

An aerial photograph of a coastal region, likely in Maryland, showing the Chesapeake Bay. The image features the JFK Memorial Bridge and the Ocean City-Longport Bridge. The surrounding areas are densely populated with buildings and roads, interspersed with green spaces and waterways. The text is overlaid on the upper portion of the image.

JFK Memorial Bridge, Route 152 and Ocean City-Longport Bridge Area Redesign

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Advisor: Dr. Thomas Brennan

2 Problem Statement

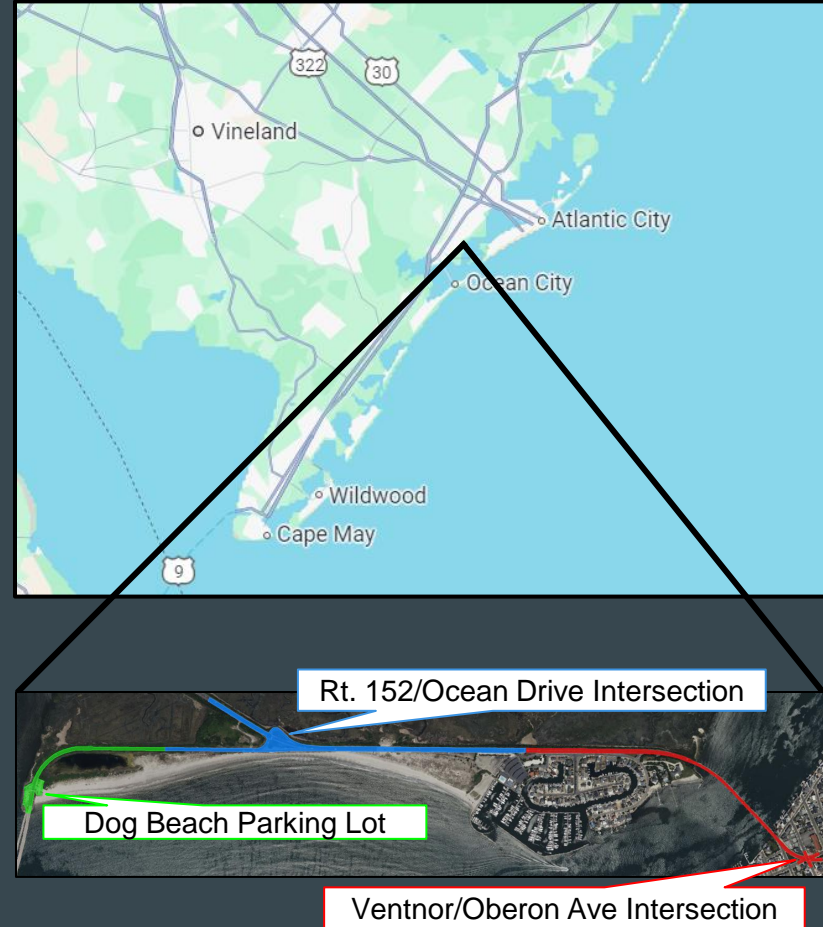
- Lack of cyclist and pedestrian safety throughout corridor
- Inefficient and confusing intersections
- Inadequate parking capacity



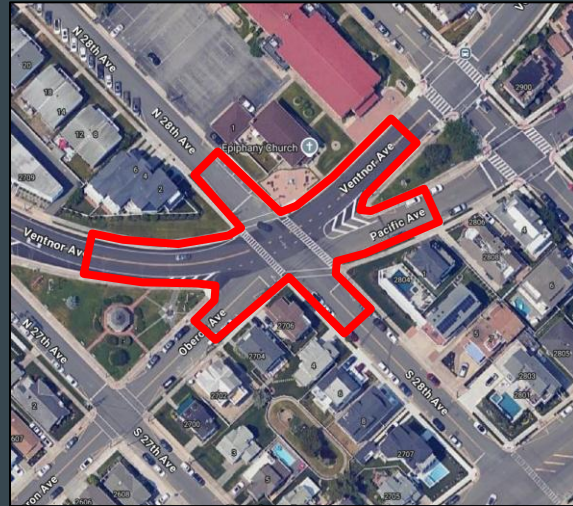
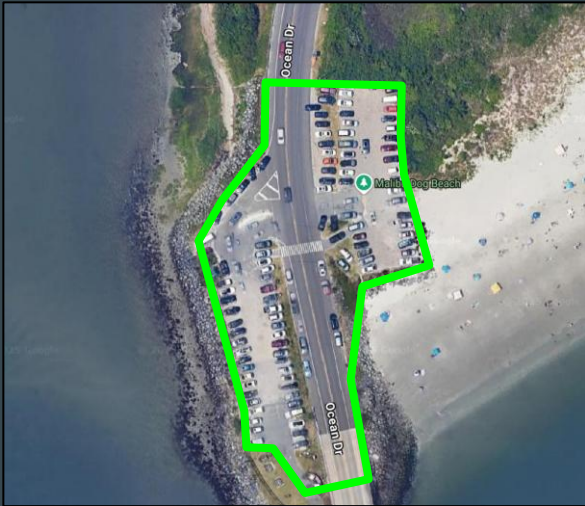
Overflow parking

