W
2.19.2 ILS identification: OEH
2.19.5 Coordinates: 39−10−29.45N /
76−41−28.96W
2.19.6 Site elevation: 137 ft

2.19.1 ILS type: Middle Marker for runway 28.
Magnetic variation: 11W
2.19.2 ILS identification: OEH
2.19.5 Coordinates: 39−10−18.69N /
76−38−22.68W
2.19.6 Site elevation: 55 ft

2.19.1 ILS type: Outer Marker for runway 28.
Magnetic variation: 11W
2.19.2 ILS identification: OEH
2.19.5 Coordinates: 39−09−56.02N /
76−31−00.00W
2.19.6 Site elevation: 39 ft

2.19.1 ILS type: Glide Slope for runway 28.
Magnetic variation: 11W
2.19.2 ILS identification: OEH
2.19.5 Coordinates: 39−10−18.84N /
76−39−28.42W
2.19.6 Site elevation: 130 ft

General Remarks:
AIRCRAFT PARKED AT GATE POSITIONS D−15; 16; ENCROACH RUNWAY 04/22 7:1 (FAR 77) TO HEIGHT OF 58’.

PRACTICE LANDING & APPROACH BY TURBO−POWERED AIRCRAFT PROHIBITED 2200−0600; PRACTICE LANDING & TAKE−OFF BY B−747 AIRCRAFT PROHIBITED RUNWAY 15R/33L.

CONT MOWING OPERATIONS ADJACENT ALL RUNWAYS & TAXIWAYS − APR THRU NOV.

NO APRON PARKING FOR UNSCHEDULED AIR CARRIER.

DEER & BIRDS OCCASIONALLY ON & IN THE VICINITY OF AIRPORT.

DISTRACTING LIGHTS (GOLF DRIVING RANGE) RIGHT SIDE EXTENDED CENTERLINE RUNWAY 33L FROM APPROACH END RUNWAY TO 1/4 MI FINAL.

NOISE ABATEMENT PROCEDURES IN EFFECT − RESTRICTION FOR RUNWAY 15L/33R EXCEPT FOR EMERGENCIES OR MERCY FLIGHTS CONTACT AIRPORT MANAGER FOR INFORMATION.

MAJOR CONSTRUCTION ON AIRPORT DAILY; AIRCRAFT MOVEMENT & PARKING AREAS SUBJECT TO SHORT NOTICE CHANGE/CLOSURE. FOR CURRENT INFORMATION PHONE BWI OPERATIONS CENTER 410−859−7018.

AIRCRAFT ON VISUAL APPROACHES EXPECT TO MAINTAIN 3000 FT UNTIL 10 DME FROM BALANCE VORTAC; DEPARTURE AIRCRAFT SHOULD EXPECT TURNS BASED ON BALTIMORE DME.

TAXIING PROHIBITED BETWEEN GATE C16 & ADJACENT BUILDING STRUCTURE SW OF PIER C.

RUNWAY 15R DEICE PAD, POSITION # 1, 2 & 3 ARE RESTRICTED TO AIRCRAFT WITH A WINGSPAN OF 135 FT OR LESS, POSITION #4 IS RESTRICTED TO AIRCRAFT WITH A WINGSPAN OF 156 FT OR LESS & POSITION #5 IS RESTRICTED TO AIRCRAFT WITH 214 FT OR LESS.

TAXIWAY ”S”, SOUTH OF RUNWAY 22, RESTRICTED TO AIRCRAFT 60000 LBS. & LESS

GENERAL AVIATION AIRCRAFT CONTACT UNICOM PRIOR TO ARRIVING AT GENERAL AVIATION RAMP FOR SECURITY PURPOSES.

TAXIWAY ”A” RESTRICTED TO AIRCRAFT WITH WINGSPAN OF 171 FT OR LESS. DESIGN GROUP IV.

TAXILANES A–1 AND H, RESTRICTED TO GROUP III AIRCRAFT WITH MAX WINGSPAN OF 118 FEET.

CONCOURSE A – ALTERNATE DEICING AREA IS RESTRICTED TO B737–800 SIZE AIRCRAFT WITH WINGLETS OR SMALLER ON SPOTS 6, 7A, AND 8A. B737–700 SIZE AIRCRAFT WITH WINGLETS OR SMALLER ARE RESTRICTED TO SPOTS 7B AND 8B.

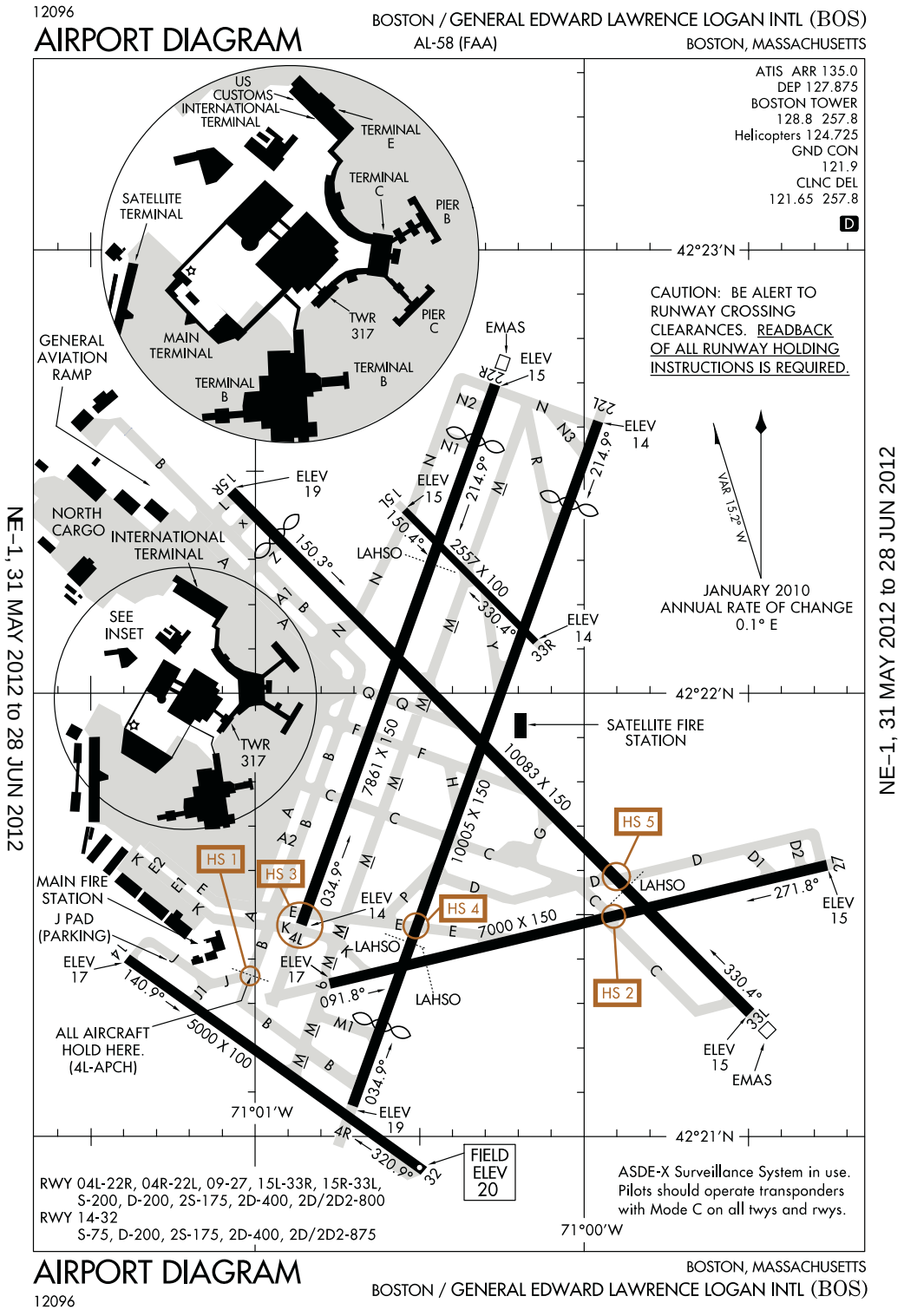
RUNWAY 28 DE–ICE PAD LANE 1 RESTRICTED TO AIRCRAFT WITH WINGSPAN 171 FT OR LESS, LANE 2 RESTRICTED TO AIRCRAFT WITH WINGSPAN 135 FT OR LESS, LANE 3 IS USED BY LARGE AIRCRAFT MAX WINGSPAN 215 FT AND WHEN IN USE– LANES 2 AND 4 ARE UNAVAILABLE. LANES 4, 5 AND 6 ARE RESTRICTED TO AIRCRAFT WINGSPAN 135 FT OR LESS.

TAXIWAY ”P” BETWEEN TAXIWAY ”P1” & TAXIWAY ”C” RESTRICTED TO WINGSPANS OF 171 FT OR LESS.

ASDE–X SURVEILLANCE SYSTEM IN USE: PILOTS SHOULD OPERATE TRANSPONDERS WITH MODE–C ON ALL TAXIWAYS AND RUNWAYS.

DUAL PARALLEL TAXILANES HAVE BEEN ADDED TO THE ’D’/’E’ ALLEYWAY; TAXILANE ’N’ AND TAXILANE ’N1’. TAXILANE ’N’ IS DESIGNATED A ”GROUP V” TAXILANE WITH MAX WINGSPAN OF 213 FT. TAXILANE ’N1’ IS DESIGNATED A ”GROUP IV” TAXILANE WITH MAX WINGSPAN OF 170 FT.

Boston, Massachusetts
General Edward Lawrence Logan International
ICAO Identifier KBOS



Boston, MA
General Edward Lawrence Logan Intl
ICAO Identifier KBOS

AD 2.2 Aerodrome geographical and administrative data
2.2.1 Reference Point: 42−21−46.70N / 71−00−23.10W
2.2.2 From City: 1 Miles E Of Boston, MA
2.2.3 Elevation: 20 ft
2.2.5 Magnetic variation: 16W (1995)
2.2.6 Airport Contact: Edward Freni
LOGAN
INTERNATIONAL
AIRPORT
East Boston, MA 2128
(617−567−5400)
2.2.7 Traffic: IFR/VFR

AD 2.3 Operational hours
2.3.1 − 2.3.11: ALL Months, ALL Days, ALL Hours

AD 2.4 Handling services and facilities
2.4.1 Cargo handling facilities: No
2.4.2 Fuel types: 100LL,A
2.4.4 De−icing facilities: None
2.4.5 Hangar space: No
2.4.6 Repair facilities: Major

AD 2.6 Rescue and firefighting services
2.6.1 Aerodrome category for firefighting: ARFF Index I E certified on 9/1/1972

AD 2.10 Aerodrome obstacles
2.10.1.a. Runway designation: 09
2.10.1.b Type of obstacle: Boat (158 ft). Lighted

2.10.1.a. Runway designation: 27
2.10.1.b Type of obstacle: Boat (45 ft). Lighted

2.10.1.a. Runway designation: 04L
2.10.1.b Type of obstacle: Boat (161 ft). Not Lighted or Marked

2.10.1.a. Runway designation: 22R
2.10.1.b Type of obstacle: Boat (44 ft). Not Lighted or Marked

2.10.1.a. Runway designation: 04R
2.10.1.b Type of obstacle: Boat (157 ft). Lighted

2.10.1.a. Runway designation: 22L
2.10.1.b Type of obstacle: Boat (45 ft). Not Lighted or Marked

2.10.1.a. Runway designation: 14
2.10.1.b Type of obstacle: Bldg (174 ft). Lighted
2.10.1.c Location of obstacle: 70 ft from Centerline

2.10.1.a. Runway designation: 15R
2.10.1.b Type of obstacle: Trees (62 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 140 ft from Centerline

2.10.1.a. Runway designation: 33L
2.10.1.b Type of obstacle: Boat (160 ft). Not Lighted or Marked

AD 2.12 Runway physical characteristics
2.12.1 Designation: 09
2.12.2 True Bearing: 77
2.12.3 Dimensions: 7000 ft x 150 ft
2.12.5 Coordinates: 42−21−20.72N / 71−00−46.42W
2.12.6 Threshold elevation: 17 ft
2.12.6 Touchdown zone elevation: 17 ft

2.12.1 Designation: 27
2.12.2 True Bearing: 257
2.12.3 Dimensions: 7000 ft x 150 ft
2.12.5 Coordinates: 42−21−36.78N / 70−59−15.73W
2.12.6 Threshold elevation: 14 ft
2.12.6 Touchdown zone elevation: 17 ft

2.12.1 Designation: 04L
2.12.2 True Bearing: 20
2.12.3 Dimensions: 7861 ft x 150 ft
2.12.5 Coordinates: 42−21−28.76N / 71−00−51.62W
2.12.6 Threshold elevation: 14 ft
2.12.6 Touchdown zone elevation: 14 ft

2.12.1 Designation: 22R
2.12.2 True Bearing: 200
2.12.3 Dimensions: 7861 ft x 150 ft
2.12.5 Coordinates: 42−22−41.85N / 71−00−16.26W
2.12.6 Threshold elevation: 15 ft
2.12.6 Touchdown zone elevation: 15 ft

2.12.1 Designation: 04R
2.12.2 True Bearing: 20

2.12.3 Dimensions: 10005 ft x 150 ft
2.12.5 Coordinates: 42–21–00.00N / 71–00–42.46W
2.12.6 Threshold elevation: 19 ft
2.12.6 Touchdown zone elevation: 18 ft

2.12.1 Designation: 22L
2.12.2 True Bearing: 200
2.12.3 Dimensions: 10005 ft x 150 ft
2.12.5 Coordinates: 42–22–36.84N / 70–59–57.45W
2.12.6 Threshold elevation: 14 ft
2.12.6 Touchdown zone elevation: 16 ft

2.12.1 Designation: 14
2.12.2 True Bearing: 125
2.12.3 Dimensions: 5000 ft x 100 ft
2.12.5 Coordinates: 42–21–23.75N / 71–01–23.79W
2.12.6 Threshold elevation: 17 ft

2.12.1 Designation: 32
2.12.2 True Bearing: 305
2.12.3 Dimensions: 5000 ft x 100 ft
2.12.5 Coordinates: 42–20–54.96N / 71–00–29.69W
2.12.6 Threshold elevation: 20 ft
2.12.6 Touchdown zone elevation: 20 ft

2.12.1 Designation: 15L
2.12.2 True Bearing: 135
2.12.3 Dimensions: 2557 ft x 100 ft
2.12.5 Coordinates: 42–22–24.89N / 71–00–32.86W
2.12.6 Threshold elevation: 15 ft
2.12.6 Touchdown zone elevation: 15 ft

2.12.1 Designation: 33R
2.12.2 True Bearing: 315
2.12.3 Dimensions: 2557 ft x 100 ft
2.12.5 Coordinates: 42–22–00.00N / 71–00–00.00W
2.12.6 Threshold elevation: 14 ft
2.12.6 Touchdown zone elevation: 15 ft

2.12.1 Designation: 15R
2.12.2 True Bearing: 135
2.12.3 Dimensions: 10083 ft x 150 ft
2.12.5 Coordinates: 42–22–27.38N / 71–01–00.00W
2.12.6 Threshold elevation: 19 ft
2.12.6 Touchdown zone elevation: 17 ft

2.12.1 Designation: 33L
2.12.2 True Bearing: 315
2.12.3 Dimensions: 10083 ft x 150 ft
2.12.5 Coordinates: 42–21–16.74N / 70–59–29.71W
2.12.6 Threshold elevation: 15 ft
2.12.6 Touchdown zone elevation: 16 ft

AD 2.13 Declared distances
2.13.1 Designation: 09
2.13.2 Takeoff run available: 7000
2.13.3 Takeoff distance available: 7000
2.13.4 Accelerate–stop distance available: 7000
2.13.5 Landing distance available: 7000

2.13.1 Designation: 27
2.13.2 Takeoff run available: 7000
2.13.3 Takeoff distance available: 7000
2.13.4 Accelerate–stop distance available: 7000
2.13.5 Landing distance available: 7000

2.13.1 Designation: 04L
2.13.2 Takeoff run available: 7861
2.13.3 Takeoff distance available: 7861
2.13.4 Accelerate–stop distance available: 7861
2.13.5 Landing distance available: 7861

2.13.1 Designation: 22R
2.13.2 Takeoff run available: 7861
2.13.3 Takeoff distance available: 7861
2.13.4 Accelerate–stop distance available: 7861
2.13.5 Landing distance available: 7046

2.13.1 Designation: 04R
2.13.2 Takeoff run available: 10005
2.13.3 Takeoff distance available: 10005
2.13.4 Accelerate–stop distance available: 10005
2.13.5 Landing distance available: 8851

2.13.1 Designation: 22L
2.13.2 Takeoff run available: 10005
2.13.3 Takeoff distance available: 10005
2.13.4 Accelerate–stop distance available: 10005
2.13.5 Landing distance available: 8806

2.13.1 Designation: 14
2.13.2 Takeoff run available: 5000
2.13.3 Takeoff distance available: 5000
2.13.4 Accelerate–stop distance available: 5000
2.13.5 Landing distance available: 5000

2.13.1 Designation: 32

2.13.2 Takeoff run available: 5000
2.13.3 Takeoff distance available: 5000
2.13.4 Accelerate–stop distance available: 5000
2.13.5 Landing distance available: 5000

2.13.1 Designation: 15L
2.13.2 Takeoff run available: 2557
2.13.3 Takeoff distance available: 2557
2.13.4 Accelerate–stop distance available: 2557
2.13.5 Landing distance available: 2557

2.13.1 Designation: 33R
2.13.2 Takeoff run available: 2557
2.13.3 Takeoff distance available: 2557
2.13.4 Accelerate–stop distance available: 2557
2.13.5 Landing distance available: 2557

2.13.1 Designation: 15R
2.13.2 Takeoff run available: 10083
2.13.3 Takeoff distance available: 10083
2.13.4 Accelerate–stop distance available: 10083
2.13.5 Landing distance available: 9802

2.13.1 Designation: 33L
2.13.2 Takeoff run available: 10083
2.13.3 Takeoff distance available: 10083
2.13.4 Accelerate–stop distance available: 10083
2.13.5 Landing distance available: 10083

AD 2.14 Approach and runway lighting
2.14.1 Designation: 27
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 04L
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 22R
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 04R
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 22L
2.14.4 Visual approach slope indicator system: 4–light PAPI on right

2.14.1 Designation: 32
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 15R
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 33L
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on right

AD 2.18 Air traffic services communication facilities
2.18.1 Service designation: EMERG
2.18.3 Service designation: 121.5 MHz

2.18.1 Service designation: CD/P PRE TAXI CLNC
2.18.3 Service designation: 121.65 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 124.725 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 121.9 MHz

2.18.1 Service designation: LCL/P (ARR/DEP RYS 04R/22L 09/27)
2.18.3 Service designation: 128.8 MHz

2.18.1 Service designation: LCL/P (ARR/DEP RYS 4L/22R 15R/33L 15L/33R)
2.18.3 Service designation: 128.8 MHz

2.18.1 Service designation: LCL/P (ARR/DEP RY 14/32)
2.18.3 Service designation: 128.8 MHz

2.18.1 Service designation: GATE CTL
2.18.3 Service designation: 134.05 MHz

2.18.1 Service designation: EMERG
2.18.3 Service designation: 243 MHz

2.18.1 Service designation: LCL/P CD/P
2.18.3 Service designation: 257.8 MHz

2.18.1 Service designation: GND CTL/S
2.18.3 Service designation: 121.75 MHz

2.18.1 Service designation: LCL/S (ARR/DEP RYS 04R/22L, 09/27)
2.18.3 Service designation: 132.225 MHz

2.18.1 Service designation: D–ATIS
2.18.3 Service designation: 127.875 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: D–ATIS
2.18.3 Service designation: 135 MHz
2.18.4 Hours of operation: 24

AD 2.19 Radio navigation and landing aids

2.19.1 ILS type: Localizer for runway 27. Magnetic variation: 16W
2.19.2 ILS identification: DGU
2.19.5 Coordinates: 42–21–18.48N / 71–00–59.05W
2.19.6 Site elevation: 17 ft

2.19.1 ILS type: Glide Slope for runway 27. Magnetic variation: 16W
2.19.2 ILS identification: DGU
2.19.5 Coordinates: 42–21–31.29N / 70–59–28.37W
2.19.6 Site elevation: 13 ft

2.19.1 ILS type: DME for runway 27. Magnetic variation: 16W
2.19.2 ILS identification: DGU
2.19.5 Coordinates: 42–21–15.70N / 71–00–55.78W
2.19.6 Site elevation: 15 ft

2.19.1 ILS type: Localizer for runway 04R. Magnetic variation: 16W
2.19.2 ILS identification: BOS
2.19.5 Coordinates: 42–22–55.97N / 70–59–48.19W
2.19.6 Site elevation: 18 ft

2.19.1 ILS type: Glide Slope for runway 04R. Magnetic variation: 16W
2.19.2 ILS identification: BOS
2.19.5 Coordinates: 42–21–21.82N / 71–00–24.55W
2.19.6 Site elevation: 10 ft

2.19.1 ILS type: Outer Marker for runway 04R. Magnetic variation: 16W
2.19.2 ILS identification: BOS
2.19.5 Coordinates: 42–16–25.52N / 71–02–56.95W
2.19.6 Site elevation: 6 ft

2.19.1 ILS type: Inner Marker for runway 04R. Magnetic variation: 16W
2.19.2 ILS identification: BOS
2.19.5 Coordinates: 42–21–00.00N / 71–00–39.91W
2.19.6 Site elevation: 118 ft

2.19.1 ILS type: Middle Marker for runway 04R. Magnetic variation: 16W
2.19.2 ILS identification: BOS
2.19.5 Coordinates: 42–20–53.18N / 71–00–47.62W
2.19.6 Site elevation: 12 ft

2.19.1 ILS type: DME for runway 04R. Magnetic variation: 16W
2.19.2 ILS identification: BOS
2.19.5 Coordinates: 42–22–57.47N / 70–59–50.81W
2.19.6 Site elevation: 35 ft

2.19.1 ILS type: Localizer for runway 22L. Magnetic variation: 16W
2.19.2 ILS identification: LQN
2.19.5 Coordinates: 42–21–00.00N / 71–00–44.29W
2.19.6 Site elevation: 15 ft

2.19.1 ILS type: DME for runway 22L. Magnetic variation: 16W
2.19.2 ILS identification: LQN
2.19.5 Coordinates: 42–22–57.47N / 70–59–50.81W
2.19.6 Site elevation: 35 ft

2.19.1 ILS type: Outer Marker for runway 22L. Magnetic variation: 16W
2.19.2 ILS identification: LQN
2.19.5 Coordinates: 42–27–00.00N / 70–57–47.83W

2.19.6 Site elevation: 13 ft

2.19.1 ILS type: Glide Slope for runway 22L.
Magnetic variation: 16W
2.19.2 ILS identification: LQN
2.19.5 Coordinates: 42−22−17.00N /
71−00−11.99W
2.19.6 Site elevation: 11 ft

2.19.1 ILS type: Localizer for runway 15R.
Magnetic variation: 16W
2.19.2 ILS identification: MDC
2.19.5 Coordinates: 42−21−26.35N /
70−59−37.05W
2.19.6 Site elevation: 10 ft

2.19.1 ILS type: Glide Slope for runway 15R.
Magnetic variation: 16W
2.19.2 ILS identification: MDC
2.19.5 Coordinates: 42−22−14.70N /
71−00−42.42W
2.19.6 Site elevation: 11 ft

2.19.1 ILS type: DME for runway 15R. Magnetic variation: 16W
2.19.2 ILS identification: MDC
2.19.5 Coordinates: 42−21−26.66N /
70−59−35.05W
2.19.6 Site elevation: 11 ft

2.19.1 ILS type: DME for runway 33L. Magnetic variation: 16W
2.19.2 ILS identification: LIP
2.19.5 Coordinates: 42−21−26.66N /
70−59−35.05W
2.19.6 Site elevation: 11 ft

2.19.1 ILS type: Middle Marker for runway 33L.
Magnetic variation: 16W
2.19.2 ILS identification: LIP
2.19.5 Coordinates: 42−20−58.45N /
70−59−00.00W
2.19.6 Site elevation: 20 ft

2.19.1 ILS type: Localizer for runway 33L.
Magnetic variation: 16W
2.19.2 ILS identification: LIP
2.19.5 Coordinates: 42−22−37.57N /
71−01−18.09W
2.19.6 Site elevation: 16 ft

2.19.1 ILS type: Glide Slope for runway 33L.
Magnetic variation: 16W
2.19.2 ILS identification: LIP
2.19.5 Coordinates: 42−21−26.64N /
70−59−34.71W
2.19.6 Site elevation: 11 ft

2.19.1 ILS type: Outer Marker for runway 33L.
Magnetic variation: 16W
2.19.2 ILS identification: LIP
2.19.5 Coordinates: 42−18−11.14N /
70−55−18.75W
2.19.6 Site elevation: ft

General Remarks:
BIRDS ON & IN THE VICINITY OF AIRPORT.

NOISE SENSITIVE AREA − HELICOPTERS OPERATING WITHIN THE CONTROL ZONE ARE REQUIRED TO MAINT THE HIGHEST POSSIBLE ALTITUDE.

BETWEEN 0000−0600 − RUNWAY 15R IS PREFERENTIAL NIGHT RUNWAY FOR TAKE−OFF & RUNWAY 33L IS PREFERENTIAL NIGHT RUNWAY FOR LANDING.

FOR NOISE ABATEMENT PROCEDURES CALL 617−561−1636 0900−1700 MON−FRI.

NO REMAINING OVERNIGHT PARKING FOR NON−TENANT CHARTER AIRCRAFT WITHOUT PRIOR MASSPORT PERMISSION.

TERMINAL E; NORTH & SOUTH CARGO ARRIVALS CONTACT MASSPORT GATE CONTROL ON FREQ 131.1 BEFORE ENTERING/DEPARTING RAMP AREA.

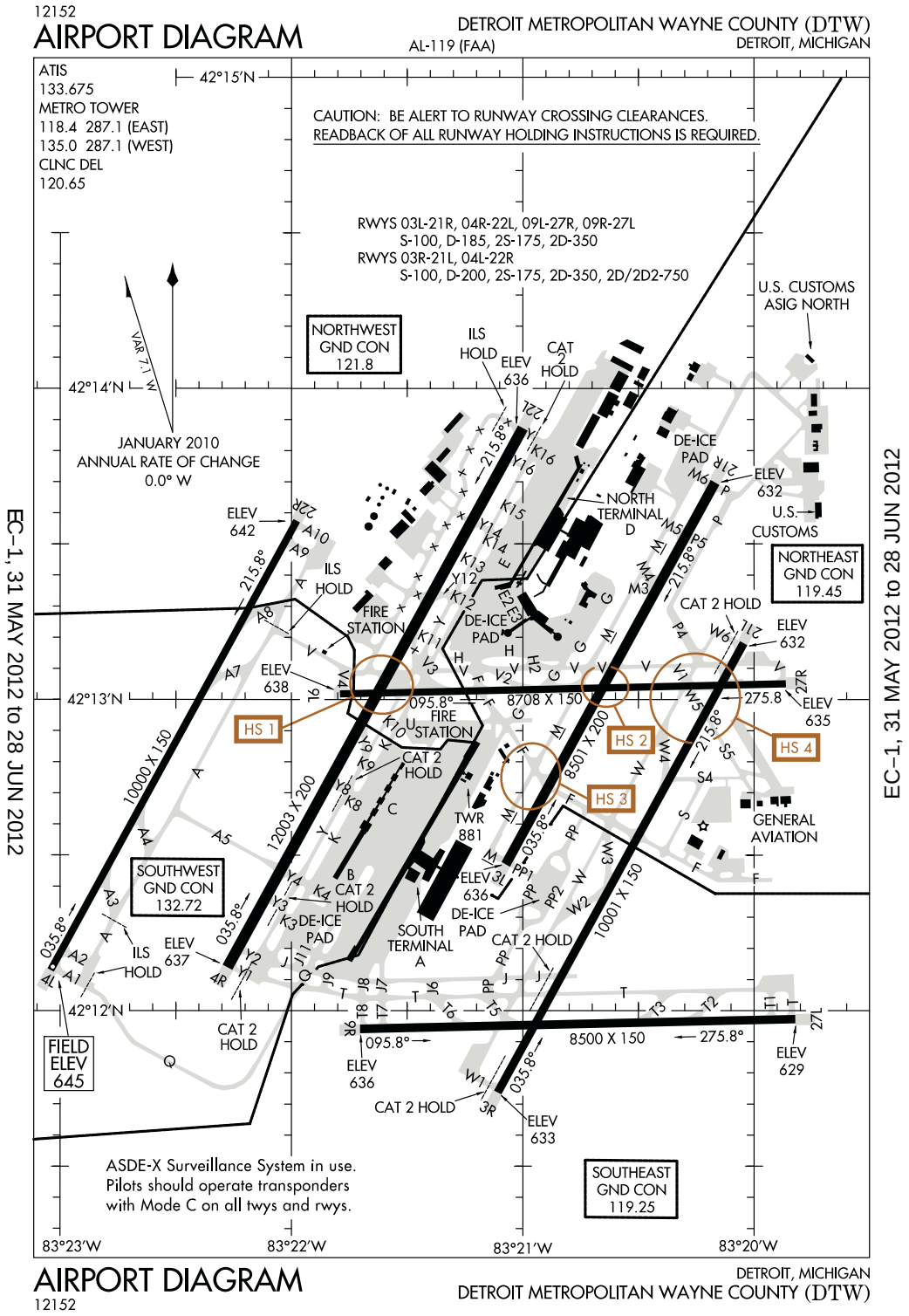
NUMEROUS CRANES ON & IN THE VICINITY OF OF AIRPORT UP TO & INCLUDING 250 FT. MSL.

RY14/32 UNIDIRECTIONAL; NO LANDINGS RUNWAY 14; NO TAKEOFFS RUNWAY 32.

ASDE–X SURVEILLANCE SYSTEM IN USE: PILOTS SHOULD OPERATE TRANSPONDERS WITH MODE C ON ALL TAXIWAYS AND RUNWAYS.

PILOTS SHOULD COMPLETE ALL CALCULATIONS PRIOR TO PUSHBACK FROM GATE.

Detroit, Michigan
Detroit Metropolitan Wayne County
ICAO Identifier KDTW



Detroit, MI
Detroit Metropolitan Wayne County
ICAO Identifier KDTW

AD 2.2 Aerodrome geographical and administrative data
2.2.1 Reference Point: 42–12–44.80N / 83–21–12.20W
2.2.2 From City: 15 Miles S Of Detroit, MI
2.2.3 Elevation: 645 ft
2.2.5 Magnetic variation: 6W (1990)
2.2.6 Airport Contact: Turkia Awada Mullin
L C SMITH TERMINAL
MEZZANINE
Detroit, MI 48242
(734–942–3550)
2.2.7 Traffic: IFR/VFR

AD 2.3 Operational hours
2.3.1 – 2.3.11: ALL Months, ALL Days, ALL Hours

AD 2.4 Handling services and facilities
2.4.1 Cargo handling facilities: No
2.4.2 Fuel types: 100LL,A,A+
2.4.4 De–icing facilities: None
2.4.5 Hangar space: Yes
2.4.6 Repair facilities: None

AD 2.6 Rescue and firefighting services
2.6.1 Aerodrome category for firefighting: ARFF Index I E certified on 5/1/1973

AD 2.10 Aerodrome obstacles
2.10.1.a. Runway designation: 04R
2.10.1.b Type of obstacle: Tree (88 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 1059 ft from Centerline

2.10.1.a. Runway designation: 22L
2.10.1.b Type of obstacle: Rr (26 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 632 ft from Centerline

2.10.1.a. Runway designation: 03R
2.10.1.b Type of obstacle: Trees (69 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 935 ft from Centerline

2.10.1.a. Runway designation: 21L
2.10.1.b Type of obstacle: Berm (5 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 496 ft from Centerline

2.10.1.a. Runway designation: 09L
2.10.1.b Type of obstacle: Ant (116 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 459 ft from Centerline

2.10.1.a. Runway designation: 04L
2.10.1.b Type of obstacle: Pole (60 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 372 ft from Centerline

2.10.1.a. Runway designation: 22R
2.10.1.b Type of obstacle: Ant (73 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 831 ft from Centerline

2.10.1.a. Runway designation: 03L
2.10.1.b Type of obstacle: Pole (21 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 576 ft from Centerline

2.10.1.a. Runway designation: 21R
2.10.1.b Type of obstacle: Pole (74 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 557 ft from Centerline

AD 2.12 Runway physical characteristics
2.12.1 Designation: 04R
2.12.2 True Bearing: 29
2.12.3 Dimensions: 12003 ft x 200 ft
2.12.5 Coordinates: 42–12–00.00N / 83–22–16.57W
2.12.6 Threshold elevation: 637 ft
2.12.6 Touchdown zone elevation: 638 ft

2.12.1 Designation: 22L
2.12.2 True Bearing: 209
2.12.3 Dimensions: 12003 ft x 200 ft
2.12.5 Coordinates: 42–13–52.37N / 83–20–59.97W

2.12.6 Threshold elevation: 636 ft
2.12.6 Touchdown zone elevation: 637 ft

2.12.1 Designation: 03R
2.12.2 True Bearing: 29
2.12.3 Dimensions: 10001 ft x 150 ft
2.12.5 Coordinates: 42−11−44.21N / 83−21−00.00W
2.12.6 Threshold elevation: 633 ft
2.12.6 Touchdown zone elevation: 633 ft

2.12.1 Designation: 21L
2.12.2 True Bearing: 209
2.12.3 Dimensions: 10001 ft x 150 ft
2.12.5 Coordinates: 42−13−10.86N / 83−20−00.00W
2.12.6 Threshold elevation: 632 ft
2.12.6 Touchdown zone elevation: 632 ft

2.12.1 Designation: 09L
2.12.2 True Bearing: 89
2.12.3 Dimensions: 8708 ft x 150 ft
2.12.5 Coordinates: 42−13−00.00N / 83−21−47.40W
2.12.6 Threshold elevation: 638 ft
2.12.6 Touchdown zone elevation: 640 ft

2.12.1 Designation: 27R
2.12.2 True Bearing: 269
2.12.3 Dimensions: 8708 ft x 150 ft
2.12.5 Coordinates: 42−13−00.00N / 83−19−51.71W
2.12.6 Threshold elevation: 635 ft
2.12.6 Touchdown zone elevation: 635 ft

2.12.1 Designation: 09R
2.12.2 True Bearing: 89
2.12.3 Dimensions: 8500 ft x 150 ft
2.12.5 Coordinates: 42−11−56.46N / 83−21−42.22W
2.12.6 Threshold elevation: 636 ft
2.12.6 Touchdown zone elevation: 636 ft

2.12.1 Designation: 27L
2.12.2 True Bearing: 269
2.12.3 Dimensions: 8500 ft x 150 ft
2.12.5 Coordinates: 42−11−58.34N / 83−19−49.33W
2.12.6 Threshold elevation: 629 ft
2.12.6 Touchdown zone elevation: 630 ft

2.12.1 Designation: 04L
2.12.2 True Bearing: 29
2.12.3 Dimensions: 10000 ft x 150 ft
2.12.5 Coordinates: 42−12−00.00N / 83−23−00.00W
2.12.6 Threshold elevation: 645 ft
2.12.6 Touchdown zone elevation: 645 ft

2.12.1 Designation: 22R
2.12.2 True Bearing: 209
2.12.3 Dimensions: 10000 ft x 150 ft
2.12.5 Coordinates: 42−13−34.48N / 83−21−58.61W
2.12.6 Threshold elevation: 642 ft
2.12.6 Touchdown zone elevation: 642 ft

2.12.1 Designation: 04X
2.12.2 True Bearing: 29
2.12.3 Dimensions: 0 ft x 0 ft

2.12.1 Designation: 22X
2.12.2 True Bearing: 209
2.12.3 Dimensions: 0 ft x 0 ft

2.12.1 Designation: 03L
2.12.2 True Bearing: 29
2.12.3 Dimensions: 8501 ft x 200 ft
2.12.5 Coordinates: 42−12−28.20N / 83−21−00.00W
2.12.6 Threshold elevation: 636 ft
2.12.6 Touchdown zone elevation: 636 ft

2.12.1 Designation: 21R
2.12.2 True Bearing: 209
2.12.3 Dimensions: 8501 ft x 200 ft
2.12.5 Coordinates: 42−13−41.85N / 83−20−10.11W
2.12.6 Threshold elevation: 632 ft
2.12.6 Touchdown zone elevation: 634 ft

AD 2.13 Declared distances
2.13.1 Designation: 04R
2.13.2 Takeoff run available: 12003
2.13.3 Takeoff distance available: 12003
2.13.4 Accelerate−stop distance available: 12003
2.13.5 Landing distance available: 12003

2.13.1 Designation: 22L
2.13.2 Takeoff run available: 12003
2.13.3 Takeoff distance available: 12003
2.13.4 Accelerate−stop distance available: 12003
2.13.5 Landing distance available: 12003

2.13.1 Designation: 03R

2.13.2 Takeoff run available: 10001
2.13.3 Takeoff distance available: 10001
2.13.4 Accelerate–stop distance available: 10001
2.13.5 Landing distance available: 10001

2.13.1 Designation: 21L
2.13.2 Takeoff run available: 10001
2.13.3 Takeoff distance available: 10001
2.13.4 Accelerate–stop distance available: 10001
2.13.5 Landing distance available: 10001

2.13.1 Designation: 09L
2.13.2 Takeoff run available: 8708
2.13.3 Takeoff distance available: 8708
2.13.4 Accelerate–stop distance available: 8618
2.13.5 Landing distance available: 8618

2.13.1 Designation: 27R
2.13.2 Takeoff run available: 8708
2.13.3 Takeoff distance available: 8708
2.13.4 Accelerate–stop distance available: 8708
2.13.5 Landing distance available: 8708

2.13.1 Designation: 09R
2.13.2 Takeoff run available: 8500
2.13.3 Takeoff distance available: 8500
2.13.4 Accelerate–stop distance available: 8500
2.13.5 Landing distance available: 8500

2.13.1 Designation: 27L
2.13.2 Takeoff run available: 8500
2.13.3 Takeoff distance available: 8500
2.13.4 Accelerate–stop distance available: 8500
2.13.5 Landing distance available: 8500

2.13.1 Designation: 04L
2.13.2 Takeoff run available: 10000
2.13.3 Takeoff distance available: 10000
2.13.4 Accelerate–stop distance available: 10000
2.13.5 Landing distance available: 10000

2.13.1 Designation: 22R
2.13.2 Takeoff run available: 10000
2.13.3 Takeoff distance available: 10000
2.13.4 Accelerate–stop distance available: 10000
2.13.5 Landing distance available: 10000

2.13.1 Designation: 03L
2.13.2 Takeoff run available: 8501
2.13.3 Takeoff distance available: 8501
2.13.4 Accelerate–stop distance available: 8501
2.13.5 Landing distance available: 8501

2.13.1 Designation: 21R
2.13.2 Takeoff run available: 8501
2.13.3 Takeoff distance available: 8501
2.13.4 Accelerate–stop distance available: 8501
2.13.5 Landing distance available: 8501

AD 2.14 Approach and runway lighting
2.14.1 Designation: 04R
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration
2.14.10 Remarks: Also Has SSALR.

2.14.1 Designation: 22L
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights

2.14.1 Designation: 03R
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration
2.14.4 Visual approach slope indicator system: 4–light PAPI on right
2.14.10 Remarks: ALSF2 Required When RVR/Visibility Is 6000/1 Mile Or Less. SSALR Operated When RVR/Visibility Is 6000/1 Mile. Runway 03R, PAPI Unusable Beyond 8 Degrees Left Of Course.

2.14.1 Designation: 21L
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 27R
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 27L
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 04L
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 22R
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on right

2.14.1 Designation: 03L
2.14.4 Visual approach slope indicator system: 4–light PAPI on right
2.14.10 Remarks: Unusable 8 Degrees Left/Right Course.

2.14.1 Designation: 21R
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

AD 2.18 Air traffic services communication facilities
2.18.1 Service designation: APCH/S DEP/S
2.18.3 Service designation: 118.575 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 118.95 MHz

2.18.1 Service designation: DEP/P
2.18.3 Service designation: 118.95 MHz

2.18.1 Service designation: CD PRE TAXI CLNC
2.18.3 Service designation: 120.65 MHz

2.18.1 Service designation: EMERG
2.18.3 Service designation: 121.5 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 121.8 MHz

2.18.1 Service designation: APCH/P
2.18.3 Service designation: 124.05 MHz

2.18.1 Service designation: APCH/P
2.18.3 Service designation: 125.15 MHz

2.18.1 Service designation: DEP/P
2.18.3 Service designation: 125.525 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 126.85 MHz

2.18.1 Service designation: RDR
2.18.3 Service designation: 128.75 MHz

2.18.1 Service designation: DEP/P
2.18.3 Service designation: 132.025 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 132.72 MHz

2.18.1 Service designation: D–ATIS
2.18.3 Service designation: 133.675 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 134.3 MHz

2.18.1 Service designation: DEP/P
2.18.3 Service designation: 134.3 MHz

2.18.1 Service designation: EMERG
2.18.3 Service designation: 243 MHz

2.18.1 Service designation: AIR–EVAC
2.18.3 Service designation: 259.6 MHz

2.18.1 Service designation: APCH/P
2.18.3 Service designation: 363.2 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 119.25 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 119.45 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 127.5 MHz

2.18.1 Service designation: DEP/P CLASS B
2.18.3 Service designation: 239.275 MHz

2.18.1 Service designation: APCH/P
2.18.3 Service designation: 124.975 MHz

2.18.1 Service designation: APCH/S
2.18.3 Service designation: 124.25 MHz

2.18.1 Service designation: PRM RY 4L/22R
2.18.3 Service designation: 127.05 MHz

2.18.1 Service designation: PRM RY 4R/22L

2.18.3 Service designation: 135.775 MHz

2.18.1 Service designation: PRM RY 3R/21L
2.18.3 Service designation: 128.35 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 287.1 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 118.4 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 135 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 128.125 MHz

AD 2.19 Radio navigation and landing aids
2.19.1 ILS type: Outer Marker for runway 04R.
Magnetic variation: 6W
2.19.2 ILS identification: DTW
2.19.5 Coordinates: 42–07–12.37N /
83–25–54.19W
2.19.6 Site elevation: 631 ft

2.19.1 ILS type: DME for runway 04R. Magnetic variation: 6W
2.19.2 ILS identification: DTW
2.19.5 Coordinates: 42–13–59.69N /
83–20–50.36W
2.19.6 Site elevation: 650 ft

2.19.1 ILS type: Middle Marker for runway 04R.
Magnetic variation: 6W
2.19.2 ILS identification: DTW
2.19.5 Coordinates: 42–11–44.10N /
83–22–34.50W
2.19.6 Site elevation: 642 ft

2.19.1 ILS type: Localizer for runway 04R. Magnetic variation: 6W
2.19.2 ILS identification: DTW
2.19.5 Coordinates: 42–14–00.00N /
83–20–53.38W
2.19.6 Site elevation: 636 ft

2.19.1 ILS type: Glide Slope for runway 04R. Magnetic variation: 6W
2.19.2 ILS identification: DTW
2.19.5 Coordinates: 42–12–18.94N /
83–22–14.84W
2.19.6 Site elevation: 634 ft

2.19.1 ILS type: Inner Marker for runway 04R.
Magnetic variation: 6W
2.19.2 ILS identification: DTW
2.19.5 Coordinates: 42–12–00.00N /
83–22–22.38W
2.19.6 Site elevation: 636 ft

2.19.1 ILS type: Localizer for runway 22L. Magnetic variation: 6W
2.19.2 ILS identification: DWC
2.19.5 Coordinates: 42–11–59.54N /
83–22–23.06W
2.19.6 Site elevation: 636 ft

2.19.1 ILS type: DME for runway 22L. Magnetic variation: 6W
2.19.2 ILS identification: DWC
2.19.5 Coordinates: 42–13–59.69N /
83–20–50.36W
2.19.6 Site elevation: 650 ft

2.19.1 ILS type: Outer Marker for runway 22L.
Magnetic variation: 6W
2.19.2 ILS identification: DWC
2.19.5 Coordinates: 42–18–20.74N /
83–17–40.65W
2.19.6 Site elevation: 626 ft

2.19.1 ILS type: Glide Slope for runway 22L. Magnetic variation: 6W
2.19.2 ILS identification: DWC
2.19.5 Coordinates: 42–13–43.86N /
83–21–12.29W
2.19.6 Site elevation: 636 ft

2.19.1 ILS type: Middle Marker for runway 22L.
Magnetic variation: 6W
2.19.2 ILS identification: DWC
2.19.5 Coordinates: 42–14–21.64N /
83–20–38.75W
2.19.6 Site elevation: ft

2.19.1 ILS type: Localizer for runway 03R. Magnetic variation: 6W
2.19.2 ILS identification: HUU
2.19.5 Coordinates: 42–13–20.38N /
83–19–55.63W
2.19.6 Site elevation: 635 ft

2.19.1 ILS type: Glide Slope for runway 03R. Magnetic variation: 6W
2.19.2 ILS identification: HUU

2.19.5 Coordinates: 42–11–51.13N / 83–20–54.98W
2.19.6 Site elevation: 630 ft

2.19.1 ILS type: Outer Marker for runway 03R. Magnetic variation: 6W
2.19.2 ILS identification: HUU
2.19.5 Coordinates: 42–06–27.60N / 83–24–57.66W
2.19.6 Site elevation: 625 ft

2.19.1 ILS type: Middle Marker for runway 03R. Magnetic variation: 6W
2.19.2 ILS identification: HUU
2.19.5 Coordinates: 42–11–20.09N / 83–21–24.29W
2.19.6 Site elevation: 633 ft

2.19.1 ILS type: Inner Marker for runway 03R. Magnetic variation: 6W
2.19.2 ILS identification: HUU
2.19.5 Coordinates: 42–11–36.55N / 83–21–12.14W
2.19.6 Site elevation: 630 ft

2.19.1 ILS type: DME for runway 03R. Magnetic variation: 6W
2.19.2 ILS identification: HUU
2.19.5 Coordinates: 42–11–34.31N / 83–21–00.00W
2.19.6 Site elevation: 630 ft

2.19.1 ILS type: Localizer for runway 21L. Magnetic variation: 6W
2.19.2 ILS identification: EJR
2.19.5 Coordinates: 42–11–34.94N / 83–21–13.32W
2.19.6 Site elevation: 631 ft

2.19.1 ILS type: Glide Slope for runway 21L. Magnetic variation: 6W
2.19.2 ILS identification: EJR
2.19.5 Coordinates: 42–12–58.50N / 83–20–00.00W
2.19.6 Site elevation: 629 ft

2.19.1 ILS type: Middle Marker for runway 21L. Magnetic variation: 6W
2.19.2 ILS identification: EJR
2.19.5 Coordinates: 42–13–38.34N / 83–19–46.25W
2.19.6 Site elevation: 630 ft

2.19.1 ILS type: Outer Marker for runway 21L. Magnetic variation: 6W
2.19.2 ILS identification: EJR
2.19.5 Coordinates: 42–18–00.00N / 83–16–20.34W
2.19.6 Site elevation: 604 ft

2.19.1 ILS type: DME for runway 21L. Magnetic variation: 6W
2.19.2 ILS identification: EJR
2.19.5 Coordinates: 42–11–34.31N / 83–21–00.00W
2.19.6 Site elevation: 630 ft

2.19.1 ILS type: Localizer for runway 27R. Magnetic variation: 6W
2.19.2 ILS identification: DMI
2.19.5 Coordinates: 42–13–00.00N / 83–22–00.00W
2.19.6 Site elevation: 639 ft

2.19.1 ILS type: Middle Marker for runway 27R. Magnetic variation: 6W
2.19.2 ILS identification: DMI
2.19.5 Coordinates: 42–13–00.00N / 83–19–10.55W
2.19.6 Site elevation: ft

2.19.1 ILS type: Outer Marker for runway 27R. Magnetic variation: 6W
2.19.2 ILS identification: DMI
2.19.5 Coordinates: 42–13–12.02N / 83–12–11.92W
2.19.6 Site elevation: ft

2.19.1 ILS type: Glide Slope for runway 27R. Magnetic variation: 6W
2.19.2 ILS identification: DMI
2.19.5 Coordinates: 42–12–58.36N / 83–20–00.00W
2.19.6 Site elevation: 629 ft

2.19.1 ILS type: Outer Marker for runway 27L. Magnetic variation: 6W
2.19.2 ILS identification: EPA
2.19.5 Coordinates: 42–12–00.00N / 83–12–39.63W
2.19.6 Site elevation: 600 ft

2.19.1 ILS type: Localizer for runway 27L. Magnetic variation: 6W
2.19.2 ILS identification: EPA

2.19.5 Coordinates: 42–11–56.23N / 83–21–55.64W
2.19.6 Site elevation: 634 ft

2.19.1 ILS type: Middle Marker for runway 27L. Magnetic variation: 6W
2.19.2 ILS identification: EPA
2.19.5 Coordinates: 42–11–59.00N / 83–19–11.92W
2.19.6 Site elevation: 626 ft

2.19.1 ILS type: Glide Slope for runway 27L. Magnetic variation: 6W
2.19.2 ILS identification: EPA
2.19.5 Coordinates: 42–11–54.66N / 83–20–00.00W
2.19.6 Site elevation: 626 ft

2.19.1 ILS type: DME for runway 27L. Magnetic variation: 6W
2.19.2 ILS identification: EPA
2.19.5 Coordinates: 42–11–53.87N / 83–21–55.11W
2.19.6 Site elevation: 635 ft

2.19.1 ILS type: DME for runway 04L. Magnetic variation: 6W
2.19.2 ILS identification: HJT
2.19.5 Coordinates: 42–13–41.92N / 83–21–48.73W
2.19.6 Site elevation: 650 ft

2.19.1 ILS type: Localizer for runway 04L. Magnetic variation: 6W
2.19.2 ILS identification: HJT
2.19.5 Coordinates: 42–13–43.23N / 83–21–52.16W
2.19.6 Site elevation: 642 ft

2.19.1 ILS type: Glide Slope for runway 04L. Magnetic variation: 6W
2.19.2 ILS identification: HJT
2.19.5 Coordinates: 42–12–18.95N / 83–23–00.00W
2.19.6 Site elevation: 641 ft

2.19.1 ILS type: Inner Marker for runway 04L. Magnetic variation: 6W
2.19.2 ILS identification: HJT
2.19.5 Coordinates: 42–12–00.00N / 83–23–00.00W
2.19.6 Site elevation: 646 ft

2.19.1 ILS type: DME for runway 22R. Magnetic variation: 6W
2.19.2 ILS identification: JKI
2.19.5 Coordinates: 42–13–41.92N / 83–21–48.73W
2.19.6 Site elevation: 650 ft

2.19.1 ILS type: Localizer for runway 22R. Magnetic variation: 6W
2.19.2 ILS identification: JKI
2.19.5 Coordinates: 42–11–59.07N / 83–23–00.00W
2.19.6 Site elevation: 645 ft

2.19.1 ILS type: Glide Slope for runway 22R. Magnetic variation: 6W
2.19.2 ILS identification: JKI
2.19.5 Coordinates: 42–13–27.23N / 83–22–10.00W
2.19.6 Site elevation: 637 ft

2.19.1 ILS type: DME for runway 04X. Magnetic variation: 6W
2.19.2 ILS identification: ALA
2.19.5 Coordinates: 42–11–57.11N / 83–23–00.00W
2.19.6 Site elevation: 643 ft

2.19.1 ILS type: Glide Slope for runway 04X. Magnetic variation: 6W
2.19.2 ILS identification: ALA
2.19.5 Coordinates: 42–12–19.05N / 83–23–00.00W
2.19.6 Site elevation: 644 ft

2.19.1 ILS type: Localizer for runway 04X. Magnetic variation: 6W
2.19.2 ILS identification: ALA
2.19.5 Coordinates: 42–13–33.40N / 83–21–50.94W
2.19.6 Site elevation: 639 ft

2.19.1 ILS type: Localizer for runway 22X. Magnetic variation: 6W
2.19.2 ILS identification: BZB
2.19.5 Coordinates: 42–11–56.26N / 83–23–00.00W
2.19.6 Site elevation: 642 ft

2.19.1 ILS type: Glide Slope for runway 22X. Magnetic variation: 6W
2.19.2 ILS identification: BZB

2.19.5 Coordinates: 42−13−27.35N / 83−22−10.30W
2.19.6 Site elevation: 638 ft

2.19.1 ILS type: DME for runway 22X. Magnetic variation: 6W
2.19.2 ILS identification: BZB
2.19.5 Coordinates: 42−11−57.11N / 83−23−00.00W
2.19.6 Site elevation: 643 ft

General Remarks:
BRIGHTLY LIGHTED PARKING LOT 2.6 NAUTICAL MILE SW OF AIRPORT.

BE ALERT BIRDS, WATERFOWL, ON & IN THE VICINITY OF AIRPORT.

RUNWAY 21R DEPS BE ALERT FOR 'OPTICAL ILLUSION', AIRCRAFT TAXIING ON TAXIWAY 'T' MAY APPEAR AS THOUGH CROSSING RUNWAY 21R CENTERLINE.

AIRCRAFT ON TAXIWAY 'F' AND TAXIWAY 'V' DO NOT BLOCK FIRE STATION EXITS.

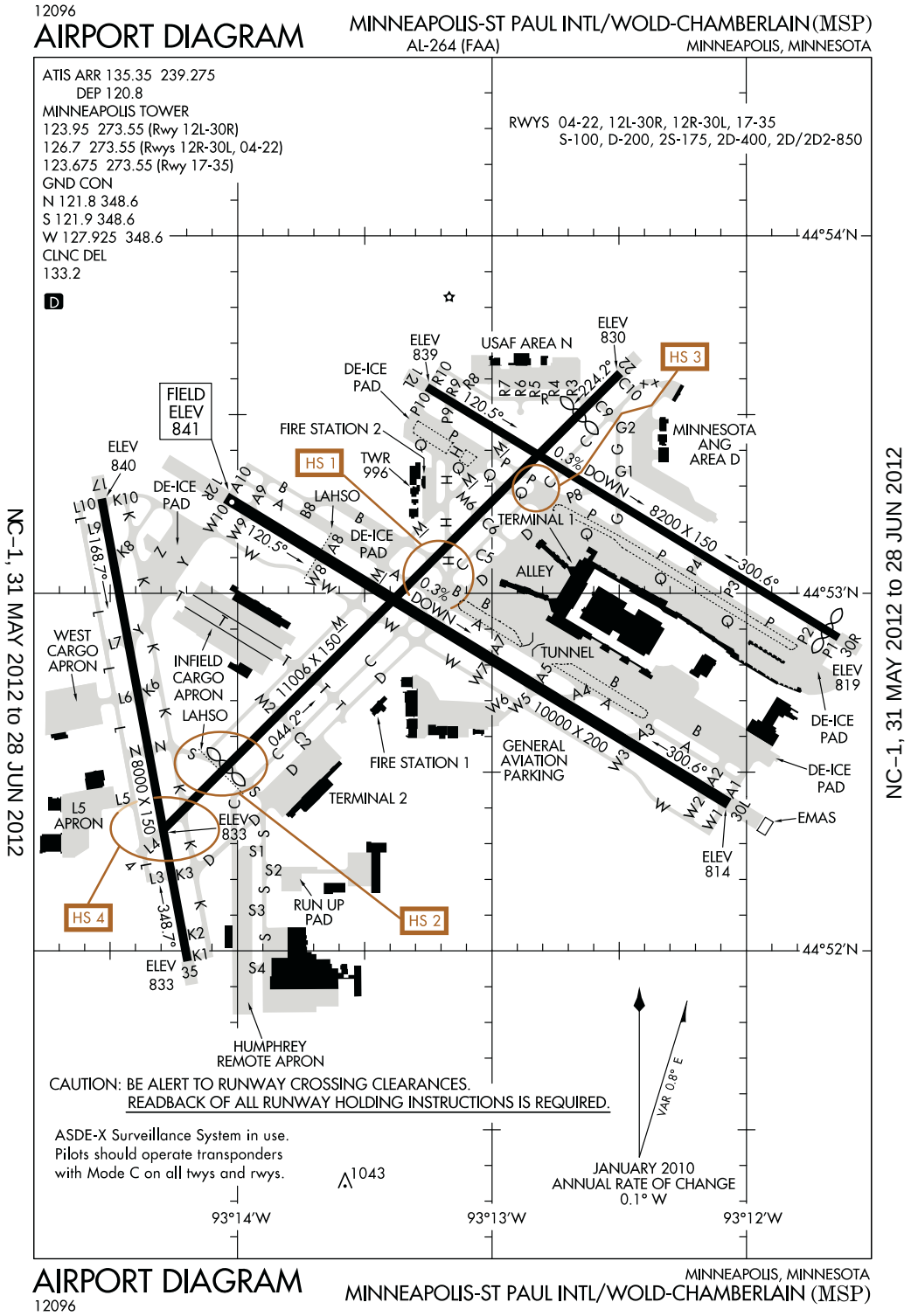
TAXIWAY 'G' N OF TAXIWAY 'V' IS A NON−MOVEMENT AREA.

RUNWAY 22L DEPS BE ALERT FOR OPTICAL ILLUSION, AIRCRAFT TAXIING ON TAXIWAY Q MAY APPEAR AS THOUGH CROSSING RUNWAY 22L CENTERLINE.

ASDE−X SURVEILLANCE SYSTEM IN USE: PILOTS SHOULD OPERATE TRANSPONDERS WITH MODE C ON ALL TAXIWAYS & RUNWAYS.

UNIDIRECTIONAL STOPBARS ON RUNWAY 27R WHEN BEING USED FOR TAXI.

Minneapolis, Minnesota
Minneapolis–St. Paul International (Wold–Chamberlain)
ICAO Identifier KMSP



Minneapolis, MN
Minneapolis−St Paul Intl/Wold−Chamberlain
ICAO Identifier KMSP

AD 2.2 Aerodrome geographical and administrative data
2.2.1 Reference Point: 44−52−55.04N / 93−13−18.36W
2.2.2 From City: 6 Miles SW Of Minneapolis, MN
2.2.3 Elevation: 841 ft
2.2.5 Magnetic variation: 2E (1995)
2.2.6 Airport Contact: Steve Wareham
4300 GLUMACK
SUITE 3000
St Paul, MN 55111
(612−725−6464)
2.2.7 Traffic: IFR/VFR

AD 2.3 Operational hours
2.3.1 – 2.3.11: ALL Months, ALL Days, ALL Hours

AD 2.4 Handling services and facilities
2.4.1 Cargo handling facilities: No
2.4.2 Fuel types: 100LL,A
2.4.4 De−icing facilities: None
2.4.5 Hangar space: Yes
2.4.6 Repair facilities: Major

AD 2.6 Rescue and firefighting services
2.6.1 Aerodrome category for firefighting: ARFF Index I E certified on 5/1/1973

AD 2.10 Aerodrome obstacles
2.10.1.a. Runway designation: 04
2.10.1.b Type of obstacle: Tree (101 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 834 ft from Centerline

2.10.1.a. Runway designation: 22
2.10.1.b Type of obstacle: Tree (66 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 636 ft from Centerline

2.10.1.a. Runway designation: 12L
2.10.1.b Type of obstacle: Tree (61 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 667 ft from Centerline

2.10.1.a. Runway designation: 30R
2.10.1.b Type of obstacle: Tree (13 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 272 ft from Centerline

2.10.1.a. Runway designation: 12R
2.10.1.b Type of obstacle: Tree (36 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 634 ft from Centerline

2.10.1.a. Runway designation: 30L
2.10.1.b Type of obstacle: Tree (36 ft). Lighted
2.10.1.c Location of obstacle: 562 ft from Centerline

2.10.1.a. Runway designation: 17
2.10.1.b Type of obstacle: Tree (52 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 732 ft from Centerline

AD 2.12 Runway physical characteristics
2.12.1 Designation: 04
2.12.2 True Bearing: 45
2.12.3 Dimensions: 11006 ft x 150 ft
2.12.5 Coordinates: 44−52−20.15N / 93−14−17.92W
2.12.6 Threshold elevation: 833 ft
2.12.6 Touchdown zone elevation: 832 ft

2.12.1 Designation: 22
2.12.2 True Bearing: 225
2.12.3 Dimensions: 11006 ft x 150 ft
2.12.5 Coordinates: 44−53−36.98N / 93−12−29.83W
2.12.6 Threshold elevation: 830 ft
2.12.6 Touchdown zone elevation: 828 ft

2.12.1 Designation: 12L
2.12.2 True Bearing: 121
2.12.3 Dimensions: 8200 ft x 150 ft
2.12.5 Coordinates: 44−53−34.62N / 93−13−15.55W
2.12.6 Threshold elevation: 838 ft
2.12.6 Touchdown zone elevation: 838 ft

2.12.1 Designation: 30R
2.12.2 True Bearing: 301

2.12.3 Dimensions: 8200 ft x 150 ft
2.12.5 Coordinates: 44–52–52.51N / 93–11–38.27W
2.12.6 Threshold elevation: 819 ft
2.12.6 Touchdown zone elevation: 823 ft

2.12.1 Designation: 12R
2.12.2 True Bearing: 121
2.12.3 Dimensions: 10000 ft x 200 ft
2.12.5 Coordinates: 44–53–16.04N / 93–14–00.00W
2.12.6 Threshold elevation: 841 ft
2.12.6 Touchdown zone elevation: 841 ft

2.12.1 Designation: 30L
2.12.2 True Bearing: 301
2.12.3 Dimensions: 10000 ft x 200 ft
2.12.5 Coordinates: 44–52–24.67N / 93–12–00.00W
2.12.6 Threshold elevation: 814 ft
2.12.6 Touchdown zone elevation: 823 ft

2.12.1 Designation: 17
2.12.2 True Bearing: 170
2.12.3 Dimensions: 8000 ft x 150 ft
2.12.5 Coordinates: 44–53–15.91N / 93–14–32.10W
2.12.6 Threshold elevation: 840 ft
2.12.6 Touchdown zone elevation: 840 ft
2.12.7 Slope: 0.1DOWN

2.12.1 Designation: 35
2.12.2 True Bearing: 350
2.12.3 Dimensions: 8000 ft x 150 ft
2.12.5 Coordinates: 44–51–58.24N / 93–14–11.92W
2.12.6 Threshold elevation: 833 ft
2.12.6 Touchdown zone elevation: 834 ft
2.12.7 Slope: 0.1UP

AD 2.13 Declared distances
2.13.1 Designation: 04
2.13.2 Takeoff run available: 11006
2.13.3 Takeoff distance available: 11006
2.13.4 Accelerate–stop distance available: 11006
2.13.5 Landing distance available: 9456

2.13.1 Designation: 22
2.13.2 Takeoff run available: 11006
2.13.3 Takeoff distance available: 11006
2.13.4 Accelerate–stop distance available: 11006
2.13.5 Landing distance available: 10006

2.13.1 Designation: 12L
2.13.2 Takeoff run available: 8200
2.13.3 Takeoff distance available: 8200
2.13.4 Accelerate–stop distance available: 7620
2.13.5 Landing distance available: 7620

2.13.1 Designation: 30R
2.13.2 Takeoff run available: 8200
2.13.3 Takeoff distance available: 8200
2.13.4 Accelerate–stop distance available: 8200
2.13.5 Landing distance available: 8000

2.13.1 Designation: 12R
2.13.2 Takeoff run available: 10000
2.13.3 Takeoff distance available: 10000
2.13.4 Accelerate–stop distance available: 10000
2.13.5 Landing distance available: 10000

2.13.1 Designation: 30L
2.13.2 Takeoff run available: 10000
2.13.3 Takeoff distance available: 10000
2.13.4 Accelerate–stop distance available: 10000
2.13.5 Landing distance available: 10000

2.13.1 Designation: 17
2.13.2 Takeoff run available: 8000
2.13.3 Takeoff distance available: 8000
2.13.4 Accelerate–stop distance available: 8000
2.13.5 Landing distance available: 8000

2.13.1 Designation: 35
2.13.2 Takeoff run available: 8000
2.13.3 Takeoff distance available: 8000
2.13.4 Accelerate–stop distance available: 8000
2.13.5 Landing distance available: 8000

AD 2.14 Approach and runway lighting
2.14.1 Designation: 04
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 22
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 12L

2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 30R
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 12R
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 30L
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 17
2.14.4 Visual approach slope indicator system: 4–light PAPI on right

2.14.1 Designation: 35
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

AD 2.18 Air traffic services communication facilities

2.18.1 Service designation: APCH/P
2.18.3 Service designation: 119.3 MHz

2.18.1 Service designation: D–ATIS
2.18.3 Service designation: 120.8 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: CLASS B IC
2.18.3 Service designation: 121.2 MHz

2.18.1 Service designation: EMERG
2.18.3 Service designation: 121.5 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 121.8 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 121.9 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 123.95 MHz

2.18.1 Service designation: CLASS B IC
2.18.3 Service designation: 126.5 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 126.7 MHz

2.18.1 Service designation: CD/P PRE TAXI CLNC
2.18.3 Service designation: 133.2 MHz

2.18.1 Service designation: D–ATIS
2.18.3 Service designation: 135.35 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: EMERG
2.18.3 Service designation: 243 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 273.55 MHz

2.18.1 Service designation: DEP/S
2.18.3 Service designation: 284.7 MHz

2.18.1 Service designation: APCH/P
2.18.3 Service designation: 335.5 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 348.6 MHz

2.18.1 Service designation: DEP/P
2.18.3 Service designation: 357.4 MHz

2.18.1 Service designation: GND METERING
2.18.3 Service designation: 133.57 MHz

2.18.1 Service designation: DEP/P
2.18.3 Service designation: 124.7 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 127.925 MHz

2.18.1 Service designation: DEP/P
2.18.3 Service designation: 125.75 MHz

2.18.1 Service designation: PTD
2.18.3 Service designation: 282.675 MHz

2.18.1 Service designation: APCH/P
2.18.3 Service designation: 118.72 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 123.675 MHz

2.18.1 Service designation: DEP/P
2.18.3 Service designation: 132.975 MHz

2.18.1 Service designation: APCH/P
2.18.3 Service designation: 126.95 MHz

2.18.1 Service designation: PTD
2.18.3 Service designation: 324.3 MHz

2.18.1 Service designation: CLASS B IC
2.18.3 Service designation: 134.7 MHz

2.18.1 Service designation: ATIS
2.18.3 Service designation: 239.275 MHz
2.18.4 Hours of operation: 24

AD 2.19 Radio navigation and landing aids
2.19.1 ILS type: Glide Slope for runway 04. Magnetic variation: 1E
2.19.2 ILS identification: APL
2.19.5 Coordinates: 44–52–40.53N / 93–13–55.93W
2.19.6 Site elevation: 826 ft

2.19.1 ILS type: Outer Marker for runway 04. Magnetic variation: 1E
2.19.2 ILS identification: APL
2.19.5 Coordinates: 44–49–26.67N / 93–18–21.81W
2.19.6 Site elevation: ft

2.19.1 ILS type: Localizer for runway 04. Magnetic variation: 1E
2.19.2 ILS identification: APL
2.19.5 Coordinates: 44–53–44.00N / 93–12–19.96W
2.19.6 Site elevation: 830 ft

2.19.1 ILS type: Middle Marker for runway 04. Magnetic variation: 1E
2.19.2 ILS identification: APL
2.19.5 Coordinates: 44–52–19.77N / 93–14–18.50W
2.19.6 Site elevation: ft

2.19.1 ILS type: Localizer for runway 22. Magnetic variation: 1E
2.19.2 ILS identification: SIJ
2.19.5 Coordinates: 44–52–12.80N / 93–14–28.30W
2.19.6 Site elevation: 786 ft

2.19.1 ILS type: Outer Marker for runway 22. Magnetic variation: 1E
2.19.2 ILS identification: SIJ
2.19.5 Coordinates: 44–57–00.00N / 93–07–23.39W
2.19.6 Site elevation: ft

2.19.1 ILS type: Middle Marker for runway 22. Magnetic variation: 1E
2.19.2 ILS identification: SIJ
2.19.5 Coordinates: 44–53–55.58N / 93–12–00.00W
2.19.6 Site elevation: 821 ft

2.19.1 ILS type: Localizer for runway 12L. Magnetic variation: 1E
2.19.2 ILS identification: PJL
2.19.5 Coordinates: 44–52–50.33N / 93–11–33.25W
2.19.6 Site elevation: 813 ft

2.19.1 ILS type: Outer Marker for runway 12L. Magnetic variation: 1E
2.19.2 ILS identification: PJL
2.19.5 Coordinates: 44–56–37.77N / 93–20–26.52W
2.19.6 Site elevation: 900 ft

2.19.1 ILS type: Glide Slope for runway 12L. Magnetic variation: 1E
2.19.2 ILS identification: PJL
2.19.5 Coordinates: 44–53–31.06N / 93–12–56.64W
2.19.6 Site elevation: 831 ft

2.19.1 ILS type: DME for runway 12L. Magnetic variation: 1E
2.19.2 ILS identification: PJL
2.19.5 Coordinates: 44–53–00.00N / 93–11–48.84W

2.19.6 Site elevation: 813 ft

2.19.1 ILS type: Middle Marker for runway 12L.
Magnetic variation: 1E
2.19.2 ILS identification: PJL
2.19.5 Coordinates: 44–53–47.98N /
93–13–46.30W
2.19.6 Site elevation: 832 ft

2.19.1 ILS type: Inner Marker for runway 12L.
Magnetic variation: 1E
2.19.2 ILS identification: PJL
2.19.5 Coordinates: 44–53–39.68N /
93–13–25.89W
2.19.6 Site elevation: 833 ft

2.19.1 ILS type: Outer Marker for runway 30R.
Magnetic variation: 1E
2.19.2 ILS identification: INN
2.19.5 Coordinates: 44–49–57.40N /
93–05–00.00W
2.19.6 Site elevation: 821 ft

2.19.1 ILS type: DME for runway 30R. Magnetic variation: 1E
2.19.2 ILS identification: INN
2.19.5 Coordinates: 44–53–00.00N /
93–11–48.84W
2.19.6 Site elevation: 813 ft

2.19.1 ILS type: Glide Slope for runway 30R.
Magnetic variation: 1E
2.19.2 ILS identification: INN
2.19.5 Coordinates: 44–53–00.00N /
93–11–48.83W
2.19.6 Site elevation: 813 ft

2.19.1 ILS type: Middle Marker for runway 30R.
Magnetic variation: 1E
2.19.2 ILS identification: INN
2.19.5 Coordinates: 44–52–38.68N /
93–11–00.00W
2.19.6 Site elevation: 705 ft

2.19.1 ILS type: Localizer for runway 30R.
Magnetic variation: 1E
2.19.2 ILS identification: INN
2.19.5 Coordinates: 44–53–40.84N /
93–13–29.90W
2.19.6 Site elevation: 846 ft

2.19.1 ILS type: Glide Slope for runway 12R.
Magnetic variation: 1E
2.19.2 ILS identification: HKZ
2.19.5 Coordinates: 44–53–00.00N /
93–13–53.53W
2.19.6 Site elevation: 835 ft

2.19.1 ILS type: Outer Marker for runway 12R.
Magnetic variation: 1E
2.19.2 ILS identification: HKZ
2.19.5 Coordinates: 44–56–14.87N /
93–21–00.00W
2.19.6 Site elevation: ft

2.19.1 ILS type: Middle Marker for runway 12R.
Magnetic variation: 1E
2.19.2 ILS identification: HKZ
2.19.5 Coordinates: 44–53–29.37N /
93–14–33.50W
2.19.6 Site elevation: 819 ft

2.19.1 ILS type: DME for runway 12R. Magnetic variation: 1E
2.19.2 ILS identification: HKZ
2.19.5 Coordinates: 44–52–26.95N /
93–12–20.57W
2.19.6 Site elevation: 809 ft

2.19.1 ILS type: Localizer for runway 12R.
Magnetic variation: 1E
2.19.2 ILS identification: HKZ
2.19.5 Coordinates: 44–52–20.40N /
93–11–54.35W
2.19.6 Site elevation: 809 ft

2.19.1 ILS type: Inner Marker for runway 12R.
Magnetic variation: 1E
2.19.2 ILS identification: HKZ
2.19.5 Coordinates: 44–53–20.87N /
93–14–12.67W
2.19.6 Site elevation: 839 ft

2.19.1 ILS type: Glide Slope for runway 30L.
Magnetic variation: 0E
2.19.2 ILS identification: MSP
2.19.5 Coordinates: 44–52–26.97N /
93–12–20.22W
2.19.6 Site elevation: 812 ft

2.19.1 ILS type: Inner Marker for runway 30L.
Magnetic variation: 0E
2.19.2 ILS identification: MSP

2.19.5 Coordinates: 44–52–19.46N / 93–11–52.18W
2.19.6 Site elevation: 809 ft

2.19.1 ILS type: Localizer for runway 30L. Magnetic variation: 0E
2.19.2 ILS identification: MSP
2.19.5 Coordinates: 44–53–19.63N / 93–14–11.16W
2.19.6 Site elevation: 832 ft

2.19.1 ILS type: DME for runway 30L. Magnetic variation: 0E
2.19.2 ILS identification: MSP
2.19.5 Coordinates: 44–52–26.95N / 93–12–20.57W
2.19.6 Site elevation: 809 ft

2.19.1 ILS type: Middle Marker for runway 30L. Magnetic variation: 0E
2.19.2 ILS identification: MSP
2.19.5 Coordinates: 44–52–10.08N / 93–11–30.30W
2.19.6 Site elevation: 698 ft

2.19.1 ILS type: Outer Marker for runway 30L. Magnetic variation: 0E
2.19.2 ILS identification: MSP
2.19.5 Coordinates: 44–49–32.68N / 93–05–28.78W
2.19.6 Site elevation: 880 ft

2.19.1 ILS type: Localizer for runway 17. Magnetic variation: 1E
2.19.2 ILS identification: TJZ
2.19.5 Coordinates: 44–51–48.38N / 93–14–00.00W
2.19.6 Site elevation: 830 ft

2.19.1 ILS type: DME for runway 17. Magnetic variation: 1E
2.19.2 ILS identification: TJZ
2.19.5 Coordinates: 44–53–25.29N / 93–14–38.30W
2.19.6 Site elevation: 822 ft

2.19.1 ILS type: DME for runway 35. Magnetic variation: 1E
2.19.2 ILS identification: BMA
2.19.5 Coordinates: 44–53–25.29N / 93–14–38.30W
2.19.6 Site elevation: 822 ft

2.19.1 ILS type: Localizer for runway 35. Magnetic variation: 1E
2.19.2 ILS identification: BMA
2.19.5 Coordinates: 44–53–25.72N / 93–14–34.65W
2.19.6 Site elevation: 840 ft

2.19.1 ILS type: Inner Marker for runway 35. Magnetic variation: 1E
2.19.2 ILS identification: BMA
2.19.5 Coordinates: 44–51–48.33N / 93–14–00.00W
2.19.6 Site elevation: 833 ft

2.19.1 ILS type: Glide Slope for runway 35. Magnetic variation: 1E
2.19.2 ILS identification: BMA
2.19.5 Coordinates: 44–52–00.00N / 93–14–19.75W
2.19.6 Site elevation: 832 ft

General Remarks:
TRAINING FLIGHTS PROHIBITED. GA FLIGHTS MUST TERMINATE AT THE FBO OR US CUSTOMS UNLESS APPROVED BY AIRPORT MANAGER.

FOR NOISE ABATEMENT PROCEDURES CALL (612) 726–9411; NO STAGE 1 CATEGORY CIVIL AIRCRAFT; NIGHTTIME HRS ARE 2230–0600.

BIRDS ON & IN THE VICINITY OF AIRPORT.

SIGNATURE FLIGHT SUPPORT 128.95

MILITARY REMARKS: ARFC 934 AW: OPR 1300––400Z++ MON–THU, 1300–2230Z++ FRI, CLOSED WEEKEND AND HOLIDAY, CONTACT BASE OPERATIONS FOR OPR HRS DURING UNIT TRAINING ASSEMBLY WEEKEND. TRANSMIT AIRCRAFT MUST OPR 1300–2145Z++ MON–FRI, EXCEPT HOLIDAY UNLESS DIRECTLY SUPPORTING 934 AW OR OTHER SPECIAL CIRCUMSTANCES.

MILITARY RESTRICTED: NO HAZARD CL/DIV1.1 OR 1.2 EXPLOSIVES PERMITTED. LOADING OR UNLOADING OF HAZARD CL/DIV 1.3, 1.4, 1.5 0R 1.6 MUST BE APPROVE BY AIRPORT DIRECT PRIOR TO FLIGHT.

COMPLEX GEOMETRY AT RUNWAY 04 APPROACH END. RUNWAY 04 DEPARTURES CHECK COMPASS TO VERIFY CORRECT RUNWAY HEADING.

VEHICLES PARKED ALONG SOUTH END OF TAXIWAY ’S’.

133 AW BASE OPERATIONS − 324.3 REMARKS: (CALL LIGHTHOUSE).

COMMUNICATIONS: MINNEAPOLIS AIR RESERVE STATION JOINT COMMAND POST − 252.1 REMARKS: CALL NORTHSTAR.

934 AW BASE OPERATIONS − PILOT TO DISPATCH 282.675 REMARKS: (CALL VIKING OPS).

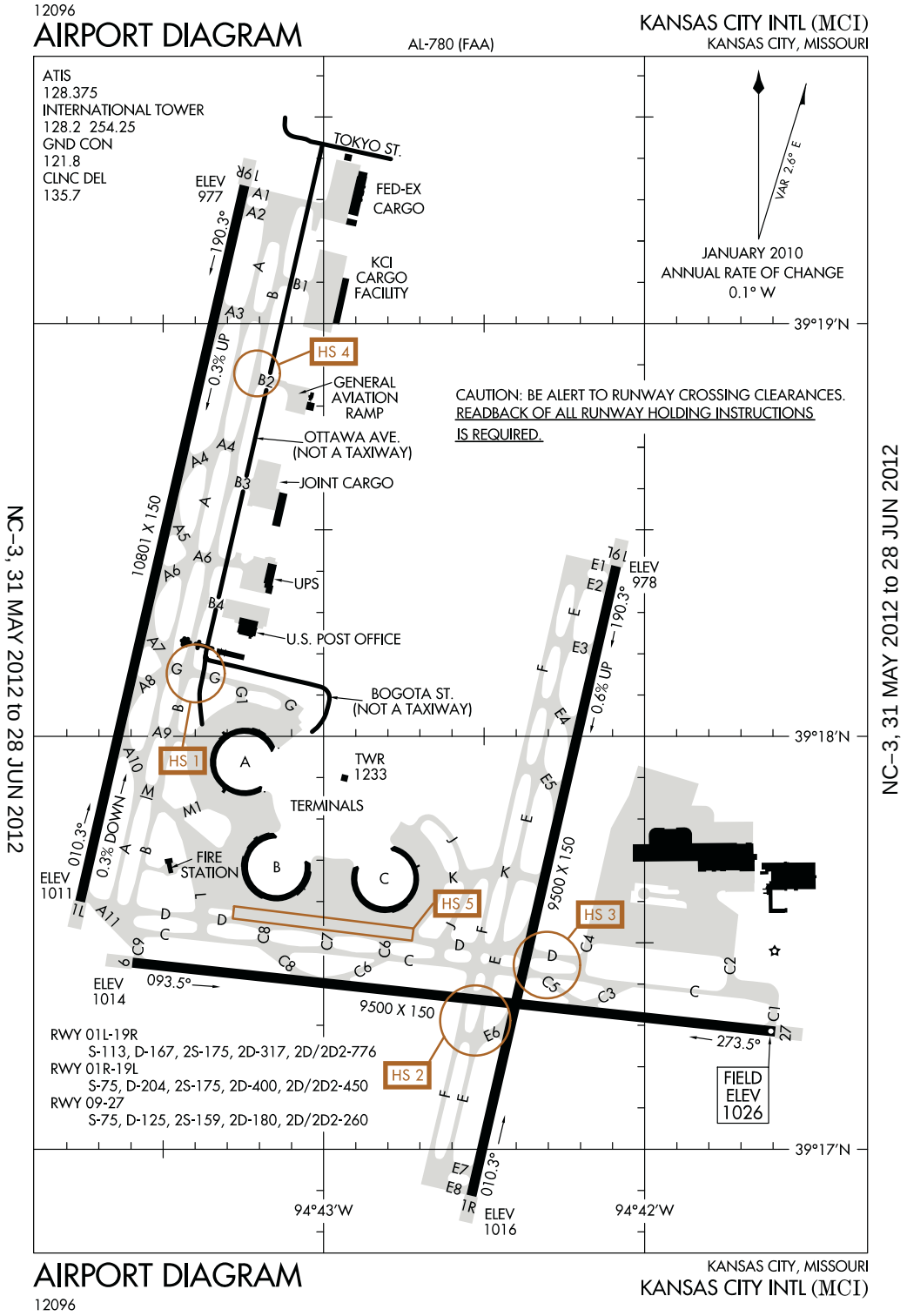
REMARKS: AFRC 934 AW: CONTACT PILOT TO DISPATCH (VIKING OPS) 20 MIN PRIOR LANDING.

ASDE−X SURVEILLANCE SYSTEM IN USE. PILOTS SHOULD OPERATE TRANSPONDERS WITH MODE C ON ALL TAXIWAYS AND RUNWAYS

ALL UNSCHEDULED AIRCRAFT AT TERMINAL 2−HUMPHREY ARE REQUIRED TO CONTACT TERMINAL 2 GATE CONTROL ON 122.95 OR CALL 612−726−5742 PRIOR TO ARR.

ALL GROUP VI AIRCRAFT, WINGSPAN GREATER THAN 214 FEET, NEED TO CONTACT AIRSIDE OPERATIONS AT (612) 726−5111 PRIOR TO ARRIVAL TO OBTAIN (PRIOR PERMISSION REQUIRED) PRIOR PERMISSION REQUIRED.

