



Raleigh-Durham
Airport Authority

Limited Movement Drivers Training

RDU Airport Operations|



Agenda

- Purpose
- Dos and Don'ts
- Procedures to Access the Movement Area
 - Radio usage, frequencies, terminology
- Airfield Familiarization
 - Markings, lights, signs, maps, routes
- Housekeeping
 - FOD, parking, SMGCS
- What if I Encounter a Problem?
 - Emergency, Non-Emergency
- Penalties for Non-Compliance
- Contact Numbers
- Questions



Purpose

- To ensure that brake riders, tow operators, and taxi qualified mechanics with access to the movement area are adequately trained.
- To facilitate the safe movement of aircraft and personnel between the terminal aprons and remote aircraft parking locations.
- To ensure compliance with all Authority, local and federal rules & regulations.
- To minimize disruption of normal airfield/aircraft operations.

What is an “LM” Badge?

- The Limited Movement (LM) on your badge allows you to reposition an aircraft to/from remote parking locations following the direction of ATC and Ramp Tower.
- Identifies that you have received the necessary training to tow aircraft in the movement area.

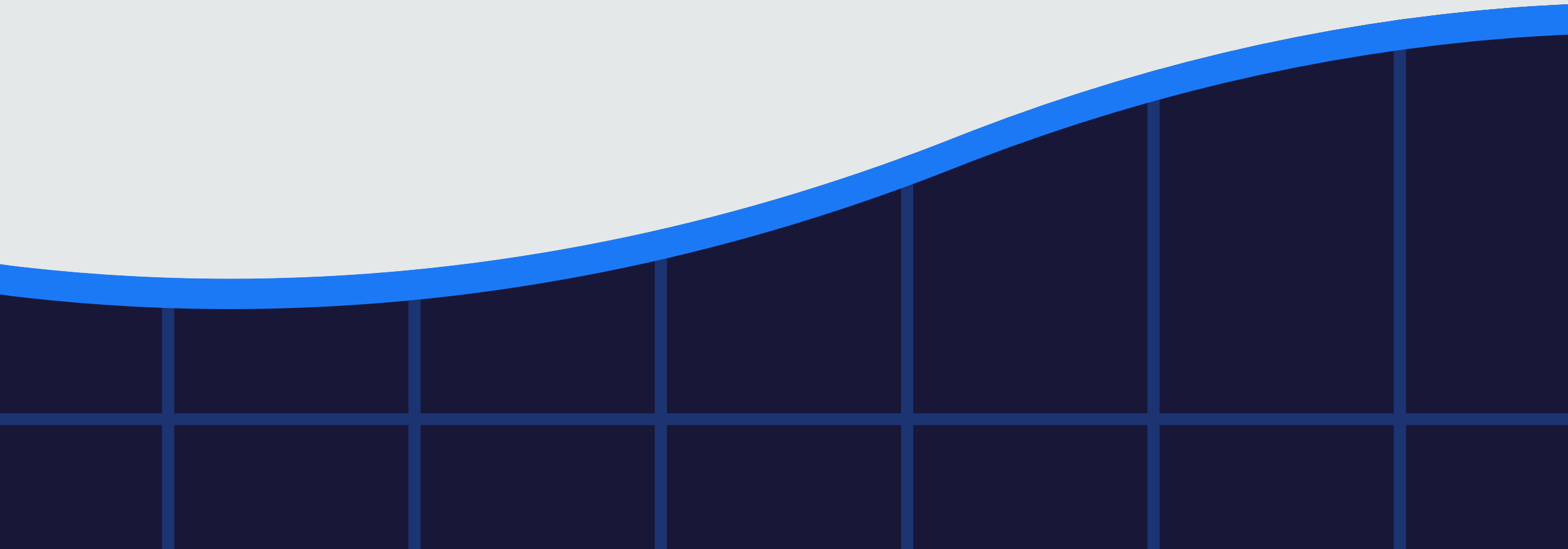


What an “LM” Badge isn’t

- You **DO NOT** have permission to enter the movement area unless you are towing an aircraft.
- You **DO NOT** have permission or authorization to conduct escorts in the movement area.
- You **MUST** have permission from ATC to enter the movement area.
- You **MUST** follow the tow route approved by ATC/Ramp.
- **ONLY** the aircraft and attached tug are permitted in the movement area. **NO** other vehicles may follow.



Procedures to Access the Movement Area



Radio Usage - Etiquette

- Do not step on other conversations.
- Keep it short and to the point.
- Use proper terminology (no 10-codes, such as 10-4).



Proper Terminology

GLOSSARY OF AVIATION TERMINOLOGY

- A. ACKNOWLEDGE - Let me know you have received my message.
- B. ADVISE INTENTIONS – Tell me what you plan to do.
- C. AFFIRMATIVE - Yes
- D. CONFIRM – My version is....is that correct?
- E. CORRECTION – An error has been made in the transmission and the correct version follows.
- F. GO AHEAD – State your request (this NEVER means “proceed”)
- G. HOLD – Stay in place where you are currently located.
- H. HOLD SHORT OF– Proceed to, but hold short of a specific point
- I. IMMEDIATELY – Used by ATCT when such action compliance is required to avoid an imminent, possibly hazardous situation.
- J. NEGATIVE – No, or permission is not granted, or that is not correct.
- K. OUT – The conversation is ended and no response is expected or required.
- L. OVER – My transmission is ended but I expect a response from you.
- M. PROCEED – You are authorized to begin or continue moving.
- N. READ BACK - Repeat my message back to me.
- O. ROGER – I have received all of your last transmission. (“Roger” shall not be used to answer a yes or no question).
- P. SAY AGAIN – Repeat your last transmission.
- Q. STAND BY - Wait... I will get back to you. (Standby is not an approval or denial. The caller should reestablish contact if the delay is lengthy.
- R. UNABLE – Indicates inability to comply with a specific instruction, request or clearance.
- S. VERIFY – Request confirmation of information.
- T. WITHOUT DELAY - With a sense of urgency proceed to your approved destination.
- U. WILCO – I have received your message, understand it and will comply.

Phonetic Alphabet

Phonetic Aviation Alphabet. Because some letters have similar sounds, like B and P, the international aviation industry uses the following words to reduce confusion. For example; Taxiway B would be referred to as Taxiway Bravo on the radio.

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



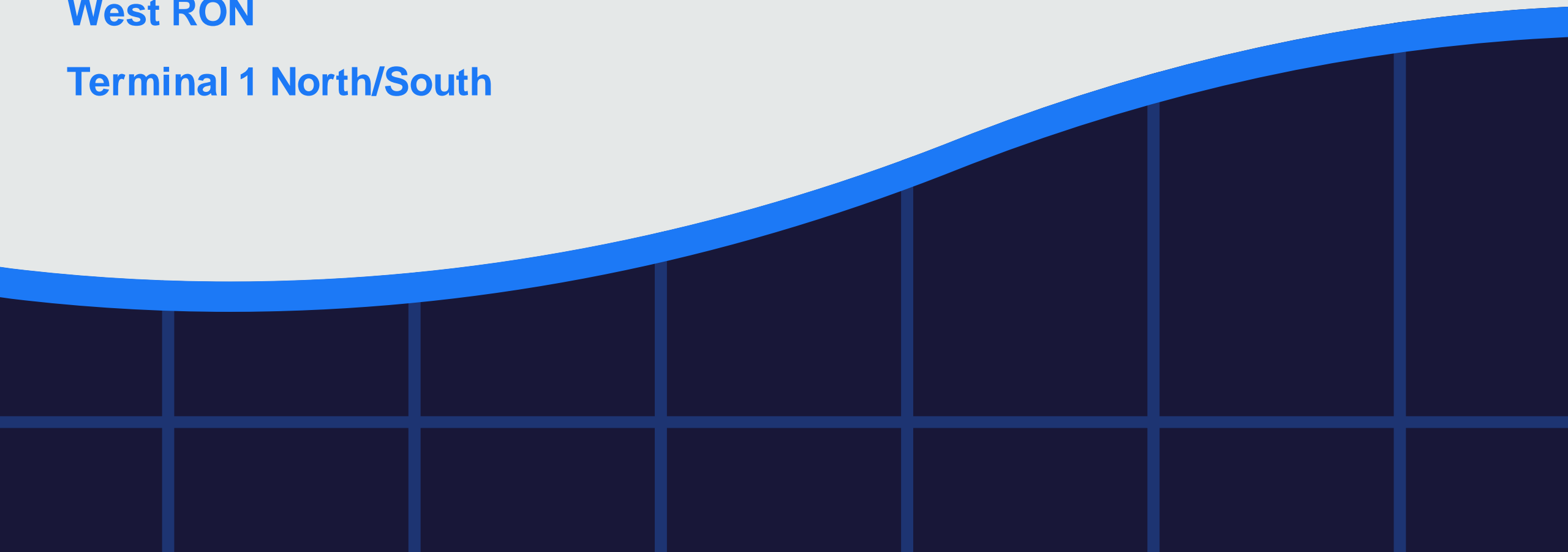
Phraseology

- WHO you want to talk to
- WHO you are
- WHERE you are
- WHAT your intentions are
- READ BACK