3 Project Scope

- Corridor between Longport and Ocean City, NJ
- Intersection of Route 152 and Ocean Drive
- Intersection of Ventnor and Oberon Avenue
- Longport Dog Beach parking lot

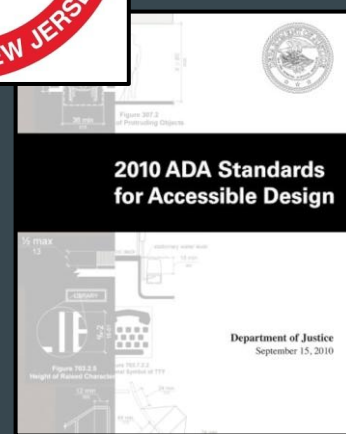
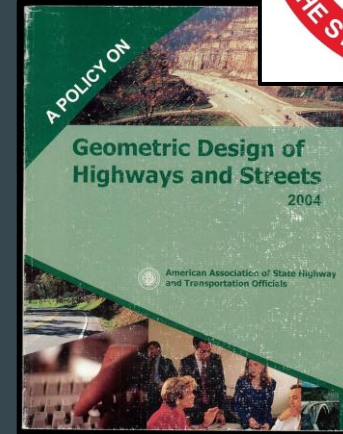
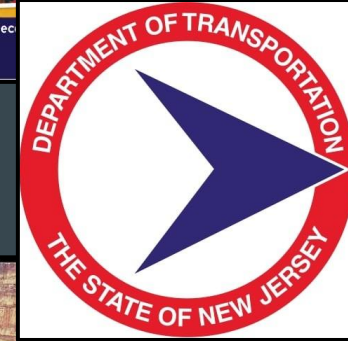
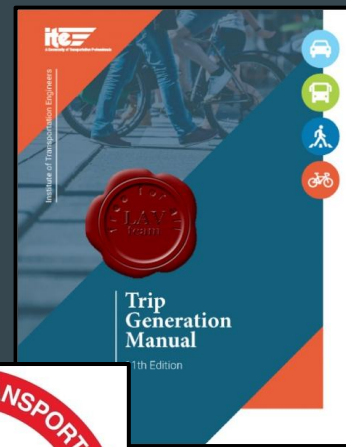
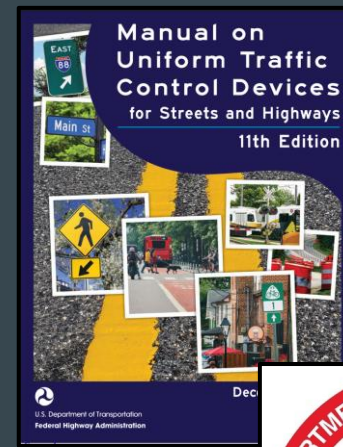


4 Site Plan Overview



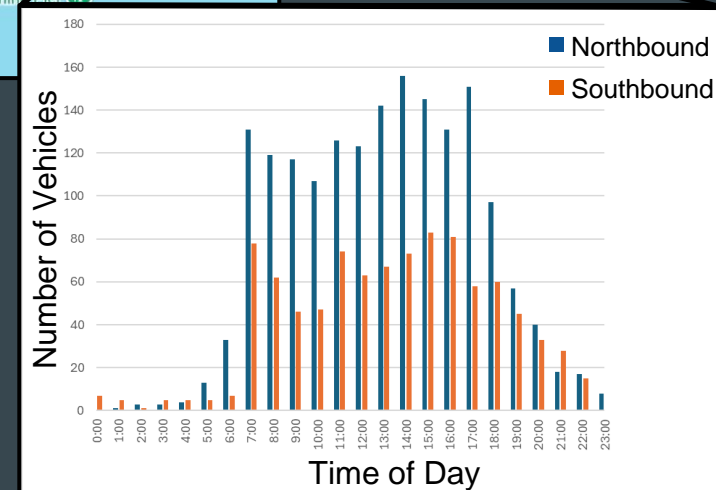
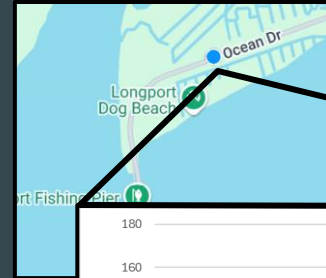
5 Applicable Standards