Kansas City, Missouri
Kansas City International
ICAO Identifier KMCI



Kansas City, MO
Kansas City Intl
ICAO Identifier KMCI

AD 2.2 Aerodrome geographical and administrative data
2.2.1 Reference Point: 39–17–51.38N / 94–42–50.06W
2.2.2 From City: 15 Miles NW Of Kansas City, MO
2.2.3 Elevation: 1026 ft
2.2.5 Magnetic variation: 5E (1990)
2.2.6 Airport Contact: Mr. David W. Bowen
P.O. BOX 20047
Kansas City, MO 64195
(816–243–5248)
2.2.7 Traffic: IFR/VFR

AD 2.3 Operational hours
2.3.1 – 2.3.11: ALL Months, ALL Days, ALL Hours

AD 2.4 Handling services and facilities
2.4.1 Cargo handling facilities: No
2.4.2 Fuel types: 100LL,A
2.4.4 De–icing facilities: None
2.4.5 Hangar space: No
2.4.6 Repair facilities: None

AD 2.6 Rescue and firefighting services
2.6.1 Aerodrome category for firefighting: ARFF Index I C certified on 5/1/1973

AD 2.12 Runway physical characteristics
2.12.1 Designation: 09
2.12.2 True Bearing: 96
2.12.3 Dimensions: 9500 ft x 150 ft
2.12.5 Coordinates: 39–17–27.10N / 94–43–35.73W
2.12.6 Threshold elevation: 1014 ft
2.12.6 Touchdown zone elevation: 1014 ft

2.12.1 Designation: 27
2.12.2 True Bearing: 276
2.12.3 Dimensions: 9500 ft x 150 ft
2.12.5 Coordinates: 39–17–17.08N / 94–41–35.59W
2.12.6 Threshold elevation: 1026 ft
2.12.6 Touchdown zone elevation: 1026 ft

2.12.1 Designation: 01L
2.12.2 True Bearing: 13
2.12.3 Dimensions: 10801 ft x 150 ft
2.12.5 Coordinates: 39–17–36.01N / 94–43–45.54W
2.12.6 Threshold elevation: 1011 ft
2.12.6 Touchdown zone elevation: 1011 ft

2.12.1 Designation: 19R
2.12.2 True Bearing: 193
2.12.3 Dimensions: 10801 ft x 150 ft
2.12.5 Coordinates: 39–19–20.05N / 94–43–14.79W
2.12.6 Threshold elevation: 977 ft
2.12.6 Touchdown zone elevation: 988 ft

2.12.1 Designation: 01R
2.12.2 True Bearing: 13
2.12.3 Dimensions: 9500 ft x 150 ft
2.12.5 Coordinates: 39–16–53.24N / 94–42–32.39W
2.12.6 Threshold elevation: 1016 ft
2.12.6 Touchdown zone elevation: 1016 ft

2.12.1 Designation: 19L
2.12.2 True Bearing: 193
2.12.3 Dimensions: 9500 ft x 150 ft
2.12.5 Coordinates: 39–18–24.74N / 94–42–00.00W
2.12.6 Threshold elevation: 978 ft
2.12.6 Touchdown zone elevation: 994 ft

AD 2.14 Approach and runway lighting
2.14.1 Designation: 09
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights

2.14.1 Designation: 27
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 01L
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 19R

2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration
2.14.4 Visual approach slope indicator system: 4–light PAPI on right

2.14.1 Designation: 01R
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration
2.14.4 Visual approach slope indicator system: 4–light PAPI on right

2.14.1 Designation: 19L
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights

AD 2.18 Air traffic services communication facilities
2.18.1 Service designation: CLASS B
2.18.3 Service designation: 118.9 MHz

2.18.1 Service designation: EMERG
2.18.3 Service designation: 121.5 MHz

2.18.1 Service designation: GND/S
2.18.3 Service designation: 121.65 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 121.8 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 124.7 MHz

2.18.1 Service designation: DEP/P
2.18.3 Service designation: 124.7 MHz

2.18.1 Service designation: LCL/S
2.18.3 Service designation: 125.75 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 128.2 MHz

2.18.1 Service designation: CD/P
2.18.3 Service designation: 135.7 MHz

2.18.1 Service designation: EMERG
2.18.3 Service designation: 243 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 254.25 MHz

2.18.1 Service designation: APCH/P DEP/P
2.18.3 Service designation: 284.7 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 294.7 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 294.7 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 318.1 MHz

2.18.1 Service designation: APCH/P DEP/P
2.18.3 Service designation: 318.1 MHz

2.18.1 Service designation: APCH/P
2.18.3 Service designation: 120.95 MHz

2.18.1 Service designation: DEP/P IC
2.18.3 Service designation: 123.95 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 118.4 MHz

2.18.1 Service designation: D–ATIS
2.18.3 Service designation: 128.375 MHz
2.18.4 Hours of operation: 24

AD 2.19 Radio navigation and landing aids
2.19.1 ILS type: Localizer for runway 09. Magnetic variation: 5E
2.19.2 ILS identification: RNI
2.19.5 Coordinates: 39–17–16.02N / 94–41–22.95W
2.19.6 Site elevation: 1020 ft

2.19.1 ILS type: DME for runway 09. Magnetic variation: 5E
2.19.2 ILS identification: RNI
2.19.5 Coordinates: 39–17–18.91N / 94–41–21.70W
2.19.6 Site elevation: 1032 ft

2.19.1 ILS type: Middle Marker for runway 09. Magnetic variation: 5E
2.19.2 ILS identification: RNI
2.19.5 Coordinates: 39–17–30.00N / 94–44–10.10W
2.19.6 Site elevation: ft

2.19.1 ILS type: Glide Slope for runway 09. Magnetic variation: 5E

2.19.2 ILS identification: RNI
2.19.5 Coordinates: 39–17–21.08N / 94–43–22.95W
2.19.6 Site elevation: 1010 ft

2.19.1 ILS type: Outer Marker for runway 09. Magnetic variation: 5E
2.19.2 ILS identification: RNI
2.19.5 Coordinates: 39–18–00.00N / 94–51–00.00W
2.19.6 Site elevation: ft

2.19.1 ILS type: Localizer for runway 27. Magnetic variation: 5E
2.19.2 ILS identification: UQY
2.19.5 Coordinates: 39–17–28.63N / 94–43–54.07W
2.19.6 Site elevation: 1014 ft

2.19.1 ILS type: Glide Slope for runway 27. Magnetic variation: 5E
2.19.2 ILS identification: UQY
2.19.5 Coordinates: 39–17–15.72N / 94–41–50.27W
2.19.6 Site elevation: 1016 ft

2.19.1 ILS type: DME for runway 27. Magnetic variation: 5E
2.19.2 ILS identification: UQY
2.19.5 Coordinates: 39–17–25.69N / 94–43–54.58W
2.19.6 Site elevation: 1014 ft

2.19.1 ILS type: Localizer for runway 01L. Magnetic variation: 5E
2.19.2 ILS identification: DOT
2.19.5 Coordinates: 39–19–31.13N / 94–43–11.52W
2.19.6 Site elevation: 970 ft

2.19.1 ILS type: Glide Slope for runway 01L. Magnetic variation: 5E
2.19.2 ILS identification: DOT
2.19.5 Coordinates: 39–17–48.27N / 94–43–47.13W
2.19.6 Site elevation: 1002 ft

2.19.1 ILS type: Outer Marker for runway 01L. Magnetic variation: 5E
2.19.2 ILS identification: DOT
2.19.5 Coordinates: 39–13–15.20N / 94–44–59.70W
2.19.6 Site elevation: ft

2.19.1 ILS type: Middle Marker for runway 01L. Magnetic variation: 5E
2.19.2 ILS identification: DOT
2.19.5 Coordinates: 39–17–00.00N / 94–43–53.30W
2.19.6 Site elevation: ft

2.19.1 ILS type: DME for runway 01L. Magnetic variation: 5E
2.19.2 ILS identification: DOT
2.19.5 Coordinates: 39–19–30.05N / 94–43–00.00W
2.19.6 Site elevation: 976 ft

2.19.1 ILS type: Localizer for runway 19R. Magnetic variation: 3E
2.19.2 ILS identification: PAJ
2.19.5 Coordinates: 39–17–23.80N / 94–43–49.14W
2.19.6 Site elevation: 1021 ft

2.19.1 ILS type: Glide Slope for runway 19R. Magnetic variation: 3E
2.19.2 ILS identification: PAJ
2.19.5 Coordinates: 39–19–11.06N / 94–43–22.67W
2.19.6 Site elevation: 976 ft

2.19.1 ILS type: Outer Marker for runway 19R. Magnetic variation: 3E
2.19.2 ILS identification: PAJ
2.19.5 Coordinates: 39–24–51.80N / 94–41–36.10W
2.19.6 Site elevation: 893 ft

2.19.1 ILS type: Inner Marker for runway 19R. Magnetic variation: 3E
2.19.2 ILS identification: PAJ
2.19.5 Coordinates: 39–19–30.10N / 94–43–11.80W
2.19.6 Site elevation: 969 ft

2.19.1 ILS type: Middle Marker for runway 19R. Magnetic variation: 3E
2.19.2 ILS identification: PAJ
2.19.5 Coordinates: 39–19–49.40N / 94–43–00.00W

2.19.6 Site elevation: 960 ft

2.19.1 ILS type: DME for runway 19R. Magnetic variation: 3E
2.19.2 ILS identification: PAJ
2.19.5 Coordinates: 39–17–25.77N / 94–43–51.97W
2.19.6 Site elevation: 1011 ft

2.19.1 ILS type: Localizer for runway 01R. Magnetic variation: 3E
2.19.2 ILS identification: PVL
2.19.5 Coordinates: 39–18–34.40N / 94–42–00.00W
2.19.6 Site elevation: 963 ft

2.19.1 ILS type: Middle Marker for runway 01R. Magnetic variation: 3E
2.19.2 ILS identification: PVL
2.19.5 Coordinates: 39–16–27.60N / 94–42–40.00W
2.19.6 Site elevation: 993 ft

2.19.1 ILS type: DME for runway 01R. Magnetic variation: 3E
2.19.2 ILS identification: PVL
2.19.5 Coordinates: 39–18–35.63N / 94–42–00.00W
2.19.6 Site elevation: 969 ft

2.19.1 ILS type: Inner Marker for runway 01R. Magnetic variation: 3E
2.19.2 ILS identification: PVL
2.19.5 Coordinates: 39–16–45.10N / 94–42–34.80W
2.19.6 Site elevation: 1010 ft

2.19.1 ILS type: Glide Slope for runway 01R. Magnetic variation: 3E
2.19.2 ILS identification: PVL
2.19.5 Coordinates: 39–17–00.00N / 94–42–24.22W
2.19.6 Site elevation: 1010 ft

2.19.1 ILS type: Localizer for runway 19L. Magnetic variation: 5E
2.19.2 ILS identification: DYH
2.19.5 Coordinates: 39–16–43.59N / 94–42–35.24W
2.19.6 Site elevation: 1011 ft

2.19.1 ILS type: DME for runway 19L. Magnetic variation: 5E
2.19.2 ILS identification: DYH
2.19.5 Coordinates: 39–16–43.62N / 94–42–38.55W
2.19.6 Site elevation: 1016 ft

2.19.1 ILS type: Glide Slope for runway 19L. Magnetic variation: 5E
2.19.2 ILS identification: DYH
2.19.5 Coordinates: 39–18–13.95N / 94–42–00.00W
2.19.6 Site elevation: 977 ft

2.19.1 ILS type: Middle Marker for runway 19L. Magnetic variation: 5E
2.19.2 ILS identification: DYH
2.19.5 Coordinates: 39–18–51.60N / 94–41–57.40W
2.19.6 Site elevation: 958 ft

2.19.1 ILS type: Outer Marker for runway 19L. Magnetic variation: 5E
2.19.2 ILS identification: DYH
2.19.5 Coordinates: 39–23–12.92N / 94–40–37.14W
2.19.6 Site elevation: 830 ft

General Remarks:
WATERFOWL ON AND IN THE VICINITY OF AIRPORT.

WINDSHEAR ALERT SYSTEM ON AIRPORT.

NOISE ABATEMENT PROCEDURES IN EFFECT 2200–0600 WITH LANDING ON RUNWAYS 01L & 19L; TAKEOFFS ON RUNWAYS 01R & 19R.

MILITARY AIRCRAFT MAY BE CHARGED RAMP/PARKING FEES.

FLIGHT NOTIFICATION SERVICE (ADCUS) AVAILABLE AT GATE 90.

COYOTE ON & IN THE VICINITY OF AIRPORT.

PRIOR PERMISSION REQUIRED TO PARK AT AIRLINE GATES CONTACT RESPECTIVE AIRLINE.

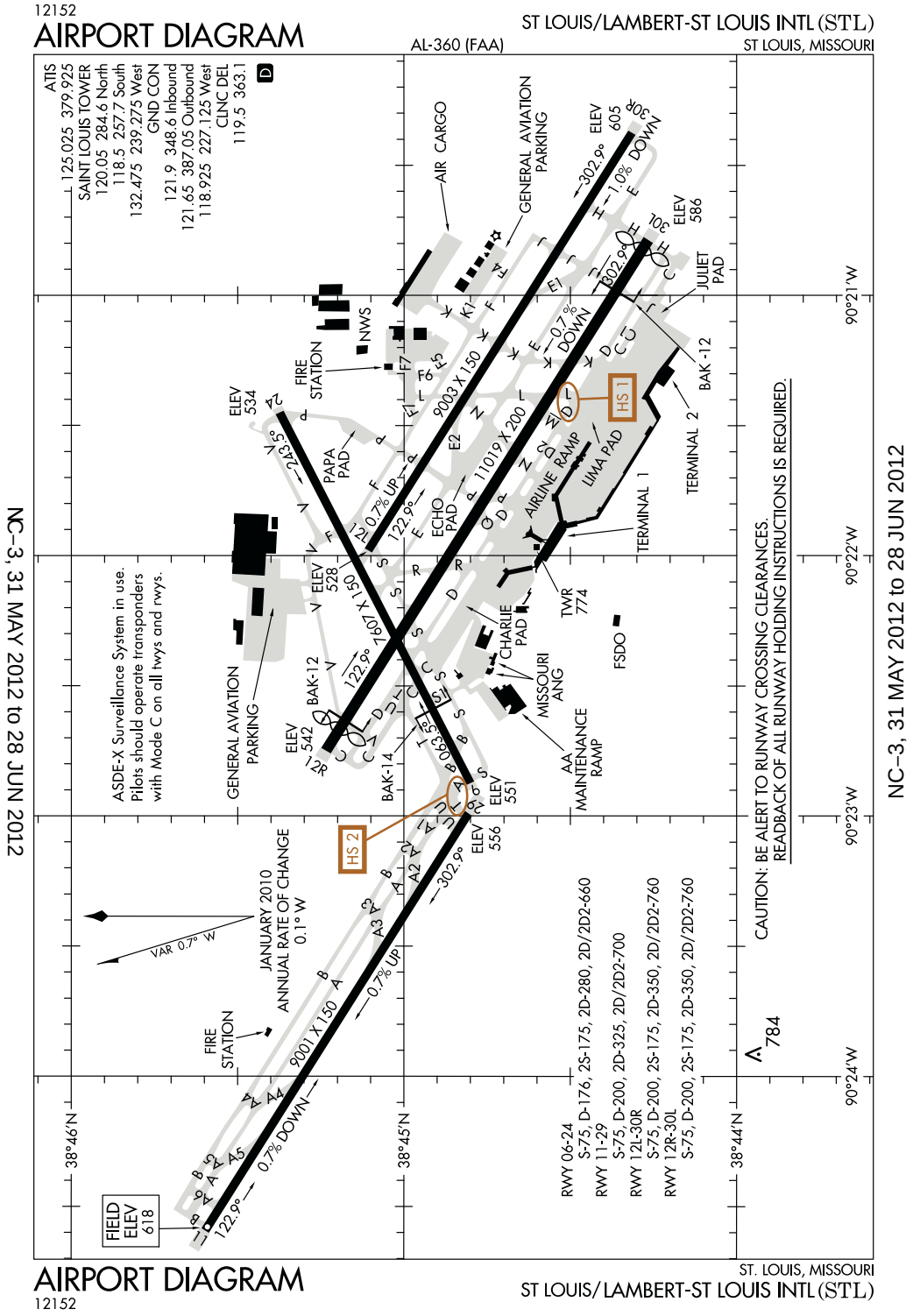
WHEN USING HIGH–SPEED EXITS C5 & C6 CONTINUE UNTIL FIRST PARALLEL TAXIWAY, THEN USE EXTREME CARE WHEN TURNING IN EXCESS OF 90 DEGREES.

NO AIRCRAFT PARKING ON POSTAL APRON.

PUSHBACK CLEARANCE REQUIRED AT GATES 45 THRU 57 IN TERMINAL B AND GATES 72, 73 AND 76 IN TERMINAL C, PUSHBACK FROM THESE GATES ENTERS TAXIWAY D.

NON CALIBRATED AIRPORT COMPASS ROSE LOCATED AT THE OVERHAUL BASE(OHB). READINGS MAY BE UNRELIABLE.

St. Louis, Missouri
Lambert–St. Louis International
ICAO Identifier KSTL



St Louis, MO
Lambert−St Louis Intl
ICAO Identifier KSTL

AD 2.2 Aerodrome geographical and administrative data
2.2.1 Reference Point: 38−44−55.31N / 90−22−12.10W
2.2.2 From City: 10 Miles NW Of St Louis, MO
2.2.3 Elevation: 618 ft
2.2.5 Magnetic variation: 0E (2000)
2.2.6 Airport Contact: Ms. Rhonda Hamm−Niebruegge
BOX 10212
St Louis, MO 63145
(314−426−8000)
2.2.7 Traffic: IFR/VFR

AD 2.3 Operational hours
2.3.1 – 2.3.11: ALL Months, ALL Days, ALL Hours

AD 2.4 Handling services and facilities
2.4.1 Cargo handling facilities: No
2.4.2 Fuel types: 100LL,A
2.4.4 De−icing facilities: None
2.4.5 Hangar space: Yes
2.4.6 Repair facilities: Major

AD 2.6 Rescue and firefighting services
2.6.1 Aerodrome category for firefighting: ARFF Index I D certified on 5/1/1973

AD 2.10 Aerodrome obstacles
2.10.1.a. Runway designation: 06
2.10.1.b Type of obstacle: Tree (31 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 250 ft from Centerline

2.10.1.a. Runway designation: 24
2.10.1.b Type of obstacle: Sign (18 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 450 ft from Centerline

2.10.1.a. Runway designation: 12L
2.10.1.b Type of obstacle: Bldg (54 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 600 ft from Centerline

2.10.1.a. Runway designation: 30R
2.10.1.b Type of obstacle: Twr (42 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 580 ft from Centerline

2.10.1.a. Runway designation: 12R
2.10.1.b Type of obstacle: Road (30 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 500 ft from Centerline

2.10.1.a. Runway designation: 30L
2.10.1.b Type of obstacle: Sign (86 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 900 ft from Centerline

AD 2.12 Runway physical characteristics
2.12.1 Designation: 06
2.12.2 True Bearing: 63
2.12.3 Dimensions: 7607 ft x 150 ft
2.12.5 Coordinates: 38−44−48.04N / 90−22−52.43W
2.12.6 Threshold elevation: 551 ft
2.12.6 Touchdown zone elevation: 551 ft

2.12.1 Designation: 24
2.12.2 True Bearing: 243
2.12.3 Dimensions: 7607 ft x 150 ft
2.12.5 Coordinates: 38−45−22.38N / 90−21−27.02W
2.12.6 Threshold elevation: 534 ft
2.12.6 Touchdown zone elevation: 534 ft

2.12.1 Designation: 30X
2.12.3 Dimensions: 0 ft x 0 ft

2.12.1 Designation: 12X
2.12.3 Dimensions: 0 ft x 0 ft

2.12.1 Designation: 11
2.12.2 True Bearing: 122
2.12.3 Dimensions: 9001 ft x 150 ft
2.12.5 Coordinates: 38−45−35.83N / 90−24−35.55W
2.12.6 Threshold elevation: 618 ft
2.12.6 Touchdown zone elevation: 618 ft

2.12.1 Designation: 29

2.12.2 True Bearing: 302
2.12.3 Dimensions: 9001 ft x 150 ft
2.12.5 Coordinates: 38–44–48.46N / 90–22–59.39W
2.12.6 Threshold elevation: 556 ft
2.12.6 Touchdown zone elevation: 580 ft

2.12.1 Designation: 12L
2.12.2 True Bearing: 122
2.12.3 Dimensions: 9003 ft x 150 ft
2.12.5 Coordinates: 38–45–00.00N / 90–21–58.66W
2.12.6 Threshold elevation: 528 ft
2.12.6 Touchdown zone elevation: 541 ft
2.12.7 Slope: 0.7UP

2.12.1 Designation: 30R
2.12.2 True Bearing: 302
2.12.3 Dimensions: 9003 ft x 150 ft
2.12.5 Coordinates: 38–44–18.99N / 90–20–22.51W
2.12.6 Threshold elevation: 604 ft
2.12.6 Touchdown zone elevation: 604 ft
2.12.7 Slope: 1DOWN

2.12.1 Designation: 12R
2.12.2 True Bearing: 122
2.12.3 Dimensions: 11019 ft x 200 ft
2.12.5 Coordinates: 38–45–14.05N / 90–22–44.97W
2.12.6 Threshold elevation: 542 ft
2.12.6 Touchdown zone elevation: 540 ft

2.12.1 Designation: 30L
2.12.2 True Bearing: 302
2.12.3 Dimensions: 11019 ft x 200 ft
2.12.5 Coordinates: 38–44–16.01N / 90–20–47.27W
2.12.6 Threshold elevation: 586 ft
2.12.6 Touchdown zone elevation: 583 ft

AD 2.13 Declared distances
2.13.1 Designation: 06
2.13.2 Takeoff run available: 7602
2.13.3 Takeoff distance available: 7602
2.13.4 Accelerate–stop distance available: 7352
2.13.5 Landing distance available: 7352

2.13.1 Designation: 24
2.13.2 Takeoff run available: 7602
2.13.3 Takeoff distance available: 7602
2.13.4 Accelerate–stop distance available: 7602
2.13.5 Landing distance available: 7602

2.13.1 Designation: 11
2.13.2 Takeoff run available: 9001
2.13.3 Takeoff distance available: 9001
2.13.4 Accelerate–stop distance available: 9001
2.13.5 Landing distance available: 9001

2.13.1 Designation: 29
2.13.2 Takeoff run available: 9001
2.13.3 Takeoff distance available: 9001
2.13.4 Accelerate–stop distance available: 9001
2.13.5 Landing distance available: 9001

2.13.1 Designation: 12L
2.13.2 Takeoff run available: 9003
2.13.3 Takeoff distance available: 9003
2.13.4 Accelerate–stop distance available: 9003
2.13.5 Landing distance available: 9003

2.13.1 Designation: 30R
2.13.2 Takeoff run available: 9003
2.13.3 Takeoff distance available: 9003
2.13.4 Accelerate–stop distance available: 9003
2.13.5 Landing distance available: 9003

2.13.1 Designation: 12R
2.13.2 Takeoff run available: 11019
2.13.3 Takeoff distance available: 11019
2.13.4 Accelerate–stop distance available: 11019
2.13.5 Landing distance available: 10562

2.13.1 Designation: 30L
2.13.2 Takeoff run available: 11019
2.13.3 Takeoff distance available: 11019
2.13.4 Accelerate–stop distance available: 11019
2.13.5 Landing distance available: 10819

AD 2.14 Approach and runway lighting
2.14.1 Designation: 06
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on right

2.14.1 Designation: 24
2.14.2 Approach lighting system: MALS: 1400 feet medium intensity approach lighting system
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 11

2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration
2.14.4 Visual approach slope indicator system: 4–light PAPI on right

2.14.1 Designation: 29
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 12L
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration
2.14.4 Visual approach slope indicator system: 4–light PAPI on right

2.14.1 Designation: 30R
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration
2.14.4 Visual approach slope indicator system: 4–light PAPI on right
2.14.10 Remarks: ALSF2 Unmonitored Except When RVR Visbelow 1800 Ft.

2.14.1 Designation: 12R
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 30L
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on right
2.14.10 Remarks: PAPI Offset 5 Degrees S To Accommodate LDA/DME Approach To Runway 30L.

AD 2.18 Air traffic services communication facilities

2.18.1 Service designation: LCL/P IC
2.18.3 Service designation: 118.5 MHz

2.18.1 Service designation: DEP/P
2.18.3 Service designation: 128.1 MHz

2.18.1 Service designation: DEP/P
2.18.3 Service designation: 119.15 MHz

2.18.1 Service designation: DEP/S
2.18.3 Service designation: 126.55 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 120.05 MHz

2.18.1 Service designation: EMERG
2.18.3 Service designation: 121.5 MHz

2.18.1 Service designation: GND CTL OUTBOUND/P
2.18.3 Service designation: 121.65 MHz

2.18.1 Service designation: GND CTL INBOUND/P
2.18.3 Service designation: 121.9 MHz

2.18.1 Service designation: APCH/S
2.18.3 Service designation: 123.7 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 124.2 MHz

2.18.1 Service designation: DEP/S
2.18.3 Service designation: 124.25 MHz

2.18.1 Service designation: APCH/P
2.18.3 Service designation: 132.125 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 126.5 MHz

2.18.1 Service designation: EMERG
2.18.3 Service designation: 243 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 254.3 MHz

2.18.1 Service designation: LCL/P IC
2.18.3 Service designation: 257.7 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 284.6 MHz

2.18.1 Service designation: DEP/P
2.18.3 Service designation: 307.05 MHz

2.18.1 Service designation: GND/S
2.18.3 Service designation: 306.2 MHz

2.18.1 Service designation: APCH/P IC
2.18.3 Service designation: 338.25 MHz

2.18.1 Service designation: DEP/P
2.18.3 Service designation: 335.5 MHz

2.18.1 Service designation: GND CTL INBOUND/P
2.18.3 Service designation: 348.6 MHz

2.18.1 Service designation: APCH/P
2.18.3 Service designation: 360.6 MHz

2.18.1 Service designation: CD/P
2.18.3 Service designation: 363.1 MHz

2.18.1 Service designation: DEP/S
2.18.3 Service designation: 270.35 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 353.9 MHz

2.18.1 Service designation: GND METER EAST
2.18.3 Service designation: 127.55 MHz

2.18.1 Service designation: CD/P
2.18.3 Service designation: 119.5 MHz

2.18.1 Service designation: D–ATIS
2.18.3 Service designation: 125.025 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: D–ATIS
2.18.3 Service designation: 379.925 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: GND CTL OUTBOUND/P
2.18.3 Service designation: 387.05 MHz

2.18.1 Service designation: GND METER EAST
2.18.3 Service designation: 360.2 MHz

2.18.1 Service designation: GND METER WEST
2.18.3 Service designation: 121.075 MHz

2.18.1 Service designation: GND METER WEST
2.18.3 Service designation: 346.35 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 132.475 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 239.275 MHz

2.18.1 Service designation: GND CTL/P
2.18.3 Service designation: 118.925 MHz

2.18.1 Service designation: GND CTL/P
2.18.3 Service designation: 227.125 MHz

2.18.1 Service designation: PRM
2.18.3 Service designation: 278.3 MHz

2.18.1 Service designation: PRM
2.18.3 Service designation: 351.9 MHz

2.18.1 Service designation: APCH/P IC
2.18.3 Service designation: 121.02 MHz

AD 2.19 Radio navigation and landing aids

2.19.1 ILS type: Glide Slope for runway 06. Magnetic variation: 0E
2.19.2 ILS identification: JAK
2.19.5 Coordinates: 38–44–54.72N / 90–22–40.02W
2.19.6 Site elevation: 536 ft

2.19.1 ILS type: Localizer for runway 06. Magnetic variation: 0E
2.19.2 ILS identification: JAK
2.19.5 Coordinates: 38–45–25.79N / 90–21–18.61W
2.19.6 Site elevation: 541 ft

2.19.1 ILS type: DME for runway 06. Magnetic variation: 0E
2.19.2 ILS identification: JAK
2.19.5 Coordinates: 38–44–39.67N / 90–23–00.00W
2.19.6 Site elevation: 556 ft

2.19.1 ILS type: Localizer for runway 24. Magnetic variation: 0E
2.19.2 ILS identification: STL
2.19.5 Coordinates: 38–44–43.52N / 90–23–00.00W
2.19.6 Site elevation: 545 ft

2.19.1 ILS type: DME for runway 24. Magnetic variation: 0E
2.19.2 ILS identification: STL
2.19.5 Coordinates: 38–44–39.67N / 90–23–00.00W
2.19.6 Site elevation: 540 ft

2.19.1 ILS type: Glide Slope for runway 24. Magnetic variation: 0E
2.19.2 ILS identification: STL
2.19.5 Coordinates: 38–45–13.62N / 90–21–37.59W
2.19.6 Site elevation: 528 ft

2.19.1 ILS type: Middle Marker for runway 24. Magnetic variation: 0E
2.19.2 ILS identification: STL
2.19.5 Coordinates: 38–45–37.15N / 90–20–50.60W
2.19.6 Site elevation: ft

2.19.1 ILS type: Outer Marker for runway 24. Magnetic variation: 0E
2.19.2 ILS identification: STL
2.19.5 Coordinates: 38–47–16.98N / 90–16–43.91W
2.19.6 Site elevation: ft

2.19.1 ILS type: DME for runway 30X. Magnetic variation: 0E
2.19.2 ILS identification: RMK
2.19.5 Coordinates: 38–45–34.14N / 90–23–30.20W
2.19.6 Site elevation: 583 ft

2.19.1 ILS type: Localizer for runway 30X. Magnetic variation: 0E
2.19.2 ILS identification: RMK
2.19.5 Coordinates: 38–45–33.46N / 90–23–28.96W
2.19.6 Site elevation: 580 ft

2.19.1 ILS type: Glide Slope for runway 30X. Magnetic variation: 0E
2.19.2 ILS identification: RMK
2.19.5 Coordinates: 38–44–28.10N / 90–21–00.00W
2.19.6 Site elevation: 564 ft

2.19.1 ILS type: DME for runway 12X. Magnetic variation: 0E
2.19.2 ILS identification: LDZ
2.19.5 Coordinates: 38–44–10.39N / 90–20–12.05W
2.19.6 Site elevation: 616 ft

2.19.1 ILS type: Glide Slope for runway 12X. Magnetic variation: 0E
2.19.2 ILS identification: LDZ
2.19.5 Coordinates: 38–44–58.22N / 90–21–50.34W
2.19.6 Site elevation: 534 ft

2.19.1 ILS type: Inner Marker for runway 12X. Magnetic variation: 0E
2.19.2 ILS identification: LDZ
2.19.5 Coordinates: 38–45–11.93N / 90–22–00.00W
2.19.6 Site elevation: 530 ft

2.19.1 ILS type: Middle Marker for runway 12X. Magnetic variation: 0E
2.19.2 ILS identification: LDZ
2.19.5 Coordinates: 38–45–21.22N / 90–22–28.71W
2.19.6 Site elevation: 545 ft

2.19.1 ILS type: Localizer for runway 12X. Magnetic variation: 0E
2.19.2 ILS identification: LDZ
2.19.5 Coordinates: 38–44–13.67N / 90–20–11.72W
2.19.6 Site elevation: 602 ft

2.19.1 ILS type: Outer Marker for runway 12X. Magnetic variation: 0E
2.19.2 ILS identification: LDZ
2.19.5 Coordinates: 38–48–00.00N / 90–28–29.10W
2.19.6 Site elevation: 446 ft

2.19.1 ILS type: Inner Marker for runway 11. Magnetic variation: 0E
2.19.2 ILS identification: OGZ
2.19.5 Coordinates: 38–45–40.35N / 90–24–44.74W
2.19.6 Site elevation: 614 ft

2.19.1 ILS type: DME for runway 11. Magnetic variation: 0E
2.19.2 ILS identification: OGZ
2.19.5 Coordinates: 38–44–36.71N / 90–22–41.69W
2.19.6 Site elevation: 548 ft

2.19.1 ILS type: Glide Slope for runway 11. Magnetic variation: 0E
2.19.2 ILS identification: OGZ
2.19.5 Coordinates: 38–45–26.04N / 90–24–25.38W
2.19.6 Site elevation: 598 ft

2.19.1 ILS type: Localizer for runway 11. Magnetic variation: 0E
2.19.2 ILS identification: OGZ
2.19.5 Coordinates: 38–44–38.72N / 90–22–39.63W
2.19.6 Site elevation: 545 ft

2.19.1 ILS type: Inner Marker for runway 29. Magnetic variation: 0E
2.19.2 ILS identification: RQN
2.19.5 Coordinates: 38–44–41.36N / 90–22–44.97W
2.19.6 Site elevation: 541 ft

2.19.1 ILS type: Localizer for runway 29. Magnetic variation: 0E
2.19.2 ILS identification: RQN
2.19.5 Coordinates: 38–45–41.35N / 90–24–46.77W
2.19.6 Site elevation: 613 ft

2.19.1 ILS type: DME for runway 29. Magnetic variation: 0E
2.19.2 ILS identification: RQN
2.19.5 Coordinates: 38–45–43.83N / 90–24–44.64W
2.19.6 Site elevation: 608 ft

2.19.1 ILS type: Glide Slope for runway 29. Magnetic variation: 0E
2.19.2 ILS identification: RQN
2.19.5 Coordinates: 38–44–49.83N / 90–23–11.86W
2.19.6 Site elevation: 556 ft

2.19.1 ILS type: Localizer for runway 12L. Magnetic variation: 0E
2.19.2 ILS identification: ABW
2.19.5 Coordinates: 38–45–20.83N / 90–21–11.28W
2.19.6 Site elevation: 566 ft

2.19.1 ILS type: DME for runway 12L. Magnetic variation: 0E
2.19.2 ILS identification: ABW
2.19.5 Coordinates: 38–45–23.25N / 90–21–00.00W
2.19.6 Site elevation: 563 ft

2.19.1 ILS type: DME for runway 30R. Magnetic variation: 0E
2.19.2 ILS identification: SJW
2.19.5 Coordinates: 38–45–14.12N / 90–22–00.00W
2.19.6 Site elevation: 546 ft

2.19.1 ILS type: Middle Marker for runway 30R. Magnetic variation: 0E
2.19.2 ILS identification: SJW
2.19.5 Coordinates: 38–44–00.00N / 90–19–57.56W
2.19.6 Site elevation: 534 ft

2.19.1 ILS type: Inner Marker for runway 30R. Magnetic variation: 0E
2.19.2 ILS identification: SJW
2.19.5 Coordinates: 38–44–14.66N / 90–20–13.73W
2.19.6 Site elevation: 602 ft

2.19.1 ILS type: Outer Marker for runway 30R. Magnetic variation: 0E
2.19.2 ILS identification: SJW
2.19.5 Coordinates: 38–41–46.48N / 90–15–44.59W
2.19.6 Site elevation: 530 ft

2.19.1 ILS type: Localizer for runway 30R. Magnetic variation: 0E
2.19.2 ILS identification: SJW
2.19.5 Coordinates: 38–45–11.41N / 90–22–00.00W
2.19.6 Site elevation: 530 ft

2.19.1 ILS type: Glide Slope for runway 30R. Magnetic variation: 0E
2.19.2 ILS identification: SJW
2.19.5 Coordinates: 38–44–21.96N / 90–20–38.02W
2.19.6 Site elevation: 592 ft

2.19.1 ILS type: Localizer for runway 12R. Magnetic variation: 0E
2.19.2 ILS identification: LMR
2.19.5 Coordinates: 38–44–11.62N / 90–20–38.31W
2.19.6 Site elevation: 589 ft

2.19.1 ILS type: Outer Marker for runway 12R.
Magnetic variation: 0E
2.19.2 ILS identification: LMR
2.19.5 Coordinates: 38−48−00.00N /
90−28−29.10W
2.19.6 Site elevation: 446 ft

2.19.1 ILS type: Glide Slope for runway 12R.
Magnetic variation: 0E
2.19.2 ILS identification: LMR
2.19.5 Coordinates: 38−45−00.00N /
90−22−24.90W
2.19.6 Site elevation: 532 ft

2.19.1 ILS type: Middle Marker for runway 12R.
Magnetic variation: 0E
2.19.2 ILS identification: LMR
2.19.5 Coordinates: 38−45−32.78N /
90−23−23.72W
2.19.6 Site elevation: ft

2.19.1 ILS type: DME for runway 12R. Magnetic variation: 0E
2.19.2 ILS identification: LMR
2.19.5 Coordinates: 38−44−10.45N /
90−20−42.27W
2.19.6 Site elevation: 597 ft

2.19.1 ILS type: Localizer for runway 30L.
Magnetic variation: 0E
2.19.2 ILS identification: BKY
2.19.5 Coordinates: 38−45−17.77N /
90−22−52.48W
2.19.6 Site elevation: 549 ft

2.19.1 ILS type: Outer Marker for runway 30L.
Magnetic variation: 0E
2.19.2 ILS identification: BKY
2.19.5 Coordinates: 38−41−45.98N /
90−15−44.21W
2.19.6 Site elevation: 530 ft

2.19.1 ILS type: Glide Slope for runway 30L.
Magnetic variation: 0E
2.19.2 ILS identification: BKY
2.19.5 Coordinates: 38−44−27.94N /
90−21−00.00W
2.19.6 Site elevation: 564 ft

2.19.1 ILS type: Middle Marker for runway 30L.
Magnetic variation: 0E
2.19.2 ILS identification: BKY
2.19.5 Coordinates: 38−44−00.00N /
90−20−20.21W
2.19.6 Site elevation: 590 ft

General Remarks:
NO DESIGNATED TAXILANES OR APRON TAXIWAYS LOCATED ON AIR CARRIER RAMPS.

WAIVER TO CONDUCT SIMULTANEOUS APPROACHES TO PARALLEL RUNWAYS SEPARATED BY 1,300 FT IN EFFECT.

WG TIP CLEARANCE WITH GROUND VEH NOT ADEQUATE ALONG N SIDE OF MAIN TERMINAL APRON.

MISC: MILITARY AIRCRAFT PLANNING TO ARR WHEN WX IS ANTICIPATED TO BE LESS THAN 1200’/5 MUST FILE F;T PLAN BEFORE 0900Z++.

ASDE−X SURVEILLANCE SYSTEM I USE: PILOTS SHOULD OPERATE TRANSPONDERS WITH MODE C ON ALL TAXIWAYS AND RUNWAYS.

NO SERVICE AT MISSOURI ANG RAMP. BASE RE−ALIGNMENT IN PROCESS.

ARRESTING GEAR: A−G ARE KEPT IN RECESSED POSITION UNTIL REQ FOR USE. TOWER MUST BE NOTIFIED AT LEAST 5 SECOND PRIOR TO ENGAGEMENT SO THAT CABLE MAY BE RAISED.

ARRESTING GEAR: RUNWAY 06 1450 FT; RUNWAY 12R 1090 FT & RUNWAY 30L 1300 FT FROM THR.

TAXIWAY D OR TAXILANE C FROM TAXIWAY S TO TAXIWAY H, B−747 OR LARGER AIRCRAFT ARE NOT AUTHORIZED TO PASS OR BE PASSED BY B−767 OR LARGER AIRCRAFT OPERATING ON THE PARALLEL TWY/TAXILANE.

TAXIWAY P, EAST OF THE PAPA PAD TO TAXIWAY F, RESTRICTED TO AIRCRAFT WITH A WINGSPAN OF LESS THAN 79 FT (JS–41 AND E–120), WHEN AIRCRAFT ARE PARKED ON THE PAPA PAD. THIS AREA IS RESTRICTED TO ALL OPERATIONS WHEN AIRCRAFT ARE PERFORMING ENGINE RUN–UPS IN THE PAPA PAD.

TAXIWAY V, UNDERLYING THE RUNWAY 12L FINAL APPROACH COURSE IS RESTRICTED TO AIRCRAFT SMALLER THAN A DC–9 (25 FT OR LESS), WHEN AIRCRAFT ARE LANDING ON RUNWAY 12L.

TAXIWAY E, BETWEEN TAXIWAY P AND TAXIWAY N, RESTRICTED TO B–767 OR SMALLER AIRCRAFT (WINGSPAN LESS THAN 171 FT) WHEN AIRCRAFT ARE PARKED ON THE ECHO PAD.

TAXIWAY C, EAST OF TAXIWAY D ONE TO THE APPROACH END OF RUNWAY 30L, RESTRICTED TO B–727 OR SMALLER AIRCRAFT (WINGSPAN OF 118 FT OR LESS) WHEN AIRCRAFT ARE PARKED ON THE JULIET PAD.

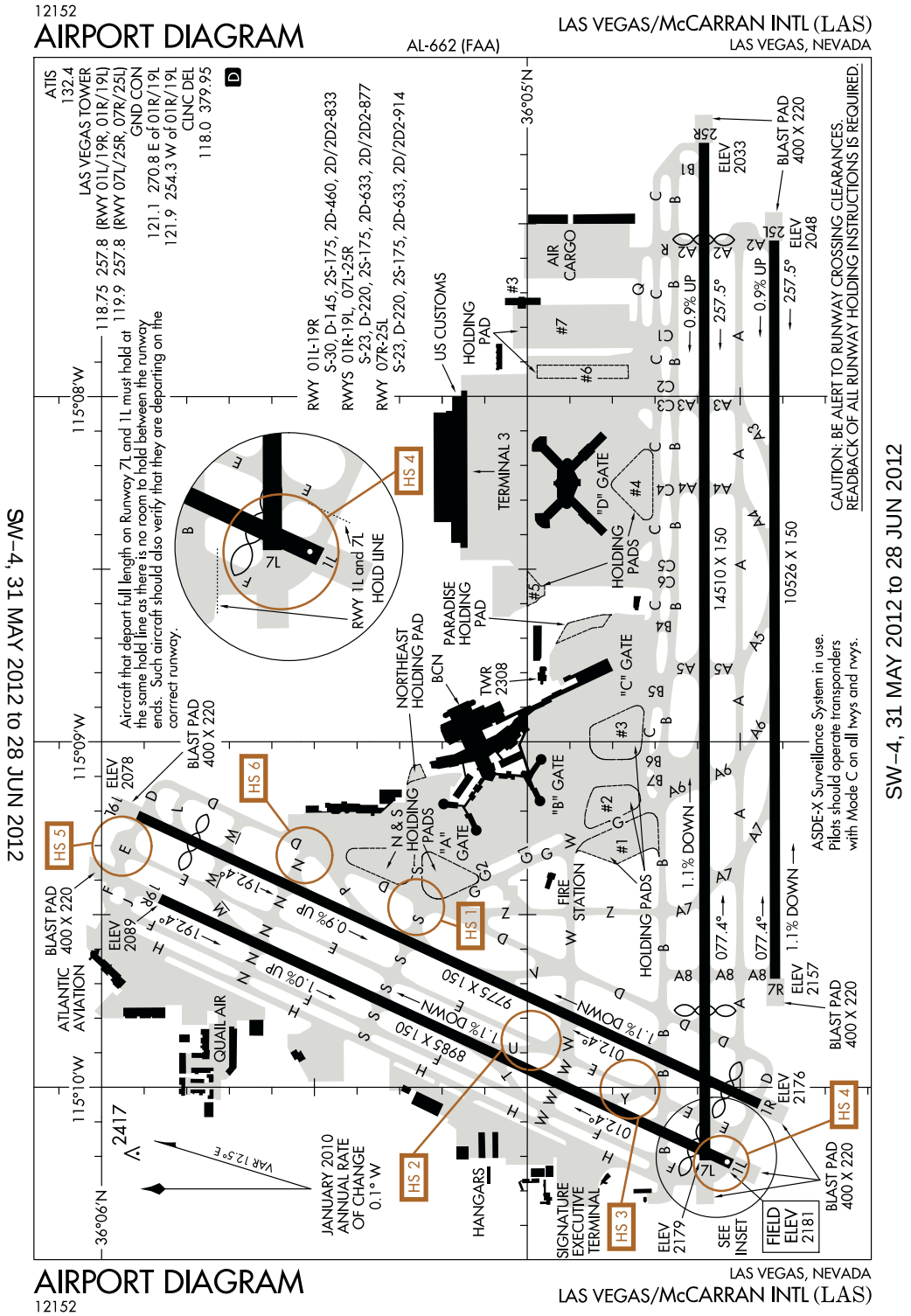
TAXILANE C, FROM TAXIWAY S TO TAXIWAY R, RESTRICTED TO B–767 OR SMALLER AIRCRAFT (156 FT AVBL) WHEN AFTER ARE PARKED IN THE CHARLIE PAD. RESTRICTION IS FOR TAXIING AIRCRAFT, LARGER AIRCRAFT MAY BE TOWED THROUGH THE AREA.

TAXILANE C FROM TAXIWAY P TO TAXIWAY L, RESTRICTED TO A B–757 300 SERIES OR SMALLER WHEN PASSING BEHIND AIRCRAFT THAT HAVE MADE THE INITIAL 10 FT PUSHBACK.

TAXIWAY A EAST OF TAXIWAY T, TAXIWAY S AND RUNWAY 06/24 SOUTH OF TAXIWAY B, NO AIRCRAFT OR VEHICLE OPERATIONS WHEN ARRIVING OR DEPARTING RUNWAY 11 OR ARRIVING RUNWAY 29.

TAXIWAY L NORTH OF RUNWAY 12L/30R, AIRCRAFT LARGER THAN A G5 TAXIING NORTHBOUND ARE PROHIBITED FROM MAKING A RIGHT TURN EASTBOUND ON TAXIWAY F.

Las Vegas, Nevada
McCarren International
ICAO Identifier KLAS



Las Vegas, NV
Mc Carran Intl
ICAO Identifier KLAS

AD 2.2 Aerodrome geographical and administrative data
2.2.1 Reference Point: 36–04–48.20N / 115–09–00.00W
2.2.2 From City: 5 Miles S Of Las Vegas, NV
2.2.3 Elevation: 2181 ft
2.2.5 Magnetic variation: 15E (1980)
2.2.6 Airport Contact: Randall H. Walker
5757 WAYNE NEWTON BLVD
Las Vegas, NV 89119
(702–261–5211)
2.2.7 Traffic: IFR/VFR

AD 2.3 Operational hours
2.3.1 – 2.3.11: ALL Months, ALL Days, ALL Hours

AD 2.4 Handling services and facilities
2.4.1 Cargo handling facilities: No
2.4.2 Fuel types: 100,100LL,A1+
2.4.4 De–icing facilities: None
2.4.5 Hangar space: Yes
2.4.6 Repair facilities: Major

AD 2.6 Rescue and firefighting services
2.6.1 Aerodrome category for firefighting: ARFF Index I E certified on 5/1/1973

AD 2.10 Aerodrome obstacles
2.10.1.a. Runway designation: 07L
2.10.1.b Type of obstacle: Hangar (25 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 500 ft from Centerline

2.10.1.a. Runway designation: 07R
2.10.1.b Type of obstacle: Pole (53 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 540 ft from Centerline

2.10.1.a. Runway designation: 01L
2.10.1.b Type of obstacle: Rr (48 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 500 ft from Centerline

2.10.1.a. Runway designation: 19R
2.10.1.b Type of obstacle: Fence (25 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 150 ft from Centerline

2.10.1.a. Runway designation: 01R
2.10.1.b Type of obstacle: Rr (41 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 600 ft from Centerline

2.10.1.a. Runway designation: 19L
2.10.1.b Type of obstacle: Pole (17 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 17 ft from Centerline

AD 2.12 Runway physical characteristics
2.12.1 Designation: 07L
2.12.2 True Bearing: 90
2.12.3 Dimensions: 14510 ft x 150 ft
2.12.5 Coordinates: 36–04–34.92N / 115–10–12.68W
2.12.6 Threshold elevation: 2179 ft
2.12.6 Touchdown zone elevation: 2155 ft
2.12.7 Slope: 1.1DOWN

2.12.1 Designation: 25R
2.12.2 True Bearing: 270
2.12.3 Dimensions: 14510 ft x 150 ft
2.12.5 Coordinates: 36–04–35.06N / 115–07–15.96W
2.12.6 Threshold elevation: 2033 ft
2.12.6 Touchdown zone elevation: 2067 ft
2.12.7 Slope: 1.9UP

2.12.1 Designation: 07R
2.12.2 True Bearing: 90
2.12.3 Dimensions: 10526 ft x 150 ft
2.12.5 Coordinates: 36–04–25.06N / 115–09–41.16W
2.12.6 Threshold elevation: 2157 ft
2.12.6 Touchdown zone elevation: 2157 ft
2.12.7 Slope: 1.1DOWN

2.12.1 Designation: 25L
2.12.2 True Bearing: 270
2.12.3 Dimensions: 10526 ft x 150 ft
2.12.5 Coordinates: 36–04–25.16N / 115–07–32.96W

2.12.6 Threshold elevation: 2048 ft
2.12.6 Touchdown zone elevation: 2068 ft
2.12.7 Slope: 0.9UP

2.12.1 Designation: 01L
2.12.2 True Bearing: 25
2.12.3 Dimensions: 8985 ft x 150 ft
2.12.5 Coordinates: 36–04–31.20N / 115–10–13.29W
2.12.6 Threshold elevation: 2181 ft
2.12.6 Touchdown zone elevation: 2176 ft
2.12.7 Slope: 1.1DOWN

2.12.1 Designation: 19R
2.12.2 True Bearing: 205
2.12.3 Dimensions: 8985 ft x 150 ft
2.12.5 Coordinates: 36–05–51.76N / 115–09–27.19W
2.12.6 Threshold elevation: 2089 ft
2.12.6 Touchdown zone elevation: 2117 ft
2.12.7 Slope: 1UP

2.12.1 Designation: 01R
2.12.2 True Bearing: 25
2.12.3 Dimensions: 9775 ft x 150 ft
2.12.5 Coordinates: 36–04–27.28N / 115–10–00.00W
2.12.6 Threshold elevation: 2176 ft
2.12.6 Touchdown zone elevation: 2170 ft
2.12.7 Slope: 1.1DOWN

2.12.1 Designation: 19L
2.12.2 True Bearing: 205
2.12.3 Dimensions: 9775 ft x 150 ft
2.12.5 Coordinates: 36–05–54.93N / 115–09–12.78W
2.12.6 Threshold elevation: 2078 ft
2.12.6 Touchdown zone elevation: 2113 ft
2.12.7 Slope: 0.9UP

AD 2.13 Declared distances
2.13.1 Designation: 07L
2.13.2 Takeoff run available: 14510
2.13.3 Takeoff distance available: 15099
2.13.4 Accelerate–stop distance available: 14099
2.13.5 Landing distance available: 11966

2.13.1 Designation: 25R
2.13.2 Takeoff run available: 14510
2.13.3 Takeoff distance available: 15155
2.13.4 Accelerate–stop distance available: 14155
2.13.5 Landing distance available: 12755

2.13.1 Designation: 01L
2.13.2 Takeoff run available: 8985
2.13.3 Takeoff distance available: 8985
2.13.4 Accelerate–stop distance available: 8985
2.13.5 Landing distance available: 8401

2.13.1 Designation: 19R
2.13.2 Takeoff run available: 8985
2.13.3 Takeoff distance available: 9397
2.13.4 Accelerate–stop distance available: 8397
2.13.5 Landing distance available: 8397

2.13.1 Designation: 01R
2.13.2 Takeoff run available: 9775
2.13.3 Takeoff distance available: 10172
2.13.4 Accelerate–stop distance available: 9441
2.13.5 Landing distance available: 8681

2.13.1 Designation: 19L
2.13.2 Takeoff run available: 9775
2.13.3 Takeoff distance available: 10175
2.13.4 Accelerate–stop distance available: 9685
2.13.5 Landing distance available: 8745

AD 2.14 Approach and runway lighting
2.14.1 Designation: 07L
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 25R
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 07R
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 25L
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 01L
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 19R
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 01R
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 19L
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

AD 2.18 Air traffic services communication facilities
2.18.1 Service designation: CD
2.18.3 Service designation: 118 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 118.4 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 118.75 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 119.9 MHz

2.18.1 Service designation: VFR FINAL APCH
2.18.3 Service designation: 120.45 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 121.1 MHz

2.18.1 Service designation: EMERG
2.18.3 Service designation: 121.5 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 121.9 MHz

2.18.1 Service designation: RAMP CON
2.18.3 Service designation: 124.4 MHz

2.18.1 Service designation: DEP/P
2.18.3 Service designation: 125.9 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 125.9 MHz

2.18.1 Service designation: RAMP CON
2.18.3 Service designation: 127.9 MHz

2.18.1 Service designation: D–ATIS
2.18.3 Service designation: 132.4 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: EMERG
2.18.3 Service designation: 243 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 257.8 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 379.15 MHz

2.18.1 Service designation: APCH/P
2.18.3 Service designation: 379.15 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 379.15 MHz

2.18.1 Service designation: DEP/P
2.18.3 Service designation: 379.15 MHz

2.18.1 Service designation: CD
2.18.3 Service designation: 379.95 MHz

2.18.1 Service designation: APCH/P
2.18.3 Service designation: 125.025 MHz

2.18.1 Service designation: DEP/P
2.18.3 Service designation: 125.02 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 125.02 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 125.02 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 353.7 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 353.7 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 254.3 MHz

2.18.1 Service designation: DEP/P
2.18.3 Service designation: 307.25 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 270.8 MHz

2.18.1 Service designation: RAMP CON
2.18.3 Service designation: 129.175 MHz

AD 2.19 Radio navigation and landing aids
2.19.1 ILS type: Glide Slope for runway 25R.
Magnetic variation: 15E
2.19.2 ILS identification: LAS
2.19.5 Coordinates: 36–04–32.08N / 115–07–46.67W

2.19.6 Site elevation: 2047 ft

2.19.1 ILS type: Outer Marker for runway 25R.
Magnetic variation: 15E
2.19.2 ILS identification: LAS
2.19.5 Coordinates: 36–04–35.71N /
115–01–16.98W
2.19.6 Site elevation: ft

2.19.1 ILS type: Middle Marker for runway 25R.
Magnetic variation: 15E
2.19.2 ILS identification: LAS
2.19.5 Coordinates: 36–04–35.10N /
115–06–44.40W
2.19.6 Site elevation: ft

2.19.1 ILS type: Localizer for runway 25R.
Magnetic variation: 15E
2.19.2 ILS identification: LAS
2.19.5 Coordinates: 36–04–34.91N /
115–10–19.18W
2.19.6 Site elevation: 2187 ft

2.19.1 ILS type: DME for runway 25R. Magnetic variation: 15E
2.19.2 ILS identification: LAS
2.19.5 Coordinates: 36–04–30.52N /
115–10–19.17W
2.19.6 Site elevation: 2203 ft

2.19.1 ILS type: Localizer for runway 25L.
Magnetic variation: 15E
2.19.2 ILS identification: RLE
2.19.5 Coordinates: 36–04–25.05N /
115–09–53.34W
2.19.6 Site elevation: 2168 ft

2.19.1 ILS type: Glide Slope for runway 25L.
Magnetic variation: 15E
2.19.2 ILS identification: RLE
2.19.5 Coordinates: 36–04–21.99N /
115–07–46.66W
2.19.6 Site elevation: 2051 ft

2.19.1 ILS type: Glide Slope for runway 01L.
Magnetic variation: 14E
2.19.2 ILS identification: CUA
2.19.5 Coordinates: 36–04–49.14N /
115–10–00.00W
2.19.6 Site elevation: 2159 ft

2.19.1 ILS type: Localizer for runway 01L.
Magnetic variation: 14E
2.19.2 ILS identification: CUA
2.19.5 Coordinates: 36–06–00.00N /
115–09–21.99W
2.19.6 Site elevation: 2079 ft

2.19.1 ILS type: DME for runway 01L. Magnetic variation: 14E
2.19.2 ILS identification: CUA
2.19.5 Coordinates: 36–06–00.00N /
115–09–25.07W
2.19.6 Site elevation: 2093 ft

General Remarks:
EXTENSIVE GLIDER/SOARING OPERATIONS WEEKENDS & HOLS; SR–SS; LAS R187/020; ALTITUDES UP TO BUT NOT INCLUDING FL180. GLIDERS REMAIN CLEAR OF THE TCA BUT OTHERWISE OPERATE WITHIN THE ENTIRE SW QUADRANT OF THE TCA VEIL.

ALL NON–STD RUNWAY OPERATIONS PRIOR PERMISSION REQUIRED FROM DEPT OF AVIATION.

TURBOJET DEPS NOT PERMITTED ON RUNWAY 01R/19L OR RUNWAY 01L/19R 2000–0800. EXCEPTIONS FOR WX OR OPERATIONAL NECESSITY.

AIRCRAFT MAY EXPERIENCE REFLECTION OF SUN FROM GLASS HOTELS LOCATED NW OF AIRPORT. REFLECTION MAY OCCUR AT VARIOUS ALTITUDES HEADINGS & DISTANCES FROM AIRPORT.

DIRECTIONAL TAXIWAY SIGNS WILL BE INCOMPLETE DUE TO CONSTRUCTION.

GENERAL AVIATION PARKING VERY LIMITED. FOR PARKING AVAILABILITY CONTACT EITHER FBO (702) 736–1830 OR (702) 739–1100.

RUNWAY 01L/19R 496000 LBS GROSS WEIGHT FOR L–1011; 555000 LBS GROSS WEIGHT FOR DC–10; 602500 LBS GROSS WEIGHT FOR MD–11.

RUNWAY 07L 589 FT CLEARWAY; RUNWAY 25R 645 FT CLEARWAY.

LIGHTED GOLF RANGE 1400 FT SOUTH OF RUNWAYS 01L/19R AND O1R/19L.

TIEDOWN FEE.

(E98) PLUS 64 SHELTERS & 24 SHEDS.

AIRCRAFT USING FULL LENGTH DEP ON RUNWAY 07L USE MINIMAL POWER UNTIL PASSING THE POWER–UP POINT ON RUNWAY. POWER–UP POINT IS 348 FT EAST OF BALST PAD AND MARKED WITH SIGN AND STANDARD MARKINGS FOR BEGINNING OF RUNWAY.

LARGE NUMBERS OF BIRDS AND BATS IN THE VICINITY OF OF AIRPORT BETWEEN SUNSET AND SUNRISE.

AIRCRAFT DEPARTING RUNWAY 19R USE MINIMAL POWER UNTIL PASSING THE RUNWAY THRESHOLD. RUNWAY 19R THRESHOLD HAS STANDARD RUNWAY MARKINGS AND IS 780 FT SOUTH OF THE BLAST PAD.

AIRCRAFT OPER NEAR THE INTERSECTION OF TAXIWAYS S, D, G AND THE NORTH END OF TAXIWAY Z SHOULD BE ALERT AS THERE ARE CLOSELY ALIGNED TAXIWAY CENTERLINES AND RADIUS TURNS.

AIRCRAFT THAT DEPART FULL LENGTH OF RUNWAYS 01L AND 07L MUST HOLD AT THE SAME HOLD LINE AS THERE IS NO ROOM TO HOLD BETWEEN THE RUNWAY ENDS AND SUCH AIRCRAFT SHOULD VERIFY THAT THEY ARE ON THE CORRECT RUNWAY.

GENERAL AVIATION CUSTOMS AND IMIGRATION LOCATED WEST SIDE OF AIRFIELD BETWEEN FBO’S.

AIRCRAFT LARGER THAN B757 PRIOR PERMISSION REQUIRED FROM DEPT OF AVIATION TO USE TAXIWAY H.

NUMEROUS HELICOPTER OPERATIONS ON WEST SIDE OF AIRPORT.

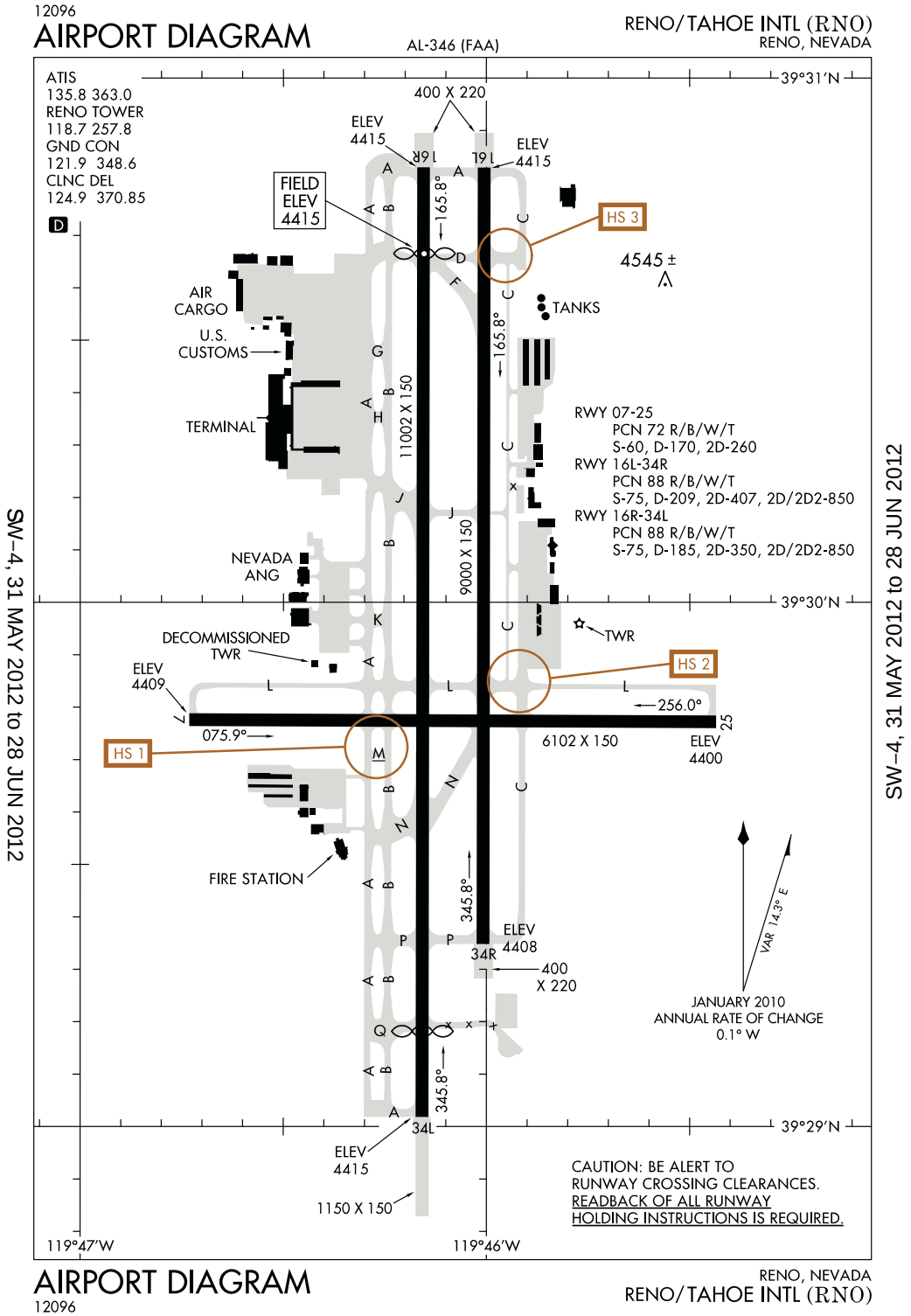
ASDE–X SURVEILLANCE SYSTEM IN USE: PILOTS SHOULD OPERATE TRANSPONDERS WITH MODE C ON ALL TAXIWAYS AND RUNWAYS.

GENERAL AVIATION AIRCRAFT REQUIRING IMMIGRATION/CUSTOMS SERVICES MUST CONTACT DEPARTMENT OF AVIATION FOR PARKING ARRANGEMENTS MINIMUM 2 HRS PRIOR TO ARRIVAL 702–261–4411. GENERAL AVIATION AIRCRAFT USING THE WEST SIDE CUSTOMS FACILITY MUST CONTACT RAMP CONTROL 124.4.

AIRCRAFT TAXIING WESTBOUND ON TAXIWAY B NEAR TAXIWAY E USE CARE NOT TO ENTER THE RUNWAY ON TAXIWAY Y, AIRCRAFT TAXIING WESTBOUND ON TAXIWAY W NEAR TAXIWAY E USE CARE NOT TO ENTER THE RUNWAY ON TAXIWAY U.

TAXIWAY C HAS NO CENTERLINE LIGHTS WEST OF TAXIWAY B6, HAS EDGE LIGHTS ON SOUTH SIDE OF TAXIWAY IN THIS AREA.

Reno, Nevada
Reno/Tahoe International
ICAO Identifier KRNO



Reno, NV
Reno/Tahoe Intl
ICAO Identifier KRNO

AD 2.2 Aerodrome geographical and administrative data
2.2.1 Reference Point: 39–29–56.80N / 119–46–00.00W
2.2.2 From City: 3 Miles SE Of Reno, NV
2.2.3 Elevation: 4415 ft
2.2.5 Magnetic variation: 16E (1985)
2.2.6 Airport Contact: Krys T. Bart
P O BOX 12490
Reno, NV 89510
(775–328–6400)
2.2.7 Traffic: IFR/VFR

AD 2.3 Operational hours
2.3.1 – 2.3.11: ALL Months, ALL Days, ALL Hours

AD 2.4 Handling services and facilities
2.4.1 Cargo handling facilities: No
2.4.2 Fuel types: 100LL,A1+
2.4.4 De–icing facilities: None
2.4.5 Hangar space: No
2.4.6 Repair facilities: Major

AD 2.6 Rescue and firefighting services
2.6.1 Aerodrome category for firefighting: ARFF Index I C certified on 5/1/1973

AD 2.10 Aerodrome obstacles
2.10.1.a. Runway designation: 07
2.10.1.b Type of obstacle: Pole (118 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 500 ft from Centerline

2.10.1.a. Runway designation: 25
2.10.1.b Type of obstacle: Tree (44 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 275 ft from Centerline

2.10.1.a. Runway designation: 34L
2.10.1.b Type of obstacle: Gnd (243 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 1500 ft from Centerline

AD 2.12 Runway physical characteristics
2.12.1 Designation: 07
2.12.2 True Bearing: 90
2.12.3 Dimensions: 6102 ft x 150 ft
2.12.4 PCN: 72 R/B/W/T
2.12.5 Coordinates: 39–29–46.63N / 119–46–43.82W
2.12.6 Threshold elevation: 4409 ft
2.12.6 Touchdown zone elevation: 4409 ft

2.12.1 Designation: 25
2.12.2 True Bearing: 270
2.12.3 Dimensions: 6102 ft x 150 ft
2.12.4 PCN: 72 R/B/W/T
2.12.5 Coordinates: 39–29–46.37N / 119–45–25.99W
2.12.6 Threshold elevation: 4400 ft
2.12.6 Touchdown zone elevation: 4402 ft

2.12.1 Designation: 16L
2.12.2 True Bearing: 180
2.12.3 Dimensions: 9000 ft x 150 ft
2.12.4 PCN: 88 R/B/W/T
2.12.5 Coordinates: 39–30–49.82N / 119–46–00.00W
2.12.6 Threshold elevation: 4415 ft
2.12.6 Touchdown zone elevation: 4415 ft

2.12.1 Designation: 34R
2.12.2 True Bearing: 0
2.12.3 Dimensions: 9000 ft x 150 ft
2.12.4 PCN: 88 R/B/W/T
2.12.5 Coordinates: 39–29–20.89N / 119–46–00.00W
2.12.6 Threshold elevation: 4408 ft
2.12.6 Touchdown zone elevation: 4408 ft

2.12.1 Designation: 16R
2.12.2 True Bearing: 180
2.12.3 Dimensions: 11002 ft x 150 ft
2.12.4 PCN: 88 R/B/W/T
2.12.5 Coordinates: 39–30–49.84N / 119–46–00.00W
2.12.6 Threshold elevation: 4415 ft
2.12.6 Touchdown zone elevation: 4415 ft

2.12.1 Designation: 34L
2.12.2 True Bearing: 0
2.12.3 Dimensions: 11002 ft x 150 ft
2.12.4 PCN: 88 R/B/W/T
2.12.5 Coordinates: 39–29–00.00N / 119–46–00.00W

2.12.6 Threshold elevation: 4415 ft
2.12.6 Touchdown zone elevation: 4410 ft

AD 2.13 Declared distances
2.13.1 Designation: 07
2.13.2 Takeoff run available: 6102
2.13.3 Takeoff distance available: 6102
2.13.4 Accelerate−stop distance available: 5854
2.13.5 Landing distance available: 5854

2.13.1 Designation: 25
2.13.2 Takeoff run available: 6102
2.13.3 Takeoff distance available: 6102
2.13.4 Accelerate−stop distance available: 6102
2.13.5 Landing distance available: 6102

AD 2.14 Approach and runway lighting
2.14.1 Designation: 07
2.14.4 Visual approach slope indicator system: 4−light PAPI on left

2.14.1 Designation: 25
2.14.4 Visual approach slope indicator system: 4−light PAPI on left
2.14.10 Remarks: PAPI Not To Be Used Beyond 2 Nm Due To Rapidly Rising Mountainous Terrain

2.14.1 Designation: 16L
2.14.4 Visual approach slope indicator system: 4−light PAPI on left

2.14.1 Designation: 34R
2.14.4 Visual approach slope indicator system: 4−light PAPI on left
2.14.10 Remarks: PAPI Not To Be Used Beyond 6 Nm Due To High Terrain.

2.14.1 Designation: 16R
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4−light PAPI on left

2.14.1 Designation: 34L
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4−light PAPI on left
2.14.10 Remarks: PAPI Not To Be Used Beyond 6 Nm Due To High Terrain.

AD 2.18 Air traffic services communication facilities
2.18.1 Service designation: LCL/P
2.18.3 Service designation: 118.7 MHz

2.18.1 Service designation: EMERG
2.18.3 Service designation: 121.5 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 121.9 MHz

2.18.1 Service designation: CD/P
2.18.3 Service designation: 124.9 MHz

2.18.1 Service designation: D−ATIS
2.18.3 Service designation: 135.8 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: EMERG
2.18.3 Service designation: 243 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 257.8 MHz

2.18.1 Service designation: ANG/OPS
2.18.3 Service designation: 280 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 348.6 MHz

2.18.1 Service designation: ANG COMD POST/BASEOPS
2.18.3 Service designation: 8780 MHz
2.18.6 Remarks: Callsign − Caprock.

2.18.1 Service designation: D−ATIS
2.18.3 Service designation: 363 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: CD/P
2.18.3 Service designation: 370.85 MHz

2.18.1 Service designation: ANG COMD POST/BASEOPS
2.18.3 Service designation: 378.4 MHz
2.18.6 Remarks: Callsign − Caprock.

AD 2.19 Radio navigation and landing aids
2.19.1 ILS type: DME for runway 16R. Magnetic variation: 16E
2.19.2 ILS identification: RNO
2.19.5 Coordinates: 39−28−48.05N / 119−46−00.00W

2.19.6 Site elevation: 4410 ft

2.19.1 ILS type: Glide Slope for runway 16R.
Magnetic variation: 16E
2.19.2 ILS identification: RNO
2.19.5 Coordinates: 39–30–28.10N /
119–46–00.00W
2.19.6 Site elevation: 4408 ft

2.19.1 ILS type: Outer Marker for runway 16R.
Magnetic variation: 16E
2.19.2 ILS identification: RNO
2.19.5 Coordinates: 39–36–27.48N /
119–46–00.00W
2.19.6 Site elevation: ft

2.19.1 ILS type: Middle Marker for runway 16R.
Magnetic variation: 16E
2.19.2 ILS identification: RNO
2.19.5 Coordinates: 39–31–10.35N /
119–46–00.00W
2.19.6 Site elevation: ft

2.19.1 ILS type: Localizer for runway 16R.
Magnetic variation: 16E
2.19.2 ILS identification: RNO
2.19.5 Coordinates: 39–28–49.52N /
119–46–00.00W
2.19.6 Site elevation: 4420 ft

2.19.1 ILS type: Localizer for runway 34L.
Magnetic variation: 16E
2.19.2 ILS identification: AGY
2.19.5 Coordinates: 39–30–59.98N /
119–46–00.00W
2.19.6 Site elevation: 4418 ft

2.19.1 ILS type: DME for runway 34L. Magnetic variation: 16E
2.19.2 ILS identification: AGY
2.19.5 Coordinates: 39–31–00.00N /
119–46–12.58W
2.19.6 Site elevation: 4420 ft

2.19.1 ILS type: Glide Slope for runway 34L.
Magnetic variation: 16E
2.19.2 ILS identification: AGY
2.19.5 Coordinates: 39–29–19.55N /
119–46–00.00W
2.19.6 Site elevation: 4402 ft

General Remarks:
WATERFOWL ALL QUADRANTS ALL SEASONS. CONCENTRATED NW OF RUNWAY 16R AND E OF RUNWAY 16L.

24 HRS PRIOR PERMISSION REQUIRED FOR TRANSIENT AIRCRAFT PARKING WITH WINGSPANS GREATER THAN 75'.

TAXIWAY C BETWEEN TAXIWAY L & TAXIWAY D RESTRICTED TO AIRCRAFT 60000 LBS OR LESS.

NOISE SENSITIVE AREA ALL QUADS. PILOTS OF TURBOJET AIRCRAFT USE RECOMMENDED NOISE ABATEMENT PROCS; AVAILABLE ON REQUEST.

NOISE NOTE CONT: PILOTS OF NON–TURBOJET AIRCRAFT USE BEST ABATEMENT PROCS AND SETTINGS. AVOID AS MUCH AS FEASIBLE FLYING OVER POPULATED AREAS.

MILITARY AIRCRAFT: TRANSIENT AIRCRAFT EXECUTE STRAIGHT–IN FULL STOP APPROACH. OVERHEAD PATTERN NOT AUTH FOR TRANSIENT AIRCRAFT.

MILITARY AIRCRAFT: NOISE ABATEMENT CRITICAL TERMINATE AFTERBURNER ASAP THEN CLIMB TO 6500 FT MSL ASAP.

GLIDER/SOARING OPER 30–50 MILES SOUTH OF AIRPORT DURING VFR WEATHER & MOUNTAIN WAVE WIND CONDITIONS 1100 TO SS.

PURE JET TOUCH & GO LOW APPROACH & PRACTICE INSTRUMENT APPROACHES ARE PROHIBITED; AIRCRAFT OVER 12500 LBS REQUIRE PRIOR WRITTEN APPROVAL FOR

TRAINING FLIGHTS; FOR FURTHER INFORMATION CONTACT AIRPORT OPERATIONS 1−877−736−6359.

TAXIWAY C BETWEEN TAXIWAY L AND TAXIWAY D CLOSED TO AIR CARRIER AIRCRAFT.

TAXIWAY A BETWEEN NORTH TAXIWAY B AND TAXIWAY D CLOSED TO AIRCRAFT WITH WINGSPAN GREATER THAN 149 FT.

ALL COMMERCIAL AIRCRAFT CONTACT GROUND CONTROL FOR ADVISORIES PRIOR TO PUSH BACK ON THE TERMINAL RAMP.

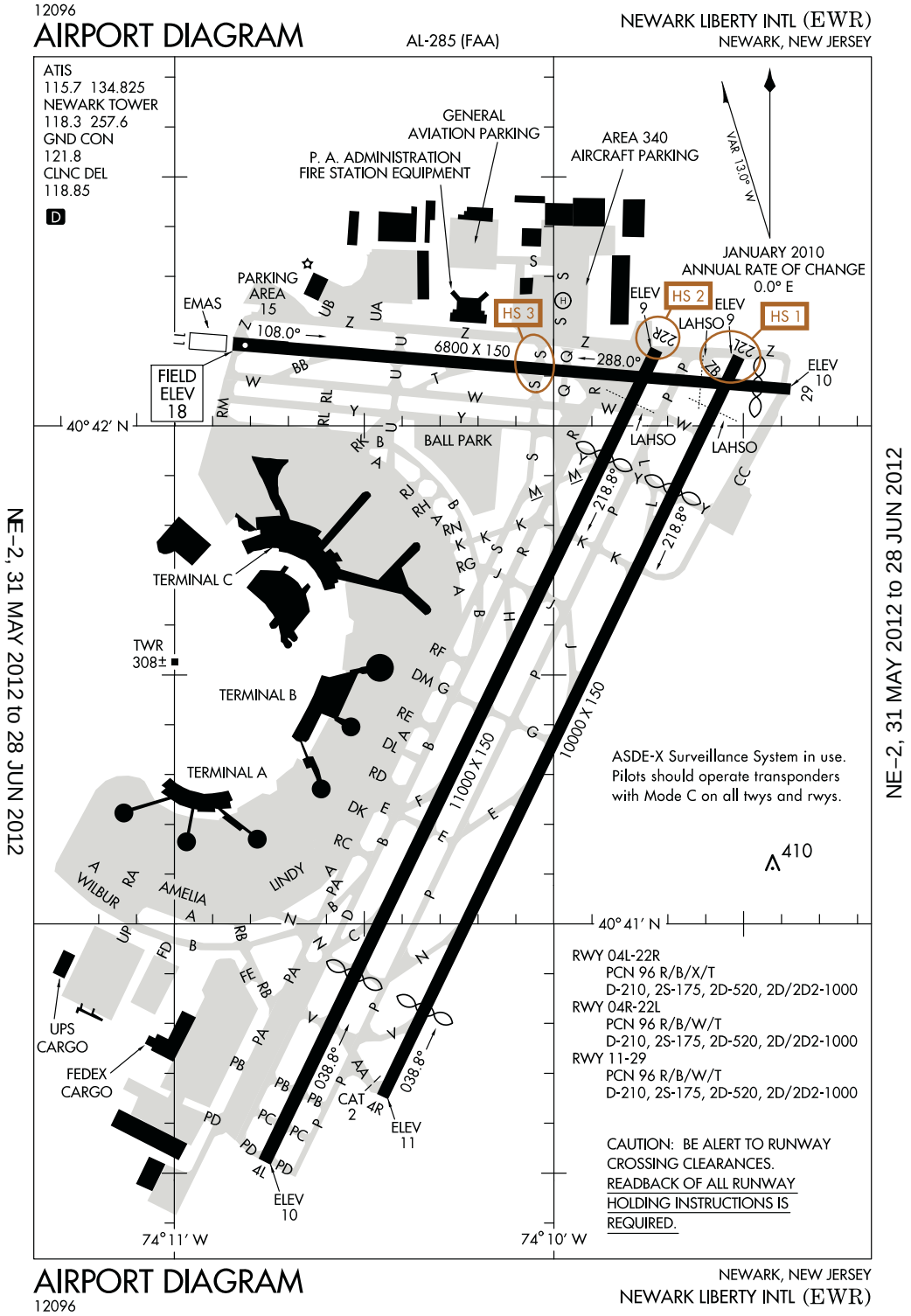
INTENSIVE GLIDER ACTIVITY IN THE VICINITY OF AIRPORT AND SURROUNDING AREAS UP TO 18,000 FT.

MILITARY: ANG OPERATIONS 1330−0200Z++ TUE−FRI EXCEPT HOLIDAY; DSN 830−4709.

TAXIWAY M CLOSED TO AIR CARRIER AIRCRAFT.

TAXIWAY J EAST OF RUNWAY 16L/34R CLOSED TO AIR CARRIER AIRCRAFT.

Newark, New Jersey
Newark Liberty International
ICAO Identifier KEWR



Newark, NJ
Newark Liberty Intl
ICAO Identifier KEWR

AD 2.2 Aerodrome geographical and administrative data
2.2.1 Reference Point: 40−41−33.00N / 74−10−00.00W
2.2.2 From City: 3 Miles S Of Newark, NJ
2.2.3 Elevation: 18 ft
2.2.5 Magnetic variation: 13W (1985)
2.2.6 Airport Contact: Huntley A. Lawrence
BUILDING #1− CONRAD ROAD
Newark, NJ 7114
(973−961−6000)
2.2.7 Traffic: IFR/VFR

AD 2.3 Operational hours
2.3.1 – 2.3.11: ALL Months, ALL Days, ALL Hours

AD 2.4 Handling services and facilities
2.4.1 Cargo handling facilities: No
2.4.2 Fuel types: 100LL,A
2.4.4 De−icing facilities: None
2.4.5 Hangar space: Yes
2.4.6 Repair facilities: Major

AD 2.6 Rescue and firefighting services
2.6.1 Aerodrome category for firefighting: ARFF Index I E certified on 5/1/1973

AD 2.10 Aerodrome obstacles
2.10.1.a. Runway designation: 11
2.10.1.b Type of obstacle: Ant (81 ft). Lighted
2.10.1.c Location of obstacle: 550 ft from Centerline

2.10.1.a. Runway designation: 29
2.10.1.b Type of obstacle: Bldg (24 ft). Lighted
2.10.1.c Location of obstacle: 450 ft from Centerline

2.10.1.a. Runway designation: 04L
2.10.1.b Type of obstacle: Tree (59 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 550 ft from Centerline

2.10.1.a. Runway designation: 22R
2.10.1.b Type of obstacle: Pole (30 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 400 ft from Centerline

2.10.1.a. Runway designation: 22L
2.10.1.b Type of obstacle: Pole (32 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 500 ft from Centerline

2.10.1.a. Runway designation: 04R
2.10.1.b Type of obstacle: Pole (51 ft). Lighted
2.10.1.c Location of obstacle: 575 ft from Centerline

AD 2.12 Runway physical characteristics
2.12.1 Designation: H1
2.12.3 Dimensions: 40 ft x 40 ft

2.12.1 Designation: 11
2.12.2 True Bearing: 95
2.12.3 Dimensions: 6800 ft x 150 ft
2.12.4 PCN: 96 R/B/W/T
2.12.5 Coordinates: 40−42−10.10N / 74−10−50.55W
2.12.6 Threshold elevation: 18 ft
2.12.6 Touchdown zone elevation: 18 ft

2.12.1 Designation: 29
2.12.2 True Bearing: 275
2.12.3 Dimensions: 6800 ft x 150 ft
2.12.4 PCN: 96 R/B/W/T
2.12.5 Coordinates: 40−42−00.00N / 74−09−22.59W
2.12.6 Threshold elevation: 10 ft
2.12.6 Touchdown zone elevation: 10 ft

2.12.1 Designation: 04L
2.12.2 True Bearing: 26
2.12.3 Dimensions: 11000 ft x 150 ft
2.12.4 PCN: 96 R/B/X/T
2.12.5 Coordinates: 40−40−31.37N / 74−10−46.02W
2.12.6 Threshold elevation: 10 ft
2.12.6 Touchdown zone elevation: 10 ft

2.12.1 Designation: 22R
2.12.2 True Bearing: 206
2.12.3 Dimensions: 11000 ft x 150 ft
2.12.4 PCN: 96 R/B/X/T

2.12.5 Coordinates: 40–42–00.00N / 74–09–43.83W
2.12.6 Threshold elevation: 9 ft
2.12.6 Touchdown zone elevation: 10 ft

2.12.1 Designation: 04R
2.12.2 True Bearing: 26
2.12.3 Dimensions: 10000 ft x 150 ft
2.12.4 PCN: 96 R/B/W/T
2.12.5 Coordinates: 40–40–39.30N / 74–10–27.28W
2.12.6 Threshold elevation: 11 ft
2.12.6 Touchdown zone elevation: 11 ft

2.12.1 Designation: 22L
2.12.2 True Bearing: 206
2.12.3 Dimensions: 10000 ft x 150 ft
2.12.4 PCN: 96 R/B/W/T
2.12.5 Coordinates: 40–42–00.00N / 74–09–30.73W
2.12.6 Threshold elevation: 9 ft
2.12.6 Touchdown zone elevation: 10 ft

AD 2.13 Declared distances
2.13.1 Designation: 11
2.13.2 Takeoff run available: 6800
2.13.3 Takeoff distance available: 6800
2.13.4 Accelerate–stop distance available: 6800
2.13.5 Landing distance available: 6800

2.13.1 Designation: 29
2.13.2 Takeoff run available: 6800
2.13.3 Takeoff distance available: 6800
2.13.4 Accelerate–stop distance available: 6800
2.13.5 Landing distance available: 6502

2.13.1 Designation: 04L
2.13.2 Takeoff run available: 11000
2.13.3 Takeoff distance available: 11000
2.13.4 Accelerate–stop distance available: 11000
2.13.5 Landing distance available: 8460

2.13.1 Designation: 22R
2.13.2 Takeoff run available: 11000
2.13.3 Takeoff distance available: 11000
2.13.4 Accelerate–stop distance available: 11000
2.13.5 Landing distance available: 9560

2.13.1 Designation: 04R
2.13.2 Takeoff run available: 10000
2.13.3 Takeoff distance available: 10000
2.13.4 Accelerate–stop distance available: 10000
2.13.5 Landing distance available: 8810

2.13.1 Designation: 22L
2.13.2 Takeoff run available: 10000
2.13.3 Takeoff distance available: 10000
2.13.4 Accelerate–stop distance available: 10000
2.13.5 Landing distance available: 8206

AD 2.14 Approach and runway lighting
2.14.1 Designation: 11
2.14.4 Visual approach slope indicator system: 4–box VASI on left

2.14.1 Designation: 29
2.14.4 Visual approach slope indicator system: 4–light PAPI on right

2.14.1 Designation: 04L
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on left
2.14.10 Remarks: Runway 04L P4L Unusable 5 Degs L Of Centerline .

