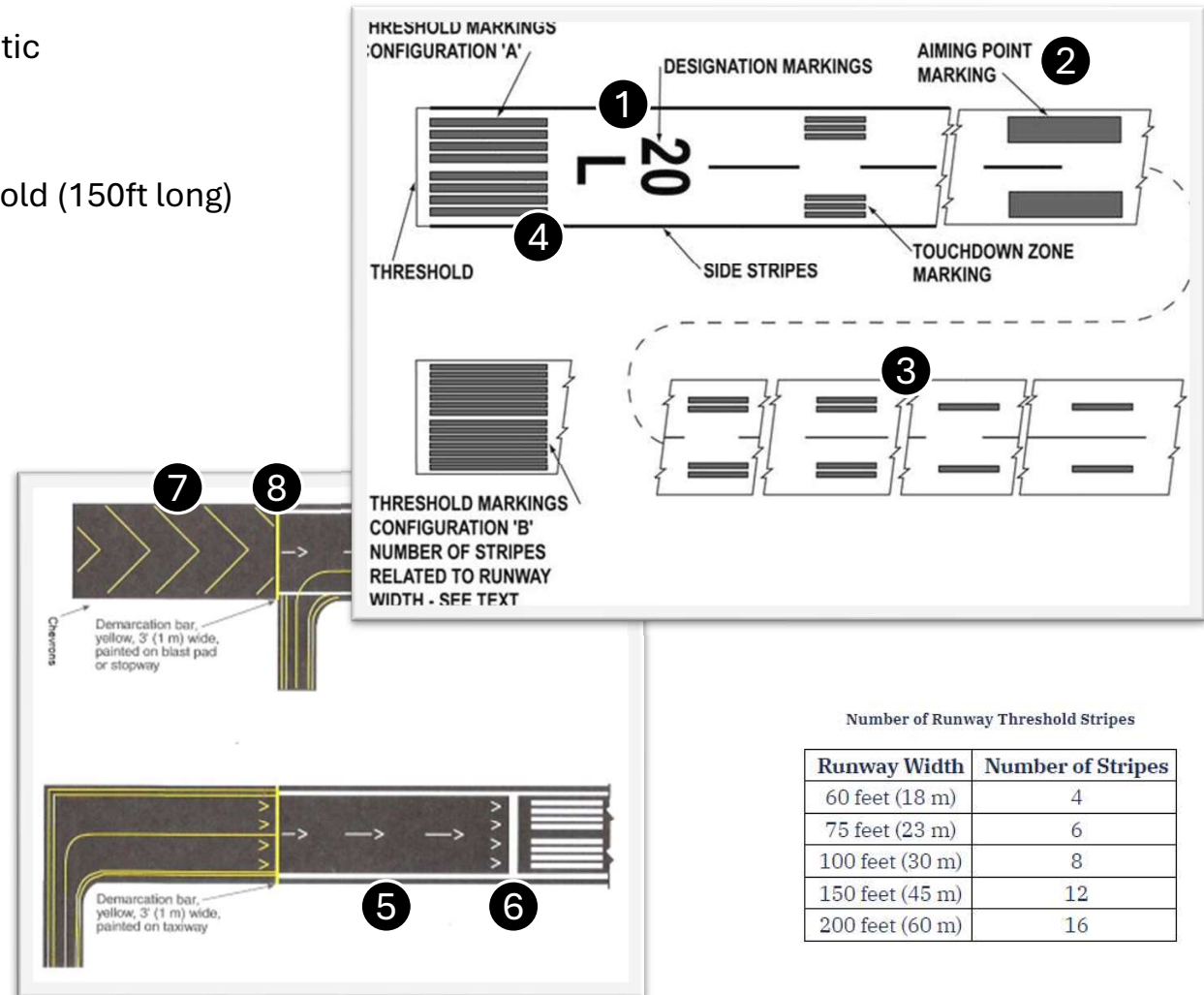


2. Runway Marking

AIM 2-3-3

- 1 **Designators:** Numbers, nearest one-tenth magnetic
 - **Centerline Markings:** 120ft strip + 80ft space
- 2 **Aiming Point Markings:** About 1000ft from threshold (150ft long)
- 3 **Touchdown Zone Markers:** Spaced 500ft apart
 - **Side Stripes:** continuous white stripe
 - **Shoulder Markings:** continuous yellow stripe, supplement side stripes (areas not part of rwy)
- 4 **Threshold Markings:** two configurations. Help identify beginning of rwy and width.
 - 5 **Displaced threshold:** avail for take off
 - 6 **Threshold bar:** used with displaced threshold
- 7 **Blast Pad / Stopway Area:** yellow chevrons
- 8 **Demarcation Bar:** separates a displaced threshold from blast pad or stopway