- AASHTO Reference Manual (Green Book)
- NJDOT Roadway Design Manual
- ITE Trip Generation Manual
- Manual on Uniform Traffic Control Devices (MUTCD)
- ADA Standards for Accessible Design

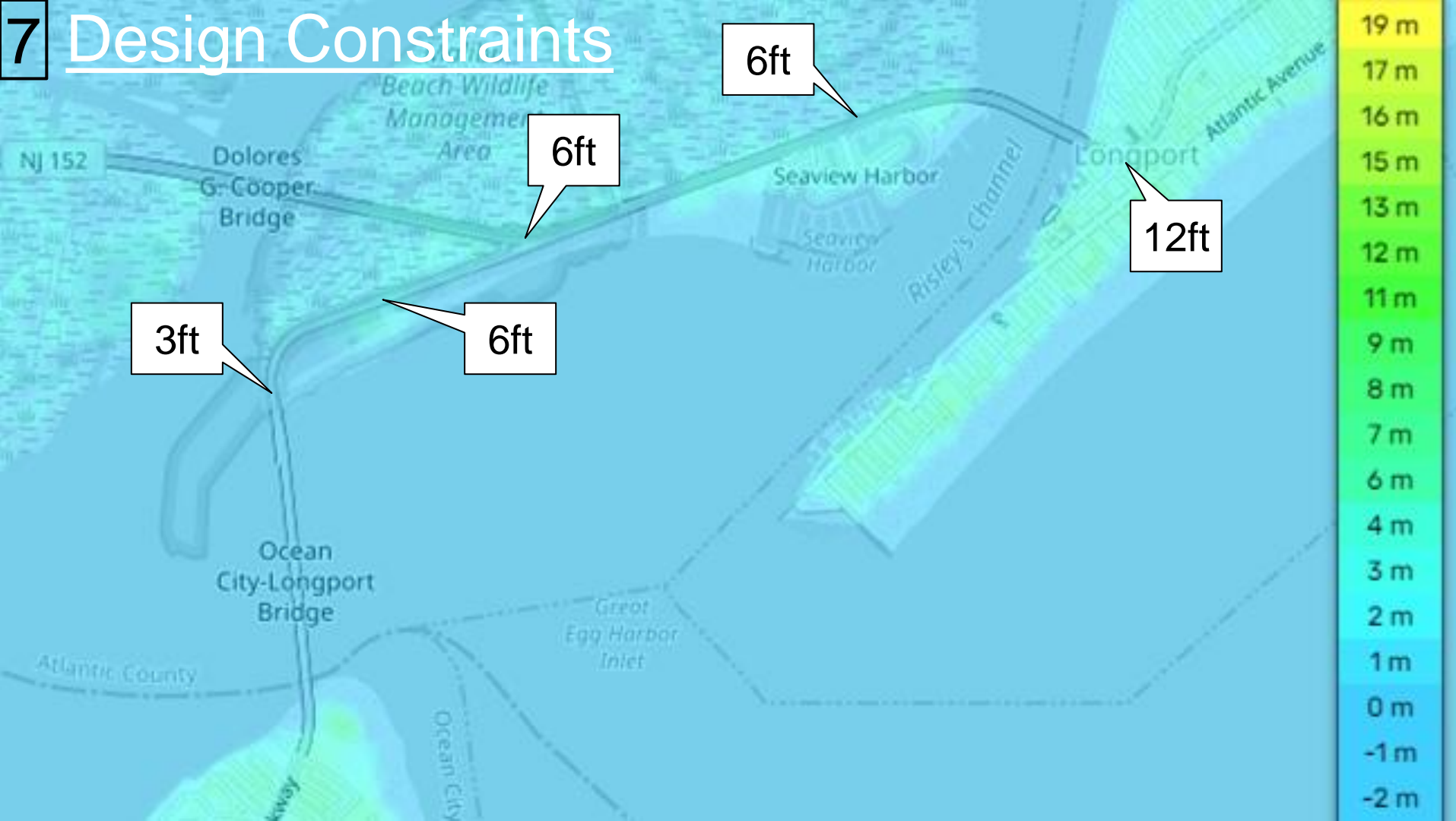


6 Design Constraints

- Project area prone to flooding
- Construction cannot take place during peak months
 - Fall/Winter ONLY
- Cannot fully close roadways
- Minimal space for improvements
 - Parking lot and Ventnor/Oberon Ave intersection