2.14.1 Designation: 22R
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 04R
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 22L
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

AD 2.18 Air traffic services communication facilities
2.18.1 Service designation: D–ATIS
2.18.3 Service designation: 115.7 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 118.3 MHz

2.18.1 Service designation: CD/P PRE TAXI CLNC
2.18.3 Service designation: 118.85 MHz

2.18.1 Service designation: EMERG
2.18.3 Service designation: 121.5 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 121.8 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 127.85 MHz

2.18.1 Service designation: LCL/S
2.18.3 Service designation: 134.05 MHz

2.18.1 Service designation: EMERG
2.18.3 Service designation: 243 MHz

2.18.1 Service designation: LCL/P CLASS B
2.18.3 Service designation: 257.6 MHz

2.18.1 Service designation: D−ATIS
2.18.3 Service designation: 134.825 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: GND/S
2.18.3 Service designation: 126.15 MHz

2.18.1 Service designation: GATE HOLD
2.18.3 Service designation: 132.45 MHz

AD 2.19 Radio navigation and landing aids

2.19.1 ILS type: Localizer for runway 11. Magnetic variation: 13W
2.19.2 ILS identification: GPR
2.19.5 Coordinates: 40−42−00.00N / 74−10−00.00W
2.19.6 Site elevation: 7 ft

2.19.1 ILS type: Glide Slope for runway 11. Magnetic variation: 13W
2.19.2 ILS identification: GPR
2.19.5 Coordinates: 40−42−10.83N / 74−10−35.03W
2.19.6 Site elevation: 10 ft

2.19.1 ILS type: DME for runway 11. Magnetic variation: 13W
2.19.2 ILS identification: GPR
2.19.5 Coordinates: 40−42−00.00N / 74−10−00.00W
2.19.6 Site elevation: 7 ft

2.19.1 ILS type: Outer Marker for runway 04L. Magnetic variation: 13W
2.19.2 ILS identification: EWR
2.19.5 Coordinates: 40−35−37.20N / 74−13−48.00W
2.19.6 Site elevation: ft

2.19.1 ILS type: Middle Marker for runway 04L. Magnetic variation: 13W
2.19.2 ILS identification: EWR
2.19.5 Coordinates: 40−40−21.10N / 74−10−52.50W
2.19.6 Site elevation: ft

2.19.1 ILS type: Localizer for runway 04L. Magnetic variation: 13W
2.19.2 ILS identification: EWR
2.19.5 Coordinates: 40−42−18.19N / 74−09−38.11W
2.19.6 Site elevation: 9 ft

2.19.1 ILS type: Glide Slope for runway 04L. Magnetic variation: 13W
2.19.2 ILS identification: EWR
2.19.5 Coordinates: 40−41−00.00N / 74−10−22.76W
2.19.6 Site elevation: 7 ft

2.19.1 ILS type: DME for runway 04L. Magnetic variation: 13W
2.19.2 ILS identification: EWR
2.19.5 Coordinates: 40−42−15.69N / 74−09−33.74W
2.19.6 Site elevation: 34 ft

2.19.1 ILS type: Localizer for runway 22R. Magnetic variation: 13W
2.19.2 ILS identification: JNN
2.19.5 Coordinates: 40−40−22.39N / 74−10−51.73W
2.19.6 Site elevation: 9 ft

2.19.1 ILS type: Glide Slope for runway 22R. Magnetic variation: 13W
2.19.2 ILS identification: JNN
2.19.5 Coordinates: 40−41−47.58N / 74−09−53.89W

2.19.6 Site elevation: 8 ft

2.19.1 ILS type: Outer Marker for runway 22R.
Magnetic variation: 13W
2.19.2 ILS identification: JNN
2.19.5 Coordinates: 40–45–55.11N /
74–07–17.20W
2.19.6 Site elevation: 29 ft

2.19.1 ILS type: DME for runway 22R. Magnetic variation: 13W
2.19.2 ILS identification: JNN
2.19.5 Coordinates: 40–42–15.25N /
74–09–33.96W
2.19.6 Site elevation: 34 ft

2.19.1 ILS type: Localizer for runway 22L.
Magnetic variation: 13W
2.19.2 ILS identification: LSQ
2.19.5 Coordinates: 40–40–28.95N /
74–10–33.87W
2.19.6 Site elevation: 9 ft

2.19.1 ILS type: DME for runway 22L. Magnetic variation: 13W
2.19.2 ILS identification: LSQ
2.19.5 Coordinates: 40–41–43.55N /
74–09–41.63W
2.19.6 Site elevation: 34 ft

2.19.1 ILS type: Glide Slope for runway 22L.
Magnetic variation: 13W
2.19.2 ILS identification: LSQ
2.19.5 Coordinates: 40–41–43.70N /
74–09–41.73W
2.19.6 Site elevation: 8 ft

2.19.1 ILS type: Middle Marker for runway 22L.
Magnetic variation: 13W
2.19.2 ILS identification: LSQ
2.19.5 Coordinates: 40–42–23.50N /
74–09–20.91W
2.19.6 Site elevation: 8 ft

2.19.1 ILS type: Outer Marker for runway 22L.
Magnetic variation: 13W
2.19.2 ILS identification: LSQ
2.19.5 Coordinates: 40–45–54.50N /
74–07–16.70W
2.19.6 Site elevation: ft

2.19.1 ILS type: Glide Slope for runway 04R.
Magnetic variation: 13W
2.19.2 ILS identification: EZA
2.19.5 Coordinates: 40–40–57.59N /
74–10–00.00W
2.19.6 Site elevation: 6 ft

2.19.1 ILS type: Middle Marker for runway 04R.
Magnetic variation: 13W
2.19.2 ILS identification: EZA
2.19.5 Coordinates: 40–40–26.62N /
74–10–35.32W
2.19.6 Site elevation: 11 ft

2.19.1 ILS type: Inner Marker for runway 04R.
Magnetic variation: 13W
2.19.2 ILS identification: EZA
2.19.5 Coordinates: 40–40–41.48N /
74–10–23.17W
2.19.6 Site elevation: ft

2.19.1 ILS type: Outer Marker for runway 04R.
Magnetic variation: 13W
2.19.2 ILS identification: EZA
2.19.5 Coordinates: 40–36–26.40N /
74–13–00.00W
2.19.6 Site elevation: 10 ft

2.19.1 ILS type: Localizer for runway 04R.
Magnetic variation: 13W
2.19.2 ILS identification: EZA
2.19.5 Coordinates: 40–42–15.94N /
74–09–25.84W
2.19.6 Site elevation: 8 ft

2.19.1 ILS type: DME for runway 04R. Magnetic variation: 13W
2.19.2 ILS identification: EZA
2.19.5 Coordinates: 40–41–43.55N /
74–09–41.63W
2.19.6 Site elevation: 34 ft

General Remarks:
FLOCKS OF BIRDS ON & IN THE VICINITY OF AIRPORT.

FOR NOISE RESTRICTIONS CALL 212–435–3779 DURING NORMAL BUSINESS HOURS.

PARA−SAIL & BANNER TOWING OPERATIONS 1000 FT & BELOW IN UPPER & LOWER NEW YORK BAYS INCLUDING ROCKAWAY INLET INDEFINITELY.

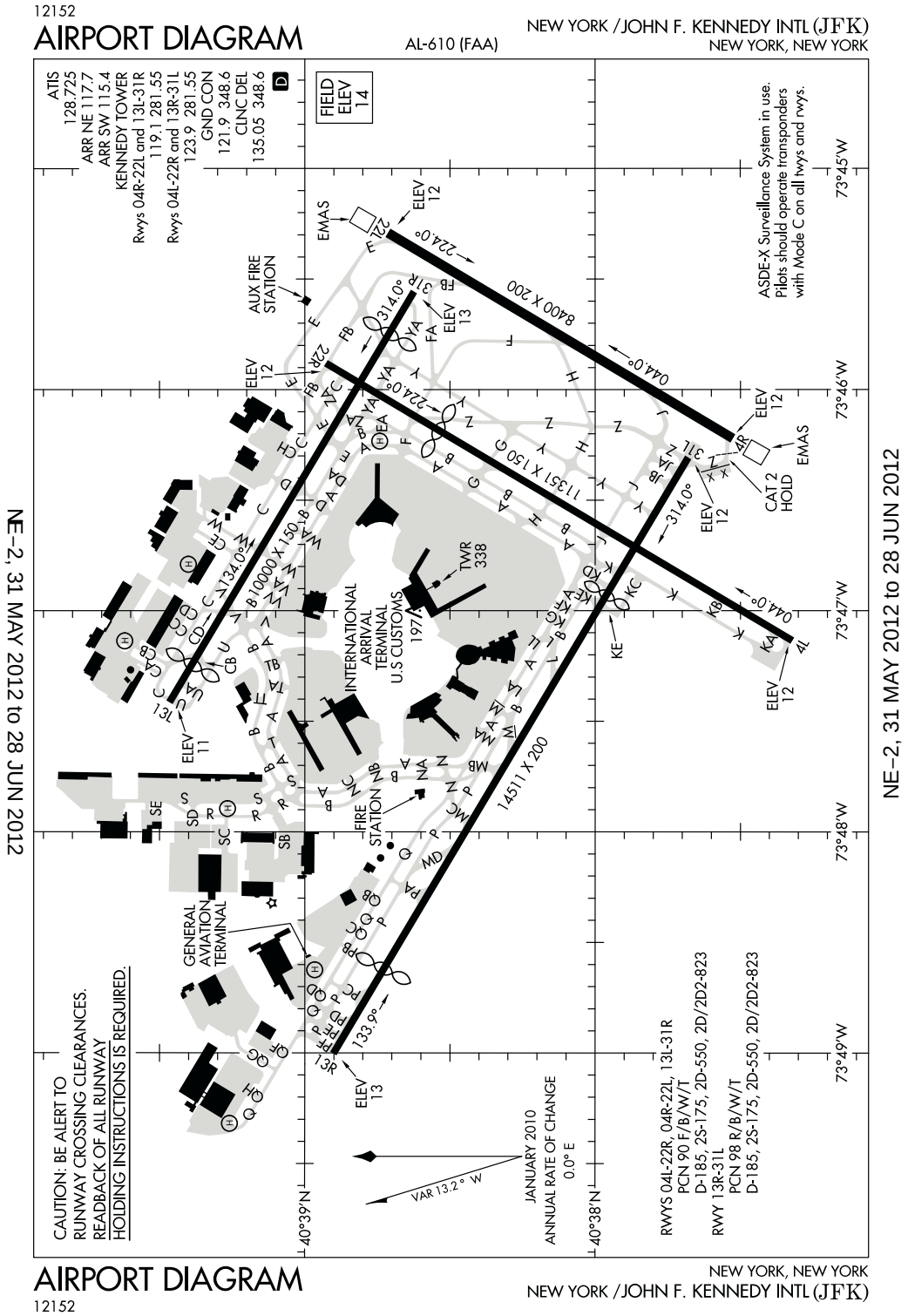
TAXIWAY Z BETWEEN TAXIWAY U & UB RESTRICTED TO NARROW BODY AIRCRAFT INDEFINITELY.

ASDE−X SURVEILLANCE SYSTEM IN USE. OPERATE TRANSPONDERS ON ALL TAXIWAYS AND RUNWAYS.

RUNWAYS 04R & 04L DEPARTURES USE UPPER ANTENNA FOR ATC COMMUNICATIONS.

HIGH VOLUME OF LOW LEVEL HELICOPTER TRAFFIC ARRIVING AND DEPARTING ANALAR−KEARNY HELIPORT (65NJ) LOCATED 3.5 MILES NORTHEAST OF THE AIRPORT.

New York, New York
John F. Kennedy International
ICAO Identifier KJFK



New York, NY
John F Kennedy Intl
ICAO Identifier KJFK

AD 2.2 Aerodrome geographical and administrative data
2.2.1 Reference Point: 40−38−23.10N / 73−46−44.13W
2.2.2 From City: 13 Miles SE Of New York, NY
2.2.3 Elevation: 14 ft
2.2.5 Magnetic variation: 14W (2000)
2.2.6 Airport Contact: Jerry Spampanato
BLDG 14
Jamaica, NY 11430
(718−244−3501)
2.2.7 Traffic: IFR/VFR

AD 2.3 Operational hours
2.3.1 – 2.3.11: ALL Months, ALL Days, ALL Hours

AD 2.4 Handling services and facilities
2.4.1 Cargo handling facilities: No
2.4.2 Fuel types: 100LL,A
2.4.4 De−icing facilities: None
2.4.5 Hangar space: Yes
2.4.6 Repair facilities: Major

AD 2.6 Rescue and firefighting services
2.6.1 Aerodrome category for firefighting: ARFF Index I E certified on 5/1/1973

AD 2.10 Aerodrome obstacles
2.10.1.a. Runway designation: 22R
2.10.1.b Type of obstacle: Fence (10 ft). Lighted
2.10.1.c Location of obstacle: 300 ft from Centerline

2.10.1.a. Runway designation: 13L
2.10.1.b Type of obstacle: Road (14 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 0 ft from Centerline

AD 2.12 Runway physical characteristics
2.12.1 Designation: 04L
2.12.2 True Bearing: 31
2.12.3 Dimensions: 11351 ft x 150 ft
2.12.4 PCN: 90 F/B/W/T
2.12.5 Coordinates: 40−37−19.26N / 73−47−00.00W
2.12.6 Threshold elevation: 12 ft
2.12.6 Touchdown zone elevation: 12 ft

2.12.1 Designation: 22R
2.12.2 True Bearing: 211
2.12.3 Dimensions: 11351 ft x 150 ft
2.12.4 PCN: 90 F/B/W/T
2.12.5 Coordinates: 40−38−55.65N / 73−45−52.80W
2.12.6 Threshold elevation: 12 ft
2.12.6 Touchdown zone elevation: 12 ft

2.12.1 Designation: H4
2.12.3 Dimensions: 60 ft x 60 ft

2.12.1 Designation: 13L
2.12.2 True Bearing: 121
2.12.3 Dimensions: 10000 ft x 150 ft
2.12.4 PCN: 90 F/B/W/T
2.12.5 Coordinates: 40−39−27.95N / 73−47−24.86W
2.12.6 Threshold elevation: 11 ft
2.12.6 Touchdown zone elevation: 12 ft

2.12.1 Designation: 31R
2.12.2 True Bearing: 301
2.12.3 Dimensions: 10000 ft x 150 ft
2.12.4 PCN: 90 F/B/W/T
2.12.5 Coordinates: 40−38−37.41N / 73−45−33.40W
2.12.6 Threshold elevation: 12 ft
2.12.6 Touchdown zone elevation: 12 ft

2.12.1 Designation: 04R
2.12.2 True Bearing: 31
2.12.3 Dimensions: 8400 ft x 200 ft
2.12.4 PCN: 90 F/B/W/T
2.12.5 Coordinates: 40−37−31.53N / 73−46−13.25W
2.12.6 Threshold elevation: 12 ft
2.12.6 Touchdown zone elevation: 12 ft

2.12.1 Designation: 22L
2.12.2 True Bearing: 211
2.12.3 Dimensions: 8400 ft x 200 ft
2.12.4 PCN: 90 F/B/W/T
2.12.5 Coordinates: 40−38−42.85N / 73−45−17.51W
2.12.6 Threshold elevation: 12 ft
2.12.6 Touchdown zone elevation: 12 ft

2.12.1 Designation: H1

2.12.3 Dimensions: 60 ft x 60 ft

2.12.1 Designation: 13R
2.12.2 True Bearing: 121
2.12.3 Dimensions: 14511 ft x 200 ft
2.12.4 PCN: 98 R/B/W/T
2.12.5 Coordinates: 40–38–54.10N / 73–49–00.00W
2.12.6 Threshold elevation: 12 ft
2.12.6 Touchdown zone elevation: 12 ft

2.12.1 Designation: 31L
2.12.2 True Bearing: 301
2.12.3 Dimensions: 14511 ft x 200 ft
2.12.4 PCN: 98 R/B/W/T
2.12.5 Coordinates: 40–37–40.78N / 73–46–18.41W
2.12.6 Threshold elevation: 12 ft
2.12.6 Touchdown zone elevation: 13 ft

2.12.1 Designation: H2
2.12.3 Dimensions: 60 ft x 60 ft

2.12.1 Designation: H3
2.12.3 Dimensions: 60 ft x 60 ft

AD 2.13 Declared distances
2.13.1 Designation: 04L
2.13.2 Takeoff run available: 11351
2.13.3 Takeoff distance available: 11351
2.13.4 Accelerate–stop distance available: 11351
2.13.5 Landing distance available: 11351

2.13.1 Designation: 22R
2.13.2 Takeoff run available: 11351
2.13.3 Takeoff distance available: 11351
2.13.4 Accelerate–stop distance available: 11351
2.13.5 Landing distance available: 8655

2.13.1 Designation: 13L
2.13.2 Takeoff run available: 10000
2.13.3 Takeoff distance available: 10000
2.13.4 Accelerate–stop distance available: 10000
2.13.5 Landing distance available: 9095

2.13.1 Designation: 31R
2.13.2 Takeoff run available: 10000
2.13.3 Takeoff distance available: 10000
2.13.4 Accelerate–stop distance available: 10000
2.13.5 Landing distance available: 8970

2.13.1 Designation: 04R
2.13.2 Takeoff run available: 8400
2.13.3 Takeoff distance available: 8400
2.13.4 Accelerate–stop distance available: 8400
2.13.5 Landing distance available: 8400

2.13.1 Designation: 22L
2.13.2 Takeoff run available: 8400
2.13.3 Takeoff distance available: 8400
2.13.4 Accelerate–stop distance available: 8400
2.13.5 Landing distance available: 8400

2.13.1 Designation: 13R
2.13.2 Takeoff run available: 14511
2.13.3 Takeoff distance available: 14511
2.13.4 Accelerate–stop distance available: 14511
2.13.5 Landing distance available: 12468

2.13.1 Designation: 31L
2.13.2 Takeoff run available: 14511
2.13.3 Takeoff distance available: 14511
2.13.4 Accelerate–stop distance available: 14511
2.13.5 Landing distance available: 11248

AD 2.14 Approach and runway lighting
2.14.1 Designation: 04L
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 13L
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration
2.14.4 Visual approach slope indicator system: 12–box VASI on both sides
2.14.10 Remarks: Runway 13L VASI Unusable Left Of Centerline .

2.14.1 Designation: 31R
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights

2.14.1 Designation: 04R
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration

2.14.1 Designation: 22L
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration

2.14.4 Visual approach slope indicator system: 4–light PAPI on left
2.14.10 Remarks: Runway 22L PAPI Horizontal Offset 4 Degrees To Left. Non Standard Light Spacing.

2.14.1 Designation: 13R
2.14.4 Visual approach slope indicator system: 4–light PAPI on left
2.14.10 Remarks: Runway 13R First P4L Horizontal Offset 22 Degs Left.
ry 13R Has Second P4L With Transitional Threshold Crossing Height And 3.00 Degrees Vgsi.

2.14.1 Designation: 31L
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

AD 2.18 Air traffic services communication facilities
2.18.1 Service designation: D–ATIS
2.18.3 Service designation: 115.4 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: D–ATIS
2.18.3 Service designation: 117.7 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 119.1 MHz

2.18.1 Service designation: EMERG
2.18.3 Service designation: 121.5 MHz

2.18.1 Service designation: GND/S
2.18.3 Service designation: 121.65 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 121.9 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 123.9 MHz

2.18.1 Service designation: GATE HOLD
2.18.3 Service designation: 125.05 MHz

2.18.1 Service designation: D–ATIS
2.18.3 Service designation: 128.725 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: CD/P PRE TAXI CLNC
2.18.3 Service designation: 135.05 MHz

2.18.1 Service designation: EMERG
2.18.3 Service designation: 243 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 281.55 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 281.55 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 281.55 MHz

2.18.1 Service designation: GND/P CD/P PRE TAXI CLNC
2.18.3 Service designation: 348.6 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 125.25 MHz

AD 2.19 Radio navigation and landing aids
2.19.1 ILS type: Localizer for runway 04L. Magnetic variation: 14W
2.19.2 ILS identification: HIQ
2.19.5 Coordinates: 40–39–00.00N / 73–45–46.62W
2.19.6 Site elevation: 13 ft

2.19.1 ILS type: DME for runway 04L. Magnetic variation: 14W
2.19.2 ILS identification: HIQ
2.19.5 Coordinates: 40–37–43.82N / 73–46–40.57W
2.19.6 Site elevation: 24 ft

2.19.1 ILS type: Outer Marker for runway 04L. Magnetic variation: 14W
2.19.2 ILS identification: HIQ
2.19.5 Coordinates: 40–35–00.00N / 73–48–56.17W
2.19.6 Site elevation: 9 ft

2.19.1 ILS type: Glide Slope for runway 04L. Magnetic variation: 14W
2.19.2 ILS identification: HIQ
2.19.5 Coordinates: 40–37–27.27N / 73–46–58.14W
2.19.6 Site elevation: 10 ft

2.19.1 ILS type: Middle Marker for runway 22R. Magnetic variation: 14W
2.19.2 ILS identification: JOC

2.19.5 Coordinates: 40–39–00.00N / 73–45–46.80W
2.19.6 Site elevation: ft

2.19.1 ILS type: Localizer for runway 22R. Magnetic variation: 14W
2.19.2 ILS identification: JOC
2.19.5 Coordinates: 40–37–44.50N / 73–46–43.09W
2.19.6 Site elevation: 9 ft

2.19.1 ILS type: Glide Slope for runway 22R. Magnetic variation: 14W
2.19.2 ILS identification: JOC
2.19.5 Coordinates: 40–38–21.28N / 73–46–13.92W
2.19.6 Site elevation: 10 ft

2.19.1 ILS type: DME for runway 22R. Magnetic variation: 14W
2.19.2 ILS identification: JOC
2.19.5 Coordinates: 40–38–53.29N / 73–45–13.18W
2.19.6 Site elevation: 29 ft

2.19.1 ILS type: Localizer for runway 13L. Magnetic variation: 14W
2.19.2 ILS identification: TLK
2.19.5 Coordinates: 40–38–30.69N / 73–45–18.57W
2.19.6 Site elevation: 14 ft

2.19.1 ILS type: Glide Slope for runway 13L. Magnetic variation: 14W
2.19.2 ILS identification: TLK
2.19.5 Coordinates: 40–39–14.74N / 73–47–00.00W
2.19.6 Site elevation: 11 ft

2.19.1 ILS type: Outer Marker for runway 13L. Magnetic variation: 14W
2.19.2 ILS identification: TLK
2.19.5 Coordinates: 40–41–40.70N / 73–52–00.00W
2.19.6 Site elevation: 126 ft

2.19.1 ILS type: Middle Marker for runway 13L. Magnetic variation: 14W
2.19.2 ILS identification: TLK
2.19.5 Coordinates: 40–39–37.10N / 73–47–44.80W
2.19.6 Site elevation: 11 ft

2.19.1 ILS type: DME for runway 13L. Magnetic variation: 14W
2.19.2 ILS identification: TLK
2.19.5 Coordinates: 40–38–33.54N / 73–45–18.24W
2.19.6 Site elevation: 31 ft

2.19.1 ILS type: Middle Marker for runway 31R. Magnetic variation: 14W
2.19.2 ILS identification: RTH
2.19.5 Coordinates: 40–38–25.00N / 73–45–00.00W
2.19.6 Site elevation: ft

2.19.1 ILS type: DME for runway 31R. Magnetic variation: 14W
2.19.2 ILS identification: RTH
2.19.5 Coordinates: 40–38–33.54N / 73–45–18.24W
2.19.6 Site elevation: 31 ft

2.19.1 ILS type: Outer Marker for runway 31R. Magnetic variation: 14W
2.19.2 ILS identification: RTH
2.19.5 Coordinates: 40–35–50.70N / 73–39–26.60W
2.19.6 Site elevation: ft

2.19.1 ILS type: Localizer for runway 31R. Magnetic variation: 14W
2.19.2 ILS identification: RTH
2.19.5 Coordinates: 40–39–30.78N / 73–47–31.09W
2.19.6 Site elevation: 12 ft

2.19.1 ILS type: Glide Slope for runway 31R. Magnetic variation: 14W
2.19.2 ILS identification: RTH
2.19.5 Coordinates: 40–38–50.33N / 73–45–51.02W
2.19.6 Site elevation: 11 ft

2.19.1 ILS type: Localizer for runway 04R. Magnetic variation: 14W
2.19.2 ILS identification: JFK
2.19.5 Coordinates: 40–38–51.57N / 73–45–10.68W
2.19.6 Site elevation: 13 ft

2.19.1 ILS type: DME for runway 04R. Magnetic variation: 14W
2.19.2 ILS identification: JFK

2.19.5 Coordinates: 40−38−53.29N / 73−45−13.18W
2.19.6 Site elevation: 29 ft

2.19.1 ILS type: Glide Slope for runway 04R. Magnetic variation: 14W
2.19.2 ILS identification: JFK
2.19.5 Coordinates: 40−37−42.10N / 73−46−11.03W
2.19.6 Site elevation: 14 ft

2.19.1 ILS type: Middle Marker for runway 04R. Magnetic variation: 14W
2.19.2 ILS identification: JFK
2.19.5 Coordinates: 40−37−00.00N / 73−46−30.60W
2.19.6 Site elevation: 12 ft

2.19.1 ILS type: Inner Marker for runway 04R. Magnetic variation: 14W
2.19.2 ILS identification: JFK
2.19.5 Coordinates: 40−37−23.90N / 73−46−19.10W
2.19.6 Site elevation: 12 ft

2.19.1 ILS type: Localizer for runway 22L. Magnetic variation: 14W
2.19.2 ILS identification: IWY
2.19.5 Coordinates: 40−37−27.51N / 73−46−16.39W
2.19.6 Site elevation: 11 ft

2.19.1 ILS type: Outer Marker for runway 22L. Magnetic variation: 14W
2.19.2 ILS identification: IWY
2.19.5 Coordinates: 40−43−31.10N / 73−41−35.40W
2.19.6 Site elevation: ft

2.19.1 ILS type: Glide Slope for runway 22L. Magnetic variation: 14W
2.19.2 ILS identification: IWY
2.19.5 Coordinates: 40−38−32.93N / 73−45−19.98W
2.19.6 Site elevation: 14 ft

2.19.1 ILS type: DME for runway 22L. Magnetic variation: 14W
2.19.2 ILS identification: IWY
2.19.5 Coordinates: 40−37−43.82N / 73−46−40.57W
2.19.6 Site elevation: 24 ft

2.19.1 ILS type: Middle Marker for runway 22L. Magnetic variation: 14W
2.19.2 ILS identification: IWY
2.19.5 Coordinates: 40−39−12.30N / 73−44−54.50W
2.19.6 Site elevation: ft

2.19.1 ILS type: Inner Marker for runway 22L. Magnetic variation: 14W
2.19.2 ILS identification: IWY
2.19.5 Coordinates: 40−38−51.13N / 73−45−11.04W
2.19.6 Site elevation: 12 ft

2.19.1 ILS type: Outer Marker for runway 31L. Magnetic variation: 14W
2.19.2 ILS identification: MOH
2.19.5 Coordinates: 40−35−27.30N / 73−41−00.00W
2.19.6 Site elevation: 6 ft

2.19.1 ILS type: Localizer for runway 31L. Magnetic variation: 14W
2.19.2 ILS identification: MOH
2.19.5 Coordinates: 40−38−59.65N / 73−49−12.42W
2.19.6 Site elevation: 14 ft

2.19.1 ILS type: Glide Slope for runway 31L. Magnetic variation: 14W
2.19.2 ILS identification: MOH
2.19.5 Coordinates: 40−37−59.87N / 73−47−00.00W
2.19.6 Site elevation: 10 ft

2.19.1 ILS type: Middle Marker for runway 31L. Magnetic variation: 14W
2.19.2 ILS identification: MOH
2.19.5 Coordinates: 40−37−39.50N / 73−46−15.80W
2.19.6 Site elevation: 12 ft

General Remarks:
FLOCKS OF BIRDS ON & IN THE VICINITY OF AIRPORT.

LDIN RUNWAY 13L USES 1000’ LIGHT STATION OF THE APPROACH LIGHT SYSTEM ONLY WITH CRI VOR APPROACHES & IS ANGLED TOWARD AQUEDUCT; ALSO 5 SEQUENCE FLASHING LIGHTS FROM 1200–2000’ & A 5 SEQUENCE FLASHING LIGHTS GROUPING APPROXIMATELY 1 MI FROM RUNWAY +1 ADJACENT FORMING APPROACH. APPROACH GATE ANGLED 35 DEGS S OF RUNWAY 13L CENTERLINE DESIGNED TO PROVIDE EARLIER IDENT OF RUNWAY ENVI.

FOR NOISE RESTRICTIONS CALL 212–435–3685 DURING NORMAL BUSINESS HOURS.

AIRCRAFT PROHIBITED IN THE RUNUP BLOCK AREAS AT TAXIWAY Z. TO BE USED FOR TURN AROUND ONLY.

PARA–SAIL & BANNER TOWING OPERATIONS 1000 FT & BELOW IN UPPER & LOWER NEW YORK BAYS INCLUDING ROCKAWAY INLET INDEFINITELY..

SPECIAL AIR TRAFFIC RULES–PART 93 HIGH DENSITY AIRPORT. PRIOR RESERVATION REQUIRED. SEE AERONAUTICAL INFORMATION MANUAL.

GA TRAFFIC CONTACT AIRPORT OPERATIONS ON UNICOM FOR PARKING DIRECTIONS

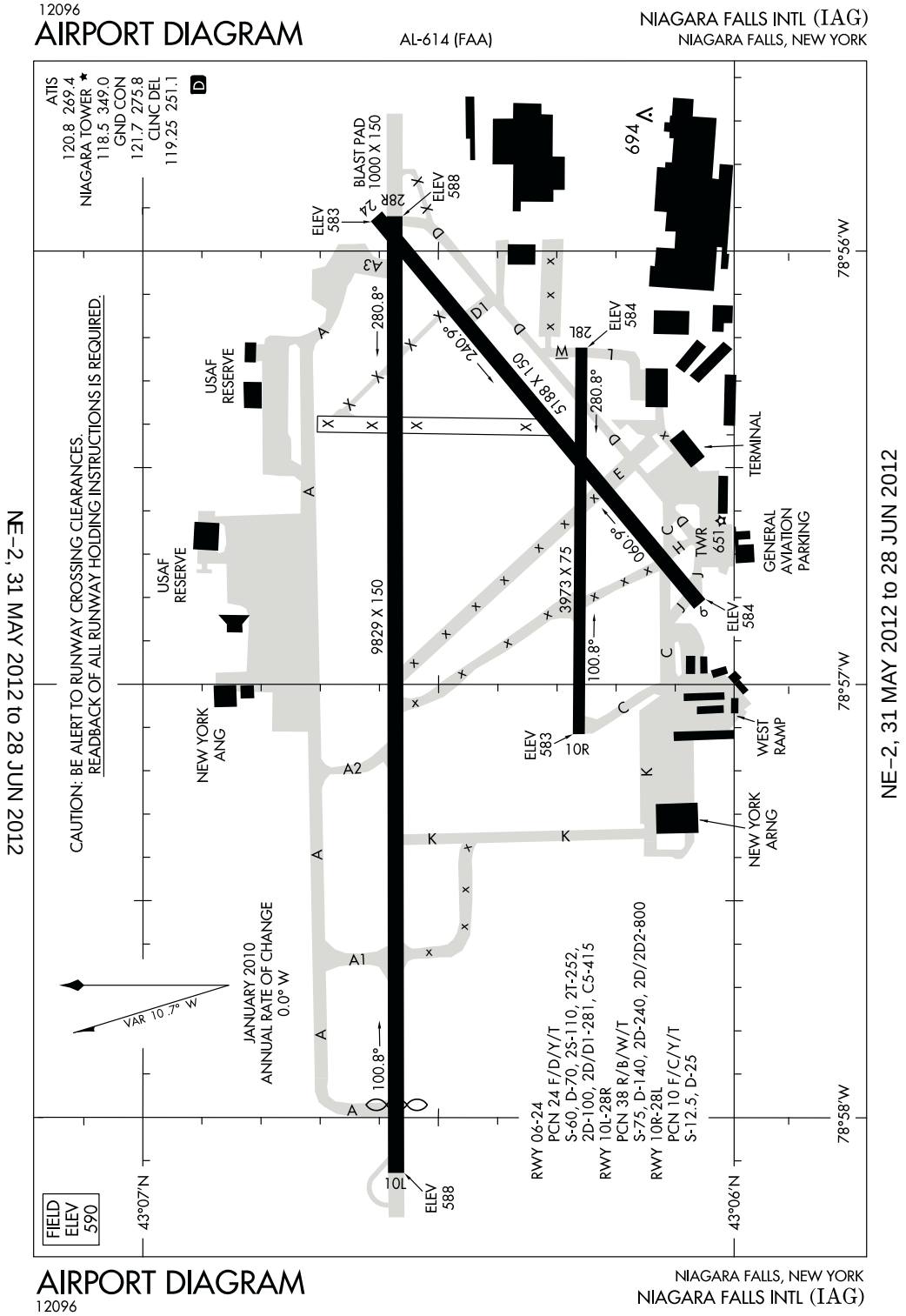
ASDE–X SURVEILLANCE SYSTEM IN USE: PILOTS SHOULD OPERATE TRANSPONDERS WITH MODE C ON ALL TAXIWAYS AND RUNWAYS.

TAXIWAY Q AT HANGAR 19 TOW IN/OUT ONLY.

RUNWAY 13R HAS TWO (2) PAPI – P4L SYSTEMS.

CONVERGING OPERATIONS ON RUNWAYS 13R AND 22L CONDUCTED BY WAY OF ARRIVAL DISTANCE WINDOW.

Niagara Falls, New York
Niagara Falls International
ICAO Identifier KIAG



Niagara Falls, NY
Niagara Falls Intl
ICAO Identifier KIAG

AD 2.2 Aerodrome geographical and administrative data
2.2.1 Reference Point: 43–06–27.21N / 78–56–45.03W
2.2.2 From City: 4 Miles E Of Niagara Falls, NY
2.2.3 Elevation: 590 ft
2.2.5 Magnetic variation: 10W (1985)
2.2.6 Airport Contact: Mr. Pascal Cohen
2035 NIAGARA FALLS BLVD
Niagara Falls, NY 14304
(716–855–6450)
2.2.7 Traffic: IFR/VFR

AD 2.3 Operational hours
2.3.1 – 2.3.11: ALL Months, ALL Days, ALL Hours

AD 2.4 Handling services and facilities
2.4.1 Cargo handling facilities: No
2.4.2 Fuel types: 100LL,A
2.4.4 De–icing facilities: None
2.4.5 Hangar space: No
2.4.6 Repair facilities: Minor

AD 2.6 Rescue and firefighting services
2.6.1 Aerodrome category for firefighting: ARFF Index I B certified on 7/1/1974
2.6.4 Remarks: ARFF Index E Equipment Coverage Provided.

AD 2.10 Aerodrome obstacles
2.10.1.a. Runway designation: 06
2.10.1.b Type of obstacle: Tree (46 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 290 ft from Centerline

2.10.1.a. Runway designation: 24
2.10.1.b Type of obstacle: Tree (59 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 320 ft from Centerline

2.10.1.a. Runway designation: 10L
2.10.1.b Type of obstacle: Tree (52 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 480 ft from Centerline

2.10.1.a. Runway designation: 28R
2.10.1.b Type of obstacle: Tree (37 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 400 ft from Centerline

2.10.1.a. Runway designation: 28L
2.10.1.b Type of obstacle: Stack (59 ft). Lighted
2.10.1.c Location of obstacle: 120 ft from Centerline

2.10.1.a. Runway designation: 10R
2.10.1.b Type of obstacle: Tree (64 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 60 ft from Centerline

AD 2.12 Runway physical characteristics
2.12.1 Designation: 06
2.12.2 True Bearing: 50
2.12.3 Dimensions: 5188 ft x 150 ft
2.12.4 PCN: 24 F/D/Y/T
2.12.5 Coordinates: 43–06–00.00N / 78–56–44.30W
2.12.6 Threshold elevation: 584 ft
2.12.6 Touchdown zone elevation: 585 ft

2.12.1 Designation: 24
2.12.2 True Bearing: 230
2.12.3 Dimensions: 5188 ft x 150 ft
2.12.4 PCN: 24 F/D/Y/T
2.12.5 Coordinates: 43–06–39.20N / 78–55–50.60W
2.12.6 Threshold elevation: 583 ft
2.12.6 Touchdown zone elevation: 590 ft

2.12.1 Designation: 10L
2.12.2 True Bearing: 90
2.12.3 Dimensions: 9829 ft x 150 ft
2.12.4 PCN: 38 R/B/W/T
2.12.5 Coordinates: 43–06–34.35N / 78–58–00.00W
2.12.6 Threshold elevation: 588 ft
2.12.6 Touchdown zone elevation: 589 ft

2.12.1 Designation: 28R
2.12.2 True Bearing: 270
2.12.3 Dimensions: 9829 ft x 150 ft

2.12.4 PCN: 38 R/B/W/T
2.12.5 Coordinates: 43−06−34.16N / 78−55−55.27W
2.12.6 Threshold elevation: 588 ft
2.12.6 Touchdown zone elevation: 588 ft

2.12.1 Designation: 10R
2.12.2 True Bearing: 90
2.12.3 Dimensions: 3973 ft x 75 ft
2.12.4 PCN: 10 F/C/Y/T
2.12.5 Coordinates: 43−06−15.60N / 78−57−00.00W
2.12.6 Threshold elevation: 583 ft
2.12.6 Touchdown zone elevation: 584 ft

2.12.1 Designation: 28L
2.12.2 True Bearing: 270
2.12.3 Dimensions: 3973 ft x 75 ft
2.12.4 PCN: 10 F/C/Y/T
2.12.5 Coordinates: 43−06−15.51N / 78−56−13.46W
2.12.6 Threshold elevation: 584 ft
2.12.6 Touchdown zone elevation: 585 ft

AD 2.13 Declared distances
2.13.1 Designation: 06
2.13.2 Takeoff run available: 5189
2.13.3 Takeoff distance available: 5189
2.13.4 Accelerate−stop distance available: 5189
2.13.5 Landing distance available: 5189

2.13.1 Designation: 24
2.13.2 Takeoff run available: 5189
2.13.3 Takeoff distance available: 5189
2.13.4 Accelerate−stop distance available: 5109
2.13.5 Landing distance available: 5109

2.13.1 Designation: 10L
2.13.2 Takeoff run available: 9829
2.13.3 Takeoff distance available: 10829
2.13.4 Accelerate−stop distance available: 9829
2.13.5 Landing distance available: 9129

2.13.1 Designation: 28R
2.13.2 Takeoff run available: 9829
2.13.3 Takeoff distance available: 10529
2.13.4 Accelerate−stop distance available: 9129
2.13.5 Landing distance available: 9129

2.13.1 Designation: 10R
2.13.2 Takeoff run available: 3973
2.13.3 Takeoff distance available: 3973
2.13.4 Accelerate−stop distance available: 3973
2.13.5 Landing distance available: 3973

2.13.1 Designation: 28L
2.13.2 Takeoff run available: 3973
2.13.3 Takeoff distance available: 3973
2.13.4 Accelerate−stop distance available: 3973
2.13.5 Landing distance available: 3973

AD 2.14 Approach and runway lighting
2.14.1 Designation: 06
2.14.4 Visual approach slope indicator system: 4−light PAPI on left

2.14.1 Designation: 24
2.14.4 Visual approach slope indicator system: 4−light PAPI on left

2.14.1 Designation: 10L
2.14.4 Visual approach slope indicator system: 4−box VASI on left

2.14.1 Designation: 28R
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights

2.14.1 Designation: 10R
2.14.4 Visual approach slope indicator system: 2−light PAPI on left

2.14.1 Designation: 28L
2.14.4 Visual approach slope indicator system: 2−light PAPI on left

AD 2.18 Air traffic services communication facilities
2.18.1 Service designation: LCL/P
2.18.3 Service designation: 118.5 MHz

2.18.1 Service designation: CD/P
2.18.3 Service designation: 119.25 MHz

2.18.1 Service designation: ATIS
2.18.3 Service designation: 120.8 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: EMERG
2.18.3 Service designation: 121.5 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 121.7 MHz

2.18.1 Service designation: EMERG

2.18.3 Service designation: 243 MHz

2.18.1 Service designation: CD/P
2.18.3 Service designation: 251.1 MHz

2.18.1 Service designation: ATIS
2.18.3 Service designation: 269.4 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: GND/P
2.18.3 Service designation: 275.8 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 349 MHz

2.18.1 Service designation: NG–OPNS
2.18.3 Service designation: 41 MHz

2.18.1 Service designation: AFR–OPS
2.18.3 Service designation: 340.24 MHz

2.18.1 Service designation: 914 AG COMD POST
2.18.3 Service designation: 340.025 MHz

AD 2.19 Radio navigation and landing aids
2.19.1 ILS type: Outer Marker for runway 28R.
Magnetic variation: 10W
2.19.2 ILS identification: IAG
2.19.5 Coordinates: 43–06–32.51N /
78–50–18.21W
2.19.6 Site elevation: ft

2.19.1 ILS type: Localizer for runway 28R.
Magnetic variation: 10W
2.19.2 ILS identification: IAG
2.19.5 Coordinates: 43–06–34.36N /
78–58–18.82W
2.19.6 Site elevation: 585 ft

2.19.1 ILS type: Glide Slope for runway 28R.
Magnetic variation: 10W
2.19.2 ILS identification: IAG
2.19.5 Coordinates: 43–06–30.09N /
78–56–16.64W
2.19.6 Site elevation: 583 ft

2.19.1 ILS type: Middle Marker for runway 28R.
Magnetic variation: 10W
2.19.2 ILS identification: IAG
2.19.5 Coordinates: 43–06–33.97N /
78–55–00.00W
2.19.6 Site elevation: 587 ft

General Remarks:
EXTENSIVE AIRCRAFT ACTIVITY OPERATING IN THE VICINITY OF US/CANADIAN FALLS ALL ALTITUDES.

HEAVY CONCENTRATIONS OF GULLS–BLACKBIRDS–STARLINGS UP TO 5000 AGL ON & IN THE VICINITY OF AIRPORT.

TAXIWAY D3 RESTRICTED TO 12500 LBS OR LESS.

TAXIWAY ”E” CLOSED PERMANENTLY BETWEEN TAXIWAYS ”C” AND ”D”.

TAXIWAY ”E” CLOSED INDEFINITELY FROM RUNWAY 10L/28R TO RUNWAY 06/24.

ALL MILITARY AIRCRAFT ONLY OPERATIONS RESTRICTED DURING BIRD WATCH CONDITIONS. MODERATE – TAKE–OFF & LANDING PERMISSION ONLY WNEN DEP/ARR ROUTE AVOIDS IDENTIFIED BIRD ACTIVITY; NO LOCAL IFR/VFR TRAFFIC PATTERN ACTIVITY. SEVERE – TAKE–OFF & LANDING PHOHIBITED WO OG/CC APPROVAL; CONTACT COMMAND POST FOR CURRENT BIRD WATCH CONDITIONS.

ALL MILITARY AIRCRAFT ONLY MINIMAL CLASSIFIED MATERIALS AVAILABLE; AIRCREWS SHOULD ARRIVE WITH APPROPRIATE AMOUNT TO COMPLETE THEIR MISSION.

BEARING STRENGTH RUNWAY 06/24: ST110 TT145 SBTT281 TDT415 TRT252.

JASU: 2(A/M32A–86) 1(AM32A–60) 1(MA–1A).

FUEL: J8(MIL) A, A+.

FLUID: SP LOX.

OIL: O−148(MIL).

REMARKS: SEE FLIGHT INFORMATION PUBLICATION AP/1 SUPPLEMENTARY AIRPORT REMARK.

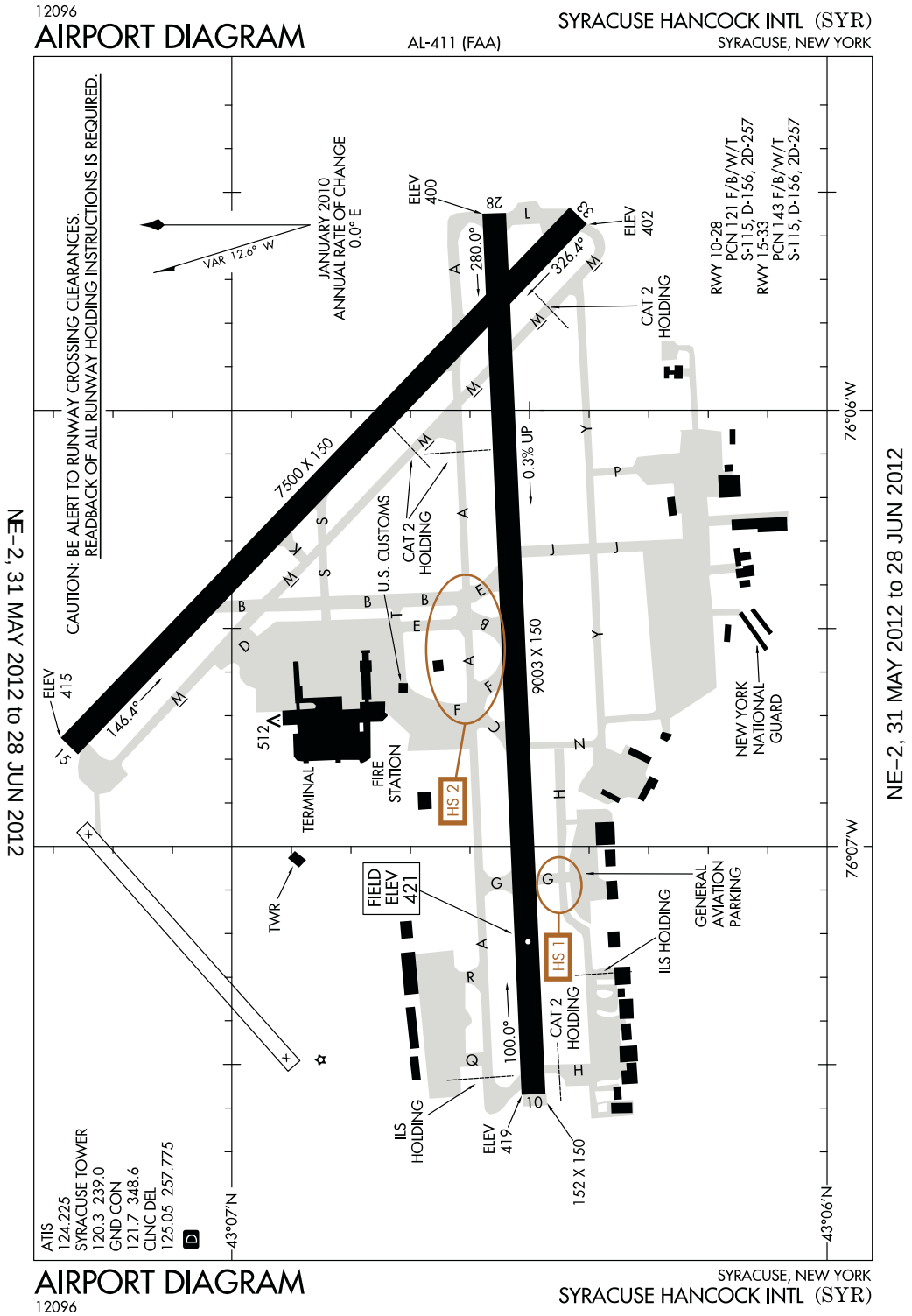
MISC: LOCAL MISSION AIRCRAFT HAVE PRIORITY FOR DEICING; FULL AIRCRAFT DEICING FOR C−17 AND C−5 AIRCRAFT NOT AVAILABLE.

REMARKS−CAUTION: NIGHT VISION DEVICE OPERATIONS PERIODICALLY CONDUCTED IN THE AIRPORT TRAFFIC AREA.

CUSTOMS/AGRICULTURE/IMIGRATION −: AVAILABLE FOR ALL MILITARY WITH 72 HR PRIOR NOTICE. CREW, PASSENGER, CARGO ORGIN, DESTINATION AND PRE−CLEARED INFORMATION REQUIRE 1 HR PRIOR LANDING. CONTACT 914TH OSF, SSI/OSA DSN 238−2176, C717−236−2176,FAX DSN 238−2380, C716−236−2380 FOR RESTRICTED INFORMATION AND REQUIRE PRIOR PERMISSION REQUIRED.

REMARKS − MISC: FOR CURRENT MILITARY RUNWAY CONDITION READING (RCR) CALL OR CONTACT 914 AW COMMAND POST, 914 AW BASE OPERATIONS, OR 107 ANG COMMAND POST.

Syracuse, New York
Syracuse Hancock International
ICAO Identifier KSYR



Syracuse, NY
Syracuse Hancock Intl
ICAO Identifier KSYR

AD 2.2 Aerodrome geographical and administrative data
2.2.1 Reference Point: 43−06−40.30N / 76−06−22.70W
2.2.2 From City: 4 Miles NE Of Syracuse, NY
2.2.3 Elevation: 421 ft
2.2.5 Magnetic variation: 13W (2000)
2.2.6 Airport Contact: Christina R. Reale
1000 COL EILEEN COLLINS BLVD
Syracuse, NY 13212
(315−454−3263)
2.2.7 Traffic: IFR/VFR

AD 2.3 Operational hours
2.3.1 – 2.3.11: ALL Months, ALL Days, ALL Hours

AD 2.4 Handling services and facilities
2.4.1 Cargo handling facilities: No
2.4.2 Fuel types: 100LL,A
2.4.4 De−icing facilities: None
2.4.5 Hangar space: Yes
2.4.6 Repair facilities: Major

AD 2.6 Rescue and firefighting services
2.6.1 Aerodrome category for firefighting: ARFF Index I C certified on 5/1/1973

AD 2.10 Aerodrome obstacles
2.10.1.a. Runway designation: 33
2.10.1.b Type of obstacle: Tree (34 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 520 ft from Centerline

2.10.1.a. Runway designation: 15
2.10.1.b Type of obstacle: Trees (51 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 380 ft from Centerline

2.10.1.a. Runway designation: 28
2.10.1.b Type of obstacle: Trees (80 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 287 ft from Centerline

2.10.1.a. Runway designation: 10
2.10.1.b Type of obstacle: Trees (64 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 686 ft from Centerline

AD 2.12 Runway physical characteristics
2.12.1 Designation: 15
2.12.2 True Bearing: 134
2.12.3 Dimensions: 7500 ft x 150 ft
2.12.4 PCN: 143 F/B/W/T
2.12.5 Coordinates: 43−07−16.42N / 76−06−46.20W
2.12.6 Threshold elevation: 415 ft
2.12.6 Touchdown zone elevation: 417 ft

2.12.1 Designation: 33
2.12.2 True Bearing: 314
2.12.3 Dimensions: 7500 ft x 150 ft
2.12.4 PCN: 143 F/B/W/T
2.12.5 Coordinates: 43−06−25.11N / 76−05−33.28W
2.12.6 Threshold elevation: 402 ft
2.12.6 Touchdown zone elevation: 409 ft

2.12.1 Designation: 10
2.12.2 True Bearing: 87
2.12.3 Dimensions: 9003 ft x 150 ft
2.12.4 PCN: 121 F/B/W/T
2.12.5 Coordinates: 43−06−29.52N / 76−07−34.15W
2.12.6 Threshold elevation: 419 ft
2.12.6 Touchdown zone elevation: 421 ft

2.12.1 Designation: 28
2.12.2 True Bearing: 267
2.12.3 Dimensions: 9003 ft x 150 ft
2.12.4 PCN: 121 F/B/W/T
2.12.5 Coordinates: 43−06−33.51N / 76−05−32.91W
2.12.6 Threshold elevation: 400 ft
2.12.6 Touchdown zone elevation: 413 ft
2.12.7 Slope: 0.3UP

AD 2.13 Declared distances
2.13.1 Designation: 15
2.13.2 Takeoff run available: 7500
2.13.3 Takeoff distance available: 7500
2.13.4 Accelerate−stop distance available: 7500

2.13.5 Landing distance available: 7500

2.13.1 Designation: 33
2.13.2 Takeoff run available: 7500
2.13.3 Takeoff distance available: 7500
2.13.4 Accelerate–stop distance available: 7500
2.13.5 Landing distance available: 7500

2.13.1 Designation: 10
2.13.2 Takeoff run available: 9003
2.13.3 Takeoff distance available: 9003
2.13.4 Accelerate–stop distance available: 9003
2.13.5 Landing distance available: 9003

2.13.1 Designation: 28
2.13.2 Takeoff run available: 9003
2.13.3 Takeoff distance available: 9003
2.13.4 Accelerate–stop distance available: 9003
2.13.5 Landing distance available: 9003

AD 2.14 Approach and runway lighting
2.14.1 Designation: 15
2.14.2 Approach lighting system: MALS: 1400 feet medium intensity approach lighting system
2.14.4 Visual approach slope indicator system: 4–box VASI on left

2.14.1 Designation: 33
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 10
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–box VASI on left

2.14.1 Designation: 28
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration

AD 2.18 Air traffic services communication facilities
2.18.1 Service designation: AS ASGND
2.18.3 Service designation: 118.85 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 120.3 MHz

2.18.1 Service designation: EMERG
2.18.3 Service designation: 121.5 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 121.7 MHz

2.18.1 Service designation: CD/P
2.18.3 Service designation: 125.05 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS C
2.18.3 Service designation: 126.125 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS C IC
2.18.3 Service designation: 134.275 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 239 MHz

2.18.1 Service designation: EMERG
2.18.3 Service designation: 243 MHz

2.18.1 Service designation: AR OPS
2.18.3 Service designation: 245.3 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS C IC
2.18.3 Service designation: 279.6 MHz

2.18.1 Service designation: IC
2.18.3 Service designation: 279.6 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 348.6 MHz

2.18.1 Service designation: ANG OPS
2.18.3 Service designation: 379.5 MHz

2.18.1 Service designation: CD/P
2.18.3 Service designation: 257.775 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS C
2.18.3 Service designation: 269.125 MHz

2.18.1 Service designation: ATIS
2.18.3 Service designation: 124.225 MHz
2.18.4 Hours of operation: 24

AD 2.19 Radio navigation and landing aids
2.19.1 ILS type: Localizer for runway 28. Magnetic variation: 13W

2.19.2 ILS identification: SYR
2.19.5 Coordinates: 43–06–28.94N / 76–07–51.66W
2.19.6 Site elevation: 417 ft

2.19.1 ILS type: DME for runway 28. Magnetic variation: 13W
2.19.2 ILS identification: SYR
2.19.5 Coordinates: 43–06–31.84N / 76–05–20.74W
2.19.6 Site elevation: 406 ft

2.19.1 ILS type: Glide Slope for runway 28. Magnetic variation: 13W
2.19.2 ILS identification: SYR
2.19.5 Coordinates: 43–06–39.47N / 76–05–46.43W
2.19.6 Site elevation: 404 ft

2.19.1 ILS type: Outer Marker for runway 28. Magnetic variation: 13W
2.19.2 ILS identification: SYR
2.19.5 Coordinates: 43–06–43.94N / 76–00–00.00W
2.19.6 Site elevation: 403 ft

2.19.1 ILS type: Inner Marker for runway 28. Magnetic variation: 13W
2.19.2 ILS identification: SYR
2.19.5 Coordinates: 43–06–34.10N / 76–05–18.52W
2.19.6 Site elevation: 395 ft

2.19.1 ILS type: Middle Marker for runway 28. Magnetic variation: 13W
2.19.2 ILS identification: SYR
2.19.5 Coordinates: 43–06–34.93N / 76–04–49.53W
2.19.6 Site elevation: 406 ft

2.19.1 ILS type: Localizer for runway 10. Magnetic variation: 13W
2.19.2 ILS identification: MRZ
2.19.5 Coordinates: 43–06–33.89N / 76–05–21.13W
2.19.6 Site elevation: 397 ft

2.19.1 ILS type: Middle Marker for runway 10. Magnetic variation: 13W
2.19.2 ILS identification: MRZ
2.19.5 Coordinates: 43–06–28.04N / 76–08–11.83W
2.19.6 Site elevation: ft

2.19.1 ILS type: DME for runway 10. Magnetic variation: 13W
2.19.2 ILS identification: MRZ
2.19.5 Coordinates: 43–06–31.84N / 76–05–20.74W
2.19.6 Site elevation: 406 ft

2.19.1 ILS type: Glide Slope for runway 10. Magnetic variation: 13W
2.19.2 ILS identification: MRZ
2.19.5 Coordinates: 43–06–26.02N / 76–07–20.15W
2.19.6 Site elevation: 423 ft

General Remarks:
NO CHARTER OPER THRU PASSENGER TERMINAL BUILDING WITHOUT PRIOR PERMISSION.

NOISE ABATEMENT PROCEDURES IN EFFECT.

DEER/COYOTE/BIRDS ON IN THE VICINITY OF AIRPORT.

NO JET ENGINE MAINT RUNS ABOVE IDLE BETWEEN 2300–0600.

NO TRANSIENT AIRCRAFT PARKING ON MAIN TERMINAL RAMP.

DIRECT CUSTOM NOTIFICATION IS REQUIRED. HOURS OF NOTIFICATION ARE MON–SAT 0800–1700. ARRIVALS OUTSIDE OF THESE HRS MUST MAKE ARRANGEMENTS DURING REGULAR WORK HRS; CALL 315–455–2271.

AIRPORT SURFACE DETECTION EQUIPMENT (ASDE) BEING TESTED AT SYRACUSE AIRPORT; ALL AIRCRAFT REQUESTED TO OPR TRANSPONDERS WHILE ON AIRPORT SURFACE.

FIELD CONDITION REPORTS RECORDING AVAILABLE CALL 315–455–3444.

HEAVY AIRCRAFT CONTACT AIRPORT COMMISSIONER FOR PARK AVAILABLE AT C315–455–3263. MILITARY PARK RAMP UNLIGHTED. LIMITED METRO AVAIL AT DSN 243–2185. C315–233–2185 OR CONTACT OWS DSN 576–9755/9702. ALL TRANSIENT AIRCRAFT REQ NOISE ABATEMENT BRIEFING.

RESTRICTED – TAXI U NOT USED. USE TAXI J TO ENTER ANG RAMP.

COMMUNICATIONS – ANG – OPERATIONS – 139.625 379.5 REMARKS: (COBRA OPS) CONTACT ANG OPERATIONS 15 MIN PRIOR TO ARR.

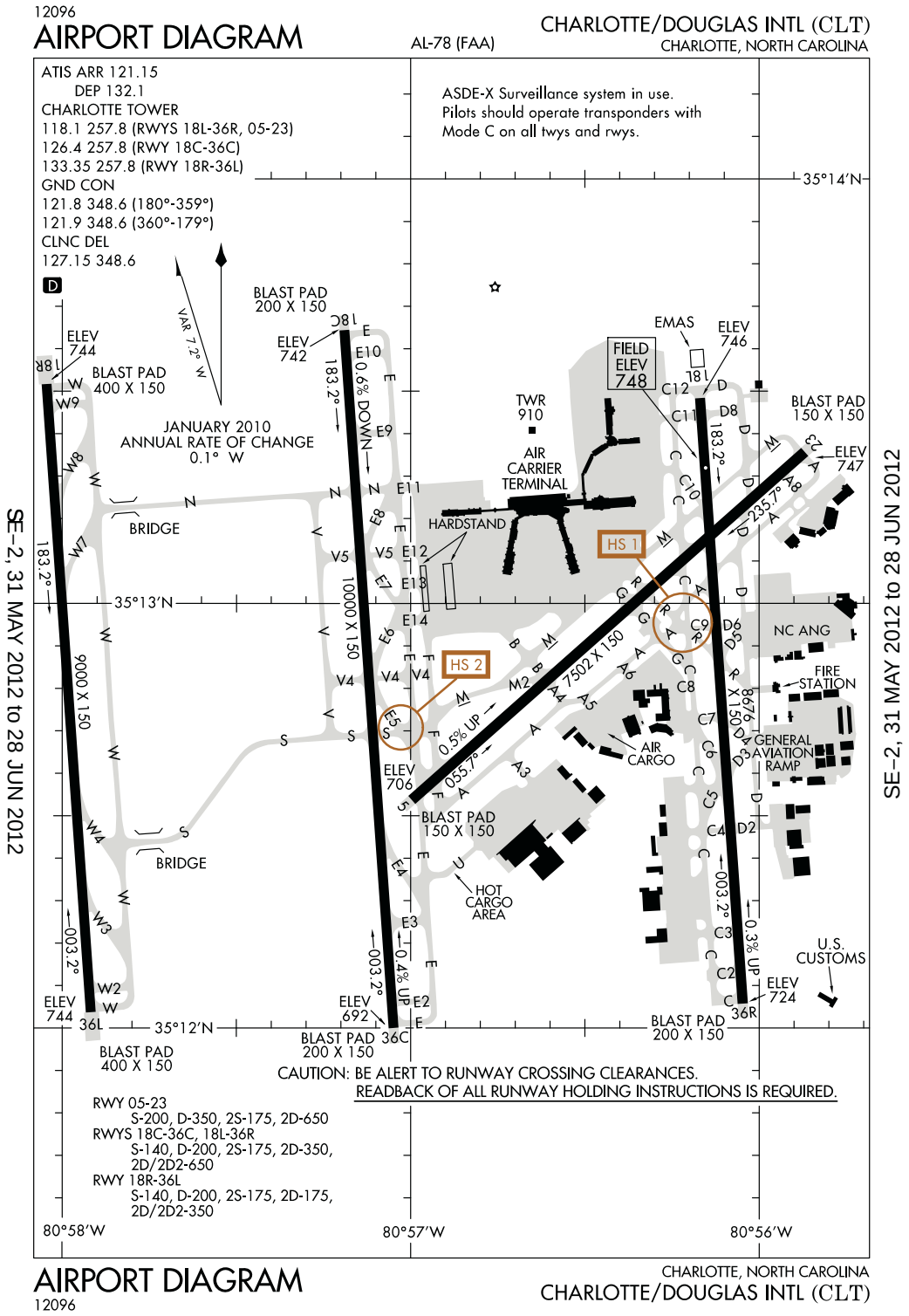
RESTRICTED: TAXIWAY J AND P SOUTH OF TAXIWAY Y CLOSED TO CIVIL OPERATIONS.

CAUTION: TAXIWAY J AND P SOUTH OF TAXIWAY Y AND ANG RAMP HAVE UNCTL VEH AND EQUIPMENT TRAFFIC.

ANG: OPR 1100–2000Z++ WEEKEND EXCEPT HOLIDAY. PRIOR PERMISSION REQUIRED TRANSMIT AIRCRAFT OFFICIAL BUSINESS ONLY. AIRFIELD MANAGER DSN 243–2208, AFTER DUTY HR CONTACT C315–530–2520. PRIOR PERMISSION REQUIRED FOR ALL TRANSIENT AIRCRAFT DUE LIMITED TRANSMIT SERVICE. NOTIFY AIRFIELD MANAGER OF ESTIMATED TIME OF ARRIVAL DELAY OVER 30 MIN OR MSN CANCEL IS REQUIRE.

ANG: HEAVY AIRCRAFT CONTACT AIRPORT COMMISSIONER FOR PARK AVAILABLE AT C315–455–3666. MILITARY PARK RAMP UNLIGHTED. ALL TRANSIENT AIRCRAFT REQUIRE NS ABATEMENT BRIEFING.

Charlotte, North Carolina
Charlotte/Douglas International
ICAO Identifier KCLT



Charlotte, NC
Charlotte/Douglas Intl
ICAO Identifier KCLT

AD 2.2 Aerodrome geographical and administrative data
2.2.1 Reference Point: 35–12–49.47N / 80–56–56.65W
2.2.2 From City: 4 Miles W Of Charlotte, NC
2.2.3 Elevation: 748 ft
2.2.5 Magnetic variation: 7W (2000)
2.2.6 Airport Contact: Jerry Orr
PO BOX 19066
Charlotte, NC 28219
(704–359–4000)
2.2.7 Traffic: IFR/VFR

AD 2.3 Operational hours
2.3.1 – 2.3.11: ALL Months, ALL Days, ALL Hours

AD 2.4 Handling services and facilities
2.4.1 Cargo handling facilities: No
2.4.2 Fuel types: 100LL,A
2.4.4 De–icing facilities: None
2.4.5 Hangar space: No
2.4.6 Repair facilities: Major

AD 2.6 Rescue and firefighting services
2.6.1 Aerodrome category for firefighting: ARFF Index I D certified on 5/1/1973

AD 2.10 Aerodrome obstacles
2.10.1.a. Runway designation: 18L
2.10.1.b Type of obstacle: Rr (19 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 0 ft from Centerline

2.10.1.a. Runway designation: 18C
2.10.1.b Type of obstacle: Road (25 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 425 ft from Centerline

2.10.1.a. Runway designation: 05
2.10.1.b Type of obstacle: Trees (38 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 300 ft from Centerline

AD 2.12 Runway physical characteristics
2.12.1 Designation: 18L
2.12.2 True Bearing: 176
2.12.3 Dimensions: 8676 ft x 150 ft
2.12.5 Coordinates: 35–13–29.04N / 80–56–10.17W
2.12.6 Threshold elevation: 746 ft
2.12.6 Touchdown zone elevation: 748 ft
2.12.7 Slope: 0.2DOWN

2.12.1 Designation: 36R
2.12.2 True Bearing: 356
2.12.3 Dimensions: 8676 ft x 150 ft
2.12.5 Coordinates: 35–12–00.00N / 80–56–00.00W
2.12.6 Threshold elevation: 724 ft
2.12.6 Touchdown zone elevation: 727 ft
2.12.7 Slope: 0.3UP

2.12.1 Designation: 18C
2.12.2 True Bearing: 176
2.12.3 Dimensions: 10000 ft x 150 ft
2.12.5 Coordinates: 35–13–38.63N / 80–57–11.41W
2.12.6 Threshold elevation: 742 ft
2.12.6 Touchdown zone elevation: 742 ft
2.12.7 Slope: 0.6DOWN

2.12.1 Designation: 36C
2.12.2 True Bearing: 356
2.12.3 Dimensions: 10000 ft x 150 ft
2.12.5 Coordinates: 35–11–59.97N / 80–57–00.00W
2.12.6 Threshold elevation: 692 ft
2.12.6 Touchdown zone elevation: 707 ft
2.12.7 Slope: 0.4UP

2.12.1 Designation: 05
2.12.2 True Bearing: 48
2.12.3 Dimensions: 7502 ft x 150 ft
2.12.5 Coordinates: 35–12–32.23N / 80–56–59.81W
2.12.6 Threshold elevation: 706 ft
2.12.6 Touchdown zone elevation: 716 ft
2.12.7 Slope: 0.5DOWN

2.12.1 Designation: 23
2.12.2 True Bearing: 228
2.12.3 Dimensions: 7502 ft x 150 ft
2.12.5 Coordinates: 35–13–21.42N / 80–55–52.12W
2.12.6 Threshold elevation: 747 ft

2.12.6 Touchdown zone elevation: 747 ft
2.12.7 Slope: 0.5UP

2.12.1 Designation: 18R
2.12.2 True Bearing: 176
2.12.3 Dimensions: 9000 ft x 150 ft
2.12.5 Coordinates: 35–13–31.02N / 80–58–00.00W
2.12.6 Threshold elevation: 744 ft
2.12.6 Touchdown zone elevation: 744 ft

2.12.1 Designation: 36L
2.12.2 True Bearing: 356
2.12.3 Dimensions: 9000 ft x 150 ft
2.12.5 Coordinates: 35–12–00.00N / 80–57–55.07W
2.12.6 Threshold elevation: 744 ft
2.12.6 Touchdown zone elevation: 744 ft

AD 2.13 Declared distances
2.13.1 Designation: 18L
2.13.2 Takeoff run available: 8676
2.13.3 Takeoff distance available: 8676
2.13.4 Accelerate–stop distance available: 8676
2.13.5 Landing distance available: 8676

2.13.1 Designation: 36R
2.13.2 Takeoff run available: 8676
2.13.3 Takeoff distance available: 8676
2.13.4 Accelerate–stop distance available: 8676
2.13.5 Landing distance available: 8676

2.13.1 Designation: 18C
2.13.2 Takeoff run available: 10000
2.13.3 Takeoff distance available: 10000
2.13.4 Accelerate–stop distance available: 10000
2.13.5 Landing distance available: 10000

2.13.1 Designation: 36C
2.13.2 Takeoff run available: 10000
2.13.3 Takeoff distance available: 10000
2.13.4 Accelerate–stop distance available: 10000
2.13.5 Landing distance available: 10000

2.13.1 Designation: 05
2.13.2 Takeoff run available: 7502
2.13.3 Takeoff distance available: 7502
2.13.4 Accelerate–stop distance available: 7092
2.13.5 Landing distance available: 7092

2.13.1 Designation: 23
2.13.2 Takeoff run available: 7502
2.13.3 Takeoff distance available: 7502
2.13.4 Accelerate–stop distance available: 7502
2.13.5 Landing distance available: 7502

2.13.1 Designation: 18R
2.13.2 Takeoff run available: 9000
2.13.3 Takeoff distance available: 9000
2.13.4 Accelerate–stop distance available: 9000
2.13.5 Landing distance available: 9000

2.13.1 Designation: 36L
2.13.2 Takeoff run available: 9000
2.13.3 Takeoff distance available: 9000
2.13.4 Accelerate–stop distance available: 9000
2.13.5 Landing distance available: 9000

AD 2.14 Approach and runway lighting
2.14.1 Designation: 18L
2.14.4 Visual approach slope indicator system: 6–box VASI on right
2.14.10 Remarks: VASI Upwind Threshold Crossing Height 90.9’ GA 3.25 Deg; Dwnd Threshold Crossing Height 52.4’ GA 2.75 Deg.

2.14.1 Designation: 36R
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration
2.14.4 Visual approach slope indicator system: 4–light PAPI on right

2.14.1 Designation: 18C
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on right

2.14.1 Designation: 36C
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 05
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 23
2.14.4 Visual approach slope indicator system: 4−box VASI on right

2.14.1 Designation: 18R
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration
2.14.4 Visual approach slope indicator system: 4−light PAPI on right

2.14.1 Designation: 36L
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration
2.14.4 Visual approach slope indicator system: 4−light PAPI on left

AD 2.18 Air traffic services communication facilities
2.18.1 Service designation: LCL/P (RYS 18L/36R & 05/23)
2.18.3 Service designation: 118.1 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS B IC
2.18.3 Service designation: 120.05 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS B IC
2.18.3 Service designation: 120.5 MHz

2.18.1 Service designation: D−ATIS
2.18.3 Service designation: 121.15 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: EMERG
2.18.3 Service designation: 121.5 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 121.8 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 121.9 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS B IC
2.18.3 Service designation: 124 MHz

2.18.1 Service designation: LCL/P (RY 18C−36C)
2.18.3 Service designation: 126.4 MHz

2.18.1 Service designation: CD/P
2.18.3 Service designation: 127.15 MHz

2.18.1 Service designation: D−ATIS
2.18.3 Service designation: 132.1 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: APCH/P DEP/P CLASS B IC
2.18.3 Service designation: 134.75 MHz

2.18.1 Service designation: EMERG
2.18.3 Service designation: 243 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS B IC
2.18.3 Service designation: 257.2 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 257.8 MHz

2.18.1 Service designation: GND/P CD/P
2.18.3 Service designation: 348.6 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS B IC
2.18.3 Service designation: 128.32 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS B IC
2.18.3 Service designation: 307.8 MHz

2.18.1 Service designation: LC/P
2.18.3 Service designation: 133.35 MHz

2.18.1 Service designation: ALCP
2.18.3 Service designation: 292.25 MHz

AD 2.19 Radio navigation and landing aids
2.19.1 ILS type: Localizer for runway 18L. Magnetic variation: 7W
2.19.2 ILS identification: VKQ
2.19.5 Coordinates: 35−11−50.60N / 80−56−00.00W
2.19.6 Site elevation: 719 ft

2.19.1 ILS type: Glide Slope for runway 18L. Magnetic variation: 7W
2.19.2 ILS identification: VKQ
2.19.5 Coordinates: 35−13−19.26N / 80−56−00.00W

2.19.6 Site elevation: 744 ft

2.19.1 ILS type: Outer Marker for runway 18L.
Magnetic variation: 7W
2.19.2 ILS identification: VKQ
2.19.5 Coordinates: 35–20–19.08N /
80–56–41.44W
2.19.6 Site elevation: 717 ft

2.19.1 ILS type: Middle Marker for runway 18L.
Magnetic variation: 7W
2.19.2 ILS identification: VKQ
2.19.5 Coordinates: 35–14–00.00N /
80–56–14.34W
2.19.6 Site elevation: 739 ft

2.19.1 ILS type: Localizer for runway 36R.
Magnetic variation: 7W
2.19.2 ILS identification: BQC
2.19.5 Coordinates: 35–13–33.71N /
80–56–10.57W
2.19.6 Site elevation: 741 ft

2.19.1 ILS type: Glide Slope for runway 36R.
Magnetic variation: 7W
2.19.2 ILS identification: BQC
2.19.5 Coordinates: 35–12–14.00N /
80–55–58.90W
2.19.6 Site elevation: 717 ft

2.19.1 ILS type: Inner Marker for runway 36R.
Magnetic variation: 7W
2.19.2 ILS identification: BQC
2.19.5 Coordinates: 35–11–54.22N /
80–56–00.00W
2.19.6 Site elevation: 710 ft

2.19.1 ILS type: Middle Marker for runway 36R.
Magnetic variation: 7W
2.19.2 ILS identification: BQC
2.19.5 Coordinates: 35–11–40.26N /
80–56–00.00W
2.19.6 Site elevation: 700 ft

2.19.1 ILS type: DME for runway 36R. Magnetic variation: 7W
2.19.2 ILS identification: BQC
2.19.5 Coordinates: 35–13–33.74N /
80–56–13.65W
2.19.6 Site elevation: 744 ft

2.19.1 ILS type: Outer Marker for runway 36R.
Magnetic variation: 7W
2.19.2 ILS identification: BQC
2.19.5 Coordinates: 35–05–26.62N /
80–55–33.97W
2.19.6 Site elevation: 616 ft

2.19.1 ILS type: Middle Marker for runway 18C.
Magnetic variation: 7W
2.19.2 ILS identification: PEP
2.19.5 Coordinates: 35–14–00.00N /
80–57–13.65W
2.19.6 Site elevation: 703 ft

2.19.1 ILS type: Outer Marker for runway 18C.
Magnetic variation: 7W
2.19.2 ILS identification: PEP
2.19.5 Coordinates: 35–20–12.02N /
80–57–48.14W
2.19.6 Site elevation: 737 ft

2.19.1 ILS type: Localizer for runway 18C.
Magnetic variation: 7W
2.19.2 ILS identification: PEP
2.19.5 Coordinates: 35–11–50.60N /
80–57–00.00W
2.19.6 Site elevation: 687 ft

2.19.1 ILS type: Glide Slope for runway 18C.
Magnetic variation: 7W
2.19.2 ILS identification: PEP
2.19.5 Coordinates: 35–13–26.91N /
80–57–15.23W
2.19.6 Site elevation: 731 ft

2.19.1 ILS type: Outer Marker for runway 36C.
Magnetic variation: 7W
2.19.2 ILS identification: DQG
2.19.5 Coordinates: 35–05–43.52N /
80–56–26.77W
2.19.6 Site elevation: 593 ft

2.19.1 ILS type: Localizer for runway 36C.
Magnetic variation: 7W
2.19.2 ILS identification: DQG
2.19.5 Coordinates: 35–13–53.95N /
80–57–12.73W
2.19.6 Site elevation: 750 ft

2.19.1 ILS type: Inner Marker for runway 36C.
Magnetic variation: 7W
2.19.2 ILS identification: DQG

2.19.5 Coordinates: 35–11–48.73N / 80–57–00.00W
2.19.6 Site elevation: 680 ft

2.19.1 ILS type: Glide Slope for runway 36C. Magnetic variation: 7W
2.19.2 ILS identification: DQG
2.19.5 Coordinates: 35–12–00.00N / 80–57–00.00W
2.19.6 Site elevation: 691 ft

2.19.1 ILS type: Middle Marker for runway 36C. Magnetic variation: 7W
2.19.2 ILS identification: DQG
2.19.5 Coordinates: 35–11–34.90N / 80–57–00.00W
2.19.6 Site elevation: 679 ft

2.19.1 ILS type: Localizer for runway 05. Magnetic variation: 7W
2.19.2 ILS identification: CLT
2.19.5 Coordinates: 35–13–24.50N / 80–55–47.88W
2.19.6 Site elevation: 738 ft

2.19.1 ILS type: Outer Marker for runway 05. Magnetic variation: 7W
2.19.2 ILS identification: CLT
2.19.5 Coordinates: 35–09–29.30N / 81–01–14.12W
2.19.6 Site elevation: 691 ft

2.19.1 ILS type: Middle Marker for runway 05. Magnetic variation: 7W
2.19.2 ILS identification: CLT
2.19.5 Coordinates: 35–12–10.91N / 80–57–29.16W
2.19.6 Site elevation: 732 ft

2.19.1 ILS type: Glide Slope for runway 05. Magnetic variation: 7W
2.19.2 ILS identification: CLT
2.19.5 Coordinates: 35–12–43.05N / 80–56–52.18W
2.19.6 Site elevation: 695 ft

2.19.1 ILS type: DME for runway 23. Magnetic variation: 7W
2.19.2 ILS identification: APU
2.19.5 Coordinates: 35–12–21.29N / 80–57–10.05W
2.19.6 Site elevation: 706 ft

2.19.1 ILS type: Localizer for runway 23. Magnetic variation: 7W
2.19.2 ILS identification: APU
2.19.5 Coordinates: 35–12–24.08N / 80–57–11.02W
2.19.6 Site elevation: 704 ft

2.19.1 ILS type: Glide Slope for runway 23. Magnetic variation: 7W
2.19.2 ILS identification: APU
2.19.5 Coordinates: 35–13–12.15N / 80–56–00.00W
2.19.6 Site elevation: 738 ft

2.19.1 ILS type: DME for runway 18R. Magnetic variation: 7W
2.19.2 ILS identification: RGS
2.19.5 Coordinates: 35–12–13.28N / 80–58–00.00W
2.19.6 Site elevation: 732 ft

2.19.1 ILS type: Glide Slope for runway 18R. Magnetic variation: 7W
2.19.2 ILS identification: RGS
2.19.5 Coordinates: 35–13–20.08N / 80–58–00.00W
2.19.6 Site elevation: 733 ft

2.19.1 ILS type: Localizer for runway 18R. Magnetic variation: 7W
2.19.2 ILS identification: RGS
2.19.5 Coordinates: 35–11–51.86N / 80–57–54.19W
2.19.6 Site elevation: 738 ft

2.19.1 ILS type: Inner Marker for runway 18R. Magnetic variation: 7W
2.19.2 ILS identification: RGS
2.19.5 Coordinates: 35–13–38.82N / 80–58–00.00W
2.19.6 Site elevation: 739 ft

2.19.1 ILS type: DME for runway 36L. Magnetic variation: 7W
2.19.2 ILS identification: XUU
2.19.5 Coordinates: 35–13–19.81N / 80–58–00.00W
2.19.6 Site elevation: 733 ft

2.19.1 ILS type: Glide Slope for runway 36L. Magnetic variation: 7W
2.19.2 ILS identification: XUU

2.19.5 Coordinates: 35−12−12.99N / 80−58−00.00W
2.19.6 Site elevation: 732 ft

2.19.1 ILS type: Localizer for runway 36L.
Magnetic variation: 7W
2.19.2 ILS identification: XUU
2.19.5 Coordinates: 35−13−41.39N / 80−58−00.00W
2.19.6 Site elevation: 738 ft

2.19.1 ILS type: Inner Marker for runway 36L.
Magnetic variation: 7W
2.19.2 ILS identification: XUU
2.19.5 Coordinates: 35−11−54.43N / 80−57−54.41W
2.19.6 Site elevation: 739 ft

General Remarks:
RUNWAY SURFACE CONDITION INFORMATION DURING DUTY HRS PHONE ANG OPERATIONS V583−9177/9144 OR AIRBORNE 292.2.