Towing from Terminal 2 to RON

West RON

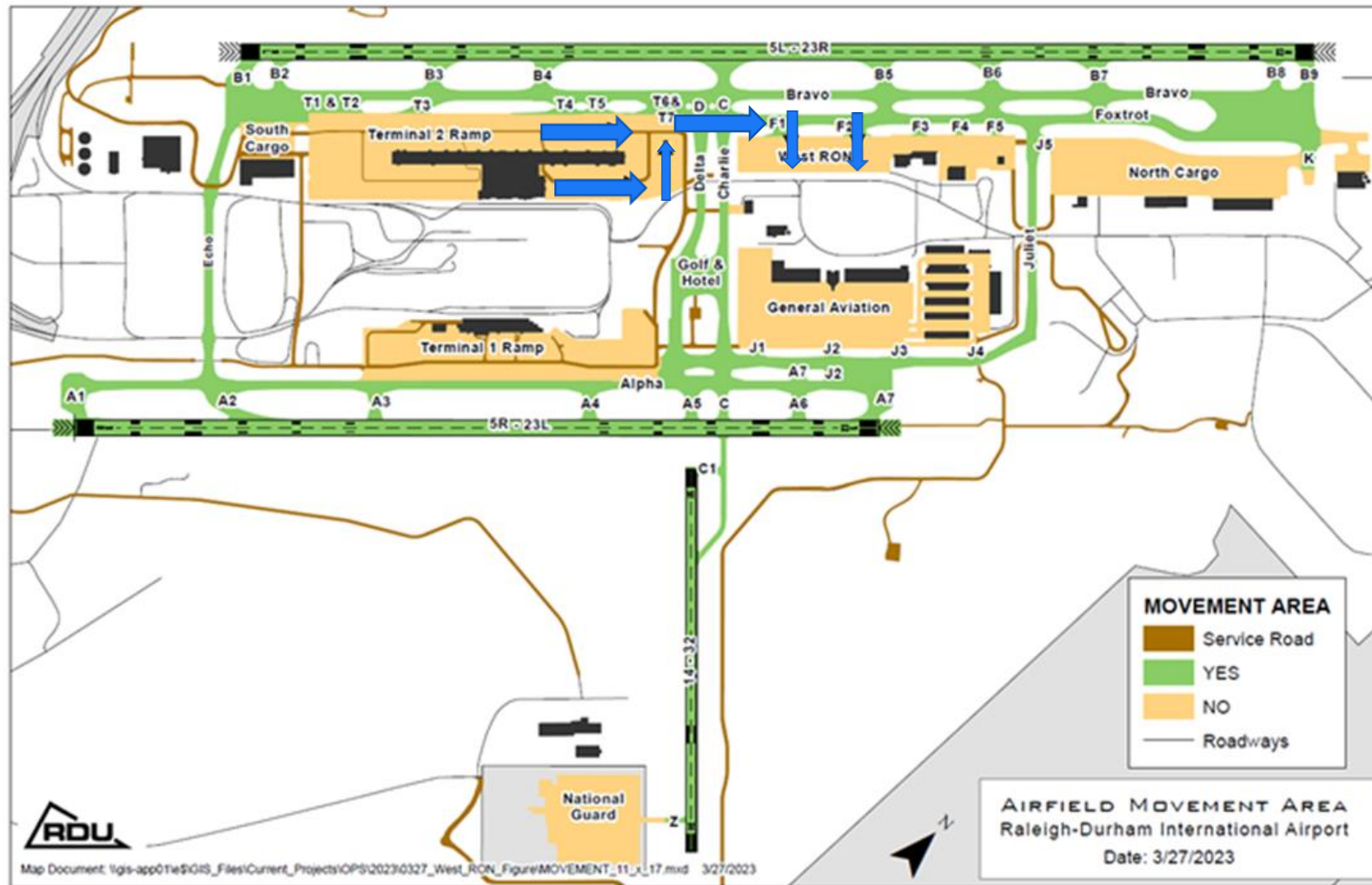
Terminal 1 North/South



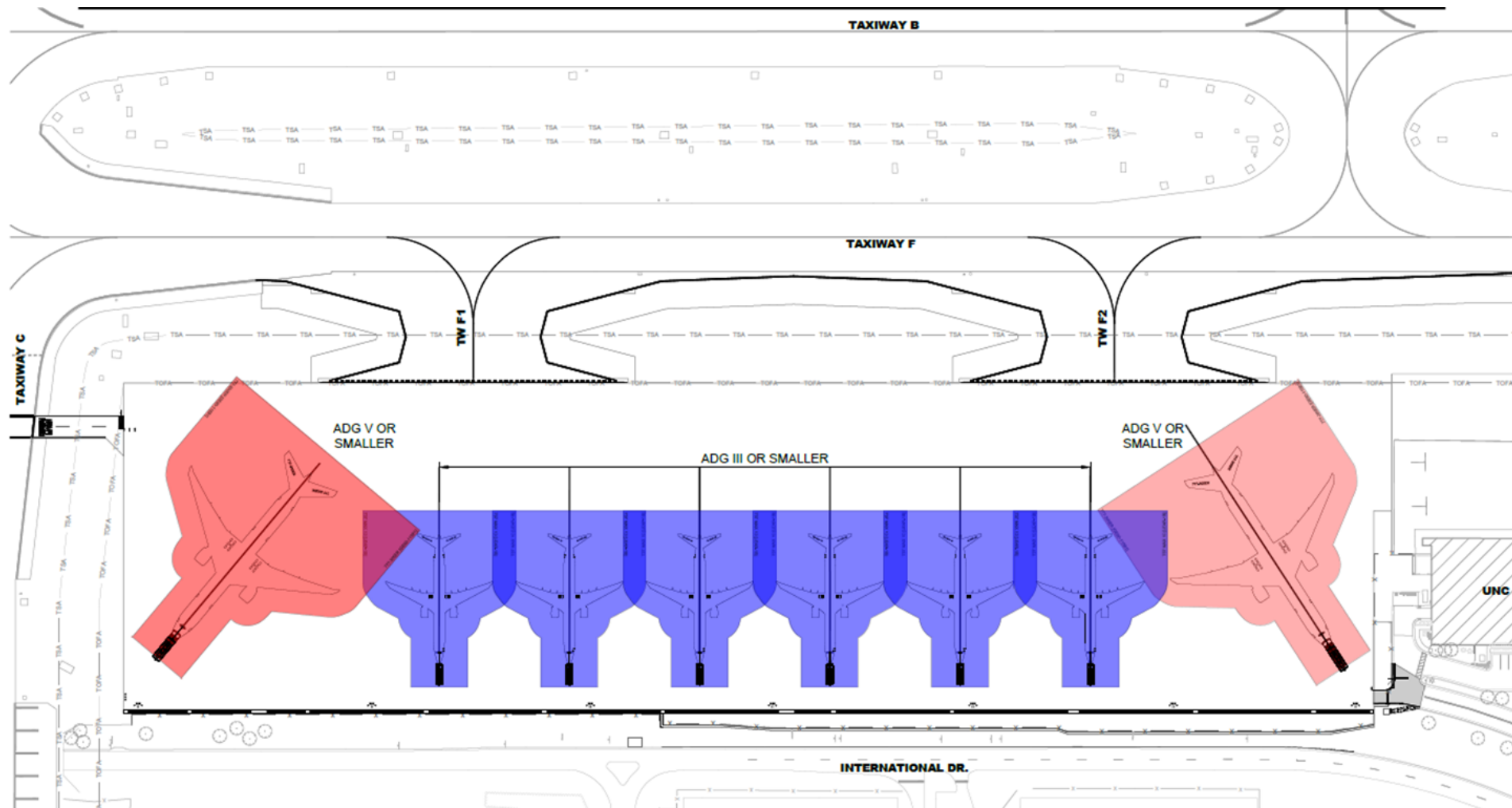
Towing from T2 to West RON

- First call Ramp Tower on the radio using frequency 130.175 and obtain pushback permission. Provide call sign, gate number and relocate to West RON.
- Once released from Ramp Tower contact Raleigh Ground on frequency 121.90. Provide call sign, current location and relocate to West RON.

