



2018 Port Everglades Master/Vision Plan Update

Liquid Bulk Charrette

April 30, 2019



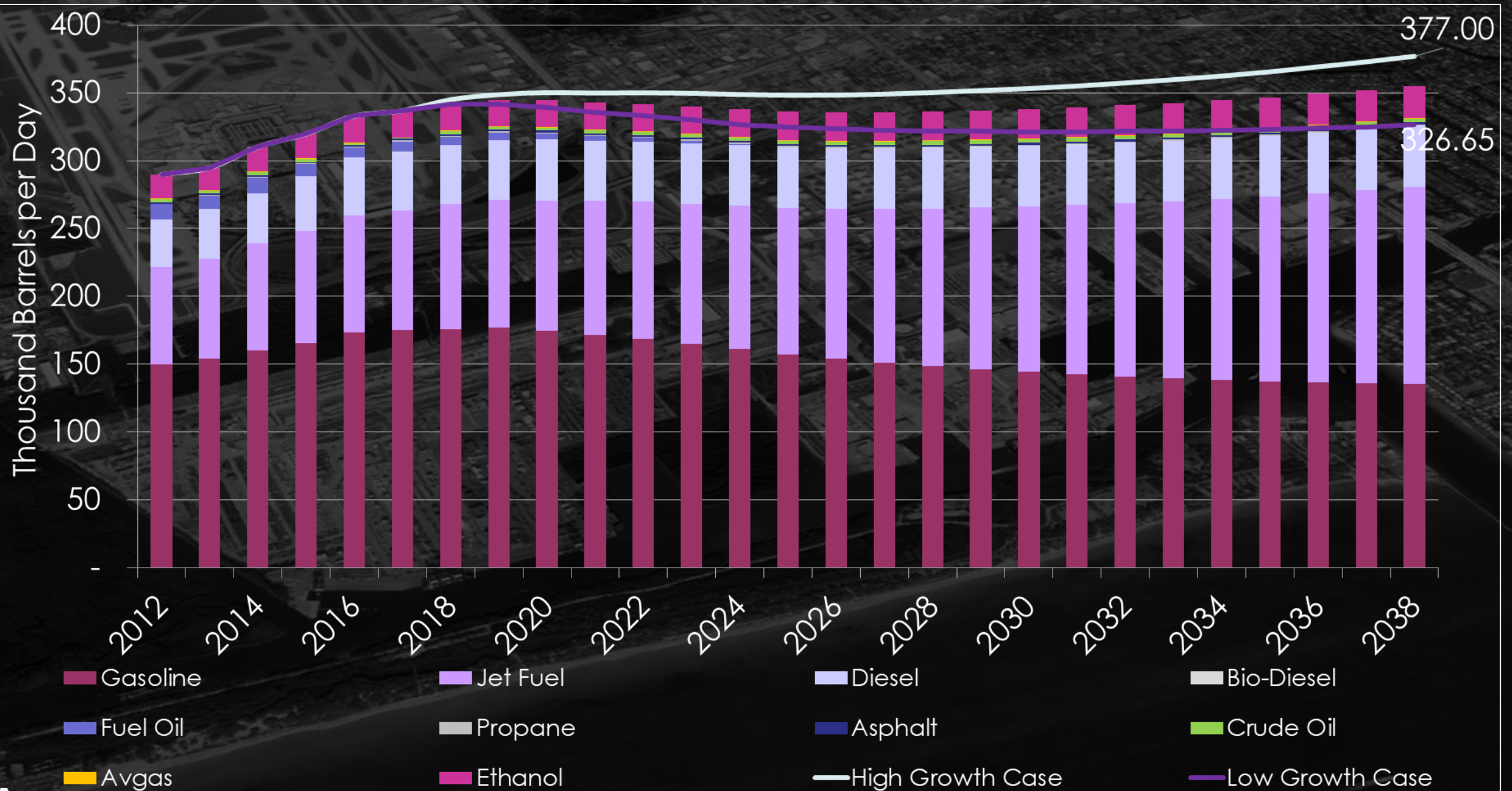
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An aerial photograph of an airport and surrounding urban area, overlaid with a dark, semi-transparent grid. The airport features a large terminal building, runways, and taxiways. The surrounding area includes residential neighborhoods, commercial buildings, and a body of water in the foreground.

2018 Master/Vision Plan Update

Phase 1: Market Assessments

Liquid Bulk



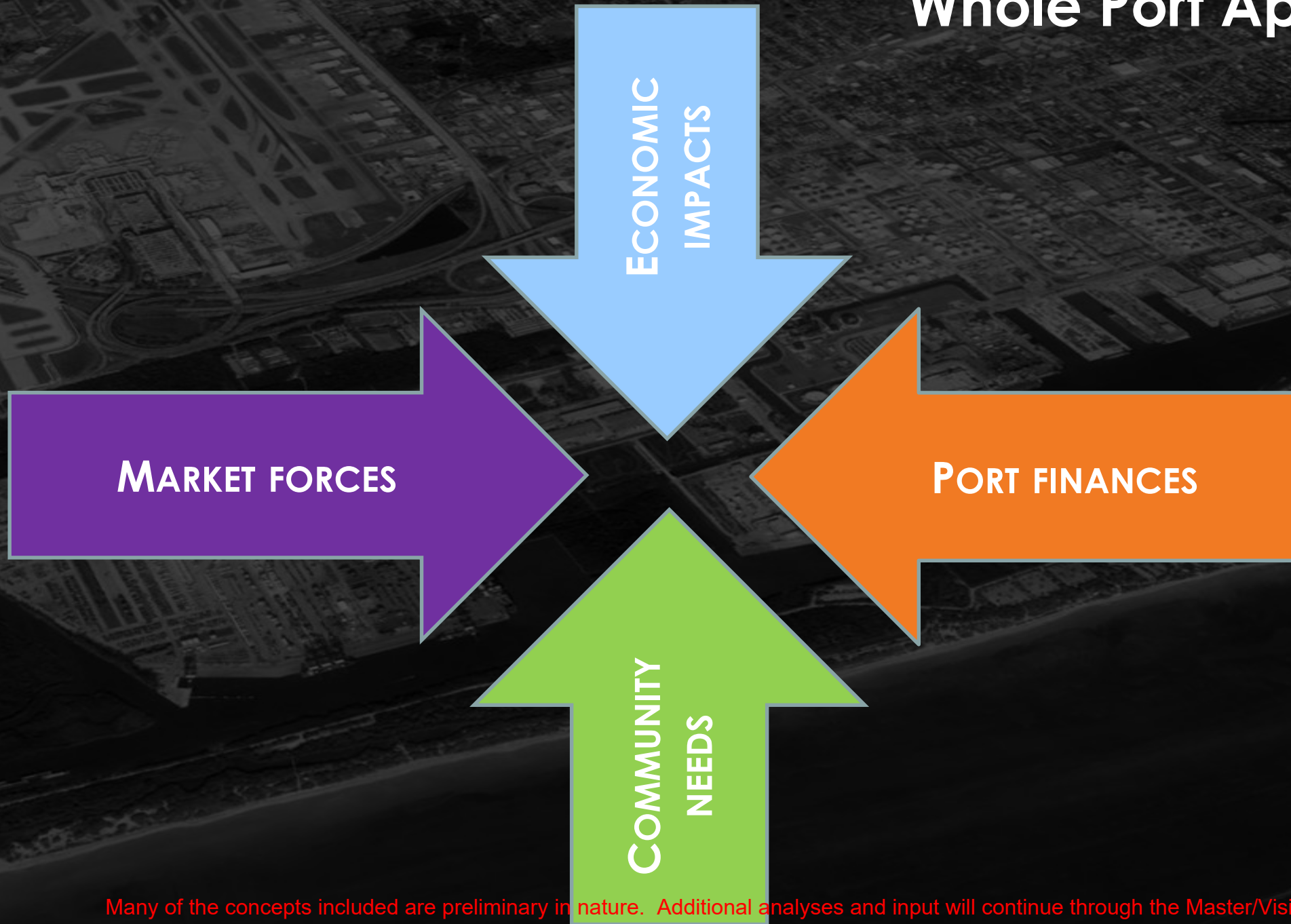
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2018 Master/Vision Plan Update

