



**VERO BEACH**  
REGIONAL AIRPORT

# ***DRIVING SAFELY ON THE AIRPORT***



## **GROUND VEHICLE OPERATIONS AND RUNWAY SAFETY**

*REVISED APRIL 2019*

## A. INTRODUCTION AND REGULATIONS

Operating a vehicle on an airport presents the driver with many challenges and responsibilities that are unique to the airport environment. Careless or improper vehicle operations can very easily lead to loss of life and property. The initial and recurrent training of airport vehicle operators has proven to be one of the most effective methods of ensuring a safe operating environment for all airport users. This training program is intended to familiarize personnel who operate vehicles or equipment on the Vero Beach Regional Airport with safe operating regulations and procedures. ***Airport regulations stipulate that no person is authorized to access the Movement Areas of the Airport unless that person has completed this training on either an initial or recurrent basis within the preceding 12 calendar months.***

## B. TERMS AND DEFINITIONS

For the purpose of this program, the following terms are defined:

1. **Airport** – The Vero Beach Regional Airport.
2. **ATCT or Tower** – The Vero Beach FAA Air Traffic Control Tower.
3. **Ground Control** – Tower controller that handles vehicles and aircraft on the ground
4. **AOA (Aircraft Operations Area)** – All areas of the airport, inside the perimeter security fence, that are used for or intended to be used for the operation or parking of aircraft, including parking areas and hangars. The AOA is divided into two separate areas:
  - a. **Non-Movement Area** - Areas of the AOA that are not controlled by ATC. The ramps and aprons used for parking, refueling, maintenance and storage of aircraft are non-movement areas. It is not necessary to contact the tower or receive an ATC clearance to operate on non-movement areas.
  - b. **Movement Area** – The part of the AOA that is used for taxiing, taking off, and landing aircraft, including runways, taxiways and run-up pads. All movement areas are under the control of the ATCT when the ATCT is operational. A clearance must be received from ATCT prior to entering a movement area. The boundary of movement/non-movement areas is marked by the Non-Movement Area Boundary Marking (see page 8).
5. **Common Traffic Advisory Frequency (CTAF)** - A frequency used by pilots to communicate position and intention to other traffic when the ATCT is closed. Vehicle operators driving on movement areas should monitor the CTAF when driving on movement areas when the tower is closed, and broadcast their position and intention so that nearby aircraft will be aware of vehicle operations. The CTAF frequency at VRB is 126.30 MHz.

6. **Runway** – A defined rectangular area on a land airport, prepared and maintained for the take off and landing of aircraft. Runways are identified by numbers corresponding to their magnetic orientation. Vero Beach Regional Airport has 3 runways: 12R-30L (7314 feet long by 106 feet wide), 4-22 (4974' x 100') and 12L-30R (3504' x 75').
7. **Safety Area** – An area surrounding runways and taxiways, prepared and maintained to reduce the risk of damage to an aircraft that inadvertently leaves the paved surface.
8. **Surface Incident** – Any event in which a vehicle, person or aircraft enters a movement area without authorization from the ATCT (when the ATCT is in operation), which could affect the safety of aircraft operations.
9. **Runway Incursion** – The most dangerous type of Surface Incident, in which a vehicle, person or aircraft accesses a runway without authorization from ATC.
10. **Taxiway** – The portion of the movement area used for surface maneuvering of aircraft transitioning between runways and parking areas. Taxiways are identified by letters, or a letter-number combination.
11. **Airport Aviation Tenant** – Any aviation-oriented organization or business that has a current signed and executed lease with the City of Vero Beach, whose business activities are conducted on the AOA, or any business whose property is contiguous with, and affords access to, the Movement Areas of the Airport.
12. **Vehicle** – Any device for the conveyance of people or goods on airport property, including equipment specific to airports and aircraft ground support, construction equipment, and conventional automobiles, vans and trucks.

**C. REQUIREMENTS**

1. **Airport** – In compliance with Federal Aviation Regulations Part 139, the Vero Beach Regional Airport is required to:
  - a. Restrict pedestrian and ground vehicle access to movement areas,
  - b. Ensure that any person operating any vehicle or equipment on movement areas has completed training in ground vehicle operations and runway safety within the preceding 12 calendar months.
  - c. Maintain records of training accomplished under this requirement.
  - d. Establish and enforce consequences for non-compliance with these requirements.
  