2. Runway Marking

AIM 2-3-3

Visual Approach



Required

- Landing Designator (numbers)
- Centerline

Notes:

- *Threshold: required if serving cat C/D aircraft, and intl commercial flights*
- *Aiming Point: required if 4,200ft+ long serving cat C/D aircraft*
- *Edge Marking: used if the full pavement width not available as runway*

Non-Precision Approach



Required

- Landing Designator (numbers)
- Centerline
- Threshold

Notes:

- *Aiming Point: required if 4,200ft+ long instrument runways*
- *Edge Marking: used if the full pavement width not available as runway*

Precision Approach



Required

- Landing Designator (numbers)
- Centerline
- Threshold
- Aiming Point
- Touchdown Zone
- Edge Marking

3. Taxiway Marking

AIM 2-3-4

1 Centerline

- Enhanced Centerline → Approaching hold position

2 Shoulder Marking

3 Edge Marking

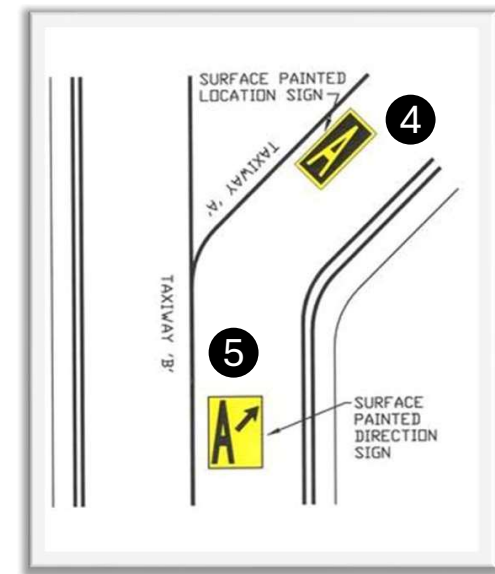
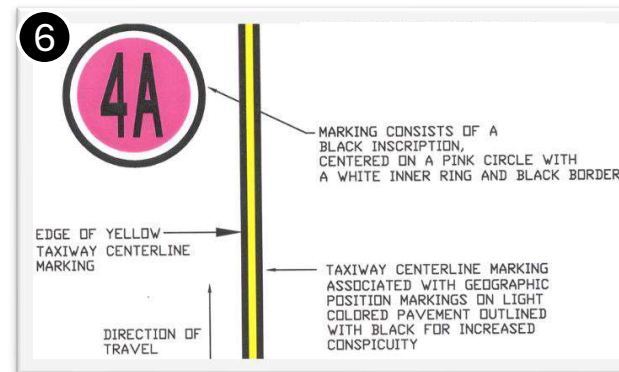
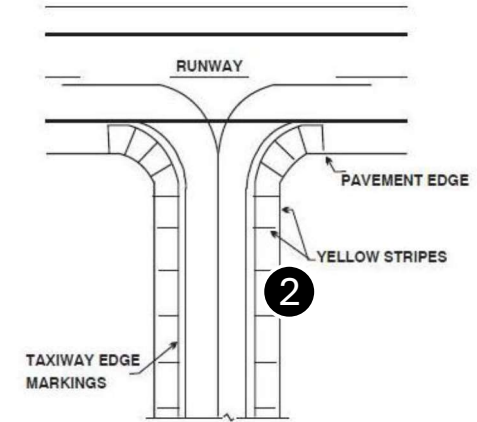
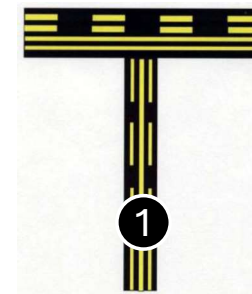
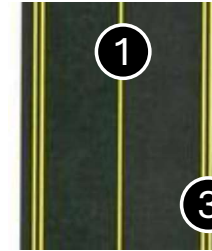
- Continuous → Separates taxiway from areas not to be used
- Dashed → Separates taxiway from non-movement areas

