



**Addressing Overtopping & Erosion from Ship Wakes
Affecting Selected IOB Bayshore Drive Property Owners**
(even-numbered residential lots 96-410 Bayshore Drive facing La Quinta Channel)

Facilitated by Ingleside on the Bay Coastal Watch Association (IOBCWA)

Purpose and Overview of Meeting

To address coastal erosion and bulkhead overtopping experienced by certain Bayshore Drive residents that may have been exacerbated by increased ship traffic on La Quinta Channel.

- Goals & Issues
- Introductions - IOBCWA
- Historical RSLR Studies & Background
- Current Status & Possible Solutions
- Moving Forward

Goals & Issues

- **Goal:** To inform property owners and community of 1) IOBCWA's role, 2) historical studies of wake affects and relative sea level rise (RSLR), 3) status for PCCA requesting input for improving bulkheads along Bayshore Dr. and La Quinta Ship Channel and 4) bring together ideas for proposal to PCCA.
- **Responsibility:** PCCA believes homeowners are responsible for protecting own property; Homes with low bulkheads and no retaining wall most affected
- **Liability:** PCCA does not believe itself legally liable for ship speeds & wakes – up to captain
- **Precedent:** PCCA concerned about setting precedent where other communities (or others in IOB) may demand that the Port enhance bulkheads
- **Risk:** If IOB property owners do not act in concert with one another, or if we ask for too much assistance, this opportunity may be lost

IOB Coastal Watch Association (IOBCWA)

- Incorporated as nonprofit in September 2019
- Received tax-exempt 501(c)(3) status in December 2019
- Purpose: To promote the health, safety, and wellbeing of residents of IOB through research, education, communication, and action
- Current IOBCWA Projects: IOB & PCCA/Bayshore Dr., Desal facilities La Quinta Channel Permits, Deepening of PCCA Ship Channel Permit, MODA Pier Permit, Air Monitoring, Raising Roadways & Drainage, Region N Water Planning Group, Community Outreach.
- Nearly 100 members
- Board Members:
 - Patrick Nye
 - Chris Carleton
 - Jennifer Hilliard
 - Craig Wadham
 - Shelley Williams
- Staff:
 - Kathryn Masten, Executive Director
 - Emily Nye, Manager of Public Relations, Research, and Environmental Justice

INTRODUCTIONS



Kathryn Masten
Executive Director



Patrick Nye
Board President



Emily Nye
Manager of Public
Relations, Research, &
Environmental Justice

RSLR STUDIES BACKGROUND

Port of Corpus Christi Authority (PCCA) Timeline

2014 – PCCA Revetment & Breakwater

Port of Corpus Christi Authority (PCCA) builds breakwater & revetment to protect IOB from expected increase in ship traffic due to La Quinta channel deepening

Citizens report speeding vessels (as much as 12.5 knots), causing erosion and overtopping

Frequency and size of ships increases

2018– PCCA Studies

7/17/18: PCCA commissions Mott MacDonald Engineering to conduct Passing Vessel Hydrodynamic (PVH) Study

4/3/19: 79-page PVH Study completed

5/7/19: PVH Study Results shared at IOB City Council meeting

6/18/19: Mott MacDonald presents preliminary findings from Passing Vessel Hydrodynamic (PVH) Study

10/10/19: Mott MacDonald submits 40 pages of additional analyses for PVH Study

2020 – IOBCWA Involvement & PCCA Follow-Up

12/30/19: IOBCWA receives \$20k grant from San Patricio County Commissioners Court for Relative Sea Level Rise (RLSR) study by Mott MacDonald

1/21/20: Mott MacDonald presents PVH Study findings to PCCA, which refers matter to Long Range Planning Committee

1/29/20: Mott MacDonald presents results from Relative Sea Level Rise (RLSR) Study, commissioned by IOBCWA with grant support from County Commissioners, at Brass Turtle