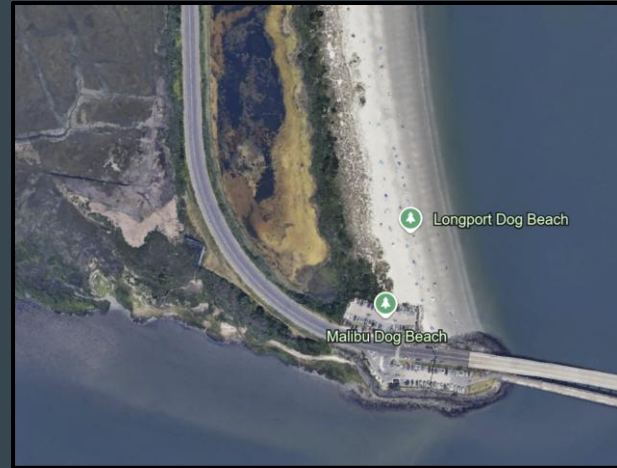


7 Design Constraints



8 Realistic Constraints

- **Political/Economic** - Bridge traffic impacted / access points
- **Environmental** - Wildlife management area
- **Social** - Reconstruction around homes, park
- **Ethical** - Worker safety, project scope
- **Health & Safety** - Construction protocol
- **Manufacturability** - Altering intersections/dog park



9 Decision Matrix

	Weight	Alternative 1		Alternative 2		Alternative 3	
Safety	5	3	(15)	2	(10)	1	(5)
Cost	4	1	(4)	2	(8)	3	(12)
Constructability	3	1	(3)	2	(6)	3	(9)
Necessity	2	2	(4)	3	(6)	1	(2)
Construction Time	1	1	(1)	2	(2)	3	(3)
TOTAL SCORE		8	(27)	11	(32)	11	(31)
MAXIMUM SCORE: 15 (45)							

10 Ventnor/Oberon Avenue Intersection (Previous State)



11 Ventnor/Oberon Avenue Intersection Redesign



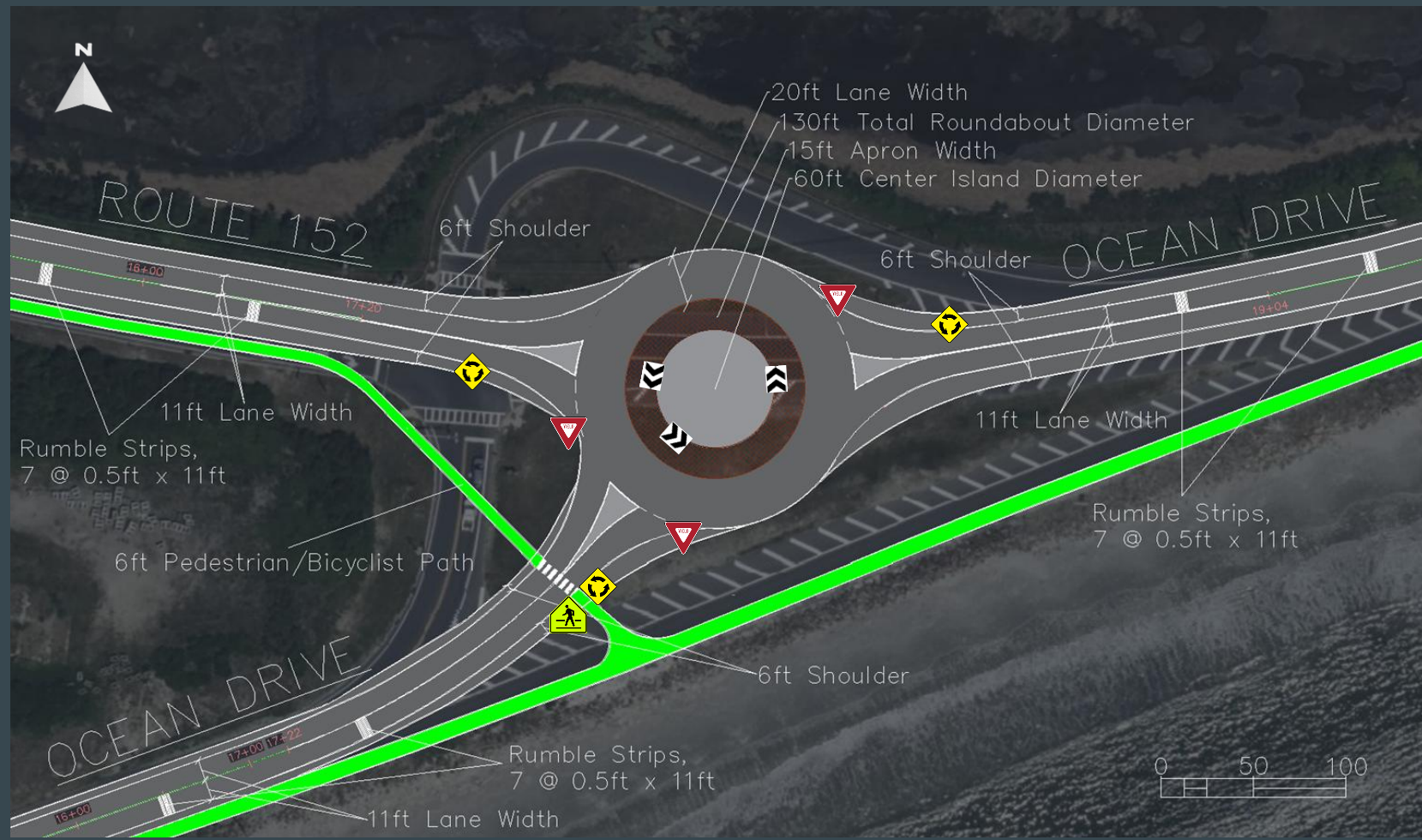
12 Ventnor/Oberon Avenue Intersection Visualization