4 Surface Painted Location Signs

5 Surface Painted Direction Signs

6 Geographic Position Marking

- Identifies aircraft location during low visibility
- Left of the taxiway centerline

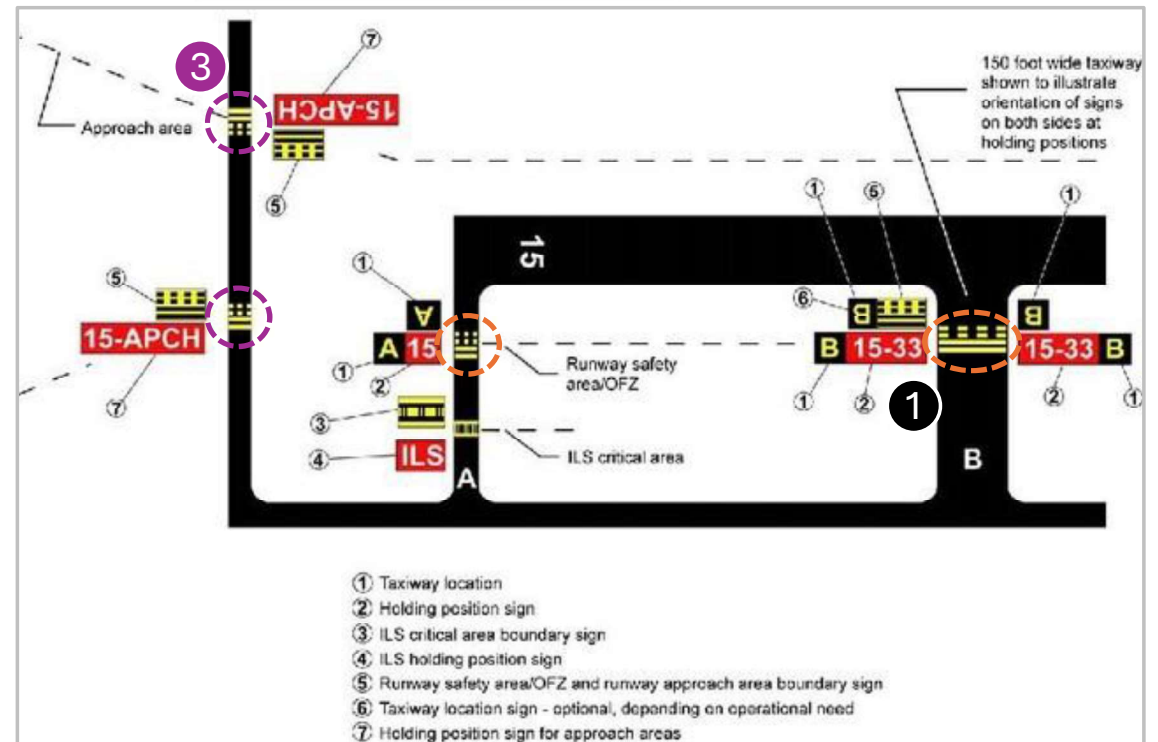
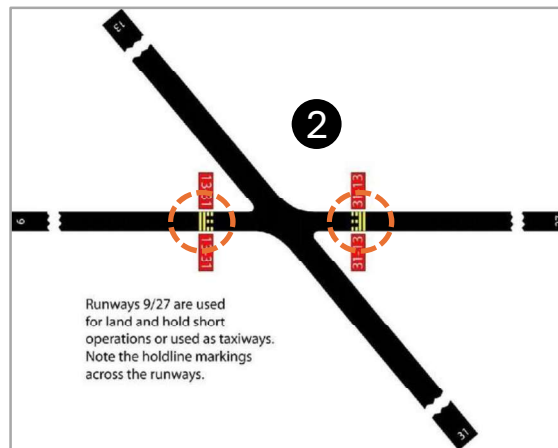
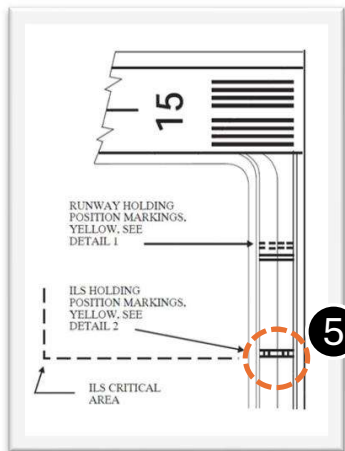
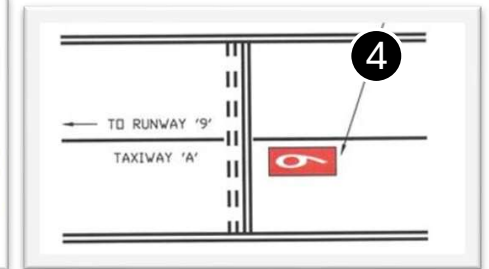
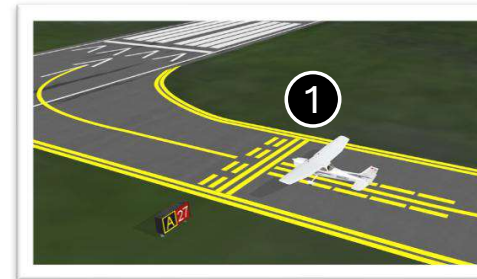