2. **Airport Aviation Tenants** – Tenants are required by the provisions of their lease agreement with the City of Vero Beach to:
  - a. Ensure that their employees and sub-tenants are familiar with and in compliance with these policies and procedures.
  - b. Coordinate with airport staff to provide initial ground vehicle operations and runway safety training to new employees **prior to the employee driving on movement areas of the airport unescorted.**
  - c. Ensure their employees who are authorized to drive on the airport receive recurrent ground vehicle training on an annual basis.
  
3. **Vehicles** – The following requirements apply to all vehicles that operate frequently on the movement areas of the Vero Beach Regional Airport:
  - a. Vehicles shall be equipped with a two-way radio capable of transmitting on 127.45 MHz or other frequency designated as the ground control frequency. Hand-held transceivers are acceptable provided that the quality of the radio allows clear, concise communication with ATC.
  - b. Vehicles shall be equipped with a flashing yellow or amber beacon mounted on a top surface of the vehicle. The beacon shall be operating any time the vehicle is operating on a movement area.
  - c. Airport Aviation Tenants are responsible for ensuring that all vehicles operating on the AOA are maintained in a safe condition.
  - d. Fueling Agent vehicles must display the name of the company.

**D. CONSEQUENCES OF NON-COMPLIANCE**

The Airport Director shall take appropriate enforcement action whenever there is a vehicle or pedestrian operation on the airport that is contrary to airport policies or FAR Part 139. The action taken by the Airport Director will depend on the nature and severity of the infraction. The following enforcement actions may be imposed at the Airport Director's discretion:

1. **Tenant Employee First Offense** – The employee must be counseled and retrained by airport staff.
2. **Tenant Employee Second Offense** - The employee shall be restricted from driving any vehicle on any airports surface, including aprons and aircraft parking areas, for a period of one week. Prior to reinstatement of airport driving privileges, the employee must be counseled and retrained by airport staff.
3. **Tenant Employee Third Offense** – The employee shall be restricted from driving any vehicle on any airports surface, including aprons and aircraft parking areas, permanently.
4. **Airport Operations Personnel** - In the event of an unauthorized operation on a movement or safety area by an employee of the airport, the employee will be disciplined in accordance with standard City of Vero Beach employee disciplinary policy.
5. **Private Vehicle** - In the event of an unauthorized operation on a movement or safety area by a private vehicle or a person, including customers of airport aviation tenants, the driver or person may be turned over to the Vero Beach Police Department for prosecution

**E. MOVEMENT AREA OPERATIONS – BASIC REQUIREMENTS**

In order to operate a vehicle or equipment safely on the movement areas of the airport, the driver should:

1. Be familiar with the airport layout (see Appendix 1).
2. Have a good knowledge of airfield markings and signs, and their meanings.
3. Be able to communicate with ATC.
4. Be able to comply with ATC instructions.
5. Maintain positional and situational awareness.
6. **Know the route(s) to your destination.**

**F. MOVEMENT AREA OPERATIONS – PROCEDURES**

The following procedures shall be followed by any person driving on movement areas of the airport:

1. **Aircraft have the right of way at all times!** Unless otherwise directed by ATC, vehicles shall give way to aircraft.
2. When giving way to an aircraft, be sure to position your vehicle well clear of the taxiway and the taxiway obstacle free area to allow sufficient space for the aircraft to pass.
3. No vehicle or person may enter a movement area unless clearance is first received from ATC (when the tower is in operation). Vehicle operators shall maintain two-way communications with ATC at all times while operating on a movement area. In the event of a radio failure, use the radio failure procedures described on Page 14.
4. Monitor the ground control frequency (127.45MHz) continually; make sure you are aware of all that is happening around you.
5. The maximum speed for ground vehicles or equipment being operated on the AOA is **15** miles per hour.
6. No person shall operate a vehicle on the AOA in a reckless or negligent manner. **Safety must be the top priority of every person operating a vehicle on the airport!**