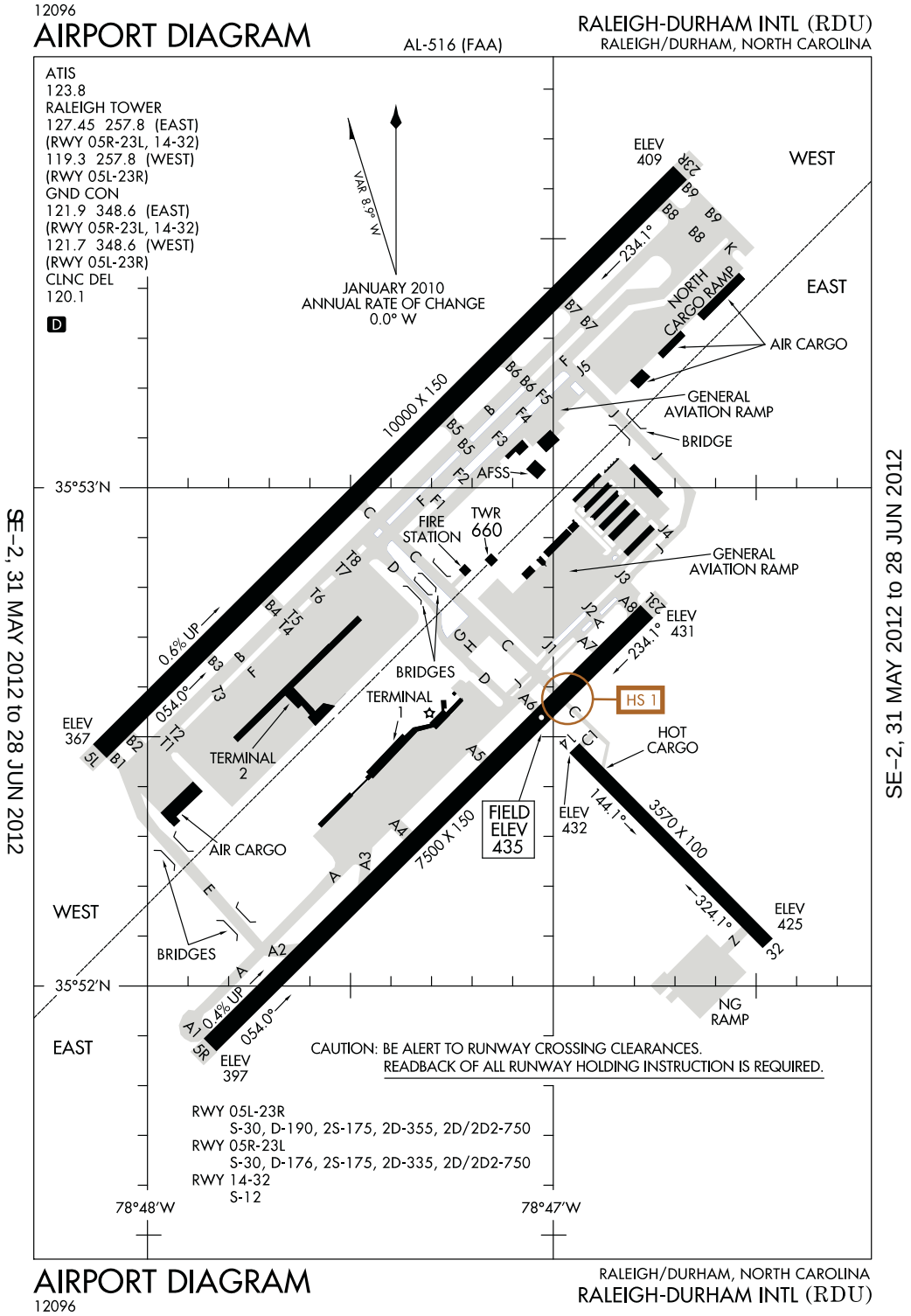
NOISE ABATEMENT PROCEDURE IN EFFECT 2300−0700; LAND ON RUNWAY 05 TAKE−OFF RUNWAY 23.

BE ALERT FOR FLOCKS OF MIGRATORY BIRDS ON & IN THE VICINITY OF AIRPORT.

ASDE−X SURVEILLANCE SYSTEM IN USE: PILOTS SHOULD OPERATE TRANSPONDERS WITH MODE C ON ALL TAXIWAYS AND RUNWAYS.

ANG: CONTACT NEWSREEL 292.25 30 MIN PRIOR LANDING. AMOPS/COMD POST − 292.25 (CALL NEWSREEL).

Raleigh–Durham, North Carolina
Raleigh–Durham International
ICAO Identifier KRDU



Raleigh/Durham, NC
Raleigh−Durham Intl
ICAO Identifier KRDU

AD 2.2 Aerodrome geographical and administrative data
2.2.1 Reference Point: 35−52−39.50N / 78−47−14.90W
2.2.2 From City: 9 Miles NW Of Raleigh/Durham, NC
2.2.3 Elevation: 435 ft
2.2.5 Magnetic variation: 7W (1985)
2.2.6 Airport Contact: Michael Landguth
P.O. BOX 80001
Rdu Airport, NC 27623
(919−840−7702)
2.2.7 Traffic: IFR/VFR

AD 2.3 Operational hours
2.3.1 − 2.3.11: ALL Months, ALL Days, ALL Hours

AD 2.4 Handling services and facilities
2.4.1 Cargo handling facilities: No
2.4.2 Fuel types: 100LL,A
2.4.4 De−icing facilities: None
2.4.5 Hangar space: Yes
2.4.6 Repair facilities: Major

AD 2.6 Rescue and firefighting services
2.6.1 Aerodrome category for firefighting: ARFF Index I D certified on 5/1/1973

AD 2.10 Aerodrome obstacles
2.10.1.a. Runway designation: 32
2.10.1.b Type of obstacle: Trees (120 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 1 ft from Centerline

AD 2.12 Runway physical characteristics
2.12.1 Designation: 05L
2.12.2 True Bearing: 45
2.12.3 Dimensions: 10000 ft x 150 ft
2.12.5 Coordinates: 35−52−28.02N / 78−48−00.00W
2.12.6 Threshold elevation: 367 ft
2.12.6 Touchdown zone elevation: 384 ft

2.12.1 Designation: 23R
2.12.2 True Bearing: 225
2.12.3 Dimensions: 10000 ft x 150 ft
2.12.5 Coordinates: 35−53−37.76N / 78−46−40.92W
2.12.6 Threshold elevation: 409 ft
2.12.6 Touchdown zone elevation: 409 ft

2.12.1 Designation: 05R
2.12.2 True Bearing: 45
2.12.3 Dimensions: 7500 ft x 150 ft
2.12.5 Coordinates: 35−51−52.67N / 78−47−50.42W
2.12.6 Threshold elevation: 397 ft
2.12.6 Touchdown zone elevation: 420 ft

2.12.1 Designation: 23L
2.12.2 True Bearing: 225
2.12.3 Dimensions: 7500 ft x 150 ft
2.12.5 Coordinates: 35−52−44.98N / 78−46−45.82W
2.12.6 Threshold elevation: 431 ft
2.12.6 Touchdown zone elevation: 435 ft

2.12.1 Designation: 14
2.12.2 True Bearing: 135
2.12.3 Dimensions: 3570 ft x 100 ft
2.12.5 Coordinates: 35−52−30.11N / 78−46−57.64W
2.12.6 Threshold elevation: 432 ft
2.12.6 Touchdown zone elevation: 432 ft

2.12.1 Designation: 32
2.12.2 True Bearing: 315
2.12.3 Dimensions: 3570 ft x 100 ft
2.12.5 Coordinates: 35−52−00.00N / 78−46−27.05W
2.12.6 Threshold elevation: 425 ft
2.12.6 Touchdown zone elevation: 429 ft

AD 2.13 Declared distances
2.13.1 Designation: 05L
2.13.2 Takeoff run available: 10000
2.13.3 Takeoff distance available: 10000
2.13.4 Accelerate−stop distance available: 10000
2.13.5 Landing distance available: 10000

2.13.1 Designation: 23R
2.13.2 Takeoff run available: 10000
2.13.3 Takeoff distance available: 10000
2.13.4 Accelerate−stop distance available: 10000
2.13.5 Landing distance available: 10000

2.13.1 Designation: 05R

2.13.2 Takeoff run available: 7500
2.13.3 Takeoff distance available: 7500
2.13.4 Accelerate–stop distance available: 7500
2.13.5 Landing distance available: 7500

2.13.1 Designation: 23L
2.13.2 Takeoff run available: 7500
2.13.3 Takeoff distance available: 7500
2.13.4 Accelerate–stop distance available: 7500
2.13.5 Landing distance available: 7500

AD 2.14 Approach and runway lighting
2.14.1 Designation: 05L
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 23R
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 05R
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 23L
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 32
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

AD 2.18 Air traffic services communication facilities
2.18.1 Service designation: LCL/P
2.18.3 Service designation: 119.3 MHz

2.18.1 Service designation: CD/P
2.18.3 Service designation: 120.1 MHz

2.18.1 Service designation: EMERG
2.18.3 Service designation: 121.5 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 121.7 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 121.9 MHz

2.18.1 Service designation: D–ATIS
2.18.3 Service designation: 123.8 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: FINAL CTL
2.18.3 Service designation: 124.8 MHz

2.18.1 Service designation: APCH/P
2.18.3 Service designation: 124.95 MHz

2.18.1 Service designation: CLASS C
2.18.3 Service designation: 125.3 MHz

2.18.1 Service designation: DEP/P
2.18.3 Service designation: 125.3 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 127.45 MHz

2.18.1 Service designation: APCH/P IC
2.18.3 Service designation: 128.3 MHz

2.18.1 Service designation: CLASS C
2.18.3 Service designation: 132.35 MHz

2.18.1 Service designation: DEP/P
2.18.3 Service designation: 132.35 MHz

2.18.1 Service designation: RDR
2.18.3 Service designation: 134.3 MHz

2.18.1 Service designation: CLASS C
2.18.3 Service designation: 256.9 MHz

2.18.1 Service designation: DEP/P
2.18.3 Service designation: 256.9 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 257.8 MHz

2.18.1 Service designation: APCH/P IC
2.18.3 Service designation: 307.9 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 348.6 MHz

2.18.1 Service designation: APCH/P
2.18.3 Service designation: 392.1 MHz

2.18.1 Service designation: FINAL CTL
2.18.3 Service designation: 395 MHz

2.18.1 Service designation: CLASS C
2.18.3 Service designation: 353.675 MHz

2.18.1 Service designation: DEP/P
2.18.3 Service designation: 353.675 MHz

AD 2.19 Radio navigation and landing aids
2.19.1 ILS type: DME for runway 05L. Magnetic variation: 7W
2.19.2 ILS identification: GKK
2.19.5 Coordinates: 35–53–47.52N / 78–46–27.57W
2.19.6 Site elevation: 411 ft

2.19.1 ILS type: Localizer for runway 05L. Magnetic variation: 7W
2.19.2 ILS identification: GKK
2.19.5 Coordinates: 35–53–48.07N / 78–46–28.19W
2.19.6 Site elevation: 409 ft

2.19.1 ILS type: Glide Slope for runway 05L. Magnetic variation: 7W
2.19.2 ILS identification: GKK
2.19.5 Coordinates: 35–52–37.80N / 78–48–00.00W
2.19.6 Site elevation: 366 ft

2.19.1 ILS type: Middle Marker for runway 05L. Magnetic variation: 7W
2.19.2 ILS identification: GKK
2.19.5 Coordinates: 35–52–00.00N / 78–48–41.35W
2.19.6 Site elevation: 334 ft

2.19.1 ILS type: DME for runway 23R. Magnetic variation: 9W
2.19.2 ILS identification: DMP
2.19.5 Coordinates: 35–52–19.51N / 78–48–13.82W
2.19.6 Site elevation: 370 ft

2.19.1 ILS type: Middle Marker for runway 23R. Magnetic variation: 9W
2.19.2 ILS identification: DMP
2.19.5 Coordinates: 35–53–54.73N / 78–46–19.97W
2.19.6 Site elevation: 410 ft

2.19.1 ILS type: Inner Marker for runway 23R. Magnetic variation: 9W
2.19.2 ILS identification: DMP
2.19.5 Coordinates: 35–53–43.88N / 78–46–33.36W
2.19.6 Site elevation: 402 ft

2.19.1 ILS type: Localizer for runway 23R. Magnetic variation: 9W
2.19.2 ILS identification: DMP
2.19.5 Coordinates: 35–52–21.03N / 78–48–15.70W
2.19.6 Site elevation: 359 ft

2.19.1 ILS type: Glide Slope for runway 23R. Magnetic variation: 9W
2.19.2 ILS identification: DMP
2.19.5 Coordinates: 35–53–32.48N / 78–46–54.35W
2.19.6 Site elevation: 396 ft

2.19.1 ILS type: Localizer for runway 05R. Magnetic variation: 7W
2.19.2 ILS identification: RDU
2.19.5 Coordinates: 35–52–52.09N / 78–46–37.05W
2.19.6 Site elevation: 400 ft

2.19.1 ILS type: Glide Slope for runway 05R. Magnetic variation: 7W
2.19.2 ILS identification: RDU
2.19.5 Coordinates: 35–51–57.02N / 78–47–38.17W
2.19.6 Site elevation: 400 ft

2.19.1 ILS type: Middle Marker for runway 05R. Magnetic variation: 7W
2.19.2 ILS identification: RDU
2.19.5 Coordinates: 35–51–26.40N / 78–48–22.84W
2.19.6 Site elevation: ft

2.19.1 ILS type: Outer Marker for runway 05R. Magnetic variation: 7W
2.19.2 ILS identification: RDU
2.19.5 Coordinates: 35–47–48.98N / 78–52–58.70W
2.19.6 Site elevation: ft

2.19.1 ILS type: Localizer for runway 23L.
Magnetic variation: 7W
2.19.2 ILS identification: LEI
2.19.5 Coordinates: 35–51–45.63N /
78–47–59.10W
2.19.6 Site elevation: 358 ft

2.19.1 ILS type: Middle Marker for runway 23L.
Magnetic variation: 7W
2.19.2 ILS identification: LEI
2.19.5 Coordinates: 35–53–00.00N /
78–46–24.99W
2.19.6 Site elevation: 376 ft

2.19.1 ILS type: Outer Marker for runway 23L.
Magnetic variation: 7W
2.19.2 ILS identification: LEI
2.19.5 Coordinates: 35–55–38.51N /
78–43–19.67W
2.19.6 Site elevation: 500 ft

2.19.1 ILS type: Glide Slope for runway 23L.
Magnetic variation: 7W
2.19.2 ILS identification: LEI
2.19.5 Coordinates: 35–52–36.26N /
78–46–52.29W
2.19.6 Site elevation: 430 ft

General Remarks:
NO JET ENGINE MAINTENANCE RUNS BETWEEN 0000–0600.

NATIONAL GUARD PRIOR PERMISSION REQUIRED FOR LANDING CONTACT V582–9181 C(919)664–9181.

NATIONAL GUARD 24 HR PRIOR PERMISSION REQUIRED FOR JET AIRCRAFT & TRANSMIT MILITARY AIRCRAFT – 919–840–2111.

FOUR ENGINE AIRCRAFT WITH WINGSPAN OVER 171 FT & GROUP V MUST USE RUNWAY 05L/23R.

NO APPROVAL REQUIRED FOR PUSHBACK AT TERMINAL GATES UNLESS AIRCRAFT REQUIRES USE OF TAXIWAY. CONTACT ATC PRIOR TO PUSHING ONTO TAXIWAY.

PRIOR PERMISSION REQUIRED FOR ALL MILITARY AIRCRAFT F/W – R/W & UNSCHEDULED CHARTER FLIGHTS WITH 30 OR MORE PASSENGERS. MILITARY PRACTICE APPROACHES REQUIRE APPROVAL. 24 HOURS PRIOR NOTICE REQUIRED. CONTACT AIRPORT OPERATIONS DSN 528–9181, C919–664–6181/ 919–840–2111.

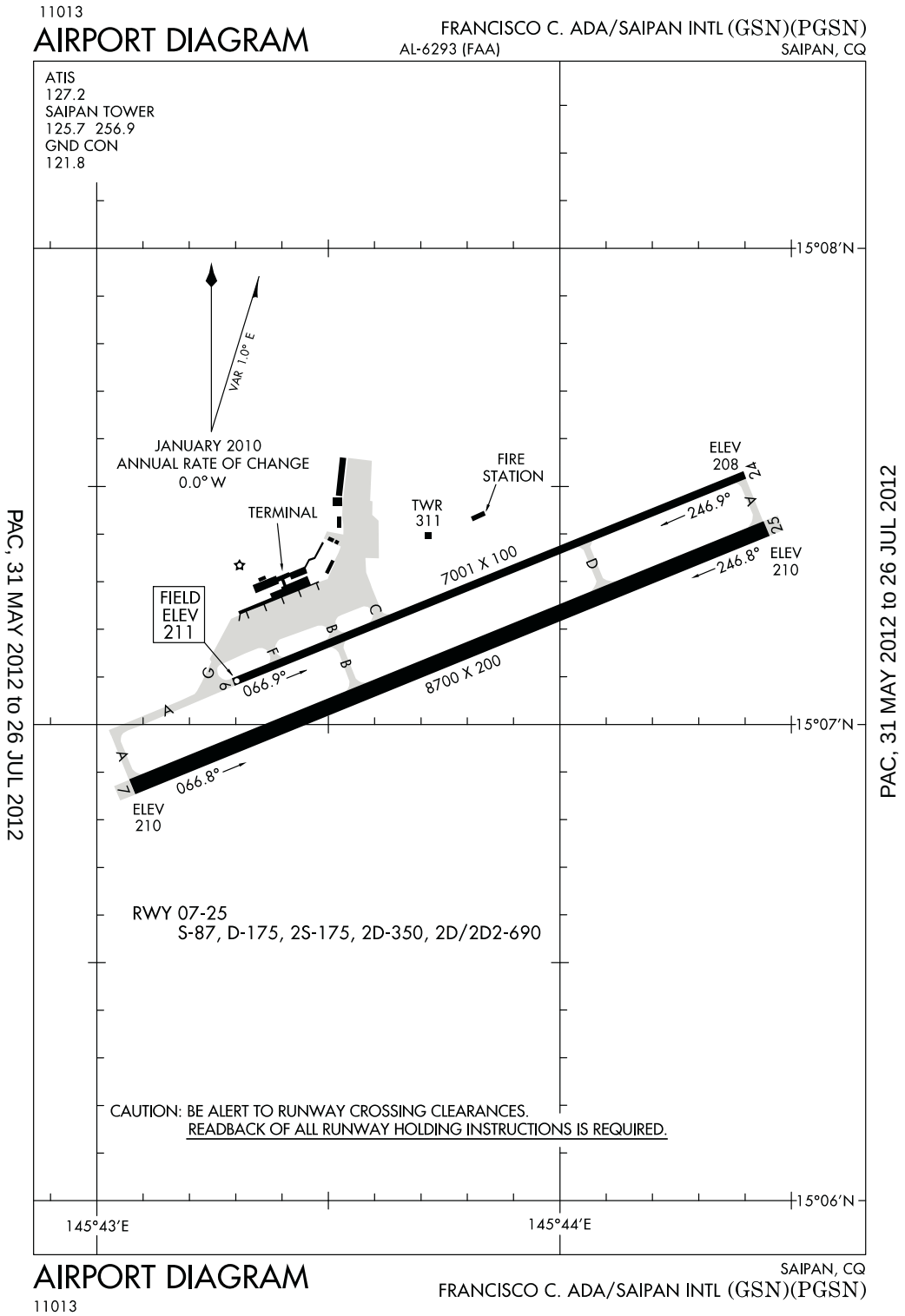
AIRPORT CLOSED TO AIRSHIPS.

TAXIWAY E BEHIND SOUTH CARGO 4 & TAXIWAY J BEHIND CORPORATE HANGARS NOT VISIBLE FROM ATCT.

CRAN 75 FT AGL.76 NAUTICAL MILE FROM APPROACH END RUNWAY 05R.

ARRANGE: LIMITED PARK. ARRANGE OPERATIONS DSN 582–9181 C919–664–6181. RAMP CLOSED TO ALL F/W EXCEPT ARMY & MILITARY TRANSPORT WITH PRIOR PERMISSION REQUIRED, FACILITY HRS 1300–2130Z++ MON=FRI EXCEPT HOLIDAY. MAKE APPT FOR AFTER DUTY HRS. NO FUEL EXCARNG FERRY AIRCRAFT. OSACOM FLIGHT DET DSN 582–9248, C919–664–6248.

North Mariana Islands, Saipan Island
Francisco C. Ada/Saipan International
ICAO Identifier PGSN



Saipan Island, CQ
Francisco C. Ada/Saipan Intl
ICAO Identifier PGSN

AD 2.2 Aerodrome geographical and administrative data
2.2.1 Reference Point: 15–07–12.92N / 145–43–47.94E
2.2.2 From City: 4 Miles SW Of Saipan Island, Cq
2.2.3 Elevation: 211 ft
2.2.5 Magnetic variation: 2E (1985)
2.2.6 Airport Contact: Edward M. Deleon Guerrero
PO BOX 501055
Saipan, MP 96950
(670–237–6500/01)
2.2.7 Traffic: IFR/VFR

AD 2.3 Operational hours
2.3.1 – 2.3.11: ALL Months, ALL Days, ALL Hours

AD 2.4 Handling services and facilities
2.4.1 Cargo handling facilities: No
2.4.2 Fuel types: 100,100LL,A1+
2.4.4 De–icing facilities: None
2.4.5 Hangar space: No
2.4.6 Repair facilities: None

AD 2.6 Rescue and firefighting services
2.6.1 Aerodrome category for firefighting: ARFF Index I D certified on 1/1/1978
2.6.4 Remarks: Closed To Unscheduled Aircraft 0 Operations With More Than 30 Passenger Seats Except Prior Permission Required Call Or Write Airport Manager
670–237–6500/670–483–1512(Cell); P.O. Box 501055 Saipan Mp 96950.

AD 2.12 Runway physical characteristics
2.12.1 Designation: 07
2.12.2 True Bearing: 68
2.12.3 Dimensions: 8700 ft x 200 ft
2.12.5 Coordinates: 15–06–52.11N / 145–43–00.00E
2.12.6 Threshold elevation: 210 ft
2.12.6 Touchdown zone elevation: 215 ft

2.12.1 Designation: 25
2.12.2 True Bearing: 248
2.12.3 Dimensions: 8700 ft x 200 ft
2.12.5 Coordinates: 15–07–24.70N / 145–44–26.79E
2.12.6 Threshold elevation: 210 ft
2.12.6 Touchdown zone elevation: 210 ft

2.12.1 Designation: 06
2.12.2 True Bearing: 68
2.12.3 Dimensions: 7001 ft x 100 ft
2.12.5 Coordinates: 15–07–00.00N / 145–43–17.64E
2.12.6 Threshold elevation: 211 ft
2.12.6 Touchdown zone elevation: 211 ft

2.12.1 Designation: 24
2.12.2 True Bearing: 248
2.12.3 Dimensions: 7001 ft x 100 ft
2.12.5 Coordinates: 15–07–31.57N / 145–44–23.86E
2.12.6 Threshold elevation: 208 ft
2.12.6 Touchdown zone elevation: 208 ft

AD 2.14 Approach and runway lighting
2.14.1 Designation: 07
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–box VASI on left
2.14.10 Remarks: Restricted To 2.5nm & 5 Degrees Left & Right Of Runway Centerline Due To Intensity.

2.14.1 Designation: 25
2.14.4 Visual approach slope indicator system: 6–box VASI on left
2.14.10 Remarks: Restricted Beyond 2.5 Nm Due To Intensity.
vasi Upwind Threshold Crossing Height 105 Ft Glide Angle 3.25; Downwind Threshold Crossing Height 60 Ft Glide Angle 3.00. Threshold Crossing Height 105 Ft Applies To VASI 6 High Angle.

2.14.1 Designation: 06
2.14.4 Visual approach slope indicator system: PVASI on left

2.14.1 Designation: 24
2.14.4 Visual approach slope indicator system: PVASI on left

AD 2.19 Radio navigation and landing aids
2.19.1 ILS type: Localizer for runway 07. Magnetic variation: 2E

2.19.2 ILS identification: GSN
2.19.5 Coordinates: 15−07−26.58N / 145−44−31.52E
2.19.6 Site elevation: 211 ft

2.19.1 ILS type: Glide Slope for runway 07. Magnetic variation: 2E
2.19.2 ILS identification: GSN
2.19.5 Coordinates: 15−06−58.69N / 145−43−13.05E
2.19.6 Site elevation: 208 ft

2.19.1 ILS type: DME for runway 07. Magnetic variation: 2E
2.19.2 ILS identification: GSN
2.19.5 Coordinates: 15−07−29.14N / 145−44−30.86E
2.19.6 Site elevation: 223 ft

2.19.1 ILS type: Middle Marker for runway 07. Magnetic variation: 2E
2.19.2 ILS identification: GSN
2.19.5 Coordinates: 15−06−41.60N / 145−42−38.10E
2.19.6 Site elevation: 86 ft

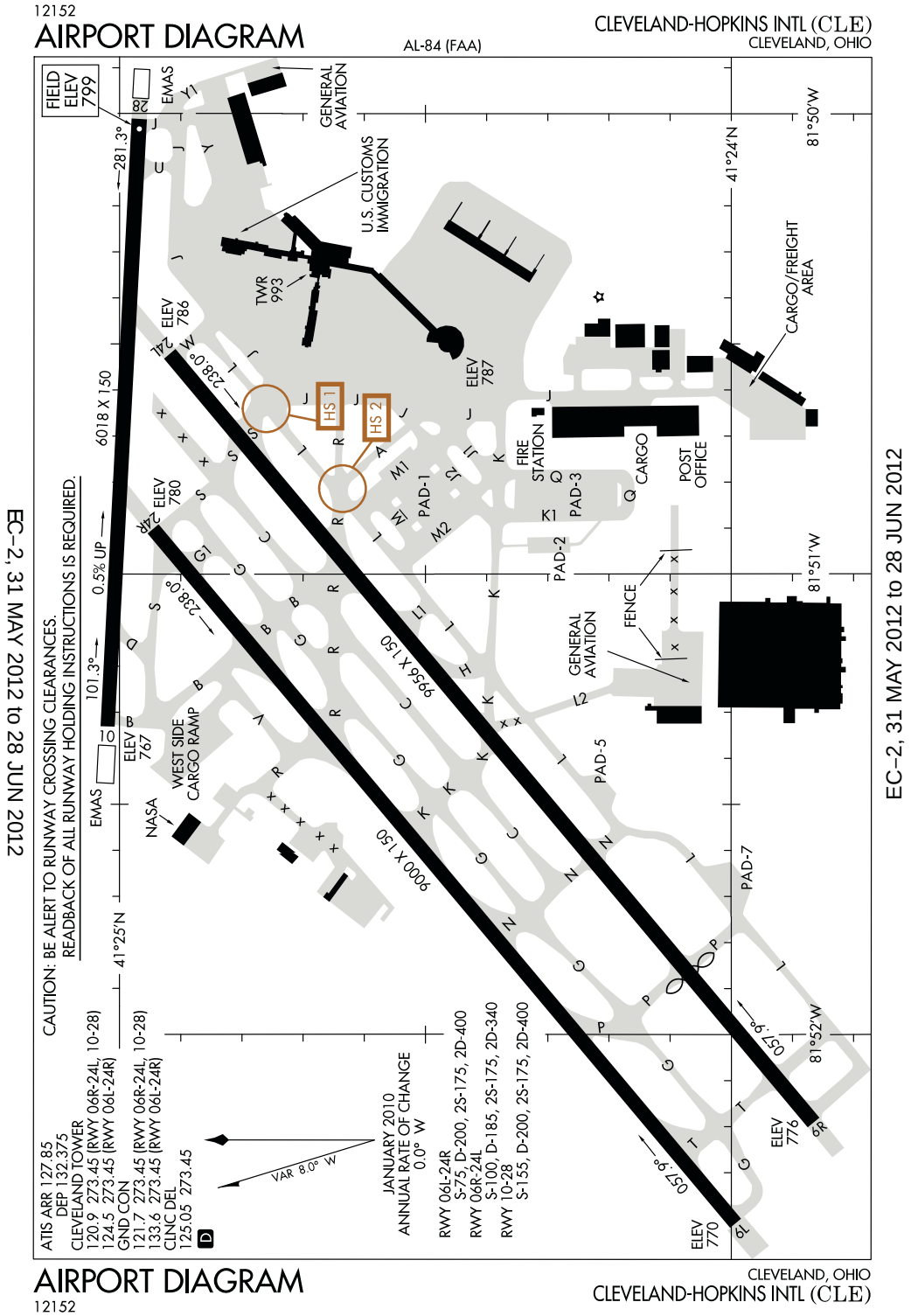
General Remarks:
IMMIGRATION & CUSTOMS AVAILABLE DURING SCHEDULED OPERATIONS. OTHER TIMES PRIOR ARRANGEMENTS MUST BE MADE WITH CBP PORT DIRECTOR CALL (670)288−0025/26.

FOR AIRPORT SECURITY CALL (670) 237−6529.

RUNWAY 07/25 CLOSED 1600 − 0000 AND 0500 − 1300.

RUNWAY 06/24 OPEN FOR TAXIING ONLY (NOT AVABL FOR LANDING & TKOFF) 1300 − 1600 AND 0000 − 0500 OTHER TIMES BY NOTAM.

Cleveland, Ohio
Cleveland–Hopkins International
ICAO Identifier KCLE



Cleveland, OH
Cleveland−Hopkins Intl
ICAO Identifier KCLE

AD 2.2 Aerodrome geographical and administrative data
2.2.1 Reference Point: 41−24−33.90N / 81−51−16.90W
2.2.2 From City: 9 Miles SW Of Cleveland, OH
2.2.3 Elevation: 799.4 ft
2.2.5 Magnetic variation: 7W (1990)
2.2.6 Airport Contact: Ricky Smith
5300 RIVERSIDE DR
Cleveland, OH 44181
(216−265−6000)
2.2.7 Traffic: IFR/VFR

AD 2.3 Operational hours
2.3.1 − 2.3.11: ALL Months, ALL Days, ALL Hours

AD 2.4 Handling services and facilities
2.4.1 Cargo handling facilities: No
2.4.2 Fuel types: 100LL,A1+
2.4.4 De−icing facilities: None
2.4.5 Hangar space: Yes
2.4.6 Repair facilities: Major

AD 2.6 Rescue and firefighting services
2.6.1 Aerodrome category for firefighting: ARFF Index I C certified on 5/1/1973

AD 2.10 Aerodrome obstacles
2.10.1.a. Runway designation: 06R
2.10.1.b Type of obstacle: Trees (80 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 370 ft from Centerline

2.10.1.a. Runway designation: 28
2.10.1.b Type of obstacle: Pole (25 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 630 ft from Centerline

2.10.1.a. Runway designation: 10
2.10.1.b Type of obstacle: Road (6 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 0 ft from Centerline

2.10.1.a. Runway designation: 06L
2.10.1.b Type of obstacle: Trees (97 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 847 ft from Centerline

AD 2.12 Runway physical characteristics
2.12.1 Designation: 06R
2.12.2 True Bearing: 50
2.12.3 Dimensions: 9956 ft x 150 ft
2.12.5 Coordinates: 41−23−51.85N / 81−52−11.38W
2.12.6 Threshold elevation: 776 ft
2.12.6 Touchdown zone elevation: 776 ft

2.12.1 Designation: 24L
2.12.2 True Bearing: 230
2.12.3 Dimensions: 9956 ft x 150 ft
2.12.5 Coordinates: 41−24−55.14N / 81−50−31.37W
2.12.6 Threshold elevation: 786 ft
2.12.6 Touchdown zone elevation: 786 ft

2.12.1 Designation: 10
2.12.2 True Bearing: 93
2.12.3 Dimensions: 6018 ft x 150 ft
2.12.5 Coordinates: 41−25−00.00N / 81−51−15.28W
2.12.6 Threshold elevation: 767 ft
2.12.6 Touchdown zone elevation: 783 ft

2.12.1 Designation: 28
2.12.2 True Bearing: 273
2.12.3 Dimensions: 6018 ft x 150 ft
2.12.5 Coordinates: 41−24−57.82N / 81−49−56.44W
2.12.6 Threshold elevation: 799 ft
2.12.6 Touchdown zone elevation: 799 ft

2.12.1 Designation: 06L
2.12.2 True Bearing: 50
2.12.3 Dimensions: 9000 ft x 150 ft
2.12.5 Coordinates: 41−23−59.53N / 81−52−24.55W
2.12.6 Threshold elevation: 770 ft
2.12.6 Touchdown zone elevation: 772 ft

2.12.1 Designation: 24R
2.12.2 True Bearing: 230
2.12.3 Dimensions: 9000 ft x 150 ft
2.12.5 Coordinates: 41−24−56.75N / 81−50−54.15W

2.12.6 Threshold elevation: 780 ft
2.12.6 Touchdown zone elevation: 780 ft

2.12.1 Designation: 06X
2.12.3 Dimensions: 0 ft x 0 ft

2.12.1 Designation: 24X
2.12.3 Dimensions: 0 ft x 0 ft

AD 2.13 Declared distances
2.13.1 Designation: 06R
2.13.2 Takeoff run available: 9956
2.13.3 Takeoff distance available: 9956
2.13.4 Accelerate–stop distance available: 9956
2.13.5 Landing distance available: 8030

2.13.1 Designation: 24L
2.13.2 Takeoff run available: 9956
2.13.3 Takeoff distance available: 9956
2.13.4 Accelerate–stop distance available: 9956
2.13.5 Landing distance available: 9956

2.13.1 Designation: 10
2.13.2 Takeoff run available: 6018
2.13.3 Takeoff distance available: 6018
2.13.4 Accelerate–stop distance available: 6018
2.13.5 Landing distance available: 6018

2.13.1 Designation: 28
2.13.2 Takeoff run available: 6018
2.13.3 Takeoff distance available: 6018
2.13.4 Accelerate–stop distance available: 6018
2.13.5 Landing distance available: 6018

2.13.1 Designation: 06L
2.13.2 Takeoff run available: 9000
2.13.3 Takeoff distance available: 9000
2.13.4 Accelerate–stop distance available: 9000
2.13.5 Landing distance available: 9000

2.13.1 Designation: 24R
2.13.2 Takeoff run available: 9000
2.13.3 Takeoff distance available: 9000
2.13.4 Accelerate–stop distance available: 9000
2.13.5 Landing distance available: 9000

AD 2.14 Approach and runway lighting
2.14.1 Designation: 06R
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 24L
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on right

2.14.1 Designation: 10
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 28
2.14.4 Visual approach slope indicator system: 4–light PAPI on right

2.14.1 Designation: 06L
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 24R
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration
2.14.4 Visual approach slope indicator system: 4–light PAPI on right

AD 2.18 Air traffic services communication facilities
2.18.1 Service designation: EMERG
2.18.3 Service designation: 121.5 MHz

2.18.1 Service designation: CD/P PTC
2.18.3 Service designation: 125.05 MHz

2.18.1 Service designation: EMERG
2.18.3 Service designation: 243 MHz

2.18.1 Service designation: RAMP CONTROL
2.18.3 Service designation: 129.17 MHz

2.18.1 Service designation: DEP/P
2.18.3 Service designation: 118.15 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 125.35 MHz

2.18.1 Service designation: DEP/P
2.18.3 Service designation: 128.25 MHz

2.18.1 Service designation: D−ATIS
2.18.3 Service designation: 127.85 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: D−ATIS
2.18.3 Service designation: 132.375 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: LCL/S
2.18.3 Service designation: 135.225 MHz

2.18.1 Service designation: LC/P
2.18.3 Service designation: 124.5 MHz

2.18.1 Service designation: GROUND METERING
2.18.3 Service designation: 127.275 MHz

2.18.1 Service designation: APCH/P
2.18.3 Service designation: 124 MHz

2.18.1 Service designation: APCH/P
2.18.3 Service designation: 126.55 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 120.9 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 133.6 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 126.35 MHz

2.18.1 Service designation: LDA PRM RY 06L/24R
2.18.3 Service designation: 118.975 MHz

2.18.1 Service designation: LDA PRM RY 06R/24L
2.18.3 Service designation: 135.875 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 121.7 MHz

2.18.1 Service designation: APCH/P IC
2.18.3 Service designation: 354.025 MHz

2.18.1 Service designation: DEP/P
2.18.3 Service designation: 346.325 MHz

2.18.1 Service designation: LCL/P GND/P CD/P
2.18.3 Service designation: 273.45 MHz

AD 2.19 Radio navigation and landing aids

2.19.1 ILS type: Outer Marker for runway 24L.
Magnetic variation: 7W
2.19.2 ILS identification: HPI
2.19.5 Coordinates: 41−28−00.00N / 81−43−35.83W
2.19.6 Site elevation: 736 ft

2.19.1 ILS type: Localizer for runway 24L.
Magnetic variation: 7W
2.19.2 ILS identification: HPI
2.19.5 Coordinates: 41−23−45.43N / 81−52−21.52W
2.19.6 Site elevation: 771.9 ft

2.19.1 ILS type: Glide Slope for runway 24L.
Magnetic variation: 7W
2.19.2 ILS identification: HPI
2.19.5 Coordinates: 41−24−51.95N / 81−50−45.31W
2.19.6 Site elevation: 782.2 ft

2.19.1 ILS type: Middle Marker for runway 24L.
Magnetic variation: 7W
2.19.2 ILS identification: HPI
2.19.5 Coordinates: 41−25−22.70N / 81−49−43.90W
2.19.6 Site elevation: ft

2.19.1 ILS type: DME for runway 24L. Magnetic variation: 7W
2.19.2 ILS identification: HPI
2.19.5 Coordinates: 41−23−44.34N / 81−52−18.08W
2.19.6 Site elevation: 778.9 ft

2.19.1 ILS type: Glide Slope for runway 06R.
Magnetic variation: 7W
2.19.2 ILS identification: CLE
2.19.5 Coordinates: 41−24−13.72N / 81−51−45.28W
2.19.6 Site elevation: 766 ft

2.19.1 ILS type: Inner Marker for runway 06R.
Magnetic variation: 7W
2.19.2 ILS identification: CLE
2.19.5 Coordinates: 41−23−57.23N / 81−52−00.00W
2.19.6 Site elevation: 760 ft

2.19.1 ILS type: Middle Marker for runway 06R.
Magnetic variation: 7W

2.19.2 ILS identification: CLE
2.19.5 Coordinates: 41–23–44.19N / 81–52–23.50W
2.19.6 Site elevation: 768 ft

2.19.1 ILS type: Outer Marker for runway 06R. Magnetic variation: 7W
2.19.2 ILS identification: CLE
2.19.5 Coordinates: 41–20–19.06N / 81–57–51.96W
2.19.6 Site elevation: 800 ft

2.19.1 ILS type: DME for runway 06R. Magnetic variation: 7W
2.19.2 ILS identification: CLE
2.19.5 Coordinates: 41–25–00.00N / 81–50–11.10W
2.19.6 Site elevation: 794.2 ft

2.19.1 ILS type: Localizer for runway 06R. Magnetic variation: 7W
2.19.2 ILS identification: CLE
2.19.5 Coordinates: 41–25–00.00N / 81–50–15.51W
2.19.6 Site elevation: 785.7 ft

2.19.1 ILS type: Localizer for runway 28. Magnetic variation: 7W
2.19.2 ILS identification: PXP
2.19.5 Coordinates: 41–25–00.00N / 81–51–21.25W
2.19.6 Site elevation: 756.2 ft

2.19.1 ILS type: Glide Slope for runway 28. Magnetic variation: 7W
2.19.2 ILS identification: PXP
2.19.5 Coordinates: 41–25–00.00N / 81–50–00.00W
2.19.6 Site elevation: 786 ft

2.19.1 ILS type: Outer Marker for runway 28. Magnetic variation: 7W
2.19.2 ILS identification: PXP
2.19.5 Coordinates: 41–24–34.70N / 81–42–32.40W
2.19.6 Site elevation: ft

2.19.1 ILS type: Middle Marker for runway 28. Magnetic variation: 7W
2.19.2 ILS identification: PXP
2.19.5 Coordinates: 41–24–55.88N / 81–49–10.69W
2.19.6 Site elevation: ft

2.19.1 ILS type: DME for runway 28. Magnetic variation: 7W
2.19.2 ILS identification: PXP
2.19.5 Coordinates: 41–24–58.72N / 81–51–23.84W
2.19.6 Site elevation: 766.2 ft

2.19.1 ILS type: DME for runway 06L. Magnetic variation: 7W
2.19.2 ILS identification: LIZ
2.19.5 Coordinates: 41–25–11.94N / 81–50–35.68W
2.19.6 Site elevation: 783 ft

2.19.1 ILS type: Glide Slope for runway 06L. Magnetic variation: 7W
2.19.2 ILS identification: LIZ
2.19.5 Coordinates: 41–24–00.00N / 81–52–17.52W
2.19.6 Site elevation: 764.3 ft

2.19.1 ILS type: Localizer for runway 06L. Magnetic variation: 7W
2.19.2 ILS identification: LIZ
2.19.5 Coordinates: 41–25–10.19N / 81–50–32.90W
2.19.6 Site elevation: 778.7 ft

2.19.1 ILS type: Inner Marker for runway 06L. Magnetic variation: 7W
2.19.2 ILS identification: LIZ
2.19.5 Coordinates: 41–23–53.94N / 81–52–33.40W
2.19.6 Site elevation: 761.3 ft

2.19.1 ILS type: Inner Marker for runway 24R. Magnetic variation: 7W
2.19.2 ILS identification: PVY
2.19.5 Coordinates: 41–25–00.00N / 81–50–47.31W
2.19.6 Site elevation: 778.7 ft

2.19.1 ILS type: DME for runway 24R. Magnetic variation: 7W
2.19.2 ILS identification: PVY
2.19.5 Coordinates: 41–25–11.94N / 81–50–35.68W

2.19.6 Site elevation: 783.3 ft

2.19.1 ILS type: Localizer for runway 24R. Magnetic variation: 7W
2.19.2 ILS identification: PVY
2.19.5 Coordinates: 41–23–53.08N / 81–52–34.75W
2.19.6 Site elevation: 760.5 ft

2.19.1 ILS type: Glide Slope for runway 24R. Magnetic variation: 7W
2.19.2 ILS identification: PVY
2.19.5 Coordinates: 41–24–53.01N / 81–51–00.00W
2.19.6 Site elevation: 768.4 ft

2.19.1 ILS type: Glide Slope for runway 06X. Magnetic variation: 7W
2.19.2 ILS identification: EYU
2.19.5 Coordinates: 41–24–00.00N / 81–51–38.26W
2.19.6 Site elevation: 765 ft

2.19.1 ILS type: DME for runway 06X. Magnetic variation: 7W
2.19.2 ILS identification: EYU
2.19.5 Coordinates: 41–25–00.00N / 81–50–00.00W
2.19.6 Site elevation: 800.8 ft

2.19.1 ILS type: Localizer for runway 06X. Magnetic variation: 7W
2.19.2 ILS identification: EYU
2.19.5 Coordinates: 41–25–00.00N / 81–50–00.00W
2.19.6 Site elevation: 785.5 ft

2.19.1 ILS type: DME for runway 24X. Magnetic variation: 7W
2.19.2 ILS identification: FVZ
2.19.5 Coordinates: 41–25–00.00N / 81–50–00.00W
2.19.6 Site elevation: 786 ft

2.19.1 ILS type: Localizer for runway 24X. Magnetic variation: 7W
2.19.2 ILS identification: FVZ
2.19.5 Coordinates: 41–23–42.95N / 81–52–14.07W
2.19.6 Site elevation: 768.1 ft

2.19.1 ILS type: Glide Slope for runway 24X. Magnetic variation: 7W
2.19.2 ILS identification: FVZ
2.19.5 Coordinates: 41–24–52.26N / 81–50–30.45W
2.19.6 Site elevation: 782 ft

General Remarks:
DEER & BIRDS INCLUDING WATERFOWL ON & IN THE VICINITY OF AIRPORT.

ADVISE CUSTOMS AVAILABLE MON–FRI 0700–2100; SAT/SUN 0900–1700; ALL REQUEST FOR SERVICE MUST BE MADE WITH THE U.S. CUSTOMS SERVICE OFFICE LOCATED AT GATE A–14 CALL (216) 267–3600 DURING LISTED HOURS.

NASA GLENN RESEARCH CENTER; NASA RAMP PRIOR PERMISSION REQUIRED CALL 216–433–2020; 0800–1730 MON–FRI. CONTACT NASA OPERATIONS ON FREQ 122.925 WITHIN 50 NAUTICAL MILE.

TAXIWAY ’L2’ CLOSED BETWEEN RUNWAY 06R/24L & TAXIWAY ’L’. AREA MARKED WITH LIGHTED BARRICADES & REFLECTORS.

PAD 2 RESTRICTED TO GROUP II AIRCRAFT, LESS THAN 79 FT WINGSPAN.

ALL APPROACHES ARE OVER NOISE SENSITIVE AREAS. AIRPORT LATE NIGHT NOISE ABATEMENT PROCEDURES ARE IN EFFECT 2300–0600. ADDITIONAL NOISE ABATEMENT PROCEDURES ARE IN EFFECT CALL AIRPORT MANAGER NORMAL BUSINESS HRS AT 216–265–6090.

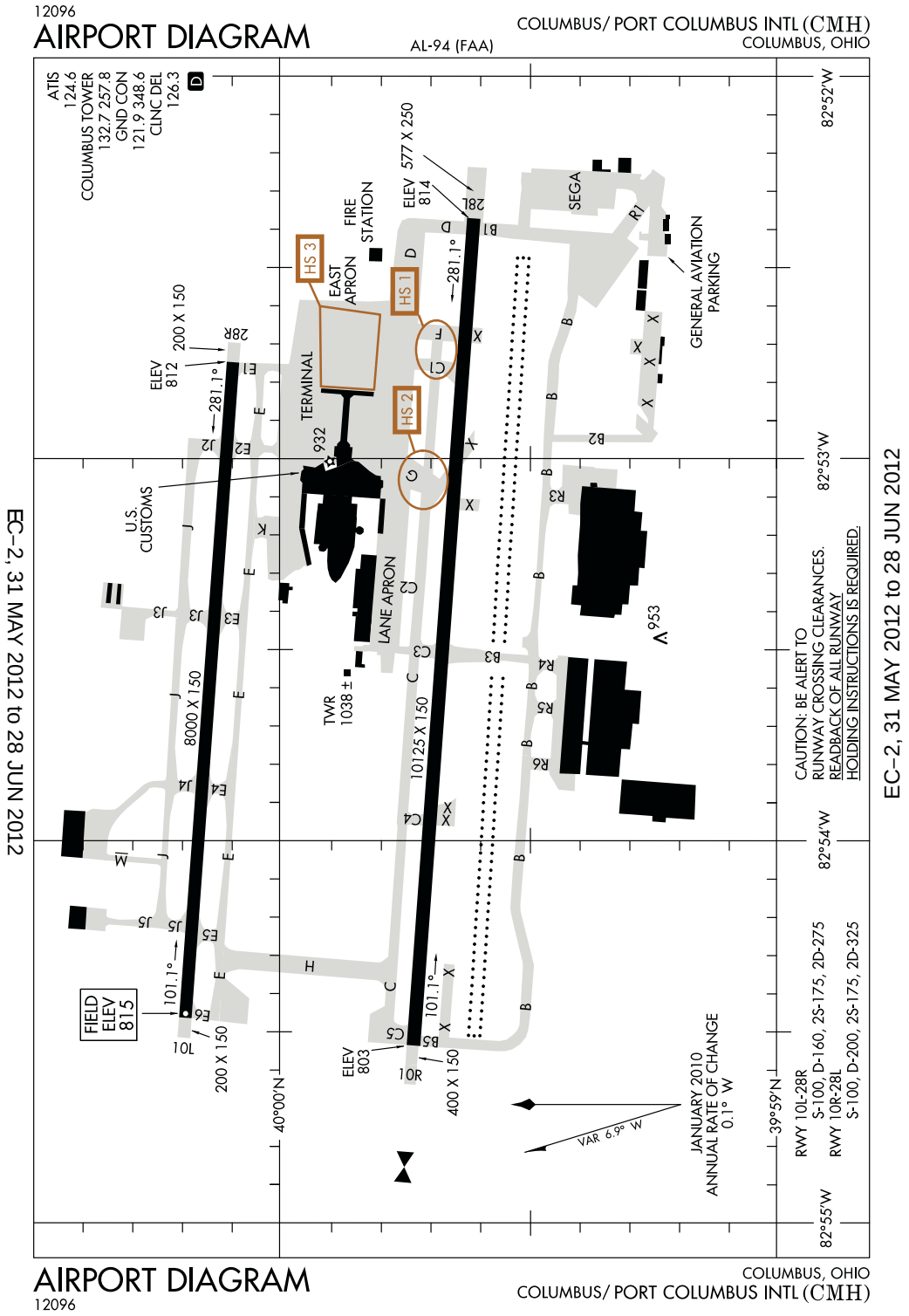
THE FOLLOWING TAXIWAYS ARE CLOSED ANNUALLY FR 15 OCT THRU 15 APR TO SUPPORT DEICING OPERATIONS AT CLE: TAXIWAY M; TAXIWAY M1 BETWEEN TAXIWAY L & TAXIWAY

J1; TAXIWAY M2 BETWEEN TAXIWAY L & TAXIWAY J1; TAXIWAY J2 BETWEEN TAXIWAY A & TAXIWAY K.

RAMP AREA NORTH CONCOURSE D BETWEEN GATES D1, D28 CLOSED EXCEPT AIRCRAFT WINGSPAN LESS THAN 86 FT.

TAXIWAY ’S’ CLOSED BETWEEN TAXIWAY ’B’ & TAXIWAY ’C’; TAXIWAY ’B’ CLOSED BETWEEN TAXIWAY ’V’ ^ RUNWAY 10/28; TAXIWAY ’G’ CLOSED BETWEEN TAXIWAY ’B’ & TAXIWAY ’S’; TAXIWAY ’G1’ CLOSED; TAXIWAY ’D’ CLOSED; TAXIWAY ’U’ CLOSED; TAXIWAY ’J’ CLOSED EAST OF TAXIWAY ’U’; TAXIWAY ’Y’ EAST END CLOSED & TEMPORARILY RELOCATED TO SOUTH WITH GROUP–2 AIRCRAFT RESTRICTION (LESS THAN 79 FT WINGSPAN)

Columbus, Ohio
Port Columbus International
ICAO Identifier KCMH



Columbus, OH
Port Columbus Intl
ICAO Identifier KCMH

AD 2.2 Aerodrome geographical and administrative data
2.2.1 Reference Point: 39–59–52.80N / 82–53–31.30W
2.2.2 From City: 6 Miles E Of Columbus, OH
2.2.3 Elevation: 814.7 ft
2.2.5 Magnetic variation: 5W (1990)
2.2.6 Airport Contact: Elaine Roberts, A.A.E.
COLUMBUS RGNL ARPT AUTH
Columbus, OH 43219
(614–239–4000)
2.2.7 Traffic: IFR/VFR

AD 2.3 Operational hours
2.3.1 – 2.3.11: ALL Months, ALL Days, ALL Hours

AD 2.4 Handling services and facilities
2.4.1 Cargo handling facilities: No
2.4.2 Fuel types: 100,A1+
2.4.4 De–icing facilities: None
2.4.5 Hangar space: Yes
2.4.6 Repair facilities: Major

AD 2.6 Rescue and firefighting services
2.6.1 Aerodrome category for firefighting: ARFF Index I C certified on 5/1/1973

AD 2.12 Runway physical characteristics
2.12.1 Designation: 10L
2.12.2 True Bearing: 94
2.12.3 Dimensions: 8000 ft x 150 ft
2.12.5 Coordinates: 40–00–11.53N / 82–54–27.49W
2.12.6 Threshold elevation: 815 ft
2.12.6 Touchdown zone elevation: 815 ft

2.12.1 Designation: 28R
2.12.2 True Bearing: 274
2.12.3 Dimensions: 8000 ft x 150 ft
2.12.5 Coordinates: 40–00–00.00N / 82–52–44.97W
2.12.6 Threshold elevation: 812 ft
2.12.6 Touchdown zone elevation: 813 ft

2.12.1 Designation: 10R
2.12.2 True Bearing: 94
2.12.3 Dimensions: 10125 ft x 150 ft
2.12.5 Coordinates: 39–59–44.05N / 82–54–32.19W
2.12.6 Threshold elevation: 803 ft
2.12.6 Touchdown zone elevation: 810 ft

2.12.1 Designation: 28L
2.12.2 True Bearing: 274
2.12.3 Dimensions: 10125 ft x 150 ft
2.12.5 Coordinates: 39–59–36.71N / 82–52–22.44W
2.12.6 Threshold elevation: 814 ft
2.12.6 Touchdown zone elevation: 814 ft

AD 2.13 Declared distances
2.13.1 Designation: 10L
2.13.2 Takeoff run available: 8000
2.13.3 Takeoff distance available: 8000
2.13.4 Accelerate–stop distance available: 8000
2.13.5 Landing distance available: 8000

2.13.1 Designation: 28R
2.13.2 Takeoff run available: 8000
2.13.3 Takeoff distance available: 8000
2.13.4 Accelerate–stop distance available: 8000
2.13.5 Landing distance available: 8000

2.13.1 Designation: 10R
2.13.2 Takeoff run available: 10125
2.13.3 Takeoff distance available: 10125
2.13.4 Accelerate–stop distance available: 10125
2.13.5 Landing distance available: 10125

2.13.1 Designation: 28L
2.13.2 Takeoff run available: 10125
2.13.3 Takeoff distance available: 10125
2.13.4 Accelerate–stop distance available: 10125
2.13.5 Landing distance available: 10125

AD 2.14 Approach and runway lighting
2.14.1 Designation: 10L
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 28R
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights

2.14.4 Visual approach slope indicator system: 4–light PAPI on right

2.14.1 Designation: 10R
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on right

2.14.1 Designation: 28L
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights

AD 2.18 Air traffic services communication facilities
2.18.1 Service designation: APCH/S
2.18.3 Service designation: 118.2 MHz

2.18.1 Service designation: APCH/P DEP/P
2.18.3 Service designation: 119.15 MHz

2.18.1 Service designation: CLASS C
2.18.3 Service designation: 119.15 MHz

2.18.1 Service designation: APCH/S
2.18.3 Service designation: 119.65 MHz

2.18.1 Service designation: APCH/S DEP/S
2.18.3 Service designation: 120.2 MHz

2.18.1 Service designation: EMERG
2.18.3 Service designation: 121.5 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 121.9 MHz

2.18.1 Service designation: D–ATIS
2.18.3 Service designation: 124.6 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: APCH/P DEP/P IC
2.18.3 Service designation: 125.95 MHz

2.18.1 Service designation: CLASS C
2.18.3 Service designation: 125.95 MHz

2.18.1 Service designation: CD/P
2.18.3 Service designation: 126.3 MHz

2.18.1 Service designation: APCH/S DEP/S
2.18.3 Service designation: 132.3 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 132.7 MHz

2.18.1 Service designation: EMERG
2.18.3 Service designation: 243 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 257.8 MHz

2.18.1 Service designation: APCH/P DEP/P
2.18.3 Service designation: 279.6 MHz

2.18.1 Service designation: CLASS C
2.18.3 Service designation: 279.6 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 348.6 MHz

2.18.1 Service designation: APCH/S
2.18.3 Service designation: 353.9 MHz

2.18.1 Service designation: APCH/P DEP/P
2.18.3 Service designation: 317.775 MHz

2.18.1 Service designation: CLASS C
2.18.3 Service designation: 317.775 MHz

2.18.1 Service designation: APCH/P DEP/P
2.18.3 Service designation: 338.225 MHz

2.18.1 Service designation: APCH/P DEP/P IC
2.18.3 Service designation: 371.975 MHz

2.18.1 Service designation: APCH/S DEP/S
2.18.3 Service designation: 118 MHz

2.18.1 Service designation: RADAR
2.18.3 Service designation: 294.7 MHz

2.18.1 Service designation: APCH/S DEP/S
2.18.3 Service designation: 324.5 MHz

2.18.1 Service designation: APCH/S DEP/S
2.18.3 Service designation: 353.7 MHz

AD 2.19 Radio navigation and landing aids
2.19.1 ILS type: Localizer for runway 10L. Magnetic variation: 5W
2.19.2 ILS identification: CBP
2.19.5 Coordinates: 40–00–00.00N / 82–52–32.03W
2.19.6 Site elevation: 799.4 ft

2.19.1 ILS type: Glide Slope for runway 10L.
Magnetic variation: 5W
2.19.2 ILS identification: CBP
2.19.5 Coordinates: 40–00–14.28N /
82–54–14.87W
2.19.6 Site elevation: 809.9 ft

2.19.1 ILS type: Outer Marker for runway 10L.
Magnetic variation: 5W
2.19.2 ILS identification: CBP
2.19.5 Coordinates: 40–00–36.46N /
83–01–44.26W
2.19.6 Site elevation: ft

2.19.1 ILS type: Middle Marker for runway 10L.
Magnetic variation: 5W
2.19.2 ILS identification: CBP
2.19.5 Coordinates: 40–00–12.93N /
82–54–52.25W
2.19.6 Site elevation: ft

2.19.1 ILS type: DME for runway 10L. Magnetic variation: 5W
2.19.2 ILS identification: CBP
2.19.5 Coordinates: 40–00–00.00N /
82–54–41.03W
2.19.6 Site elevation: 822.3 ft

2.19.1 ILS type: DME for runway 28R. Magnetic variation: 5W
2.19.2 ILS identification: ONB
2.19.5 Coordinates: 40–00–00.00N /
82–54–41.03W
2.19.6 Site elevation: 822.3 ft

2.19.1 ILS type: Localizer for runway 28R.
Magnetic variation: 5W
2.19.2 ILS identification: ONB
2.19.5 Coordinates: 40–00–12.27N /
82–54–40.56W
2.19.6 Site elevation: 811.6 ft

2.19.1 ILS type: Glide Slope for runway 28R.
Magnetic variation: 5W
2.19.2 ILS identification: ONB
2.19.5 Coordinates: 40–00–00.00N /
82–52–56.99W
2.19.6 Site elevation: 808.4 ft

2.19.1 ILS type: Outer Marker for runway 28R.
Magnetic variation: 5W
2.19.2 ILS identification: ONB
2.19.5 Coordinates: 39–59–46.26N /
82–46–18.93W
2.19.6 Site elevation: 1040 ft

2.19.1 ILS type: Outer Marker for runway 10R.
Magnetic variation: 5W
2.19.2 ILS identification: AQI
2.19.5 Coordinates: 40–00–00.00N /
83–01–45.46W
2.19.6 Site elevation: 747.4 ft

2.19.1 ILS type: Middle Marker for runway 10R.
Magnetic variation: 5W
2.19.2 ILS identification: AQI
2.19.5 Coordinates: 39–59–46.12N /
82–55–00.00W
2.19.6 Site elevation: 812 ft

2.19.1 ILS type: DME for runway 10R. Magnetic variation: 5W
2.19.2 ILS identification: AQI
2.19.5 Coordinates: 39–59–47.82N /
82–54–46.60W
2.19.6 Site elevation: 820.1 ft

2.19.1 ILS type: Localizer for runway 10R.
Magnetic variation: 5W
2.19.2 ILS identification: AQI
2.19.5 Coordinates: 39–59–35.98N /
82–52–00.00W
2.19.6 Site elevation: 811.8 ft

2.19.1 ILS type: Glide Slope for runway 10R.
Magnetic variation: 5W
2.19.2 ILS identification: AQI
2.19.5 Coordinates: 39–59–40.51N /
82–54–19.68W
2.19.6 Site elevation: 800.8 ft

2.19.1 ILS type: DME for runway 28L. Magnetic variation: 5W
2.19.2 ILS identification: CMH
2.19.5 Coordinates: 39–59–47.82N /
82–54–46.60W
2.19.6 Site elevation: 820.1 ft

2.19.1 ILS type: Glide Slope for runway 28L.
Magnetic variation: 5W
2.19.2 ILS identification: CMH
2.19.5 Coordinates: 39–59–41.39N /
82–52–35.19W
2.19.6 Site elevation: 811.5 ft

2.19.1 ILS type: Outer Marker for runway 28L.
Magnetic variation: 5W
2.19.2 ILS identification: CMH
2.19.5 Coordinates: 39−59−10.24N /
82−45−15.66W
2.19.6 Site elevation: 1067.1 ft

2.19.1 ILS type: Localizer for runway 28L.
Magnetic variation: 5W
2.19.2 ILS identification: CMH
2.19.5 Coordinates: 39−59−44.78N /
82−54−45.21W
2.19.6 Site elevation: 804.4 ft

2.19.1 ILS type: Middle Marker for runway 28L.
Magnetic variation: 5W
2.19.2 ILS identification: CMH
2.19.5 Coordinates: 39−59−34.84N /
82−51−48.16W
2.19.6 Site elevation: 787 ft

General Remarks:
MODEL AIRCRAFT TRAFFIC WITHIN A 1 NAUTICAL MILE RADIUS OF A POINT 8 NAUTICAL MILE ON A 010 DEGREE BEARING FROM THE AIRPORT; SURFACE – 5000 FT AGL; SR−SS DAILY.

BIRDS IN THE VICINITY OF AIRPORT.

C−3 PAVEMENT (NORTH OF TAXIWAY C) IS 35 FT WIDE; RESTRICTED TO AIRCRAFT 50000 LBS OR LESS WITH WINGSPAN LESS THAN 79 FT.

BE ALERT: RUNWAY 10L/28R RESTRICTIONS ON STAGE I & II TURBOJET AIRCRAFT 2200−0800 & ON STAGE III TURBOJET AIRCRAFT 2200−0700. PRACTICE APPROACHES FOR HIGH NOISE LEVEL TYPE AIRCRAFT INCLUDING NON−STAGE III MILITARY JET AIRCRAFT SHALL NOT BE APPROVED UNLESS RUNWAY 10R/28L IS IN USE & THE APPROACH TERMINATES IN A FULL STOP TAXI−BACK OPN.

ALL SURFACES AROUND TERMINAL; NORTH OF TAXIWAY ’C’ & SOUTH OF TAXIWAY ’E’ ARE NON−MOVEMENT AREAS.

NOISE BARRIER LOCATED AT SE SIDE OF AIRFIELD RESTRICTED TO AIRCRAFT WITH WINGSPAN LESS THAN 79 FT.

PERSONNEL AND EQUIPMENT WORKING ADJACENT ALL RUNWAYS AND TAXIWAYS.

TO REQUEST LANDING RIGHTS CONTACT US CUSTOMS BETWEEN 1230−0300Z, MON−FRI AT 614−497−1865.

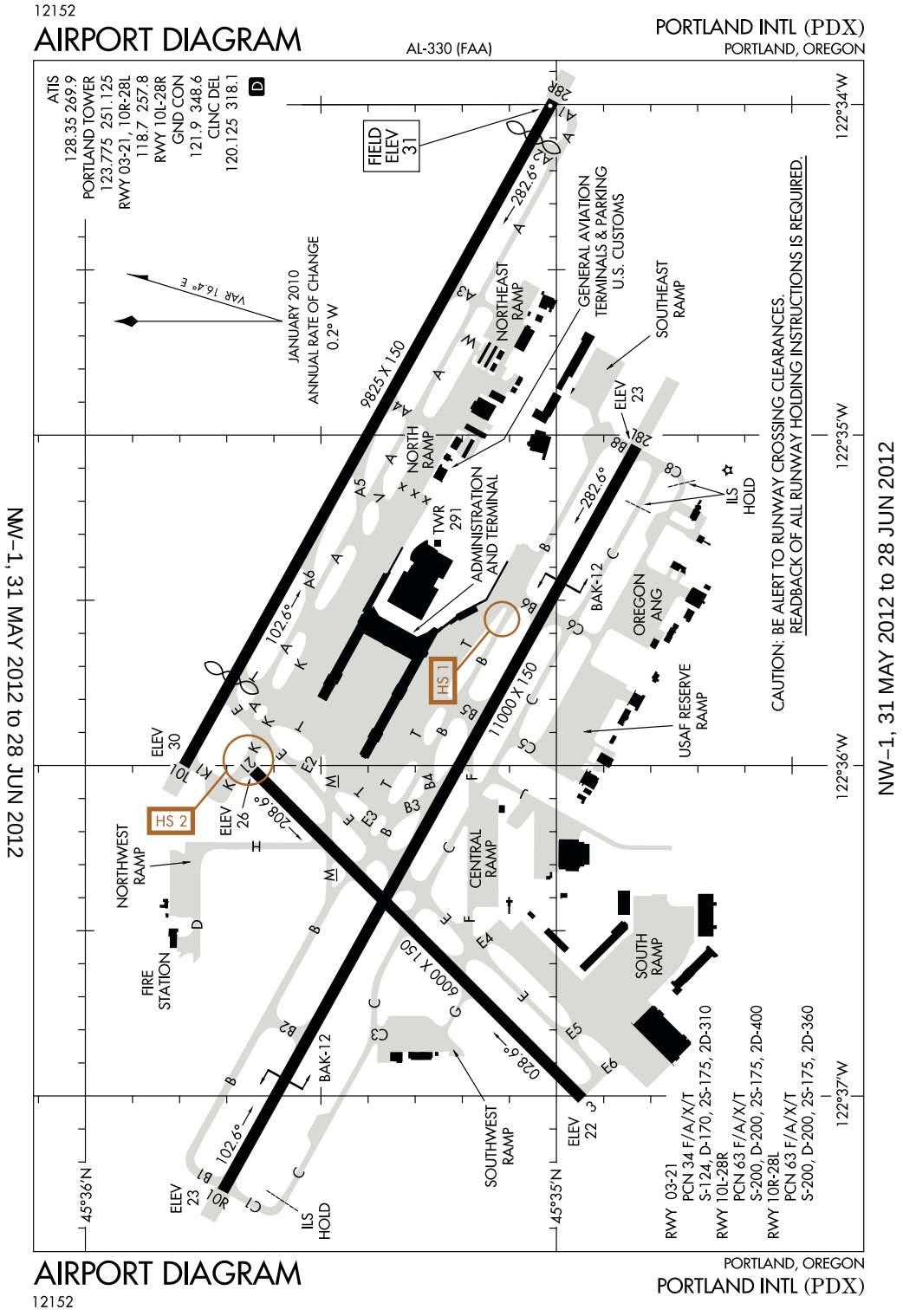
FLIGHT NOTIFICATION SERVICE (ADCUS) AVAILABLE.

TAXIWAY J2 RESTRICTED TO AIRCRAFT WITH WINGSPAN LESS THAN 120 FT.

BE ALERT: LARGE AREAS OF CONSTRUCTION S OF RUNWAY 10R/28L. S AIRFIELD ACCESS ROUTEDS WILL CHANGE FREQUENTLY.

GATE C46, NO POWER OUT OPERATIONS; PUSH BACK REQUIRED.

Portland, Oregon
Portland International
ICAO Identifier KPDX



Portland, OR
Portland Intl
ICAO Identifier KPDX

AD 2.2 Aerodrome geographical and administrative data
2.2.1 Reference Point: 45–35–19.35N / 122–35–48.73W
2.2.2 From City: 4 Miles NE Of Portland, OR
2.2.3 Elevation: 31 ft
2.2.5 Magnetic variation: 20E (1980)
2.2.6 Airport Contact: Daren Griffin
7000 NE AIRPORT WAY
Portland, OR 97218
(503–460–4125)
2.2.7 Traffic: IFR/VFR

AD 2.3 Operational hours
2.3.1 – 2.3.11: ALL Months, ALL Days, ALL Hours

AD 2.4 Handling services and facilities
2.4.1 Cargo handling facilities: No
2.4.2 Fuel types: 100LL,A
2.4.4 De–icing facilities: None
2.4.5 Hangar space: Yes
2.4.6 Repair facilities: Major

AD 2.6 Rescue and firefighting services
2.6.1 Aerodrome category for firefighting: ARFF Index I E certified on 5/1/1973

AD 2.10 Aerodrome obstacles
2.10.1.a. Runway designation: 21
2.10.1.b Type of obstacle: Road (19 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 0 ft from Centerline

2.10.1.a. Runway designation: 28R
2.10.1.b Type of obstacle: Road (32 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 408 ft from Centerline

AD 2.12 Runway physical characteristics
2.12.1 Designation: 03
2.12.2 True Bearing: 45
2.12.3 Dimensions: 6000 ft x 150 ft
2.12.4 PCN: 34 F/A/X/T
2.12.5 Coordinates: 45–34–56.73N / 122–37–00.00W
2.12.6 Threshold elevation: 22 ft
2.12.6 Touchdown zone elevation: 23 ft

2.12.1 Designation: 21
2.12.2 True Bearing: 225
2.12.3 Dimensions: 6000 ft x 150 ft
2.12.4 PCN: 34 F/A/X/T
2.12.5 Coordinates: 45–35–38.61N / 122–36–00.00W
2.12.6 Threshold elevation: 26 ft
2.12.6 Touchdown zone elevation: 26 ft

2.12.1 Designation: 10R
2.12.2 True Bearing: 119
2.12.3 Dimensions: 11000 ft x 150 ft
2.12.4 PCN: 63 F/A/X/T
2.12.5 Coordinates: 45–35–42.53N / 122–37–17.30W
2.12.6 Threshold elevation: 23 ft
2.12.6 Touchdown zone elevation: 24 ft

2.12.1 Designation: 28L
2.12.2 True Bearing: 299
2.12.3 Dimensions: 11000 ft x 150 ft
2.12.4 PCN: 63 F/A/X/T
2.12.5 Coordinates: 45–34–49.85N / 122–35–00.00W
2.12.6 Threshold elevation: 23 ft
2.12.6 Touchdown zone elevation: 23 ft

2.12.1 Designation: 10L
2.12.2 True Bearing: 119
2.12.3 Dimensions: 9825 ft x 150 ft
2.12.4 PCN: 63 F/A/X/T
2.12.5 Coordinates: 45–35–47.45N / 122–36–00.00W
2.12.6 Threshold elevation: 30 ft
2.12.6 Touchdown zone elevation: 30 ft

2.12.1 Designation: 28R
2.12.2 True Bearing: 299
2.12.3 Dimensions: 9825 ft x 150 ft
2.12.4 PCN: 63 F/A/X/T
2.12.5 Coordinates: 45–35–00.00N / 122–33–59.26W
2.12.6 Threshold elevation: 31 ft
2.12.6 Touchdown zone elevation: 31 ft

AD 2.13 Declared distances
2.13.1 Designation: 03

2.13.2 Takeoff run available: 6000
2.13.3 Takeoff distance available: 6000
2.13.4 Accelerate–stop distance available: 6000
2.13.5 Landing distance available: 6000

2.13.1 Designation: 21
2.13.2 Takeoff run available: 6000
2.13.3 Takeoff distance available: 6000
2.13.4 Accelerate–stop distance available: 6000
2.13.5 Landing distance available: 6000

2.13.1 Designation: 10R
2.13.2 Takeoff run available: 11000
2.13.3 Takeoff distance available: 11000
2.13.4 Accelerate–stop distance available: 11000
2.13.5 Landing distance available: 11000

2.13.1 Designation: 28L
2.13.2 Takeoff run available: 11000
2.13.3 Takeoff distance available: 11000
2.13.4 Accelerate–stop distance available: 11000
2.13.5 Landing distance available: 11000

2.13.1 Designation: 10L
2.13.2 Takeoff run available: 9825
2.13.3 Takeoff distance available: 9825
2.13.4 Accelerate–stop distance available: 9825
2.13.5 Landing distance available: 8535

2.13.1 Designation: 28R
2.13.2 Takeoff run available: 9825
2.13.3 Takeoff distance available: 9825
2.13.4 Accelerate–stop distance available: 9825
2.13.5 Landing distance available: 9290

AD 2.14 Approach and runway lighting
2.14.1 Designation: 03
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 21
2.14.4 Visual approach slope indicator system: 4–light PAPI on right

2.14.1 Designation: 10R
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration
2.14.4 Visual approach slope indicator system: 4–light PAPI on right

2.14.1 Designation: 28L
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 10L
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 28R
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on right

AD 2.18 Air traffic services communication facilities
2.18.1 Service designation: DEP/P CLASS C
2.18.3 Service designation: 118.1 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS C
2.18.3 Service designation: 118.1 MHz

2.18.1 Service designation: CD/P
2.18.3 Service designation: 120.125 MHz

2.18.1 Service designation: EMERG
2.18.3 Service designation: 121.5 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 121.9 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS C IC DEP/S
2.18.3 Service designation: 124.35 MHz

2.18.1 Service designation: APCH FINAL CTL
2.18.3 Service designation: 126.9 MHz

2.18.1 Service designation: DEP/S RDR
2.18.3 Service designation: 127.85 MHz

2.18.1 Service designation: AFR OPNS
2.18.3 Service designation: 138.45 MHz

2.18.1 Service designation: EMERG

2.18.3 Service designation: 243 MHz

2.18.1 Service designation: AFR OPNS
2.18.3 Service designation: 252.8 MHz

2.18.1 Service designation: ANG OPNS
2.18.3 Service designation: 280.5 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS C
2.18.3 Service designation: 284.6 MHz

2.18.1 Service designation: COMD POST
2.18.3 Service designation: 288.9 MHz

2.18.1 Service designation: DEP/S
2.18.3 Service designation: 290.3 MHz

2.18.1 Service designation: APCH/S RDR
2.18.3 Service designation: 294.7 MHz

2.18.1 Service designation: CD/P
2.18.3 Service designation: 318.1 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 348.6 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS C IC
2.18.3 Service designation: 299.2 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 118.7 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 123.775 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 251.125 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 257.8 MHz

2.18.1 Service designation: GND/S
2.18.3 Service designation: 132.275 MHz

2.18.1 Service designation: D−ATIS
2.18.3 Service designation: 128.35 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: D−ATIS
2.18.3 Service designation: 269.9 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: ANG OPS/COMD POST
2.18.3 Service designation: 281.2 MHz

AD 2.19 Radio navigation and landing aids

2.19.1 ILS type: DME for runway 21. Magnetic variation: 20E
2.19.2 ILS identification: GPO
2.19.5 Coordinates: 45−34−47.97N / 122−37−00.00W
2.19.6 Site elevation: 31 ft

2.19.1 ILS type: Localizer for runway 21. Magnetic variation: 20E
2.19.2 ILS identification: GPO
2.19.5 Coordinates: 45−34−49.75N / 122−37−10.47W
2.19.6 Site elevation: 11 ft

2.19.1 ILS type: Localizer for runway 10R. Magnetic variation: 16E
2.19.2 ILS identification: PDX
2.19.5 Coordinates: 45−34−43.53N / 122−34−45.82W
2.19.6 Site elevation: 20 ft

2.19.1 ILS type: DME for runway 10R. Magnetic variation: 16E
2.19.2 ILS identification: PDX
2.19.5 Coordinates: 45−34−46.74N / 122−34−45.23W
2.19.6 Site elevation: 36 ft

2.19.1 ILS type: Glide Slope for runway 10R. Magnetic variation: 16E
2.19.2 ILS identification: PDX
2.19.5 Coordinates: 45−35−33.90N / 122−37−00.00W
2.19.6 Site elevation: 16 ft

2.19.1 ILS type: Outer Marker for runway 10R. Magnetic variation: 16E
2.19.2 ILS identification: PDX
2.19.5 Coordinates: 45−37−24.12N / 122−41−48.15W
2.19.6 Site elevation: 26 ft

2.19.1 ILS type: Middle Marker for runway 10R. Magnetic variation: 16E
2.19.2 ILS identification: PDX
2.19.5 Coordinates: 45−35−58.13N / 122−37−57.39W

2.19.6 Site elevation: 25 ft

2.19.1 ILS type: Inner Marker for runway 10R. Magnetic variation: 16E
2.19.2 ILS identification: PDX
2.19.5 Coordinates: 45–35–46.71N / 122–37–28.03W
2.19.6 Site elevation: 17 ft

2.19.1 ILS type: Localizer for runway 28L. Magnetic variation: 20E
2.19.2 ILS identification: JMJ
2.19.5 Coordinates: 45–35–50.52N / 122–37–37.81W
2.19.6 Site elevation: 25 ft

2.19.1 ILS type: DME for runway 28L. Magnetic variation: 20E
2.19.2 ILS identification: JMJ
2.19.5 Coordinates: 45–34–46.74N / 122–34–45.23W
2.19.6 Site elevation: 36 ft

2.19.1 ILS type: Glide Slope for runway 28L. Magnetic variation: 20E
2.19.2 ILS identification: JMJ
2.19.5 Coordinates: 45–34–52.63N / 122–35–16.71W
2.19.6 Site elevation: 20 ft

2.19.1 ILS type: Localizer for runway 10L. Magnetic variation: 20E
2.19.2 ILS identification: VDG
2.19.5 Coordinates: 45–34–55.53N / 122–33–46.85W
2.19.6 Site elevation: 29 ft

2.19.1 ILS type: DME for runway 10L. Magnetic variation: 20E
2.19.2 ILS identification: VDG
2.19.5 Coordinates: 45–35–47.95N / 122–36–13.55W
2.19.6 Site elevation: 26 ft

2.19.1 ILS type: Glide Slope for runway 10L. Magnetic variation: 20E
2.19.2 ILS identification: VDG
2.19.5 Coordinates: 45–35–39.76N / 122–35–30.17W
2.19.6 Site elevation: 31 ft

2.19.1 ILS type: Glide Slope for runway 28R. Magnetic variation: 20E
2.19.2 ILS identification: IAP
2.19.5 Coordinates: 45–35–00.00N / 122–34–25.01W
2.19.6 Site elevation: 30 ft

2.19.1 ILS type: Outer Marker for runway 28R. Magnetic variation: 20E
2.19.2 ILS identification: IAP
2.19.5 Coordinates: 45–32–28.06N / 122–27–44.78W
2.19.6 Site elevation: ft

2.19.1 ILS type: Middle Marker for runway 28R. Magnetic variation: 20E
2.19.2 ILS identification: IAP
2.19.5 Coordinates: 45–34–44.97N / 122–33–19.90W
2.19.6 Site elevation: ft

2.19.1 ILS type: Localizer for runway 28R. Magnetic variation: 20E
2.19.2 ILS identification: IAP
2.19.5 Coordinates: 45–35–52.30N / 122–36–12.47W
2.19.6 Site elevation: 26 ft

2.19.1 ILS type: DME for runway 28R. Magnetic variation: 20E
2.19.2 ILS identification: IAP
2.19.5 Coordinates: 45–35–47.95N / 122–36–13.55W
2.19.6 Site elevation: 27 ft

General Remarks:
AIRPORT CLOSED TO NON–POWERED AIRCRAFT EXCEPT IN EMERGENCY.

TAXIWAY T BETWEEN EXITS B5 & B6 CLOSED TO AIRCRAFT WITH WINGSPAN OF 118 FT AND GREATER.

MIGRATORY & WINTERING FLOCKS OF LARGE WATERFOWL ON & IN THE VICINITY OF AIRPORT. HEAVY SEAGULL ACTIVITY SEP THRU APR; EXPECT HIGH NUMBER OF BIRDS YEAR AROUND; CHECK LOCAL ADVISORIES.

NOISE ABATEMENT PROCEDURES IN EFFECT; CALL NOISE OFFICE AT 503−460−4100. RUNWAY 28L ARRIVALS ARE NOISE SENSITIVE, EXPECT APPROACH TO 28R WITH TRANSITION TO 28L.

180 DEGREE TURNS BY AIRCRAFT WEIGHING IN EXCESS OF 12500 LBS PROHIBITED ON ALL RUNWAYS & TAXIWAYS.

UNCONTROLLED TRAFFIC AT PEARSON FIELD VANCOUVER AIRMET 3 NAUTICAL MILE W OF RUNWAY 10L THRESHOLD ON EXTENDED CENTERLINE.

(E143−20) LOCALIZER ONLY.RWY 21.

(E94) WSFO/WSO/FW/RFC.

AREA OF TAXIWAY T BETWEEN M AND E3 NOT VISIBLE FROM TOWER.

TAXIWAY F CLOSED TO NON PART 139 AIRCRAFT WITH WINGSPAN GREATER THAN 194 FT.

TAXIWAY F CLOSED TO PART 139 AIRCRAFT WITH WINGSPAN GREATER THAN 108 FT.

AIRCRAFT AUTHORIZE TO UTILIZE THE NORTHWEST RAMP OR THE NORTH RAMP WILL BE TOWED TO/FROM THESE RAMPS.

AT THE WEST END ARM/DEARM AREA ON TAXIWAY C NO AIRCRAFT OF ANY TYPE MAY TAXI PAST THE ARM/DEARM AREA WHILE IT IS BEING USED.

BEARING STRENGTH: RUNWAY 03−21 ST 175, RUNWAY 10L−28R ST175, RUNWAY 10R−28L ST175.

JASU − (AM32A−60) 4(A/M32A−86) (MC−11) 1(MA−1A).

FUEL − A (AIR BP − FLIGHTCRAFT INC., C503−331−4220) J8(MIL) (NC−100LL, A)

FLUID − LHOXRB.

OIL − O−128−133−148(MIL).

MISC: FLIGHT NOTIFICATION SERVICE, ADVISE CUSTOMS, AVAILABLE.

ANG: PRIOR PERMISSION REQUIRED/OFFICIAL BUSINESS ONLY. BASE OPERATIONS OPR 1500−2300Z++ MON−FRI EXCEPT HOLIDAY.; DSN 638−4390, C503−335−4390. CONTACT BASE OPERATIONS 15 MIN PRIOR TO LANDING AND AFTER DEP ON 281.2. TRANSIENT QUARTERS NOT AVAILABLE.

TAXIWAY V CLOSED TO AIRCRAFT WITH WINGSPAN GREATER THAN 135 FT. AIRCRAFT WITH WINGSPAN GREATER THAN 91 FT PROHIBITED FROM TURNING WESTBOUND ONTO TAXIWAY A FROM TAXIWAY V UNLESS UNDER TOW.

ANG: SEE FLIGHT INFORMATION PUBLICATION AP/1 FOR SUPPLEMENTARY AIRPORT INFORMATION. HAZARDOUS BIRD CONDITION EXIST. PHASE 1 MAY−OCT, PHASE II NOV−APR. CURRENT BIRD WATCH CONDITIONS ARE NOT REPORTED ON AUTOMATIC TERMINAL INFORMATION SERVICE.