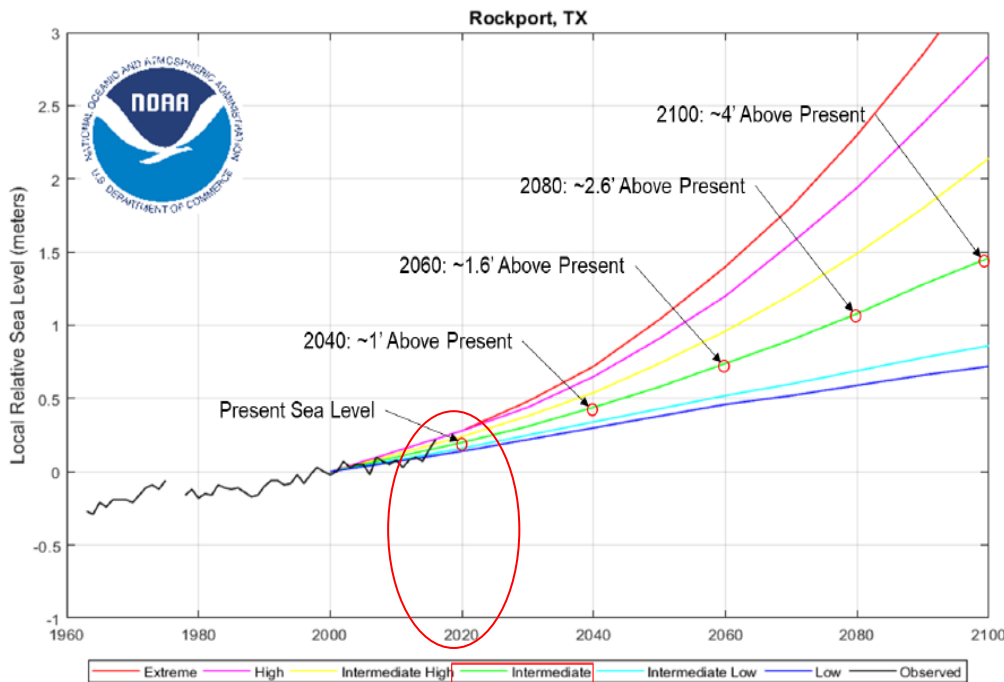
8/4/20: PCCA Long-Range Planning Committee discusses “Ingleside on the Bay”

RELATIVE SEA LEVEL RISE

Projected Sea Levels

Relative Sea Level Rise 2040

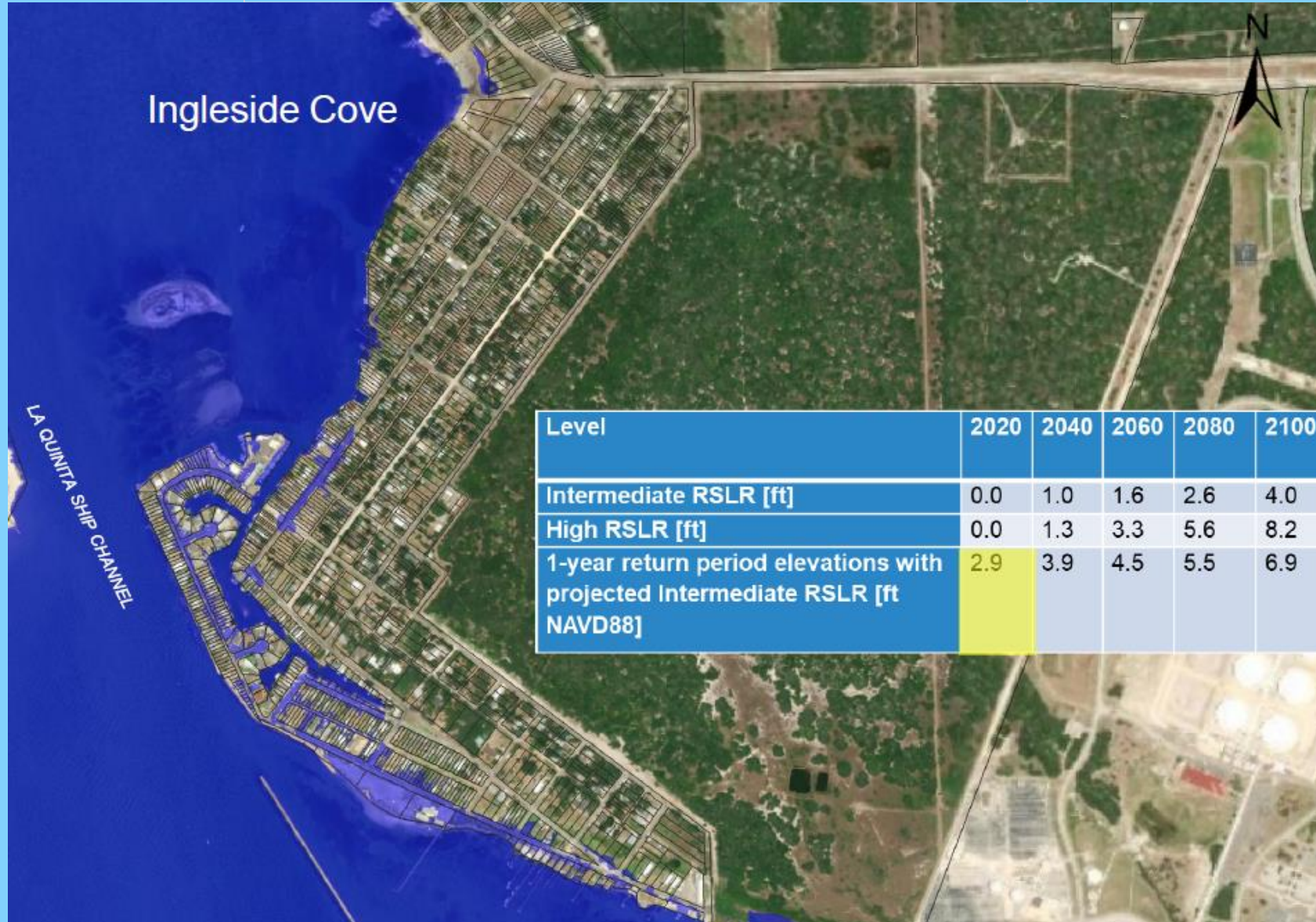
- Data shows sea accelerating sea level
- Hurricane Harvey Surge Peaked at +6' NAVD88 at Port Aransas and +12' NAVD88 at the Aransas Wildlife Refuge