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**G. MOVEMENT AREA OPERATIONS - COMMUNICATING WITH ATC**

**1. Basic Radio Procedures**

- a. Listen to the frequency before transmitting. Make sure no one else is already talking, and no one is waiting on a reply.
- b. Know and use standard aviation phraseology (see page 7).
- c. When contacting the ground controller, you must tell the ground controller three things: **Who** you are, **Where** you are, **What** you want to do.
- d. Always acknowledge ATC transmissions.
- e. Read back all holding instructions, and be sure to include your call sign. Example: the instruction “Ops 1, hold short of Runway 12R” must be read back “Ops 1, Roger, hold short of Runway 12R”. Controllers are required to get a read back of holding instructions, and if you don’t read back correctly they will have to ask you to do so. This takes time away from the controller’s other tasks.
- f. Controllers are required to issue a clearance to cross every runway, regardless of the status of the runway (even if the runway is closed).
- g. If you are not sure of ATC’s instructions, or you did not clearly read their transmission, ask the controller to repeat the instructions.

**2. Phonetic Alphabet**

Because some letters have similar sounds, the international aviation industry uses the following words to reduce confusion. For example, Taxiway B would be referred to as Taxiway Bravo when communicating with ATC.

<b>A</b>	Alpha	<b>N</b>	November
<b>B</b>	Bravo	<b>O</b>	Oscar
<b>C</b>	Charlie	<b>P</b>	Papa
<b>D</b>	Delta	<b>Q</b>	Quebec
<b>E</b>	Echo	<b>R</b>	Romeo
<b>F</b>	Foxtrot	<b>S</b>	Sierra
<b>G</b>	Golf	<b>T</b>	Tango
<b>H</b>	Hotel	<b>U</b>	Uniform
<b>I</b>	India	<b>V</b>	Victor
<b>J</b>	Juliet	<b>W</b>	Whiskey
<b>K</b>	Kilo	<b>X</b>	X-Ray
<b>L</b>	Lima	<b>Y</b>	Yankee
<b>M</b>	Mike	<b>Z</b>	Zulu

### 3. Phraseology

When communicating with ATC, it is recommended that you use standard aviation phraseology. Commonly used phrases are as follows:

<b><u>PHRASE</u></b>	<b><u>MEANING</u></b>
<b>Affirmative:</b>	Yes.
<b>Negative:</b>	No.
<b>Say Again:</b>	Repeat last message.
<b>Go Ahead:</b>	Proceed with your message.
<b>Over:</b>	My radio transmission is ended, I am awaiting a response.
<b>Out:</b>	My radio transmission is ended, no response expected.
<b>Read Back:</b>	Repeat my instructions.
<b>Advise Intentions:</b>	Let me know what you plan to do.
<b>Without Delay:</b>	Used by ATC to indicate that quick action is required; <i>“cross runway 12R without delay.”</i>
<b>Acknowledge:</b>	Let me know you received and understand this message.
<b>Hold or Hold Short:</b>	Used to keep a vehicle or aircraft within a specific area or at a specified point, pending further ATC clearance.
<b>Roger:</b>	I have received all of your last transmission.
<b>Stand By:</b>	Wait before you transmit further information.
<b>Unable:</b>	Indicates inability to comply with specific instruction, request or clearance.
<b>Verify:</b>	Request that you confirm information.
<b>Wilco:</b>	I will comply with your instructions.



## H. AIRFIELD LIGHTING

All runways and taxiways at the Vero Beach Regional Airport are equipped with edge lights delineating the edge of the surface. The color of the lights is indicative of the type of the surface. Taxiway edge lights are blue, while runway edge lights are white, or white and amber.



## I. AIRFIELD MARKINGS

Airfield Markings provide important guidance and information to pilots and drivers, and also identify the type of surface you are on or approaching. White markings indicate a runway, Yellow markings indicate a taxiway. Some very important taxiway markings are:



### NON-MOVEMENT AREA BOUNDARY MARKING

This marking defines the edge of the area controlled by ATC. When the ATCT is in operation, an ATC clearance is required to proceed past this marking, *when approaching from the solid line side.*

No clearance is required to cross when approaching from the dashed line side of the marking.



### TAXIWAY EDGE MARKING

This marking defines the edge of a taxiway when not defined by the edge of pavement. The solid double line is used to indicate that the pavement adjacent to the taxiway is not intended for aircraft use, while the dashed double line is used in areas where aircraft are expected to leave the taxiway.



**NO-TAXI ISLAND**

Indicates pavement that is not intended to be used by aircraft for taxi operations.