Phase 2: Plan Development

Whole Port Approach



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Major Future Development Considerations

- Market projections for each PEV line of business
- Vessel sizes (cruise, cargo, liquid bulk)
- On-port traffic
- Core trade lanes/source markets, trade policy and macro-economic conditions
- Ongoing PEV improvements (STNE, USACE deepening/widening, etc.)
- Cruise industry expansion and transition to LNG
- Competitive dynamics and developments at other Florida ports
- Technology, industry best practices and supply chain evolution
- Environmental and community impacts
- Return on investment and economic impacts
- Resiliency
- **Demand vs. Capacity**

Current vs. Future Demand/Capacity – LNG Preferred

		Berth Requirements (berths)		KPIs	Δ 2018-2038	Land Requirements (acres)		KPIs	Δ 2018-2038
		2018	2038			2018	2038		
Cruise (including parking)		9.0	10.0		1.0	88.0	109.0		21.0
	Multi-Day	8.0	10.0			84.0	109.0		
		467,676	716,220	PAX/berth		44,541	65,708	PAX/acre	
	Daily	1.0	0.0			4.0	0.0		
		128,934	n/a	PAX/berth		32,234	n/a	PAX/acre	
Liquid Bulk		3.0	3.0		0.0	23.0	15.0		-8.0
		112,698	118,280	BPD/berth		14,700	23,656	BPD/acre	
Containers		5.5	8.0		2.5	327.0	294.0		-33.0
	Southport (w/ cranes)	4.0	6.0			279.0	294.0		
		252,116	330,529	TEUs/berth		3,615	6,947	TEUs/acre	
		80,037	84,751	Moves/crane					
	Southport (w/o cranes)	0.0	2.0						
		n/a	29,600	TEUs/berth					
	Midport	1.5	0.0			48.0	0.0		
		66,667	n/a	TEUs/berth		2,083	n/a	TEUs/acre	
Break-bulk		0.9	0.5		-0.4	14.0	10.0		-4.0
		403,396	409,514	Tons/berth		25,933	20,476	Tons/acre	
Dry Bulk		3.6	1.0		-2.6	16.0	14.0		-2.0
		416,553	1,700,000	Tons/berth		93,724	121,429	Tons/acre	
Automobiles		1.0	0.5		-0.5	9.0	25.0		16.0
		107,208	72,954	CEUs/berth		3,219	1,459	CEUs/acre	
Commercial		n/a	n/a			20.0	13.0		-7.0
		n/a	n/a			n/a	n/a		
Warehousing/Logistics/Miscellaneous		n/a	n/a			46.0	78.0		32.0
		n/a	n/a			n/a	n/a		
Vacant/Other		n/a	n/a			99	52		-47.0
		n/a	n/a			n/a	n/a		
Total		23.0	23.0		0.0	642.0	610.0		-32.0

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Current vs. Future Demand/Capacity – LNG Alternative

		Berth Requirements (berths)		KPIs	Δ 2018-2038	Land Requirements (acres)		KPIs	Δ 2018-2038
		2018	2038			2018	2038		
Cruise (including parking)		9.0	10.0		1.0	88.0	109.0		21.0
	Multi-Day	8.0	10.0			84.0	109.0		
		467,676	716,220	PAX/berth		44,541	65,708	PAX/acre	
	Daily	1.0	0.0			4.0	0.0		
		128,934	n/a	PAX/berth		32,234	n/a	PAX/acre	
Liquid Bulk		3.0	3.0		0.0	23.0	15.0		-8.0
		112,698	118,280	BPD/berth		14,700	23,656	BPD/acre	
Containers		5.5	8.0		2.5	327.0	290.0		-37.0
	Southport (w/ cranes)	4.0	6.0			279.0	290.0		
		252,116	330,529	TEUs/berth		3,615	7,043	TEUs/acre	
		80,037	84,751	Moves/crane					
	Southport (w/o cranes)	0.0	2.0						
		n/a	29,600	TEUs/berth					
	Midport	1.5	0.0			48.0	0.0		
		66,667	n/a	TEUs/berth		2,083	n/a	TEUs/acre	
Break-bulk		0.9	0.5		-0.4	14.0	10.0		-4.0
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Commercial		n/a	n/a			20.0	13.0		-7.0
		n/a	n/a			n/a	n/a		
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		n/a	n/a			n/a	n/a		
Vacant/Other		n/a	n/a			99	52		-47.0
		n/a	n/a			n/a	n/a		
Total		23.0	23.0		0.0	642.0	606.0		-36.0

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Plan Development – Guiding Principles

- Increase Efficiency

- Increase effective capacity and minimize intra-port drayage and associated truck trips/costs through operational improvements
- Consolidate similar operations/operators
 - Southport = containers + logistics + commercial (office)
 - Midport = cruise + ro-ro + dry bulk
 - Northport = liquid bulk/break-bulk + cruise + logistics + CVB/commercial
- Separate modes of transportation to minimize truck and non-truck traffic