Level	2020	2040	2060	2080
Intermediate RSLR [ft]	0.0	1.0	1.6	2.6
High RSLR [ft]	0.0	1.3	3.3	5.6
1-year return period elevations with projected Intermediate RSLR [ft NAVD88]	2.9	3.9	4.5	5.5
10-year return period elevations with projected Intermediate RSLR [ft NAVD88]	4.8	5.8	6.4	7.4
20-year return period elevations with projected Intermediate RSLR [ft NAVD88]	5.8	6.8	7.4	8.4
50-year return period elevations with projected Intermediate RSLR [ft NAVD88]	7.2	8.2	9.0	9.8
100-year return period elevations with projected Intermediate RSLR [ft NAVD88]	10.0	11.0	11.6	12.6

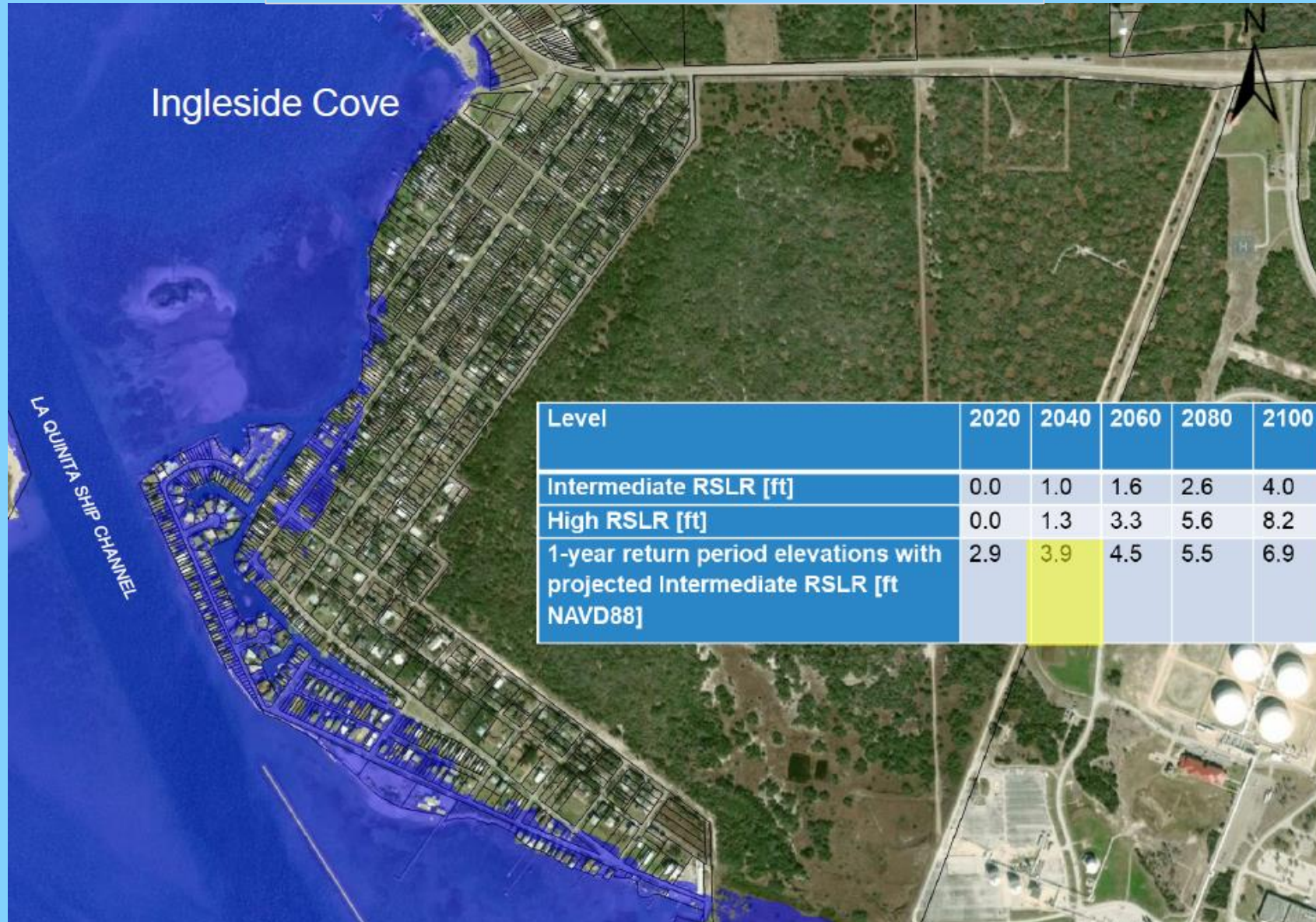
The Big RSLR Picture in 2020 for IOB

2020 Sea Level Rise Viewer from NOAA
(<https://coast.noaa.gov/slr/>)



RSLR - The Big Picture in 2040 for IOB