Map – Terminal 2 to West RON



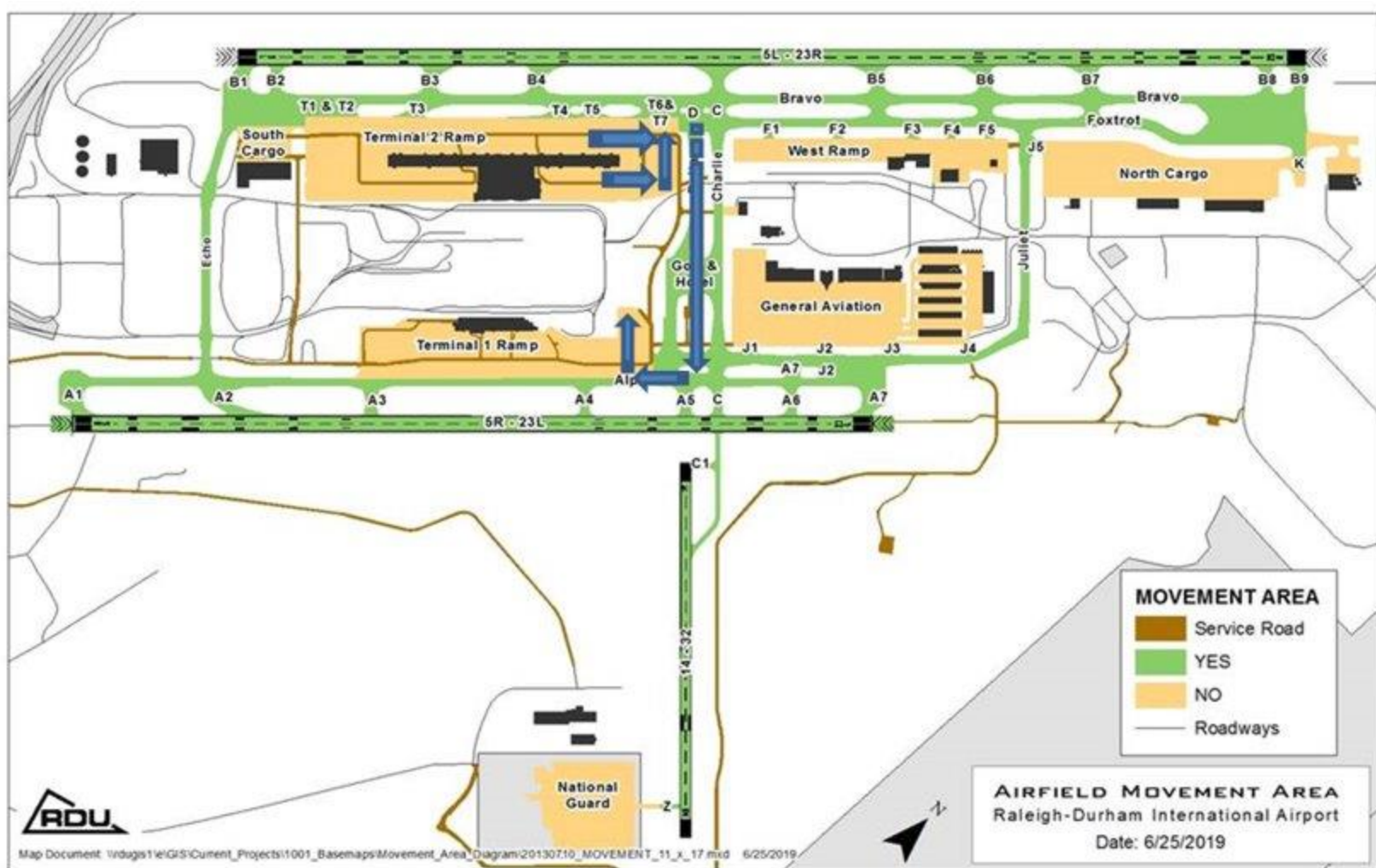
Map – West RON Parking



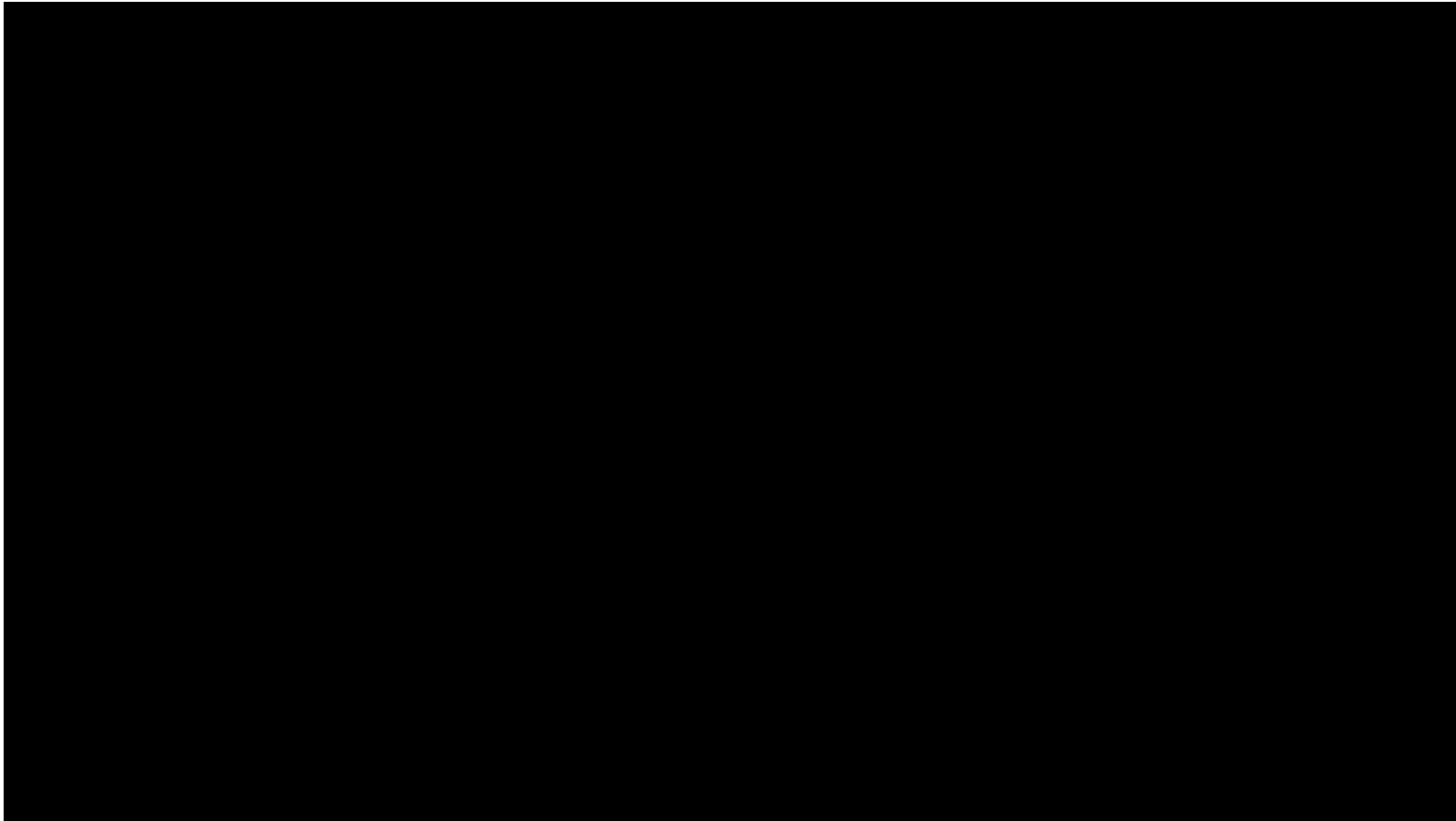
Towing from T2 to T1 North/South

- First call Ramp Tower on the radio using frequency 130.175 and obtain pushback permission. Provide call sign, gate number and relocate Terminal 1 North/South request.
- Once released from Ramp Tower contact Raleigh Ground on frequency 121.90. Provide call sign, current location and relocate Terminal 1 North/South request.