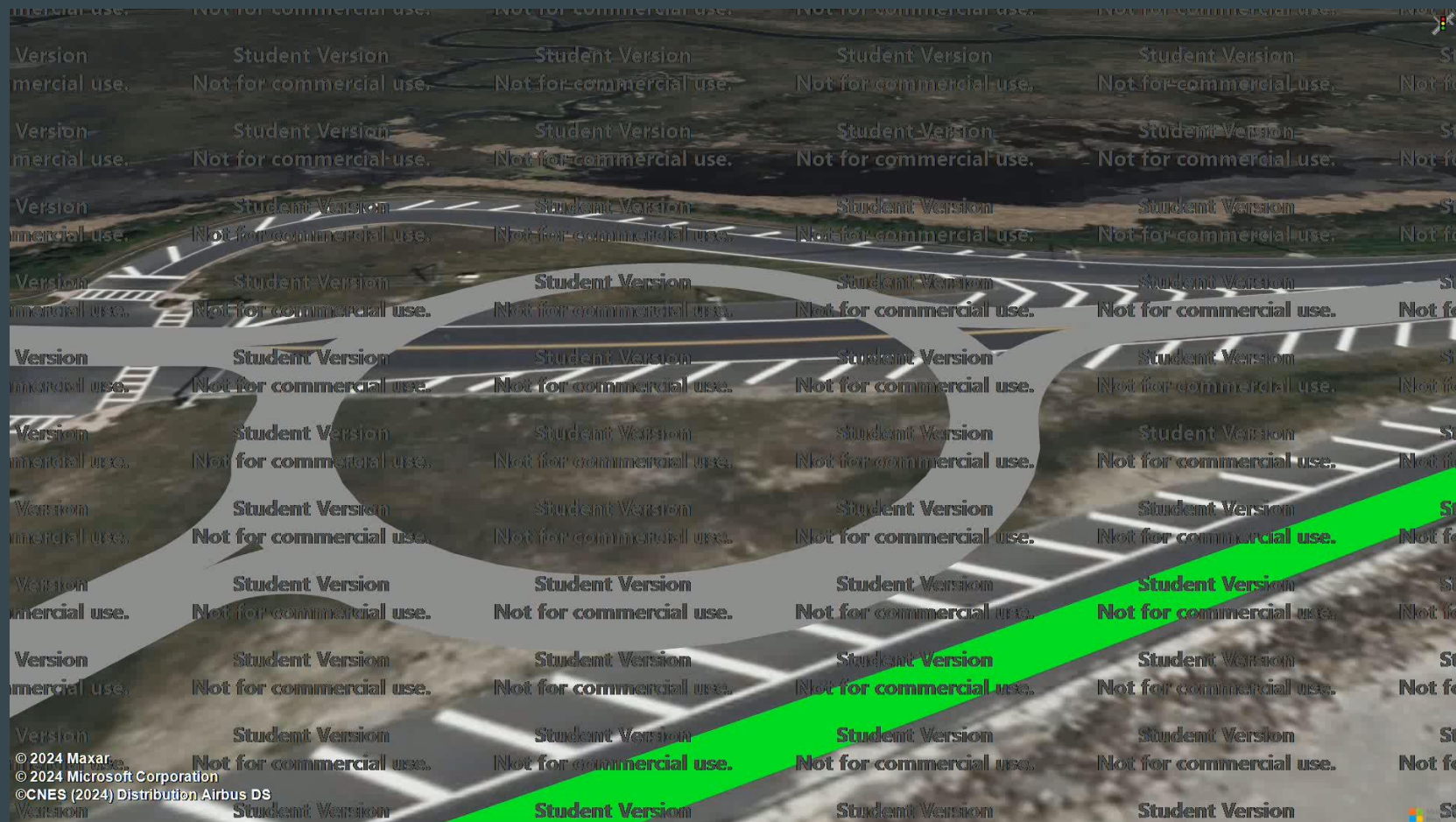
13 Route 152/Ocean Drive Intersection (Previous State)



