



Galveston Bay

Gulf Coast Protection District Meeting
February 8, 2023

Maritime Implications for Ship Transits for the Proposed Houston Ship Channel Gate Complex

Speakers:

- CAPT Bill Diehl, President, Greater Houston Port Bureau
- Captain Clint Winegar, Presiding Officer, Houston Pilots
- CAPT Mark Saunders, Presiding Officer, Galveston-Texas City Pilots
- George Burkley, MSc/Locus LLC / Executive Director, Maritime Pilots Institute

Gulf of Mexico

Scope of Research

6 days of simulations

18 pilots from Houston and Galveston pilot groups

42 scenarios

111 ship transits

Mix of wind, current, traffic, and visibility conditions

Observers present from USACE Galveston

Test Vessels and Runs

Ships	LOA	Beam	Draft	#Runs
Tanker Suezmax	900'	164'	40'	23
Tanker Aframax	820'	144'	49'	10
Container 1	1,102'	150'	40'	5
Container 2	1,138'	140'	48'	2
Tanker VLCC	1,089'	190'	46'	2
ULCV Container	1,312'	192'	48'	1

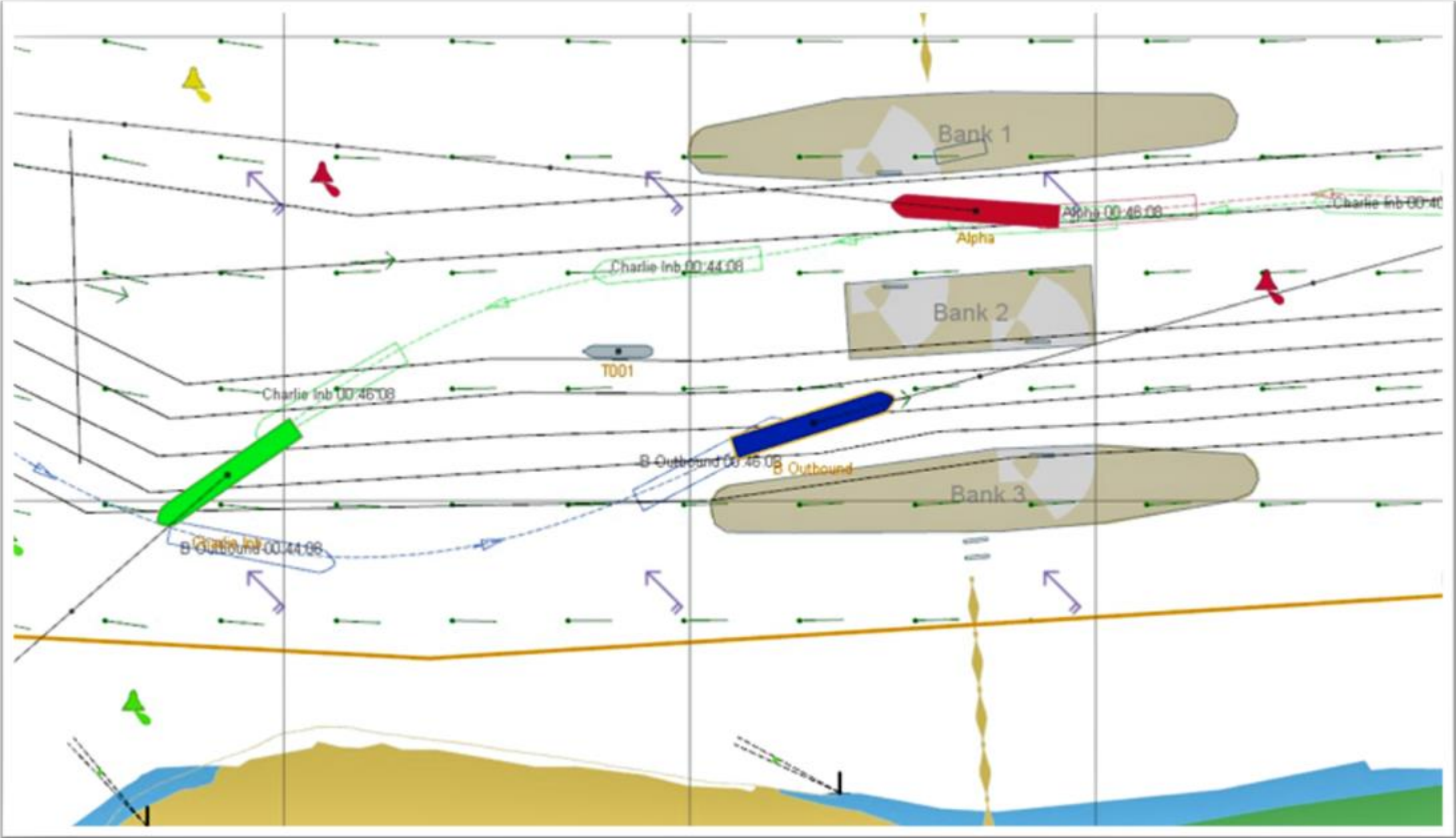
Simulation Design: Houston Ship Channel Gate Complex