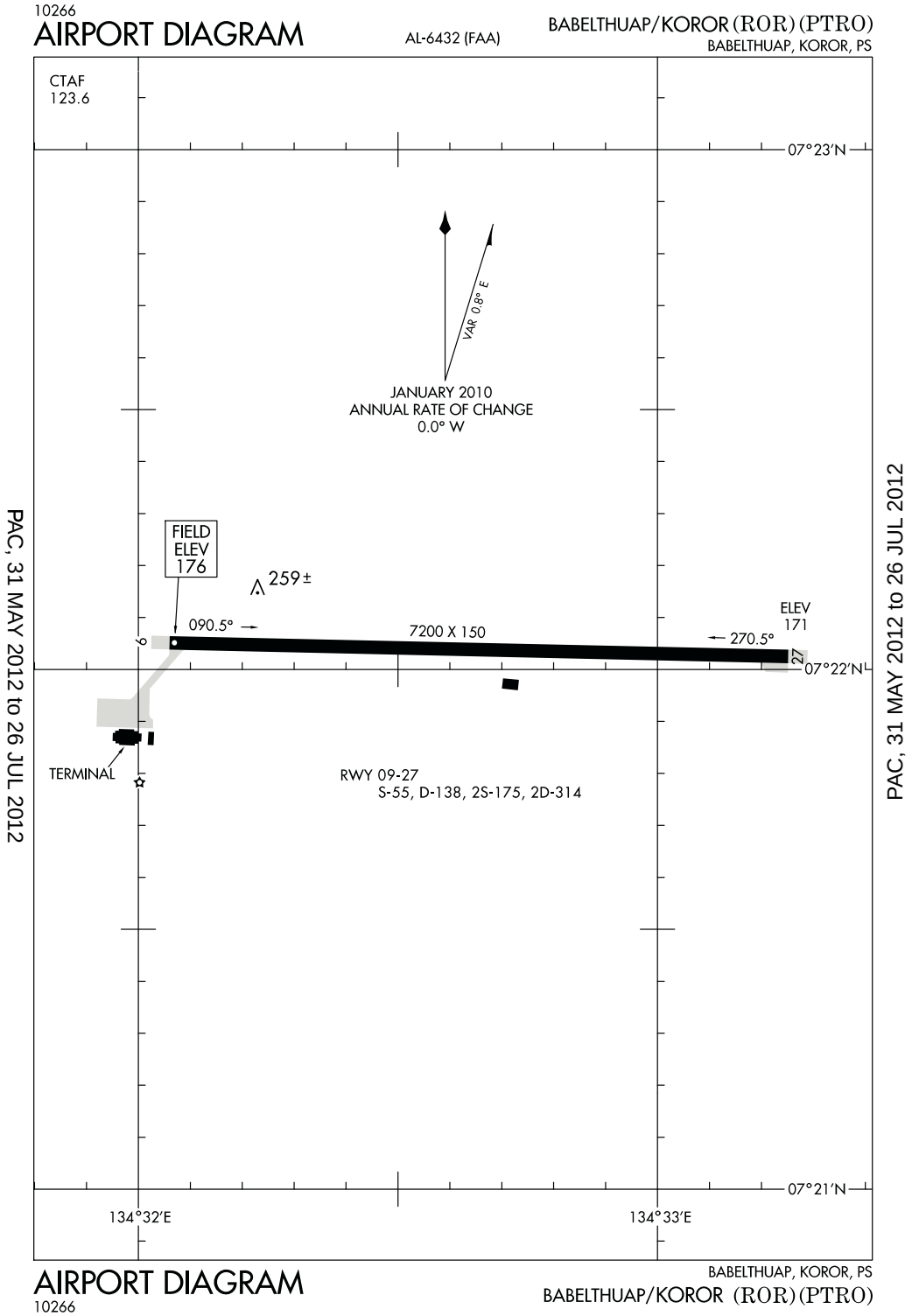
TAXIWAY W BETWEEN TAXIWAY A & THE GENERAL AVIATION RAMP CLOSED TO AIRCRAFT WITH WINGSPAN GREATER THAN 95 FT. AIRCRAFT WITH WINGSPAN BETWEEN 79 FT AND 95

FT MUST BE TOWED. TAXIWAY K BETWEEN THE NORTH RAMP AND THE GENERAL AVIATION RAMP CLOSED TO THROUGH TRAFFIC.

NONSTANDARD YELLOW PARK SPOT DESIGNATORS AND EQUIPMENT TOOL BOX LOCATION PAINTED ON RAMP. LOAD BEARING EDGE ON EAST RAMP NOT MRK. PLEASE CONTACT BASE OPERATIONS OR REQ FOLLOW ME IF NOT FAMILIAR WITH PANGB PARK PROCEDURES.

EXISTING A–G WILL BE REMOVED DURING S RUNWAY REHAB ESTIMATE 01 APR – 30 APR 2011. NEW BARRIER SYS AVAILABLE APPROXIMATELY 30 NOV 2011. REVIEW LOCAL NOTAMS FOR UPDATED STATUS.

Babelthuap Island
Babelthuap/Koror
ICAO Identifier PTRO



Babelthuap Island, PW
Babelthuap/Koror
ICAO Identifier PTRO

AD 2.2 Aerodrome geographical and administrative data
2.2.1 Reference Point: 07–22–00.00N / 134–32–39.40E
2.2.2 From City: 4 Miles NE Of Babelthuap Island, Pw
2.2.3 Elevation: 176 ft
2.2.5 Magnetic variation: 1E (1990)
2.2.7 Traffic: IFR/VFR

AD 2.3 Operational hours
2.3.1 – 2.3.11: ALL Months, ALL Days, ALL Hours

AD 2.4 Handling services and facilities
2.4.1 Cargo handling facilities: No
2.4.2 Fuel types: 115,A1
2.4.4 De–icing facilities: None
2.4.5 Hangar space: No
2.4.6 Repair facilities: None

AD 2.6 Rescue and firefighting services
2.6.1 Aerodrome category for firefighting: None

AD 2.10 Aerodrome obstacles
2.10.1.a. Runway designation: 27
2.10.1.b Type of obstacle: Trees (11 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 75 ft from Centerline

AD 2.12 Runway physical characteristics
2.12.1 Designation: 09
2.12.2 True Bearing: 91
2.12.3 Dimensions: 7200 ft x 150 ft
2.12.5 Coordinates: 07–22–00.00N / 134–32–00.00E
2.12.6 Threshold elevation: 176 ft
2.12.6 Touchdown zone elevation: 176 ft

2.12.1 Designation: 27
2.12.2 True Bearing: 271
2.12.3 Dimensions: 7200 ft x 150 ft
2.12.5 Coordinates: 07–22–00.00N / 134–33–15.17E
2.12.6 Threshold elevation: 171 ft
2.12.6 Touchdown zone elevation: 176 ft

AD 2.14 Approach and runway lighting
2.14.1 Designation: 09
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 27
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

General Remarks:
ALL UNSCHEDULED FLIGHTS MUST FILE A FLIGHT PLAN AT LEAST 7 DAYS PRIOR TO ARRIVAL AND ALL FLIGHTS MUST CONTACT KOROR COMMUNICATIONS ON 123.6 AT LEAST 20 MINUTES PRIOR TO ARRIVAL.

AIRCRAFT RESCUE AND FIRE FIGHTING AVAILABLE 2 HRS PRIOR TO SCHEDULE AIRCRAFT ARR AND UNTIL 1 HR AFTER DEP.

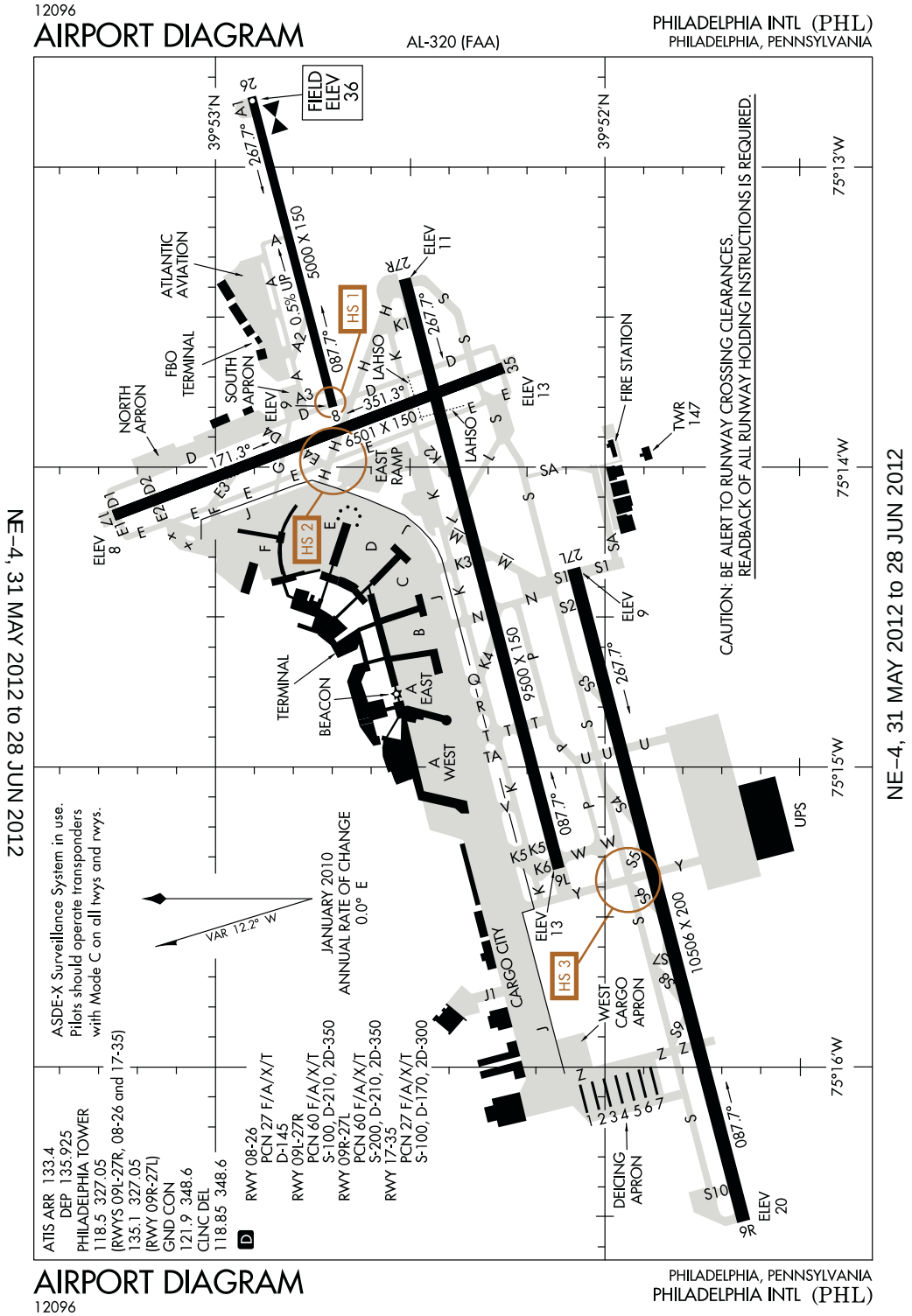
BE ALERT TO LARGE NUMBER OF BIRDS ON RUNWAY AT NIGHT.

ALL AIRCRAFT EXCEEDING 100000 LBS GROSS WEIGHT TAXI TO THR TURN AROUND BEFORE TAXING TO APRON. AIRCRAFT UNDER 100000 LBS GROSS WEIGHT MAY MAKE A TURN AROUND WHERE FEASIBLE.

ENTRY PERMIT REQUIRED CALL 011–680–488–2498 FAX 011–680–488–4385; LANDING PERMIT REQUIRED MUST GIVE SEVEN DAYS NOTICE CALL 011–680–488–2111 FAX 011–680–488–3207.

(E94) WX STATION 5 MI FROM AIRPORT.

Philadelphia, Pennsylvania
Philadelphia International
ICAO Identifier KPHL



Philadelphia, PA
Philadelphia Intl
ICAO Identifier KPHL

AD 2.2 Aerodrome geographical and administrative data
2.2.1 Reference Point: 39–52–20.10N / 75–14–27.12W
2.2.2 From City: 5 Miles SW Of Philadelphia, PA
2.2.3 Elevation: 36 ft
2.2.5 Magnetic variation: 10W (1980)
2.2.6 Airport Contact: Mark Gale
DIV OF AVIATION
TERMINAL E
Philadelphia, PA 19153
(215–937–6914)
2.2.7 Traffic: IFR/VFR

AD 2.3 Operational hours
2.3.1 – 2.3.11: ALL Months, ALL Days, ALL Hours

AD 2.4 Handling services and facilities
2.4.1 Cargo handling facilities: No
2.4.2 Fuel types: 100LL,A
2.4.4 De–icing facilities: None
2.4.5 Hangar space: Yes
2.4.6 Repair facilities: Major

AD 2.6 Rescue and firefighting services
2.6.1 Aerodrome category for firefighting: ARFF Index I E certified on 5/1/1973

AD 2.10 Aerodrome obstacles
2.10.1.a. Runway designation: 09R
2.10.1.b Type of obstacle: Trees (11 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 360 ft from Centerline

2.10.1.a. Runway designation: 27L
2.10.1.b Type of obstacle: Boat (189 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 0 ft from Centerline

2.10.1.a. Runway designation: 09L
2.10.1.b Type of obstacle: Gnd (17 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 460 ft from Centerline

2.10.1.a. Runway designation: 27R
2.10.1.b Type of obstacle: Boat (189 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 0 ft from Centerline

2.10.1.a. Runway designation: 17
2.10.1.b Type of obstacle: Pole (49 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 560 ft from Centerline

2.10.1.a. Runway designation: 35
2.10.1.b Type of obstacle: Boat (189 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 0 ft from Centerline

2.10.1.a. Runway designation: 08
2.10.1.b Type of obstacle: Bldg (190 ft). Lighted
2.10.1.c Location of obstacle: 200 ft from Centerline

2.10.1.a. Runway designation: 26
2.10.1.b Type of obstacle: Fence (5 ft). Lighted
2.10.1.c Location of obstacle: 280 ft from Centerline

AD 2.12 Runway physical characteristics
2.12.1 Designation: 09R
2.12.2 True Bearing: 75
2.12.3 Dimensions: 10506 ft x 200 ft
2.12.4 PCN: 60 F/A/X/T
2.12.5 Coordinates: 39–51–38.92N / 75–16–30.70W
2.12.6 Threshold elevation: 20 ft
2.12.6 Touchdown zone elevation: 21 ft

2.12.1 Designation: 27L
2.12.2 True Bearing: 255
2.12.3 Dimensions: 10506 ft x 200 ft
2.12.4 PCN: 60 F/A/X/T
2.12.5 Coordinates: 39–52–00.00N / 75–14–20.27W
2.12.6 Threshold elevation: 9 ft
2.12.6 Touchdown zone elevation: 10 ft

2.12.1 Designation: 09L
2.12.2 True Bearing: 75
2.12.3 Dimensions: 9500 ft x 150 ft
2.12.4 PCN: 60 F/A/X/T
2.12.5 Coordinates: 39–52–00.00N / 75–15–20.39W
2.12.6 Threshold elevation: 13 ft

2.12.6 Touchdown zone elevation: 13 ft

2.12.1 Designation: 27R
2.12.2 True Bearing: 255
2.12.3 Dimensions: 9500 ft x 150 ft
2.12.4 PCN: 60 F/A/X/T
2.12.5 Coordinates: 39−52−30.79N / 75−13−22.44W
2.12.6 Threshold elevation: 11 ft
2.12.6 Touchdown zone elevation: 11 ft

2.12.1 Designation: 17
2.12.2 True Bearing: 159
2.12.3 Dimensions: 6501 ft x 150 ft
2.12.4 PCN: 27 F/A/X/T
2.12.5 Coordinates: 39−53−15.57N / 75−14−00.00W
2.12.6 Threshold elevation: 8 ft
2.12.6 Touchdown zone elevation: 10 ft

2.12.1 Designation: 35
2.12.2 True Bearing: 339
2.12.3 Dimensions: 6501 ft x 150 ft
2.12.4 PCN: 27 F/A/X/T
2.12.5 Coordinates: 39−52−15.57N / 75−13−40.13W
2.12.6 Threshold elevation: 13 ft
2.12.6 Touchdown zone elevation: 14 ft

2.12.1 Designation: 08
2.12.2 True Bearing: 75
2.12.3 Dimensions: 5000 ft x 150 ft
2.12.4 PCN: 27 F/A/X/T
2.12.5 Coordinates: 39−52−42.02N / 75−13−48.04W
2.12.6 Threshold elevation: 9 ft
2.12.6 Touchdown zone elevation: 20 ft

2.12.1 Designation: 26
2.12.2 True Bearing: 256
2.12.3 Dimensions: 5000 ft x 150 ft
2.12.4 PCN: 27 F/A/X/T
2.12.5 Coordinates: 39−52−54.38N / 75−12−45.94W
2.12.6 Threshold elevation: 36 ft
2.12.6 Touchdown zone elevation: 36 ft

AD 2.13 Declared distances
2.13.1 Designation: 09R
2.13.2 Takeoff run available: 10506
2.13.3 Takeoff distance available: 10506
2.13.4 Accelerate−stop distance available: 10506
2.13.5 Landing distance available: 10506

2.13.1 Designation: 27L
2.13.2 Takeoff run available: 10506
2.13.3 Takeoff distance available: 10506
2.13.4 Accelerate−stop distance available: 10506
2.13.5 Landing distance available: 10506

2.13.1 Designation: 09L
2.13.2 Takeoff run available: 9500
2.13.3 Takeoff distance available: 9500
2.13.4 Accelerate−stop distance available: 9500
2.13.5 Landing distance available: 9500

2.13.1 Designation: 27R
2.13.2 Takeoff run available: 9500
2.13.3 Takeoff distance available: 9500
2.13.4 Accelerate−stop distance available: 9500
2.13.5 Landing distance available: 9500

2.13.1 Designation: 17
2.13.2 Takeoff run available: 6501
2.13.3 Takeoff distance available: 6501
2.13.4 Accelerate−stop distance available: 6501
2.13.5 Landing distance available: 6501

2.13.1 Designation: 35
2.13.2 Takeoff run available: 6501
2.13.3 Takeoff distance available: 6501
2.13.4 Accelerate−stop distance available: 6501
2.13.5 Landing distance available: 6501

2.13.1 Designation: 08
2.13.2 Takeoff run available: 5000
2.13.3 Takeoff distance available: 5000
2.13.4 Accelerate−stop distance available: 5000
2.13.5 Landing distance available: 5000

2.13.1 Designation: 26
2.13.2 Takeoff run available: 5000
2.13.3 Takeoff distance available: 5000
2.13.4 Accelerate−stop distance available: 5000
2.13.5 Landing distance available: 5000

AD 2.14 Approach and runway lighting
2.14.1 Designation: 09R
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration

2.14.1 Designation: 27L

2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on right

2.14.1 Designation: 09L
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 27R
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 17
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 26
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on right
2.14.10 Remarks: Runway 26 PAPI Unusable Beyond 8 Degs Right Of Centerline .

AD 2.18 Air traffic services communication facilities
2.18.1 Service designation: CLASS B
2.18.3 Service designation: 118.35 MHz

2.18.1 Service designation: CD/P
2.18.3 Service designation: 118.85 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 119.75 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 119.75 MHz

2.18.1 Service designation: DEP/P
2.18.3 Service designation: 119.75 MHz

2.18.1 Service designation: EMERG
2.18.3 Service designation: 121.5 MHz

2.18.1 Service designation: GND/S
2.18.3 Service designation: 121.65 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 121.9 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 123.8 MHz

2.18.1 Service designation: APCH/P AT OR BELOW 5000 FT.
2.18.3 Service designation: 123.8 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 124.35 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 124.35 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 124.35 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 124.35 MHz

2.18.1 Service designation: DEP/P
2.18.3 Service designation: 124.35 MHz

2.18.1 Service designation: APCH/P DEP/P
2.18.3 Service designation: 124.35 MHz

2.18.1 Service designation: FINAL APCH
2.18.3 Service designation: 125.4 MHz

2.18.1 Service designation: APCH/P ABOVE 5000 FT
2.18.3 Service designation: 126.6 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 126.85 MHz

2.18.1 Service designation: APCH/P AT OR BELOW 5000 FT.
2.18.3 Service designation: 126.85 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 127.35 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 127.35 MHz

2.18.1 Service designation: APCH/P AT OR BELOW 5000 FT.

2.18.3 Service designation: 127.35 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 128.4 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 128.4 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 128.4 MHz

2.18.1 Service designation: APCH/P ABOVE 5000 FT.
2.18.3 Service designation: 128.4 MHz

2.18.1 Service designation: EMERG
2.18.3 Service designation: 243 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 263.125 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 263.125 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 263.125 MHz

2.18.1 Service designation: APCH/P AT OR BLO 5000 FT.
2.18.3 Service designation: 263.125 MHz

2.18.1 Service designation: APCH/P AT OR BLO 5000 FT.
2.18.3 Service designation: 263.125 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 269.25 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 269.25 MHz

2.18.1 Service designation: DEP/P
2.18.3 Service designation: 269.25 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 273.575 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 273.575 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 273.575 MHz

2.18.1 Service designation: APCH/P ABOVE 5000 FT
2.18.3 Service designation: 273.575 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 291.7 MHz

2.18.1 Service designation: APCH/P AT OR BLO 5000 FT.
2.18.3 Service designation: 291.7 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 317.55 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 317.55 MHz

2.18.1 Service designation: APCH/P ABOVE 5000 FT IC
2.18.3 Service designation: 317.55 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 319.15 MHz

2.18.1 Service designation: IC
2.18.3 Service designation: 319.15 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 320.1 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 320.1 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 320.1 MHz

2.18.1 Service designation: DEP/P
2.18.3 Service designation: 320.1 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 323.1 MHz

2.18.1 Service designation: CD/P GND/P
2.18.3 Service designation: 348.6 MHz

2.18.1 Service designation: D–ATIS
2.18.3 Service designation: 133.4 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: D–ATIS
2.18.3 Service designation: 135.925 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: ILS PRM LCL/P

2.18.3 Service designation: 118.5 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 118.5 MHz

2.18.1 Service designation: ILS PRM LCL/P
2.18.3 Service designation: 135.1 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 135.1 MHz

2.18.1 Service designation: ILS PRM LCL/P
2.18.3 Service designation: 327.05 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 327.05 MHz

2.18.1 Service designation: ILS PRM MONITOR/P
2.18.3 Service designation: 123.6 MHz

2.18.1 Service designation: ILS PRM MONITOR/P
2.18.3 Service designation: 120.425 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 133.875 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 133.875 MHz

AD 2.19 Radio navigation and landing aids

2.19.1 ILS type: Outer Marker for runway 09R.
Magnetic variation: 12W
2.19.2 ILS identification: PHL
2.19.5 Coordinates: 39–50–29.30N /
75–22–57.40W
2.19.6 Site elevation: ft

2.19.1 ILS type: Inner Marker for runway 09R.
Magnetic variation: 12W
2.19.2 ILS identification: PHL
2.19.5 Coordinates: 39–51–36.74N /
75–16–41.58W
2.19.6 Site elevation: ft

2.19.1 ILS type: Middle Marker for runway 09R.
Magnetic variation: 12W
2.19.2 ILS identification: PHL
2.19.5 Coordinates: 39–51–31.82N /
75–17–00.00W
2.19.6 Site elevation: ft

2.19.1 ILS type: Localizer for runway 09R.
Magnetic variation: 12W
2.19.2 ILS identification: PHL
2.19.5 Coordinates: 39–52–00.00N /
75–14–00.00W
2.19.6 Site elevation: 8 ft

2.19.1 ILS type: DME for runway 09R. Magnetic variation: 12W
2.19.2 ILS identification: PHL
2.19.5 Coordinates: 39–52–00.00N /
75–14–00.00W
2.19.6 Site elevation: 18 ft

2.19.1 ILS type: Glide Slope for runway 09R.
Magnetic variation: 12W
2.19.2 ILS identification: PHL
2.19.5 Coordinates: 39–51–37.82N /
75–16–15.73W
2.19.6 Site elevation: 15 ft

2.19.1 ILS type: Localizer for runway 27L.
Magnetic variation: 10W
2.19.2 ILS identification: GLC
2.19.5 Coordinates: 39–51–36.27N /
75–16–43.95W
2.19.6 Site elevation: 7 ft

2.19.1 ILS type: Glide Slope for runway 27L.
Magnetic variation: 10W
2.19.2 ILS identification: GLC
2.19.5 Coordinates: 39–51–58.71N /
75–14–31.14W
2.19.6 Site elevation: 9 ft

2.19.1 ILS type: DME for runway 27L. Magnetic variation: 10W
2.19.2 ILS identification: GLC
2.19.5 Coordinates: 39–52–00.00N /
75–14–00.00W
2.19.6 Site elevation: 18 ft

2.19.1 ILS type: Middle Marker for runway 27L.
Magnetic variation: 10W
2.19.2 ILS identification: GLC
2.19.5 Coordinates: 39–52–12.91N /
75–13–40.55W
2.19.6 Site elevation: 21 ft

2.19.1 ILS type: DME for runway 09L. Magnetic variation: 10W

2.19.2 ILS identification: VII
2.19.5 Coordinates: 39–52–35.47N /
75–13–11.51W
2.19.6 Site elevation: 20 ft

2.19.1 ILS type: Outer Marker for runway 09L.
Magnetic variation: 10W
2.19.2 ILS identification: VII
2.19.5 Coordinates: 39–50–29.30N /
75–22–57.40W
2.19.6 Site elevation: 47 ft

2.19.1 ILS type: Middle Marker for runway 09L.
Magnetic variation: 10W
2.19.2 ILS identification: VII
2.19.5 Coordinates: 39–52–00.00N /
75–15–55.00W
2.19.6 Site elevation: 9 ft

2.19.1 ILS type: Localizer for runway 09L.
Magnetic variation: 10W
2.19.2 ILS identification: VII
2.19.5 Coordinates: 39–52–33.39N /
75–13–00.00W
2.19.6 Site elevation: 8 ft

2.19.1 ILS type: Glide Slope for runway 09L.
Magnetic variation: 10W
2.19.2 ILS identification: VII
2.19.5 Coordinates: 39–52–00.00N /
75–15–00.00W
2.19.6 Site elevation: 9 ft

2.19.1 ILS type: DME for runway 27R. Magnetic variation: 10W
2.19.2 ILS identification: PDP
2.19.5 Coordinates: 39–52–35.47N /
75–13–11.51W
2.19.6 Site elevation: 20 ft

2.19.1 ILS type: Glide Slope for runway 27R.
Magnetic variation: 10W
2.19.2 ILS identification: PDP
2.19.5 Coordinates: 39–52–24.05N /
75–13–35.81W
2.19.6 Site elevation: 8 ft

2.19.1 ILS type: Localizer for runway 27R.
Magnetic variation: 10W
2.19.2 ILS identification: PDP
2.19.5 Coordinates: 39–52–00.00N /
75–15–32.93W
2.19.6 Site elevation: 9 ft

2.19.1 ILS type: Outer Marker for runway 27R.
Magnetic variation: 10W
2.19.2 ILS identification: PDP
2.19.5 Coordinates: 39–54–00.00N /
75–05–41.51W
2.19.6 Site elevation: ft

2.19.1 ILS type: Middle Marker for runway 27R.
Magnetic variation: 10W
2.19.2 ILS identification: PDP
2.19.5 Coordinates: 39–52–38.00N /
75–12–46.40W
2.19.6 Site elevation: ft

2.19.1 ILS type: Outer Marker for runway 17.
Magnetic variation: 10W
2.19.2 ILS identification: MYY
2.19.5 Coordinates: 39–58–30.97N /
75–16–44.21W
2.19.6 Site elevation: ft

2.19.1 ILS type: Localizer for runway 17. Magnetic variation: 10W
2.19.2 ILS identification: MYY
2.19.5 Coordinates: 39–52–00.00N /
75–13–35.55W
2.19.6 Site elevation: 12 ft

2.19.1 ILS type: Glide Slope for runway 17.
Magnetic variation: 10W
2.19.2 ILS identification: MYY
2.19.5 Coordinates: 39–53–00.00N /
75–14–00.00W
2.19.6 Site elevation: 6 ft

2.19.1 ILS type: Middle Marker for runway 17.
Magnetic variation: 10W
2.19.2 ILS identification: MYY
2.19.5 Coordinates: 39–53–43.20N /
75–14–27.10W
2.19.6 Site elevation: ft

2.19.1 ILS type: DME for runway 17. Magnetic variation: 10W
2.19.2 ILS identification: MYY
2.19.5 Coordinates: 39–52–00.00N /
75–13–39.56W

2.19.6 Site elevation: 11 ft

2.19.1 ILS type: DME for runway 26. Magnetic variation: 10W
2.19.2 ILS identification: LLH
2.19.5 Coordinates: 39–52–42.22N / 75–13–32.38W
2.19.6 Site elevation: 19 ft

2.19.1 ILS type: Glide Slope for runway 26. Magnetic variation: 10W
2.19.2 ILS identification: LLH
2.19.5 Coordinates: 39–52–49.37N / 75–12–58.35W
2.19.6 Site elevation: 22 ft

2.19.1 ILS type: Localizer for runway 26. Magnetic variation: 10W
2.19.2 ILS identification: LLH
2.19.5 Coordinates: 39–52–42.38N / 75–13–31.83W
2.19.6 Site elevation: 6 ft

General Remarks:
BIRDS ON & IN THE VICINITY OF AIRPORT.

RUNWAYS 27L, 27R & 35 SHIP CHANNEL (DELAWARE RIVER) MAX HEIGHT OF SHIPS 189 FT. RUNWAY 26 SHIP CHANNEL (SCHUYLKILL) MAX HEIGHT OF SHIPS 149 FT.

AIRPORT IS LOCATED IN A NOISE SENSITIVE AREA. AIRPORT NOISE ABATEMENT TAKEOFF PROCEDURES ARE TO BE USED.

TRAFFIC ALERT AND COLLISION AVOIDANCE SYSTEM EQUIPPED ACFT–TCAS ALERT MAY BE CAUSED BY TRANSPONDER EQUIPPED SHIPS LOCATED PHL NAVAL BASE 3 NAUTICAL MILE E.

UNLIGHTED STACK 288 FT MSL (271 FT AGL) 2.3 NAUTICAL MILE SW OF AIRPORT.

RUNWAY 09R ROLLOUT RUNWAY VISUAL RANGE USED FOR RUNWAY 09L MIDPOINT RUNWAY VISUAL RANGE.

ALL ENGINE RUNUPS REQUIRE PRIOR PERMISSION REQUIRED FROM DUTY OPERATIONS OFFICER AT 937–6914/6800; RUNUPS 20 MIN MAXIMUM.

ALL AIRCRAFT TRAVELING ON TAXIWAY J MUST USE MINIMUM POWER WHEN TURNING SOUTH DUE TO JETBLAST CONCERNS.

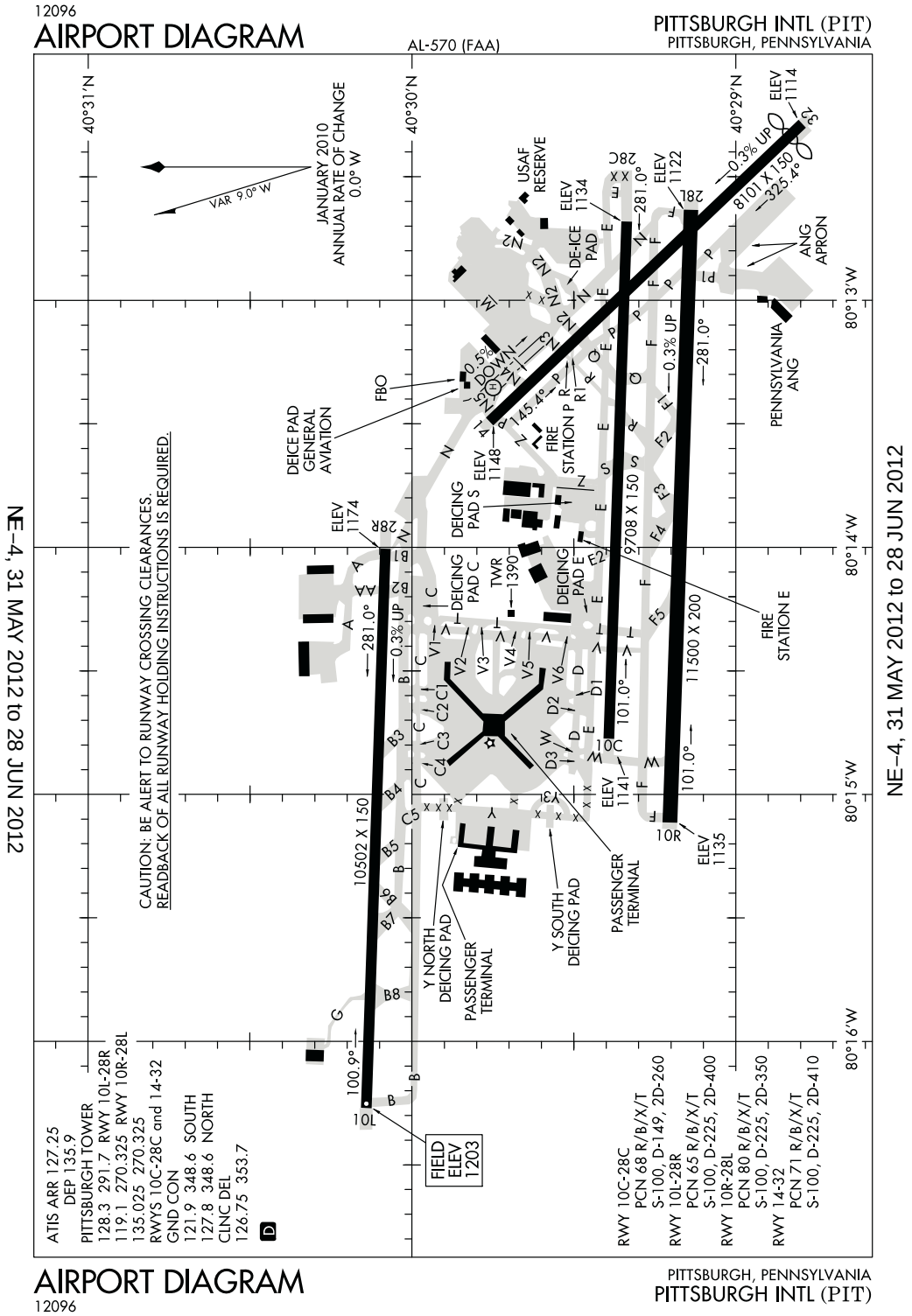
TAXIWAY J BETWEEN TAXIWAYS K3 AND Q RESTRICTED TO AIRCRAFT WITH WINGSPANS 171 FT AND LESS.

ONLY NOSE–IN PARKING PERMITTED ON NORTH & EAST REMOTE APRONS. PRIOR PERMISSION REQUIRED FROM AIRPORT OPERATIONS FOR ALL AIRCRAFT PARKING ON NORTH & EAST REMOTE APRONS; CONTACT 215–937–6914/6800.

POSSIBLE UNMARKED SHIP OBSTRUCTION TRANSITING EAST OR WESTBOUND ALONG THE DELAWARE RIVER REACHING HEIGHTS OF 189’ – BE ALERT WHEN APPROACHING PHL RUNWAY 35 AND WHENEVER CIRCLING OR VISUALLY APPROACHING ALL OTHER RUNWAYS.

ASDE–X SURVEILLANCE SYSTEM IN USE: PILOTS SHOULD OPERATE TRANSPONDERS WITH MODE C ON ALL TAXIWAYS AND RUNWAYS.

Pittsburgh, Pennsylvania
Pittsburgh International
ICAO Identifier KPIT



Pittsburgh, PA
Pittsburgh Intl
ICAO Identifier KPIT

AD 2.2 Aerodrome geographical and administrative data
2.2.1 Reference Point: 40–29–29.30N / 80–13–58.30W
2.2.2 From City: 12 Miles NW Of Pittsburgh, PA
2.2.3 Elevation: 1203 ft
2.2.5 Magnetic variation: 8W (1995)
2.2.6 Airport Contact: Bradley D. Penrod
PO BOX 12370,
SUITE. 4000
Pittsburgh, PA 15231
(412–472–3510)
2.2.7 Traffic: IFR/VFR

AD 2.3 Operational hours
2.3.1 – 2.3.11: ALL Months, ALL Days, ALL Hours

AD 2.4 Handling services and facilities
2.4.1 Cargo handling facilities: No
2.4.2 Fuel types: 100LL,A
2.4.4 De–icing facilities: None
2.4.5 Hangar space: Yes
2.4.6 Repair facilities: Minor

AD 2.6 Rescue and firefighting services
2.6.1 Aerodrome category for firefighting: ARFF Index I D certified on 5/1/1973

AD 2.10 Aerodrome obstacles
2.10.1.a. Runway designation: 28C
2.10.1.b Type of obstacle: Trees (130 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 980 ft from Centerline

2.10.1.a. Runway designation: 14
2.10.1.b Type of obstacle: Pole (26 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 500 ft from Centerline

2.10.1.a. Runway designation: 28R
2.10.1.b Type of obstacle: Trees (38 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 680 ft from Centerline

2.10.1.a. Runway designation: 10L
2.10.1.b Type of obstacle: Trees (55 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 500 ft from Centerline

2.10.1.a. Runway designation: 10R
2.10.1.b Type of obstacle: Trees (166 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 700 ft from Centerline

2.10.1.a. Runway designation: 28L
2.10.1.b Type of obstacle: Trees (78 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 680 ft from Centerline

AD 2.12 Runway physical characteristics
2.12.1 Designation: 10C
2.12.2 True Bearing: 92
2.12.3 Dimensions: 9708 ft x 150 ft
2.12.4 PCN: 68 R/B/X/T
2.12.5 Coordinates: 40–29–23.54N / 80–14–46.54W
2.12.6 Threshold elevation: 1141 ft
2.12.6 Touchdown zone elevation: 1141 ft

2.12.1 Designation: 28C
2.12.2 True Bearing: 272
2.12.3 Dimensions: 9708 ft x 150 ft
2.12.4 PCN: 68 R/B/X/T
2.12.5 Coordinates: 40–29–20.25N / 80–12–40.96W
2.12.6 Threshold elevation: 1134 ft
2.12.6 Touchdown zone elevation: 1134 ft

2.12.1 Designation: 14
2.12.2 True Bearing: 136
2.12.3 Dimensions: 8101 ft x 150 ft
2.12.4 PCN: 71 R/B/X/T
2.12.5 Coordinates: 40–29–45.65N / 80–13–29.52W
2.12.6 Threshold elevation: 1148 ft
2.12.6 Touchdown zone elevation: 1148 ft
2.12.7 Slope: 0.5DOWN

2.12.1 Designation: 32
2.12.2 True Bearing: 316

2.12.3 Dimensions: 8101 ft x 150 ft
2.12.4 PCN: 71 R/B/X/T
2.12.5 Coordinates: 40−28−47.69N / 80−12−17.22W
2.12.6 Threshold elevation: 1114 ft
2.12.6 Touchdown zone elevation: 1123 ft
2.12.7 Slope: 0.3UP

2.12.1 Designation: 10L
2.12.2 True Bearing: 92
2.12.3 Dimensions: 10502 ft x 150 ft
2.12.4 PCN: 65 R/B/X/T
2.12.5 Coordinates: 40−30−00.00N / 80−16−16.26W
2.12.6 Threshold elevation: 1203 ft
2.12.6 Touchdown zone elevation: 1203 ft

2.12.1 Designation: 28R
2.12.2 True Bearing: 272
2.12.3 Dimensions: 10502 ft x 150 ft
2.12.4 PCN: 65 R/B/X/T
2.12.5 Coordinates: 40−30−00.00N / 80−14−00.00W
2.12.6 Threshold elevation: 1174 ft
2.12.6 Touchdown zone elevation: 1174 ft
2.12.7 Slope: 0.3UP

2.12.1 Designation: 10R
2.12.2 True Bearing: 92
2.12.3 Dimensions: 11500 ft x 200 ft
2.12.4 PCN: 80 R/B/X/T
2.12.5 Coordinates: 40−29−12.22N / 80−15−00.00W
2.12.6 Threshold elevation: 1135 ft
2.12.6 Touchdown zone elevation: 1135 ft

2.12.1 Designation: 28L
2.12.2 True Bearing: 272
2.12.3 Dimensions: 11500 ft x 200 ft
2.12.4 PCN: 80 R/B/X/T
2.12.5 Coordinates: 40−29−00.00N / 80−12−38.13W
2.12.6 Threshold elevation: 1122 ft
2.12.6 Touchdown zone elevation: 1125 ft
2.12.7 Slope: 0.3UP

2.12.1 Designation: H1
2.12.3 Dimensions: 60 ft x 60 ft

AD 2.13 Declared distances
2.13.1 Designation: 10C
2.13.2 Takeoff run available: 9708
2.13.3 Takeoff distance available: 9708
2.13.4 Accelerate−stop distance available: 9708
2.13.5 Landing distance available: 9708

2.13.1 Designation: 28C
2.13.2 Takeoff run available: 9708
2.13.3 Takeoff distance available: 9708
2.13.4 Accelerate−stop distance available: 9708
2.13.5 Landing distance available: 9708

2.13.1 Designation: 14
2.13.2 Takeoff run available: 8101
2.13.3 Takeoff distance available: 8101
2.13.4 Accelerate−stop distance available: 7366
2.13.5 Landing distance available: 7366

2.13.1 Designation: 32
2.13.2 Takeoff run available: 8101
2.13.3 Takeoff distance available: 8101
2.13.4 Accelerate−stop distance available: 7801
2.13.5 Landing distance available: 7466

2.13.1 Designation: 10L
2.13.2 Takeoff run available: 10502
2.13.3 Takeoff distance available: 10502
2.13.4 Accelerate−stop distance available: 10502
2.13.5 Landing distance available: 10502

2.13.1 Designation: 28R
2.13.2 Takeoff run available: 10502
2.13.3 Takeoff distance available: 10502
2.13.4 Accelerate−stop distance available: 10102
2.13.5 Landing distance available: 10102

2.13.1 Designation: 10R
2.13.2 Takeoff run available: 11500
2.13.3 Takeoff distance available: 11500
2.13.4 Accelerate−stop distance available: 11500
2.13.5 Landing distance available: 11500

2.13.1 Designation: 28L
2.13.2 Takeoff run available: 11500
2.13.3 Takeoff distance available: 11500
2.13.4 Accelerate−stop distance available: 11500
2.13.5 Landing distance available: 11500

AD 2.14 Approach and runway lighting
2.14.1 Designation: 10C
2.14.4 Visual approach slope indicator system: 4−light PAPI on left

2.14.1 Designation: 28C

2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 14
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 32
2.14.2 Approach lighting system: MALS: 1400 feet medium intensity approach lighting system
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 10L
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration
2.14.4 Visual approach slope indicator system: 4–light PAPI on left
2.14.10 Remarks: ALSF2/SSALR Is A Dual Mode System & Controlled By ATCt & Remote Monitored.

2.14.1 Designation: 28R
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 10R
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 28L
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

AD 2.18 Air traffic services communication facilities

2.18.1 Service designation: LCL/P IC
2.18.3 Service designation: 119.1 MHz

2.18.1 Service designation: DEP/P
2.18.3 Service designation: 119.35 MHz

2.18.1 Service designation: APCH/P CLASS B
2.18.3 Service designation: 121.25 MHz

2.18.1 Service designation: EMERG
2.18.3 Service designation: 121.5 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 121.9 MHz

2.18.1 Service designation: APCH/P CLASS B IC
2.18.3 Service designation: 123.95 MHz

2.18.1 Service designation: APCH/P CLASS B
2.18.3 Service designation: 124.15 MHz

2.18.1 Service designation: DEP/P
2.18.3 Service designation: 124.75 MHz

2.18.1 Service designation: CD/P PRE TAXI CLNC
2.18.3 Service designation: 126.75 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 127.8 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 128.3 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 135.025 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 270.325 MHz

2.18.1 Service designation: EMERG
2.18.3 Service designation: 243 MHz

2.18.1 Service designation: CP
2.18.3 Service designation: 252.1 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 291.7 MHz

2.18.1 Service designation: DEP/P
2.18.3 Service designation: 338.2 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 348.6 MHz

2.18.1 Service designation: CD/P
2.18.3 Service designation: 353.7 MHz

2.18.1 Service designation: OPS

2.18.3 Service designation: 36.35 MHz

2.18.1 Service designation: APCH/P CLASS B
2.18.3 Service designation: 360.8 MHz

2.18.1 Service designation: APCH/P CLASS B
2.18.3 Service designation: 279.625 MHz

2.18.1 Service designation: DEP/P
2.18.3 Service designation: 285.575 MHz

2.18.1 Service designation: APCH/P DEP/P
2.18.3 Service designation: 336.2 MHz

2.18.1 Service designation: ANG–OPS
2.18.3 Service designation: 311 MHz

2.18.1 Service designation: DEP/S
2.18.3 Service designation: 125.275 MHz

2.18.1 Service designation: D–ATIS
2.18.3 Service designation: 135.9 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: D–ATIS
2.18.3 Service designation: 127.25 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: APCH/P CLASS B
2.18.3 Service designation: 133.7 MHz

AD 2.19 Radio navigation and landing aids
2.19.1 ILS type: Localizer for runway 10C. Magnetic variation: 8W
2.19.2 ILS identification: BGY
2.19.5 Coordinates: 40–29–19.91N / 80–12–28.02W
2.19.6 Site elevation: 1136 ft

2.19.1 ILS type: Glide Slope for runway 10C. Magnetic variation: 8W
2.19.2 ILS identification: BGY
2.19.5 Coordinates: 40–29–19.33N / 80–14–32.79W
2.19.6 Site elevation: 1134 ft

2.19.1 ILS type: Localizer for runway 28C. Magnetic variation: 8W
2.19.2 ILS identification: XXX
2.19.5 Coordinates: 40–29–23.76N / 80–14–54.62W
2.19.6 Site elevation: 1136 ft

2.19.1 ILS type: Glide Slope for runway 28C. Magnetic variation: 8W
2.19.2 ILS identification: XXX
2.19.5 Coordinates: 40–29–25.79N / 80–12–54.47W
2.19.6 Site elevation: 1131 ft

2.19.1 ILS type: Localizer for runway 32. Magnetic variation: 8W
2.19.2 ILS identification: TQW
2.19.5 Coordinates: 40–29–50.41N / 80–13–35.46W
2.19.6 Site elevation: 1139 ft

2.19.1 ILS type: Glide Slope for runway 32. Magnetic variation: 8W
2.19.2 ILS identification: TQW
2.19.5 Coordinates: 40–28–52.66N / 80–12–29.14W
2.19.6 Site elevation: 1112 ft

2.19.1 ILS type: Middle Marker for runway 32. Magnetic variation: 8W
2.19.2 ILS identification: TQW
2.19.5 Coordinates: 40–28–25.30N / 80–11–49.10W
2.19.6 Site elevation: 1100 ft

2.19.1 ILS type: Outer Marker for runway 32. Magnetic variation: 8W
2.19.2 ILS identification: TQW
2.19.5 Coordinates: 40–25–53.20N / 80–08–44.60W
2.19.6 Site elevation: 1180 ft

2.19.1 ILS type: Glide Slope for runway 28R. Magnetic variation: 8W
2.19.2 ILS identification: HFE
2.19.5 Coordinates: 40–30–00.00N / 80–14–14.60W
2.19.6 Site elevation: 1166 ft

2.19.1 ILS type: Outer Marker for runway 28R. Magnetic variation: 8W
2.19.2 ILS identification: HFE
2.19.5 Coordinates: 40–29–58.85N / 80–07–00.00W
2.19.6 Site elevation: 938 ft

2.19.1 ILS type: Localizer for runway 28R. Magnetic variation: 8W
2.19.2 ILS identification: HFE

2.19.5 Coordinates: 40–30–00.00N / 80–16–31.33W
2.19.6 Site elevation: 1214 ft

2.19.1 ILS type: Middle Marker for runway 28R.
Magnetic variation: 8W
2.19.2 ILS identification: HFE
2.19.5 Coordinates: 40–30–00.00N / 80–13–26.81W
2.19.6 Site elevation: 1164 ft

2.19.1 ILS type: Glide Slope for runway 10L.
Magnetic variation: 8W
2.19.2 ILS identification: LXB
2.19.5 Coordinates: 40–30–11.93N / 80–15–59.90W
2.19.6 Site elevation: 1195 ft

2.19.1 ILS type: Inner Marker for runway 10L.
Magnetic variation: 8W
2.19.2 ILS identification: LXB
2.19.5 Coordinates: 40–30–00.00N / 80–16–27.00W
2.19.6 Site elevation: 1172 ft

2.19.1 ILS type: Outer Marker for runway 10L.
Magnetic variation: 8W
2.19.2 ILS identification: LXB
2.19.5 Coordinates: 40–30–17.54N / 80–21–59.03W
2.19.6 Site elevation: ft

2.19.1 ILS type: Middle Marker for runway 10L.
Magnetic variation: 8W
2.19.2 ILS identification: LXB
2.19.5 Coordinates: 40–30–00.00N / 80–16–48.80W
2.19.6 Site elevation: ft

2.19.1 ILS type: Localizer for runway 10L.
Magnetic variation: 8W
2.19.2 ILS identification: LXB
2.19.5 Coordinates: 40–30–00.00N / 80–13–47.19W
2.19.6 Site elevation: 1162 ft

2.19.1 ILS type: Glide Slope for runway 10R.
Magnetic variation: 8W
2.19.2 ILS identification: GUT
2.19.5 Coordinates: 40–29–15.34N / 80–14–53.77W
2.19.6 Site elevation: 1130 ft

2.19.1 ILS type: Outer Marker for runway 10R.
Magnetic variation: 8W
2.19.2 ILS identification: GUT
2.19.5 Coordinates: 40–29–14.90N / 80–22–13.90W
2.19.6 Site elevation: 1081 ft

2.19.1 ILS type: Middle Marker for runway 10R.
Magnetic variation: 8W
2.19.2 ILS identification: GUT
2.19.5 Coordinates: 40–29–13.15N / 80–15–42.43W
2.19.6 Site elevation: 1155 ft

2.19.1 ILS type: Inner Marker for runway 10R.
Magnetic variation: 8W
2.19.2 ILS identification: GUT
2.19.5 Coordinates: 40–29–12.54N / 80–15–18.88W
2.19.6 Site elevation: ft

2.19.1 ILS type: Localizer for runway 10R.
Magnetic variation: 8W
2.19.2 ILS identification: GUT
2.19.5 Coordinates: 40–29–00.00N / 80–12–34.12W
2.19.6 Site elevation: 1117 ft

2.19.1 ILS type: Localizer for runway 28L.
Magnetic variation: 8W
2.19.2 ILS identification: PFS
2.19.5 Coordinates: 40–29–12.64N / 80–15–23.03W
2.19.6 Site elevation: 1141 ft

2.19.1 ILS type: Middle Marker for runway 28L.
Magnetic variation: 8W
2.19.2 ILS identification: PFS
2.19.5 Coordinates: 40–29–00.00N / 80–12–00.00W
2.19.6 Site elevation: 1069 ft

2.19.1 ILS type: Glide Slope for runway 28L.
Magnetic variation: 8W
2.19.2 ILS identification: PFS
2.19.5 Coordinates: 40–29–00.00N / 80–12–51.24W
2.19.6 Site elevation: 1118 ft

2.19.1 ILS type: Outer Marker for runway 28L.
Magnetic variation: 8W
2.19.2 ILS identification: PFS

2.19.5 Coordinates: 40−29−00.00N / 80−06−00.00W

2.19.6 Site elevation: 1043 ft

General Remarks:
DEER & BIRDS ON & IN THE VICINITY OF AIRPORT.

ALL JETS DEPARTING RUNWAY 28R MUST BE ALIGNED WITHIN RUNWAY PRIOR TO APPLYING TAKE−OFF POWER.

AIRCRAFT USING TAXIWAY 'N' PROHIBITED TO STOP ON OVERPASS AREA DUE TO POSSIBLE EMERGENCY EVACUATION HAZARD.

ANG AIRCRAFT MUST CONTACT TANKER 303.0/FTR OPERATIONS 293.7 BEFORE CROSSING RUNWAY 28L TO OBTAIN CLEARANCE TO ENTER.

TERMINAL TAXILANES E OF CONCOURSES A & B RESTRD TO GROUP 3 AIRCRAFT & SMALLER.

RUNWAY 10C & 28C DEPARTURES: DO NOT APPLY TAKEOFF THRUST PRIOR TO RUNWAY THRESHOLD.

TERMINAL APRON CONTROL FREQS ARE 130.77 FOR NORTH APRON; 131.37 FOR SOUTH APRON.

ATCT IS AUTHORIZED TO HAVE AIRCRAFT LINE−UP & WAIT ON RUNWAYS 28L AT TAXIWAY 'P' DURING HRS OF DARKNESS. THE SPECIFIC RUNWAY SHALL BE USED ONLY FOR DEPARTURES & THE INTERSECTION MUST BE VISIBLE FROM ATCT.

SERVICE−JASU: (ANG) (A/M32A−86) (AM 32−95; (AFRC − 2(A/M32−86 (AM32−95).

SERVICE−FLUID: LPOX L/H NIT.

SERVICE−OIL: O−156.

SERVICE−TRAN ALERT: NO PRIORITY BASIS.

AFRC: CALL PITT COMMAND POST PRIOR TO ENTRY TO S RAMP, MAIN RAMP.

ANG: OPR 1130−2030Z++ MON−FRI EXCEPT HOLIDAY (CLOSED EVERY OTH MON).

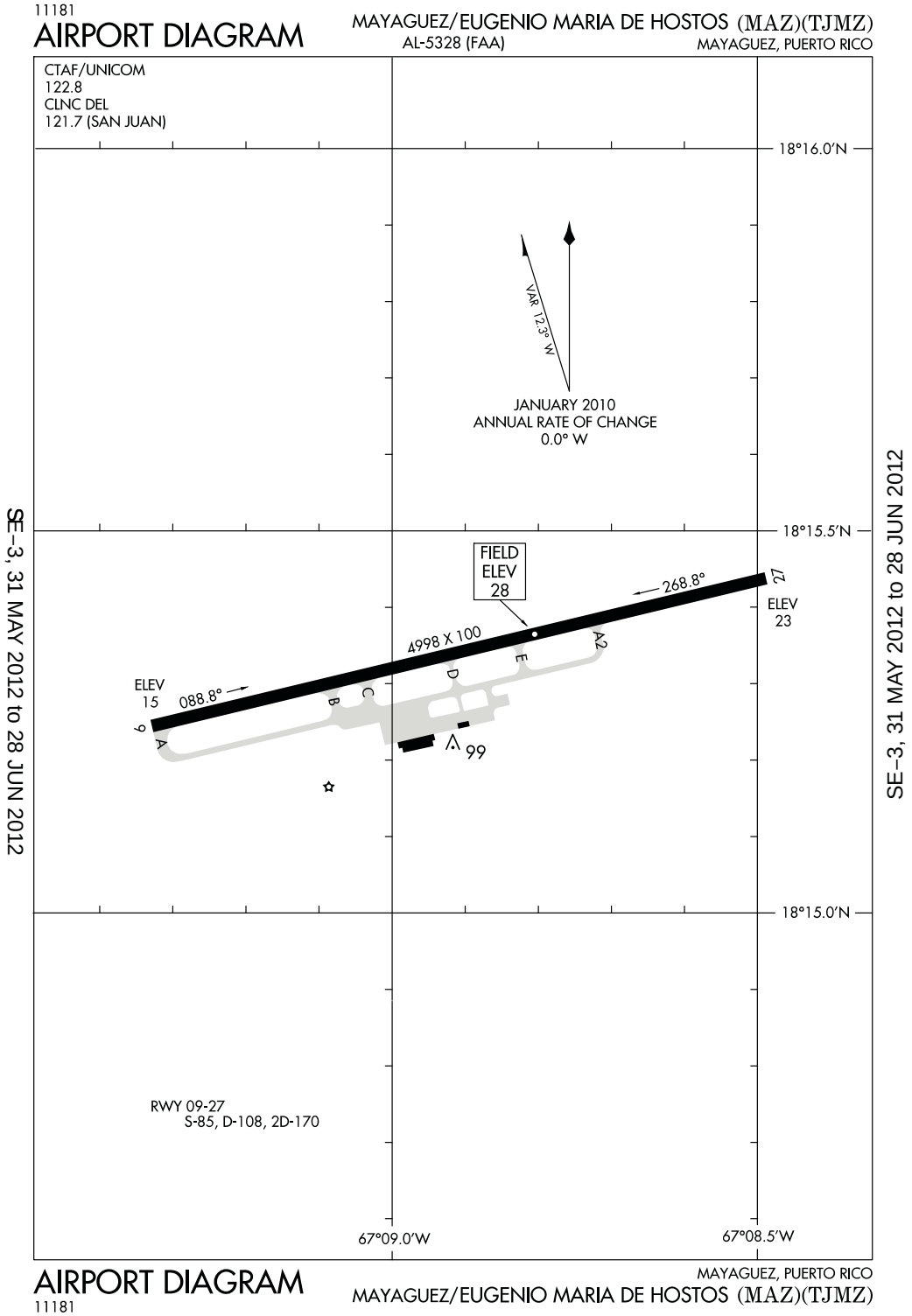
ANG: OPR 1130−2030Z++MON−FRI EXCEPT HOLIDAY. CLOSED EVERY OTHER MON. OFFICIAL BUSINESS ONLY. PRIOR PERMISSION REQUIRED 48 HR PRIOR NOTICE REQUIRE. CALL DSN 294−7374/7260, C412−776−7374/7260.

AFRC: MIN 48HR PRIOR NOTICE REQUIRE FOR C5, C141 DUE TO LIMITED PARKING, LIGHT, AND SERVICE. NO TRANSIENT SERVICE. TRANSIENT AIRCRAFT CALL FBO AVIATION CENTER C412−472−6700. NORMAL DUTY HR 1330−0400Z++ EXCEPT HOLIDAY. UNIT TRAINING ASSEMBLY 1300−2100Z++ SAT. AND SUN.

PERSONNEL AND EQUIPMENT WORKING ADJACENT ALL RUNWAYS.

TAXIWAY G INTERSECTION AT RUNWAY 10L/28R RIGHT TURN NOT AUTHORIZED.

Mayaguez, Puerto Rico
Eugenio Maria De Hostos
ICAO Identifier TJMZ



Mayaguez, PR
Eugenio Maria De Hostos
ICAO Identifier TJMZ

AD 2.2 Aerodrome geographical and administrative data
2.2.1 Reference Point: 18−15−20.50N / 67−08−54.50W
2.2.2 From City: 3 Miles N Of Mayaguez, PR
2.2.3 Elevation: 28 ft
2.2.5 Magnetic variation: 10W (1985)
2.2.6 Airport Contact: Jorge Santiago
BOX 710
Mayaguez, PR 709
(787−832−3390)
2.2.7 Traffic: IFR/VFR

AD 2.3 Operational hours
2.3.1 − 2.3.11: ALL Months, ALL Days, 0730−0400 Hours

AD 2.4 Handling services and facilities
2.4.1 Cargo handling facilities: No
2.4.2 Fuel types: None
2.4.4 De−icing facilities: None
2.4.5 Hangar space: Yes
2.4.6 Repair facilities: None

AD 2.6 Rescue and firefighting services
2.6.1 Aerodrome category for firefighting: None
2.6.4 Remarks: No ARFF Services Provided To Unscheduled Aircraft 0 Operations With More Than 30 Passenger Seats 2300−0600 Except 24 Hr Prior Permission Required; Call Airport Manager 787−832−3390 Or 787−833−0148.

AD 2.10 Aerodrome obstacles
2.10.1.a. Runway designation: 09
2.10.1.b Type of obstacle: Poles (44 ft). Lighted
2.10.1.c Location of obstacle: 75 ft from Centerline

2.10.1.a. Runway designation: 27
2.10.1.b Type of obstacle: Trees (65 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 450 ft from Centerline

AD 2.12 Runway physical characteristics
2.12.1 Designation: 09
2.12.2 True Bearing: 76
2.12.3 Dimensions: 4998 ft x 100 ft
2.12.5 Coordinates: 18−15−14.68N / 67−09−19.73W
2.12.6 Threshold elevation: 15 ft
2.12.6 Touchdown zone elevation: 28 ft

2.12.1 Designation: 27
2.12.2 True Bearing: 256
2.12.3 Dimensions: 4998 ft x 100 ft
2.12.5 Coordinates: 18−15−26.25N / 67−08−29.30W
2.12.6 Threshold elevation: 23 ft
2.12.6 Touchdown zone elevation: 28 ft

AD 2.14 Approach and runway lighting
2.14.1 Designation: 09
2.14.4 Visual approach slope indicator system: 4−light PAPI on left

2.14.1 Designation: 27
2.14.4 Visual approach slope indicator system: 4−light PAPI on left

General Remarks:
1200’ TOWER /1207’ MSL/ 9 NAUTICAL MILE NNW.

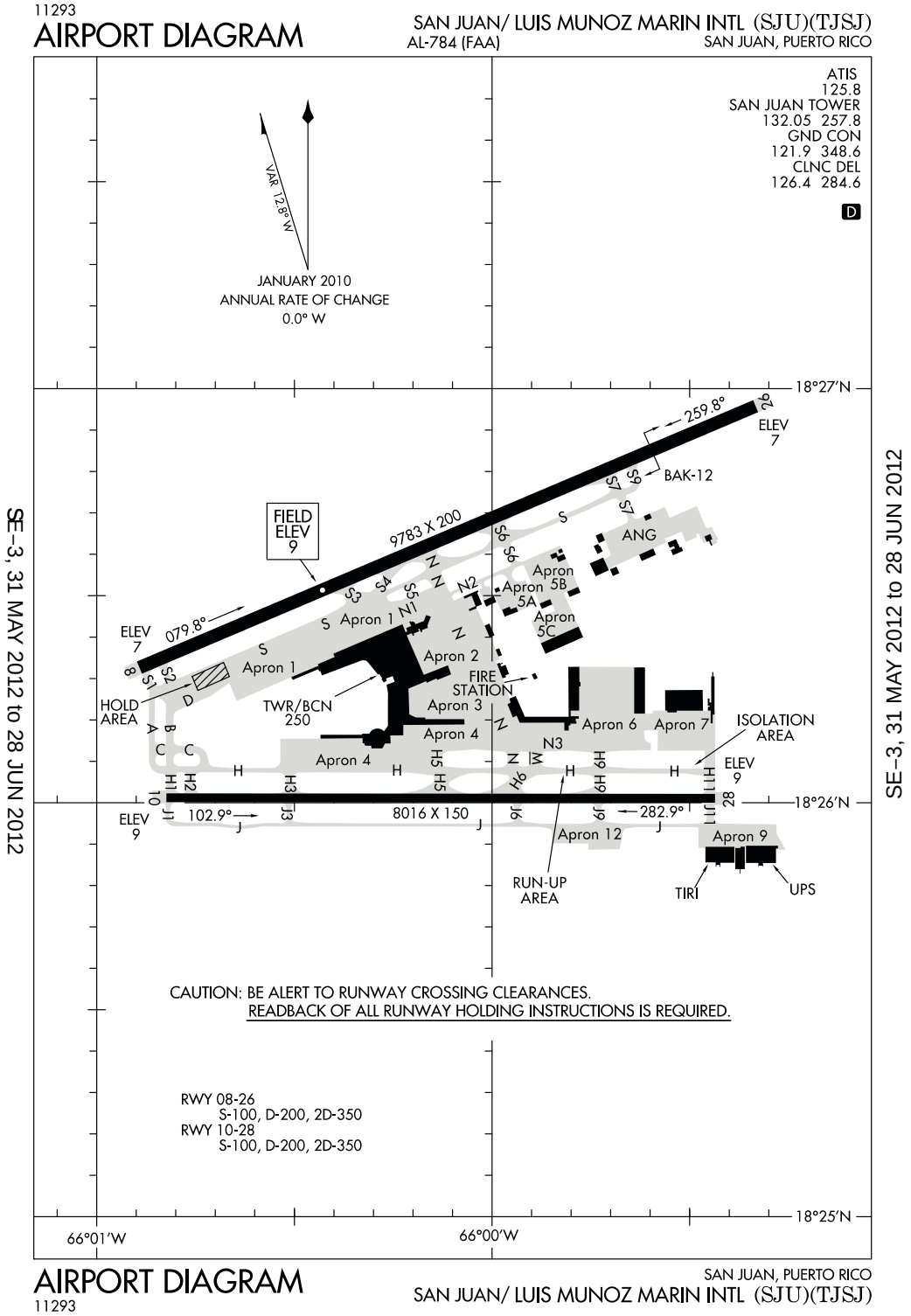
BIRDS ON AND IN THE VICINITY OF RUNWAY CAUTION ADVISED UNTIL FURTHER NOTICE.

CRANE 70 FT AGL SOUTH APPROACH END RUNWAY 9.

AVIATION GASOLINE UNAVAILABLE.

PERSONNEL AND EQUIPMENT WORKING RUNWAY 09/27 1100−2100Z DAILY.

San Juan, Puerto Rico
Luis Munoz Marin International
ICAO Identifier TJSJ



San Juan, PR
Luis Munoz Marin Intl
ICAO Identifier TJSJ

AD 2.2 Aerodrome geographical and administrative data
2.2.1 Reference Point: 18−26−21.46N / 66−00−00.00W
2.2.2 From City: 3 Miles SE Of San Juan, PR
2.2.3 Elevation: 9 ft
2.2.5 Magnetic variation: 11W (1985)
2.2.6 Airport Contact: Arnaldo Deleo
GPO BOX 362829
San Juan, PR 936
(787−791−3840)
2.2.7 Traffic: IFR/VFR

AD 2.3 Operational hours
2.3.1 – 2.3.11: ALL Months, ALL Days, ALL Hours

AD 2.4 Handling services and facilities
2.4.1 Cargo handling facilities: No
2.4.2 Fuel types: 100,115,A1+
2.4.4 De−icing facilities: None
2.4.5 Hangar space: Yes
2.4.6 Repair facilities: Major

AD 2.6 Rescue and firefighting services
2.6.1 Aerodrome category for firefighting: ARFF Index I D certified on 5/1/2005

AD 2.10 Aerodrome obstacles
2.10.1.a. Runway designation: 08
2.10.1.b Type of obstacle: Tree (59 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 300 ft from Centerline

2.10.1.a. Runway designation: 26
2.10.1.b Type of obstacle: Tree (72 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 800 ft from Centerline

2.10.1.a. Runway designation: 10
2.10.1.b Type of obstacle: Tree (50 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 300 ft from Centerline

2.10.1.a. Runway designation: 28
2.10.1.b Type of obstacle: Trees (24 ft). Not Lighted or Marked

AD 2.12 Runway physical characteristics
2.12.1 Designation: 08
2.12.2 True Bearing: 67
2.12.3 Dimensions: 9783 ft x 200 ft
2.12.5 Coordinates: 18−26−19.50N / 66−00−53.50W
2.12.6 Threshold elevation: 7 ft
2.12.6 Touchdown zone elevation: 9 ft

2.12.1 Designation: 26
2.12.2 True Bearing: 247
2.12.3 Dimensions: 9783 ft x 200 ft
2.12.5 Coordinates: 18−26−57.42N / 65−59−19.98W
2.12.6 Threshold elevation: 7 ft
2.12.6 Touchdown zone elevation: 7 ft

2.12.1 Designation: 10
2.12.2 True Bearing: 90
2.12.3 Dimensions: 8016 ft x 150 ft
2.12.5 Coordinates: 18−26−00.00N / 66−00−49.42W
2.12.6 Threshold elevation: 9 ft
2.12.6 Touchdown zone elevation: 9 ft

2.12.1 Designation: 28
2.12.2 True Bearing: 270
2.12.3 Dimensions: 8016 ft x 150 ft
2.12.5 Coordinates: 18−26−00.00N / 65−59−26.16W
2.12.6 Threshold elevation: 9 ft
2.12.6 Touchdown zone elevation: 9 ft

AD 2.13 Declared distances
2.13.1 Designation: 10
2.13.2 Takeoff run available: 8016
2.13.3 Takeoff distance available: 8016
2.13.4 Accelerate−stop distance available: 8016
2.13.5 Landing distance available: 8016

2.13.1 Designation: 28
2.13.2 Takeoff run available: 8016
2.13.3 Takeoff distance available: 8016
2.13.4 Accelerate−stop distance available: 8016
2.13.5 Landing distance available: 8016

AD 2.14 Approach and runway lighting
2.14.1 Designation: 08

2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 10
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 28
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

AD 2.18 Air traffic services communication facilities
2.18.1 Service designation: APCH/P DEP/P CLASS C
2.18.3 Service designation: 119.4 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS C IC
2.18.3 Service designation: 120.9 MHz

2.18.1 Service designation: EMERG
2.18.3 Service designation: 121.5 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 121.9 MHz

2.18.1 Service designation: D–ATIS
2.18.3 Service designation: 125.8 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: CD PRE TAXI CLNC
2.18.3 Service designation: 126.4 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 257.8 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS C
2.18.3 Service designation: 269.2 MHz

2.18.1 Service designation: CD
2.18.3 Service designation: 284.6 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS C IC
2.18.3 Service designation: 290.2 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 348.6 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 132.05 MHz

AD 2.19 Radio navigation and landing aids
2.19.1 ILS type: Localizer for runway 08. Magnetic variation: 11W
2.19.2 ILS identification: SJU
2.19.5 Coordinates: 18–27–00.00N / 65–59–11.41W
2.19.6 Site elevation: 5 ft

2.19.1 ILS type: Glide Slope for runway 08. Magnetic variation: 11W
2.19.2 ILS identification: SJU
2.19.5 Coordinates: 18–26–27.04N / 66–00–45.58W
2.19.6 Site elevation: 4 ft

2.19.1 ILS type: Middle Marker for runway 08. Magnetic variation: 11W
2.19.2 ILS identification: SJU
2.19.5 Coordinates: 18–26–00.00N / 66–01–24.60W
2.19.6 Site elevation: ft

2.19.1 ILS type: Outer Marker for runway 08. Magnetic variation: 11W
2.19.2 ILS identification: SJU
2.19.5 Coordinates: 18–24–31.82N / 66–05–21.83W
2.19.6 Site elevation: 10 ft

2.19.1 ILS type: Localizer for runway 10. Magnetic variation: 11W
2.19.2 ILS identification: CLA
2.19.5 Coordinates: 18–26–00.00N / 65–59–15.53W
2.19.6 Site elevation: 9 ft

2.19.1 ILS type: Glide Slope for runway 10. Magnetic variation: 11W
2.19.2 ILS identification: CLA
2.19.5 Coordinates: 18–25–57.56N / 66–00–39.05W
2.19.6 Site elevation: 5 ft

2.19.1 ILS type: Middle Marker for runway 10. Magnetic variation: 11W
2.19.2 ILS identification: CLA
2.19.5 Coordinates: 18–26–00.00N / 66–01–15.39W

2.19.6 Site elevation: 1 ft

2.19.1 ILS type: Outer Marker for runway 10.
Magnetic variation: 11W

2.19.2 ILS identification: CLA
2.19.5 Coordinates: 18−26−00.00N / 66−05−00.00W
2.19.6 Site elevation: 6 ft

General Remarks:
NOT LATER THAN 48 HR PRIOR PERMISSION REQUIRED FOR PARKING OF MILITARY, GENERAL AVIATION & DC3 AIRCRAFT OR LARGER. SEND PRIOR PERMISSION REQUIRED TO PUERTO RICO PORT AUTH AT 787−253−0979, 787−791−2908, 939−630−8862. AIRCRAFT WITHOUT CREDIT W PRPA MUST PAY ALL CHARGES BEFORE DEPARTURE.

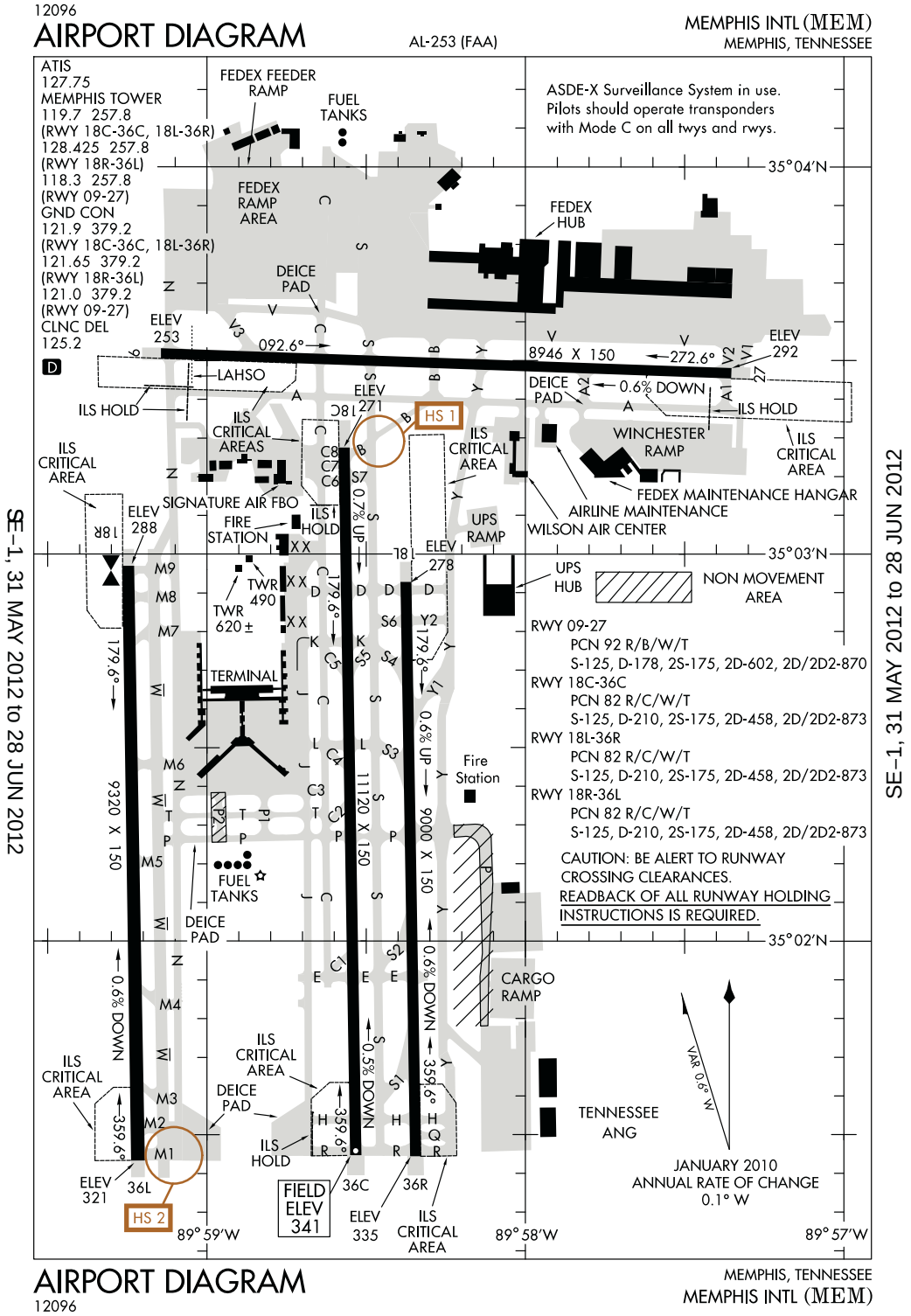
24 HR PRIOR PERMISSION REQUIRED FOR ALL MILITARY TRANSPORT AIRCRAFT. C5’S NOT AUTHORIZED DUE TO CONSTRUCTION.

TAXIWAY JULIET CLOSED TO AIRCRAFT WITH GREATER THAN 118 FT WINGSPAN.

PERSONNEL AND EQUIPMENT WORKING N RUNWAY 8/26 ALONG TREE AREA. OBST CRANE 50 FT AGL 300 FT N RUNWAY 8/26 CL 1100−1800 MON−FRI.

APRON 12 AVAILABLE FOR GA AIRCRAFT ONLY.

Memphis, Tennessee
Memphis International
ICAO Identifier KMEM



Memphis, TN
Memphis Intl
ICAO Identifier KMEM

AD 2.2 Aerodrome geographical and administrative data
2.2.1 Reference Point: 35−02−32.70N / 89−58−36.00W
2.2.2 From City: 3 Miles S Of Memphis, TN
2.2.3 Elevation: 341 ft
2.2.5 Magnetic variation: 1E (2000)
2.2.6 Airport Contact: Larry D Cox
2491 WINCHESTER RD.
Memphis, TN 38116
(901−922−8000)
2.2.7 Traffic: IFR/VFR

AD 2.3 Operational hours
2.3.1 − 2.3.11: ALL Months, ALL Days, ALL Hours

AD 2.4 Handling services and facilities
2.4.1 Cargo handling facilities: No
2.4.2 Fuel types: 100LL,A
2.4.4 De−icing facilities: None
2.4.5 Hangar space: Yes
2.4.6 Repair facilities: Major

AD 2.6 Rescue and firefighting services
2.6.1 Aerodrome category for firefighting: ARFF Index I C certified on 5/21/1973
2.6.4 Remarks: Index D ARFF Equipment Available 24 Hours Per Day, 7 Days Per Week.

AD 2.10 Aerodrome obstacles
2.10.1.a. Runway designation: 09
2.10.1.b Type of obstacle: Pole (28 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 600 ft from Centerline

2.10.1.a. Runway designation: 27
2.10.1.b Type of obstacle: Pole (34 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 300 ft from Centerline

2.10.1.a. Runway designation: 36R
2.10.1.b Type of obstacle: Ant (18 ft). Lighted
2.10.1.c Location of obstacle: 400 ft from Centerline

2.10.1.a. Runway designation: 36L
2.10.1.b Type of obstacle: Road (21 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 600 ft from Centerline

2.10.1.a. Runway designation: 18C
2.10.1.b Type of obstacle: Pole (65 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 803 ft from Centerline

AD 2.12 Runway physical characteristics
2.12.1 Designation: 09
2.12.2 True Bearing: 92
2.12.3 Dimensions: 8946 ft x 150 ft
2.12.4 PCN: 92 R/B/W/T
2.12.5 Coordinates: 35−03−31.04N / 89−59−00.00W
2.12.6 Threshold elevation: 253 ft
2.12.6 Touchdown zone elevation: 259 ft
2.12.7 Slope: 0.1UP

2.12.1 Designation: 27
2.12.2 True Bearing: 272
2.12.3 Dimensions: 8946 ft x 150 ft
2.12.4 PCN: 92 R/B/W/T
2.12.5 Coordinates: 35−03−28.01N / 89−57−21.08W
2.12.6 Threshold elevation: 292 ft
2.12.6 Touchdown zone elevation: 292 ft
2.12.7 Slope: 0.6DOWN

2.12.1 Designation: 18L
2.12.2 True Bearing: 179
2.12.3 Dimensions: 9000 ft x 150 ft
2.12.4 PCN: 82 R/C/W/T
2.12.5 Coordinates: 35−02−55.74N / 89−58−22.63W
2.12.6 Threshold elevation: 278 ft
2.12.6 Touchdown zone elevation: 301 ft

2.12.1 Designation: 36R
2.12.2 True Bearing: 359
2.12.3 Dimensions: 9000 ft x 150 ft
2.12.4 PCN: 82 R/C/W/T
2.12.5 Coordinates: 35−01−26.74N / 89−58−20.75W
2.12.6 Threshold elevation: 335 ft

2.12.6 Touchdown zone elevation: 335 ft

2.12.1 Designation: 18R
2.12.2 True Bearing: 179
2.12.3 Dimensions: 9320 ft x 150 ft
2.12.4 PCN: 82 R/C/W/T
2.12.5 Coordinates: 35–02–58.16N / 89–59–14.79W
2.12.6 Threshold elevation: 288 ft
2.12.6 Touchdown zone elevation: 295 ft

2.12.1 Designation: 36L
2.12.2 True Bearing: 359
2.12.3 Dimensions: 9320 ft x 150 ft
2.12.4 PCN: 82 R/C/W/T
2.12.5 Coordinates: 35–01–25.98N / 89–59–12.81W
2.12.6 Threshold elevation: 321 ft
2.12.6 Touchdown zone elevation: 321 ft

2.12.1 Designation: 18C
2.12.2 True Bearing: 179
2.12.3 Dimensions: 11120 ft x 150 ft
2.12.4 PCN: 82 R/C/W/T
2.12.5 Coordinates: 35–03–16.54N / 89–58–34.21W
2.12.6 Threshold elevation: 271 ft
2.12.6 Touchdown zone elevation: 290 ft

2.12.1 Designation: 36C
2.12.2 True Bearing: 359
2.12.3 Dimensions: 11120 ft x 150 ft
2.12.4 PCN: 82 R/C/W/T
2.12.5 Coordinates: 35–01–26.58N / 89–58–31.90W
2.12.6 Threshold elevation: 341 ft
2.12.6 Touchdown zone elevation: 341 ft

AD 2.13 Declared distances
2.13.1 Designation: 09
2.13.2 Takeoff run available: 8946
2.13.3 Takeoff distance available: 8946
2.13.4 Accelerate–stop distance available: 8946
2.13.5 Landing distance available: 8946

2.13.1 Designation: 27
2.13.2 Takeoff run available: 8946
2.13.3 Takeoff distance available: 8946
2.13.4 Accelerate–stop distance available: 8946
2.13.5 Landing distance available: 8946

2.13.1 Designation: 18L
2.13.2 Takeoff run available: 9000
2.13.3 Takeoff distance available: 9000
2.13.4 Accelerate–stop distance available: 9000
2.13.5 Landing distance available: 9000

2.13.1 Designation: 36R
2.13.2 Takeoff run available: 9000
2.13.3 Takeoff distance available: 9000
2.13.4 Accelerate–stop distance available: 9000
2.13.5 Landing distance available: 9000

2.13.1 Designation: 18R
2.13.2 Takeoff run available: 9320
2.13.3 Takeoff distance available: 9320
2.13.4 Accelerate–stop distance available: 9320
2.13.5 Landing distance available: 9127

2.13.1 Designation: 36L
2.13.2 Takeoff run available: 9320
2.13.3 Takeoff distance available: 9320
2.13.4 Accelerate–stop distance available: 9320
2.13.5 Landing distance available: 9320

2.13.1 Designation: 18C
2.13.2 Takeoff run available: 11120
2.13.3 Takeoff distance available: 11120
2.13.4 Accelerate–stop distance available: 11120
2.13.5 Landing distance available: 11120

2.13.1 Designation: 36C
2.13.2 Takeoff run available: 11120
2.13.3 Takeoff distance available: 11120
2.13.4 Accelerate–stop distance available: 11120
2.13.5 Landing distance available: 11120

AD 2.14 Approach and runway lighting
2.14.1 Designation: 09
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights

2.14.1 Designation: 27
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 18L
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 36R
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration
2.14.4 Visual approach slope indicator system: 4–light PAPI on right
2.14.10 Remarks: ALSF2 Unmonitored.