4. Hold Position Marking

AIM 2-3-5

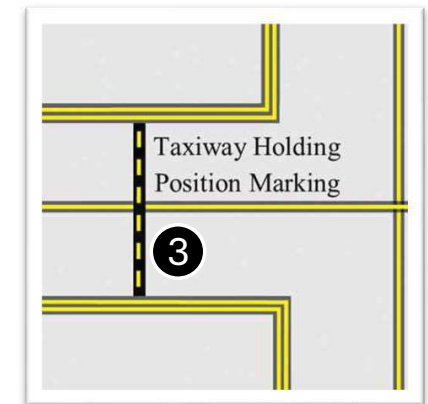
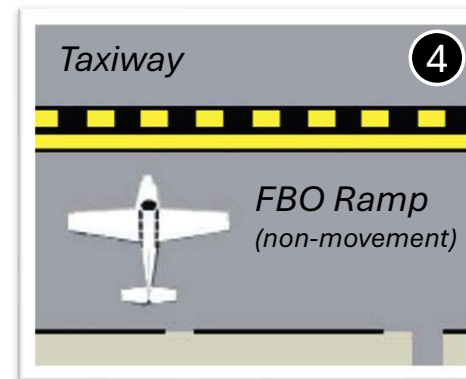
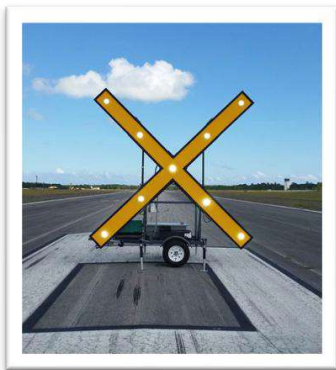
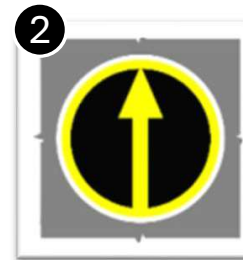
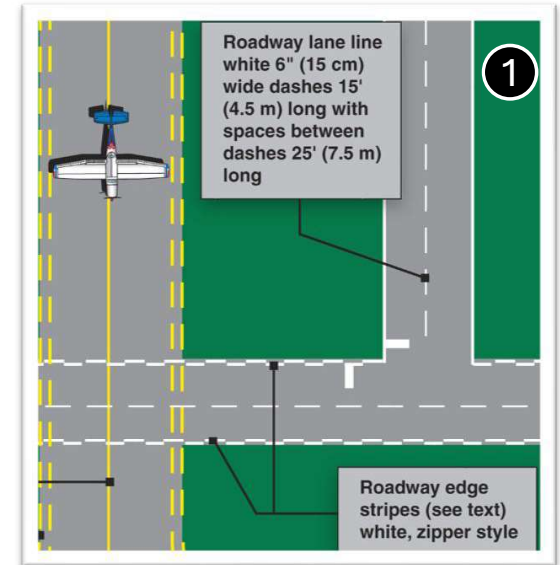
Aircraft **Must Stop** until clear to cross by ATC