**RUNWAY HOLDING POSITION MARKING**

Often referred to as the “Hold Bars”, this marking indicates that **you are approaching a runway.** **Never cross the hold bars unless you have a clearance to cross the runway.** When instructed by ATC to hold short of a runway, stop your vehicle just prior to this marking.



**ENHANCED TAXIWAY CENTERLINE MARKING**

Applied to the centerline of a taxiway that intersects a runway, for 150 feet prior to the Runway Holding Position Marking.

This marking is designed to provide a visual cue that you are approaching a runway.



**SURFACE-PAINTED RUNWAY HOLDING POSITION SIGN**

Applied to the surface of a taxiway that intersects a runway just prior to the Runway Holding Position Marking.

This marking mimics the elevated Runway Holding Position Sign, and provides an additional cue that you are approaching a runway, as well as identifying that runway.

J. AIRFIELD SIGNS

Airport signs are various colors to indicate different meanings. Three important types of airfield signs and their meanings are:



RUNWAY HOLDING POSITION SIGN

This sign is co-located with the Runway Holding Position Marking and indicates that you are approaching a runway. Runway Holding Position signs have a red background, and a white legend indicating which runway you are approaching. **Never proceed past this sign unless you have a clearance to cross the associated runway.**



LOCATION SIGN

Location signs indicate the taxiway you are on, in this example taxiway BRAVO-ONE. Location signs may be co-located with other signs, as shown in the previous and following photos.



DIRECTION SIGN

Direction signs can be used to identify a taxiway you are approaching, and are co-located with location signs. In this example, you are on taxiway ALPHA, as indicated by the location sign, and are approaching taxiway ECHO.



**K. RUNWAY SAFETY**

While all procedures associated with operating a vehicle on the surface of the airport are important, the most important aspect of Airport Ground Vehicle Operations is preventing the unauthorized access to a runway (Runway Incursion). Runway Incursions are clearly the most serious threat to the safety of airport ground operations.

Maintaining Runway Safety requires the full concentration of anyone moving on the surface of an airport. For the vehicle operator, the keys to Runway Safety are (1) recognizing that you are approaching a runway, (2) knowing whether or not you have a clearance to cross the runway, and (3) knowing where to hold short of the runway if instructed to by ATC.

**Approaching a Runway:** The airport's marking and signage provide positive visual cues that you are approaching a runway, as shown:



**Runway Crossing Protocol:** When approaching any runway, be absolutely certain that you know whether you have a clearance to cross that runway. Remember, **ATC must issue a clearance to cross each runway**, regardless of the status of the runway (open, closed, inactive). If you are not sure, ask the controller to verify whether you are cleared to cross or are to hold short of the runway.

**Holding Short of a Runway:** If you have been instructed to hold short of a runway, it is very important that you stop your vehicle in the appropriate place. If you are past the hold bars, you are technically on the runway and have caused a Runway Incursion. Always position your vehicle as depicted in the photo below:



**Never Assume:** When cleared to cross a runway, it's a good idea to check the runway in both directions. A little added insurance could save the day!



**L. ATCT CLOSED PROCEDURES**

The FAA Air Traffic Control Tower at Vero Beach Regional operated from 7:00 AM until 9:00 PM daily. When the tower is closed, pilots and vehicle drivers should advise other traffic of their intentions on the Common Traffic Advisory Frequency 126.30 MHz. The following procedures shall be observed:

1. Vehicle operators shall announce their position and intentions on the CTAF prior to entering a movement area.
2. Prior to crossing any runway, vehicle operators shall visually scan for any aircraft in the traffic pattern. ***Remember that while most pilots will be transmitting their position and intentions on the CTAF, there is no requirement for them to do so. It is entirely possible for an aircraft to be taking off or landing without any radio transmission.*** Vehicle operators shall also announce their intention prior to crossing any runway, and allow sufficient time for any pilot that may be on frequency to respond before initiating the runway crossing. Vehicle operators shall announce that they are clear of runways after crossing.
3. Vehicles shall have the amber beacon operational while on movement areas, and headlights and running lights shall be on during hours of darkness.
4. Low visibility runway crossings when the Tower is closed can be very hazardous. It is recommended that vehicles not cross the runway unless, at a minimum, the driver can clearly see both ends of the runway.