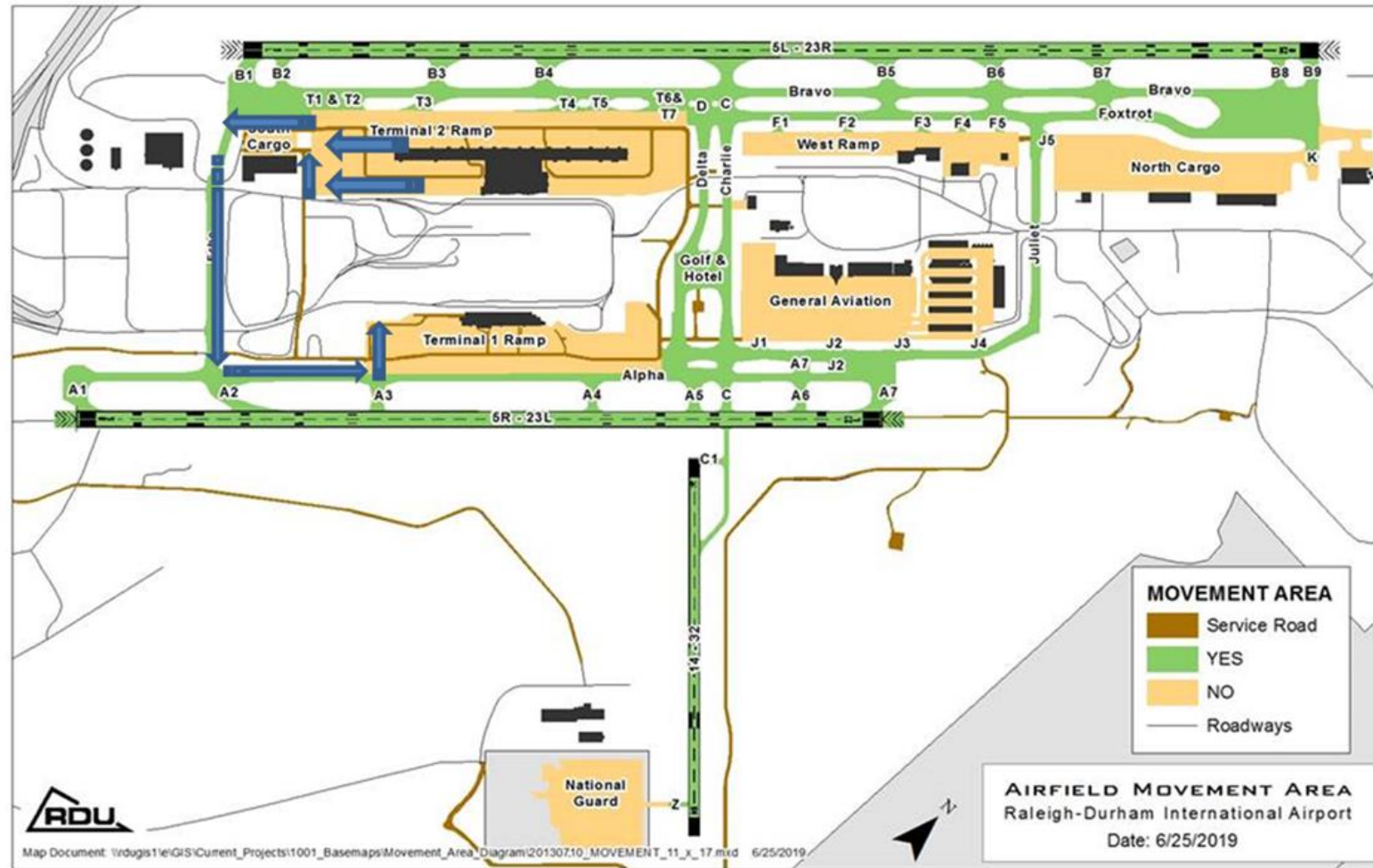
Map – Terminal 2 to Terminal 1 North



Video – Terminal 2 to Terminal 1 North



Map – Terminal 2 to Terminal 1 South



Map – Terminal 1 North Parking



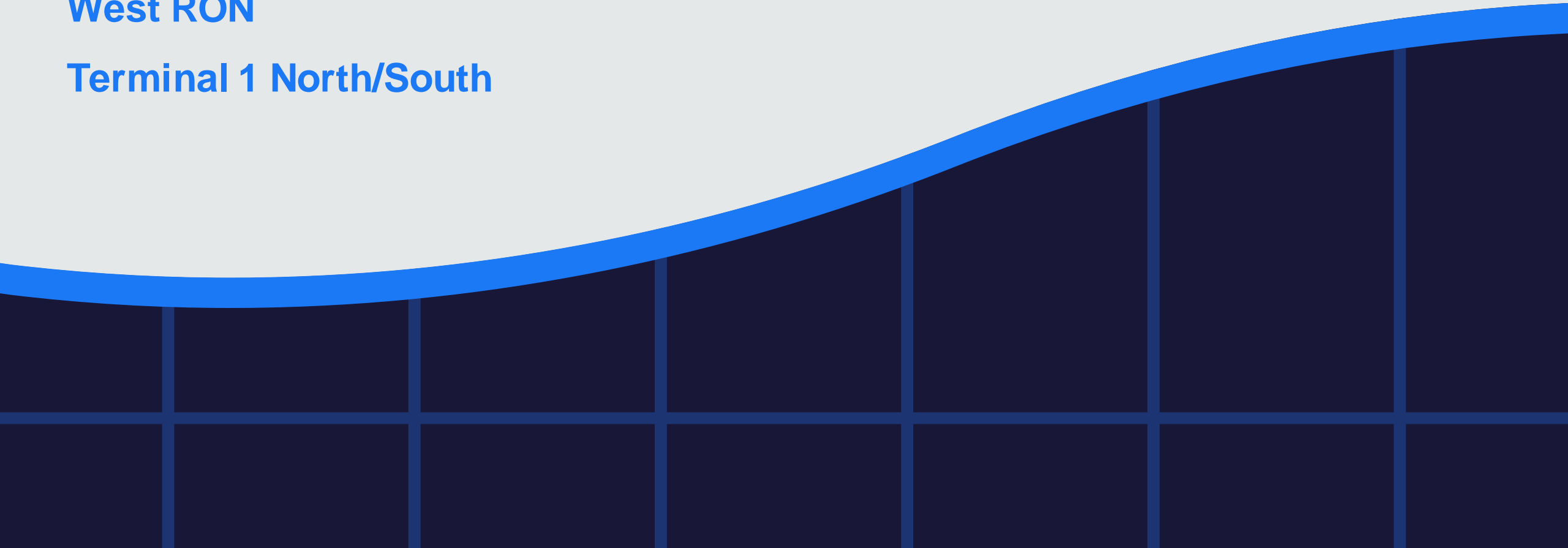
Map – Terminal 1 South Parking



Towing from Terminal 1 to RON

West RON

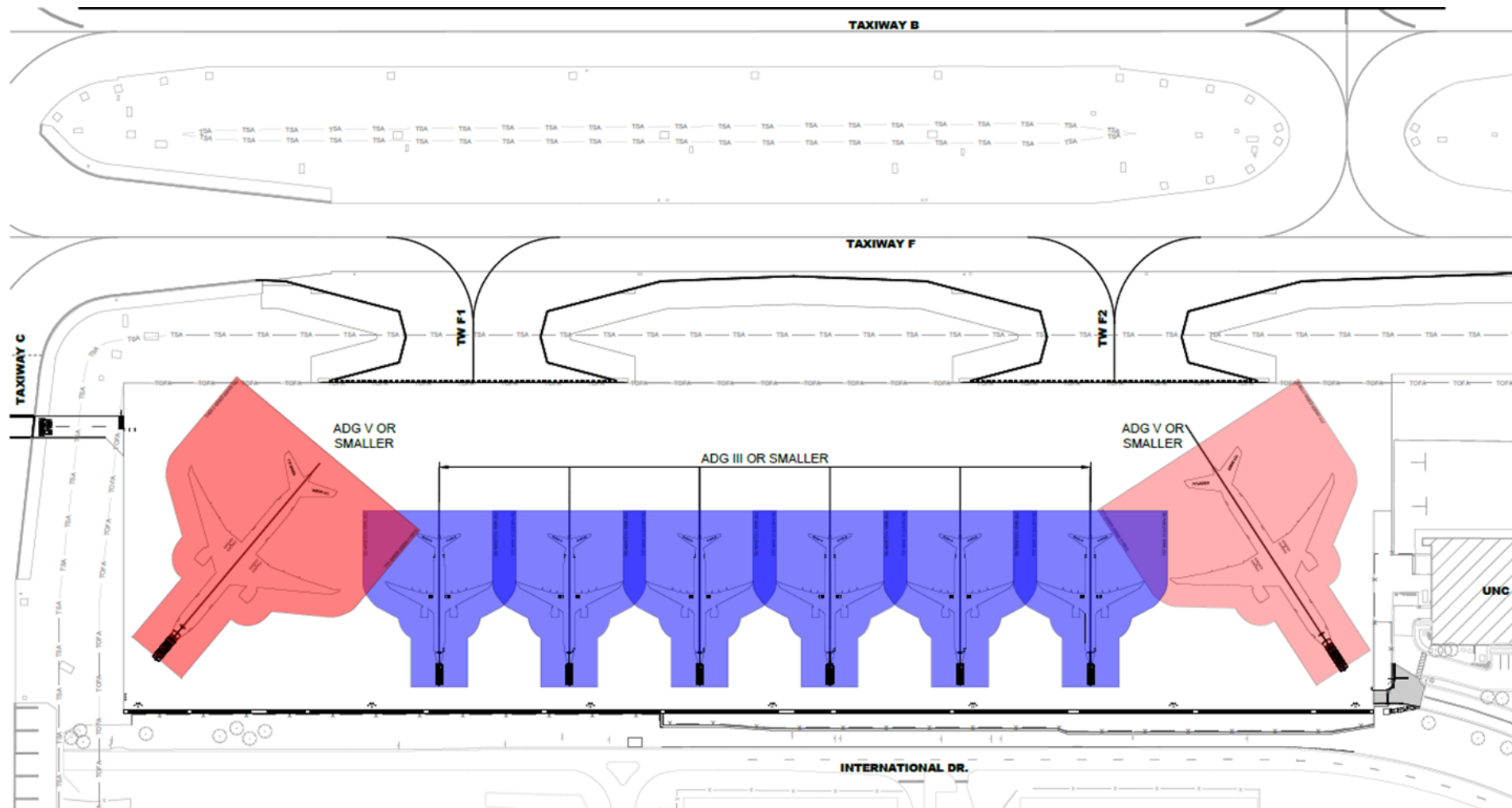
Terminal 1 North/South



Towing from Terminal 1 to West RON

- Call Raleigh Ground on the radio using frequency 121.90. Provide call sign, location Terminal 1, and relocate West RON request.

Map – West RON Parking



Towing from T2 to T1 North/South