2040 Sea Level Rise Viewer from NOAA
(<https://coast.noaa.gov/slr/>)



Options for Zone 2A as a Whole

Zone 2A Alternatives



Zone 2A Possibility from PCCA for Bayshore Drive Homes on La Quinta Channel

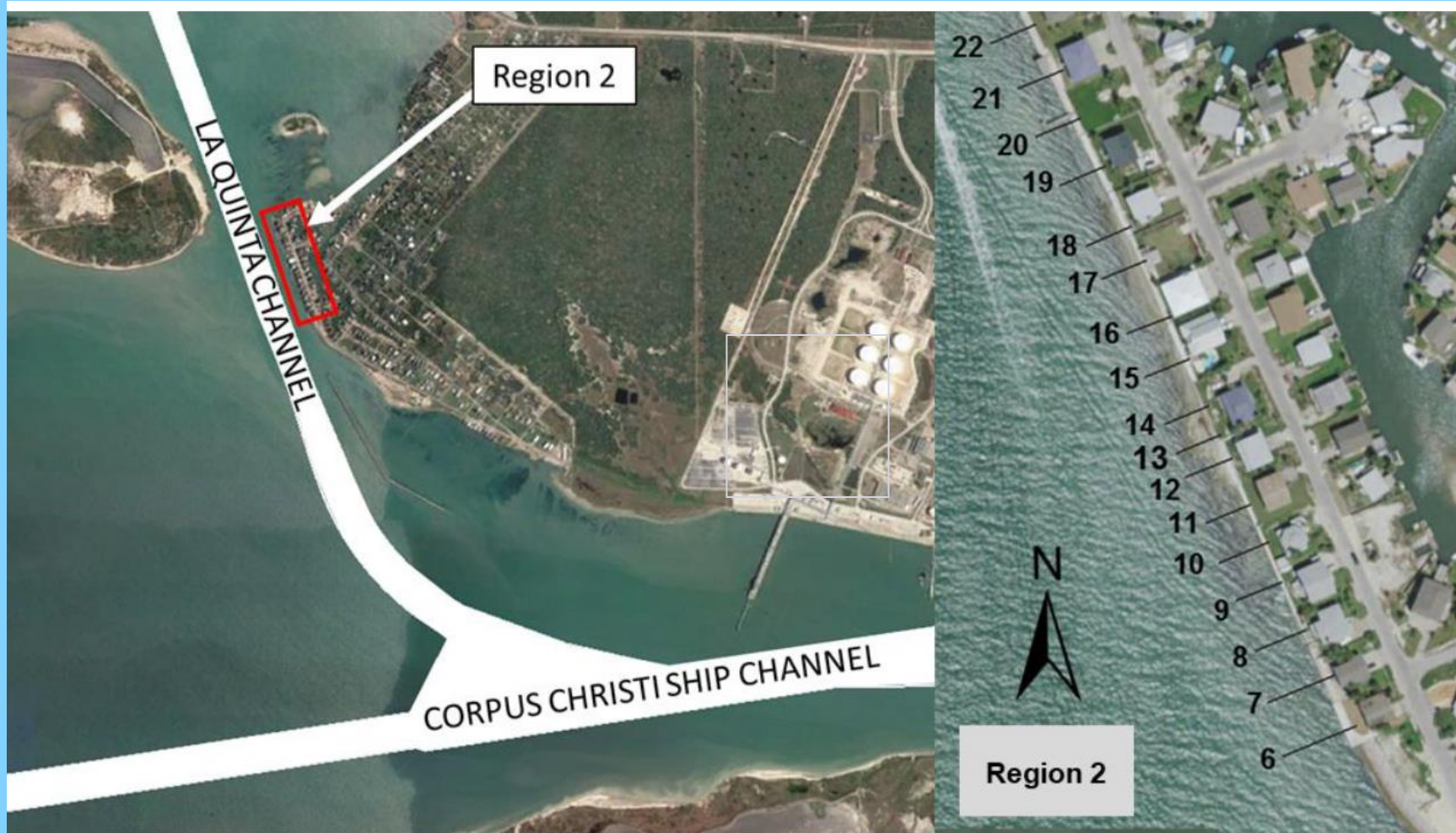


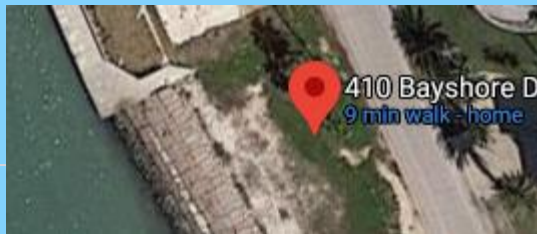
Figure 2. (Left) Overall location of Region 2 and (Right) detail of Region 2 showing transects 6 – 22 as generated in MM (2019).

Addresses Included in PVH Study: 104 – 402 Bayshore (16 properties)

4 Properties Around Curve & On Edge



96, 98, & 100 Bayshore: Any effects?



410 Bayshore: Any unprotected shoreline?



CURRENT STATUS

PCCA Consideration of Bulkhead Raising



Project History

Mott MacDonald Passing Vessel Hydrodynamic Study - Additional Analyses

October 2019

- Further development and evaluation of mitigation measures
 - Deepen the La Quinta Ship Channel along Bayshore Dr
 - Construct/extend breakwater
 - Increase bulkhead/retaining wall heights
 - Optimize location of Beneficial Use Site CQ
 - Develop conceptual cost estimates and evaluation matrix
- Findings
 - Raise the wall/bulkheads to a minimum elevation to prevent overtopping

PCCA

- Evaluate alternatives
- Waterside reconnaissance
- Tour with public officials
- Evaluate alternate options

PCCA Seawall/Bulkhead Options Considered

Option 1 Retaining Wall

Select Sites	All Sites
Approximately \$25,000 to \$50,000	N/A

Limitation: Dependent on existing condition and quality of existing bulkheads.