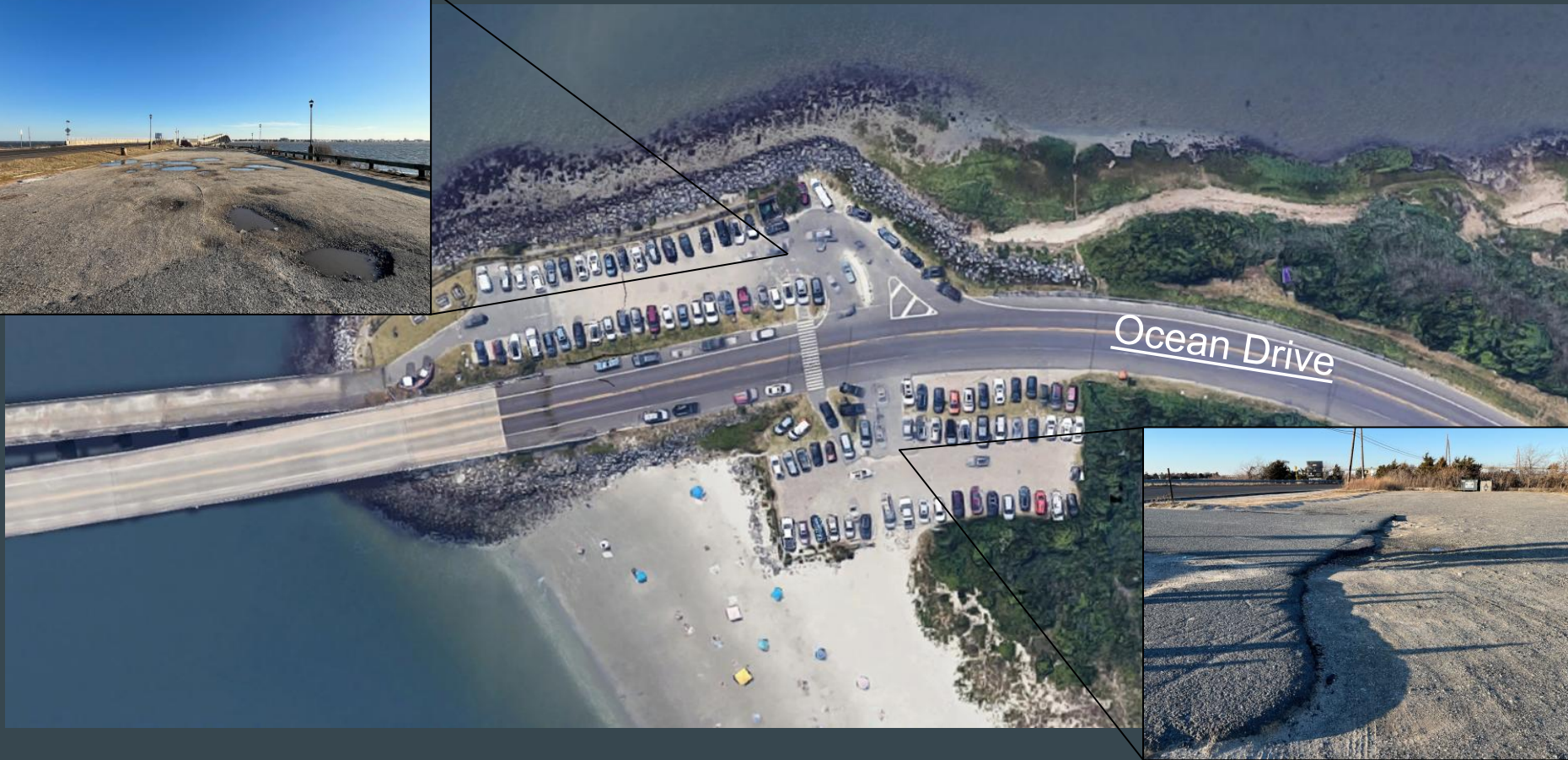
14 Route 152/Ocean Drive Intersection Redesign