- Call Raleigh Ground on the radio using frequency 121.90. Provide call sign, location Terminal 1, and relocate Terminal 1 North/South request.

Map – Terminal 1 to Terminal 1 North/South



Map – Terminal 1 North Parking



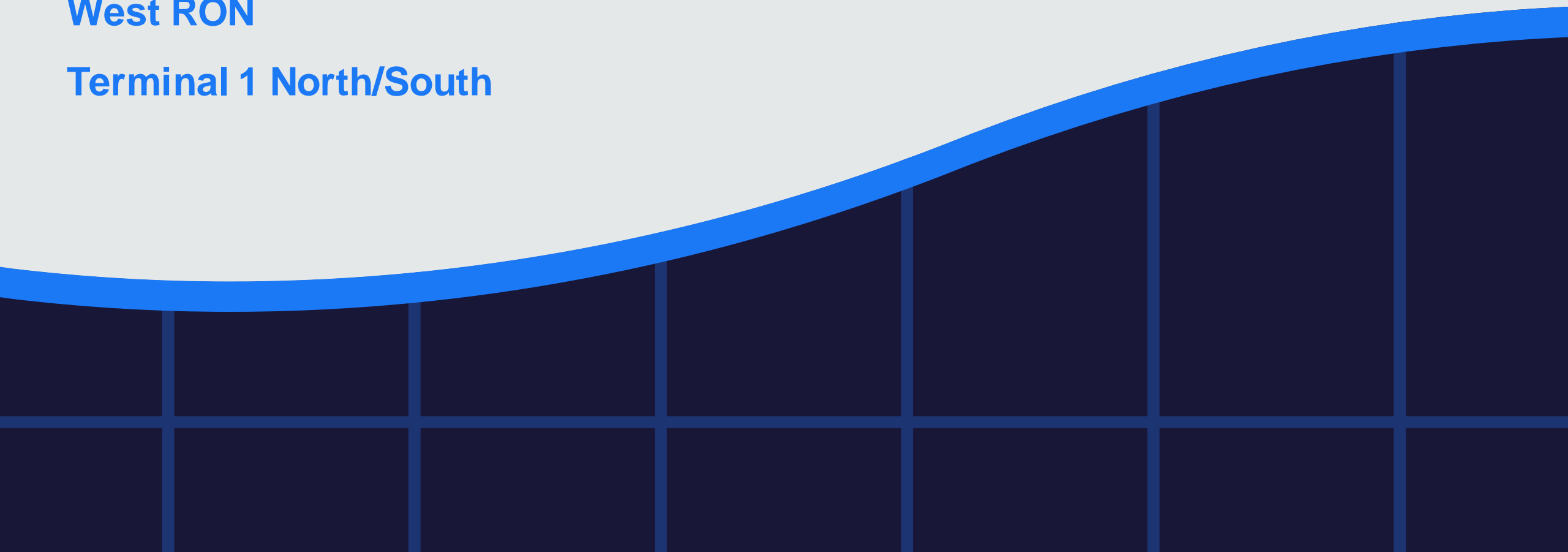
Map – Terminal 1 South Parking



Towing from RON to Terminal 2

West RON

Terminal 1 North/South



Towing from West RON to Terminal 2

- Call Raleigh Ground on the radio using frequency 121.90. Provide call sign, location TWY F1 or F2 , and relocate Terminal 2 request.
- Once released from Raleigh Ground contact Ramp Tower using frequency 130.175. Provide call sign, current location and gate request.