**M. SECURITY**

The airport has security measures in place to limit and control vehicle and pedestrian access to the movement areas. To further reduce the risk of surface incidents and runway incursions, all personnel working on the AOA should always be alert for unusual situations such as:

1. Security gates that have been left open.
2. Unauthorized vehicles operating close to or on movement areas.
3. Pedestrians close to or on movement areas.
4. Any vehicle or person that looks suspicious or out of place.

These situations should be reported immediately to the Airport Director's office at (772) 978-4930. ***If the situation requires immediate response, especially on weekends or after hours, contact Vero Beach Police Department by dialing 911.***

**N. TWO-WAY RADIO FAILURE PROCEDURES**

There is always the possibility that a vehicle operating on the movement areas of the airport will lose radio contact with the ATC. When a vehicle operator becomes aware that communications failure has occurred, the following procedures should be followed.

1. If the vehicle operator has a cell phone, call directly to the ATCT to establish communication and receive clearances and instructions. The ATCT telephone number is (772) 299-0129.
2. If the vehicle operator is in contact with their respective business, via a company radio, ask company personnel to establish phone contact with ATCT in order to receive clearances and instructions.
3. Should the above procedures not be available, ATC may use light-gun signals to give instructions. When a vehicle operator becomes aware that communications failure has occurred, the operator shall position the vehicle clear of runways and taxiways, facing the ATCT if possible, and look for the following light-gun signals:

**COLOR AND TYPE OF SIGNAL**

**MEANING OF SIGNAL**

Steady	<b>GREEN</b>	Cleared to cross, proceed or go.
Steady	<b>RED</b>	STOP!
Flashing	<b>RED</b>	Clear the runway/taxiway.
Flashing	<i>WHITE</i>	Return to starting point on airport.
Alternating	<b>RED</b> and <b>GREEN</b>	Exercise extreme caution.

***IMPORTANT!!!*** Remember that if the controller issues you a runway crossing clearance but does not receive a response, and they do not observe your vehicle moving, they have no way of knowing if you heard them or what you might do. To be on the safe side, ATC will suspend operations on that runway until communications can be re-established. This can have a very negative effect on the operations of the airport. It is very important that your radio function properly and is dependable, and that you are diligent in monitoring your communication capability with ATC.

**O. KNOWLEDGE QUIZ**

1. A driver must always contact ATC (Ground Control) prior to accessing a Movement Area.
2. The Vero Beach Air Traffic Control Tower is always operational.
3. Which of the following markings show the boundary of the Non-Movement Area?

**MARKING A**



**MARKING B**



4. If a driver has received a clearance from ATC (Ground Control), and is proceeding along a taxiway, aircraft will give way to his/her vehicle.
5. When issued a holding instruction by Ground Control, the driver must read back the holding instructions. What must be included in the readback?

6. What is the name and function of this marking?



7. If a driver is not sure of the Tower's instructions, he/she should always ask the controller to verify or repeat the instructions.
8. If Ground Control does not issue holding instructions for a runway, the driver is automatically cleared to cross the runway if necessary.
9. What are the 4 cues that warn a driver that he/she is approaching a runway?
10. When crossing a runway, the driver is not expected to stop at the Runway Holding Position Marking on the other side of the runway.