- Preserve Flexibility

- Meet projected future demand without precluding changes in market conditions over time
 - Berths are the primary asset of all ports
 - Land should be configured to support berth utilization
 - Technology will drive future operations in unexpected ways

Plan Development – Guiding Principles

- Facilitate Integration
 - Integration within the port
 - Cruise/Bulk/Liquid Bulk/Containers/ICTF/Parking/Logistics/Commercial
 - Traffic and transportation
 - Integration between the port and surrounding area
 - FLL-PEV-CVB synergies
 - Logistics (cargo and people)
 - Traffic and transportation
 - Integration across the broader supply chain
 - Cruise: PEV/PortMiami/Port Canaveral/Caribbean destinations
 - Containers: shippers/vessel operators/MTOs/3PLs/trucking community
 - Liquid bulk: critical regional and national energy infrastructure
 - Bulk/break-bulk: regional alternatives and business cycle dynamics



2018 Master/Vision Plan Update

Phase 2a: Port Projects

Port Projects by Area by Year

	0-5 Year Projects		5-10 Year Projects		10-20 Year Projects	
Northport	T2/T4 Parking Garage	2020	Port Access Road	2025		
	Slip 1 Expansion	2022	Slip 3 Expansion	2026		
	Maintenance Facility Consolidation	2022	LNG Bunkering + Storage Facility	2028		
	Break-bulk Yard	2023				
Midport	T21 Redevelopment	2021	Tracor Basin Fill	2024	Berth 19 Finger Pier	2029
	Ro-Ro Yard Relocation/Expansion	2023	T29	2027	T19/20	2030
			Ro-Ro Yard Expansion	2027	Berths 14/15 Realignment	2037
			T26	2028	Ro-Ro Yard Expansion	2033
Southport	PEV ILC	2020	Phase 9C-1	2025	Phase 9C-2	2029
	3 SPP STS Cranes	2020	Phase 9A-2	2026		
	Phase 9A-1	2021	Griffin Road Extension	2026		
	STNE + 3 SPP STS Cranes	2023	McIntosh Road Realignment	2027		
Portwide/Other	USACE Deepening & Widening (USCG Relocation)	2022	Berth 33 Alignment	2028		
	Shaw Property Acquisition	2022	Container Terminal reconfiguration	2028		
	I-595 Flyover	2022	Shaw Property Development	2024	APM	2035
	Former Dynegy Logistics Development	2023	USACE Deepening & Widening	2025		
	Auto Terminal West	2023	Commercial Consolidation	2025		

STATUS QUO



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0-5 Year Projects (2019-2023)

Former Dynegy Property Logistics Development + Rail Extension
(2023)

Auto Terminal West
(2023)

PEV ILC
(2020)

I-595 Flyover
(2022)

Phase 9A
(2021)

STNE +3 SPP STS Cranes
(2023)

3 SPP STS Cranes
(2020)

New Ro-Ro Yard
(2023)

T21 Redevelopment
(2021)

New Break-bulk Yard
(2023)

Consolidated Maintenance Facility
(2022)

New T2/4 Parking Garage
(2020)

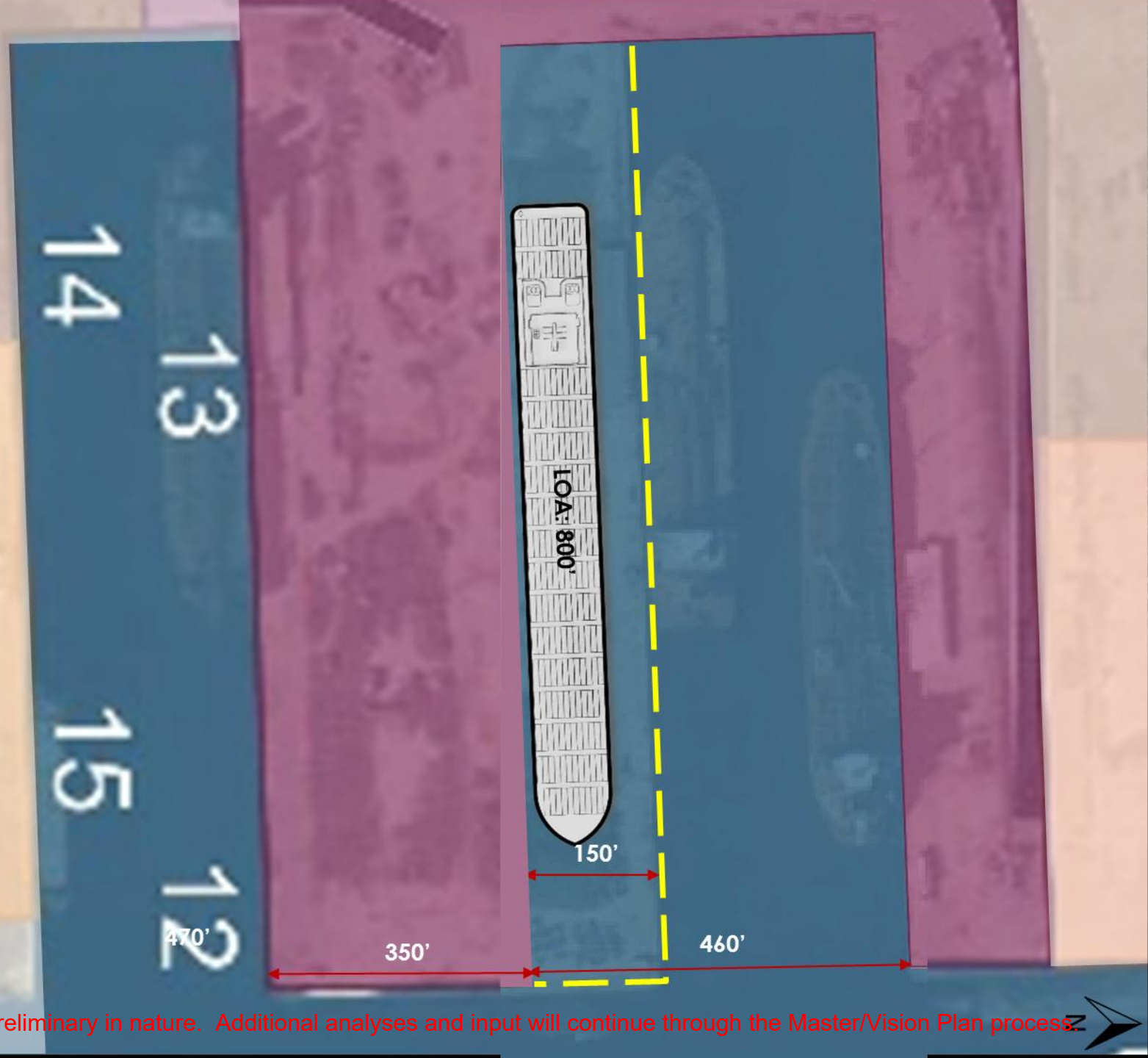
Slip 1
Expansion
(2022)