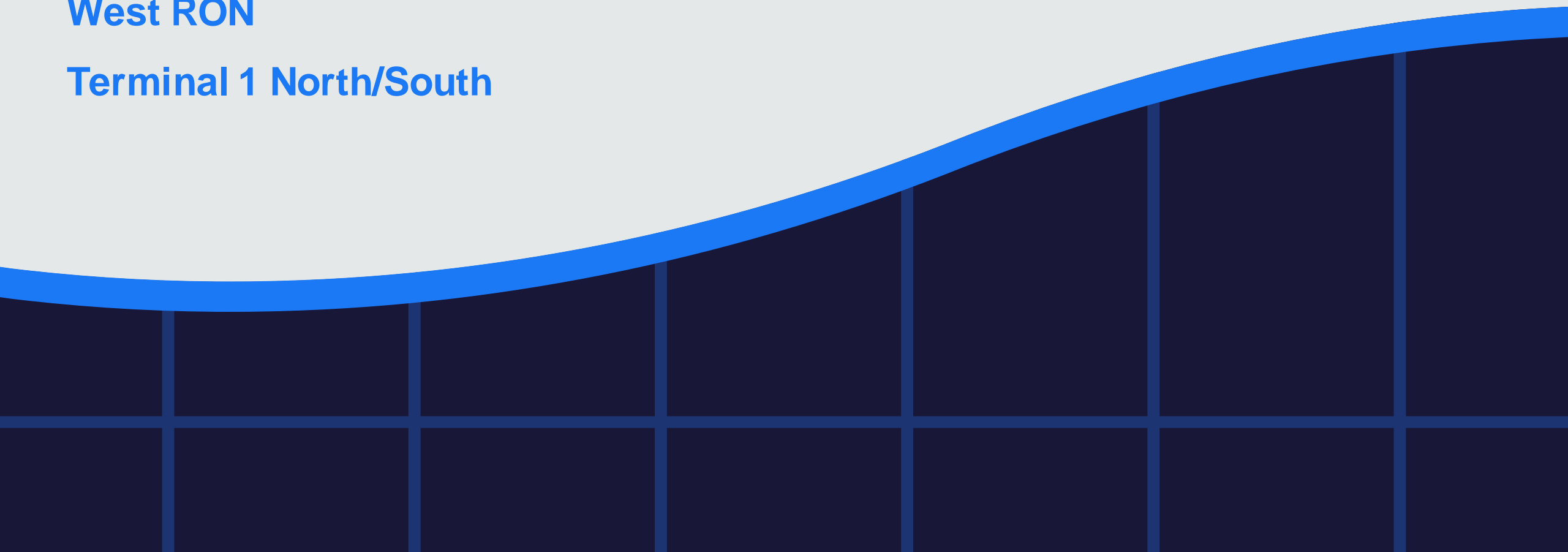
Towing from T1 North/South to Terminal 2

- Call Raleigh Ground on the radio using frequency 121.90. Provide call sign, location Terminal 1 North/South, and relocate Terminal 2 request.
- Once released from Raleigh Ground contact Ramp Tower using frequency 130.175. Provide call sign, current location and gate request.

Towing from RON to Terminal 1

West RON

Terminal 1 North/South



Towing from West RON to Terminal 1

- Call Raleigh Ground on the radio using frequency 121.90. Provide call sign, location TWY F1 or F2 , and relocate Terminal 1 Gate # request.

Towing from T1 North/South to Terminal 1

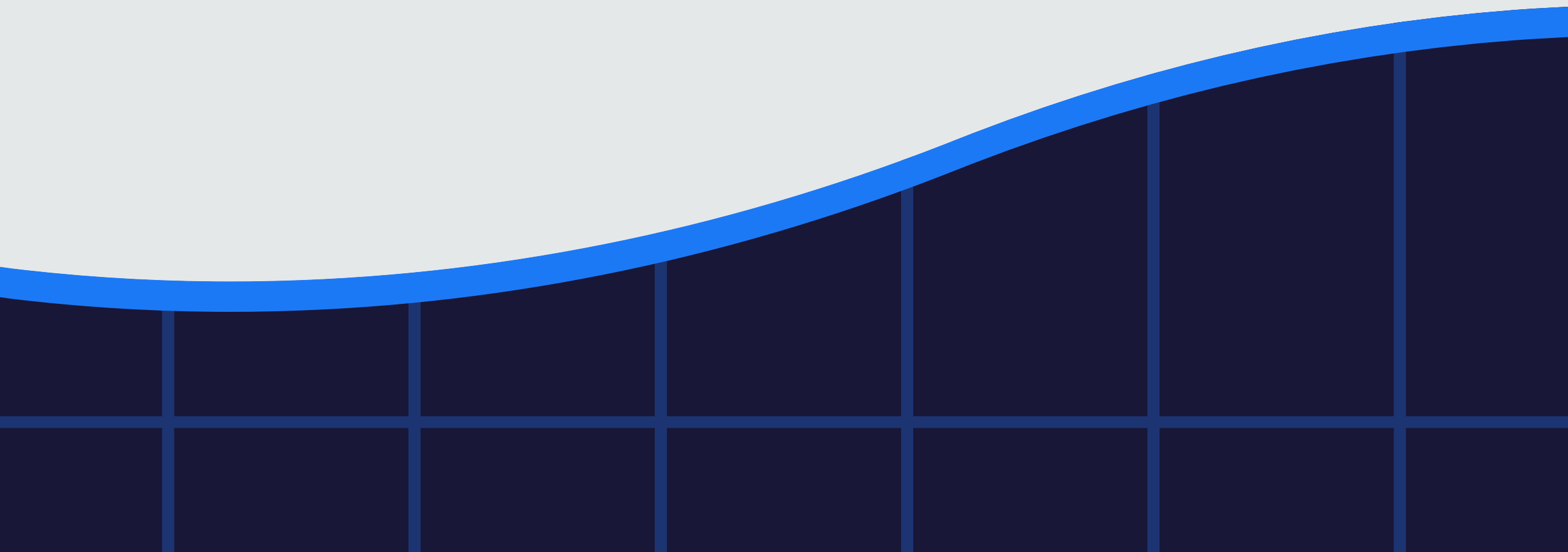
- Call Raleigh Ground on the radio using frequency 121.90. Provide call sign, location Terminal 1 North/South, and relocate Terminal 1 Gate #.



Remember

- Proceed with the tow, but you must watch & listen for other aircraft or ATC. You are 100% responsible for your safety.
- Follow the approved taxi route.
- Advise ATC when you are clear of the taxiways.

Airfield Familiarization



Movement Area Boundary

- Painted Line

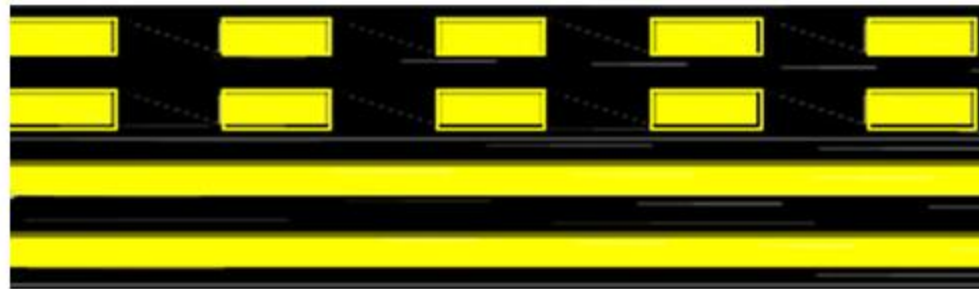
Movement Area



Non- Movement Area

Runway: Markings and Signs

- Runway hold position marking and mandatory instruction sign. These indicate entrance to a runway, off a taxiway.



Airfield Lighting

- Taxiway Edge Light = BLUE



Airfield Lighting

- Taxiway Centerline Light = GREEN
- Taxiway Centerline Marking (paint) = YELLOW



Runway Guard Lights



Taxiway – Location Signs

- Identify the Taxiway You Are On
- Yellow Lettering on a Black Background.



Taxiway – Destination Signs

- Provide Guidance
- Black lettering on a yellow background
- Always have an arrow.