**QUIZ ANSWERS**

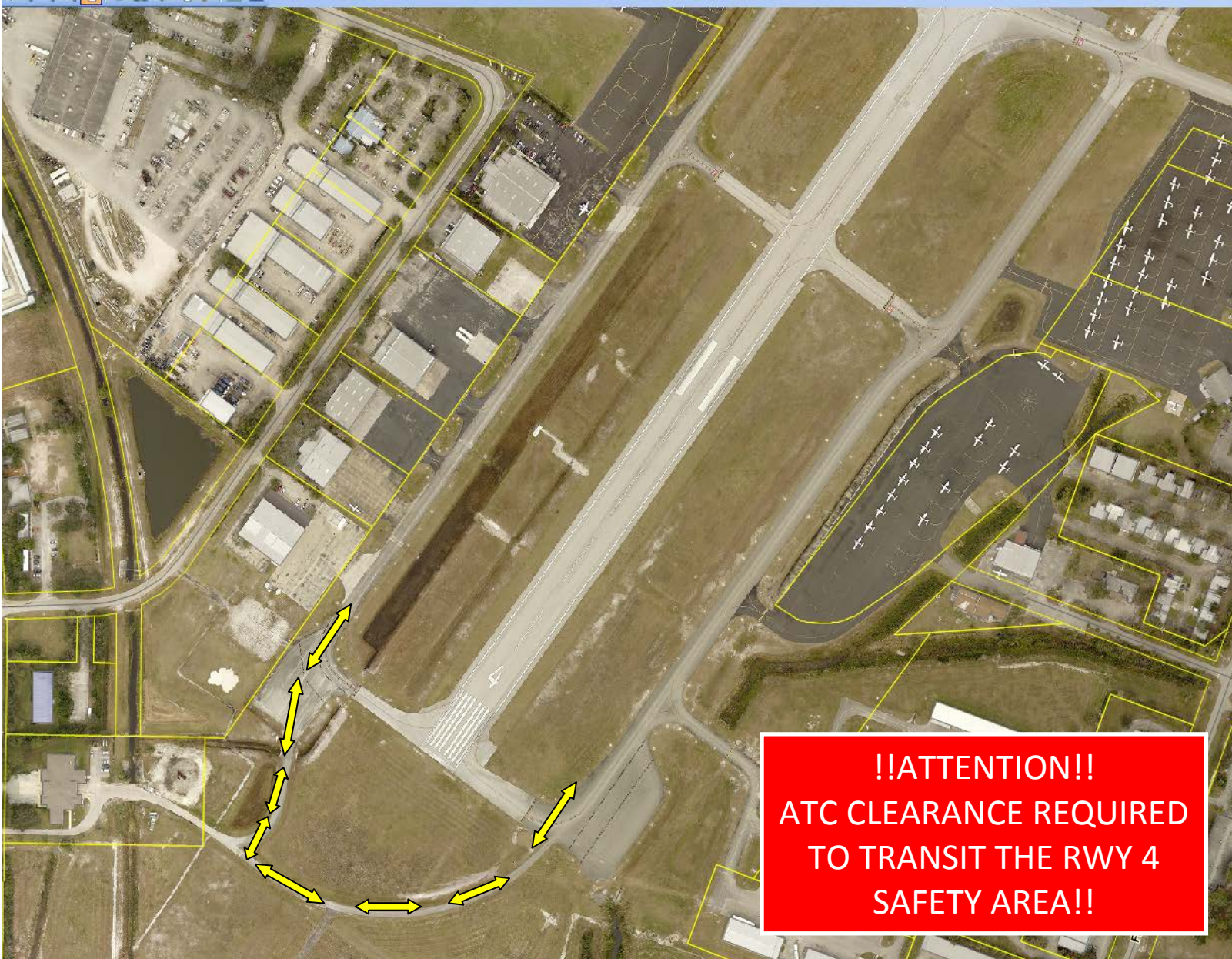
1. False. Only when the Air Traffic Control Tower is in operation is a clearance required to access a Movement Area.
2. False. The Tower is in operation from 7 AM until 9PM every day.
3. Marking A.
4. False. Unless otherwise instructed by Ground Control, vehicles are always expected to give way to aircraft
5. Vehicle call sign, acknowledgement of holding instructions, and location the driver has been instructed to hold at.
6. Runway Holding Position Marking, Hold Bars, Hold Short Marking. It shows where to hold short of a runway when instructed to do so. Never cross this marking unless you have a clearance to cross the associated runway.
7. True. Never hesitate to ask the controller to repeat or verify instructions if you don't understand them.
8. False. Explicit clearance from Ground Control is always required before crossing any runway encountered, regardless of whether or not the runway is in use, *when the ATCT is in operation.*
9. Enhanced Taxiway Centerline Marking, Surface Painted Runway Holding Position Sign, Elevated Runway Holding Position Sign, Runway Holding Position Marking.
10. True. Once a clearance to cross the runway is received, the driver is expected to proceed across the Runway Holding Position Marking on the other side of the runway and continue via the cleared route.