15 Route 152/Ocean Drive Roundabout Visualization



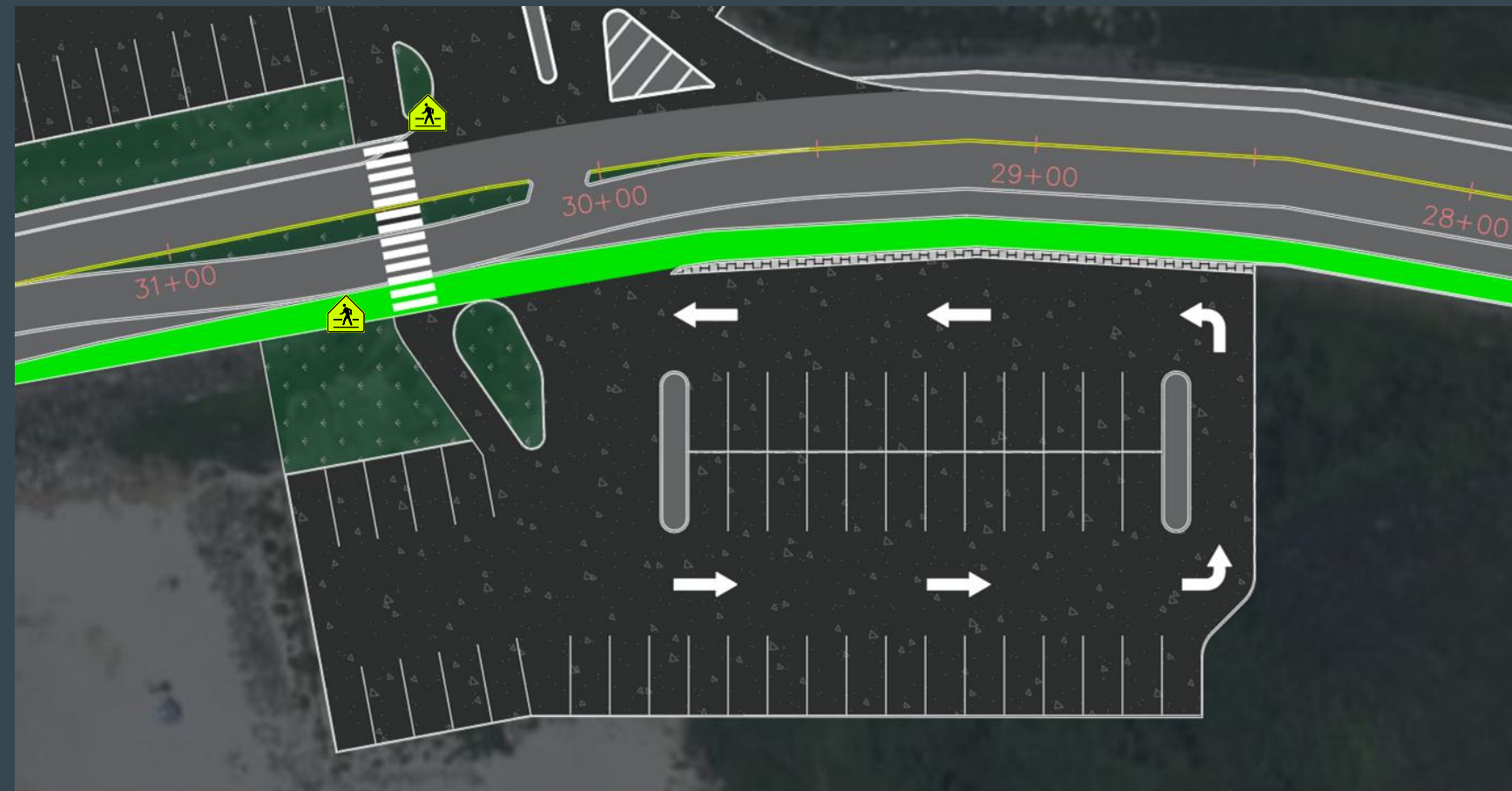
16 Longport Dog Beach Parking Lot (Previous State)