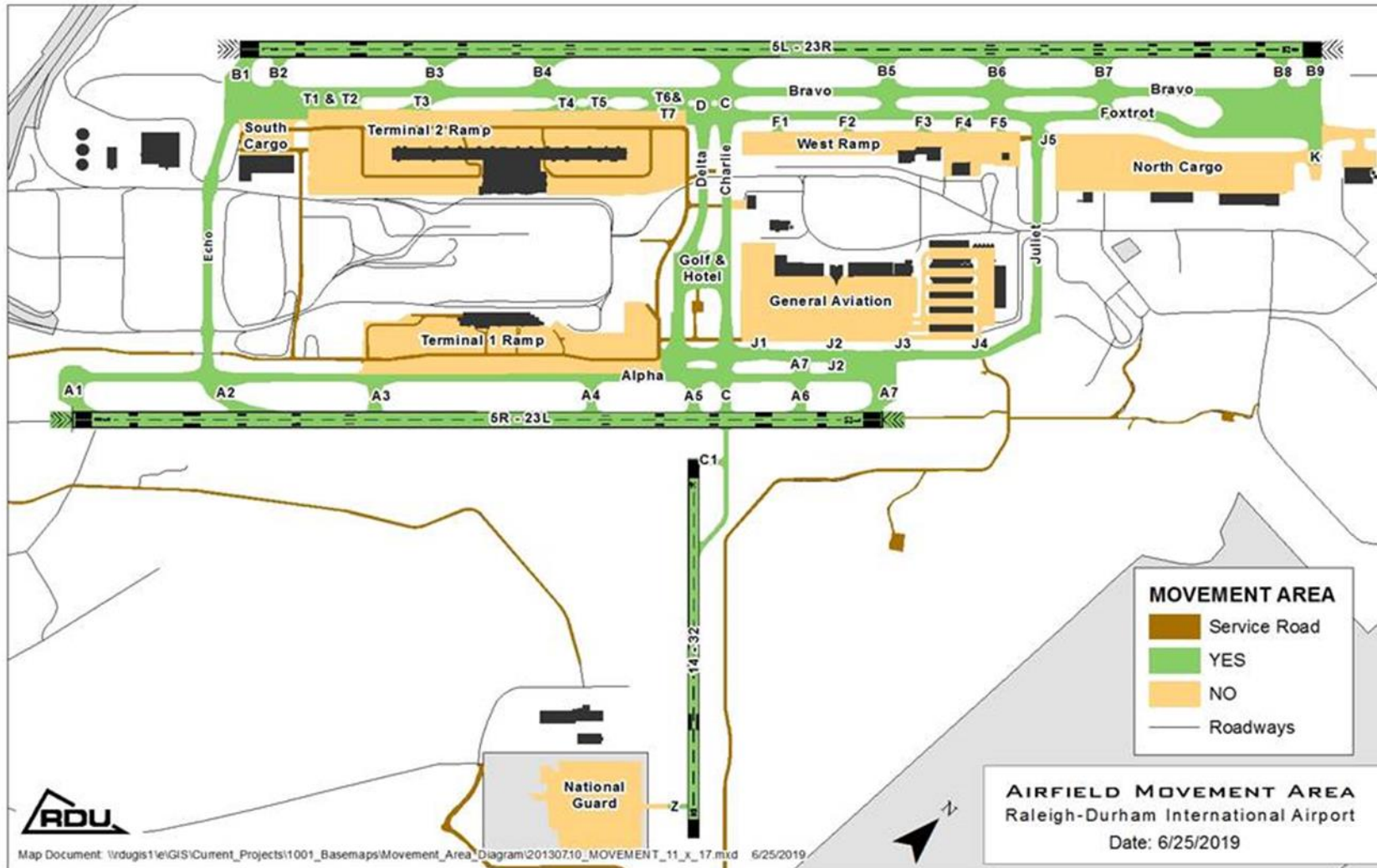


Taxiway – Destination Signs

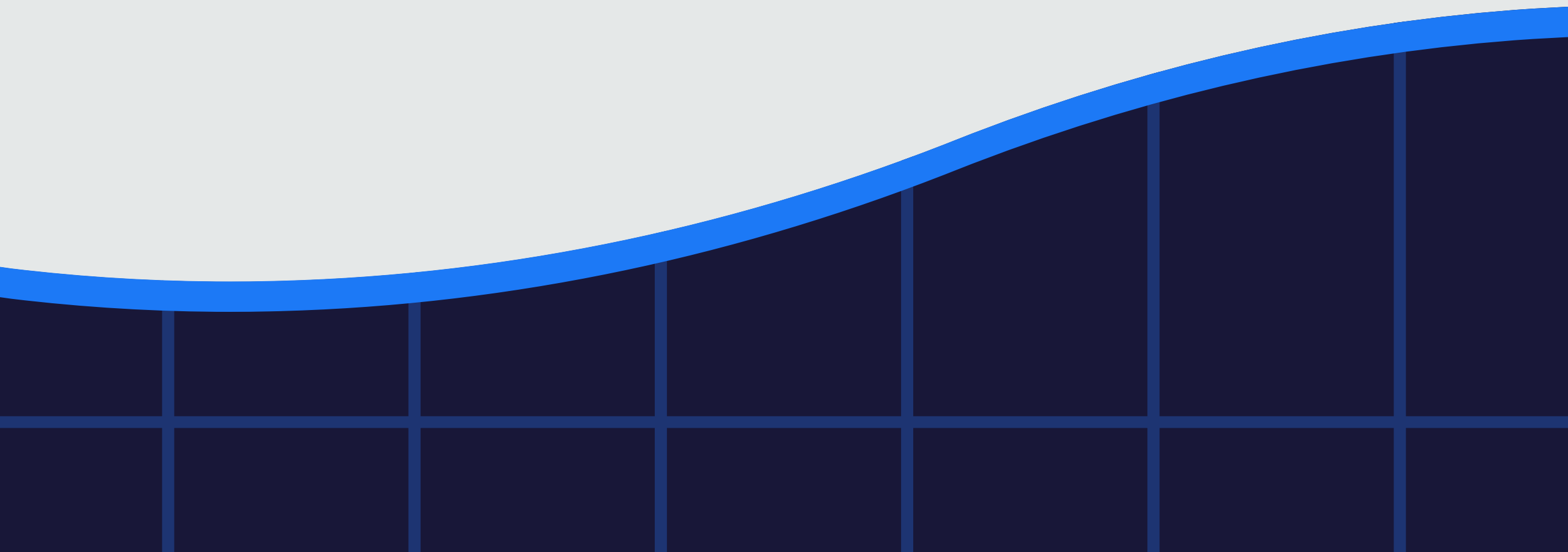
- Provide Guidance
- Black lettering on a yellow background
- Always have an arrow.



Map – Movement Area



Housekeeping



Contact Airport OPS First

- Confirm there is a location available to park.
- Provide airline information
- Where you are towing to and from
- Provide aircraft type
- Provide aircraft tail number





Parking

- Chock all aircraft and ground service equipment (GSE).
- Once aircraft are clear of RON, remove all chocks, cones, GSE, stairs, etc.
- Inspect for FOD before you leave.

Surface Movement Guidance & Control System

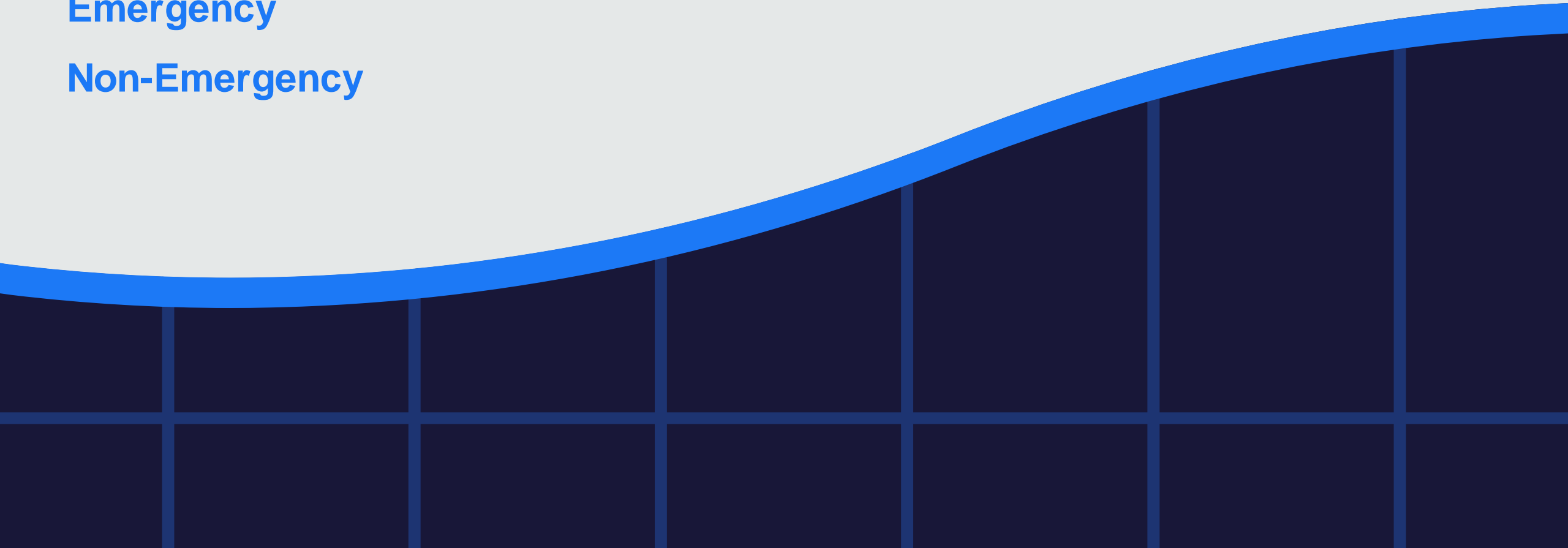
- SMGCS
- No “LM” activity during SMGCS (low visibility) conditions.
- If aircraft escort is needed, Airport OPS must be contacted.