USACE Deepening & Widening (USCG Relocation)
(2022)

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Slip 1 Expansion – 2022



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Consolidated Maintenance Facility – 2022

New Break-Bulk Yard – 2023

New Break-bulk Yard

7 acres

**Consolidated
Maintenance Facility**

11 acres

Spangler Blvd/SR 84

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2023 Land Use

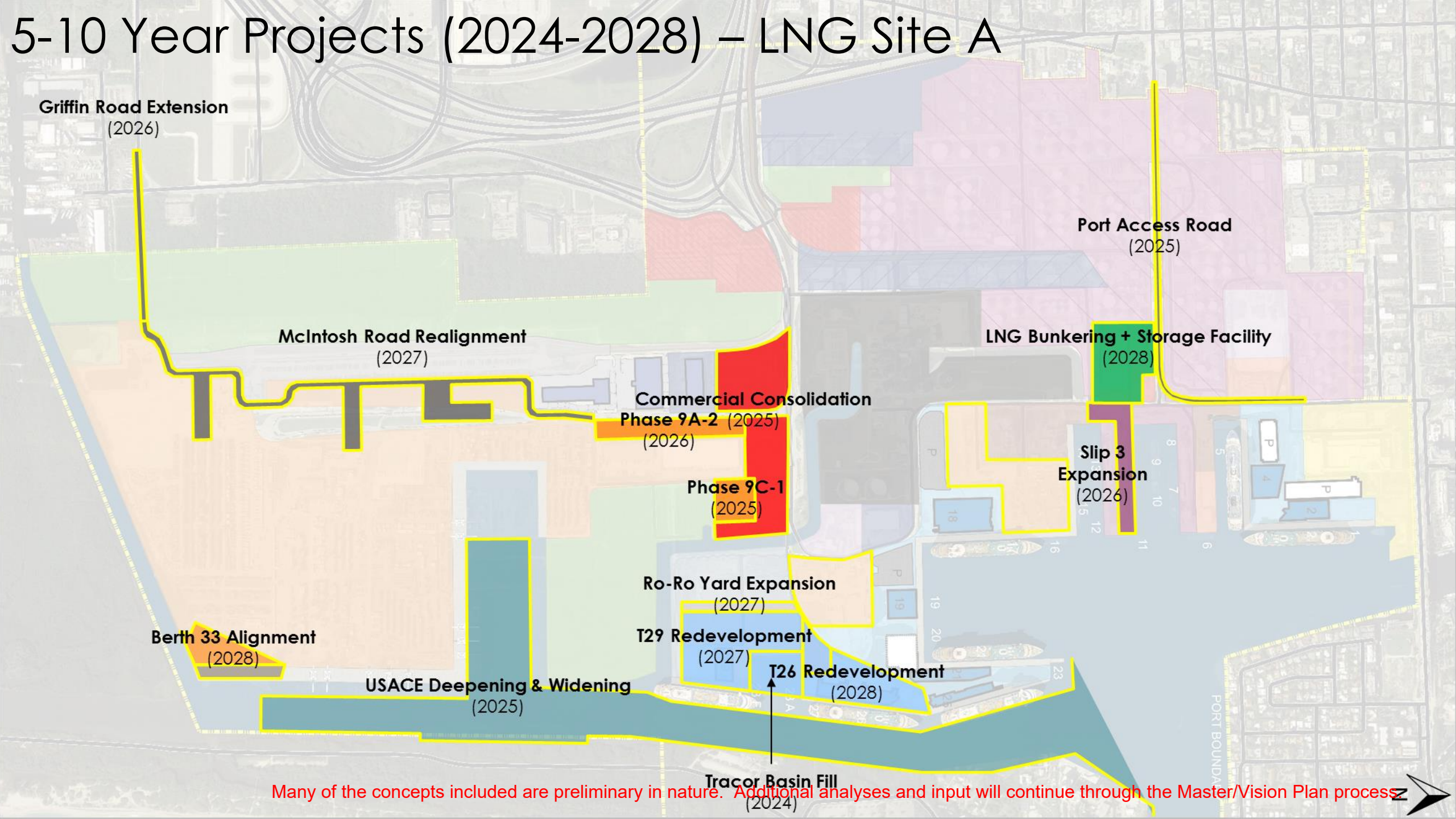
The map illustrates the following land use concepts:

- Logistics:** Multiple areas ranging from 3 to 22 acres.
- Private:** Several private-owned areas including Commercial, Miscellaneous, Petroleum, and Stormwater Storage.
- Commercial:** Various commercial zones throughout the port area.
- Wetland/Vacant/FPL Transmission Lines:** A large green area along the top left.
- Auto Terminal West:** A blue area near the top center.
- Spoils:** An orange area on the far left.
- FEC ICTF:** A grey area near the top center.
- Containers:** Large orange areas totaling 246 acres.
- McIntosh Loop Rd:** A red road running horizontally across the middle.
- PEV ILC:** A small blue area near the center.
- Vacant:** A green area near the bottom center.
- Conservation Area:** A large green area at the bottom.
- Ro-Ro:** A blue area near the bottom center.
- Fire Station:** A small orange area near the bottom center.
- Cruise:** Areas for cruise ships, including one with 65 acres including parking.
- Dry Bulk:** An orange area near the center right.
- Liquid Bulk:** A purple area near the center right.
- Dry/Break-bulk:** A yellow area near the bottom right.
- Maintenance:** A yellow area near the bottom right.
- Break-bulk:** A yellow area near the bottom right.
- CVB - County:** A yellow area near the bottom right.

Infrastructure and boundaries shown include Spangler Blvd/SR 84, Eisenhower Blvd, SE 17th St, Port Boundary, and various numbered berths (e.g., 1-29).