17 Longport Dog Beach Parking Lot Redesign



18 Longport Dog Beach Parking Lot Redesign



19 Route 152/Ocean Drive Cross Section



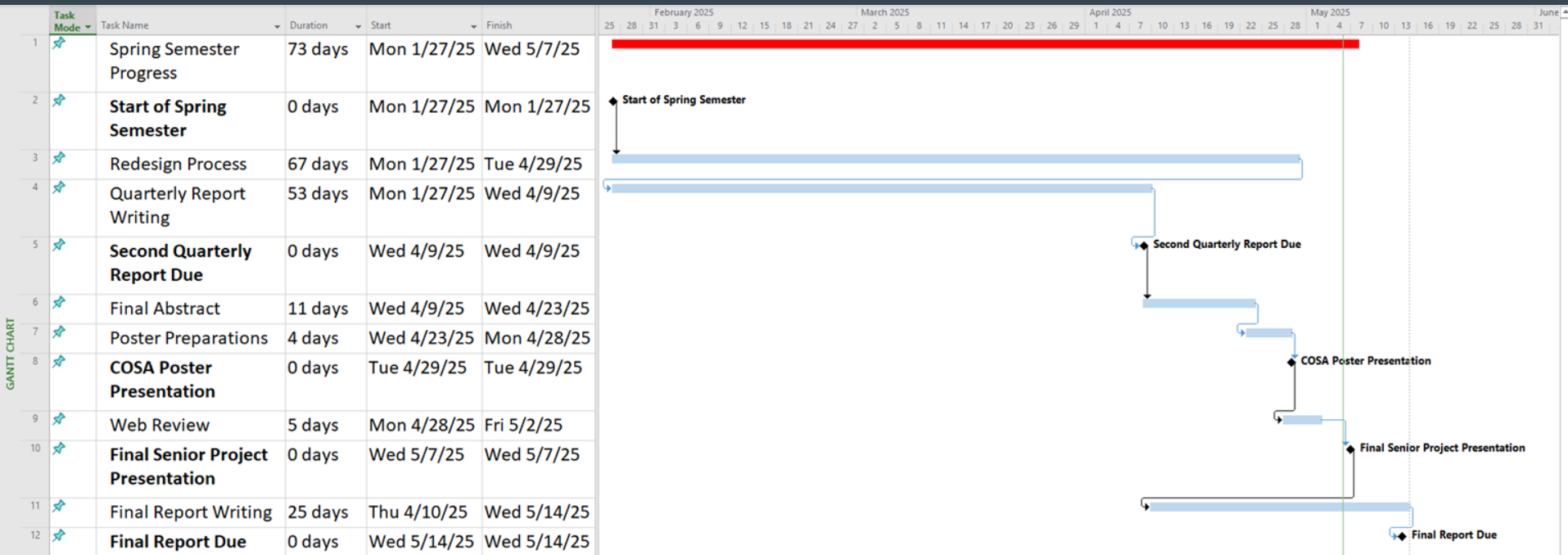
Engineering Costs Estimation (Fall Semester)

Task	Dr. Thomas Brennan	Kaleb Felsenstein	Michael DiRienzo	Matt Hengey
	Transportation Director	Project Manager	Engineer 1	Engineer 2
Fall Semester				
Background Research	2	6	6	6
Problem Statement and Background Presentation	2	3	3	3
Initial Website Submittal	2	4	4	4
Preliminary Budget	0	1	1	1
Alternative Designs Research and Planning	2	4	4	4
Alternative Designs Presentation	1	5	5	5
Quarterly Report 1	2	10	10	10
Final Budget	1	2	2	2
Final Abstract	2	2	2	2
Team Website - Final Fall Update	1	1	1	1
Engineering Services Proposal Presentation	2	5	5	5
Engineering Services Proposal	2	8	8	8
Overall				
Total Hours	19	51	51	51
Hourly Rate	\$80.00	\$50.00	\$44.00	\$44.00
Salaries	\$1,520.00	\$2,550.00	\$2,244.00	\$2,244.00
		Wage Cost		\$8,560
		Overhead	150%	\$12,840
		Fixed Fee	10%	\$2,140
		Direct Cost		\$0.00
		Total		\$24,000.00

21 Engineering Costs Estimation (Spring Semester)

Task	Dr. Thomas Brennan	Kaleb Felsenstein	Michael DiRienzo	Matt Hengy
	Transportation Director	Project Manager	Engineer 1	Engineer 2
Spring Semester				
Redesign Process	6	25	25	25
Second Quarterly Report	4	8	8	8
Final Abstract	1	1	1	1
COSA Poster Preparation	5	12	12	12
COSA Poster Presentation	0	1	1	1
Final Web Review	2	2	1	1
Presentation Preparation	5	10	10	10
Project Presentation	5	5	5	5
Final Report	5	8	8	8
Overall				
Total Hours	33	72	71	71
Hourly Rate	\$80.00	\$50.00	\$44.00	\$44.00
Salaries	\$2,640.00	\$3,600.00	\$3,124.00	\$3,124.00
		Wage Cost		\$12,490
		Overhead	150%	\$18,740
		Fixed Fee	10%	\$3,120
		Direct Cost		\$0.00
		Total		\$34,000.00

22 Spring Semester Gantt Chart



An aerial photograph of a coastal city, likely San Francisco, showing a large bay, a bridge, and a densely populated area. The text "Thank You" is overlaid in white.

Thank You

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Any Questions?