- 1 Runway Holding Position Markings on Taxiways
- 2 Runway Holding Position Markings on Runways
- 3 Taxiways located in Runway Approach Area
- 4 Surface Painted Holding Position Sign
- 5 ILS Hold Position Marking (*stop when instructed*)



5. Other Marking AIM 2-3-6

- 1 Vehicle Roadway
 - o *Edges can be solid or zipper style*
- 2 VOR Receiver Checkpoint Marking
- 3 Taxiway Holding Position
 - o *Where normally ATC asks to hold, normally in a busy intersection*
- 4 Non-Movement Area Boundary
- 5 Closed Runway



6. Airport Signs

AIM 2-3-7

1 Mandatory Instruction Signs → Red background, White letters

- An entrance to a runway or critical area; and
- Areas where an aircraft is prohibited from entering



2 Location → Where you are

3 Direction → Taxiways / Intersection

4 Destination → Indicates destination

- Terminals, Aprons, Runways 27-33→
- Military areas, Civil Aviation Areas
- Cargo Areas, Intl Areas, FBOs

• Other










- Distance remaining, Taxiway end

• Information

- Areas the tower can't see

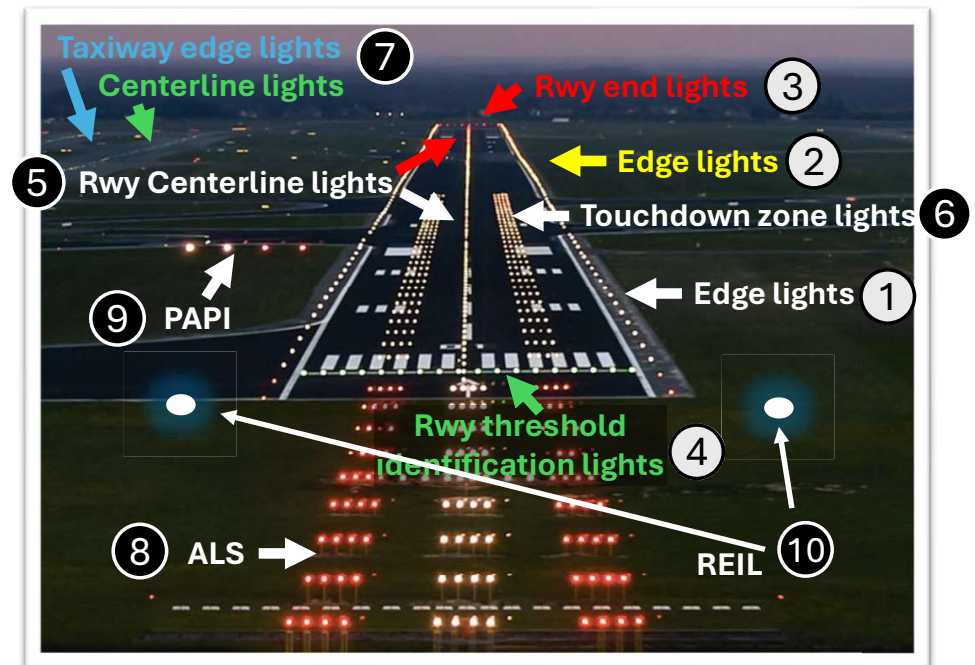
5 Noise abatement procedures



Type of Sign	Action or Purpose	Type of Sign	Action or Purpose
1 4-22	Taxiway/Runway Hold Position: Hold short of runway on taxiway		Runway Safety Area/Obstacle Free Zone Boundary: Exit boundary of runway protected areas 2
26-8	Runway/Runway Hold Position: Hold short of intersecting runway		ILS Critical Area Boundary: Exit boundary of ILS critical area
8-APCH	Runway Approach Hold Position: Hold short of aircraft on approach		Taxiway Ending Marker: Indicates taxiway does not continue
ILS	ILS Critical Area Hold Position: Hold short of ILS approach critical area		Inbound Destination: Defines directions for arriving aircraft 4
	No Entry: Identifies paved areas where aircraft entry is prohibited		Outbound Destination: Defines directions to takeoff runways
2 B	Taxiway Location: Identifies taxiway on which aircraft is located		Runway Exit: Defines direction & designation of exit taxiway from runway
22	Runway Location: Identifies runway on which aircraft is located		Taxiway Direction: Defines direction & designation of intersecting taxiway(s) 3
4	Runway Distance Remaining: Provides remaining runway length in 1,000 feet increments		Direction Sign Array: Identifies location in conjunction with multiple intersecting taxiways