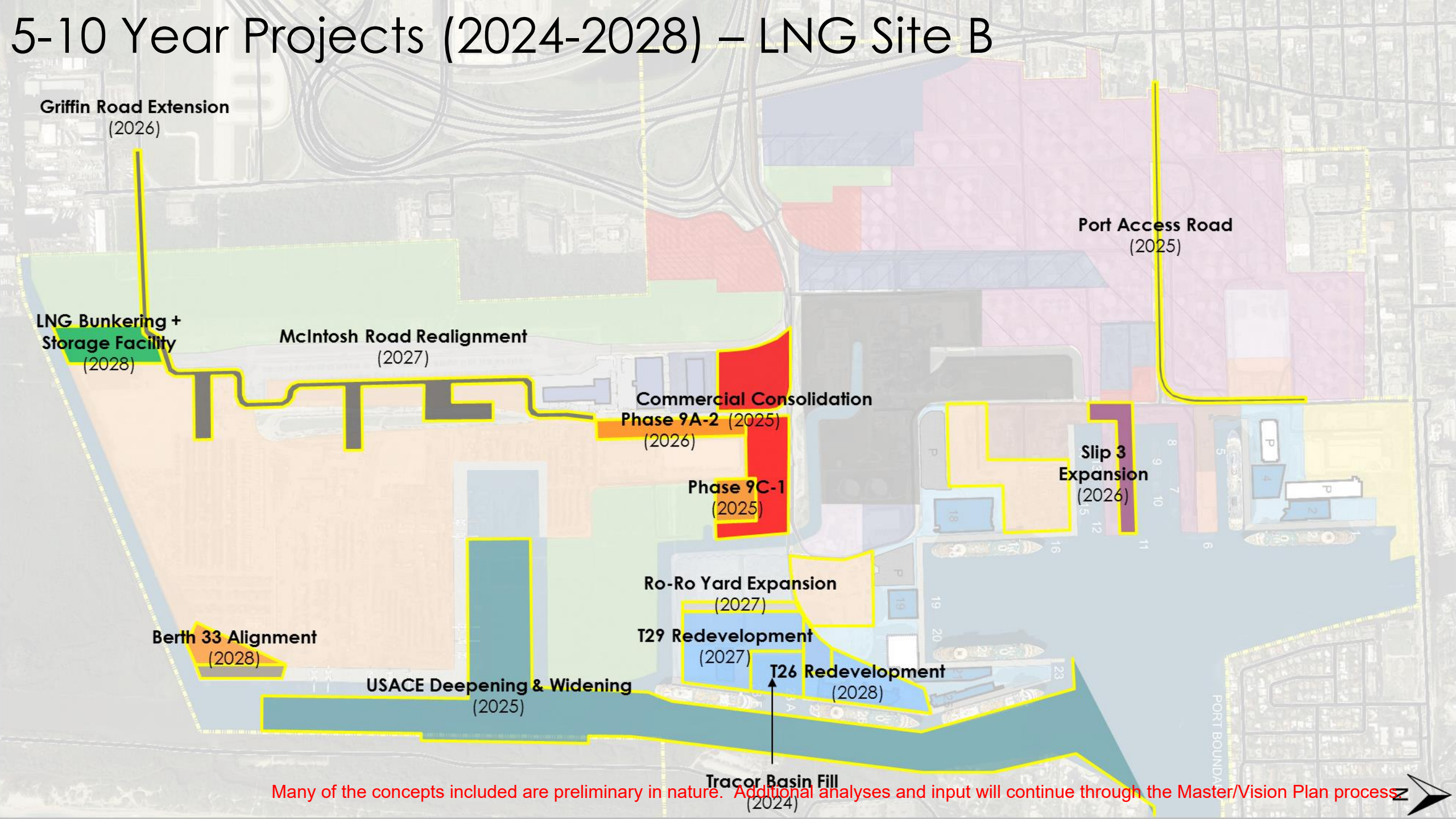
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5-10 Year Projects (2024-2028) – LNG Site A



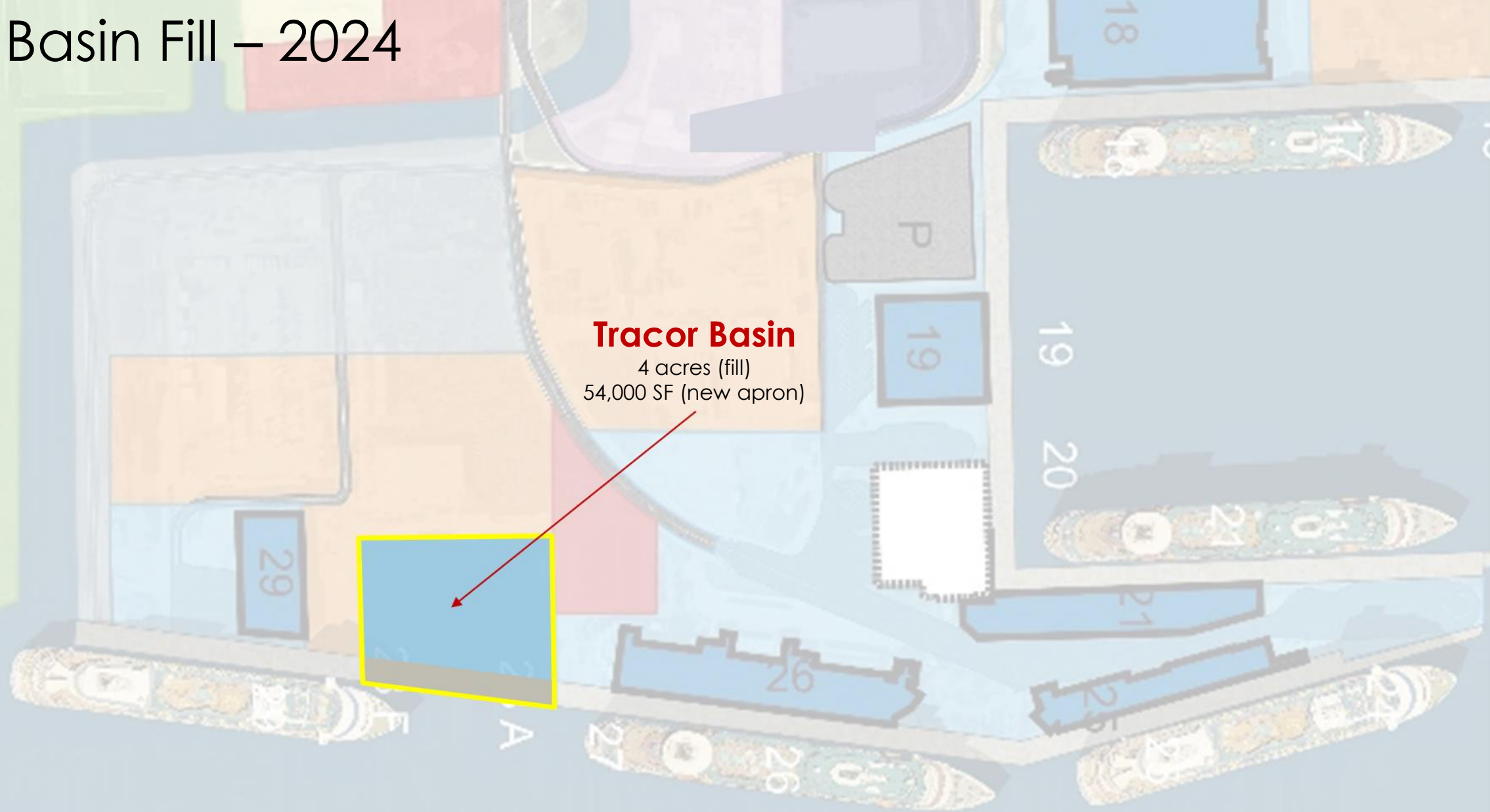
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5-10 Year Projects (2024-2028) – LNG Site B