Option 2 Increase Bulkhead Elevation

Select Sites	All Sites
Approximately \$350,000 to \$500,000	Approximately \$2.5 to \$3.5 million

Limitation: Dependent on existing condition and quality of existing bulkheads.

Option 3* New Sheet Pile Wall

Select Sites	All Sites
Approximately \$550,000	Approximately \$3.4 million

Limitation: Less dependent on existing condition and quality of existing bulkheads.

Concept for Opinion of Probable Costs dated June 26, 2020

*PCCA Concept

Summary of Options & Costs

Summary of Options	
OPTIONS	Estimate of Probable Construction Costs
1. Build Retaining Wall	
at select sites	\$25,000 to \$50,000
at all sites	N/A
2. Increase Bulkhead Elevation	
at select sites	\$350,000 to \$500,000
at all sites	\$2.5 to \$3.5 million
3. New Adjacent Sheet Pile	
at select sites	\$550,000
at all sites	\$3.4 million

Issues and Concerns

- **Unity:** If IOB property owners do not act in concert with one another, or if we ask for too much assistance, this opportunity may be lost
- **Liability:** PPCA does not believe itself legally liable for ship speeds & wakes – up to captain
- **Responsibility:** PPCA believes homeowners are responsible for protecting own property; Homes with low bulkheads and no retaining wall most affected
- **Precedent:** PCCA concerned about setting precedent where other communities (or others in IOB) may demand that the Port enhance bulkheads
- **Inclusion:** PCCA has not included Bayshore Drive/La Quinta homes at the curve & edges of properties studied (96-100 and 410 Bayshore Drive)

MOVING FORWARD

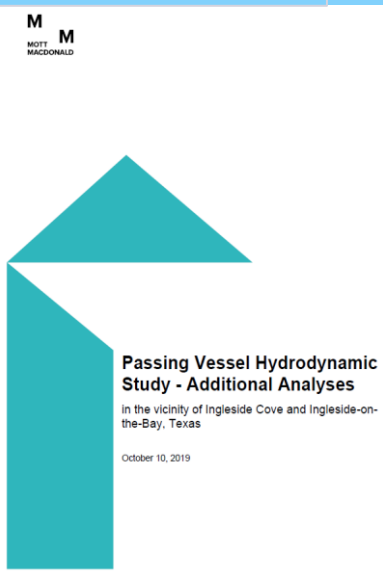
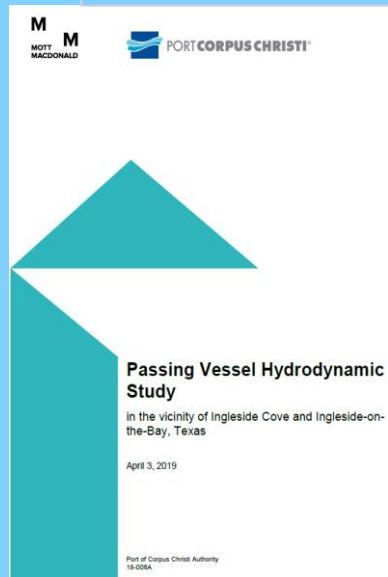
Next Steps

- Determine role of IOBCWA
- Individual concerns and other bulkhead solutions.
- Assess whether to include additional 4 properties
- Identify questions to pose to PCCA
- Come to consensus on preferred solution(s)
- Set up visit from Port Commissioners
- Consider possible CDBG-MIT or FEMA grant funding
- Set next meeting date
- Other comments

IOBCWA.org/bayshore.html: Additional Resources

- 6/18/19 PCCA Commissioners Presentation by Mott MacDonald (Item 9f):
<https://portofcc.com/about/commission/commission-agendas/>
- 1/21/20 PCCA Commissioners Presentation by Mott MacDonald (Item 12a):
<https://portofcc.com/about/commission/commission-agendas/>
- 8/4/20 Long-Range Planning Committee Presentation by PCCA Staff (40 min.)
<https://tinyurl.com/iobbayshoreport>

For Port of Corpus Christi



For IOBCWA