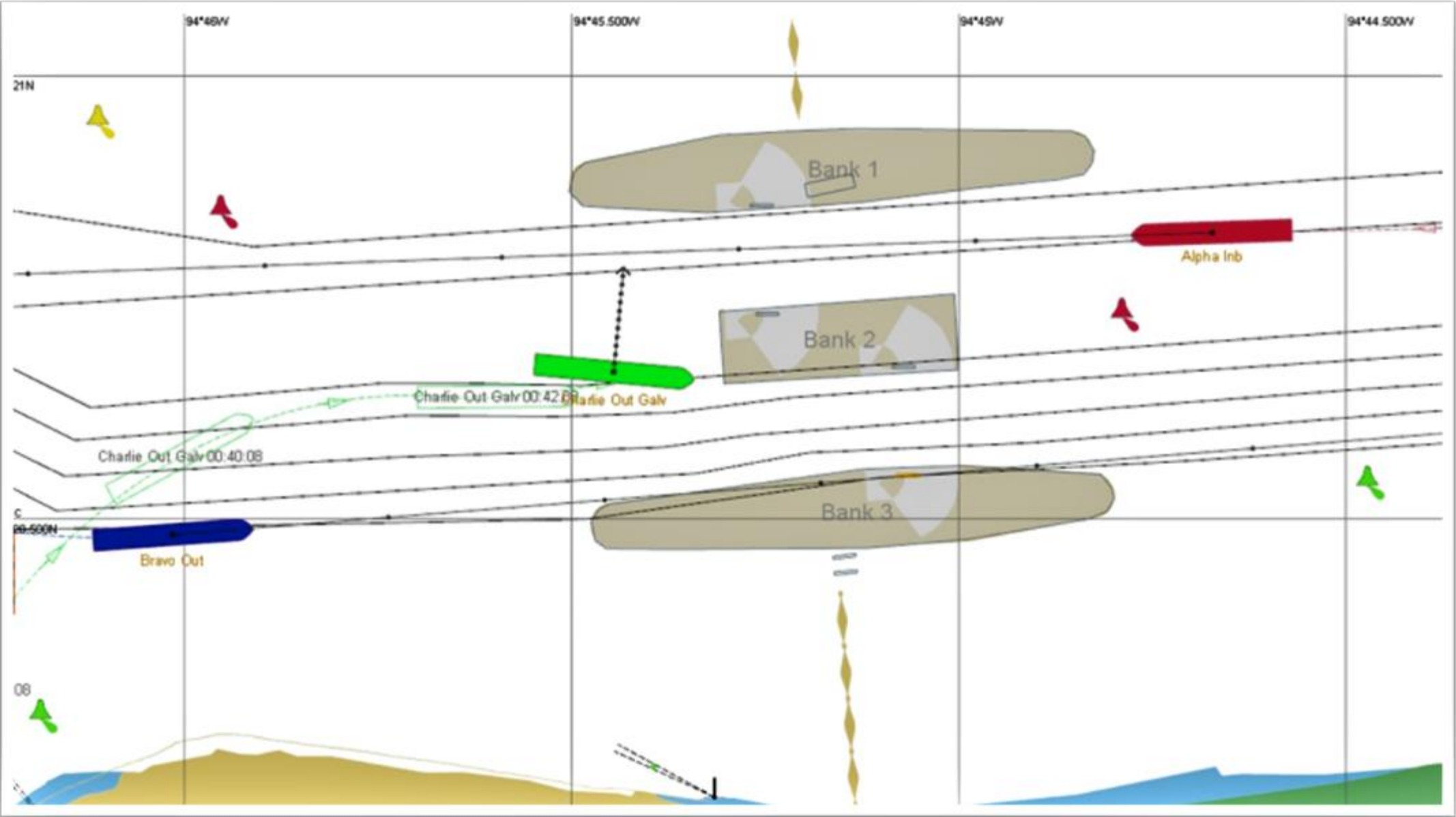
San Jacinto College Houston Pilots Ship Simulator



Simulation Outcome: Emergency Maneuvers



Simulation Outcome: Multiple Groundings



Vessel Sizes

Containers 5-6
high on deck

Containers 9
high on deck

Containers 11
high on deck



Existing Vessel
6,000 Container Capacity
964' long x 106' wide



Planned Vessel (Project 11)
14,000 Container Capacity
1200' long x 164' wide



Near Future Vessel
21,000 Container Capacity
1300' long x 177' wide

Requests from Pilots Associations

- **Both Pilot groups request to be fully integrated into the design process**
- **Time is essential**
- **We need to establish a good gate design that creates no harm to navigation safety and efficiency**
 - Sill depth
 - Unrestricted traffic flow
 - Anchorage area mitigations
 - Construction by-pass channel design



Characteristics of Vessels Piloted

- Diverse vessels call on Ports of Houston, Galveston and Texas City. A Pilot may board a seismic survey vessel, loaded Suez Max, cruise ship, and oil rig in one day.
- Many of these vessels come into port without propulsion or steering.



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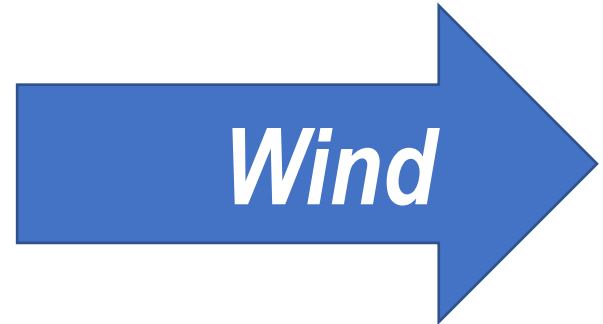
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Gate Width Important for Safe Navigation

- Vessels use a greater amount of the channel when they are navigating in strong winds
- In Houston, given 4 degrees of swept path, a large ship can occupy a full ½ of the available channel.



Ship Channel