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Tracor Basin Fill – 2024



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Port Access Road – 2024

New County Road

Connects US1 northbound to SE 17th Street via partial grade separation over existing road (SR84/Spangler Blvd & Eisenhower Blvd)

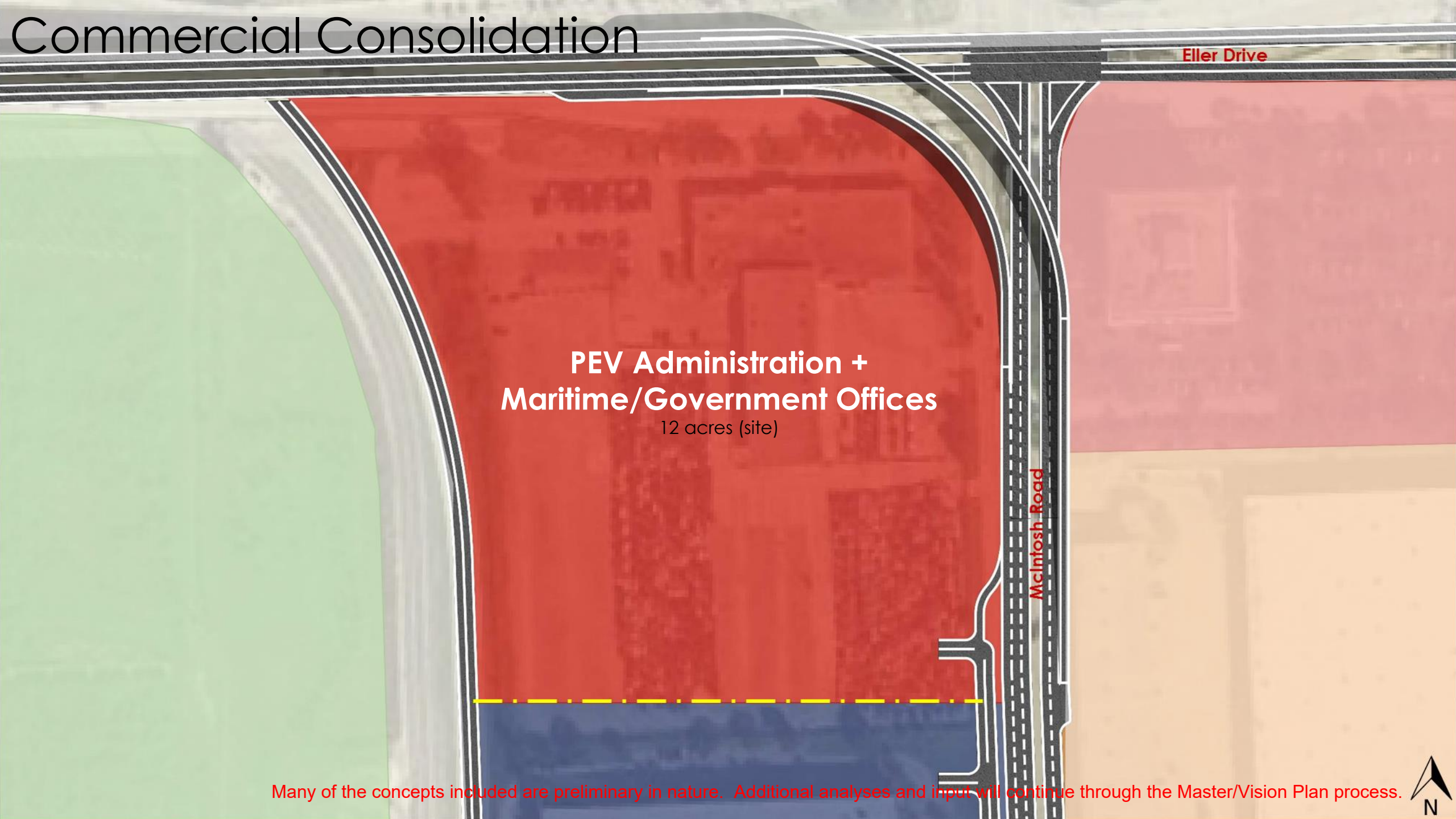
Spangler Blvd/SR 84

Eisenhower Blvd

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Commercial Consolidation

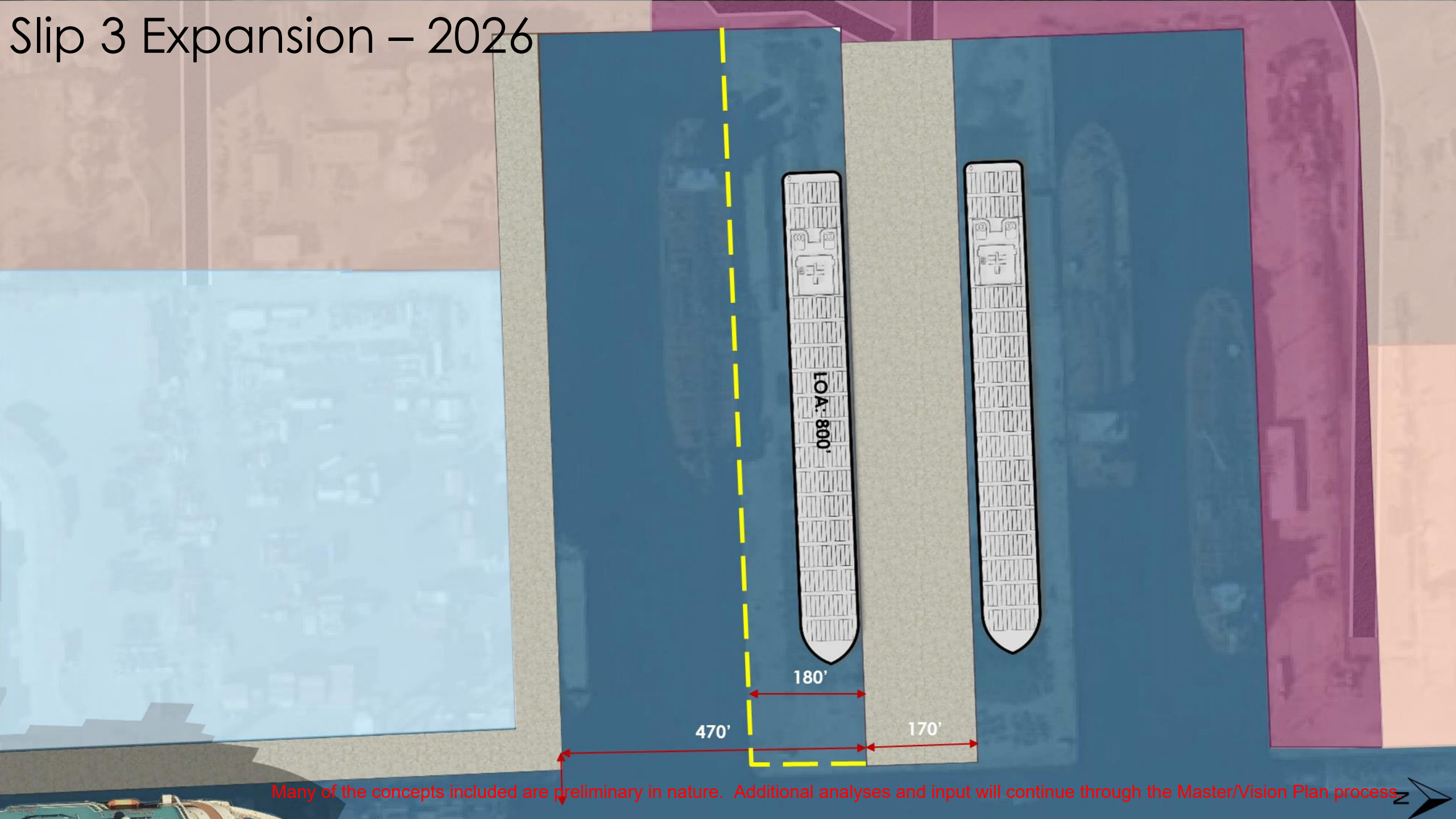


**PEV Administration +
Maritime/Government Offices**
12 acres (site)