2.14.1 Designation: 18R
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights

2.14.1 Designation: 36L
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 18C
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights

2.14.1 Designation: 36C
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration

AD 2.18 Air traffic services communication facilities
2.18.1 Service designation: LCL/P
2.18.3 Service designation: 118.3 MHz

2.18.1 Service designation: APCH/P CLASS B IC
2.18.3 Service designation: 119.1 MHz

2.18.1 Service designation: IC
2.18.3 Service designation: 119.1 MHz

2.18.1 Service designation: EMERG
2.18.3 Service designation: 121.5 MHz

2.18.1 Service designation: DEP/P
2.18.3 Service designation: 124.15 MHz

2.18.1 Service designation: DEP/P
2.18.3 Service designation: 124.65 MHz

2.18.1 Service designation: CD/P PTC
2.18.3 Service designation: 125.2 MHz

2.18.1 Service designation: APCH/P CLASS B IC
2.18.3 Service designation: 125.8 MHz

2.18.1 Service designation: FINAL
2.18.3 Service designation: 126.7 MHz

2.18.1 Service designation: D–ATIS
2.18.3 Service designation: 127.75 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: ANG CP
2.18.3 Service designation: 138.1 MHz

2.18.1 Service designation: EMERG
2.18.3 Service designation: 243 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 257.8 MHz

2.18.1 Service designation: FINAL
2.18.3 Service designation: 263.6 MHz

2.18.1 Service designation: DEP/P
2.18.3 Service designation: 284.7 MHz

2.18.1 Service designation: APCH/P CLASS B IC
2.18.3 Service designation: 291.6 MHz

2.18.1 Service designation: IC
2.18.3 Service designation: 291.6 MHz

2.18.1 Service designation: APCH/P CLASS B IC
2.18.3 Service designation: 338.3 MHz

2.18.1 Service designation: DEP/P
2.18.3 Service designation: 385.45 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 379.2 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 119.7 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 128.425 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 121.65 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 121.9 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 121 MHz

2.18.1 Service designation: FINAL
2.18.3 Service designation: 120.925 MHz

2.18.1 Service designation: FINAL RADAR 9/27
2.18.3 Service designation: 126.05 MHz

2.18.1 Service designation: SATELLITE
2.18.3 Service designation: 134.2 MHz

2.18.1 Service designation: ANG CP
2.18.3 Service designation: 353.45 MHz

AD 2.19 Radio navigation and landing aids
2.19.1 ILS type: Localizer for runway 09. Magnetic variation: 1E
2.19.2 ILS identification: MEM
2.19.5 Coordinates: 35–03–27.64N / 89–57–00.00W
2.19.6 Site elevation: 297 ft

2.19.1 ILS type: Glide Slope for runway 09. Magnetic variation: 1E
2.19.2 ILS identification: MEM
2.19.5 Coordinates: 35–03–27.21N / 89–58–56.22W
2.19.6 Site elevation: 253 ft

2.19.1 ILS type: Outer Marker for runway 09. Magnetic variation: 1E
2.19.2 ILS identification: MEM
2.19.5 Coordinates: 35–03–42.16N / 90–04–17.75W
2.19.6 Site elevation: ft

2.19.1 ILS type: Middle Marker for runway 09. Magnetic variation: 1E
2.19.2 ILS identification: MEM
2.19.5 Coordinates: 35–03–32.06N / 89–59–45.42W
2.19.6 Site elevation: ft

2.19.1 ILS type: Glide Slope for runway 27. Magnetic variation: 1E
2.19.2 ILS identification: JIM
2.19.5 Coordinates: 35–03–24.48N / 89–57–36.25W
2.19.6 Site elevation: 277 ft

2.19.1 ILS type: Outer Marker for runway 27. Magnetic variation: 1E
2.19.2 ILS identification: JIM
2.19.5 Coordinates: 35–03–21.52N / 89–51–53.89W
2.19.6 Site elevation: 326 ft

2.19.1 ILS type: Localizer for runway 27. Magnetic variation: 1E
2.19.2 ILS identification: JIM
2.19.5 Coordinates: 35–03–31.39N / 89–59–20.99W
2.19.6 Site elevation: 251 ft

2.19.1 ILS type: Middle Marker for runway 27. Magnetic variation: 1E
2.19.2 ILS identification: JIM
2.19.5 Coordinates: 35–03–27.13N / 89–56–49.73W
2.19.6 Site elevation: 304 ft

2.19.1 ILS type: Localizer for runway 18L. Magnetic variation: 1E
2.19.2 ILS identification: EXS
2.19.5 Coordinates: 35–01–16.82N / 89–58–20.55W
2.19.6 Site elevation: 315 ft

2.19.1 ILS type: DME for runway 18L. Magnetic variation: 1E
2.19.2 ILS identification: EXS
2.19.5 Coordinates: 35–01–16.86N / 89–58–19.30W
2.19.6 Site elevation: 382 ft

2.19.1 ILS type: Glide Slope for runway 18L. Magnetic variation: 1E
2.19.2 ILS identification: EXS
2.19.5 Coordinates: 35–02–46.77N / 89–58–17.63W
2.19.6 Site elevation: 279 ft

2.19.1 ILS type: Localizer for runway 36R. Magnetic variation: 1W
2.19.2 ILS identification: MYO
2.19.5 Coordinates: 35–03–00.00N / 89–58–22.84W

2.19.6 Site elevation: 279 ft

2.19.1 ILS type: DME for runway 36R. Magnetic variation: 1W
2.19.2 ILS identification: MYO
2.19.5 Coordinates: 35–03–00.00N / 89–58–19.67W
2.19.6 Site elevation: 281 ft

2.19.1 ILS type: Glide Slope for runway 36R. Magnetic variation: 1W
2.19.2 ILS identification: MYO
2.19.5 Coordinates: 35–01–37.99N / 89–58–16.18W
2.19.6 Site elevation: 324 ft

2.19.1 ILS type: Inner Marker for runway 36R. Magnetic variation: 1W
2.19.2 ILS identification: MYO
2.19.5 Coordinates: 35–01–18.39N / 89–58–20.58W
2.19.6 Site elevation: 324 ft

2.19.1 ILS type: Middle Marker for runway 36R. Magnetic variation: 1W
2.19.2 ILS identification: MYO
2.19.5 Coordinates: 35–01–00.00N / 89–58–20.21W
2.19.6 Site elevation: 305 ft

2.19.1 ILS type: DME for runway 36L. Magnetic variation: 1W
2.19.2 ILS identification: OHN
2.19.5 Coordinates: 35–03–00.00N / 89–59–17.33W
2.19.6 Site elevation: 276 ft

2.19.1 ILS type: Glide Slope for runway 36L. Magnetic variation: 1W
2.19.2 ILS identification: OHN
2.19.5 Coordinates: 35–01–38.77N / 89–59–17.90W
2.19.6 Site elevation: 307 ft

2.19.1 ILS type: Middle Marker for runway 36L. Magnetic variation: 1W
2.19.2 ILS identification: OHN
2.19.5 Coordinates: 35–00–55.71N / 89–59–12.14W
2.19.6 Site elevation: ft

2.19.1 ILS type: Outer Marker for runway 36L. Magnetic variation: 1W
2.19.2 ILS identification: OHN
2.19.5 Coordinates: 34–57–13.77N / 89–59–00.00W
2.19.6 Site elevation: 320 ft

2.19.1 ILS type: Inner Marker for runway 36L. Magnetic variation: 1W
2.19.2 ILS identification: OHN
2.19.5 Coordinates: 35–01–17.41N / 89–59–12.63W
2.19.6 Site elevation: 325 ft

2.19.1 ILS type: Localizer for runway 36L. Magnetic variation: 1W
2.19.2 ILS identification: OHN
2.19.5 Coordinates: 35–03–00.00N / 89–59–14.98W
2.19.6 Site elevation: 276 ft

2.19.1 ILS type: Glide Slope for runway 18R. Magnetic variation: 1E
2.19.2 ILS identification: OOI
2.19.5 Coordinates: 35–02–48.70N / 89–59–18.49W
2.19.6 Site elevation: 285 ft

2.19.1 ILS type: Middle Marker for runway 18R. Magnetic variation: 1E
2.19.2 ILS identification: OOI
2.19.5 Coordinates: 35–03–24.11N / 89–59–15.34W
2.19.6 Site elevation: 251 ft

2.19.1 ILS type: Outer Marker for runway 18R. Magnetic variation: 1E
2.19.2 ILS identification: OOI
2.19.5 Coordinates: 35–07–44.20N / 89–59–23.09W
2.19.6 Site elevation: 306 ft

2.19.1 ILS type: Localizer for runway 18R. Magnetic variation: 1E
2.19.2 ILS identification: OOI
2.19.5 Coordinates: 35–01–19.31N / 89–59–12.67W
2.19.6 Site elevation: 325 ft

2.19.1 ILS type: Glide Slope for runway 18C. Magnetic variation: 1E
2.19.2 ILS identification: SDU

2.19.5 Coordinates: 35–03–00.00N / 89–58–37.51W
2.19.6 Site elevation: 273 ft

2.19.1 ILS type: Outer Marker for runway 18C. Magnetic variation: 1E
2.19.2 ILS identification: SDU
2.19.5 Coordinates: 35–07–45.23N / 89–58–37.90W
2.19.6 Site elevation: ft

2.19.1 ILS type: Localizer for runway 18C. Magnetic variation: 1E
2.19.2 ILS identification: SDU
2.19.5 Coordinates: 35–01–10.23N / 89–58–31.56W
2.19.6 Site elevation: 346 ft

2.19.1 ILS type: Middle Marker for runway 18C. Magnetic variation: 1E
2.19.2 ILS identification: SDU
2.19.5 Coordinates: 35–03–51.13N / 89–58–34.92W
2.19.6 Site elevation: ft

2.19.1 ILS type: Inner Marker for runway 36C. Magnetic variation: 1W
2.19.2 ILS identification: TSE
2.19.5 Coordinates: 35–01–17.65N / 89–58–31.71W
2.19.6 Site elevation: 318 ft

2.19.1 ILS type: Middle Marker for runway 36C. Magnetic variation: 1W
2.19.2 ILS identification: TSE
2.19.5 Coordinates: 35–01–00.00N / 89–58–31.42W
2.19.6 Site elevation: 326 ft

2.19.1 ILS type: DME for runway 36C. Magnetic variation: 1W
2.19.2 ILS identification: TSE
2.19.5 Coordinates: 35–03–22.23N / 89–58–37.26W
2.19.6 Site elevation: 253 ft

2.19.1 ILS type: Localizer for runway 36C. Magnetic variation: 1W
2.19.2 ILS identification: TSE
2.19.5 Coordinates: 35–03–22.50N / 89–58–34.34W
2.19.6 Site elevation: 261 ft

2.19.1 ILS type: Glide Slope for runway 36C. Magnetic variation: 1W
2.19.2 ILS identification: TSE
2.19.5 Coordinates: 35–01–38.08N / 89–58–36.94W
2.19.6 Site elevation: 330 ft

General Remarks:
ALL TRANSIENT AIRCRAFT REQUIRE –FOLLOW ME– ASSIST ENTERING ANG RAMP. USE OF ANG RAMP REQUIRES PRIOR PERMISSION REQUIRED V966–8131 –FOR OFFICIAL BUSINESS ONLY–.

HELICOPTER OPERATIONS PROHIBITED TO/FROM TERMINAL BUILDING.

LARGE FLOCKS OF BIRDS IN THE VICINITY OF AIRPORT.

TAXIWAY N NORTH OF TAXIWAY V, TAXIWAY C NORTH OF TAXIWAY V AND TAXIWAY S NORTH OF TAXIWAY V DESIGNATED AS NON–MOVEMENT AREAS.

LARGE & HEAVY EASTBOUND AIRCRAFT ON TAXIWAY V FOR RUNWAY 27 HOLD SHORT AT MINIMUM THRUST AREA SIGN.

PRIOR PERMISSION REQUIRED FOR TAXI CLEARANCE ON TAXIWAY ’N’ NORTH OF TAXIWAY ’V’, TAXIWAY ’S’ NORTH TAXIWAY ’V’, AND TAXIWAY ’C’ NORTH OF TAXIWAY ’V’ CONTACT FEDEX RAMP ATCT ON FREQ 131.5.

IF POSSIBLE ALL AIRCRAFT CONDUCT GROUND OPERATIONS WITH TRANSPONDERS ON.

TAXIWAY V BETWEEN TAXIWAY B AND APPROACH END RUNWAY 27 RESTRICTED TO AIRCRAFT WITH WINGSPANS OF 171 FT 6 INCHES OR LESS.

TAXIWAY V BETWEEN TAXIWAY S TAXIWAY Y RESTRICTED TO AIRCRAFT WITH TAIL HEIGHTS LESS THAN 65 FT 10 INCHES.

ANG−PRIOR PERMISSION REQUIRED DSN 726−7131, C901−291−7131. OPER 1245−2215Z MON − FRI AND CLOSED ALTITUDE MON & HOLIDAY DUE TO ALTERNATE WORK SCHEDULE. TRANSIENT AIRCRAFT MAINT NOT AVAILABLE. REFUEL SERVICE FOR OTHER THAN C5 AIRCRAFT REQUIRE QUALIFIED CREW CHIEF OR CREWMEMBERS. NON−C5 AIRCRAFT SUPPORT PROVIDED BY CONTRACT FBO ON FIELD.

CONTACT RAMP CONTROL ON 121.8 FOR ENTRY ON TO ANG RAMP. ANG FREQS 138.95 341.75. AFTER HRS CONTACT COMMAND POST AT DSN 726−7148 OR SECURITY FORCES AT DSN 726−7101.

READ BACK ALL HOLD SHORT INSTRUCTIONS REQURED.

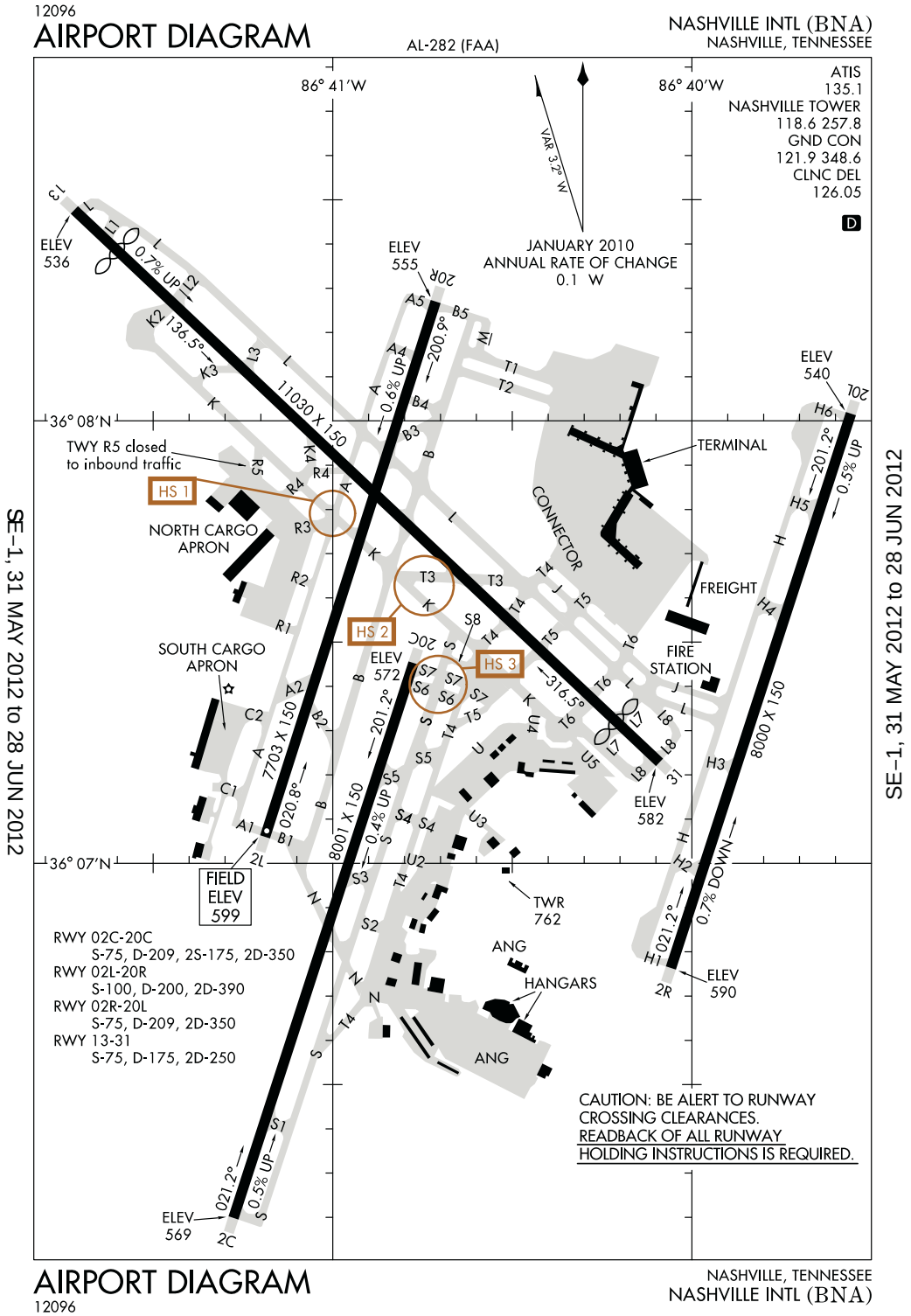
MILITARY AIRCRAFT WITH WINGSPANS GREATER THAN 171 FT SHOULD NOT TAXI ON TAXIWAY N BETWEEN TAXIWAY M7 AND TAXIWAY T NOR ON TAXIWAY J NORTH OF TAXIWAY C3.

AIRPORT CLOSED TO C5 AND LARGER EXCEPT PRIOR PERMISSION REQUIRED AIRPORT MANAGER 901−922−8117.

ANG: BASH PHASE TWO PERIOD ACTIVE FROM SEPTEMBER THROUGH MARCH.

ASDE−X SURVEILLANCE SYSTEM IN USE: PILOTS SHOULD OPERATE TRANSPONDERS WITH MODE C ON ALL TAXIWAYS AND RUNWAYS.

Nashville, Tennessee
Nashville International
ICAO Identifier KBNA



Nashville, TN
Nashville Intl
ICAO Identifier KBNA

AD 2.2 Aerodrome geographical and administrative data
2.2.1 Reference Point: 36–07–28.10N / 86–40–41.50W
2.2.2 From City: 5 Miles SE Of NAShville, TN
2.2.3 Elevation: 599 ft
2.2.5 Magnetic variation: 3W (2010)
2.2.6 Airport Contact: Raul Regalado
ONE TERMINAL DR
SUITE 501
Nashville, TN 37214
(615–275–1600)
2.2.7 Traffic: IFR/VFR

AD 2.3 Operational hours
2.3.1 – 2.3.11: ALL Months, ALL Days, ALL Hours

AD 2.4 Handling services and facilities
2.4.1 Cargo handling facilities: No
2.4.2 Fuel types: 100LL,A
2.4.4 De–icing facilities: None
2.4.5 Hangar space: Yes
2.4.6 Repair facilities: Major

AD 2.6 Rescue and firefighting services
2.6.1 Aerodrome category for firefighting: ARFF Index I C certified on 5/1/1973

AD 2.10 Aerodrome obstacles
2.10.1.a. Runway designation: 13
2.10.1.b Type of obstacle: Trees. Not Lighted or Marked

2.10.1.a. Runway designation: 31
2.10.1.b Type of obstacle: Tree. Not Lighted or Marked

AD 2.12 Runway physical characteristics
2.12.1 Designation: 13
2.12.2 True Bearing: 133
2.12.3 Dimensions: 11030 ft x 150 ft
2.12.5 Coordinates: 36–08–28.60N / 86–41–43.28W
2.12.6 Threshold elevation: 536 ft
2.12.6 Touchdown zone elevation: 567 ft

2.12.1 Designation: 31
2.12.2 True Bearing: 313
2.12.3 Dimensions: 11030 ft x 150 ft
2.12.5 Coordinates: 36–07–13.79N / 86–40–00.00W
2.12.6 Threshold elevation: 582 ft
2.12.6 Touchdown zone elevation: 577 ft

2.12.1 Designation: 02C
2.12.2 True Bearing: 18
2.12.3 Dimensions: 8001 ft x 150 ft
2.12.5 Coordinates: 36–06–11.99N / 86–41–16.66W
2.12.6 Threshold elevation: 569 ft
2.12.6 Touchdown zone elevation: 587 ft

2.12.1 Designation: 20C
2.12.2 True Bearing: 198
2.12.3 Dimensions: 8001 ft x 150 ft
2.12.5 Coordinates: 36–07–27.24N / 86–40–46.55W
2.12.6 Threshold elevation: 572 ft
2.12.6 Touchdown zone elevation: 588 ft

2.12.1 Designation: 02L
2.12.2 True Bearing: 18
2.12.3 Dimensions: 7703 ft x 150 ft
2.12.5 Coordinates: 36–07–00.00N / 86–41–11.31W
2.12.6 Threshold elevation: 598 ft
2.12.6 Touchdown zone elevation: 599 ft

2.12.1 Designation: 20R
2.12.2 True Bearing: 198
2.12.3 Dimensions: 7703 ft x 150 ft
2.12.5 Coordinates: 36–08–16.23N / 86–40–42.84W
2.12.6 Threshold elevation: 555 ft
2.12.6 Touchdown zone elevation: 578 ft

2.12.1 Designation: 02R
2.12.2 True Bearing: 18
2.12.3 Dimensions: 8000 ft x 150 ft
2.12.5 Coordinates: 36–06–45.77N / 86–40–00.00W
2.12.6 Threshold elevation: 590 ft
2.12.6 Touchdown zone elevation: 590 ft

2.12.1 Designation: 20L
2.12.2 True Bearing: 198
2.12.3 Dimensions: 8000 ft x 150 ft
2.12.5 Coordinates: 36–08–00.00N / 86–39–33.40W

2.12.6 Threshold elevation: 540 ft
2.12.6 Touchdown zone elevation: 550 ft

AD 2.13 Declared distances
2.13.1 Designation: 13
2.13.2 Takeoff run available: 10288
2.13.3 Takeoff distance available: 11029
2.13.4 Accelerate–stop distance available: 10288
2.13.5 Landing distance available: 9487

2.13.1 Designation: 31
2.13.2 Takeoff run available: 10228
2.13.3 Takeoff distance available: 11029
2.13.4 Accelerate–stop distance available: 10228
2.13.5 Landing distance available: 9487

2.13.1 Designation: 02C
2.13.2 Takeoff run available: 8000
2.13.3 Takeoff distance available: 8000
2.13.4 Accelerate–stop distance available: 8000
2.13.5 Landing distance available: 8000

2.13.1 Designation: 20C
2.13.2 Takeoff run available: 8000
2.13.3 Takeoff distance available: 8000
2.13.4 Accelerate–stop distance available: 8000
2.13.5 Landing distance available: 8000

2.13.1 Designation: 02L
2.13.2 Takeoff run available: 7702
2.13.3 Takeoff distance available: 7702
2.13.4 Accelerate–stop distance available: 7702
2.13.5 Landing distance available: 7702

2.13.1 Designation: 20R
2.13.2 Takeoff run available: 7702
2.13.3 Takeoff distance available: 7702
2.13.4 Accelerate–stop distance available: 7702
2.13.5 Landing distance available: 7702

2.13.1 Designation: 02R
2.13.2 Takeoff run available: 8000
2.13.3 Takeoff distance available: 8000
2.13.4 Accelerate–stop distance available: 8000
2.13.5 Landing distance available: 8000

2.13.1 Designation: 20L
2.13.2 Takeoff run available: 8000
2.13.3 Takeoff distance available: 8000
2.13.4 Accelerate–stop distance available: 8000
2.13.5 Landing distance available: 8000

AD 2.14 Approach and runway lighting
2.14.1 Designation: 13
2.14.4 Visual approach slope indicator system:
6–box VASI on left

2.14.1 Designation: 02C
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights

2.14.1 Designation: 20C
2.14.4 Visual approach slope indicator system:
4–light PAPI on left

2.14.1 Designation: 02L
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration

2.14.1 Designation: 20R
2.14.4 Visual approach slope indicator system:
4–light PAPI on right

2.14.1 Designation: 02R
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration
2.14.4 Visual approach slope indicator system:
4–light PAPI on right

2.14.1 Designation: 20L
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights

AD 2.18 Air traffic services communication facilities
2.18.1 Service designation: CLASS C IC
2.18.3 Service designation: 118.4 MHz

2.18.1 Service designation: DEP/P
2.18.3 Service designation: 118.4 MHz

2.18.1 Service designation: DEP/P CLASS C
2.18.3 Service designation: 119.35 MHz

2.18.1 Service designation: APCH/P
2.18.3 Service designation: 120.6 MHz

2.18.1 Service designation: EMERG
2.18.3 Service designation: 121.5 MHz

2.18.1 Service designation: CD/P PTC
2.18.3 Service designation: 126.05 MHz

2.18.1 Service designation: APCH/P
2.18.3 Service designation: 127.175 MHz

2.18.1 Service designation: EMERG
2.18.3 Service designation: 243 MHz

2.18.1 Service designation: ALCP
2.18.3 Service designation: 314.4 MHz

2.18.1 Service designation: DEP/P
2.18.3 Service designation: 360.7 MHz

2.18.1 Service designation: APCH/P CLASS C IC
2.18.3 Service designation: 360.7 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 118.6 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 121.9 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 257.8 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 348.6 MHz

2.18.1 Service designation: D−ATIS
2.18.3 Service designation: 135.1 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: APCH/P
2.18.3 Service designation: 372 MHz

2.18.1 Service designation: DEP/P CLASS C
2.18.3 Service designation: 372 MHz

AD 2.19 Radio navigation and landing aids

2.19.1 ILS type: Localizer for runway 31. Magnetic variation: 3W
2.19.2 ILS identification: PNO
2.19.5 Coordinates: 36−08−30.65N / 86−41−45.97W
2.19.6 Site elevation: 540 ft

2.19.1 ILS type: Middle Marker for runway 31. Magnetic variation: 3W
2.19.2 ILS identification: PNO
2.19.5 Coordinates: 36−06−57.26N / 86−39−44.59W
2.19.6 Site elevation: 547 ft

2.19.1 ILS type: Outer Marker for runway 31. Magnetic variation: 3W
2.19.2 ILS identification: PNO
2.19.5 Coordinates: 36−03−16.09N / 86−34−51.59W
2.19.6 Site elevation: 520 ft

2.19.1 ILS type: Glide Slope for runway 31. Magnetic variation: 3W
2.19.2 ILS identification: PNO
2.19.5 Coordinates: 36−07−28.27N / 86−40−18.60W
2.19.6 Site elevation: 566 ft

2.19.1 ILS type: Localizer for runway 02C. Magnetic variation: 3W
2.19.2 ILS identification: EZN
2.19.5 Coordinates: 36−07−31.97N / 86−40−44.66W
2.19.6 Site elevation: 574 ft

2.19.1 ILS type: Glide Slope for runway 02C. Magnetic variation: 3W
2.19.2 ILS identification: EZN
2.19.5 Coordinates: 36−06−22.64N / 86−41−16.89W
2.19.6 Site elevation: 571 ft

2.19.1 ILS type: Localizer for runway 02L. Magnetic variation: 3W
2.19.2 ILS identification: BNA
2.19.5 Coordinates: 36−08−25.75N / 86−40−39.10W
2.19.6 Site elevation: 552 ft

2.19.1 ILS type: DME for runway 02L. Magnetic variation: 3W
2.19.2 ILS identification: BNA
2.19.5 Coordinates: 36−08−26.46N / 86−40−42.35W
2.19.6 Site elevation: 535 ft

2.19.1 ILS type: Glide Slope for runway 02L. Magnetic variation: 3W
2.19.2 ILS identification: BNA
2.19.5 Coordinates: 36−07−12.95N / 86−41−00.00W

2.19.6 Site elevation: 591 ft

2.19.1 ILS type: Outer Marker for runway 02L.
Magnetic variation: 3W
2.19.2 ILS identification: BNA
2.19.5 Coordinates: 36–01–51.60N /
86–43–18.44W
2.19.6 Site elevation: 985 ft

2.19.1 ILS type: Middle Marker for runway 02L.
Magnetic variation: 3W
2.19.2 ILS identification: BNA
2.19.5 Coordinates: 36–06–35.04N /
86–41–22.51W
2.19.6 Site elevation: ft

2.19.1 ILS type: Inner Marker for runway 02L.
Magnetic variation: 3W
2.19.2 ILS identification: BNA
2.19.5 Coordinates: 36–06–54.83N /
86–41–14.80W
2.19.6 Site elevation: 595 ft

2.19.1 ILS type: Outer Marker for runway 20R.
Magnetic variation: 3W
2.19.2 ILS identification: VIY
2.19.5 Coordinates: 36–12–13.70N /
86–39–00.00W
2.19.6 Site elevation: 433 ft

2.19.1 ILS type: Glide Slope for runway 20R.
Magnetic variation: 3W
2.19.2 ILS identification: VIY
2.19.5 Coordinates: 36–08–00.00N /
86–40–42.76W
2.19.6 Site elevation: 555 ft

2.19.1 ILS type: Localizer for runway 20R.
Magnetic variation: 3W
2.19.2 ILS identification: VIY
2.19.5 Coordinates: 36–06–49.68N /
86–41–16.79W
2.19.6 Site elevation: 587 ft

2.19.1 ILS type: Glide Slope for runway 02R.
Magnetic variation: 3W
2.19.2 ILS identification: UQU
2.19.5 Coordinates: 36–06–56.01N /
86–39–54.74W
2.19.6 Site elevation: 577 ft

2.19.1 ILS type: Inner Marker for runway 02R.
Magnetic variation: 3W
2.19.2 ILS identification: UQU
2.19.5 Coordinates: 36–06–37.69N /
86–40–00.00W
2.19.6 Site elevation: 569 ft

2.19.1 ILS type: Middle Marker for runway 02R.
Magnetic variation: 3W
2.19.2 ILS identification: UQU
2.19.5 Coordinates: 36–06–19.86N /
86–40–13.85W
2.19.6 Site elevation: 607 ft

2.19.1 ILS type: DME for runway 02R. Magnetic variation: 3W
2.19.2 ILS identification: UQU
2.19.5 Coordinates: 36–08–00.00N /
86–39–35.72W
2.19.6 Site elevation: 520 ft

2.19.1 ILS type: Localizer for runway 02R.
Magnetic variation: 3W
2.19.2 ILS identification: UQU
2.19.5 Coordinates: 36–08–10.51N /
86–39–29.60W
2.19.6 Site elevation: 531 ft

2.19.1 ILS type: Localizer for runway 20L.
Magnetic variation: 3W
2.19.2 ILS identification: SSX
2.19.5 Coordinates: 36–06–30.02N /
86–40–00.00W
2.19.6 Site elevation: 613 ft

2.19.1 ILS type: Middle Marker for runway 20L.
Magnetic variation: 3W
2.19.2 ILS identification: SSX
2.19.5 Coordinates: 36–08–25.51N /
86–39–23.69W
2.19.6 Site elevation: 610 ft

2.19.1 ILS type: DME for runway 20L. Magnetic variation: 3W
2.19.2 ILS identification: SSX
2.19.5 Coordinates: 36–06–30.96N /
86–40–12.89W
2.19.6 Site elevation: 621 ft

2.19.1 ILS type: Glide Slope for runway 20L.
Magnetic variation: 3W
2.19.2 ILS identification: SSX

2.19.5 Coordinates: 36–07–50.03N / 86–39–33.12W

2.19.6 Site elevation: 534 ft

General Remarks:
READ BACK OF ALL RUNWAY HOLDING INSTRUCTIONS IS REQUIRED.

FLIGHT NOTIFICATION SERVICE (ADCUS) AVAILABLE.

PILOTS COMPLY WITH ALL HOLD SHORT INSTRUCTIONS PARTICULARLY AT TAXIWAY K & RUNWAY 20C APPROACH; TAXIWAY L8 & RUNWAY 31 APPROACH; TAXIWAY L AT RUNWAY 13 APPROACH; AND TAXIWAY H AT RUNWAY 31 APPROACH.

ALL TURBOJET RUNWAYS HAVE NOISE ABATEMENT PROCEDURES. MILITARY FIGHTER/ATTACK/TRAINER TURBOJETS USE RUNWAY 13/31 FOR ARRIVAL & DEPARTURE.

LIGHTED JET BLAST FENCE 598 MSL 1100 FT SE OF RUNWAY 31 THRESHOLD.

LIGHTED JET BLAST FENCE 568 FT MSL 1167 FT NW RUNWAY 13 THRESHOLD.

NO UNAUTHORIZED 180 DEGREE TURNS FOR AIRCRAFT OVER 12500 LBS ON ASPHALT SURFACES.

NO FLIGHT OVER MAIN TERMINAL BUILDING IS PERMITTED.

BIRD ACTIVITY ON & IN THE VICINITY OF AIRPORT.

DO NOT CONFUSE 150 FT WIDE TAXIWAY S FOR RUNWAY 20C.

'C' CONCOURSE TAXILANES ARE; INNER TAXILANE FOR OUTBOUND TRAFFIC & OUTER TAXILANE FOR INBOUND TRAFFIC.

FENCE CONSTRUCTION NE RAMP APRON 'D' CONCOURSE LIGHTED.

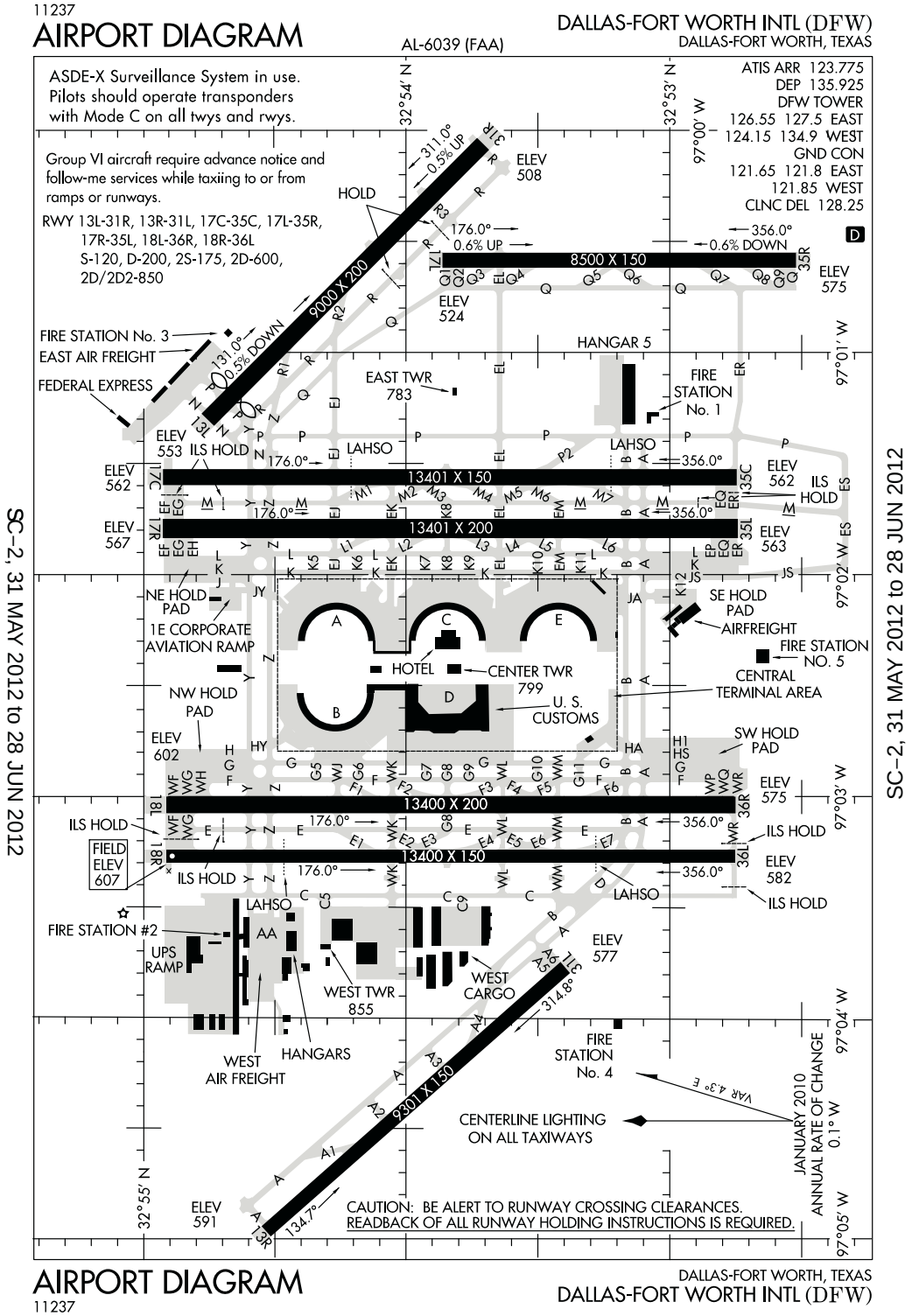
NO FLIGHTS OVER AIR NATIONAL GUARD RAMP.

CAUTION: BASH PHASE I: RUNS FROM 1 APRIL THROUGH 30 SEPTEMBER EACH YEAR. PHASE II RUNS FROM 1 OCTOBER THROUGH 31 MARCH EACH YEAR DUE TO ITS PROXIMITY TO THE FOUR MAJOR MIGRATORY FLYWAYS. SEE AP/1 FOR MORE INFORMATION.

ANG: OFFICIAL BUSINESS ONLY, PRIOR PERMISSION REQUIRED DSN 844–8119.

ANG: CALL SIGN MUSIC CITY OPERATIONS.

Dallas, Texas
Dallas–Fort Worth International
ICAO Identifier KDFW



Dallas−Fort Worth, TX
Dallas/Fort Worth Intl
ICAO Identifier KDFW

AD 2.2 Aerodrome geographical and administrative data
2.2.1 Reference Point: 32−53−48.58N / 97−02−16.79W
2.2.2 From City: 12 Miles NW Of Dallas−Fort Worth, TX
2.2.3 Elevation: 607 ft
2.2.5 Magnetic variation: 6E (2000)
2.2.6 Airport Contact: Jeffrey Fegan − Ceo
PO BOX 619428
Dallas−Ft Worth, TX 75261
(972−973−3112)
2.2.7 Traffic: IFR/VFR
2.2.8 Remarks: And Dallas Co.

AD 2.3 Operational hours
2.3.1 − 2.3.11: ALL Months, ALL Days, ALL Hours

AD 2.4 Handling services and facilities
2.4.1 Cargo handling facilities: No
2.4.2 Fuel types: 100LL,A
2.4.4 De−icing facilities: None
2.4.5 Hangar space: No
2.4.6 Repair facilities: None

AD 2.6 Rescue and firefighting services
2.6.1 Aerodrome category for firefighting: ARFF Index I E certified on 7/1/1973

AD 2.10 Aerodrome obstacles
2.10.1.a. Runway designation: 17L
2.10.1.b Type of obstacle: Ant (150 ft). Lighted
2.10.1.c Location of obstacle: 798 ft from Centerline

AD 2.12 Runway physical characteristics
2.12.1 Designation: 18L
2.12.2 True Bearing: 180
2.12.3 Dimensions: 13400 ft x 200 ft
2.12.5 Coordinates: 32−54−56.88N / 97−03−00.00W
2.12.6 Threshold elevation: 602 ft
2.12.6 Touchdown zone elevation: 602 ft

2.12.1 Designation: 36R
2.12.2 True Bearing: 0
2.12.3 Dimensions: 13400 ft x 200 ft
2.12.5 Coordinates: 32−52−44.30N / 97−03−00.00W
2.12.6 Threshold elevation: 575 ft
2.12.6 Touchdown zone elevation: 580 ft

2.12.1 Designation: 18R
2.12.2 True Bearing: 180
2.12.3 Dimensions: 13400 ft x 150 ft
2.12.5 Coordinates: 32−54−56.93N / 97−03−16.71W
2.12.6 Threshold elevation: 607 ft
2.12.6 Touchdown zone elevation: 607 ft

2.12.1 Designation: 36L
2.12.2 True Bearing: 0
2.12.3 Dimensions: 13400 ft x 150 ft
2.12.5 Coordinates: 32−52−44.35N / 97−03−17.40W
2.12.6 Threshold elevation: 582 ft
2.12.6 Touchdown zone elevation: 588 ft

2.12.1 Designation: 17C
2.12.2 True Bearing: 180
2.12.3 Dimensions: 13401 ft x 150 ft
2.12.5 Coordinates: 32−54−56.55N / 97−01−33.49W
2.12.6 Threshold elevation: 562 ft
2.12.6 Touchdown zone elevation: 562 ft

2.12.1 Designation: 35C
2.12.2 True Bearing: 0
2.12.3 Dimensions: 13401 ft x 150 ft
2.12.5 Coordinates: 32−52−43.96N / 97−01−34.22W
2.12.6 Threshold elevation: 562 ft
2.12.6 Touchdown zone elevation: 562 ft

2.12.1 Designation: 13L
2.12.2 True Bearing: 135
2.12.3 Dimensions: 9000 ft x 200 ft
2.12.5 Coordinates: 32−54−45.20N / 97−01−17.32W
2.12.6 Threshold elevation: 553 ft
2.12.6 Touchdown zone elevation: 553 ft

2.12.1 Designation: 31R
2.12.2 True Bearing: 315
2.12.3 Dimensions: 9000 ft x 200 ft
2.12.5 Coordinates: 32−53−41.93N / 97−00−00.00W

2.12.6 Threshold elevation: 508 ft
2.12.6 Touchdown zone elevation: 523 ft

2.12.1 Designation: 13R
2.12.2 True Bearing: 139
2.12.3 Dimensions: 9301 ft x 150 ft
2.12.5 Coordinates: 32–54–34.47N / 97–04–59.28W
2.12.6 Threshold elevation: 591 ft
2.12.6 Touchdown zone elevation: 591 ft

2.12.1 Designation: 31L
2.12.2 True Bearing: 319
2.12.3 Dimensions: 9301 ft x 150 ft
2.12.5 Coordinates: 32–53–24.97N / 97–03–47.79W
2.12.6 Threshold elevation: 577 ft
2.12.6 Touchdown zone elevation: 581 ft

2.12.1 Designation: 17R
2.12.2 True Bearing: 180
2.12.3 Dimensions: 13401 ft x 200 ft
2.12.5 Coordinates: 32–54–56.60N / 97–01–47.58W
2.12.6 Threshold elevation: 566 ft
2.12.6 Touchdown zone elevation: 566 ft

2.12.1 Designation: 35L
2.12.2 True Bearing: 0
2.12.3 Dimensions: 13401 ft x 200 ft
2.12.5 Coordinates: 32–52–44.02N / 97–01–48.29W
2.12.6 Threshold elevation: 563 ft
2.12.6 Touchdown zone elevation: 564 ft

2.12.1 Designation: 17L
2.12.2 True Bearing: 180
2.12.3 Dimensions: 8500 ft x 150 ft
2.12.5 Coordinates: 32–53–53.95N / 97–00–35.20W
2.12.6 Threshold elevation: 524 ft
2.12.6 Touchdown zone elevation: 545 ft

2.12.1 Designation: 35R
2.12.2 True Bearing: 0
2.12.3 Dimensions: 8500 ft x 150 ft
2.12.5 Coordinates: 32–52–29.85N / 97–00–35.67W
2.12.6 Threshold elevation: 575 ft
2.12.6 Touchdown zone elevation: 575 ft

AD 2.13 Declared distances

2.13.1 Designation: 18L
2.13.2 Takeoff run available: 13400
2.13.3 Takeoff distance available: 13400
2.13.4 Accelerate–stop distance available: 13400
2.13.5 Landing distance available: 13400

2.13.1 Designation: 36R
2.13.2 Takeoff run available: 13400
2.13.3 Takeoff distance available: 13400
2.13.4 Accelerate–stop distance available: 13400
2.13.5 Landing distance available: 13400

2.13.1 Designation: 18R
2.13.2 Takeoff run available: 13400
2.13.3 Takeoff distance available: 13400
2.13.4 Accelerate–stop distance available: 13400
2.13.5 Landing distance available: 13400

2.13.1 Designation: 36L
2.13.2 Takeoff run available: 13400
2.13.3 Takeoff distance available: 13400
2.13.4 Accelerate–stop distance available: 13400
2.13.5 Landing distance available: 13400

2.13.1 Designation: 17C
2.13.2 Takeoff run available: 13401
2.13.3 Takeoff distance available: 13401
2.13.4 Accelerate–stop distance available: 13401
2.13.5 Landing distance available: 13401

2.13.1 Designation: 35C
2.13.2 Takeoff run available: 13401
2.13.3 Takeoff distance available: 13401
2.13.4 Accelerate–stop distance available: 13401
2.13.5 Landing distance available: 13401

2.13.1 Designation: 13L
2.13.2 Takeoff run available: 9000
2.13.3 Takeoff distance available: 9000
2.13.4 Accelerate–stop distance available: 9000
2.13.5 Landing distance available: 8375

2.13.1 Designation: 31R
2.13.2 Takeoff run available: 8375
2.13.3 Takeoff distance available: 8375
2.13.4 Accelerate–stop distance available: 8375
2.13.5 Landing distance available: 8375

2.13.1 Designation: 13R
2.13.2 Takeoff run available: 9301
2.13.3 Takeoff distance available: 9301
2.13.4 Accelerate–stop distance available: 9301

2.13.5 Landing distance available: 9301

2.13.1 Designation: 31L
2.13.2 Takeoff run available: 9301
2.13.3 Takeoff distance available: 9301
2.13.4 Accelerate–stop distance available: 9301
2.13.5 Landing distance available: 9301

2.13.1 Designation: 17R
2.13.2 Takeoff run available: 13401
2.13.3 Takeoff distance available: 13401
2.13.4 Accelerate–stop distance available: 13401
2.13.5 Landing distance available: 13401

2.13.1 Designation: 35L
2.13.2 Takeoff run available: 13401
2.13.3 Takeoff distance available: 13401
2.13.4 Accelerate–stop distance available: 13401
2.13.5 Landing distance available: 13401

2.13.1 Designation: 17L
2.13.2 Takeoff run available: 8500
2.13.3 Takeoff distance available: 8500
2.13.4 Accelerate–stop distance available: 8500
2.13.5 Landing distance available: 8500

2.13.1 Designation: 35R
2.13.2 Takeoff run available: 8500
2.13.3 Takeoff distance available: 8500
2.13.4 Accelerate–stop distance available: 8500
2.13.5 Landing distance available: 8500

AD 2.14 Approach and runway lighting
2.14.1 Designation: 18L
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 36R
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 18R
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 36L
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 17C
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 35C
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 13L
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 31R
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 13R
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 31L
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 17R
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 35L
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 17L
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 35R
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration
2.14.4 Visual approach slope indicator system: 4–light PAPI on right

AD 2.18 Air traffic services communication facilities

2.18.1 Service designation: CLASS B NW
2.18.3 Service designation: 118.1 MHz

2.18.1 Service designation: DEP/P
2.18.3 Service designation: 118.55 MHz

2.18.1 Service designation: APCH/P IC
2.18.3 Service designation: 119.875 MHz

2.18.1 Service designation: GND/P IC
2.18.3 Service designation: 121.65 MHz

2.18.1 Service designation: GND/P IC
2.18.3 Service designation: 121.8 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 121.85 MHz

2.18.1 Service designation: LCL/P IC
2.18.3 Service designation: 124.15 MHz

2.18.1 Service designation: CLASS B NE
2.18.3 Service designation: 124.3 MHz

2.18.1 Service designation: DEP/P
2.18.3 Service designation: 124.825 MHz

2.18.1 Service designation: APCH/P IC
2.18.3 Service designation: 125.025 MHz

2.18.1 Service designation: DEP/P
2.18.3 Service designation: 125.125 MHz

2.18.1 Service designation: CLASS B SE
2.18.3 Service designation: 125.2 MHz

2.18.1 Service designation: DEP/P
2.18.3 Service designation: 126.475 MHz

2.18.1 Service designation: LCL/P IC
2.18.3 Service designation: 126.55 MHz

2.18.1 Service designation: LCL/P IC
2.18.3 Service designation: 127.5 MHz

2.18.1 Service designation: CD/P
2.18.3 Service designation: 128.25 MHz

2.18.1 Service designation: APCH/S
2.18.3 Service designation: 133.525 MHz

2.18.1 Service designation: APCH/S
2.18.3 Service designation: 133.625 MHz

2.18.1 Service designation: LCL/P IC
2.18.3 Service designation: 134.9 MHz

2.18.1 Service designation: CLASS B SW
2.18.3 Service designation: 135.975 MHz

2.18.1 Service designation: EMERG
2.18.3 Service designation: 243 MHz

2.18.1 Service designation: APCH/P
2.18.3 Service designation: 284.65 MHz

2.18.1 Service designation: DEP/P
2.18.3 Service designation: 290.35 MHz

2.18.1 Service designation: CLASS B NW
2.18.3 Service designation: 306.95 MHz

2.18.1 Service designation: DEP/P
2.18.3 Service designation: 319.85 MHz

2.18.1 Service designation: DEP/P
2.18.3 Service designation: 323.05 MHz

2.18.1 Service designation: CLASS B SE
2.18.3 Service designation: 343.65 MHz

2.18.1 Service designation: DEP/P

2.18.3 Service designation: 363.15 MHz

2.18.1 Service designation: CLASS B SW
2.18.3 Service designation: 379.9 MHz

2.18.1 Service designation: APCH/P
2.18.3 Service designation: 263.025 MHz

2.18.1 Service designation: CLASS B NE
2.18.3 Service designation: 282.275 MHz

2.18.1 Service designation: D−ATIS
2.18.3 Service designation: 123.775 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: D−ATIS
2.18.3 Service designation: 135.925 MHz
2.18.4 Hours of operation: 24

AD 2.19 Radio navigation and landing aids

2.19.1 ILS type: Localizer for runway 18L.
Magnetic variation: 4E
2.19.2 ILS identification: CIX
2.19.5 Coordinates: 32−52−33.61N /
97−03−00.00W
2.19.6 Site elevation: 570 ft

2.19.1 ILS type: Middle Marker for runway 18L.
Magnetic variation: 4E
2.19.2 ILS identification: CIX
2.19.5 Coordinates: 32−55−00.00N /
97−03−00.00W
2.19.6 Site elevation: 600 ft

2.19.1 ILS type: Outer Marker for runway 18L.
Magnetic variation: 4E
2.19.2 ILS identification: CIX
2.19.5 Coordinates: 32−59−42.30N /
97−02−58.02W
2.19.6 Site elevation: 571 ft

2.19.1 ILS type: Glide Slope for runway 18L.
Magnetic variation: 4E
2.19.2 ILS identification: CIX
2.19.5 Coordinates: 32−54−45.22N /
97−03−00.00W
2.19.6 Site elevation: 594 ft

2.19.1 ILS type: DME for runway 18L. Magnetic variation: 4E
2.19.2 ILS identification: CIX
2.19.5 Coordinates: 32−55−00.00N /
97−03−00.00W
2.19.6 Site elevation: 594 ft

2.19.1 ILS type: Localizer for runway 36R.
Magnetic variation: 4E
2.19.2 ILS identification: FJN
2.19.5 Coordinates: 32−55−00.00N /
97−03−00.00W
2.19.6 Site elevation: 595 ft

2.19.1 ILS type: Glide Slope for runway 36R.
Magnetic variation: 4E
2.19.2 ILS identification: FJN
2.19.5 Coordinates: 32−52−54.85N /
97−03−00.00W
2.19.6 Site elevation: 577 ft

2.19.1 ILS type: DME for runway 36R. Magnetic variation: 4E
2.19.2 ILS identification: FJN
2.19.5 Coordinates: 32−55−00.00N /
97−03−00.00W
2.19.6 Site elevation: 594 ft

2.19.1 ILS type: Outer Marker for runway 36R.
Magnetic variation: 4E
2.19.2 ILS identification: FJN
2.19.5 Coordinates: 32−47−34.94N /
97−03−00.00W
2.19.6 Site elevation: 523 ft

2.19.1 ILS type: Middle Marker for runway 36R.
Magnetic variation: 4E
2.19.2 ILS identification: FJN
2.19.5 Coordinates: 32−52−17.10N /
97−03−00.00W
2.19.6 Site elevation: 560 ft

2.19.1 ILS type: Localizer for runway 18R.
Magnetic variation: 4E
2.19.2 ILS identification: VYN
2.19.5 Coordinates: 32−52−33.93N /
97−03−17.46W
2.19.6 Site elevation: 580 ft

2.19.1 ILS type: Glide Slope for runway 18R.
Magnetic variation: 4E
2.19.2 ILS identification: VYN
2.19.5 Coordinates: 32−54−25.17N /
97−03−21.58W
2.19.6 Site elevation: 598 ft

2.19.1 ILS type: Inner Marker for runway 18R.
Magnetic variation: 4E
2.19.2 ILS identification: VYN
2.19.5 Coordinates: 32–54–44.35N /
97–03–16.79W
2.19.6 Site elevation: 604 ft

2.19.1 ILS type: DME for runway 18R. Magnetic variation: 4E
2.19.2 ILS identification: VYN
2.19.5 Coordinates: 32–52–34.09N /
97–03–12.60W
2.19.6 Site elevation: 584 ft

2.19.1 ILS type: Outer Marker for runway 18R.
Magnetic variation: 4E
2.19.2 ILS identification: VYN
2.19.5 Coordinates: 32–59–42.30N /
97–02–58.02W
2.19.6 Site elevation: 571 ft

2.19.1 ILS type: Middle Marker for runway 18R.
Magnetic variation: 4E
2.19.2 ILS identification: VYN
2.19.5 Coordinates: 32–55–00.00N /
97–03–16.70W
2.19.6 Site elevation: 600 ft

2.19.1 ILS type: Outer Marker for runway 36L.
Magnetic variation: 4E
2.19.2 ILS identification: BXN
2.19.5 Coordinates: 32–47–34.94N /
97–03–00.00W
2.19.6 Site elevation: 523 ft

2.19.1 ILS type: Middle Marker for runway 36L.
Magnetic variation: 4E
2.19.2 ILS identification: BXN
2.19.5 Coordinates: 32–52–15.86N /
97–03–17.54W
2.19.6 Site elevation: 542 ft

2.19.1 ILS type: Glide Slope for runway 36L.
Magnetic variation: 4E
2.19.2 ILS identification: BXN
2.19.5 Coordinates: 32–52–54.41N /
97–03–22.04W
2.19.6 Site elevation: 580 ft

2.19.1 ILS type: DME for runway 36L. Magnetic variation: 4E
2.19.2 ILS identification: BXN
2.19.5 Coordinates: 32–52–34.09N /
97–03–12.60W
2.19.6 Site elevation: 584 ft

2.19.1 ILS type: Localizer for runway 36L.
Magnetic variation: 4E
2.19.2 ILS identification: BXN
2.19.5 Coordinates: 32–55–00.00N /
97–03–16.69W
2.19.6 Site elevation: 601 ft

2.19.1 ILS type: Localizer for runway 17C.
Magnetic variation: 4E
2.19.2 ILS identification: FLQ
2.19.5 Coordinates: 32–52–33.15N /
97–01–34.28W
2.19.6 Site elevation: 563 ft

2.19.1 ILS type: DME for runway 17C. Magnetic variation: 4E
2.19.2 ILS identification: FLQ
2.19.5 Coordinates: 32–52–34.13N /
97–01–39.65W
2.19.6 Site elevation: 560 ft

2.19.1 ILS type: Inner Marker for runway 17C.
Magnetic variation: 4E
2.19.2 ILS identification: FLQ
2.19.5 Coordinates: 32–55–00.00N /
97–01–33.46W
2.19.6 Site elevation: 562 ft

2.19.1 ILS type: Middle Marker for runway 17C.
Magnetic variation: 4E
2.19.2 ILS identification: FLQ
2.19.5 Coordinates: 32–55–00.00N /
97–01–33.35W
2.19.6 Site elevation: 561 ft

2.19.1 ILS type: Outer Marker for runway 17C.
Magnetic variation: 4E
2.19.2 ILS identification: FLQ
2.19.5 Coordinates: 32–59–44.75N /
97–01–46.52W
2.19.6 Site elevation: 525 ft

2.19.1 ILS type: Glide Slope for runway 17C.
Magnetic variation: 4E
2.19.2 ILS identification: FLQ
2.19.5 Coordinates: 32–54–45.64N /
97–01–28.77W
2.19.6 Site elevation: 556 ft

2.19.1 ILS type: DME for runway 35C. Magnetic variation: 4E
2.19.2 ILS identification: PKQ
2.19.5 Coordinates: 32–52–34.13N / 97–01–39.65W
2.19.6 Site elevation: 575 ft

2.19.1 ILS type: Outer Marker for runway 35C. Magnetic variation: 4E
2.19.2 ILS identification: PKQ
2.19.5 Coordinates: 32–48–00.00N / 97–01–38.86W
2.19.6 Site elevation: 480 ft

2.19.1 ILS type: Inner Marker for runway 35C. Magnetic variation: 4E
2.19.2 ILS identification: PKQ
2.19.5 Coordinates: 32–52–35.30N / 97–01–34.26W
2.19.6 Site elevation: 563 ft

2.19.1 ILS type: Glide Slope for runway 35C. Magnetic variation: 4E
2.19.2 ILS identification: PKQ
2.19.5 Coordinates: 32–52–54.33N / 97–01–29.47W
2.19.6 Site elevation: 557 ft

2.19.1 ILS type: Localizer for runway 35C. Magnetic variation: 4E
2.19.2 ILS identification: PKQ
2.19.5 Coordinates: 32–55–00.00N / 97–01–33.45W
2.19.6 Site elevation: 558 ft

2.19.1 ILS type: Middle Marker for runway 35C. Magnetic variation: 4E
2.19.2 ILS identification: PKQ
2.19.5 Coordinates: 32–52–16.34N / 97–01–34.37W
2.19.6 Site elevation: 559 ft

2.19.1 ILS type: Localizer for runway 31R. Magnetic variation: 4E
2.19.2 ILS identification: RRA
2.19.5 Coordinates: 32–54–47.86N / 97–01–20.46W
2.19.6 Site elevation: 552 ft

2.19.1 ILS type: Glide Slope for runway 31R. Magnetic variation: 4E
2.19.2 ILS identification: RRA
2.19.5 Coordinates: 32–53–51.74N / 97–00–00.00W
2.19.6 Site elevation: 509 ft

2.19.1 ILS type: DME for runway 31R. Magnetic variation: 4E
2.19.2 ILS identification: RRA
2.19.5 Coordinates: 32–54–46.09N / 97–01–22.58W
2.19.6 Site elevation: 548 ft

2.19.1 ILS type: Outer Marker for runway 31R. Magnetic variation: 4E
2.19.2 ILS identification: RRA
2.19.5 Coordinates: 32–49–51.37N / 96–55–27.13W
2.19.6 Site elevation: ft

2.19.1 ILS type: Middle Marker for runway 31R. Magnetic variation: 4E
2.19.2 ILS identification: RRA
2.19.5 Coordinates: 32–53–20.76N / 96–59–38.13W
2.19.6 Site elevation: ft

2.19.1 ILS type: Glide Slope for runway 13R. Magnetic variation: 4E
2.19.2 ILS identification: LWN
2.19.5 Coordinates: 32–54–24.13N / 97–04–54.08W
2.19.6 Site elevation: 588 ft

2.19.1 ILS type: Outer Marker for runway 13R. Magnetic variation: 4E
2.19.2 ILS identification: LWN
2.19.5 Coordinates: 32–58–20.35N / 97–08–45.76W
2.19.6 Site elevation: 605 ft

2.19.1 ILS type: DME for runway 13R. Magnetic variation: 4E
2.19.2 ILS identification: LWN
2.19.5 Coordinates: 32–53–16.07N / 97–03–42.77W
2.19.6 Site elevation: 590 ft

2.19.1 ILS type: Middle Marker for runway 13R. Magnetic variation: 4E
2.19.2 ILS identification: LWN
2.19.5 Coordinates: 32–54–55.16N / 97–05–20.58W
2.19.6 Site elevation: 610 ft

2.19.1 ILS type: Localizer for runway 13R. Magnetic variation: 4E
2.19.2 ILS identification: LWN
2.19.5 Coordinates: 32–53–17.46N / 97–03–40.07W
2.19.6 Site elevation: 577 ft

2.19.1 ILS type: Glide Slope for runway 17R. Magnetic variation: 4E
2.19.2 ILS identification: JHZ
2.19.5 Coordinates: 32–54–45.82N / 97–01–43.06W
2.19.6 Site elevation: 561 ft

2.19.1 ILS type: Outer Marker for runway 17R. Magnetic variation: 4E
2.19.2 ILS identification: JHZ
2.19.5 Coordinates: 32–59–44.75N / 97–01–46.52W
2.19.6 Site elevation: 525 ft

2.19.1 ILS type: Middle Marker for runway 17R. Magnetic variation: 4E
2.19.2 ILS identification: JHZ
2.19.5 Coordinates: 32–55–26.68N / 97–01–47.42W
2.19.6 Site elevation: 561 ft

2.19.1 ILS type: Localizer for runway 17R. Magnetic variation: 4E
2.19.2 ILS identification: JHZ
2.19.5 Coordinates: 32–52–34.13N / 97–01–48.35W
2.19.6 Site elevation: 558 ft

2.19.1 ILS type: DME for runway 17R. Magnetic variation: 4E
2.19.2 ILS identification: JHZ
2.19.5 Coordinates: 32–52–33.67N / 97–01–53.66W
2.19.6 Site elevation: 550 ft

2.19.1 ILS type: Glide Slope for runway 35L. Magnetic variation: 4E
2.19.2 ILS identification: UWX
2.19.5 Coordinates: 32–52–54.98N / 97–01–43.53W
2.19.6 Site elevation: 559 ft

2.19.1 ILS type: Middle Marker for runway 35L. Magnetic variation: 4E
2.19.2 ILS identification: UWX
2.19.5 Coordinates: 32–52–17.25N / 97–01–48.43W
2.19.6 Site elevation: 554 ft

2.19.1 ILS type: DME for runway 35L. Magnetic variation: 4E
2.19.2 ILS identification: UWX
2.19.5 Coordinates: 32–52–33.67N / 97–01–53.66W
2.19.6 Site elevation: ft

2.19.1 ILS type: Localizer for runway 35L. Magnetic variation: 4E
2.19.2 ILS identification: UWX
2.19.5 Coordinates: 32–55–00.00N / 97–01–47.52W
2.19.6 Site elevation: 567 ft

2.19.1 ILS type: Outer Marker for runway 35L. Magnetic variation: 4E
2.19.2 ILS identification: UWX
2.19.5 Coordinates: 32–48–00.00N / 97–01–38.86W
2.19.6 Site elevation: 499 ft

2.19.1 ILS type: Localizer for runway 17L. Magnetic variation: 4E
2.19.2 ILS identification: PPZ
2.19.5 Coordinates: 32–52–19.44N / 97–00–35.73W
2.19.6 Site elevation: 584 ft

2.19.1 ILS type: DME for runway 17L. Magnetic variation: 4E
2.19.2 ILS identification: PPZ
2.19.5 Coordinates: 32–52–18.74N / 97–00–40.18W
2.19.6 Site elevation: 577 ft

2.19.1 ILS type: Glide Slope for runway 17L. Magnetic variation: 4E
2.19.2 ILS identification: PPZ
2.19.5 Coordinates: 32–53–45.23N / 97–00–31.14W
2.19.6 Site elevation: 526 ft

2.19.1 ILS type: Outer Marker for runway 17L. Magnetic variation: 4E
2.19.2 ILS identification: PPZ
2.19.5 Coordinates: 32–58–00.00N / 97–00–26.70W
2.19.6 Site elevation: ft

2.19.1 ILS type: Inner Marker for runway 17L.
Magnetic variation: 4E
2.19.2 ILS identification: PPZ
2.19.5 Coordinates: 32−54−00.00N /
97−00−35.26W
2.19.6 Site elevation: ft

2.19.1 ILS type: Middle Marker for runway 17L.
Magnetic variation: 4E
2.19.2 ILS identification: PPZ
2.19.5 Coordinates: 32−54−24.15N /
97−00−35.04W
2.19.6 Site elevation: ft

2.19.1 ILS type: Localizer for runway 35R.
Magnetic variation: 4E
2.19.2 ILS identification: AJQ
2.19.5 Coordinates: 32−54−00.00N /
97−00−35.15W
2.19.6 Site elevation: 519 ft

2.19.1 ILS type: DME for runway 35R. Magnetic variation: 4E
2.19.2 ILS identification: AJQ
2.19.5 Coordinates: 32−52−18.74N /
97−00−40.18W
2.19.6 Site elevation: 577 ft

2.19.1 ILS type: Middle Marker for runway 35R.
Magnetic variation: 4E
2.19.2 ILS identification: AJQ
2.19.5 Coordinates: 32−52−00.00N /
97−00−35.82W
2.19.6 Site elevation: ft

2.19.1 ILS type: Inner Marker for runway 35R.
Magnetic variation: 4E
2.19.2 ILS identification: AJQ
2.19.5 Coordinates: 32−52−22.61N /
97−00−35.71W
2.19.6 Site elevation: ft

2.19.1 ILS type: Outer Marker for runway 35R.
Magnetic variation: 4E
2.19.2 ILS identification: AJQ
2.19.5 Coordinates: 32−48−20.28N /
97−00−26.58W
2.19.6 Site elevation: ft

2.19.1 ILS type: Glide Slope for runway 35R.
Magnetic variation: 4E
2.19.2 ILS identification: AJQ
2.19.5 Coordinates: 32−52−43.44N /
97−00−30.90W
2.19.6 Site elevation: 559 ft

General Remarks:
BIRDS ON & IN THE VICINITY OF AIRPORT.

PRIOR PERMISSION REQUIRED FROM THE PRIMARY TENANT AIRLINES TO OPERATE WITHIN THE CENTRAL TERMINAL AREA. PROPER MINIMUM OBJECT FREE AREA DISTANCES MAY NOT BE MAINTAINED FOR RAMP/APRON TAXILANES.

PRIOR PERMISSION REQUIRED FROM AIRPORT OPERATIONS FOR GENERAL AVIATION AIRCRAFT TO PROCEED TO AIRLINE TERMINAL GATE EXCEPT GENERAL AVIATION FACILITY.

STANDARD SAWED GROOVING 160 FT WIDE FULL LENGTH RUNWAYS 13L/31R; 18L/36R & 17R/35L. STANDARD GROOVING 130 FT WIDE FULL LENGTH RUNWAYS 17L/35R; 18R/36L; 13R/31L & 17C/35C.

AIRPORT UNDER CONSTRUCTION; PERSONNEL AND EQUIPMENT WORKING IN MOVEMENT AREAS.

TAKE−OFF DISTANCE FOR RUNWAY 17R FROM TAXIWAY EMERGENCY GEAR IS 13082 FT & FROM TAXIWAY EH IS 12816 FT.

LAND & HOLD SHORT SIGNS ON RUNWAY 17C AT TAXIWAY ’B’ 10,460 FT S OF RUNWAY 17C THRESHOLD; RUNWAY 18R AT TAXIWAY ’B’ 10,100 FT S OF RUNWAY 18R THRESHOLD; RUNWAY 35C AT TAXIWAY ’EJ’ 9050 FT N OF RUNWAY 35C THRESHOLD; RUNWAY 36L AT TAXIWAY ’Z’ 10,650 FT N OF RUNWAY 36L THRESHOLD; LIGHTED & MARKED WITH IN−PAVEMENT PULSATING WHITE LIGHTS.

TAKE–OFF DISTANCE FOR RUNWAY 36R FROM TAXIWAY WAYPOINT IS 12,815 FT; FROM TAXIWAY WQ IS 13,082 FT.

TAKE–OFF DISTANCE FOR RUNWAY 17L FROM TAXIWAY Q2 IS 8196 FT.

TAXIWAYS MAY REQUIRE JUDGMENTAL OVERSTEERING FOR LARGE AIRCRAFT.

TAKE–OFF DISTANCE FOR RUNWAY 35R FROM TAXIWAY Q9 IS 8196 FT.

TAKE–OFF DISTANCE FOR RUNWAY 35L FROM TAXIWAY EQ IS 13084 FT & FROM TAXIWAY EN ROUTE PENETRATION IS 12811 FT.

AIRCRAFT EXITING BY WAY OF APRON ENTRANCE/EXIT POINTS 42; 43 & 44 CONTACT GROUND CONTROL PRIOR TO TAXIING.

APRON ENTRANCE/EXIT POINTS 22, 24, 105, 107, & 122 CLOSED TO AIRCRAFT WITH WINGSPAN 125 FT & GREATER.

APRON ENTRANCE/EXIT POINTS 5, 7, 42 & 44 CLOSED TO AIRCRAFT WITH WINGSPAN 118 FT & GREATER.

FREQUENT GROUND SUPPORT EQUIPMENT UNDER ESCORT CROSSING TAXIWAYS A & B AT TAXIWAY HA.

AIRCRAFT PUSHING BACK OR POWERING BACK ON TERMINAL B APRON HAVE RIGHT OF WAY.

TAXIWAY EDGE REFLECTORS ALONG ALL TAXIWAYS.

TERMINAL B APRON TAXILANE BETWEEN APRON ENTRANCE/EXIT POINT TAXILANES 110 & 115 CLOSED TO AIRCRAFT WITH WINGSPAN 118 FT AND GREATER.

TAKE–OFF DISTANCE FOR RUNWAY 18L FROM TAXIWAY WG IS 13,082; FROM TAXIWAY WH IS 12,815.

PRIOR PERMISSION REQUIRED GA OPERATIONS 2200–0600; CALL AIRPORT OPERATIONS 972–973–3112.

TAXIWAY G11 EAST OF TAXIWAY G CLOSED TO AIRCRAFT WITH WINGSPAN 125 FT & GREATER.

APRON ENTRANCE/EXIT POINT 124 CLOSED TO AIRCRAFT WITH WINGSPAN 200 FT AND GREATER.

TAXIWAY A5 CLOSED TO AIRCRAFT WITH WINGSPAN 171 FT AND GREATER.

TAKE–OFF DISTANCE FOR RUNWAY 17C FROM TAXIWAY EMERGENCY GEAR IS 13,082 FT.

TAKE–OFF DISTANCE FOR RUNWAY 18R FROM TAXIWAY WG IS 13,082 FT.

APRON ENTRANCE/EXIT POINTS 52 & 53 CLOSED TO AIRCRAFT WITH WINGSPAN 171 FT & GREATER.

AIRCRAFT USING GATES D6–D17 MUST OBTAIN APPROVAL FROM DFW RAMP TOWER 129.95 PRIOR TO ENTERING RAMP & PRIOR TO PUSHBACK 0530–2230. USE EXTREME CARE AT OTHER TIMES.

APRON ENTRANCE/EXIT POINT 45 CLOSED 2200−0800.

APRON ENTRANCE/EXIT POINTS 32, 33, 34, 35, 36, 37, 38 & 39 CLOSED TO AIRCRAFT WITH WINGSPAN GREATER THAN 135 FT.

ASDE−X SURVEILLANCE SYSTEM IN USE: PILOTS SHOULD OPERATE TRANSPONDERS WITH MODE C ON ALL TAXIWAYS AND RUNWAYS.

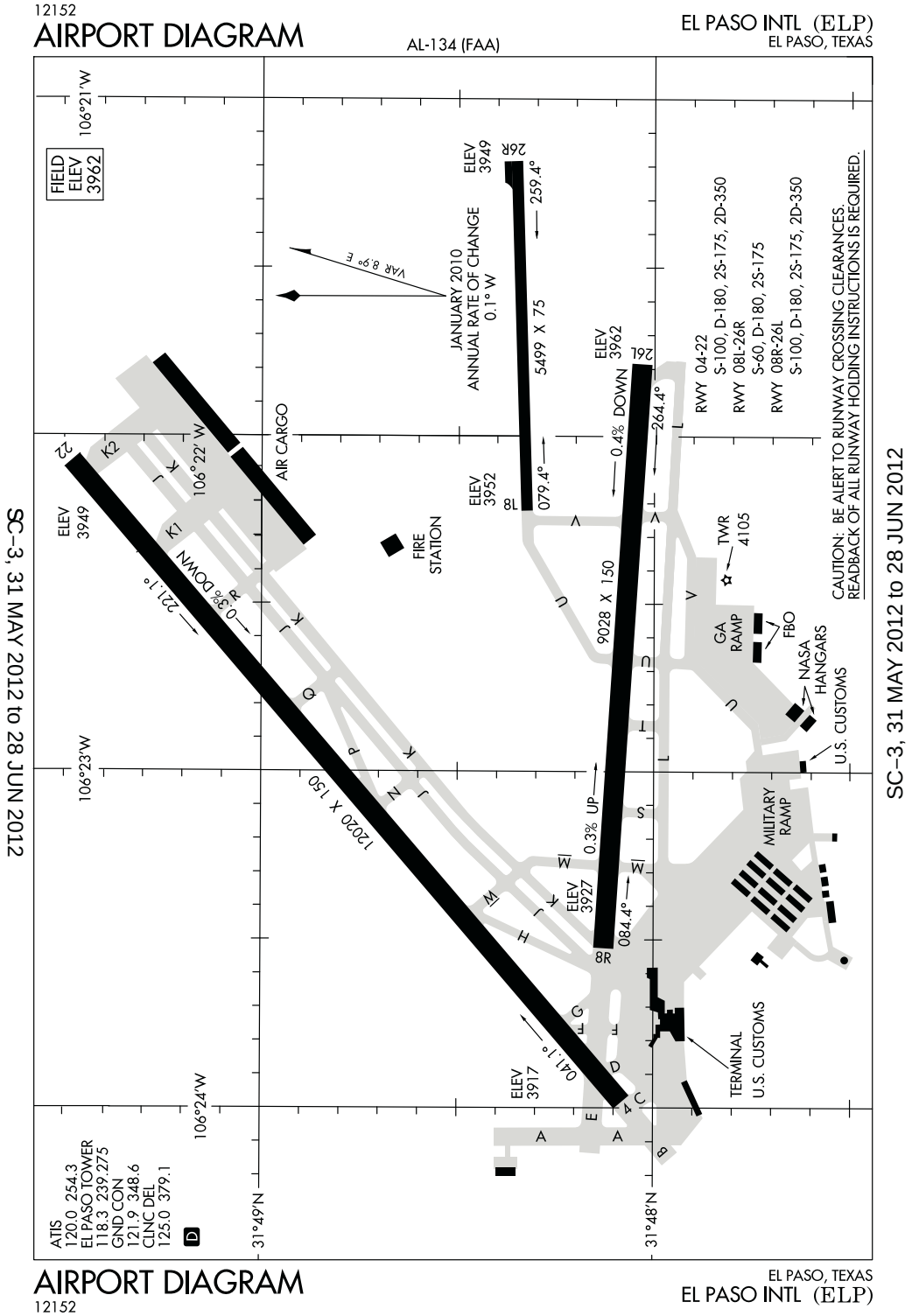
PRIOR PERMISSION REQUIRED AIRCRAFT WITH WINGSPAN 215 FT OR GREATER (GROUP VI) CALL AIRPORT OPERATIONS 972−973−3112 FOR FOLLOW−ME SERVICES WHILE TAXIING TO & FROM RAMP & RUNWAYS.

RUNWAY VISUAL SCREEN 20 FT AGL 1180 FT S APPROACH END RUNWAY 35C.

RUNWAY VISUAL SCREEN 22 FT AGL 1179 FT S APPROACH END RUNWAY 35L.

APRON ENTRANCE/EXIT POINT 4 CLOSED TO AIRCRAFT WITH WINGSPAN 100 FT & GREATER.

El Paso, Texas
El Paso International
ICAO Identifier KELP



El Paso, TX
El Paso Intl
ICAO Identifier KELP

AD 2.2 Aerodrome geographical and administrative data
2.2.1 Reference Point: 31−48−25.88N / 106−22−34.88W
2.2.2 From City: 4 Miles NE Of El Paso, TX
2.2.3 Elevation: 3961.6 ft
2.2.5 Magnetic variation: 11E (1985)
2.2.6 Airport Contact: Monica Lombrana
6701 CONVAIR RD
El Paso, TX 79925
(915−780−4749)
2.2.7 Traffic: IFR/VFR

AD 2.3 Operational hours
2.3.1 – 2.3.11: ALL Months, ALL Days, ALL Hours

AD 2.4 Handling services and facilities
2.4.1 Cargo handling facilities: No
2.4.2 Fuel types: 100LL,A1+,B+
2.4.4 De−icing facilities: None
2.4.5 Hangar space: Yes
2.4.6 Repair facilities: Major

AD 2.6 Rescue and firefighting services
2.6.1 Aerodrome category for firefighting: ARFF Index I C certified on 5/1/1973

AD 2.12 Runway physical characteristics
2.12.1 Designation: 04
2.12.2 True Bearing: 50
2.12.3 Dimensions: 12020 ft x 150 ft
2.12.5 Coordinates: 31−48−00.00N / 106−23−59.46W
2.12.6 Threshold elevation: 3917 ft
2.12.6 Touchdown zone elevation: 3923 ft

2.12.1 Designation: 22
2.12.2 True Bearing: 230
2.12.3 Dimensions: 12020 ft x 150 ft
2.12.5 Coordinates: 31−49−22.01N / 106−22−12.78W
2.12.6 Threshold elevation: 3949 ft
2.12.6 Touchdown zone elevation: 3949 ft

2.12.1 Designation: 08L
2.12.2 True Bearing: 88
2.12.3 Dimensions: 5499 ft x 75 ft
2.12.5 Coordinates: 31−48−20.58N / 106−22−11.46W
2.12.6 Threshold elevation: 3952 ft
2.12.6 Touchdown zone elevation: 3957 ft

2.12.1 Designation: 26R
2.12.2 True Bearing: 268
2.12.3 Dimensions: 5499 ft x 75 ft
2.12.5 Coordinates: 31−48−22.17N / 106−21−00.00W
2.12.6 Threshold elevation: 3949 ft
2.12.6 Touchdown zone elevation: 3951 ft

2.12.1 Designation: 08R
2.12.2 True Bearing: 93
2.12.3 Dimensions: 9028 ft x 150 ft
2.12.5 Coordinates: 31−48−00.00N / 106−23−19.13W
2.12.6 Threshold elevation: 3927 ft
2.12.6 Touchdown zone elevation: 3940 ft

2.12.1 Designation: 26L
2.12.2 True Bearing: 273
2.12.3 Dimensions: 9028 ft x 150 ft
2.12.5 Coordinates: 31−48−00.00N / 106−21−34.75W
2.12.6 Threshold elevation: 3962 ft
2.12.6 Touchdown zone elevation: 3962 ft

AD 2.13 Declared distances
2.13.1 Designation: 04
2.13.2 Takeoff run available: 12020
2.13.3 Takeoff distance available: 12020
2.13.4 Accelerate−stop distance available: 12020
2.13.5 Landing distance available: 12020

2.13.1 Designation: 22
2.13.2 Takeoff run available: 12020
2.13.3 Takeoff distance available: 12020
2.13.4 Accelerate−stop distance available: 12449
2.13.5 Landing distance available: 12020

2.13.1 Designation: 08L
2.13.2 Takeoff run available: 5493
2.13.3 Takeoff distance available: 5493
2.13.4 Accelerate−stop distance available: 5493
2.13.5 Landing distance available: 5493

2.13.1 Designation: 26R
2.13.2 Takeoff run available: 5493
2.13.3 Takeoff distance available: 5493

2.13.4 Accelerate–stop distance available: 5493
2.13.5 Landing distance available: 5493

2.13.1 Designation: 08R
2.13.2 Takeoff run available: 9025
2.13.3 Takeoff distance available: 9025
2.13.4 Accelerate–stop distance available: 9025
2.13.5 Landing distance available: 9025

2.13.1 Designation: 26L
2.13.2 Takeoff run available: 9025
2.13.3 Takeoff distance available: 9025
2.13.4 Accelerate–stop distance available: 9025
2.13.5 Landing distance available: 9025

AD 2.14 Approach and runway lighting
2.14.1 Designation: 04
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 22
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on right

2.14.1 Designation: 08R
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 26L
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

AD 2.18 Air traffic services communication facilities
2.18.1 Service designation: LCL/P
2.18.3 Service designation: 118.3 MHz

2.18.1 Service designation: D–ATIS
2.18.3 Service designation: 120 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: UTILITY
2.18.3 Service designation: 121.3 MHz

2.18.1 Service designation: EMERG
2.18.3 Service designation: 121.5 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 121.9 MHz

2.18.1 Service designation: CD/P PTC
2.18.3 Service designation: 125 MHz

2.18.1 Service designation: EMERG
2.18.3 Service designation: 243 MHz

2.18.1 Service designation: D–ATIS
2.18.3 Service designation: 254.3 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: DEP/P
2.18.3 Service designation: 263 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 348.6 MHz

2.18.1 Service designation: APCH/P CLASS C
2.18.3 Service designation: 353.5 MHz

2.18.1 Service designation: CD/P
2.18.3 Service designation: 379.1 MHz

2.18.1 Service designation: APCH/P CLASS C
2.18.3 Service designation: 119.15 MHz

2.18.1 Service designation: DEP/P CLASS C
2.18.3 Service designation: 119.15 MHz

2.18.1 Service designation: APCH/P CLASS C IC
2.18.3 Service designation: 124.25 MHz

2.18.1 Service designation: APCH/P CLASS C IC
2.18.3 Service designation: 298.85 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 239.275 MHz

AD 2.19 Radio navigation and landing aids
2.19.1 ILS type: DME for runway 04. Magnetic variation: 11E
2.19.2 ILS identification: ETF
2.19.5 Coordinates: 31–47–58.72N / 106–24–13.53W
2.19.6 Site elevation: 3926 ft

2.19.1 ILS type: Localizer for runway 04. Magnetic variation: 11E
2.19.2 ILS identification: ETF
2.19.5 Coordinates: 31–49–28.45N / 106–22–00.00W

2.19.6 Site elevation: 3950 ft

2.19.1 ILS type: Localizer for runway 22. Magnetic variation: 11E
2.19.2 ILS identification: ELP
2.19.5 Coordinates: 31−47−55.92N / 106−24−12.90W
2.19.6 Site elevation: 3911 ft

2.19.1 ILS type: Middle Marker for runway 22. Magnetic variation: 11E
2.19.2 ILS identification: ELP
2.19.5 Coordinates: 31−49−33.88N / 106−21−56.93W
2.19.6 Site elevation: 3947 ft

2.19.1 ILS type: Glide Slope for runway 22. Magnetic variation: 11E
2.19.2 ILS identification: ELP
2.19.5 Coordinates: 31−49−17.29N / 106−22−26.60W
2.19.6 Site elevation: 3940 ft

2.19.1 ILS type: Outer Marker for runway 22. Magnetic variation: 11E
2.19.2 ILS identification: ELP
2.19.5 Coordinates: 31−51−37.02N / 106−19−00.00W
2.19.6 Site elevation: 3940 ft

2.19.1 ILS type: DME for runway 22. Magnetic variation: 11E
2.19.2 ILS identification: ELP
2.19.5 Coordinates: 31−47−58.72N / 106−24−13.53W
2.19.6 Site elevation: 3926 ft

General Remarks:
24 HR PRIOR PERMISSION REQUIRED CLASS A EXPLOSIVES CONTACT 915−780−4749.

CAUTION: BIGGS AAF 2NM NW RUNWAY 21 CAN BE MISTAKEN FOR ELP RUNWAY 22.