# ***AVOID CROSSING RUNWAYS WHEN POSSIBLE!!***

**UTILIZE ARFF ACCESS ROAD AROUND RWY 04 APPROACH END**

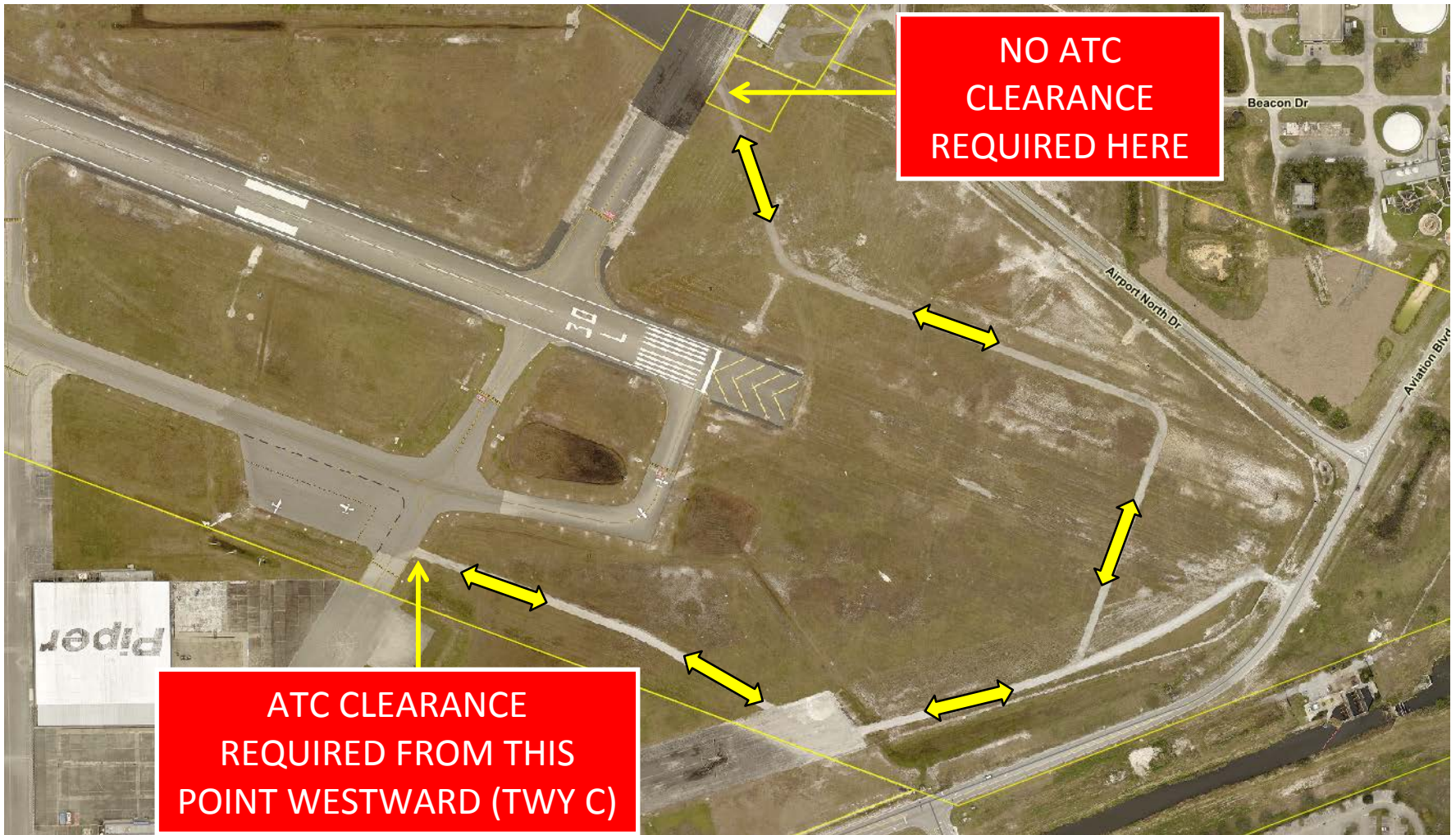


**Vehicles may utilize the ARFF Access Roads to cross from one side of RWY 4-22 to the other. However, this operation is entirely within the RWY 4-22 Safety Area, and must be approved by ATCT (when operational).**



# **AVOID CROSSING RUNWAYS WHEN POSSIBLE!!**

**UTILIZE END-AROUND ACCESS ROAD RWY 30L APPROACH END**



Vehicles can avoid crossing RWY 12R-20L when transitioning to or from the North Ramp area by utilizing this gravel roadway. The entire roadway lies outside of the RWY 12R-30L Safety Area, so no ATC clearance is required *except when operating on TWY C*. The roadway enters the North Ramp within the Non-Movement Area.