7. Airport & Runway Lights AIM 2-1

- **Runway Edge Light Systems** (HIRL, MIRL, LIRL):
 - White (1), Last 2000ft (or last half, whatever is less) becomes **Yellow** (2)
 - The end of the runway shows **Red** for departing aircraft (3), and **Green** for approaching aircraft (4)
- 5 **Runway Centerline Lighting Systems** (RCLS): White and **Red** (last 1000ft). Installed on some precision runways
- 6 **Touchdown Zone Lights** (TDZL): between 100-3000ft (of half-way) from the threshold
- 7 **Taxiway lights**: Edge lights (**Blue**), Centerline (**Green**)
 - **Land and Hold Short Lights** (White):
 - Row of pulsating lights across the runway
- 8 **Approach Light System** (ALS)
- 9 **Slope indicators**: VASI and/or PAPI
- 10 **Runway End Identifier Lights** (REIL)
 - Pulsating lights to identify the approach end



Pilot Control of Airport Lighting

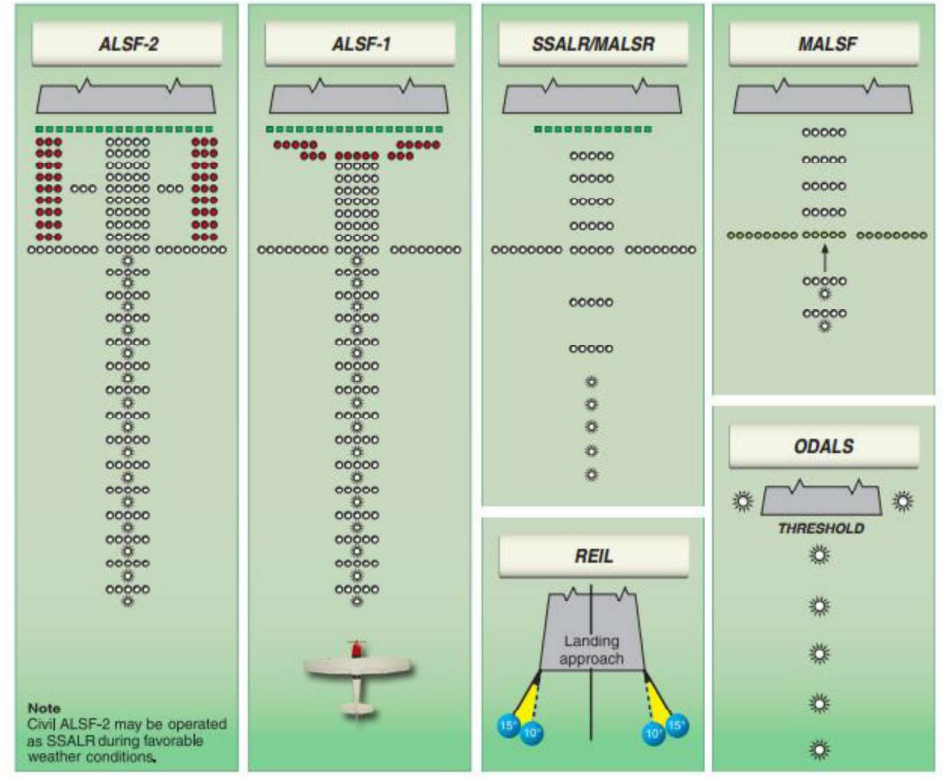
- Commonly activated on the CTAF frequency, check Chart Suplem.
- **Low**: 3 clicks; **Medium**: 5 clicks; **High**: 7 clicks (all clicks within 5sec)

8. Approach Light System (ALS)


AIM 2-1

ALS: Transition from instrument to visual conditions

- **ALSF**: ALS with sequenced flashing lights (can be -2 or -1 configuration)
- **MALSF**: medium-intensity ALS with sequencing flashing lights
- **MALSR**: same as above, but with rwy alignment lights instead of flashing
- **SSALR**: short simplified ALS with runway alignment lights
- **ODALS**: omnidirectional approach light system (extended centerline)
- **REIL**: runway-end identifier lights (the 2 flashing lights in the corners of the rwy).