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Slip 3 Expansion – 2026



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LNG Bunkering + Storage Facility (Site A) – 2028

LNG Bunkering + Storage Facility
10 acres

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LNG Bunkering + Storage Facility (Site B) – 2028



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2028 Land Use – LNG Site A

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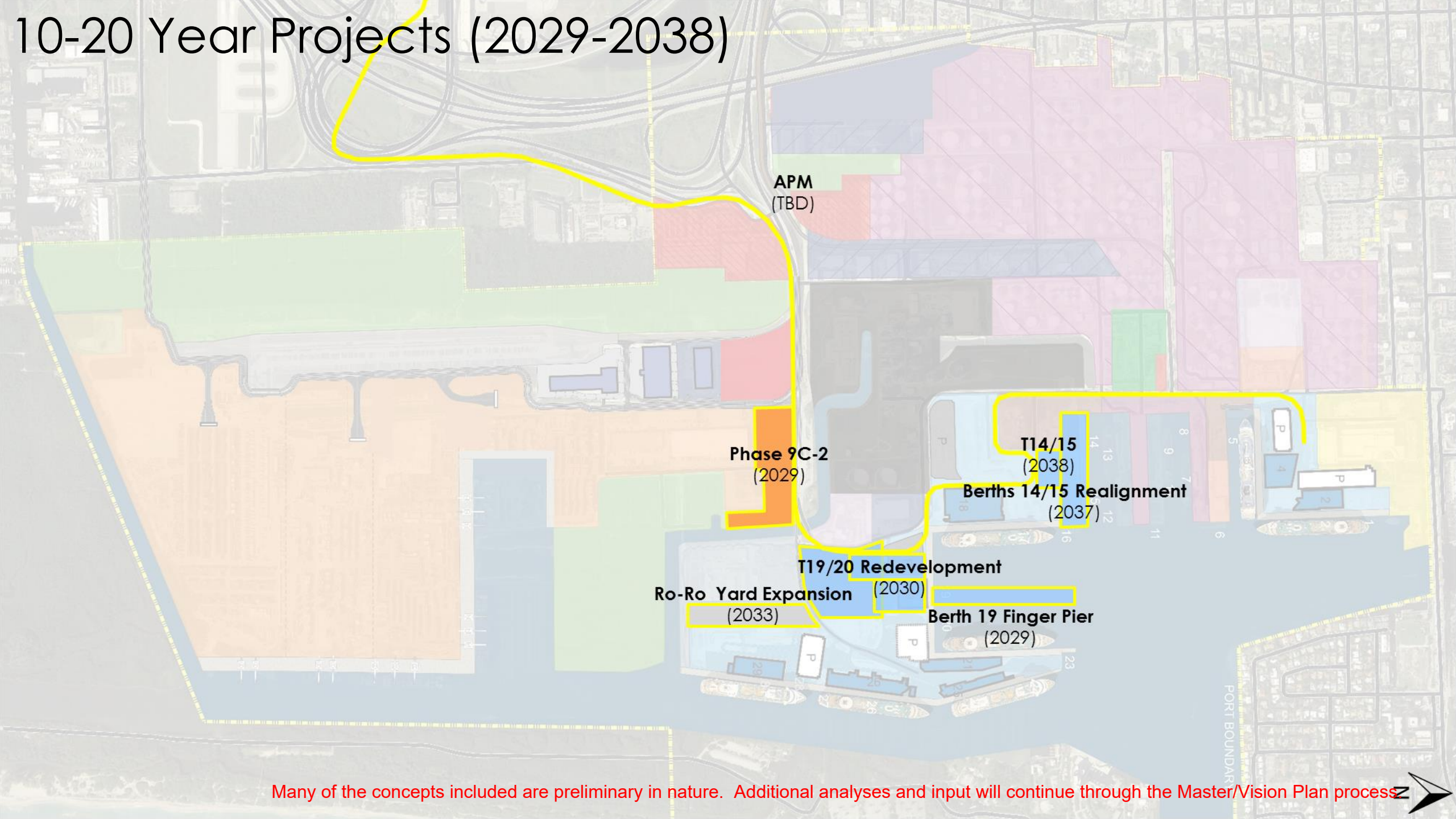
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2028 Land Use – LNG Site B