SAILPLANE & ULTRALIGHT OPERATIONS IN THE VICINITY OF HORIZON AIRPORT 8 NAUTICAL MILE ESE.

NORTH BOUND TRAFFIC PROHIBITED ON TAXIWAY F SOUTH OF TAXIWAY E.

TAXIWAY A SOUTH OF TAXIWAY E; TAXIWAYS B & C; TAXIWAY J NE OF TAXIWAY K1; TAXIWAY K NE OF TAXIWAY K1 BETWEEN TAXIWAY J & NORTH CARGO RAMP; TAXIWAYS U & V SOUTH OF TAXIWAY L; & TAXIWAY K2 NOT VISIBLE FROM ATCT.

HOLDING POSITION MARKINGS FOR RUNWAY 8R APPROACH AND RUNWAY 4/22 ARE IN CLOSE PROXIMITY TO THE TERMINAL APRON; REVIEW AIRPORT DIAGRAM PRIOR TO PUSHBACK FROM THE GATE.

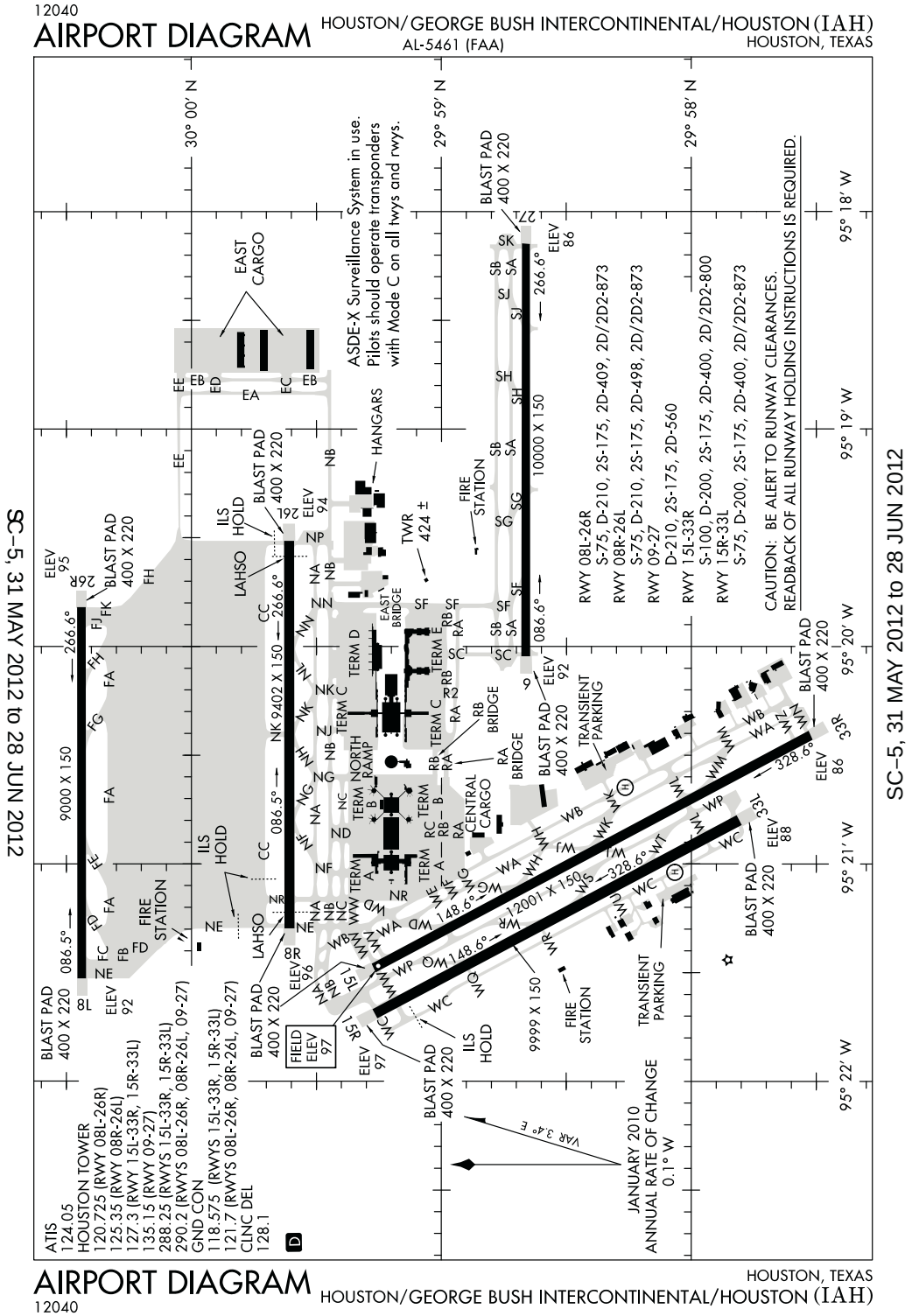
MILITARY USERS SHOULD REVIEW NOISE ABATEMENT PROCEDURES LISTED FOR BIGGS AAF.

NOISE ABATEMENT PROCEDURES IN EFFECT, CONTACT ATCT FOR DETAILS.

ENGINE POWER IS RESTRICTED TO IDLE POWER ON ONE ENGINE AT A TIME FOR MAX 5 MIN ON ANY TERMINAL OR PARKING APRONS, CROSS−BLEED STARTS OR OTHER PRE DEP ACTIVITY ON MOVEMENT AREAS ONLY, MAINT OR OTHER REQUIREMENT NEEDING LONGER OR HIGHER POWER CONTACT TOWER FOR DIRECTIONS TO DESIGNATED RUNUP AREAS.

611 FT AGL UNLIGHTED SMOKESTACK 8 MILES WSW OF AIRPORT.

Houston, Texas
George Bush Intercontinental/Houston
ICAO Identifier KIAH



Houston, TX
George Bush Intercontinental/Houston
ICAO Identifier KIAH

AD 2.2 Aerodrome geographical and administrative data
2.2.1 Reference Point: 29−59−00.00N / 95−20−29.19W
2.2.2 From City: 15 Miles N Of Houston, TX
2.2.3 Elevation: 97 ft
2.2.5 Magnetic variation: 5E (2000)
2.2.6 Airport Contact: Mary Case
PO BOX 60106
Houston, TX 77205
(281−230−3100)
2.2.7 Traffic: IFR/VFR

AD 2.3 Operational hours
2.3.1 – 2.3.11: ALL Months, ALL Days, ALL Hours

AD 2.4 Handling services and facilities
2.4.1 Cargo handling facilities: No
2.4.2 Fuel types: 100LL,A
2.4.4 De−icing facilities: None
2.4.5 Hangar space: Yes
2.4.6 Repair facilities: Major

AD 2.6 Rescue and firefighting services
2.6.1 Aerodrome category for firefighting: ARFF Index I E certified on 5/1/1973

AD 2.12 Runway physical characteristics
2.12.1 Designation: 15L
2.12.2 True Bearing: 152
2.12.3 Dimensions: 12001 ft x 150 ft
2.12.5 Coordinates: 29−59−16.40N / 95−21−28.33W
2.12.6 Threshold elevation: 96 ft
2.12.6 Touchdown zone elevation: 96 ft

2.12.1 Designation: 33R
2.12.2 True Bearing: 332
2.12.3 Dimensions: 12001 ft x 150 ft
2.12.5 Coordinates: 29−57−31.55N / 95−20−24.19W
2.12.6 Threshold elevation: 86 ft
2.12.6 Touchdown zone elevation: 89 ft

2.12.1 Designation: 15R
2.12.2 True Bearing: 152
2.12.3 Dimensions: 9999 ft x 150 ft
2.12.5 Coordinates: 29−59−16.10N / 95−21−41.03W
2.12.6 Threshold elevation: 97 ft
2.12.6 Touchdown zone elevation: 97 ft

2.12.1 Designation: 33L
2.12.2 True Bearing: 332
2.12.3 Dimensions: 9999 ft x 150 ft
2.12.5 Coordinates: 29−57−48.75N / 95−20−47.58W
2.12.6 Threshold elevation: 88 ft
2.12.6 Touchdown zone elevation: 91 ft

2.12.1 Designation: 08R
2.12.2 True Bearing: 90
2.12.3 Dimensions: 9402 ft x 150 ft
2.12.5 Coordinates: 29−59−36.30N / 95−21−17.87W
2.12.6 Threshold elevation: 96 ft
2.12.6 Touchdown zone elevation: 97 ft

2.12.1 Designation: 26L
2.12.2 True Bearing: 270
2.12.3 Dimensions: 9402 ft x 150 ft
2.12.5 Coordinates: 29−59−36.38N / 95−19−30.95W
2.12.6 Threshold elevation: 94 ft
2.12.6 Touchdown zone elevation: 97 ft

2.12.1 Designation: 09
2.12.2 True Bearing: 90
2.12.3 Dimensions: 10000 ft x 150 ft
2.12.5 Coordinates: 29−58−39.33N / 95−20−00.00W
2.12.6 Threshold elevation: 92 ft
2.12.6 Touchdown zone elevation: 92 ft

2.12.1 Designation: 27
2.12.2 True Bearing: 270
2.12.3 Dimensions: 10000 ft x 150 ft
2.12.5 Coordinates: 29−58−39.41N / 95−18−00.00W
2.12.6 Threshold elevation: 86 ft
2.12.6 Touchdown zone elevation: 88 ft

2.12.1 Designation: 08L
2.12.2 True Bearing: 90
2.12.3 Dimensions: 9000 ft x 150 ft
2.12.5 Coordinates: 30−00−25.78N / 95−21−31.65W
2.12.6 Threshold elevation: 92 ft

2.12.6 Touchdown zone elevation: 96 ft

2.12.1 Designation: 26R
2.12.2 True Bearing: 270
2.12.3 Dimensions: 9000 ft x 150 ft
2.12.5 Coordinates: 30–00–25.86N / 95–19–49.29W
2.12.6 Threshold elevation: 95 ft
2.12.6 Touchdown zone elevation: 97 ft

AD 2.13 Declared distances
2.13.1 Designation: 15L
2.13.2 Takeoff run available: 12001
2.13.3 Takeoff distance available: 12001
2.13.4 Accelerate–stop distance available: 12001
2.13.5 Landing distance available: 12001

2.13.1 Designation: 33R
2.13.2 Takeoff run available: 12001
2.13.3 Takeoff distance available: 12001
2.13.4 Accelerate–stop distance available: 12001
2.13.5 Landing distance available: 12001

2.13.1 Designation: 15R
2.13.2 Takeoff run available: 9999
2.13.3 Takeoff distance available: 9999
2.13.4 Accelerate–stop distance available: 9999
2.13.5 Landing distance available: 9999

2.13.1 Designation: 33L
2.13.2 Takeoff run available: 9999
2.13.3 Takeoff distance available: 9999
2.13.4 Accelerate–stop distance available: 9999
2.13.5 Landing distance available: 9999

2.13.1 Designation: 08R
2.13.2 Takeoff run available: 9402
2.13.3 Takeoff distance available: 9402
2.13.4 Accelerate–stop distance available: 9402
2.13.5 Landing distance available: 9402

2.13.1 Designation: 26L
2.13.2 Takeoff run available: 9402
2.13.3 Takeoff distance available: 9402
2.13.4 Accelerate–stop distance available: 9402
2.13.5 Landing distance available: 9402

2.13.1 Designation: 09
2.13.2 Takeoff run available: 10000
2.13.3 Takeoff distance available: 10000
2.13.4 Accelerate–stop distance available: 10000
2.13.5 Landing distance available: 10000

2.13.1 Designation: 27
2.13.2 Takeoff run available: 10000
2.13.3 Takeoff distance available: 10000
2.13.4 Accelerate–stop distance available: 10000
2.13.5 Landing distance available: 10000

2.13.1 Designation: 08L
2.13.2 Takeoff run available: 9000
2.13.3 Takeoff distance available: 9000
2.13.4 Accelerate–stop distance available: 9000
2.13.5 Landing distance available: 9000

2.13.1 Designation: 26R
2.13.2 Takeoff run available: 9000
2.13.3 Takeoff distance available: 9000
2.13.4 Accelerate–stop distance available: 9000
2.13.5 Landing distance available: 9000

AD 2.14 Approach and runway lighting
2.14.1 Designation: 15L
2.14.4 Visual approach slope indicator system: 4–light PAPI on right

2.14.1 Designation: 33R
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights

2.14.1 Designation: 15R
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 33L
2.14.4 Visual approach slope indicator system: 4–light PAPI on right

2.14.1 Designation: 08R
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 26L
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration
2.14.4 Visual approach slope indicator system: 4–light PAPI on right

2.14.1 Designation: 09
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on right

2.14.1 Designation: 27
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 08L
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration

2.14.1 Designation: 26R
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration

AD 2.18 Air traffic services communication facilities

2.18.1 Service designation: DEP/P
2.18.3 Service designation: 119.7 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 119.7 MHz

2.18.1 Service designation: APCH/P IC
2.18.3 Service designation: 120.05 MHz

2.18.1 Service designation: EMERG
2.18.3 Service designation: 121.5 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 123.8 MHz

2.18.1 Service designation: DEP/P
2.18.3 Service designation: 123.8 MHz

2.18.1 Service designation: D–ATIS
2.18.3 Service designation: 124.05 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: APCH/P IC
2.18.3 Service designation: 124.35 MHz

2.18.1 Service designation: CD/P
2.18.3 Service designation: 128.1 MHz

2.18.1 Service designation: DEP/P
2.18.3 Service designation: 133.6 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 133.6 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 134.45 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 257.2 MHz

2.18.1 Service designation: DEP/P
2.18.3 Service designation: 257.2 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 257.7 MHz

2.18.1 Service designation: DEP/P
2.18.3 Service designation: 257.7 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 281.4 MHz

2.18.1 Service designation: DEP/P
2.18.3 Service designation: 281.4 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 284 MHz

2.18.1 Service designation: APCH/P IC
2.18.3 Service designation: 316.15 MHz

2.18.1 Service designation: APCH/P IC
2.18.3 Service designation: 379.1 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 120.725 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 135.15 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 125.35 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 290.2 MHz

2.18.1 Service designation: LCL/P

2.18.3 Service designation: 127.3 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 288.25 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 121.7 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 118.575 MHz

2.18.1 Service designation: GND/S
2.18.3 Service designation: 119.95 MHz

AD 2.19 Radio navigation and landing aids

2.19.1 ILS type: Middle Marker for runway 15L.
Magnetic variation: 5E
2.19.2 ILS identification: HSQ
2.19.5 Coordinates: 29–59–44.91N /
95–21–45.76W
2.19.6 Site elevation: ft

2.19.1 ILS type: Localizer for runway 15L.
Magnetic variation: 5E
2.19.2 ILS identification: HSQ
2.19.5 Coordinates: 29–57–22.82N /
95–20–18.86W
2.19.6 Site elevation: 83 ft

2.19.1 ILS type: Outer Marker for runway 15L.
Magnetic variation: 5E
2.19.2 ILS identification: HSQ
2.19.5 Coordinates: 30–04–29.27N /
95–24–46.16W
2.19.6 Site elevation: ft

2.19.1 ILS type: Middle Marker for runway 33R.
Magnetic variation: 5E
2.19.2 ILS identification: CDG
2.19.5 Coordinates: 29–57–00.00N /
95–20–00.00W
2.19.6 Site elevation: ft

2.19.1 ILS type: Outer Marker for runway 33R.
Magnetic variation: 5E
2.19.2 ILS identification: CDG
2.19.5 Coordinates: 29–53–33.65N /
95–17–56.01W
2.19.6 Site elevation: ft

2.19.1 ILS type: Localizer for runway 33R.
Magnetic variation: 5E
2.19.2 ILS identification: CDG
2.19.5 Coordinates: 29–59–31.42N /
95–21–37.54W
2.19.6 Site elevation: 94 ft

2.19.1 ILS type: Glide Slope for runway 33R.
Magnetic variation: 5E
2.19.2 ILS identification: CDG
2.19.5 Coordinates: 29–57–38.81N /
95–20–33.46W
2.19.6 Site elevation: 81 ft

2.19.1 ILS type: Glide Slope for runway 15R.
Magnetic variation: 5E
2.19.2 ILS identification: LKM
2.19.5 Coordinates: 29–59–00.00N /
95–21–39.03W
2.19.6 Site elevation: 91 ft

2.19.1 ILS type: Localizer for runway 15R.
Magnetic variation: 5E
2.19.2 ILS identification: LKM
2.19.5 Coordinates: 29–57–39.40N /
95–20–41.87W
2.19.6 Site elevation: 84 ft

2.19.1 ILS type: DME for runway 08R. Magnetic variation: 3E
2.19.2 ILS identification: IAH
2.19.5 Coordinates: 29–59–38.92N /
95–21–31.30W
2.19.6 Site elevation: 109 ft

2.19.1 ILS type: Glide Slope for runway 08R.
Magnetic variation: 3E
2.19.2 ILS identification: IAH
2.19.5 Coordinates: 29–59–40.32N /
95–21–00.00W
2.19.6 Site elevation: 90 ft

2.19.1 ILS type: Outer Marker for runway 08R.
Magnetic variation: 3E
2.19.2 ILS identification: IAH
2.19.5 Coordinates: 29–59–36.55N /
95–28–20.43W
2.19.6 Site elevation: 117 ft

2.19.1 ILS type: Inner Marker for runway 08R.
Magnetic variation: 3E
2.19.2 ILS identification: IAH
2.19.5 Coordinates: 29–59–36.29N /
95–21–29.37W

2.19.6 Site elevation: 94 ft

2.19.1 ILS type: Middle Marker for runway 08R.
Magnetic variation: 3E
2.19.2 ILS identification: IAH
2.19.5 Coordinates: 29–59–36.24N /
95–21–51.93W
2.19.6 Site elevation: 94 ft

2.19.1 ILS type: Localizer for runway 08R.
Magnetic variation: 3E
2.19.2 ILS identification: IAH
2.19.5 Coordinates: 29–59–36.39N /
95–19–19.59W
2.19.6 Site elevation: 91 ft

2.19.1 ILS type: Outer Marker for runway 26L.
Magnetic variation: 3E
2.19.2 ILS identification: JYV
2.19.5 Coordinates: 29–59–36.04N /
95–12–54.15W
2.19.6 Site elevation: 75 ft

2.19.1 ILS type: DME for runway 26L. Magnetic variation: 3E
2.19.2 ILS identification: JYV
2.19.5 Coordinates: 29–59–38.92N /
95–21–31.30W
2.19.6 Site elevation: 109 ft

2.19.1 ILS type: Glide Slope for runway 26L.
Magnetic variation: 3E
2.19.2 ILS identification: JYV
2.19.5 Coordinates: 29–59–39.54N /
95–19–42.80W
2.19.6 Site elevation: 88 ft

2.19.1 ILS type: Localizer for runway 26L.
Magnetic variation: 3E
2.19.2 ILS identification: JYV
2.19.5 Coordinates: 29–59–36.29N /
95–21–31.28W
2.19.6 Site elevation: 93 ft

2.19.1 ILS type: Middle Marker for runway 26L.
Magnetic variation: 3E
2.19.2 ILS identification: JYV
2.19.5 Coordinates: 29–59–36.42N /
95–18–57.72W
2.19.6 Site elevation: 91 ft

2.19.1 ILS type: Inner Marker for runway 26L.
Magnetic variation: 3E
2.19.2 ILS identification: JYV
2.19.5 Coordinates: 29–59–36.39N /
95–19–20.60W
2.19.6 Site elevation: 93 ft

2.19.1 ILS type: Glide Slope for runway 09.
Magnetic variation: 3E
2.19.2 ILS identification: UYO
2.19.5 Coordinates: 29–58–35.39N /
95–19–50.68W
2.19.6 Site elevation: 86 ft

2.19.1 ILS type: Middle Marker for runway 09.
Magnetic variation: 3E
2.19.2 ILS identification: UYO
2.19.5 Coordinates: 29–58–39.36N /
95–20–32.49W
2.19.6 Site elevation: 92 ft

2.19.1 ILS type: Outer Marker for runway 09.
Magnetic variation: 3E
2.19.2 ILS identification: UYO
2.19.5 Coordinates: 29–58–44.10N /
95–26–00.00W
2.19.6 Site elevation: 105 ft

2.19.1 ILS type: Localizer for runway 09. Magnetic variation: 3E
2.19.2 ILS identification: UYO
2.19.5 Coordinates: 29–58–39.41N /
95–17–57.58W
2.19.6 Site elevation: 81 ft

2.19.1 ILS type: DME for runway 09. Magnetic variation: 3E
2.19.2 ILS identification: UYO
2.19.5 Coordinates: 29–58–35.38N /
95–20–13.58W
2.19.6 Site elevation: 100 ft

2.19.1 ILS type: Localizer for runway 27. Magnetic variation: 3E
2.19.2 ILS identification: GHI
2.19.5 Coordinates: 29–58–39.33N /
95–20–15.29W
2.19.6 Site elevation: 87 ft

2.19.1 ILS type: DME for runway 27. Magnetic variation: 3E
2.19.2 ILS identification: GHI

2.19.5 Coordinates: 29–58–35.38N / 95–20–13.58W
2.19.6 Site elevation: 100 ft

2.19.1 ILS type: Outer Marker for runway 27. Magnetic variation: 3E
2.19.2 ILS identification: GHI
2.19.5 Coordinates: 29–58–41.04N / 95–13–20.44W
2.19.6 Site elevation: 80 ft

2.19.1 ILS type: Inner Marker for runway 27. Magnetic variation: 3E
2.19.2 ILS identification: GHI
2.19.5 Coordinates: 29–58–39.41N / 95–17–59.16W
2.19.6 Site elevation: 85 ft

2.19.1 ILS type: Glide Slope for runway 27. Magnetic variation: 3E
2.19.2 ILS identification: GHI
2.19.5 Coordinates: 29–58–35.44N / 95–18–20.86W
2.19.6 Site elevation: 81 ft

2.19.1 ILS type: Middle Marker for runway 27. Magnetic variation: 3E
2.19.2 ILS identification: GHI
2.19.5 Coordinates: 29–58–39.42N / 95–17–37.46W
2.19.6 Site elevation: 83 ft

2.19.1 ILS type: Glide Slope for runway 26R. Magnetic variation: 3E
2.19.2 ILS identification: OND
2.19.5 Coordinates: 30–00–29.81N / 95–20–00.00W
2.19.6 Site elevation: 91 ft

2.19.1 ILS type: Localizer for runway 26R. Magnetic variation: 3E
2.19.2 ILS identification: OND
2.19.5 Coordinates: 30–00–25.78N / 95–21–43.93W
2.19.6 Site elevation: 91 ft

2.19.1 ILS type: DME for runway 26R. Magnetic variation: 3E
2.19.2 ILS identification: OND
2.19.5 Coordinates: 30–00–21.58N / 95–21–44.35W
2.19.6 Site elevation: 84 ft

2.19.1 ILS type: Inner Marker for runway 26R. Magnetic variation: 3E
2.19.2 ILS identification: OND
2.19.5 Coordinates: 30–00–25.87N / 95–19–40.42W
2.19.6 Site elevation: 96 ft

2.19.1 ILS type: Glide Slope for runway 08L. Magnetic variation: 3E
2.19.2 ILS identification: BZU
2.19.5 Coordinates: 30–00–29.75N / 95–21–18.69W
2.19.6 Site elevation: 88 ft

2.19.1 ILS type: Localizer for runway 08L. Magnetic variation: 3E
2.19.2 ILS identification: BZU
2.19.5 Coordinates: 30–00–25.87N / 95–19–37.01W
2.19.6 Site elevation: 94 ft

2.19.1 ILS type: DME for runway 08L. Magnetic variation: 3E
2.19.2 ILS identification: BZU
2.19.5 Coordinates: 30–00–30.07N / 95–19–37.07W
2.19.6 Site elevation: 90 ft

2.19.1 ILS type: Inner Marker for runway 08L. Magnetic variation: 3E
2.19.2 ILS identification: BZU
2.19.5 Coordinates: 30–00–25.77N / 95–21–40.86W
2.19.6 Site elevation: 92 ft

General Remarks:
BIRDS ON & IN VICINITY OF AIRPORT.

TAXIWAYS 'RA', 'RB' & 'SC' NORTH OF TAXIWAY 'SB' ARE DESIGNATED NON–MOVEMENT AREAS OPERATED BY COA RAMP CONTROL.

APPROACH END RUNWAY 26L BRIGHT LIGHTS APPROXIMATELY ONE MILE FROM THRESHOLD & 900 FT S OF CENTERLINE.

9 FT AGL UNMARKED SECURITY FENCE ADJACENT TO FBO & CORPORATE BASE OPERATOR RAMPS AND NONMOVEMENT AREA TAXILANES. HELICOPTER HOVER/TAXI RESTRICTED TO HARD SURFACE MOVEMENT AREAS ONLY.

TAXIWAY 'NR' CLOSED TO AIRCRAFT WITH WINGSPANS GREATER THAN 125 FT BETWEEN TAXIWAY 'WD' & TAXIWAY 'WB'.

TAXIWAY 'SF' BETWEEN THE SOUTH RAMP & TAXIWAY 'NB' IS DESIGNATED NON−MOVEMENT AREAS.

FOR FLIGHT PLAN FILING CALL 1−800−WX−BRIEF.

DUAL TAXIWAY OPERATIONS TAXIWAY NK BETWEEN TAXIWAY NB & NORTH RAMP; WEST CENTERLINE RESTRICTED TO AIRCRAFT MAX WINGSPANS 125 FT & EAST CENTERLINE MAX WINGSPANS 214 FT.

THE FOLLOWING MOVEMENT AREAS ARE NOT VISIBLE FROM THE ATCT: PORTIONS OF TAXIWAYS 'WA' & 'WB' FROM TAXIWAY 'WH' TO THE APPROACH END RUNWAY 33R; TAXIWAYS 'WA' & 'WB' FROM TAXIWAY 'WD' NORTH FOR 400 FT; TAXIWAY 'WD' FROM TAXIWAY 'WA' TO TAXIWAY 'NR'; TAXIWAY 'NR'; TAXIWAY 'WL' FROM RUNWAY 15L TO TAXIWAY 'WB' & TAXIWAY 'WM'.

NORTH RAMP NORTH & SOUTH TAXI LANES CLOSED TO AIRCRAFT WITH WINGSPANS GREATER THAN 125 FT.

NORTH RAMP CONNECTOR RESTRICTED TO AIRCRAFT WITH WINGSPAN 125 FT AND BELOW.

RUNWAY 15L/33R MAGNETIC ANOMALIES MAY AFFECT COMPASS HEADING FOR TAKE−OFF.

TAXIWAYS AIRMET & WESTBOUND MAGNETIC ANOMALIES MAY AFFECT COMPASS HEADING.

NORTH RAMP TAXILANE BETWEEN TAXIWAYS NF & NR RESTRICTED TO AIRCRAFT WITH WINGSPAN 125 FT & BELOW.

TAXIWAY WC WEST OF RUNWAY 15R/33L RESTRICTED TO AIRCRAFT WITH 118 FT WINGSPAN AND BELOW.

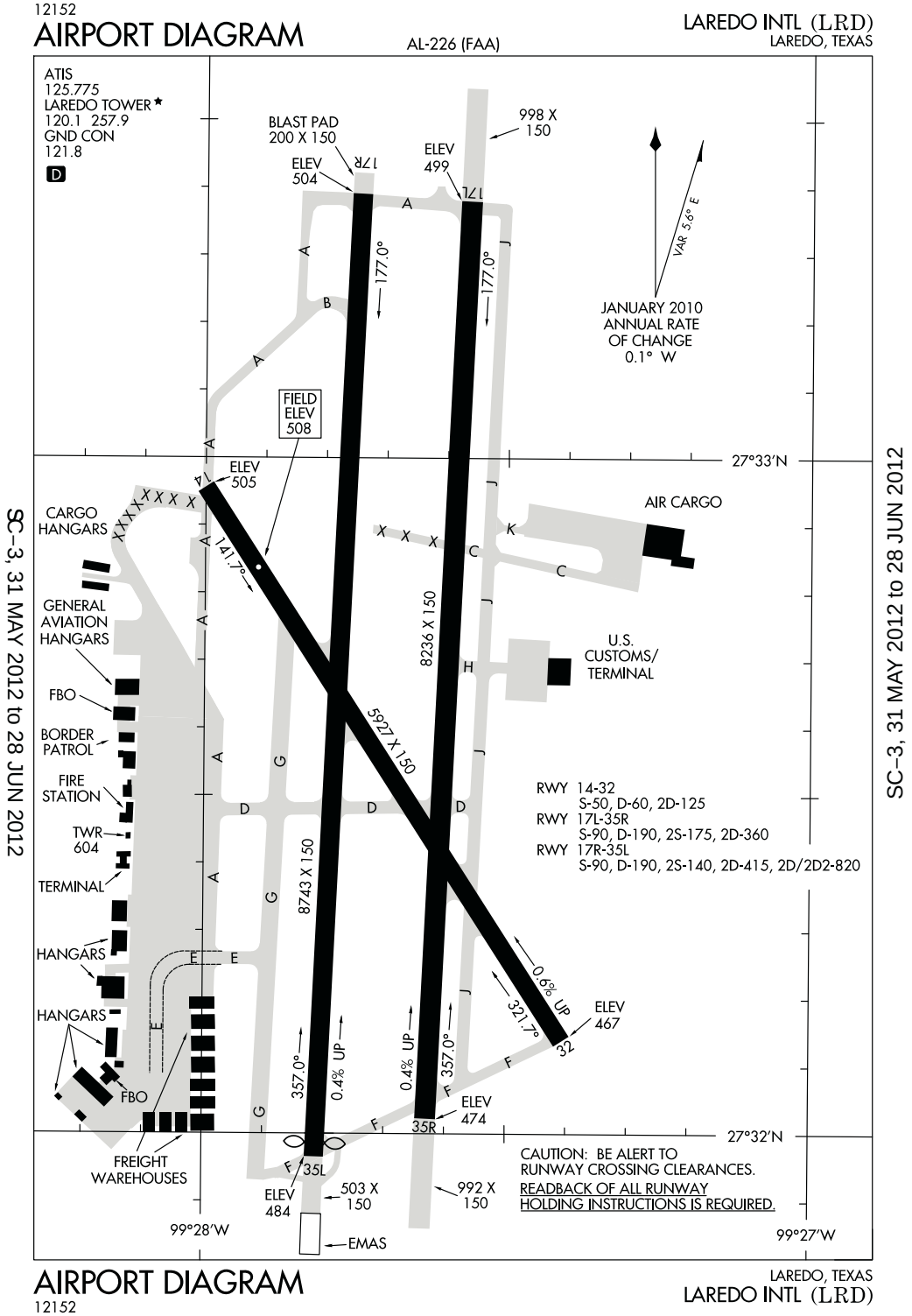
ASDE−X SURVEILLANCE SYSTEM IN USE: PILOTS SHOULD OPERATE TRANSPONDERS WITH MODE C ON ALL TAXIWAYS AND RUNWAYS.

NOISE SENSITIVE AREA NORTH, EAST AND WEST OF AIRPORT.

TAXIWAY LANE RC CLOSED TO AIRCRAFT WITH WINGSPAN GREATER THAN 135 FT.

NJ TAXILANE BETWEEN SPOT 10 AND THE NORTH RAMP CONNECTOR CLOSED TO WINGSPANS OVER 135 FT.

Laredo, Texas
Laredo International
ICAO Identifier KLRD



Laredo, TX
Laredo Intl
ICAO Identifier KLRD

AD 2.2 Aerodrome geographical and administrative data
2.2.1 Reference Point: 27−32−39.10N / 99−27−41.70W
2.2.2 From City: 3 Miles NE Of Laredo, TX
2.2.3 Elevation: 508 ft
2.2.5 Magnetic variation: 8E (1985)
2.2.6 Airport Contact: Jose Flores
5210 BOB BULLOCK LOOP
Laredo, TX 78041
(956−795−2000)
2.2.7 Traffic: IFR/VFR

AD 2.3 Operational hours
2.3.1 − 2.3.11: ALL Months, ALL Days, ALL Hours

AD 2.4 Handling services and facilities
2.4.1 Cargo handling facilities: No
2.4.2 Fuel types: 100LL,A
2.4.4 De−icing facilities: None
2.4.5 Hangar space: Yes
2.4.6 Repair facilities: None

AD 2.6 Rescue and firefighting services
2.6.1 Aerodrome category for firefighting: ARFF Index I B certified on 7/1/1975

AD 2.10 Aerodrome obstacles
2.10.1.a. Runway designation: 32
2.10.1.b Type of obstacle: Road (12 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 250 ft from Centerline

AD 2.12 Runway physical characteristics
2.12.1 Designation: 14
2.12.2 True Bearing: 147
2.12.3 Dimensions: 5927 ft x 150 ft
2.12.5 Coordinates: 27−32−58.02N / 99−28−00.00W
2.12.6 Threshold elevation: 505 ft
2.12.6 Touchdown zone elevation: 508 ft

2.12.1 Designation: 32
2.12.2 True Bearing: 327
2.12.3 Dimensions: 5927 ft x 150 ft
2.12.5 Coordinates: 27−32−00.00N / 99−27−24.66W
2.12.6 Threshold elevation: 467 ft
2.12.6 Touchdown zone elevation: 494 ft
2.12.7 Slope: 0.6UP

2.12.1 Designation: 17R
2.12.2 True Bearing: 183
2.12.3 Dimensions: 8743 ft x 150 ft
2.12.5 Coordinates: 27−33−23.37N / 99−27−44.71W
2.12.6 Threshold elevation: 504 ft
2.12.6 Touchdown zone elevation: 504 ft

2.12.1 Designation: 35L
2.12.2 True Bearing: 3
2.12.3 Dimensions: 8743 ft x 150 ft
2.12.5 Coordinates: 27−31−56.88N / 99−27−49.04W
2.12.6 Threshold elevation: 484 ft
2.12.6 Touchdown zone elevation: 497 ft
2.12.7 Slope: 0.4UP

2.12.1 Designation: 17L
2.12.2 True Bearing: 183
2.12.3 Dimensions: 8236 ft x 150 ft
2.12.5 Coordinates: 27−33−22.93N / 99−27−33.60W
2.12.6 Threshold elevation: 499 ft
2.12.6 Touchdown zone elevation: 499 ft
2.12.7 Slope: 0.2DOWN

2.12.1 Designation: 35R
2.12.2 True Bearing: 3
2.12.3 Dimensions: 8236 ft x 150 ft
2.12.5 Coordinates: 27−32−00.00N / 99−27−37.69W
2.12.6 Threshold elevation: 474 ft
2.12.6 Touchdown zone elevation: 487 ft
2.12.7 Slope: 0.4UP

AD 2.13 Declared distances
2.13.1 Designation: 14
2.13.2 Takeoff run available: 5928
2.13.3 Takeoff distance available: 5928
2.13.4 Accelerate−stop distance available: 5928
2.13.5 Landing distance available: 5928

2.13.1 Designation: 32
2.13.2 Takeoff run available: 5928

2.13.3 Takeoff distance available: 5928
2.13.4 Accelerate–stop distance available: 5928
2.13.5 Landing distance available: 5928

2.13.1 Designation: 17R
2.13.2 Takeoff run available: 8743
2.13.3 Takeoff distance available: 8743
2.13.4 Accelerate–stop distance available: 8743
2.13.5 Landing distance available: 8743

2.13.1 Designation: 35L
2.13.2 Takeoff run available: 8743
2.13.3 Takeoff distance available: 8743
2.13.4 Accelerate–stop distance available: 8743
2.13.5 Landing distance available: 8743

2.13.1 Designation: 17L
2.13.2 Takeoff run available: 8236
2.13.3 Takeoff distance available: 8236
2.13.4 Accelerate–stop distance available: 8236
2.13.5 Landing distance available: 8236

2.13.1 Designation: 35R
2.13.2 Takeoff run available: 8236
2.13.3 Takeoff distance available: 8236
2.13.4 Accelerate–stop distance available: 8236
2.13.5 Landing distance available: 8236

AD 2.14 Approach and runway lighting
2.14.1 Designation: 14
2.14.4 Visual approach slope indicator system: 4–box VASI on left

2.14.1 Designation: 32
2.14.4 Visual approach slope indicator system: 4–box VASI on left

2.14.1 Designation: 17R
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 35L
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 17L
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

AD 2.18 Air traffic services communication facilities
2.18.1 Service designation: LCL/P
2.18.3 Service designation: 120.1 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 121.8 MHz

2.18.1 Service designation: EMERG
2.18.3 Service designation: 243 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 257.9 MHz

2.18.1 Service designation: ATIS
2.18.3 Service designation: 125.775 MHz
2.18.4 Hours of operation: 24

AD 2.19 Radio navigation and landing aids
2.19.1 ILS type: Glide Slope for runway 17R. Magnetic variation: 8E
2.19.2 ILS identification: LRD
2.19.5 Coordinates: 27–33–12.49N / 99–27–40.70W
2.19.6 Site elevation: 497 ft

2.19.1 ILS type: Middle Marker for runway 17R. Magnetic variation: 8E
2.19.2 ILS identification: LRD
2.19.5 Coordinates: 27–33–41.55N / 99–27–43.80W
2.19.6 Site elevation: 484 ft

2.19.1 ILS type: Localizer for runway 17R. Magnetic variation: 8E
2.19.2 ILS identification: LRD
2.19.5 Coordinates: 27–31–51.73N / 99–27–49.30W
2.19.6 Site elevation: 476 ft

2.19.1 ILS type: Outer Marker for runway 17R. Magnetic variation: 8E
2.19.2 ILS identification: LRD
2.19.5 Coordinates: 27–38–32.52N / 99–27–29.32W
2.19.6 Site elevation: 675 ft

2.19.1 ILS type: DME for runway 17R. Magnetic variation: 8E
2.19.2 ILS identification: LRD
2.19.5 Coordinates: 27–31–50.88N / 99–27–46.67W
2.19.6 Site elevation: 475 ft

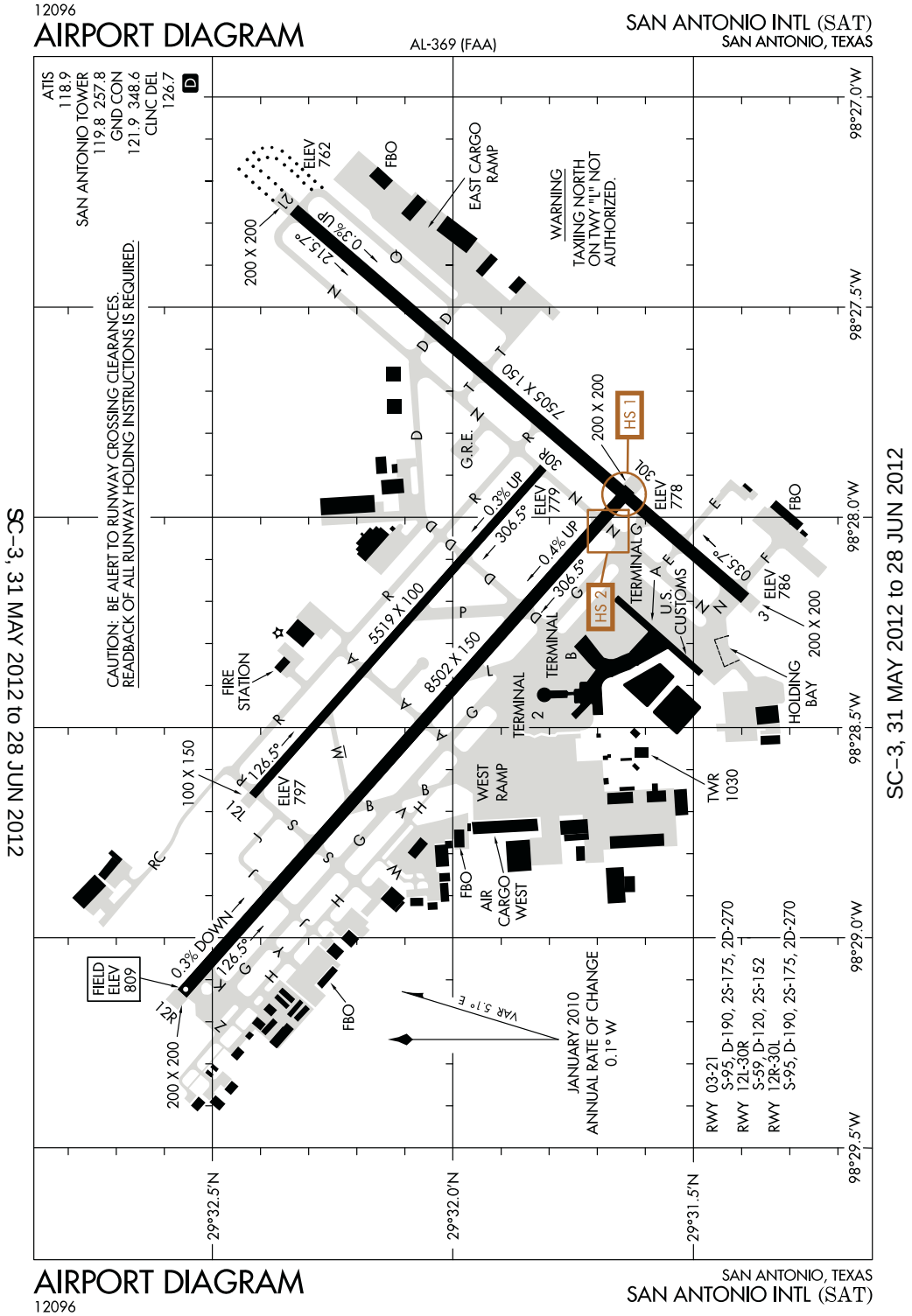
General Remarks:
5’ LINE OF SIGHT NOT AVAILABLE BETWEEN ENDS OF RUNWAY 14/32.

RUNWAY 14/32 RESTRICTED TO AIRCRAFT LESS THAN 60,000 LBS DTW.

TAXIWAY C CLOSED BETWEEN RUNWAY 17L/35R & RUNWAY 17R INDEFINITELY.

EMAS ARRESTOR BED PARTIALLY DAMAGED, POTENTIAL DEGRADED PERFORMANCE FOR OFF RUNWAY CENTERLINE ENGAGEMENT.

San Antonio, Texas
San Antonio International
ICAO Identifier KSAT



San Antonio, TX
San Antonio Intl
ICAO Identifier KSAT

AD 2.2 Aerodrome geographical and administrative data
2.2.1 Reference Point: 29−32−00.00N / 98−28−11.20W
2.2.2 From City: 7 Miles N Of San Antonio, TX
2.2.3 Elevation: 809 ft
2.2.5 Magnetic variation: 8E (1980)
2.2.6 Airport Contact: Frank R. Miller
9800 AIRPORT BLVD
San Antonio, TX 78216
(210−207−3450)
2.2.7 Traffic: IFR/VFR

AD 2.3 Operational hours
2.3.1 – 2.3.11: ALL Months, ALL Days, ALL Hours

AD 2.4 Handling services and facilities
2.4.1 Cargo handling facilities: No
2.4.2 Fuel types: 100LL,A
2.4.4 De−icing facilities: None
2.4.5 Hangar space: Yes
2.4.6 Repair facilities: Major

AD 2.6 Rescue and firefighting services
2.6.1 Aerodrome category for firefighting: ARFF Index I C certified on 5/1/1973

AD 2.10 Aerodrome obstacles
2.10.1.a. Runway designation: 30L
2.10.1.b Type of obstacle: Bldg (79 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 300 ft from Centerline

2.10.1.a. Runway designation: 03
2.10.1.b Type of obstacle: Pole (46 ft). Lighted
2.10.1.c Location of obstacle: 225 ft from Centerline

AD 2.12 Runway physical characteristics
2.12.1 Designation: 12L
2.12.2 True Bearing: 132
2.12.3 Dimensions: 5519 ft x 100 ft
2.12.5 Coordinates: 29−32−25.07N / 98−28−39.71W
2.12.6 Threshold elevation: 797 ft
2.12.6 Touchdown zone elevation: 797 ft

2.12.1 Designation: 30R
2.12.2 True Bearing: 312
2.12.3 Dimensions: 5519 ft x 100 ft
2.12.5 Coordinates: 29−31−48.78N / 98−27−53.02W
2.12.6 Threshold elevation: 779 ft
2.12.6 Touchdown zone elevation: 788 ft

2.12.1 Designation: 12R
2.12.2 True Bearing: 132
2.12.3 Dimensions: 8502 ft x 150 ft
2.12.5 Coordinates: 29−32−33.89N / 98−29−00.00W
2.12.6 Threshold elevation: 809 ft
2.12.6 Touchdown zone elevation: 809 ft

2.12.1 Designation: 30L
2.12.2 True Bearing: 312
2.12.3 Dimensions: 8502 ft x 150 ft
2.12.5 Coordinates: 29−31−38.00N / 98−27−55.99W
2.12.6 Threshold elevation: 778 ft
2.12.6 Touchdown zone elevation: 790 ft

2.12.1 Designation: 03
2.12.2 True Bearing: 41
2.12.3 Dimensions: 7505 ft x 150 ft
2.12.5 Coordinates: 29−31−23.64N / 98−28−11.66W
2.12.6 Threshold elevation: 786 ft
2.12.6 Touchdown zone elevation: 786 ft

2.12.1 Designation: 21
2.12.2 True Bearing: 221
2.12.3 Dimensions: 7505 ft x 150 ft
2.12.5 Coordinates: 29−32−19.90N / 98−27−16.17W
2.12.6 Threshold elevation: 762 ft
2.12.6 Touchdown zone elevation: 773 ft

AD 2.13 Declared distances
2.13.1 Designation: 12L
2.13.2 Takeoff run available: 5519
2.13.3 Takeoff distance available: 5519
2.13.4 Accelerate−stop distance available: 5519
2.13.5 Landing distance available: 5519

2.13.1 Designation: 30R
2.13.2 Takeoff run available: 5519

2.13.3 Takeoff distance available: 5519
2.13.4 Accelerate–stop distance available: 5519
2.13.5 Landing distance available: 5519

2.13.1 Designation: 12R
2.13.2 Takeoff run available: 8502
2.13.3 Takeoff distance available: 8502
2.13.4 Accelerate–stop distance available: 8502
2.13.5 Landing distance available: 8502

2.13.1 Designation: 30L
2.13.2 Takeoff run available: 8502
2.13.3 Takeoff distance available: 8502
2.13.4 Accelerate–stop distance available: 8502
2.13.5 Landing distance available: 8502

2.13.1 Designation: 03
2.13.2 Takeoff run available: 7505
2.13.3 Takeoff distance available: 7505
2.13.4 Accelerate–stop distance available: 7505
2.13.5 Landing distance available: 7505

2.13.1 Designation: 21
2.13.2 Takeoff run available: 7505
2.13.3 Takeoff distance available: 7505
2.13.4 Accelerate–stop distance available: 7505
2.13.5 Landing distance available: 7505

AD 2.14 Approach and runway lighting
2.14.1 Designation: 12L
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 30R
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 12R
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 30L
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 03
2.14.2 Approach lighting system: MALS: 1400 feet medium intensity approach lighting system
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 21
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

AD 2.18 Air traffic services communication facilities
2.18.1 Service designation: APCH/P DEP/P CLASS C
2.18.3 Service designation: 118.05 MHz

2.18.1 Service designation: D–ATIS
2.18.3 Service designation: 118.9 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 119.8 MHz

2.18.1 Service designation: AS ASGND
2.18.3 Service designation: 120.3 MHz

2.18.1 Service designation: AS ASGND
2.18.3 Service designation: 121.2 MHz

2.18.1 Service designation: EMERG
2.18.3 Service designation: 121.5 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 121.9 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS C
2.18.3 Service designation: 124.45 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS C IC
2.18.3 Service designation: 125.1 MHz

2.18.1 Service designation: APCH/S DEP/S
2.18.3 Service designation: 125.7 MHz

2.18.1 Service designation: CD/P
2.18.3 Service designation: 126.7 MHz

2.18.1 Service designation: APCH/S DEP/S
2.18.3 Service designation: 127.1 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS C

2.18.3 Service designation: 128.05 MHz

2.18.1 Service designation: EMERG
2.18.3 Service designation: 243 MHz

2.18.1 Service designation: APCH/S DEP/S
2.18.3 Service designation: 251.125 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 257.8 MHz

2.18.1 Service designation: AS ASGND
2.18.3 Service designation: 269.1 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS C IC
2.18.3 Service designation: 307 MHz

2.18.1 Service designation: AS ASGND
2.18.3 Service designation: 317.5 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS C
2.18.3 Service designation: 318.1 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 348.6 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS C
2.18.3 Service designation: 353.5 MHz

2.18.1 Service designation: AS ASGND
2.18.3 Service designation: 285.45 MHz

2.18.1 Service designation: AS ASGND
2.18.3 Service designation: 239.025 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS C
2.18.3 Service designation: 335.625 MHz

2.18.1 Service designation: APCH/S DEP/S
2.18.3 Service designation: 290.225 MHz

AD 2.19 Radio navigation and landing aids

2.19.1 ILS type: DME for runway 12R. Magnetic variation: 5E
2.19.2 ILS identification: ANT
2.19.5 Coordinates: 29–31–29.11N / 98–27–49.94W
2.19.6 Site elevation: 791 ft

2.19.1 ILS type: Glide Slope for runway 12R. Magnetic variation: 5E
2.19.2 ILS identification: ANT
2.19.5 Coordinates: 29–32–28.99N / 98–28–54.82W
2.19.6 Site elevation: 801 ft

2.19.1 ILS type: Middle Marker for runway 12R. Magnetic variation: 5E
2.19.2 ILS identification: ANT
2.19.5 Coordinates: 29–32–55.58N / 98–29–35.87W
2.19.6 Site elevation: ft

2.19.1 ILS type: Outer Marker for runway 12R. Magnetic variation: 5E
2.19.2 ILS identification: ANT
2.19.5 Coordinates: 29–36–27.45N / 98–34–10.92W
2.19.6 Site elevation: ft

2.19.1 ILS type: Localizer for runway 12R. Magnetic variation: 5E
2.19.2 ILS identification: ANT
2.19.5 Coordinates: 29–31–31.31N / 98–27–47.38W
2.19.6 Site elevation: 771 ft

2.19.1 ILS type: Inner Marker for runway 12R. Magnetic variation: 5E
2.19.2 ILS identification: ANT
2.19.5 Coordinates: 29–32–38.99N / 98–29–14.51W
2.19.6 Site elevation: ft

2.19.1 ILS type: Localizer for runway 30L. Magnetic variation: 8E
2.19.2 ILS identification: IZR
2.19.5 Coordinates: 29–32–42.30N / 98–29–18.78W
2.19.6 Site elevation: 809 ft

2.19.1 ILS type: DME for runway 30L. Magnetic variation: 8E
2.19.2 ILS identification: IZR
2.19.5 Coordinates: 29–31–29.11N / 98–27–49.94W
2.19.6 Site elevation: 791 ft

2.19.1 ILS type: Outer Marker for runway 30L. Magnetic variation: 8E
2.19.2 ILS identification: IZR

2.19.5 Coordinates: 29−28−00.00N / 98−23−19.32W
2.19.6 Site elevation: 692 ft

2.19.1 ILS type: Glide Slope for runway 30L. Magnetic variation: 8E
2.19.2 ILS identification: IZR
2.19.5 Coordinates: 29−31−47.90N / 98−28−00.00W
2.19.6 Site elevation: 778 ft

2.19.1 ILS type: Middle Marker for runway 30L. Magnetic variation: 8E
2.19.2 ILS identification: IZR
2.19.5 Coordinates: 29−31−20.34N / 98−27−33.19W
2.19.6 Site elevation: 761 ft

2.19.1 ILS type: Outer Marker for runway 03. Magnetic variation: 8E
2.19.2 ILS identification: SAT
2.19.5 Coordinates: 29−28−28.61N / 98−31−00.00W
2.19.6 Site elevation: ft

2.19.1 ILS type: Localizer for runway 03. Magnetic variation: 8E
2.19.2 ILS identification: SAT
2.19.5 Coordinates: 29−32−33.45N / 98−27−00.00W
2.19.6 Site elevation: 749 ft

2.19.1 ILS type: Glide Slope for runway 03. Magnetic variation: 8E
2.19.2 ILS identification: SAT
2.19.5 Coordinates: 29−31−27.70N / 98−28−00.00W
2.19.6 Site elevation: 777 ft

2.19.1 ILS type: Middle Marker for runway 03. Magnetic variation: 8E
2.19.2 ILS identification: SAT
2.19.5 Coordinates: 29−31−00.00N / 98−28−35.26W
2.19.6 Site elevation: ft

General Remarks:
TAXIWAY L CLOSED NORTHBOUND.

NUMEROUS FLOCKS OF BIRDS IN THE VICINITY OF AIRPORT.

GLIDER/SOARING OPERATIONS APPROXIMATELY 17 MILES NW OF AIRPORT DURING VFR.

TAXIWAY D NON−MOVEMENT AREA FROM TAXIWAY N TO 500 FT W OF TAXIWAY N.

NOISE SENSITIVE AREAS EXIST ON ALL SIDES OF THE AIRPORT: AT THE PILOT'S DISCRETION CLIMB AS QUICKLY & QUIETLY AS SAFELY POSSIBLE ON DEP & USE CONSIDERATION WHEN FLYING OVER POPULATED AREAS BY MINIMIZING FLIGHT & HIGH POWER SETTINGS. ENGINE−UPS ARE PERMITTED BETWEEN 0600−2300.

AIRCRAFT TAXIING ON RUNWAY 03 NE BOUND LOOK FOR HOLD SHORT TO RUNWAY 30L.

AIRCRAFT TAXIING ON TAXIWAY N SW BOUND LOOK FOR HOLD SHORT TO RUNWAY 30R.

WORK IN PROGRESS SCHEDULED MAINTENANCE ON & ALONG TAXIWAYS AND RAMPS AREAS AT VARIOUS TIMES.

GROUND RUN−UP ENCLOSURE AVAILABLE 24 HRS.

TERMINAL GATES A1 & A11 USE ONLY WITH PRIOR PERMISSION REQUIRED CALL OPERATIONS 210−413−4928.

RUNWAY 12L/30R NOT AVAILABLE FOR PART 121 AIR CARRIER OPERATIONS.

THE FOLLOWING TAXIWAYS ARE NOT AVAILABLE FOR AIRCRAFT 59,000 LBS OR OVER: TAXIWAYS A & J NORTH OF RUNWAY 12R/30L; TAXIWAYS W, M, P, TAXIWAY H NW OF TAXIWAY Z AND TAXIWAY E EAST OF RUNWAY 03/21.

TAXIWAY Z CLOSED TO AIRCRAFT WITH WINGSPAN GREATER THAN 118 FT.

C130 AND C141 TYPE AIRCRAFT SHALL PARK ON WEST RAMP TO CLEAR CUSTOMS.

GA AIRCRAFT CLEARING U.S. CUSTOMS AT TERMINAL A1 BE ALERT FOR PERSONNEL & EQUIPMENT WHILE TAXIING TO AND FROM THE ASSIGNED CUSTOMS CLEARANCE LOCATION.

TAXIWAY Q ENTRANCE/EXIT AT AIR CARGO EAST CLOSED TO AIRCRAFT WITH WINGSPAN GREATER THAN 118 FT.

INNER RAMP TAXILANE NORTH & EAST OF TERMINAL A IS CLOSED TO AIRCRAFT WITH WINGSPAN GREATER THAN 118 FT EXCEPT FOR AIRCRAFT CROSSING THE INNER RAMP TO GATES A12 TO A16.

PRIOR PERMISSION REQUIRED WITH AIRPORT OPERATIONS FOR AIRCRAFT POWERING BACK FROM TERMINAL GATES.

TAXIWAYS L & B CLOSED TO AIRCRAFT WITH WINGSPANS GREATER THAN 118 FT EXITING RUNWAY 30L.

A BARRICADED PAVEMENT ELEVATION CHANGE EXISTS ALONG THE EASTERN SIDE OF THE WEST RAMP.

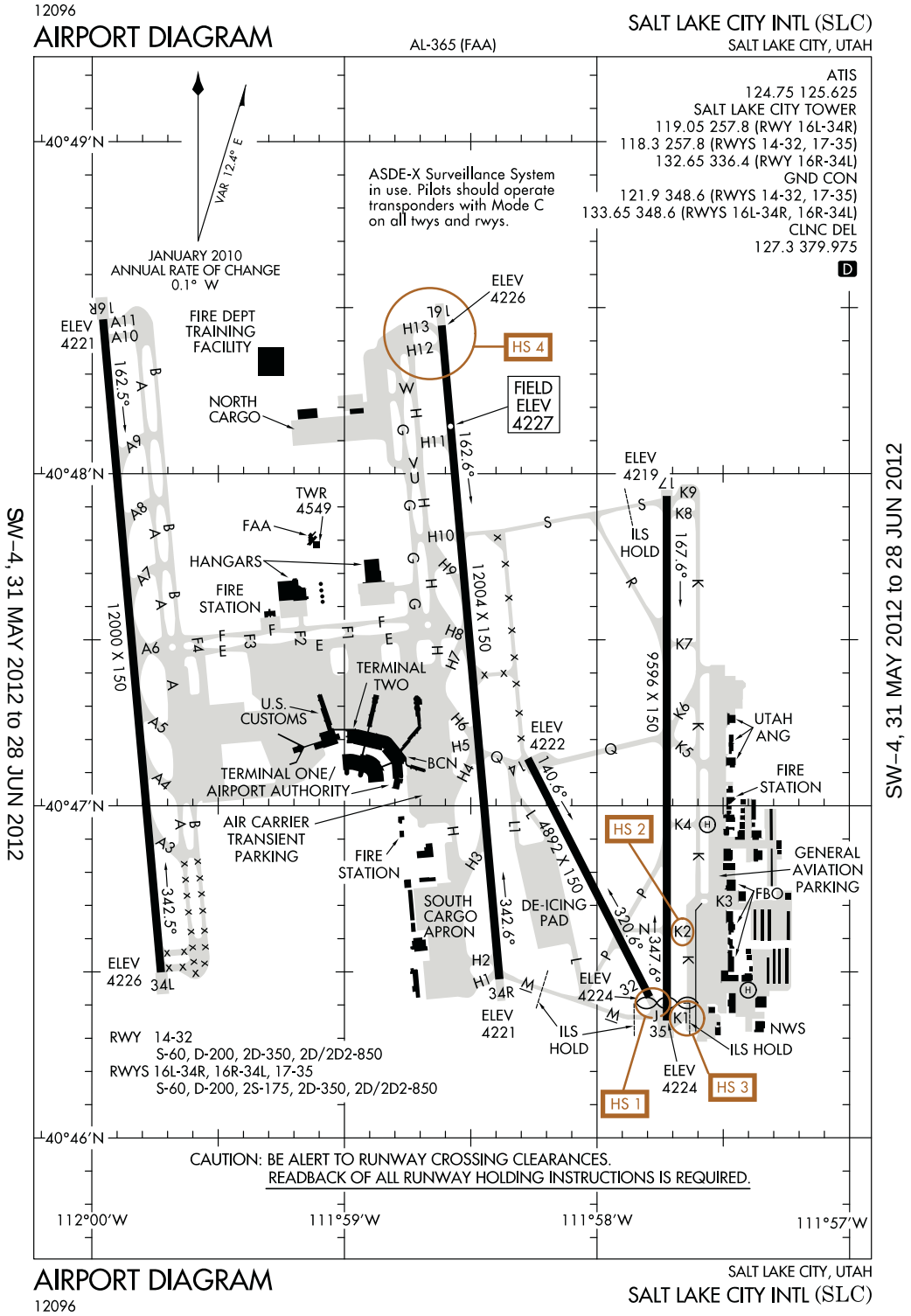
FREQUENT RUBBER ACCUMULATION NW 2500 RUNWAY 12R/30L

AIRCRAFT TRANSITIONING TO OR FROM THE INNER RAMP NORTH OF TERMINAL B BE ALERT FOR VEHICLE LANE.

AIRCRAFT AT TERMINAL A & B CONTACT GROUND CONTROL PRIOR TO PUSH FOR ADVISORIES.

TAXIWAY Q NE 1000 FT CLOSED INDEFINITELY.

Salt Lake City, Utah
Salt Lake City International
ICAO Identifier KSLC



Salt Lake City, UT
Salt Lake City Intl
ICAO Identifier KSLC

AD 2.2 Aerodrome geographical and administrative data
2.2.1 Reference Point: 40–47–18.20N / 111–58–39.98W
2.2.2 From City: 3 Miles W Of Salt Lake City, UT
2.2.3 Elevation: 4227 ft
2.2.5 Magnetic variation: 14E (1995)
2.2.6 Airport Contact: Maureen Riley
P.O. BOX 145550
Salt Lake City, UT 84114
(801–575–2401)
2.2.7 Traffic: IFR/VFR

AD 2.3 Operational hours
2.3.1 – 2.3.11: ALL Months, ALL Days, ALL Hours

AD 2.4 Handling services and facilities
2.4.1 Cargo handling facilities: No
2.4.2 Fuel types: 100LL,A1+
2.4.4 De–icing facilities: None
2.4.5 Hangar space: Yes
2.4.6 Repair facilities: Major

AD 2.6 Rescue and firefighting services
2.6.1 Aerodrome category for firefighting: ARFF Index I E certified on 5/1/1973

AD 2.10 Aerodrome obstacles
2.10.1.a. Runway designation: 35
2.10.1.b Type of obstacle: Ant (24 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 250 ft from Centerline

AD 2.12 Runway physical characteristics
2.12.1 Designation: 16L
2.12.2 True Bearing: 175
2.12.3 Dimensions: 12004 ft x 150 ft
2.12.5 Coordinates: 40–48–26.80N / 111–58–36.97W
2.12.6 Threshold elevation: 4226 ft
2.12.6 Touchdown zone elevation: 4227 ft

2.12.1 Designation: 34R
2.12.2 True Bearing: 355
2.12.3 Dimensions: 12004 ft x 150 ft
2.12.5 Coordinates: 40–46–28.68N / 111–58–23.25W
2.12.6 Threshold elevation: 4221 ft
2.12.6 Touchdown zone elevation: 4222 ft

2.12.1 Designation: 16R
2.12.2 True Bearing: 175
2.12.3 Dimensions: 12000 ft x 150 ft
2.12.5 Coordinates: 40–48–27.99N / 111–59–57.42W
2.12.6 Threshold elevation: 4221 ft
2.12.6 Touchdown zone elevation: 4223 ft

2.12.1 Designation: 34L
2.12.2 True Bearing: 355
2.12.3 Dimensions: 12000 ft x 150 ft
2.12.5 Coordinates: 40–46–29.90N / 111–59–43.69W
2.12.6 Threshold elevation: 4226 ft
2.12.6 Touchdown zone elevation: 4226 ft

2.12.1 Designation: 17
2.12.2 True Bearing: 180
2.12.3 Dimensions: 9596 ft x 150 ft
2.12.5 Coordinates: 40–47–56.10N / 111–57–43.46W
2.12.6 Threshold elevation: 4218 ft
2.12.6 Touchdown zone elevation: 4219 ft

2.12.1 Designation: 35
2.12.2 True Bearing: 360
2.12.3 Dimensions: 9596 ft x 150 ft
2.12.5 Coordinates: 40–46–21.29N / 111–57–43.44W
2.12.6 Threshold elevation: 4224 ft
2.12.6 Touchdown zone elevation: 4224 ft

2.12.1 Designation: 14
2.12.2 True Bearing: 153
2.12.3 Dimensions: 4892 ft x 150 ft
2.12.5 Coordinates: 40–47–00.00N / 111–58–16.45W
2.12.6 Threshold elevation: 4222 ft
2.12.6 Touchdown zone elevation: 4222 ft

2.12.1 Designation: 32
2.12.2 True Bearing: 333
2.12.3 Dimensions: 4892 ft x 150 ft
2.12.5 Coordinates: 40–46–25.51N / 111–57–47.58W
2.12.6 Threshold elevation: 4224 ft

2.12.6 Touchdown zone elevation: 4224 ft

2.12.1 Designation: HF
2.12.3 Dimensions: 60 ft x 60 ft

2.12.1 Designation: HB
2.12.3 Dimensions: 60 ft x 60 ft
2.12.5 Coordinates: 40–46–27.08N / 111–57–24.06W
2.12.6 Threshold elevation: 4220 ft

AD 2.13 Declared distances
2.13.1 Designation: 16L
2.13.2 Takeoff run available: 12004
2.13.3 Takeoff distance available: 12004
2.13.4 Accelerate–stop distance available: 12004
2.13.5 Landing distance available: 12004

2.13.1 Designation: 34R
2.13.2 Takeoff run available: 12004
2.13.3 Takeoff distance available: 12004
2.13.4 Accelerate–stop distance available: 12004
2.13.5 Landing distance available: 12004

2.13.1 Designation: 16R
2.13.2 Takeoff run available: 12000
2.13.3 Takeoff distance available: 12000
2.13.4 Accelerate–stop distance available: 12000
2.13.5 Landing distance available: 12000

2.13.1 Designation: 34L
2.13.2 Takeoff run available: 12000
2.13.3 Takeoff distance available: 12000
2.13.4 Accelerate–stop distance available: 12000
2.13.5 Landing distance available: 12000

2.13.1 Designation: 17
2.13.2 Takeoff run available: 9597
2.13.3 Takeoff distance available: 9597
2.13.4 Accelerate–stop distance available: 9597
2.13.5 Landing distance available: 9597

2.13.1 Designation: 35
2.13.2 Takeoff run available: 9597
2.13.3 Takeoff distance available: 9597
2.13.4 Accelerate–stop distance available: 9597
2.13.5 Landing distance available: 9273

2.13.1 Designation: 14
2.13.2 Takeoff run available: 4892
2.13.3 Takeoff distance available: 4892
2.13.4 Accelerate–stop distance available: 4892
2.13.5 Landing distance available: 4892

2.13.1 Designation: 32
2.13.2 Takeoff run available: 4892
2.13.3 Takeoff distance available: 4892
2.13.4 Accelerate–stop distance available: 4892
2.13.5 Landing distance available: 4892

AD 2.14 Approach and runway lighting
2.14.1 Designation: 16L
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 34R
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 16R
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 34L
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 17
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on right

2.14.1 Designation: 35
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights

2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 14
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 32
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

AD 2.18 Air traffic services communication facilities

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 118.3 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 119.05 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 120.9 MHz

2.18.1 Service designation: APCH/P DEP/P
2.18.3 Service designation: 120.9 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 121.1 MHz

2.18.1 Service designation: APCH/P DEP/P
2.18.3 Service designation: 121.1 MHz

2.18.1 Service designation: EMERG
2.18.3 Service designation: 121.5 MHz

2.18.1 Service designation: APCH/P DEP P IC
2.18.3 Service designation: 124.3 MHz

2.18.1 Service designation: APCH/P DEP/P
2.18.3 Service designation: 124.9 MHz

2.18.1 Service designation: APCH/P DEP/P
2.18.3 Service designation: 126.25 MHz

2.18.1 Service designation: CD/P PRE–TAXI CLNC PRE–DEP CLNC
2.18.3 Service designation: 127.3 MHz

2.18.1 Service designation: APCH/P DEP/P
2.18.3 Service designation: 128.1 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 132.65 MHz

2.18.1 Service designation: APCH/P DEP/P
2.18.3 Service designation: 135.5 MHz

2.18.1 Service designation: EMERG
2.18.3 Service designation: 243 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 257.2 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 257.8 MHz

2.18.1 Service designation: APCH/S DEP/S
2.18.3 Service designation: 284.6 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 319.25 MHz

2.18.1 Service designation: APCH/P DEP/P
2.18.3 Service designation: 307.05 MHz

2.18.1 Service designation: APCH/P DEP/P IC
2.18.3 Service designation: 322.3 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 348.6 MHz

2.18.1 Service designation: APCH/P DEP/P
2.18.3 Service designation: 353.6 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 336.4 MHz

2.18.1 Service designation: AS ASGND
2.18.3 Service designation: 377.2 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 121.9 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 133.65 MHz

2.18.1 Service designation: CD/P
2.18.3 Service designation: 379.975 MHz

2.18.1 Service designation: APCH/P DEP/P
2.18.3 Service designation: 353.825 MHz

2.18.1 Service designation: ANG COMD POST
2.18.3 Service designation: 303 MHz

2.18.1 Service designation: ANG COMD POST
2.18.3 Service designation: 311 MHz

2.18.1 Service designation: D–ATIS

2.18.3 Service designation: 124.75 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: D–ATIS
2.18.3 Service designation: 125.625 MHz
2.18.4 Hours of operation: 24

AD 2.19 Radio navigation and landing aids
2.19.1 ILS type: Localizer for runway 16L.
Magnetic variation: 12E
2.19.2 ILS identification: MOY
2.19.5 Coordinates: 40–46–18.49N /
111–58–22.06W
2.19.6 Site elevation: 4224 ft

2.19.1 ILS type: DME for runway 16L. Magnetic variation: 12E
2.19.2 ILS identification: MOY
2.19.5 Coordinates: 40–46–18.71N /
111–58–18.11W
2.19.6 Site elevation: 4236 ft

2.19.1 ILS type: Glide Slope for runway 16L.
Magnetic variation: 12E
2.19.2 ILS identification: MOY
2.19.5 Coordinates: 40–48–17.07N /
111–58–30.61W
2.19.6 Site elevation: 4222 ft

2.19.1 ILS type: Middle Marker for runway 16L.
Magnetic variation: 12E
2.19.2 ILS identification: MOY
2.19.5 Coordinates: 40–48–55.10N /
111–58–40.28W
2.19.6 Site elevation: 4217 ft

2.19.1 ILS type: Inner Marker for runway 16L.
Magnetic variation: 12E
2.19.2 ILS identification: MOY
2.19.5 Coordinates: 40–48–35.68N /
111–58–38.00W
2.19.6 Site elevation: 4223 ft

2.19.1 ILS type: Localizer for runway 34R.
Magnetic variation: 12E
2.19.2 ILS identification: SLC
2.19.5 Coordinates: 40–48–37.67N /
111–58–38.21W
2.19.6 Site elevation: 4222 ft

2.19.1 ILS type: Glide Slope for runway 34R.
Magnetic variation: 12E
2.19.2 ILS identification: SLC
2.19.5 Coordinates: 40–46–39.32N /
111–58–19.28W
2.19.6 Site elevation: 4217 ft

2.19.1 ILS type: Inner Marker for runway 34R.
Magnetic variation: 12E
2.19.2 ILS identification: SLC
2.19.5 Coordinates: 40–46–20.33N /
111–58–22.29W
2.19.6 Site elevation: 4222 ft

2.19.1 ILS type: Outer Marker for runway 34R.
Magnetic variation: 12E
2.19.2 ILS identification: SLC
2.19.5 Coordinates: 40–40–52.21N /
111–57–46.57W
2.19.6 Site elevation: 4310 ft

2.19.1 ILS type: DME for runway 34R. Magnetic variation: 12E
2.19.2 ILS identification: SLC
2.19.5 Coordinates: 40–46–18.71N /
111–58–18.11W
2.19.6 Site elevation: 4236 ft

2.19.1 ILS type: Middle Marker for runway 34R.
Magnetic variation: 12E
2.19.2 ILS identification: SLC
2.19.5 Coordinates: 40–46–00.00N /
111–58–18.28W
2.19.6 Site elevation: 4221 ft

2.19.1 ILS type: DME for runway 16R. Magnetic variation: 12E
2.19.2 ILS identification: UAT
2.19.5 Coordinates: 40–46–19.62N /
111–59–46.36W
2.19.6 Site elevation: 4232 ft

2.19.1 ILS type: Glide Slope for runway 16R.
Magnetic variation: 12E
2.19.2 ILS identification: UAT
2.19.5 Coordinates: 40–48–17.29N /
112–00–00.00W
2.19.6 Site elevation: 4216 ft

2.19.1 ILS type: Inner Marker for runway 16R.
Magnetic variation: 12E
2.19.2 ILS identification: UAT
2.19.5 Coordinates: 40–48–37.20N /
111–59–58.20W

2.19.6 Site elevation: 4218 ft

2.19.1 ILS type: Middle Marker for runway 16R.
Magnetic variation: 12E
2.19.2 ILS identification: UAT
2.19.5 Coordinates: 40−48−56.30N /
112−00−00.00W
2.19.6 Site elevation: 4215 ft

2.19.1 ILS type: Localizer for runway 16R.
Magnetic variation: 12E
2.19.2 ILS identification: UAT
2.19.5 Coordinates: 40−46−19.93N /
111−59−42.52W
2.19.6 Site elevation: 4225 ft

2.19.1 ILS type: Localizer for runway 34L.
Magnetic variation: 12E
2.19.2 ILS identification: UUH
2.19.5 Coordinates: 40−48−37.96N /
111−59−58.58W
2.19.6 Site elevation: 4217 ft

2.19.1 ILS type: DME for runway 34L. Magnetic variation: 12E
2.19.2 ILS identification: UUH
2.19.5 Coordinates: 40−46−19.61N /
111−59−46.36W
2.19.6 Site elevation: 4232 ft

2.19.1 ILS type: Glide Slope for runway 34L.
Magnetic variation: 12E
2.19.2 ILS identification: UUH
2.19.5 Coordinates: 40−46−39.89N /
111−59−50.26W
2.19.6 Site elevation: 4220 ft

2.19.1 ILS type: Localizer for runway 17. Magnetic variation: 12E
2.19.2 ILS identification: BNT
2.19.5 Coordinates: 40−46−10.06N /
111−57−43.44W
2.19.6 Site elevation: 4225 ft

2.19.1 ILS type: DME for runway 17. Magnetic variation: 12E
2.19.2 ILS identification: BNT
2.19.5 Coordinates: 40−46−10.06N /
111−57−46.86W
2.19.6 Site elevation: 4238 ft

2.19.1 ILS type: Glide Slope for runway 17.
Magnetic variation: 12E
2.19.2 ILS identification: BNT
2.19.5 Coordinates: 40−47−45.73N /
111−57−49.95W
2.19.6 Site elevation: 4214 ft

2.19.1 ILS type: Middle Marker for runway 17.
Magnetic variation: 12E
2.19.2 ILS identification: BNT
2.19.5 Coordinates: 40−48−23.40N /
111−57−43.40W
2.19.6 Site elevation: ft

2.19.1 ILS type: Glide Slope for runway 35.
Magnetic variation: 12E
2.19.2 ILS identification: UTJ
2.19.5 Coordinates: 40−46−35.13N /
111−57−48.64W
2.19.6 Site elevation: 4220 ft

2.19.1 ILS type: Localizer for runway 35. Magnetic variation: 12E
2.19.2 ILS identification: UTJ
2.19.5 Coordinates: 40−48−00.00N /
111−57−43.46W
2.19.6 Site elevation: 4219 ft

2.19.1 ILS type: DME for runway 35. Magnetic variation: 12E
2.19.2 ILS identification: UTJ
2.19.5 Coordinates: 40−46−10.06N /
111−57−46.86W
2.19.6 Site elevation: 4238 ft

2.19.1 ILS type: Outer Marker for runway 35.
Magnetic variation: 12E
2.19.2 ILS identification: UTJ
2.19.5 Coordinates: 40−40−52.21N /
111−57−46.57W
2.19.6 Site elevation: 4310 ft

General Remarks:
FLOCK OF BIRDS ON AND IN VICINITY OF AIRPORT.

HELIPADS B AND F LOCATED ON GENERAL AVIATION APRONS.

SURFACE MOVEMENT GUIDANCE CONTROL SYSTEM & LOW VISIBILITY TAXI PROCEDURES.

DUE TO TRAFFIC VOLUME, LOCAL DEPARTURE AND ARR OPERATIONS ARE DISCOURAGED AND DELAYS CAN BE EXPECTED BETWEEN 1000–1200 AND 2000–2300.

SPECIAL VFR IS NOT RECOMMEND AT THE AIRPORT, IF REQUIRED, EXPECT DELAYS.

ANG RAMP – OPR 1430–2230Z++ MON–THU. CLOSED FRI–SUN AND HOLIDAY. OFFICIAL BUSINESS ONLY. PRIOR PERMISSION REQUIRED 48 HR ALL AIRCRAFT, VALID 1 HR +/– ESTIMATED TIME OF ARRIVAL. TRANSIENT PRK/SVC EXTREMELY LIMITED. BASE OPERATIONS DSN 245–2274, C801–245–2274. MILITARY ALTITUDE HILL AFB (KHIF) 25 NAUTICAL MILE N. ALL AIRCRAFT CONTACT UTAH CONTROL (COMD POST) 20 MIN OUT WITH ESTIMATED TIME OF ARRIVAL AND REQ.

ANG RAMP – ALL AIRCRAFT CONTACT UTAH CONTROL WITH LANDING & DEP TIMES. COMMAND POST DSN: 245–2416/2417; C801–245–2416/2417. PHASE II WILDLIFE ACT DURING MIGRATION/MORNING/EVENING HRS FR OCT–APR. CONTACT UTAH CONTROL FOR CURRENT BIRD–WATCH CONDITION.

ASDE–X SURVEILLANCE SYSTEM IN USE: PILOTS SHOULD OPERATE TRANSPONDERS WITH MODE C ON ALL TAXIWAYS AND RUNWAYS.

SEE FLIGHT INFORMATION PUBLICATION AP/1 SUPPLEMENTARY AIRPORT INFORMATION.

COMMUNICATIONS–ANG COMMAND POST: CALL UTAH CONTROL.

USE CAUTION FOR EXTENSIVE PARAGLIDING OPERATIONS IN THE VICINITY OF POINT OF THE MOUNTAIN.

TAXIWAY A CLOSED S OF TAXIWAY A3 UNTIL 31 OCT 2012.

TAXIWAY B CLOSED S OF TAXIWAY A3 UNTIL 31 OCT 2012.

TAXIWAY A1 CLOSED UNTIL 31 OCT 2012. TAXIWAY A2 CLOSED UNTIL 31 OCT 2012.

RUNWAY 16R/34L PERSONNEL AND EQUIPMENT WORKING S 4000 FT.

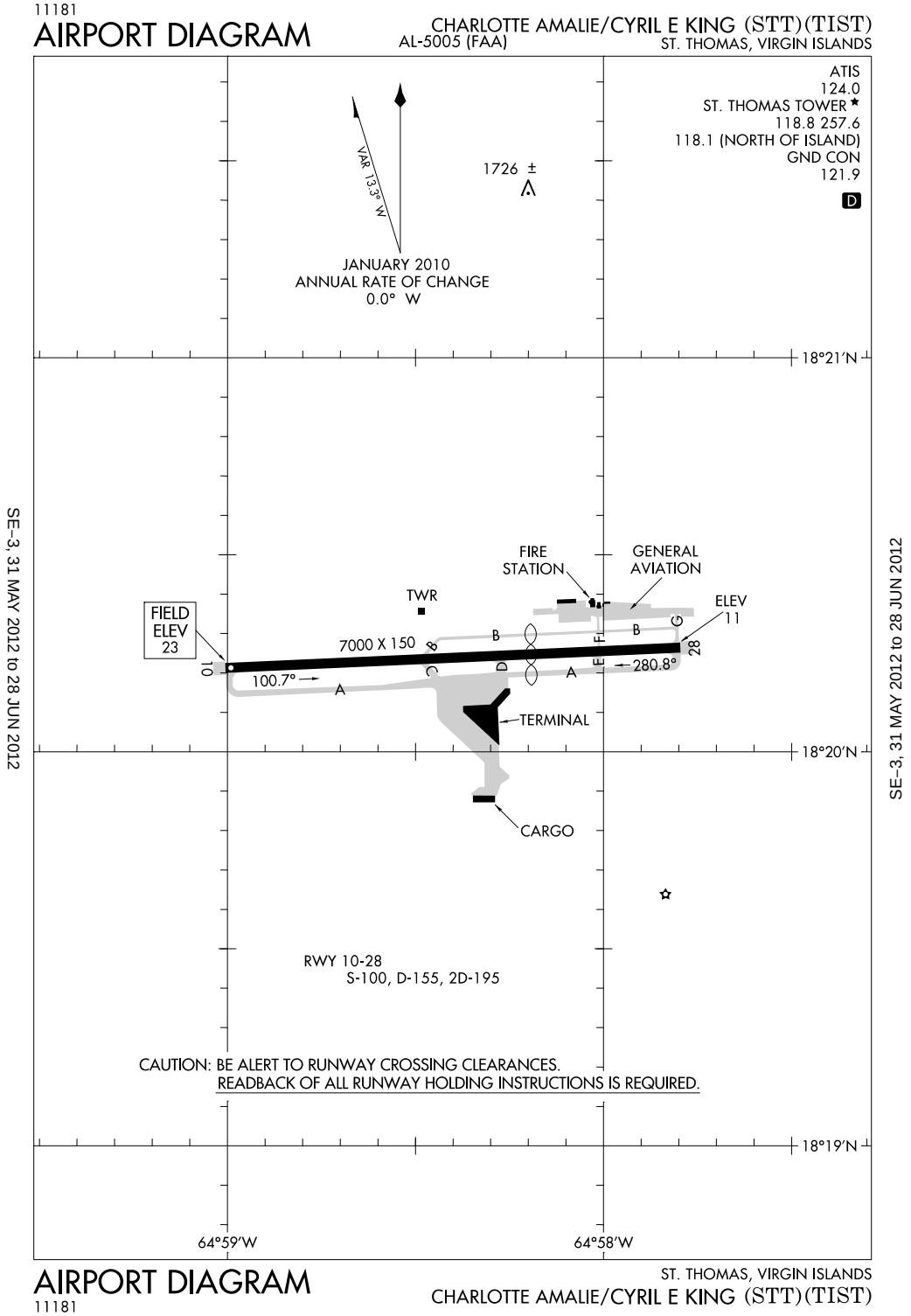
RUNWAY 34L SMGCS DEP UNAVAILABLE.

TAXIWAY A3 LENGTH AVAILABLE 8700 FT.

TAXIWAY A3 JET BLAST HAZARD USE MINIMUM POWER UNTIL ALIGNED WITH RUNWAY.

RUNWAY 34L FULL LENGTH AVAILABLE UPON REQUEST – MAKE REQUEST PRIOR TO TAXI – BACK TAXI REQUIRED.