Legend Flashing light  Steady burning light   Omnidirectional flashing light 

- ALSF—Approach light system with sequenced flashing lights
- SSALR—Simplified short approach light system with runway alignment indicator lights
- MALSR—Medium intensity approach light system with runway alignment indicator lights
-  REIL—Runway end identification lights (*rapid identification of the ends of the runway*)
- MALSF—Medium intensity approach light system with sequenced flashing lights (and runway alignment)
- ODALS—Omnidirectional approach light system

9. Airport Beacon and Slope Indicator

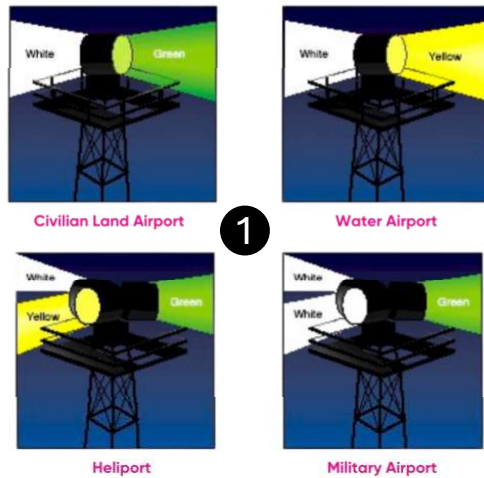
AIM 2-1

- **Slope Indicator**

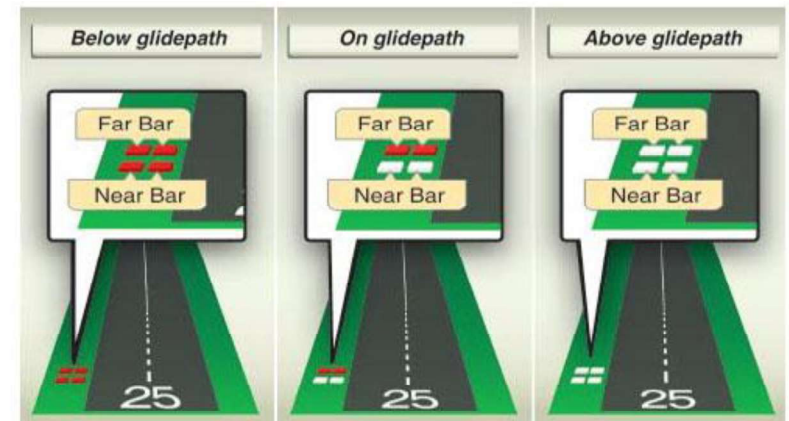
- VASI – Visual Approach Slope Indicator (2-bar, 3-bar, etc) → Red = low, White = high
- PAPI – Precision Approach Slope Indicator → Similar to VASI, but single row and can show “slightly” low/high as well

- **Airport Beacon**

- ① Used to identify and differentiate airports
- Beacon Operation during the Day: often indicates ground visibility < 3sm and/or ceiling < 1,000ft (**IFR conditions**). Not a requirement though



VASI



PAPI



10. Taxiway Lights (+Low Visibility / SMGCS)

AIM 2-1

- **Taxiway Edge Lights**

- Outline the edges of taxiways (Blue)

- **Taxiway Centerline Lights**

- Facilitate taxiing during low visibility conditions (Green)

- **Clearance Bar Lights**

- In-pavement steady yellow lights
- Increase visibility of a holding position in low visibility, or indicate the location of an intersecting taxiway

- **Runway Guard Lights**

- Enhance visibility of taxiway and runway intersections
- Elevated flashing yellow lights on each side of a taxiway, or a row of in-pavement yellow lights across the taxiway

- **Stop Bar Lights & Lead On/Off**

- Confirm ATC clearance to enter / cross an active runway
- Row of red, steady in-pavement lights across the entire taxiway
- Lead On/Off: alternating green/yellow connecting runway and taxiway