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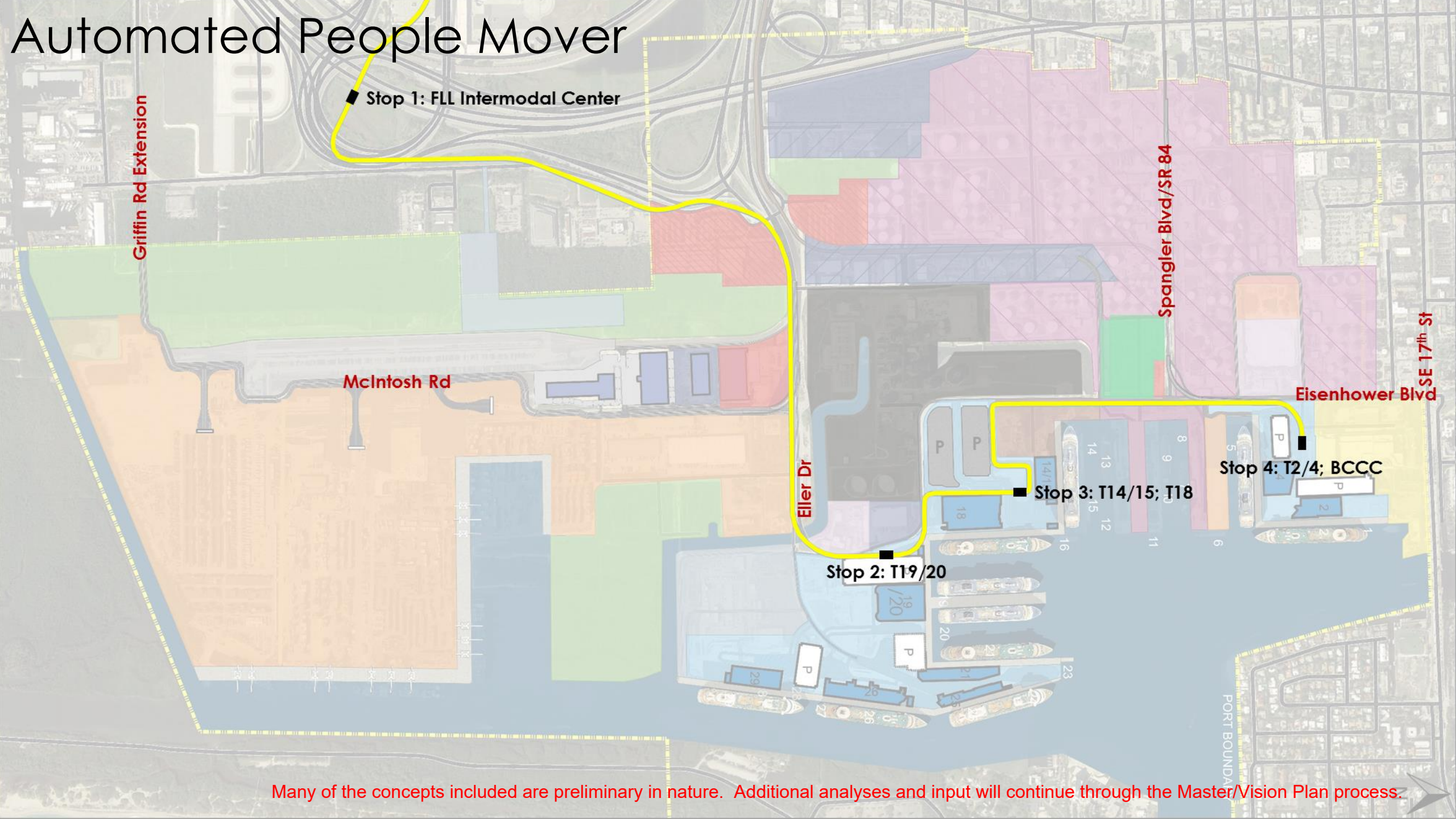
10-20 Year Projects (2029-2038)



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Automated People Mover



Stop 1: FLL Intermodal Center

Griffin Rd Extension

McIntosh Rd

Eller Dr

Spangler Blvd/SR 84

Eisenhower Blvd

SE 17th St

Stop 4: T2/4; BCCC

Stop 3: T14/15; T18

Stop 2: T19/20

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2038 Land Use – LNG Site A

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2038 Land Use – LNG Site B

Griffin Rd Extension

McIntosh Rd

Spangler Blvd/SR 84

Eisenhower Blvd

Port Boundary

SE 17th St

Private (Miscellaneous) (19 acres)

Private (Petroleum)

Private (Commercial)

Private (Miscellaneous)

Logistics (8 acres)

Commercial (12 acres)

Logistics (7 acres)

PEV ILC (16 acres)

FPL - Private

Vacant (1 acre)

Dry Bulk (11 acres)

Liquid Bulk (15 acres)

CVB - County

Cruise (19 acres, incl. parking)

Dry/Break-bulk (6 acres)

Logistics (5 acres)

Fire Station (5 acres)

Ro-Ro (25 acres)

Conservation Area

Cruise (69 acres, incl. parking)

Break-bulk (7 acres)

Maintenance (11 acres)

Wetland/Vacant/FPL Transmission Lines (20 acres)

Wetland (2 acres)

Stormwater Storage (8 acres)

Private (Commercial)

Auto Terminal West (20 acres)

LNG (10 acres)

FEC ICTF (43 acres)

Containers (290 acres)

Proposed APM

Proposed PEV Port Access Road

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Issues and Opportunities

- Ability to add berths/acres very limited
 - Prioritization of berth/land use against different criteria required
 - More volume on same footprint required
 - Liquid bulk: steady as she goes
 - Cruise: more berths and percent utilization of berths will need to increase
 - Containers: moves per crane/berth and TEUs per acre need to increase; dwell times need to decrease
 - Bulk/breakbulk: tons/acre need to increase
 - Ro-Ro: high growth market; requires more land
- Regional demand vs. PEV demand
 - Three ports (PEV, PortMiami, Port of Palm Beach) serve the core South Florida market
 - Market conditions will drive future berth and land demand in the region
 - Value proposition, capacity, efficiency and relationships will drive port selection
 - Infrastructure and efficient operations are key to PEV's future success

Immediate Next steps

- Phase 1
 - Phase 1 (Elements 1 and 2) final report delivered in October, 2018
- Phase 2
 - Future development concepts and projects
 - Berth and land demand for each line of business
 - Operational and infrastructure enhancements
 - Commercial and logistics opportunities
 - Traffic and parking
 - Financial evaluation
 - Final recommended plan
 - Strategies for implementation



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