Charlotte Amalie St. Thomas, Virgin Islands
Cyril E King
ICAO Identifier TIST



Charlotte Amalie, VI
Cyril E King
ICAO Identifier TIST

AD 2.2 Aerodrome geographical and administrative data
2.2.1 Reference Point: 18−20−14.30N / 64−58−24.10W
2.2.2 From City: 2 Miles W Of Charlotte Amalie, VI
2.2.3 Elevation: 23 ft
2.2.5 Magnetic variation: 13W (2000)
2.2.6 Airport Contact: Mr. Jose Nazario
CYRIL E. KING AIRPORT
St Thomas, VI 802
(340−774−5100)
2.2.7 Traffic: IFR/VFR

AD 2.3 Operational hours
2.3.1 − 2.3.11: ALL Months, ALL Days, 0700−2300 Hours

AD 2.4 Handling services and facilities
2.4.1 Cargo handling facilities: No
2.4.2 Fuel types: 100LL,A
2.4.4 De−icing facilities: None
2.4.5 Hangar space: Yes
2.4.6 Repair facilities: Minor

AD 2.6 Rescue and firefighting services
2.6.1 Aerodrome category for firefighting: ARFF Index I C certified on 5/1/1973
2.6.4 Remarks: Closed To Unscheduled Aircraft 0 Operations With More Than 30 Passenger Seats Except 24 Hrs Prior Permission Required Call Airport Manager 340−774−5100.

AD 2.10 Aerodrome obstacles
2.10.1.a. Runway designation: 28
2.10.1.b Type of obstacle: Pole (28 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 400 ft from Centerline

AD 2.12 Runway physical characteristics
2.12.1 Designation: 10
2.12.2 True Bearing: 87
2.12.3 Dimensions: 7000 ft x 150 ft
2.12.5 Coordinates: 18−20−12.72N / 64−59−00.00W
2.12.6 Threshold elevation: 23 ft
2.12.6 Touchdown zone elevation: 23 ft

2.12.1 Designation: 28
2.12.2 True Bearing: 267
2.12.3 Dimensions: 7000 ft x 150 ft
2.12.5 Coordinates: 18−20−15.81N / 64−57−47.75W
2.12.6 Threshold elevation: 11 ft
2.12.6 Touchdown zone elevation: 15 ft

AD 2.13 Declared distances
2.13.1 Designation: 10
2.13.2 Takeoff run available: 7000
2.13.3 Takeoff distance available: 7000
2.13.4 Accelerate−stop distance available: 7000
2.13.5 Landing distance available: 7000

2.13.1 Designation: 28
2.13.2 Takeoff run available: 7000
2.13.3 Takeoff distance available: 7000
2.13.4 Accelerate−stop distance available: 6000
2.13.5 Landing distance available: 3700

AD 2.14 Approach and runway lighting
2.14.1 Designation: 10
2.14.4 Visual approach slope indicator system: 4−light PAPI on left

AD 2.18 Air traffic services communication facilities
2.18.1 Service designation: LCL/P
2.18.3 Service designation: 118.1 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 118.8 MHz

2.18.1 Service designation: EMERG
2.18.3 Service designation: 121.5 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 121.9 MHz

2.18.1 Service designation: ATIS
2.18.3 Service designation: 124 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: EMERG
2.18.3 Service designation: 243 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 257.6 MHz

AD 2.19 Radio navigation and landing aids

2.19.1 ILS type: DME for runway 10. Magnetic variation: 13W
2.19.2 ILS identification: TMN
2.19.5 Coordinates: 18−20−18.76N / 64−57−39.49W
2.19.6 Site elevation: 22 ft

2.19.1 ILS type: Localizer for runway 10. Magnetic variation: 13W
2.19.2 ILS identification: TMN
2.19.5 Coordinates: 18−20−16.17N / 64−57−39.21W
2.19.6 Site elevation: 15 ft

2.19.1 ILS type: Glide Slope for runway 10. Magnetic variation: 13W
2.19.2 ILS identification: TMN
2.19.5 Coordinates: 18−20−10.74N / 64−58−48.30W
2.19.6 Site elevation: 14 ft

General Remarks:
AIRCRAFT THAT BACK TAXI FOR DEP ON RUNWAY 28 SHALL MAKE THEIR 180 DEGREE TURN COUNTERCLOCKWISE.

NOISE SENSITIVE AREA: AVOID OVERFLIGHTS OF WATER ISLAND LOCATED 2 MI SE OF AIRPORT.

PILOTS MAY ENCOUNTER FALSE ILLUSORY INDICATIONS DURING NIGHT VISUAL APPROACHES TO RUNWAY 10 WHEN USING VISUAL CUES FOR VERTICAL GUIDANCE; RECOMMEND USE OF THE ILS GS & FREQUENT CROSS REFERENCE WITH THE AIRCRAFT ALTIMETER TO MAINT THE PROPER APPROACH PROFILE.

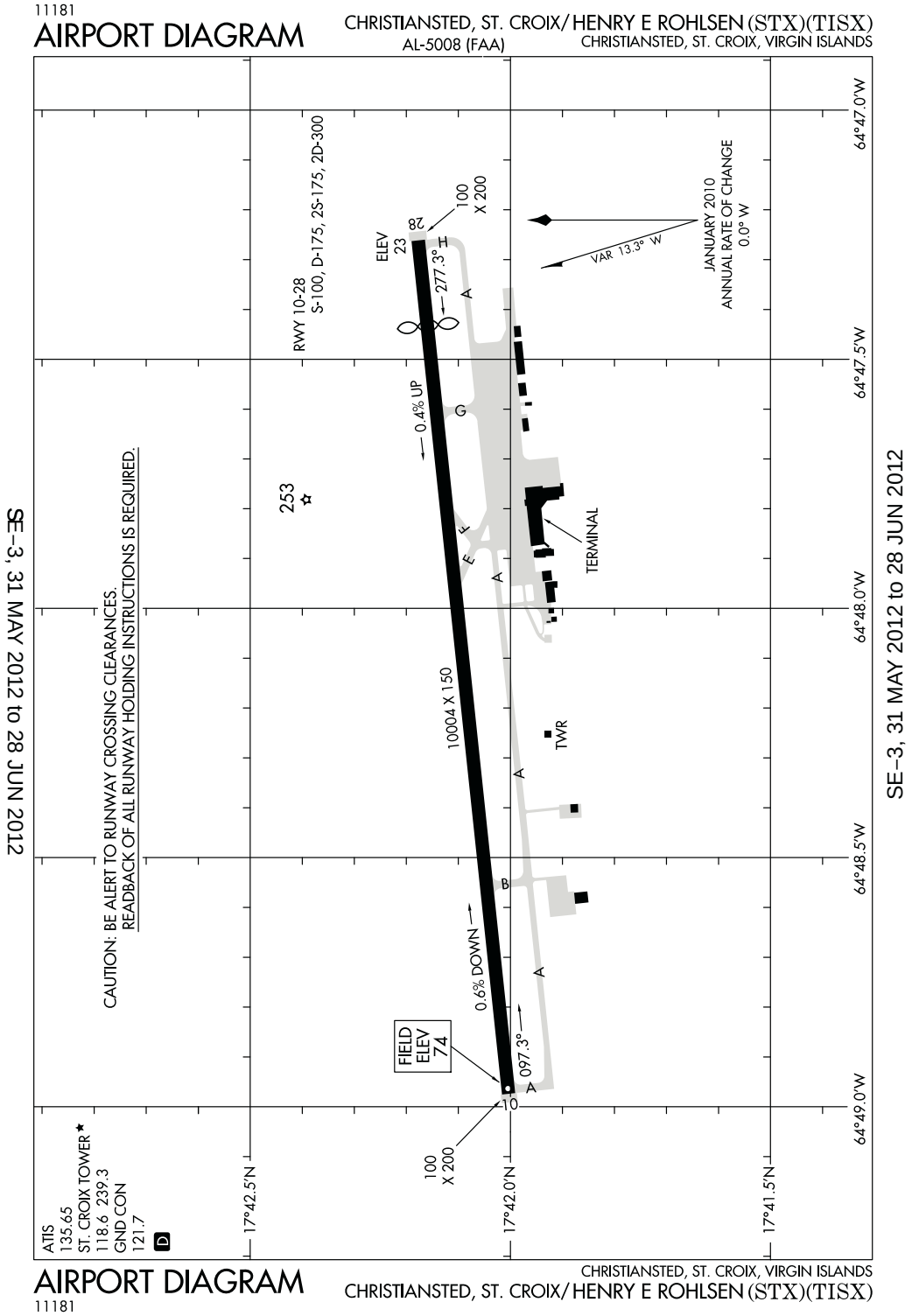
LIGHTS ON HILL 4 NAUTICAL MILE SE OF AIRPORT MAY BE MISTAKEN FOR RUNWAY 10/28 WHEN MAKING A VISUAL APPROACH FROM THE SOUTH.

RUNWAY 10 DEPS MAINTAIN RUNWAY HEADING UNTIL REACHING DEP END OF RUNWAY BEFORE TURNING ON COURSE OR ASSIGNED HEADING UNLESS OTHERWISE AUTHORIZED BY ATCT.

AIRCRAFT RESCUE AND FIRE FIGHTING UNAVAILABLE 2300−0630.

PILOTS CONTACT GROUND CONTROL PRIOR TO PUSHBACK.

Christiansted St. Croix
Henry E Rohlsen
ICAO Identifier TISX



Christiansted, VI
Henry E Rohlsen
ICAO Identifier TISX

AD 2.2 Aerodrome geographical and administrative data
2.2.1 Reference Point: 17−42−00.00N / 64−48−00.00W
2.2.2 From City: 6 Miles SW Of Christiansted, VI
2.2.3 Elevation: 74 ft
2.2.5 Magnetic variation: 13W (2000)
2.2.6 Airport Contact: Mr. David Mapp
P.O. BOX 1134
St Croix, VI 821
(340−778−1012)
2.2.7 Traffic: IFR/VFR

AD 2.3 Operational hours
2.3.1 – 2.3.11: ALL Months, ALL Days, 0500−2300 Hours

AD 2.4 Handling services and facilities
2.4.1 Cargo handling facilities: No
2.4.2 Fuel types: 100LL,A1+
2.4.4 De−icing facilities: None
2.4.5 Hangar space: Yes
2.4.6 Repair facilities: Major

AD 2.6 Rescue and firefighting services
2.6.1 Aerodrome category for firefighting: ARFF Index I C certified on 5/1/1973
2.6.4 Remarks: Closed To Unscheduled Aircraft 0 Operations With More Than 30 Passenger Seats Except 24 Hrs Prior Permission Required Contact Airport Manager 340−778−1012 Or 340−778−1033(Fax). ARFF Service Unavailable 2300−0500.

AD 2.10 Aerodrome obstacles
2.10.1.a. Runway designation: 28
2.10.1.b Type of obstacle: Bldg (217 ft). Marked
2.10.1.c Location of obstacle: 800 ft from Centerline

AD 2.12 Runway physical characteristics
2.12.1 Designation: 10
2.12.2 True Bearing: 84
2.12.3 Dimensions: 10004 ft x 150 ft
2.12.5 Coordinates: 17−42−00.00N / 64−48−58.45W
2.12.6 Threshold elevation: 74 ft
2.12.6 Touchdown zone elevation: 74 ft

2.12.1 Designation: 28
2.12.2 True Bearing: 264
2.12.3 Dimensions: 10004 ft x 150 ft
2.12.5 Coordinates: 17−42−10.62N / 64−47−15.54W
2.12.6 Threshold elevation: 22 ft
2.12.6 Touchdown zone elevation: 40 ft

AD 2.13 Declared distances
2.13.1 Designation: 10
2.13.2 Takeoff run available: 10004
2.13.3 Takeoff distance available: 10004
2.13.4 Accelerate−stop distance available: 9000
2.13.5 Landing distance available: 9000

2.13.1 Designation: 28
2.13.2 Takeoff run available: 10004
2.13.3 Takeoff distance available: 10004
2.13.4 Accelerate−stop distance available: 10004
2.13.5 Landing distance available: 9000

AD 2.14 Approach and runway lighting
2.14.1 Designation: 10
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4−light PAPI on left

2.14.1 Designation: 28
2.14.4 Visual approach slope indicator system: 4−light PAPI on left

AD 2.18 Air traffic services communication facilities
2.18.1 Service designation: LCL/P
2.18.3 Service designation: 118.6 MHz

2.18.1 Service designation: EMERG
2.18.3 Service designation: 121.5 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 121.7 MHz

2.18.1 Service designation: ATIS
2.18.3 Service designation: 135.65 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 239.3 MHz

2.18.1 Service designation: EMERG
2.18.3 Service designation: 243 MHz

AD 2.19 Radio navigation and landing aids
2.19.1 ILS type: Localizer for runway 10. Magnetic variation: 10W
2.19.2 ILS identification: STX
2.19.5 Coordinates: 17−42−11.44N / 64−47−00.00W
2.19.6 Site elevation: 23 ft

2.19.1 ILS type: Glide Slope for runway 10. Magnetic variation: 10W
2.19.2 ILS identification: STX
2.19.5 Coordinates: 17−42−00.00N / 64−48−21.03W
2.19.6 Site elevation: 48 ft

2.19.1 ILS type: Outer Marker for runway 10. Magnetic variation: 10W
2.19.2 ILS identification: STX
2.19.5 Coordinates: 17−41−30.90N / 64−53−00.00W
2.19.6 Site elevation: ft

2.19.1 ILS type: Middle Marker for runway 10. Magnetic variation: 10W
2.19.2 ILS identification: STX
2.19.5 Coordinates: 17−41−59.40N / 64−49−00.00W
2.19.6 Site elevation: ft

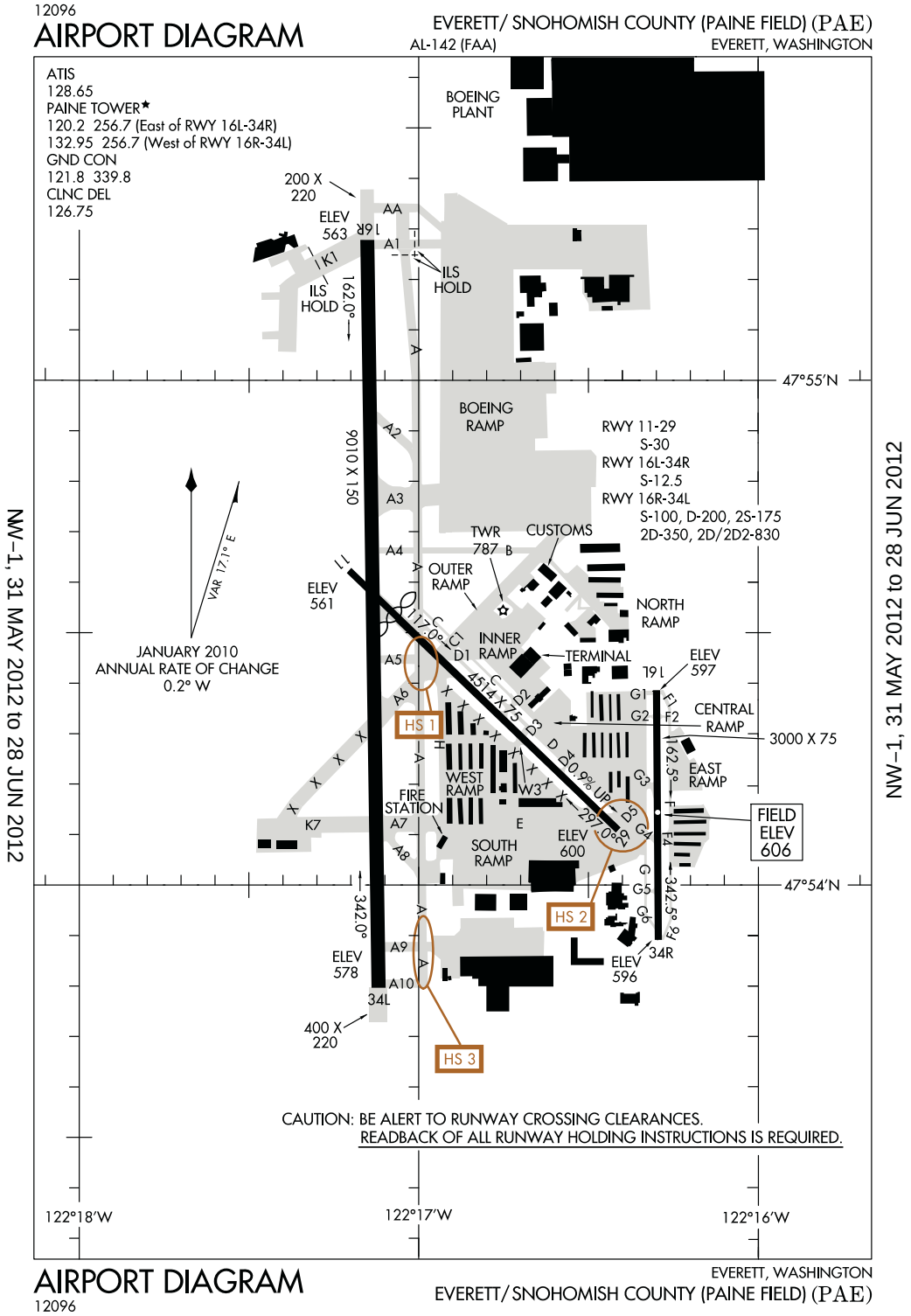
General Remarks:
APPROACH TO RUNWAY 28 SOMETIMES OBSCURED BY SMOKE FROM LANDFILL LOCATED E OF AIRPORT.

RUNWAY 10 AND 28 100’ X 200’ BLAST PAD.

BIRDS & WILDLIFE ON & IN THE VICINITY OF AIRPORT.

TAXI INTO POSITION AND HOLD PROCEDURES NO LONGER IN EFFECT.

Everett, Washington
Snohomish County (Paine Field)
ICAO Identifier KPAE



Everett, WA
Snohomish County (Paine Fld)
ICAO Identifier KPAE

AD 2.2 Aerodrome geographical and administrative data
2.2.1 Reference Point: 47–54–25.15N / 122–16–53.66W
2.2.2 From City: 6 Miles SW Of Everett, WA
2.2.3 Elevation: 606 ft
2.2.5 Magnetic variation: 20E (1990)
2.2.6 Airport Contact: David T Waggoner
3220 100TH ST SW
Everett, WA 98204
(425–388–5125)
2.2.7 Traffic: IFR/VFR

AD 2.3 Operational hours
2.3.1 – 2.3.11: MAY–OCT Months, ALL Days, 0700–2100 Hours

AD 2.4 Handling services and facilities
2.4.1 Cargo handling facilities: No
2.4.2 Fuel types: 100LL,A
2.4.4 De–icing facilities: None
2.4.5 Hangar space: Yes
2.4.6 Repair facilities: Major

AD 2.6 Rescue and firefighting services
2.6.1 Aerodrome category for firefighting: ARFF Index Iv A certified on 11/1/1974
2.6.4 Remarks: Airport Closed To Aircraft 0 Operations With More Than 30 Passenger Seats 2100–0700 Except Prior Permission Required Contact Airport Operations 425–388–5110/5480. For Addl ARFF Capability Contact Airport Operations 425–388–5110.

AD 2.10 Aerodrome obstacles
2.10.1.a. Runway designation: 11
2.10.1.b Type of obstacle: Trees (9 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 100 ft from Centerline

2.10.1.a. Runway designation: 29
2.10.1.b Type of obstacle: Trees (46 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 0 ft from Centerline

2.10.1.a. Runway designation: 16L
2.10.1.b Type of obstacle: Pole (9 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 100 ft from Centerline

2.10.1.a. Runway designation: 34R
2.10.1.b Type of obstacle: Pole (25 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 125 ft from Centerline

2.10.1.a. Runway designation: 34L
2.10.1.b Type of obstacle: Trees (125 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 930 ft from Centerline

AD 2.12 Runway physical characteristics
2.12.1 Designation: 11
2.12.2 True Bearing: 134
2.12.3 Dimensions: 4514 ft x 75 ft
2.12.5 Coordinates: 47–54–37.49N / 122–17–12.38W
2.12.6 Threshold elevation: 561 ft
2.12.6 Touchdown zone elevation: 603 ft

2.12.1 Designation: 29
2.12.2 True Bearing: 314
2.12.3 Dimensions: 4514 ft x 75 ft
2.12.5 Coordinates: 47–54–00.00N / 122–16–24.84W
2.12.6 Threshold elevation: 600 ft
2.12.6 Touchdown zone elevation: 603 ft

2.12.1 Designation: 16L
2.12.2 True Bearing: 180
2.12.3 Dimensions: 3000 ft x 75 ft
2.12.5 Coordinates: 47–54–23.12N / 122–16–18.12W
2.12.6 Threshold elevation: 597 ft
2.12.6 Touchdown zone elevation: 606 ft

2.12.1 Designation: 34R
2.12.2 True Bearing: 360
2.12.3 Dimensions: 3000 ft x 75 ft
2.12.5 Coordinates: 47–53–53.52N / 122–16–17.78W
2.12.6 Threshold elevation: 596 ft

2.12.6 Touchdown zone elevation: 606 ft

2.12.1 Designation: 16R
2.12.2 True Bearing: 179
2.12.3 Dimensions: 9010 ft x 150 ft
2.12.5 Coordinates: 47−55−16.80N / 122−17−00.00W
2.12.6 Threshold elevation: 563 ft
2.12.6 Touchdown zone elevation: 570 ft

2.12.1 Designation: 34L
2.12.2 True Bearing: 359
2.12.3 Dimensions: 9010 ft x 150 ft
2.12.5 Coordinates: 47−53−47.90N / 122−17−00.00W
2.12.6 Threshold elevation: 578 ft
2.12.6 Touchdown zone elevation: 584 ft

AD 2.14 Approach and runway lighting
2.14.1 Designation: 11
2.14.4 Visual approach slope indicator system: 2−box VASI on left

2.14.1 Designation: 29
2.14.4 Visual approach slope indicator system: 2−box VASI on right

2.14.1 Designation: 16L
2.14.4 Visual approach slope indicator system: 2−light PAPI on left

2.14.1 Designation: 34R
2.14.4 Visual approach slope indicator system: 2−light PAPI on right

2.14.1 Designation: 16R
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4−light PAPI on right

2.14.1 Designation: 34L
2.14.4 Visual approach slope indicator system: 4−light PAPI on left

AD 2.18 Air traffic services communication facilities
2.18.1 Service designation: LCL/P(ACFT ARR E OF CNTRLN OR DEP RY 16L/34R)
2.18.3 Service designation: 120.2 MHz

2.18.1 Service designation: LCL/P(ACFT ARR W OF CNTRLN OR DEP RY 16R/34L)
2.18.3 Service designation: 132.95 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 121.8 MHz

2.18.1 Service designation: CD/P
2.18.3 Service designation: 126.75 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 256.7 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 339.8 MHz

2.18.1 Service designation: AR−OPNS
2.18.3 Service designation: 34.1 MHz

2.18.1 Service designation: ATIS
2.18.3 Service designation: 128.65 MHz
2.18.4 Hours of operation: 24

AD 2.19 Radio navigation and landing aids
2.19.1 ILS type: Localizer for runway 16R. Magnetic variation: 20E
2.19.2 ILS identification: PAE
2.19.5 Coordinates: 47−53−33.98N / 122−17−00.00W
2.19.6 Site elevation: 565 ft

2.19.1 ILS type: Glide Slope for runway 16R. Magnetic variation: 20E
2.19.2 ILS identification: PAE
2.19.5 Coordinates: 47−55−00.00N / 122−17−13.66W
2.19.6 Site elevation: 562 ft

2.19.1 ILS type: Outer Marker for runway 16R. Magnetic variation: 20E
2.19.2 ILS identification: PAE
2.19.5 Coordinates: 48−03−10.00N / 122−17−19.50W
2.19.6 Site elevation: ft

2.19.1 ILS type: Middle Marker for runway 16R. Magnetic variation: 20E
2.19.2 ILS identification: PAE
2.19.5 Coordinates: 47−55−53.80N / 122−17−00.00W
2.19.6 Site elevation: ft

General Remarks:
RUNWAYS 11/29 & 16L/34R CLOSED BETWEEN 2100−0700; LARGE AIRCRAFT FLY W PATTERN OVER WATER; SMALL AIRCRAFT FLY E PATTERN OVER AIRPORT.

NOISE SENSITIVE AIRPORT; FOR NOISE ABATEMENT PROCEDURES & TRAFFIC PROCEDURES CALL AIRPORT OPERATIONS 425−388−5125.

IF ACCESS TO BOEING RAMP REQUIRE CONTACT BOEING FLIGHT DISPATCH (206) 655−3421 FOR APPROVAL DURING NORMAL DUTY HRS.

IT IS REQUESTED THAT PILOTS ADHERE TO THE FOLLOWING NOISE ABATEMENT PROCEDURES UNLESS OTHERWISE INSTRUCTED BY ATCT, ITINERANT ARRIVAL AND LOW APPROACH OF SMALL AIRCRAFT OVER 250 HORSEPOWER AUTHORIZED ON RUNWAYS 29, 16L AND 34R.

BE ALERT TO CONVERGE TRAFFIC ON BASE TO FINAL LEGS RUNWAYS 16R/34L 2100−0700.

AVOID OVERFLIGHT OF BOEING RAMP − NE CORNER OF AIRPORT DUE TO JET BLAST.

TRAINING FLIGHTS DISCOURAGED AFTER 2200. RUNWAY 16R−34L TOUCH AND GO LANDING PROHIBITED MON−FRI FORM 0700−0900.

TAXIWAY E LIGHTS OUT OF SERVICE INDEFINITELY.

AVOID INTERSECTION DEPS FROM RUNWAYS 16L/34R & 29. AVOID INTERSECTION DEPS FROM RUNWAY 11 EXCEPT FROM TAXIWAY DELTA 1 INTERSECTION.

FLOCKS OF LARGE & SMALL BIRDS IN THE VICINITY OF AIRPORT.

ITINERANT DEP OF SMALL AIRCRAFT OVER 250 HORSEPOWER ON RUNWAYS 11 AND 34R.

TAXIWAY A−2 RESTRICTED TO 30,000 LBS.

AREAS NOT VISIBLE FROM ATCT INCLUDE E EDGE OF S 1200 FT OF TAXIWAY A, TAXIWAY E FROM SE CORNER OF WEST HANGARS TO TAXIWAY A, MID SECTION OF OUTER TERMINAL RAMP, TAXIWAY H FROM NW EDGE OF WEST HANGARS TO TAXIWAY E, NE EDGE OF INNER TERMINAL RAMP.

RUNWAYS 16L/34R AND 11/29 LIMITED TO HELIPORT 8,000 LBS OR LESS.

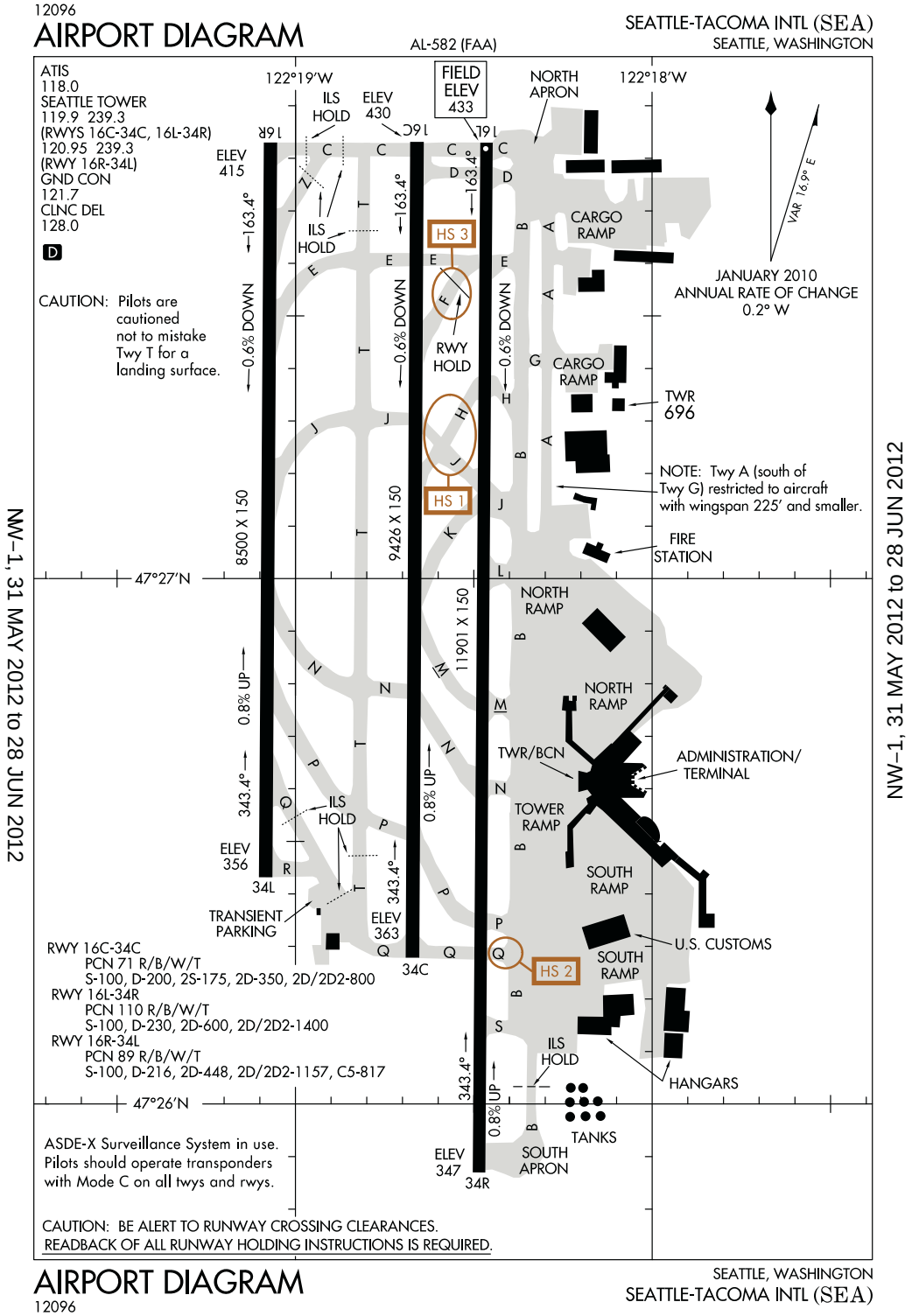
TAXIWAY C CLOSED BETWEEN TAXIWAY D1 AND TAXIWAY A.

TAXIWAY W CLOSED INDEFINITE.

TAXIWAY INTENSE D2, D3, AND D4 CLOSED INDEFINITELY.

FOR NOISE ABATEMENT FROM 0500−1500Z++ IF AIRCRAFT PERFORMANCE/WIND ALLOWS, USE RUNWAY 16R FOR ARRIVALS AND RUNWAY 34L FOR DEPARTURES.

Seattle, Washington
Seattle–Tacoma International
ICAO Identifier KSEA



Seattle, WA
Seattle–Tacoma Intl
ICAO Identifier KSEA

AD 2.2 Aerodrome geographical and administrative data
2.2.1 Reference Point: 47–26–59.60N / 122–18–42.40W
2.2.2 From City: 10 Miles S Of Seattle, WA
2.2.3 Elevation: 433 ft
2.2.5 Magnetic variation: 17E (2010)
2.2.6 Airport Contact: Mark Reis
BOX 68727
Seattle, WA 98168
(206–787–4682)
2.2.7 Traffic: IFR/VFR

AD 2.3 Operational hours
2.3.1 – 2.3.11: ALL Months, ALL Days, ALL Hours

AD 2.4 Handling services and facilities
2.4.1 Cargo handling facilities: No
2.4.2 Fuel types: 100LL,A,A1
2.4.4 De–icing facilities: None
2.4.5 Hangar space: No
2.4.6 Repair facilities: None

AD 2.6 Rescue and firefighting services
2.6.1 Aerodrome category for firefighting: ARFF Index I E certified on 5/1/1973

AD 2.10 Aerodrome obstacles
2.10.1.a. Runway designation: 34C
2.10.1.b Type of obstacle: Tree (131 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 700 ft from Centerline

AD 2.12 Runway physical characteristics
2.12.1 Designation: 16R
2.12.2 True Bearing: 180
2.12.3 Dimensions: 8500 ft x 150 ft
2.12.4 PCN: 89 R/B/W/T
2.12.5 Coordinates: 47–27–49.81N / 122–19–00.00W
2.12.6 Threshold elevation: 415 ft
2.12.6 Touchdown zone elevation: 415 ft
2.12.7 Slope: 0.6DOWN

2.12.1 Designation: 34L
2.12.2 True Bearing: 0
2.12.3 Dimensions: 8500 ft x 150 ft
2.12.4 PCN: 89 R/B/W/T
2.12.5 Coordinates: 47–26–25.92N / 122–19–00.00W
2.12.6 Threshold elevation: 356 ft
2.12.6 Touchdown zone elevation: 379 ft
2.12.7 Slope: 0.8UP

2.12.1 Designation: 16L
2.12.2 True Bearing: 180
2.12.3 Dimensions: 11901 ft x 150 ft
2.12.4 PCN: 110 R/B/W/T
2.12.5 Coordinates: 47–27–49.66N / 122–18–27.90W
2.12.6 Threshold elevation: 432 ft
2.12.6 Touchdown zone elevation: 432 ft
2.12.7 Slope: 0.6DOWN

2.12.1 Designation: 34R
2.12.2 True Bearing: 0
2.12.3 Dimensions: 11901 ft x 150 ft
2.12.4 PCN: 110 R/B/W/T
2.12.5 Coordinates: 47–25–52.22N / 122–18–28.94W
2.12.6 Threshold elevation: 347 ft
2.12.6 Touchdown zone elevation: 372 ft
2.12.7 Slope: 0.8UP

2.12.1 Designation: 16C
2.12.2 True Bearing: 180
2.12.3 Dimensions: 9426 ft x 150 ft
2.12.4 PCN: 71 R/B/W/T
2.12.5 Coordinates: 47–27–49.71N / 122–18–39.55W
2.12.6 Threshold elevation: 430 ft
2.12.6 Touchdown zone elevation: 430 ft
2.12.7 Slope: 0.6DOWN

2.12.1 Designation: 34C
2.12.2 True Bearing: 0
2.12.3 Dimensions: 9426 ft x 150 ft
2.12.4 PCN: 71 R/B/W/T
2.12.5 Coordinates: 47–26–16.69N / 122–18–40.36W
2.12.6 Threshold elevation: 363 ft
2.12.6 Touchdown zone elevation: 387 ft
2.12.7 Slope: 0.8UP

AD 2.13 Declared distances
2.13.1 Designation: 16R

2.13.2 Takeoff run available: 8500
2.13.3 Takeoff distance available: 8500
2.13.4 Accelerate–stop distance available: 8500
2.13.5 Landing distance available: 8500

2.13.1 Designation: 34L
2.13.2 Takeoff run available: 8500
2.13.3 Takeoff distance available: 8500
2.13.4 Accelerate–stop distance available: 8500
2.13.5 Landing distance available: 8500

2.13.1 Designation: 16L
2.13.2 Takeoff run available: 11901
2.13.3 Takeoff distance available: 11901
2.13.4 Accelerate–stop distance available: 11901
2.13.5 Landing distance available: 11901

2.13.1 Designation: 34R
2.13.2 Takeoff run available: 11901
2.13.3 Takeoff distance available: 11901
2.13.4 Accelerate–stop distance available: 11901
2.13.5 Landing distance available: 11901

2.13.1 Designation: 16C
2.13.2 Takeoff run available: 9426
2.13.3 Takeoff distance available: 9426
2.13.4 Accelerate–stop distance available: 9426
2.13.5 Landing distance available: 9426

2.13.1 Designation: 34C
2.13.2 Takeoff run available: 9426
2.13.3 Takeoff distance available: 9426
2.13.4 Accelerate–stop distance available: 9426
2.13.5 Landing distance available: 9426

AD 2.14 Approach and runway lighting
2.14.1 Designation: 16R
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration
2.14.4 Visual approach slope indicator system: 4–light PAPI on right

2.14.1 Designation: 34L
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 16L
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 34R
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 16C
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 34C
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

AD 2.18 Air traffic services communication facilities
2.18.1 Service designation: DEP/P
2.18.3 Service designation: 119.2 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 119.2 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 119.2 MHz

2.18.1 Service designation: APCH/P DEP/P
2.18.3 Service designation: 120.1 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 120.1 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 120.4 MHz

2.18.1 Service designation: APCH/P DEP/P
2.18.3 Service designation: 120.4 MHz

2.18.1 Service designation: EMERG

2.18.3 Service designation: 121.5 MHz

2.18.1 Service designation: APCH/S DEP/S
2.18.3 Service designation: 123.9 MHz

2.18.1 Service designation: APCH/P DEP/P
2.18.3 Service designation: 125.9 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 125.9 MHz

2.18.1 Service designation: APCH/P DEP/P
2.18.3 Service designation: 125.9 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 125.9 MHz

2.18.1 Service designation: GATE CTL
2.18.3 Service designation: 126.25 MHz

2.18.1 Service designation: APCH/P DEP/P
2.18.3 Service designation: 126.5 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 126.5 MHz

2.18.1 Service designation: EMERG
2.18.3 Service designation: 243 MHz

2.18.1 Service designation: DEP/P
2.18.3 Service designation: 284.7 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 284.7 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 284.7 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 290.9 MHz

2.18.1 Service designation: APCH/P DEP/P
2.18.3 Service designation: 290.9 MHz

2.18.1 Service designation: APCH/P DEP/P
2.18.3 Service designation: 290.9 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 290.9 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 290.9 MHz

2.18.1 Service designation: APCH/P DEP/P
2.18.3 Service designation: 290.9 MHz

2.18.1 Service designation: APCH/S DEP/S
2.18.3 Service designation: 338.2 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 269.125 MHz

2.18.1 Service designation: APCH/P DEP/P
2.18.3 Service designation: 269.125 MHz

2.18.1 Service designation: APCH/S DEP/S
2.18.3 Service designation: 269.125 MHz

2.18.1 Service designation: APCH/P DEP/P
2.18.3 Service designation: 125.6 MHz

2.18.1 Service designation: GND CON
2.18.3 Service designation: 121.7 MHz

2.18.1 Service designation: NORTH RAMP/CARGO
2.18.3 Service designation: 126.87 MHz

2.18.1 Service designation: SOUTH RAMP
2.18.3 Service designation: 122.27 MHz

2.18.1 Service designation: APCH/P
2.18.3 Service designation: 133.65 MHz

2.18.1 Service designation: APCH/P
2.18.3 Service designation: 273.45 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 120.95 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 119.9 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 239.3 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 239.3 MHz

2.18.1 Service designation: APCH/P DEP/P
2.18.3 Service designation: 377.15 MHz

2.18.1 Service designation: CLASS B
2.18.3 Service designation: 377.15 MHz

2.18.1 Service designation: CD/P
2.18.3 Service designation: 128 MHz

2.18.1 Service designation: D−ATIS
2.18.3 Service designation: 118 MHz
2.18.4 Hours of operation: 24

AD 2.19 Radio navigation and landing aids
2.19.1 ILS type: Inner Marker for runway 16R.
Magnetic variation: 17E
2.19.2 ILS identification: CJL
2.19.5 Coordinates: 47−27−58.22N /
122−19−00.00W
2.19.6 Site elevation: 379 ft

2.19.1 ILS type: Localizer for runway 16R.
Magnetic variation: 17E
2.19.2 ILS identification: CJL
2.19.5 Coordinates: 47−26−15.92N /
122−19−00.00W
2.19.6 Site elevation: 344 ft

2.19.1 ILS type: Glide Slope for runway 16R.
Magnetic variation: 17E
2.19.2 ILS identification: CJL
2.19.5 Coordinates: 47−27−38.46N /
122−19−00.00W
2.19.6 Site elevation: 406 ft

2.19.1 ILS type: DME for runway 16R. Magnetic variation: 17E
2.19.2 ILS identification: CJL
2.19.5 Coordinates: 47−26−15.62N /
122−18−59.94W
2.19.6 Site elevation: 364 ft

2.19.1 ILS type: Localizer for runway 34L.
Magnetic variation: 17E
2.19.2 ILS identification: BEJ
2.19.5 Coordinates: 47−27−59.78N /
122−19−00.00W
2.19.6 Site elevation: 371 ft

2.19.1 ILS type: Glide Slope for runway 34L.
Magnetic variation: 17E
2.19.2 ILS identification: BEJ
2.19.5 Coordinates: 47−26−34.93N /
122−18−59.99W
2.19.6 Site elevation: 359 ft

2.19.1 ILS type: DME for runway 34L. Magnetic variation: 17E
2.19.2 ILS identification: BEJ
2.19.5 Coordinates: 47−26−15.62N /
122−18−59.94W
2.19.6 Site elevation: 364 ft

2.19.1 ILS type: Localizer for runway 16L.
Magnetic variation: 17E
2.19.2 ILS identification: SNQ
2.19.5 Coordinates: 47−25−45.81N /
122−18−29.00W
2.19.6 Site elevation: 338 ft

2.19.1 ILS type: Glide Slope for runway 16L.
Magnetic variation: 17E
2.19.2 ILS identification: SNQ
2.19.5 Coordinates: 47−27−38.94N /
122−18−33.82W
2.19.6 Site elevation: 425 ft

2.19.1 ILS type: Middle Marker for runway 16L.
Magnetic variation: 17E
2.19.2 ILS identification: SNQ
2.19.5 Coordinates: 47−28−20.04N /
122−18−39.69W
2.19.6 Site elevation: ft

2.19.1 ILS type: Outer Marker for runway 16L.
Magnetic variation: 17E
2.19.2 ILS identification: SNQ
2.19.5 Coordinates: 47−31−56.60N /
122−18−25.00W
2.19.6 Site elevation: ft

2.19.1 ILS type: DME for runway 16L. Magnetic variation: 17E
2.19.2 ILS identification: SNQ
2.19.5 Coordinates: 47−26−00.00N /
122−18−22.68W
2.19.6 Site elevation: 369 ft

2.19.1 ILS type: DME for runway 34R. Magnetic variation: 17E
2.19.2 ILS identification: SEA
2.19.5 Coordinates: 47−26−00.00N /
122−18−22.68W
2.19.6 Site elevation: 369 ft

2.19.1 ILS type: Glide Slope for runway 34R.
Magnetic variation: 17E
2.19.2 ILS identification: SEA
2.19.5 Coordinates: 47−26−00.00N /
122−18−23.03W

2.19.6 Site elevation: 355 ft

2.19.1 ILS type: Middle Marker for runway 34R.
Magnetic variation: 17E
2.19.2 ILS identification: SEA
2.19.5 Coordinates: 47–25–18.10N /
122–18–29.30W
2.19.6 Site elevation: ft

2.19.1 ILS type: Localizer for runway 34R.
Magnetic variation: 17E
2.19.2 ILS identification: SEA
2.19.5 Coordinates: 47–27–54.27N /
122–18–27.86W
2.19.6 Site elevation: 428 ft

2.19.1 ILS type: Localizer for runway 16C.
Magnetic variation: 17E
2.19.2 ILS identification: SZI
2.19.5 Coordinates: 47–26–00.00N /
122–18–40.43W
2.19.6 Site elevation: 355 ft

2.19.1 ILS type: DME for runway 16C. Magnetic variation: 17E
2.19.2 ILS identification: SZI
2.19.5 Coordinates: 47–26–00.00N /
122–18–44.23W
2.19.6 Site elevation: 370 ft

2.19.1 ILS type: Glide Slope for runway 16C.
Magnetic variation: 17E
2.19.2 ILS identification: SZI
2.19.5 Coordinates: 47–27–38.69N /
122–18–45.46W
2.19.6 Site elevation: 418 ft

2.19.1 ILS type: Outer Marker for runway 16C.
Magnetic variation: 17E
2.19.2 ILS identification: SZI
2.19.5 Coordinates: 47–31–56.59N /
122–18–25.04W
2.19.6 Site elevation: ft

2.19.1 ILS type: Inner Marker for runway 16C.
Magnetic variation: 17E
2.19.2 ILS identification: SZI
2.19.5 Coordinates: 47–27–58.58N /
122–18–39.29W
2.19.6 Site elevation: ft

2.19.1 ILS type: Middle Marker for runway 16C.
Magnetic variation: 17E
2.19.2 ILS identification: SZI
2.19.5 Coordinates: 47–28–20.04N /
122–18–39.69W
2.19.6 Site elevation: ft

2.19.1 ILS type: Localizer for runway 34C.
Magnetic variation: 17E
2.19.2 ILS identification: TUC
2.19.5 Coordinates: 47–27–54.35N /
122–18–39.51W
2.19.6 Site elevation: 422 ft

2.19.1 ILS type: DME for runway 34C. Magnetic variation: 17E
2.19.2 ILS identification: TUC
2.19.5 Coordinates: 47–26–00.00N /
122–18–44.23W
2.19.6 Site elevation: 370 ft

2.19.1 ILS type: Glide Slope for runway 34C.
Magnetic variation: 17E
2.19.2 ILS identification: TUC
2.19.5 Coordinates: 47–26–25.60N /
122–18–46.17W
2.19.6 Site elevation: 367 ft

2.19.1 ILS type: Middle Marker for runway 34C.
Magnetic variation: 17E
2.19.2 ILS identification: TUC
2.19.5 Coordinates: 47–25–49.76N /
122–18–42.14W
2.19.6 Site elevation: 289 ft

General Remarks:
BIRD FLOCKS WITHIN AIRPORT VICINITY – CHECK LOCAL ADVISORYS.

FLIGHT NOTIFICATION SERVICE (ADCUS) AVAILABLE.

BETWEEN THE HRS OF 2200–0700 THE USE OF EXTENDED REVERSE THRUST IS DISCOURAGED BEYOND WHAT IS NECCESSARY FOR OPERATIONAL OR SAFETY REASONS. NOISE ABATEMENT PROCEDURES IN EFFECT BETWEEN 2200–0600. FOR FURTHER INFORMATION CONTACT SEA NOISE ABATEMENT OFFICE AT 206–787–7496.

HELICOPTERS LANDING & DEPARTING AVOID OVERFLYING FUEL FARM LOCATED AT THE SE CORNER OF THE AIRPORT.

(E110) CONTINUOUS POWER AIRPORT.

(E94) WSO/WSFO.

TAXIWAY A SOUTH OF TAXIWAY G RESTRICTED TO AIRCRAFT WITH WINGSPAN 225 FT AND SMALLER.

DO NOT MISTAKE TAXIWAY T FOR LANDING SURFACE.

ACCESS TO AIR CARGO 4 PARKING AND CARGO AREAS RESTRICTED TO AIRCRAFT WITH WINGSPANS OF 118 FT OR LESS.

TAXIWAY FOR CORPORATE HANGAR RAMP LIMITED TO AIRCRAFT WITH 104 FT OR LESS WINGSPAN FOR TAXI OPERATIONS. GA CUSTOMS PARKING IS VERY LIMITED.

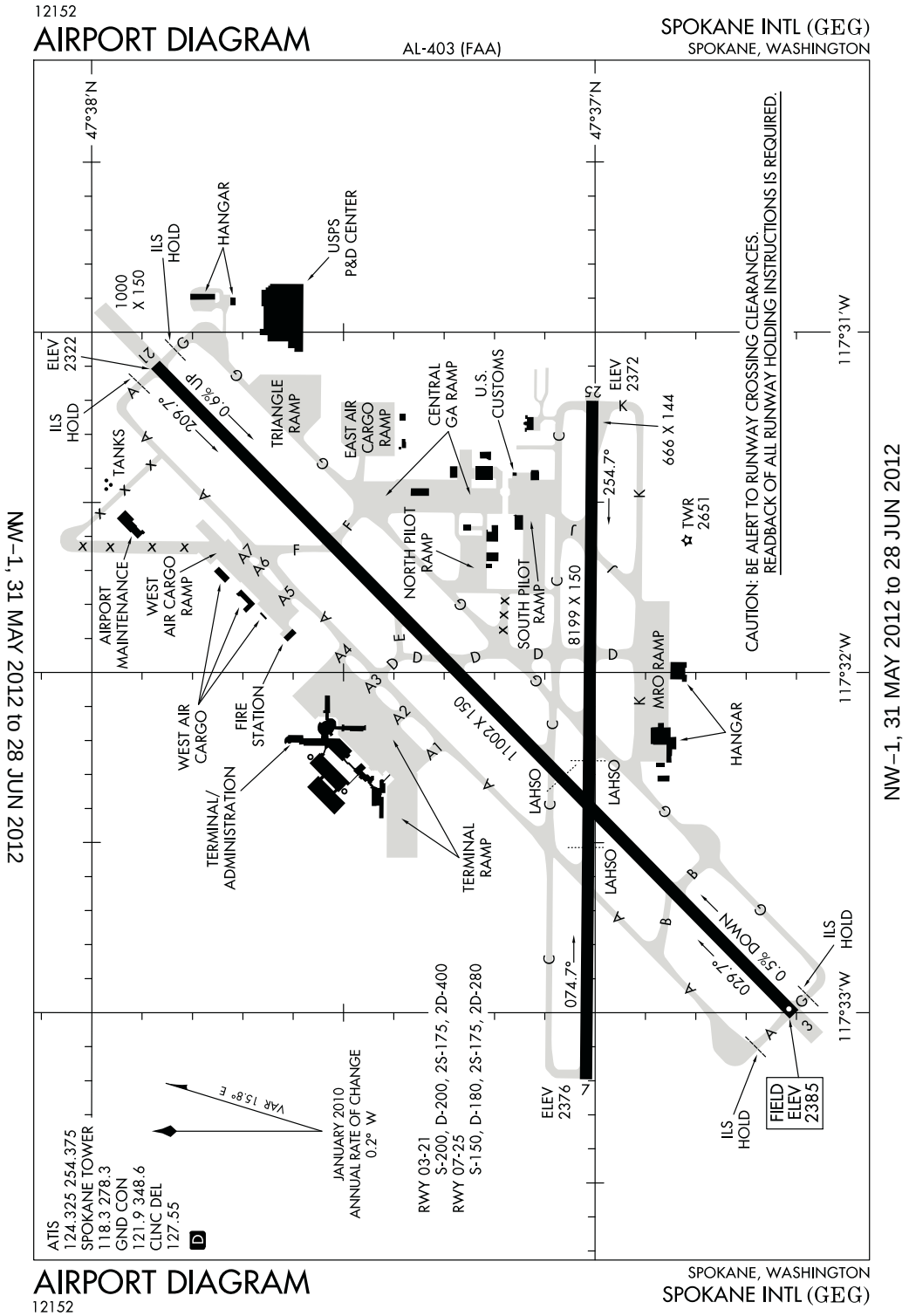
ASDE−X SURVEILLANCE SYSTEM IN USE: PILOTS SHOULD OPERATE TRANSPONDERS WITH MODE C ON ALL TAXIWAYS AND RUNWAYS.

PRIOR PERMISSION REQUIRED FOR ALL GENERAL AVIATION PARKING AND SERVICES, CONTACT 206−433−5481.

TAXILANE W RESTRICTED TO WINGSPAN OF 135 FT OR LESS. SEATTLE RAMP TOWER PROVIDES ADVISORY CONTROL ONLY.

TAXIWAY J BETWEEN RUNWAY 16C/34C AND TAXIWAY H RESTRICTED TO AIRCRAFT WITH WINGSPAN 213 FT AND SMALLER.

Spokane, Washington
Spokane International
ICAO Identifier KGEG



Spokane, WA
Spokane Intl
ICAO Identifier KGEG

AD 2.2 Aerodrome geographical and administrative data
2.2.1 Reference Point: 47−37−00.00N / 117−32−00.00W
2.2.2 From City: 5 Miles SW Of Spokane, WA
2.2.3 Elevation: 2385 ft
2.2.5 Magnetic variation: 18E (2000)
2.2.6 Airport Contact: Lawrence J Krauter
9000 W AIRPORT DR.
Spokane, WA 99224
(509−455−6419)
2.2.7 Traffic: IFR/VFR

AD 2.3 Operational hours
2.3.1 − 2.3.11: ALL Months, ALL Days, 0600−2200 Hours

AD 2.4 Handling services and facilities
2.4.1 Cargo handling facilities: No
2.4.2 Fuel types: 100,100LL,A
2.4.4 De−icing facilities: None
2.4.5 Hangar space: Yes
2.4.6 Repair facilities: Major

AD 2.6 Rescue and firefighting services
2.6.1 Aerodrome category for firefighting: ARFF Index I B certified on 5/1/1973

AD 2.10 Aerodrome obstacles
2.10.1.a. Runway designation: 25
2.10.1.b Type of obstacle: Tree (69 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 365 ft from Centerline

2.10.1.a. Runway designation: 21
2.10.1.b Type of obstacle: Gnd (9 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 500 ft from Centerline

AD 2.12 Runway physical characteristics
2.12.1 Designation: 07
2.12.2 True Bearing: 90
2.12.3 Dimensions: 8199 ft x 150 ft
2.12.5 Coordinates: 47−37−00.00N / 117−33−11.76W
2.12.6 Threshold elevation: 2376 ft
2.12.6 Touchdown zone elevation: 2376 ft

2.12.1 Designation: 25
2.12.2 True Bearing: 270
2.12.3 Dimensions: 8199 ft x 150 ft
2.12.5 Coordinates: 47−37−00.00N / 117−31−12.10W
2.12.6 Threshold elevation: 2372 ft
2.12.6 Touchdown zone elevation: 2373 ft

2.12.1 Designation: 03
2.12.2 True Bearing: 45
2.12.3 Dimensions: 11002 ft x 150 ft
2.12.5 Coordinates: 47−36−36.29N / 117−33−00.00W
2.12.6 Threshold elevation: 2385 ft
2.12.6 Touchdown zone elevation: 2385 ft
2.12.7 Slope: 0.5DOWN

2.12.1 Designation: 21
2.12.2 True Bearing: 225
2.12.3 Dimensions: 11002 ft x 150 ft
2.12.5 Coordinates: 47−37−52.38N / 117−31−00.00W
2.12.6 Threshold elevation: 2322 ft
2.12.6 Touchdown zone elevation: 2346 ft
2.12.7 Slope: 0.6UP

AD 2.13 Declared distances
2.13.1 Designation: 07
2.13.2 Takeoff run available: 8199
2.13.3 Takeoff distance available: 8199
2.13.4 Accelerate−stop distance available: 8199
2.13.5 Landing distance available: 8199

2.13.1 Designation: 25
2.13.2 Takeoff run available: 8199
2.13.3 Takeoff distance available: 8199
2.13.4 Accelerate−stop distance available: 8199
2.13.5 Landing distance available: 8199

2.13.1 Designation: 03
2.13.2 Takeoff run available: 11002
2.13.3 Takeoff distance available: 11002
2.13.4 Accelerate−stop distance available: 11002
2.13.5 Landing distance available: 11002

2.13.1 Designation: 21
2.13.2 Takeoff run available: 11002

2.13.3 Takeoff distance available: 11002
2.13.4 Accelerate−stop distance available: 11002
2.13.5 Landing distance available: 11002

AD 2.14 Approach and runway lighting
2.14.1 Designation: 07
2.14.4 Visual approach slope indicator system: 4−box VASI on left

2.14.1 Designation: 25
2.14.4 Visual approach slope indicator system: 4−light PAPI on left

2.14.1 Designation: 03
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration
2.14.4 Visual approach slope indicator system: 4−light PAPI on left

2.14.1 Designation: 21
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration
2.14.4 Visual approach slope indicator system: 4−light PAPI on left
2.14.10 Remarks: ALSF 2 May Be Operated As SSALR During Favorable Wx Conditions.

AD 2.18 Air traffic services communication facilities
2.18.1 Service designation: LCL/P
2.18.3 Service designation: 118.3 MHz

2.18.1 Service designation: EMERG
2.18.3 Service designation: 121.5 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 121.9 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS C IC
2.18.3 Service designation: 123.75 MHz

2.18.1 Service designation: ATIS
2.18.3 Service designation: 124.325 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: CD/P
2.18.3 Service designation: 127.55 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS C IC
2.18.3 Service designation: 133.35 MHz

2.18.1 Service designation: EMERG
2.18.3 Service designation: 243 MHz

2.18.1 Service designation: ATIS
2.18.3 Service designation: 254.375 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: APCH/P DEP/P CLASS C IC
2.18.3 Service designation: 263 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS C IC
2.18.3 Service designation: 282.25 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 348.6 MHz

2.18.1 Service designation: APCH/S DEP/S
2.18.3 Service designation: 372.9 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 278.3 MHz

AD 2.19 Radio navigation and landing aids
2.19.1 ILS type: DME for runway 03. Magnetic variation: 16E
2.19.2 ILS identification: OLJ
2.19.5 Coordinates: 47−36−32.05N / 117−33−15.10W
2.19.6 Site elevation: 2380 ft

2.19.1 ILS type: Inner Marker for runway 03. Magnetic variation: 16E
2.19.2 ILS identification: OLJ
2.19.5 Coordinates: 47−36−30.06N / 117−33−00.00W
2.19.6 Site elevation: 2381 ft

2.19.1 ILS type: Localizer for runway 03. Magnetic variation: 16E
2.19.2 ILS identification: OLJ
2.19.5 Coordinates: 47−37−59.69N / 117−30−54.76W
2.19.6 Site elevation: 2316 ft

2.19.1 ILS type: Middle Marker for runway 03. Magnetic variation: 16E
2.19.2 ILS identification: OLJ

2.19.5 Coordinates: 47–36–29.40N / 117–33–10.64W
2.19.6 Site elevation: 2378 ft

2.19.1 ILS type: Glide Slope for runway 03. Magnetic variation: 16E
2.19.2 ILS identification: OLJ
2.19.5 Coordinates: 47–36–47.56N / 117–32–51.88W
2.19.6 Site elevation: 2372 ft

2.19.1 ILS type: Localizer for runway 21. Magnetic variation: 16E
2.19.2 ILS identification: GEG
2.19.5 Coordinates: 47–36–29.20N / 117–33–10.95W
2.19.6 Site elevation: 2380 ft

2.19.1 ILS type: Glide Slope for runway 21. Magnetic variation: 16E
2.19.2 ILS identification: GEG
2.19.5 Coordinates: 47–37–48.97N / 117–31–19.44W
2.19.6 Site elevation: 2324 ft

2.19.1 ILS type: Inner Marker for runway 21. Magnetic variation: 16E
2.19.2 ILS identification: GEG
2.19.5 Coordinates: 47–38–00.00N / 117–30–49.60W
2.19.6 Site elevation: 96 ft

2.19.1 ILS type: DME for runway 21. Magnetic variation: 16E
2.19.2 ILS identification: GEG
2.19.5 Coordinates: 47–36–32.05N / 117–33–15.10W
2.19.6 Site elevation: 2380 ft

2.19.1 ILS type: Outer Marker for runway 21. Magnetic variation: 16E
2.19.2 ILS identification: GEG
2.19.5 Coordinates: 47–40–37.34N / 117–27–00.00W
2.19.6 Site elevation: ft

2.19.1 ILS type: Middle Marker for runway 21. Magnetic variation: 16E
2.19.2 ILS identification: GEG
2.19.5 Coordinates: 47–38–16.92N / 117–30–28.82W
2.19.6 Site elevation: 2233 ft

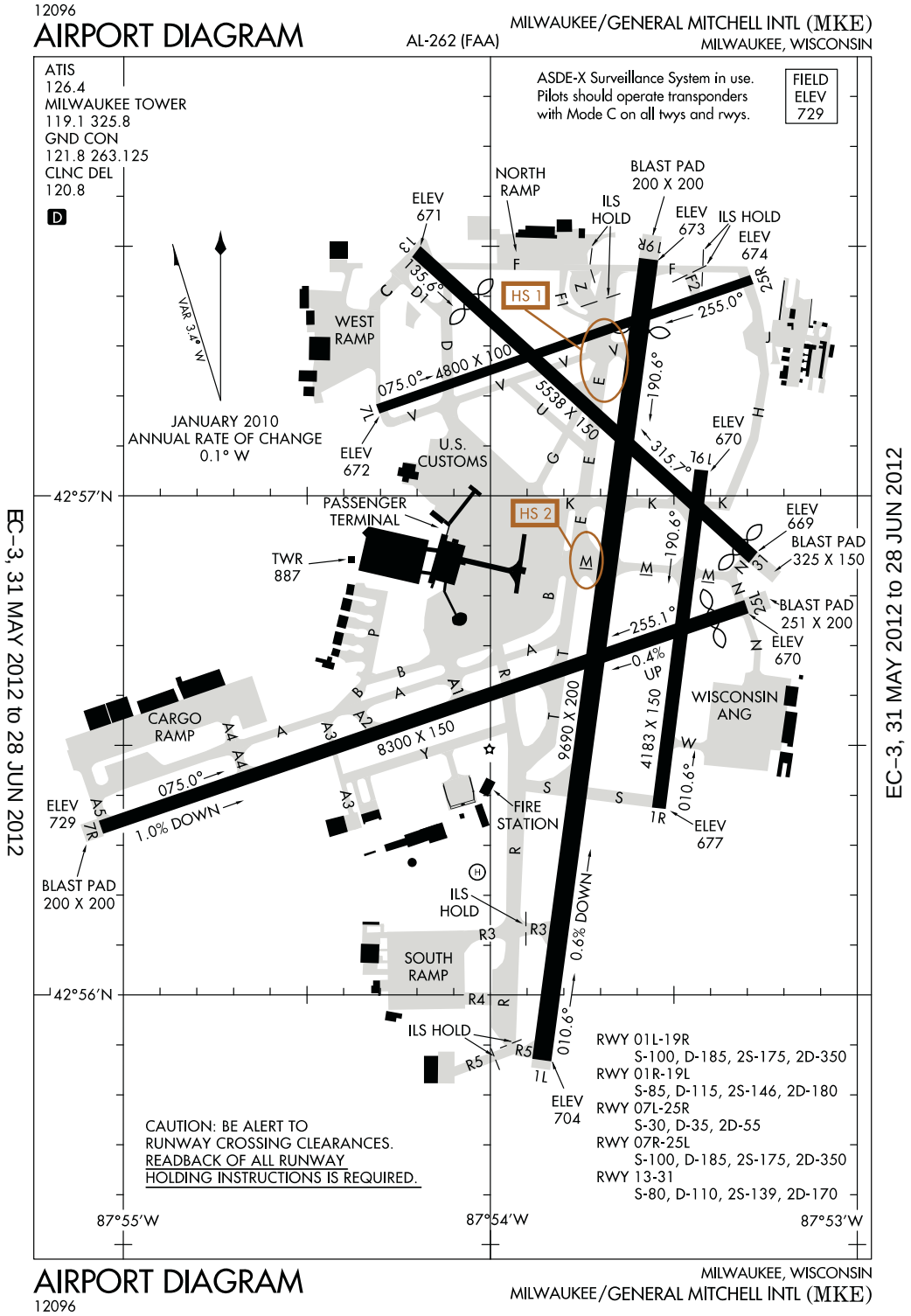
General Remarks:
BE ALERT TO TURBULENCE OVER SMOKE STACKS 1 MILE EAST OF AIRPORT.

WATERFOWL & BIRDS ON & IN THE VICINITY OF AIRPORT.

TAXIWAY K UNLIGHTED ON RAMP SIDE ALONG MAINTENANCE RAMP AND IS UNAVAILABLE BELOW 1200 RUNWAY VISUAL RANGE UNLESS UNDER ESCORT BY ”FOLLOW ME”.

PORTIONS OF TAXIWAY K NOT VISIBLE FROM ATCT.

Milwaukee, Wisconsin
General Mitchell International
ICAO Identifier KMKE



Milwaukee, WI
General Mitchell Intl
ICAO Identifier KMKE

AD 2.2 Aerodrome geographical and administrative data
2.2.1 Reference Point: 42−56−49.49N / 87−53−49.43W
2.2.2 From City: 5 Miles S Of Milwaukee, WI
2.2.3 Elevation: 729 ft
2.2.5 Magnetic variation: 2W (1995)
2.2.6 Airport Contact: C.B. Bateman
5300 S HOWELL AVE
Milwaukee, WI 53207
(414−747−5300)
2.2.7 Traffic: IFR/VFR

AD 2.3 Operational hours
2.3.1 – 2.3.11: ALL Months, ALL Days, ALL Hours

AD 2.4 Handling services and facilities
2.4.1 Cargo handling facilities: No
2.4.2 Fuel types: 100LL,A
2.4.4 De−icing facilities: None
2.4.5 Hangar space: Yes
2.4.6 Repair facilities: Major

AD 2.6 Rescue and firefighting services
2.6.1 Aerodrome category for firefighting: ARFF Index I C certified on 5/1/1973
2.6.4 Remarks: ARFF Index D Equip Available Upon Request.

AD 2.10 Aerodrome obstacles
2.10.1.a. Runway designation: 13
2.10.1.b Type of obstacle: Pole (33 ft). Lighted
2.10.1.c Location of obstacle: 69 ft from Centerline

2.10.1.a. Runway designation: 31
2.10.1.b Type of obstacle: Rr (42 ft). Lighted
2.10.1.c Location of obstacle: 295 ft from Centerline

2.10.1.a. Runway designation: 07R
2.10.1.b Type of obstacle: Tree (80 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 305 ft from Centerline

2.10.1.a. Runway designation: 25L
2.10.1.b Type of obstacle: Pole (41 ft). Lighted
2.10.1.c Location of obstacle: 464 ft from Centerline

2.10.1.a. Runway designation: 07L
2.10.1.b Type of obstacle: Tree (44 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 187 ft from Centerline

2.10.1.a. Runway designation: 25R
2.10.1.b Type of obstacle: Pole (77 ft). Lighted
2.10.1.c Location of obstacle: 195 ft from Centerline

2.10.1.a. Runway designation: 19L
2.10.1.b Type of obstacle: Tree (125 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 463 ft from Centerline

2.10.1.a. Runway designation: 01L
2.10.1.b Type of obstacle: Tree (82 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 985 ft from Centerline

2.10.1.a. Runway designation: 19R
2.10.1.b Type of obstacle: Fence (6 ft). Not Lighted or Marked
2.10.1.c Location of obstacle: 404 ft from Centerline

AD 2.12 Runway physical characteristics
2.12.1 Designation: 13
2.12.2 True Bearing: 132
2.12.3 Dimensions: 5538 ft x 150 ft
2.12.5 Coordinates: 42−57−29.28N / 87−54−12.33W
2.12.6 Threshold elevation: 671 ft
2.12.6 Touchdown zone elevation: 670 ft

2.12.1 Designation: 31
2.12.2 True Bearing: 312
2.12.3 Dimensions: 5538 ft x 150 ft
2.12.5 Coordinates: 42−56−52.50N / 87−53−17.21W
2.12.6 Threshold elevation: 669 ft
2.12.6 Touchdown zone elevation: 670 ft

2.12.1 Designation: 07R
2.12.2 True Bearing: 72

2.12.3 Dimensions: 8300 ft x 150 ft
2.12.5 Coordinates: 42–56–20.66N / 87–55–00.00W
2.12.6 Threshold elevation: 729 ft
2.12.6 Touchdown zone elevation: 729 ft
2.12.7 Slope: 1DOWN

2.12.1 Designation: 25L
2.12.2 True Bearing: 252
2.12.3 Dimensions: 8300 ft x 150 ft
2.12.5 Coordinates: 42–56–46.46N / 87–53–18.02W
2.12.6 Threshold elevation: 670 ft
2.12.6 Touchdown zone elevation: 683 ft
2.12.7 Slope: 0.4UP

2.12.1 Designation: 07L
2.12.2 True Bearing: 72
2.12.3 Dimensions: 4800 ft x 100 ft
2.12.5 Coordinates: 42–57–00.00N / 87–54–19.15W
2.12.6 Threshold elevation: 672 ft
2.12.6 Touchdown zone elevation: 672 ft

2.12.1 Designation: 25R
2.12.2 True Bearing: 252
2.12.3 Dimensions: 4800 ft x 100 ft
2.12.5 Coordinates: 42–57–24.81N / 87–53–17.88W
2.12.6 Threshold elevation: 674 ft
2.12.6 Touchdown zone elevation: 674 ft

2.12.1 Designation: 01R
2.12.2 True Bearing: 7
2.12.3 Dimensions: 4183 ft x 150 ft
2.12.5 Coordinates: 42–56–21.76N / 87–53–32.51W
2.12.6 Threshold elevation: 677 ft
2.12.6 Touchdown zone elevation: 677 ft

2.12.1 Designation: 19L
2.12.2 True Bearing: 187
2.12.3 Dimensions: 4183 ft x 150 ft
2.12.5 Coordinates: 42–57–00.00N / 87–53–25.49W
2.12.6 Threshold elevation: 670 ft
2.12.6 Touchdown zone elevation: 674 ft

2.12.1 Designation: 01L
2.12.2 True Bearing: 7
2.12.3 Dimensions: 9690 ft x 200 ft
2.12.5 Coordinates: 42–55–52.73N / 87–53–51.02W
2.12.6 Threshold elevation: 704 ft
2.12.6 Touchdown zone elevation: 704 ft

2.12.1 Designation: 19R
2.12.2 True Bearing: 187
2.12.3 Dimensions: 9690 ft x 200 ft
2.12.5 Coordinates: 42–57–27.70N / 87–53–34.78W
2.12.6 Threshold elevation: 673 ft
2.12.6 Touchdown zone elevation: 672 ft

AD 2.13 Declared distances
2.13.1 Designation: 13
2.13.2 Takeoff run available: 5538
2.13.3 Takeoff distance available: 5538
2.13.4 Accelerate–stop distance available: 5538
2.13.5 Landing distance available: 4797

2.13.1 Designation: 31
2.13.2 Takeoff run available: 5538
2.13.3 Takeoff distance available: 5538
2.13.4 Accelerate–stop distance available: 5538
2.13.5 Landing distance available: 5334

2.13.1 Designation: 07R
2.13.2 Takeoff run available: 8300
2.13.3 Takeoff distance available: 8300
2.13.4 Accelerate–stop distance available: 8012
2.13.5 Landing distance available: 8012

2.13.1 Designation: 25L
2.13.2 Takeoff run available: 8300
2.13.3 Takeoff distance available: 8300
2.13.4 Accelerate–stop distance available: 8300
2.13.5 Landing distance available: 7868

2.13.1 Designation: 19R
2.13.2 Takeoff run available: 9690
2.13.3 Takeoff distance available: 9690
2.13.4 Accelerate–stop distance available: 9690
2.13.5 Landing distance available: 8905

AD 2.14 Approach and runway lighting
2.14.1 Designation: 13
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 31
2.14.4 Visual approach slope indicator system: 4–light PAPI on right

2.14.1 Designation: 07R

2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 25L
2.14.4 Visual approach slope indicator system: 4–light PAPI on left

2.14.1 Designation: 07L
2.14.4 Visual approach slope indicator system: 4–box VASI on left

2.14.1 Designation: 25R
2.14.4 Visual approach slope indicator system: 4–light PAPI on right

2.14.1 Designation: 01L
2.14.2 Approach lighting system: ALSF2: Standard 2400 feet high intensity approach lighting system with sequenced flashers, category II or III configuration
2.14.4 Visual approach slope indicator system: 4–light PAPI on right

2.14.1 Designation: 19R
2.14.2 Approach lighting system: MALSR: 1400 feet medium intensity approach lighting system with runway alignment indicator lights
2.14.4 Visual approach slope indicator system: 4–light PAPI on right

AD 2.18 Air traffic services communication facilities
2.18.1 Service designation: APCH/P CLASS C
2.18.3 Service designation: 118 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 119.1 MHz

2.18.1 Service designation: DEP/P
2.18.3 Service designation: 119.65 MHz

2.18.1 Service designation: CD/P
2.18.3 Service designation: 120.8 MHz

2.18.1 Service designation: EMERG
2.18.3 Service designation: 121.5 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 121.8 MHz

2.18.1 Service designation: DEP/P
2.18.3 Service designation: 125.35 MHz

2.18.1 Service designation: D–ATIS
2.18.3 Service designation: 126.4 MHz
2.18.4 Hours of operation: 24

2.18.1 Service designation: APCH/P CLASS C IC
2.18.3 Service designation: 126.5 MHz

2.18.1 Service designation: AS ASSIGNED
2.18.3 Service designation: 127.85 MHz

2.18.1 Service designation: OPNS
2.18.3 Service designation: 139.5 MHz

2.18.1 Service designation: EMERG
2.18.3 Service designation: 243 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS C IC
2.18.3 Service designation: 307 MHz

2.18.1 Service designation: LCL/P
2.18.3 Service designation: 325.8 MHz

2.18.1 Service designation: GND/P
2.18.3 Service designation: 263.125 MHz

2.18.1 Service designation: APCH/P DEP/P CLASS C
2.18.3 Service designation: 317.725 MHz

2.18.1 Service designation: OPNS
2.18.3 Service designation: 311 MHz

2.18.1 Service designation: 128ARW (ANG) CMD POST
2.18.3 Service designation: 321 MHz

2.18.1 Service designation: UPSET CTL
2.18.3 Service designation: 6761 MHz

2.18.1 Service designation: APCH/P DEP/P
2.18.3 Service designation: 127 MHz

2.18.1 Service designation: APCH/P DEP/P
2.18.3 Service designation: 263.075 MHz

AD 2.19 Radio navigation and landing aids
2.19.1 ILS type: DME for runway 07R. Magnetic variation: 2W
2.19.2 ILS identification: GMF

2.19.5 Coordinates: 42–56–18.49N / 87–55–23.67W
2.19.6 Site elevation: 730 ft

2.19.1 ILS type: Glide Slope for runway 07R. Magnetic variation: 2W
2.19.2 ILS identification: GMF
2.19.5 Coordinates: 42–56–20.48N / 87–54–47.14W
2.19.6 Site elevation: 707 ft

2.19.1 ILS type: Outer Marker for runway 07R. Magnetic variation: 2W
2.19.2 ILS identification: GMF
2.19.5 Coordinates: 42–54–32.56N / 88–02–27.51W
2.19.6 Site elevation: ft

2.19.1 ILS type: Middle Marker for runway 07R. Magnetic variation: 2W
2.19.2 ILS identification: GMF
2.19.5 Coordinates: 42–56–12.13N / 87–55–35.49W
2.19.6 Site elevation: 744 ft

2.19.1 ILS type: Localizer for runway 07R. Magnetic variation: 2W
2.19.2 ILS identification: GMF
2.19.5 Coordinates: 42–56–48.89N / 87–53–00.00W
2.19.6 Site elevation: 668 ft

2.19.1 ILS type: DME for runway 25L. Magnetic variation: 2W
2.19.2 ILS identification: PXY
2.19.5 Coordinates: 42–56–18.49N / 87–55–23.67W
2.19.6 Site elevation: 720 ft

2.19.1 ILS type: Localizer for runway 25L. Magnetic variation: 2W
2.19.2 ILS identification: PXY
2.19.5 Coordinates: 42–56–16.06N / 87–55–22.76W
2.19.6 Site elevation: 729 ft

2.19.1 ILS type: Localizer for runway 01L. Magnetic variation: 4W
2.19.2 ILS identification: MKE
2.19.5 Coordinates: 42–57–49.95N / 87–53–30.97W
2.19.6 Site elevation: 713 ft

2.19.1 ILS type: Glide Slope for runway 01L. Magnetic variation: 4W
2.19.2 ILS identification: MKE
2.19.5 Coordinates: 42–56–00.00N / 87–53–43.04W
2.19.6 Site elevation: 691 ft

2.19.1 ILS type: Outer Marker for runway 01L. Magnetic variation: 4W
2.19.2 ILS identification: MKE
2.19.5 Coordinates: 42–50–22.60N / 87–54–46.83W
2.19.6 Site elevation: 678 ft

2.19.1 ILS type: Inner Marker for runway 01L. Magnetic variation: 4W
2.19.2 ILS identification: MKE
2.19.5 Coordinates: 42–55–44.65N / 87–53–52.40W
2.19.6 Site elevation: ft

2.19.1 ILS type: Middle Marker for runway 01L. Magnetic variation: 4W
2.19.2 ILS identification: MKE
2.19.5 Coordinates: 42–55–26.50N / 87–53–55.50W
2.19.6 Site elevation: 701 ft

2.19.1 ILS type: DME for runway 01L. Magnetic variation: 4W
2.19.2 ILS identification: MKE
2.19.5 Coordinates: 42–57–50.93N / 87–53–27.40W
2.19.6 Site elevation: 714 ft

2.19.1 ILS type: Localizer for runway 19R. Magnetic variation: 2W
2.19.2 ILS identification: BLY
2.19.5 Coordinates: 42–55–38.30N / 87–53–53.48W
2.19.6 Site elevation: 710 ft

2.19.1 ILS type: Glide Slope for runway 19R. Magnetic variation: 2W
2.19.2 ILS identification: BLY
2.19.5 Coordinates: 42–57–00.00N / 87–53–32.52W
2.19.6 Site elevation: 666 ft

2.19.1 ILS type: Middle Marker for runway 19R. Magnetic variation: 2W
2.19.2 ILS identification: BLY

2.19.5 Coordinates: 42−57−46.59N / 87−53−31.53W
2.19.6 Site elevation: ft

2.19.1 ILS type: Outer Marker for runway 19R.
Magnetic variation: 2W
2.19.2 ILS identification: BLY
2.19.5 Coordinates: 43−03−36.06N / 87−52−36.26W
2.19.6 Site elevation: ft

General Remarks:
RUNWAY 07L/25R CLOSED TO ALL JET AIRCRAFT.

TAXIWAY 'A' CLOSED FROM TAXIWAY 'R' TO 'E' & TAXIWAY 'E' CLOSED FROM TAXIWAY 'T' TO 'M' AND TAXIWAY 'T' CLOSED NORTH RUNWAY 07R/25L AIRCRAFT WITH TAIL HEIGHT GREATER THAN 54.5 FT DURING CAT II & III OPERATIONS.

RUNWAY 13/31 CLOSED JET AIRCRAFT WITHOUT PRIOR PERMISSION REQUIRED AIRPORT MANAGER − CALL 414−747−5325.

TRAINING FLIGHTS INVOLVING SUCCESSIVE USE OF ANY RUNWAY PROHIBITED 2200−0600.

RUNWAYS 13/31 & 01R/19L & 07L/25R CLOSED EXCEPT LIGHT WEIGHT SINGLE ENGINE AIRCRAFT 2200−0600 DAILY.

BIRDS ON & IN THE VICINITY OF AIRPORT.

PREFERRED USAGE BY AIRCRAFT BETWEEN 2200−0600 IS TAKE−OFF RUNWAY 19R & LANDING RUNWAY 01L.

ALL APPROACHES ARE OVER NOISE SENSITIVE AREAS; ALL TURBOJET AIRCRAFT SHOULD REFRAIN FROM CONDUCTING MULTI VFR TRAFFIC PATTERN APPROACHES & DEPS WITHOUT PRIOR APPROVAL FROM AIRPORT MANAGER CALL C414−747−5325.

ANG: PRIOR PERMISSION REQUIRED ALL AIRCRAFT, 48HR PRIOR NOTICE, CONTACT AIRFIELD OPERATIONS DSN 580−8241, C414−944−8241. 128 ARW IS A FULLY OPERATIONAL KC−135R BASE WITH HRS OF OPERATION MON−FRI 1200Z−1930Z++ TUE−FRI, CLOSED HOLIDAY, SAT−SUN EXCEPT UNIT TMG, CALL FOR AVAILABLE.

ANG: ANY MDS'S (OTHER THAN KC−135) IS LIMITED TO STANDARD TRANSIENT MARSHALLING AND PARKING. NO TECHNICAL DATA AVAILABLE FOR TRANSIENT MAINTENANCE. FUEL AND AGE EQUIPMENT SUPPORT AVAILABLE FOR SELF−SERVICE. THERE ARE NO ADDITIONAL CONFIGURATION ITEMS SUPPORTED SUCH AS LANTIRN PODS, EDM PODS, ETC.

ANG: END OF RUNWAY FACILITIES, AIRCRAFT SHELTERS/REVETMENTS, AND ALERT FACILITIES ARE NOT AVAILABLE. AIRFIELD/AIRCRAFT PARKING CONCERNS INCLUDE: LIMITED STATIC GROUNDING POINTS AND NO AIRCRAFT TIE DOWN POINTS.

ANG: NO FLEET SERVICE/HOT CARGO PARKING AVAILABLE. CONTACT UPSET CTRL 20 MIN PRIOR TO ARR TO RECEIVE CURRENT BIRD WATCH CONDITION AND PARKING INFORMATION.

ASDE−X SURVEILLANCE SYSTEM IN USE: PILOTS SHOULD OPERATE TRANSPONDERS WITH MODE 'C' ON ALL TAXIWAYS & RUNWAYS.

AIRCRAFT WITH WINGSPAN GREATER THAN 175 FT CANNOT PASS SIMULTANEOUSLY ON TAXIWAY 'E' & TAXIWAY 'Z'.

TAXIWAY B CLOSED BETWEEN TAXIWAY R AND TAXIWAY A1 TO AIRCRAFT WITH WINGSPAN GREATER THAN 118 FT WITHOUT PERMISSION FROM AIRPORT DIRECTOR AT 414–747–5325.

TAXIWAYS D1, F2, H, J, F1, P AND F (EAST OF RUNWAY 19R) CLOSED TO AIRCRAFT WTIH WINGSPAN GREATER THAN 78 FT.

TAXIWAY F (WEST OF TAXIWAY Z) CLOSED TO AIRCRAFT WITH WINGSPAN GREATER THAN 118 FT UNLESS PERMISSION FROM AIRPORT DIRECTOR AT 414–747–5325.

RUNWAY 19R TAKE–OFF DISTANCE AVAILABLE 8,450 FT FROM INTERSECTION TAXIWAY V.

TAXIWAY V BETWEEN TAXIWAY D AND RUNWAY 7L/25R CLOSED TO AIRCRAFT WITH WINGSPAN GREATER THAN 170 FT WHEN RUNWAY 7L/25R IN USE.

TAXIWAY B BETWEEN TAXIWAY V AND TAXIWAY R CLOSED TO AFFECT WITH WINGSPAN GREATER THAN 170 FT.

HOLDING BAYS AT RUNWAY 1L WHEN IN USE, ASSOCIATED TAXIWAY ADJACENT TO BAY IS LIMITED TO AIRCRAFT WINGSPAN UP TO 137 FT

HOLDING BAY AT RUNWAY 19R WHEN IN USE, TAXIWAY Z ADJACENT TO BAY IS LIMITED TO AIRCRAFT WITH WINGSPAN UP TO 170 FT.

RUNWAY 07L/25R NO AIRCRAFT 65,000 LBS OR GREATER ALLOWED TO TAXI BETWEEN TAXIWAY ’C’ & TAXIWAY ’E’ AND EAST OF RUNWAY 19R.

RUNWAY 01R–19L AVAILABLE TO AIR CARRIERS FOR TAXI ONLY.

RUNWAY 7R HOLDING BAY, RESTRICTED TO AIRCRAFT WITH WINGSPAN UP TO AND INCLUDING 130 FT.

TAXIWAY S & TAXIWAY T BETWEEN TAXIWAY R & RUNWAY 07R/25L AND RUNWAY 07R/25L BETWEEN RUNWAY 1R/19L & TAXIWAY R CLOSED DURING CAT II & III OPERATIONS.

TAXIWAY B BETWEEN TAXIWAY A1 AND TAXIWAY A CLOSED TO AIRCRAFT WITH WINGSPAN GREATER THAN 170 FT.

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