What if I Encounter a Problem?

Emergency

Non-Emergency



Emergency

- If you experience an emergency while conducting a tow, stop immediately, notify Raleigh Ground (121.90) or Ramp Tower (130.175), and contact Airport Communication Center (919-840-2111).
 - Pushback fire, hazardous materials spill (oil, fuel, antifreeze), etc.
- Advise location and type of emergency.
- If needed, back away to a safe distance.

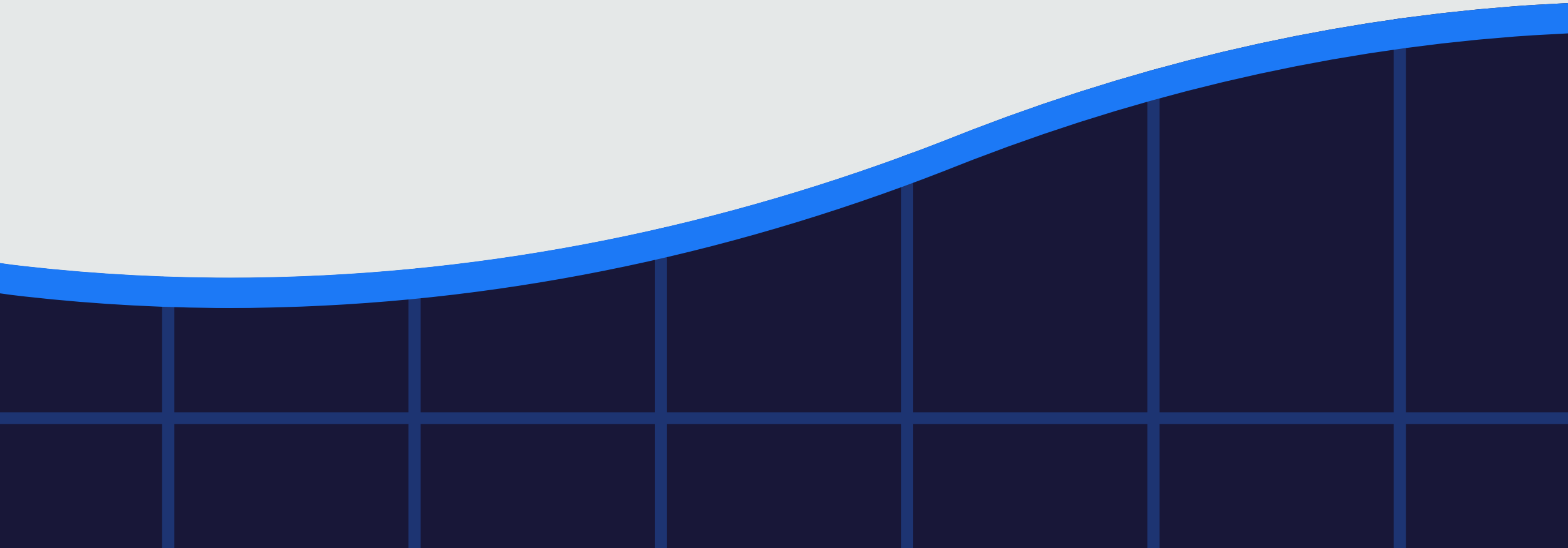


Non-Emergency

- Example: Disabled pushback, communication issues, broken tow bar, etc.
- Stop immediately, advise Raleigh Ground (121.90) or Ramp Tower (130.175), and contact Airport Operations (919-397-4416).
- OPS will respond to you ASAP.



Penalties for Non-Compliance



What is an Incursion?

- “Any vehicle or person that enters the movement area without receiving prior permission from Raleigh Ground”.
- Can happen on a Taxiway or Runway



Causes of Incursions

- Communication breakdown
 - Proper phraseology
 - Verify instructions
- Lack of airport familiarity
 - Know the airfield layout
- Loss of situational awareness
 - Remove distractions (i.e. cellphone)



Rules

- If you move without ATC clearance, you will be committing an incursion. Minimum penalty – you lose your badge for 30 days – no appeals!
- Always remain alert. You will share the parking area with other airlines.

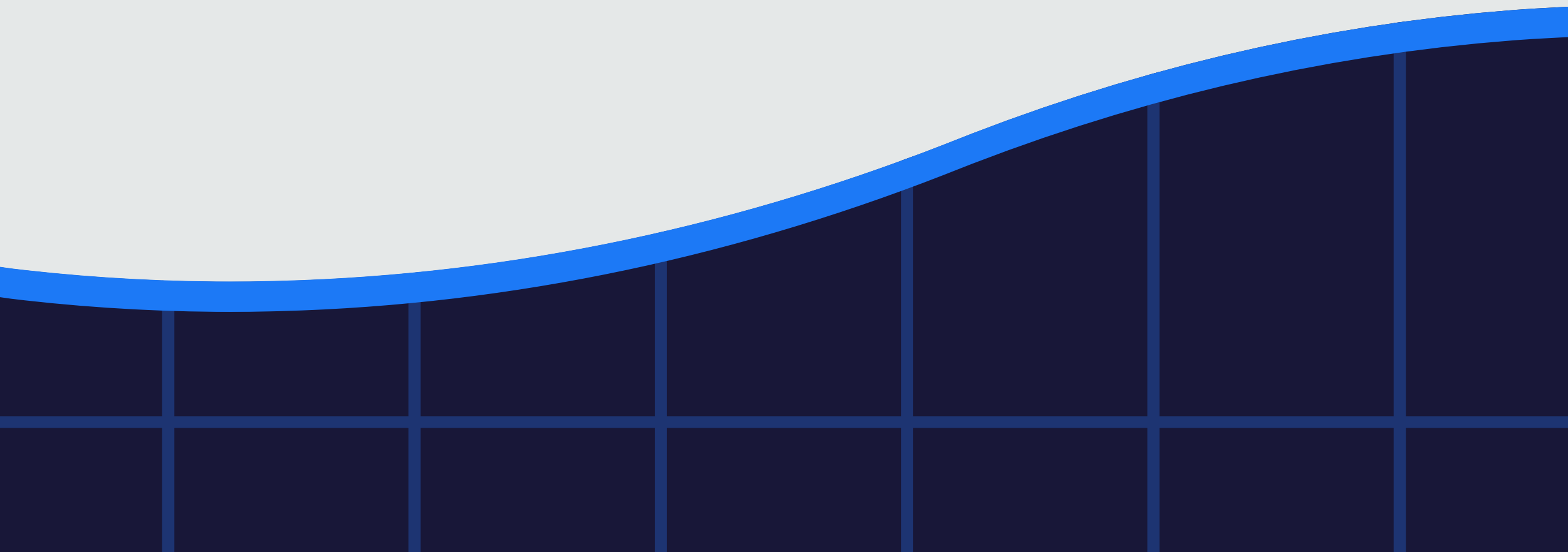




Contact Numbers

- Operations Duty Phone:
 - (919) 397-4416
- Airport Communications Center:
 - Emergency: (919) 840-2111
 - Non-Emergency: (919) 840-7510

Questions?





Raleigh-Durham
Airport Authority

Thank you!
