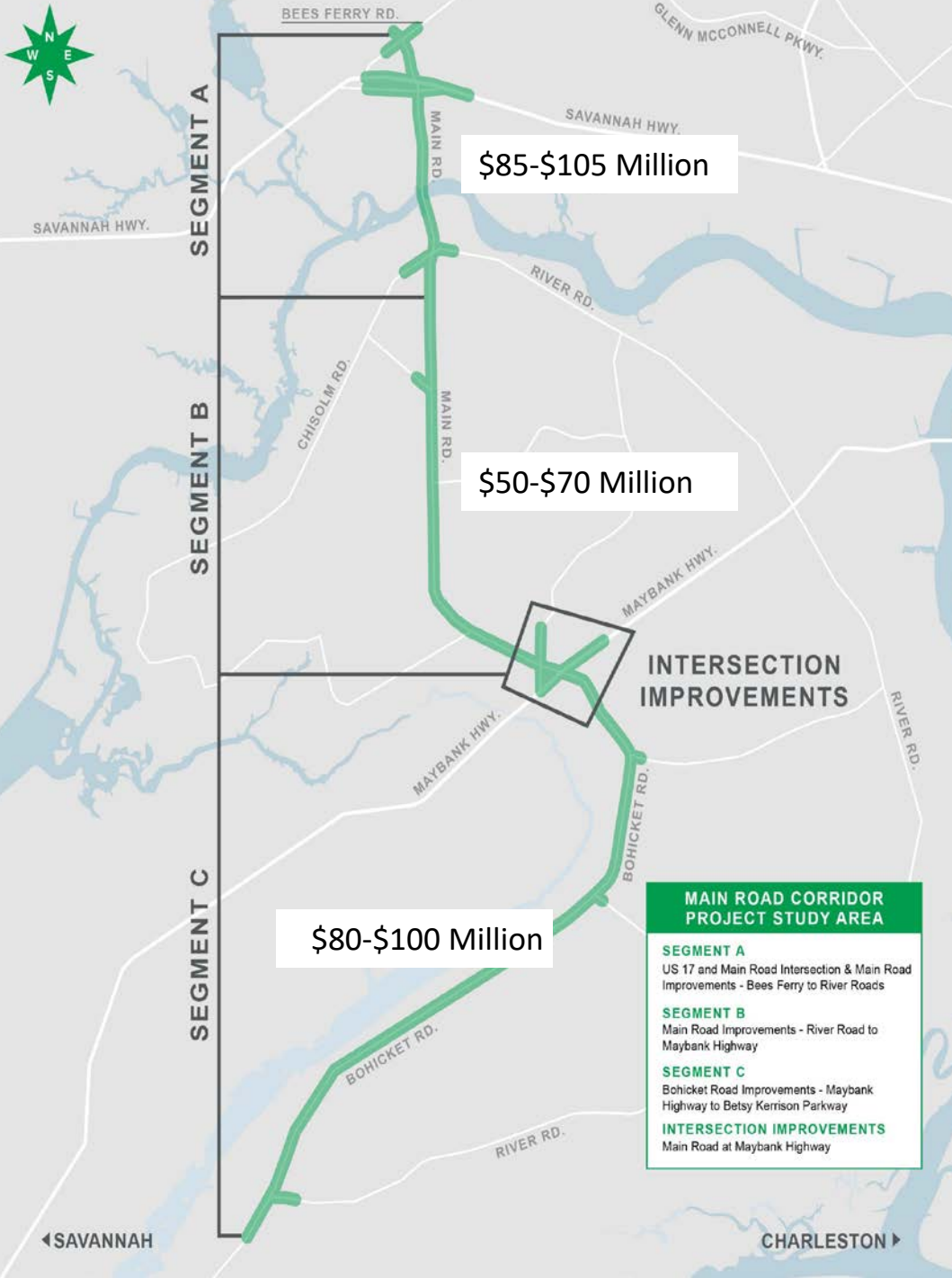




Main Road Segment A
Alternatives Review
February 18, 2020



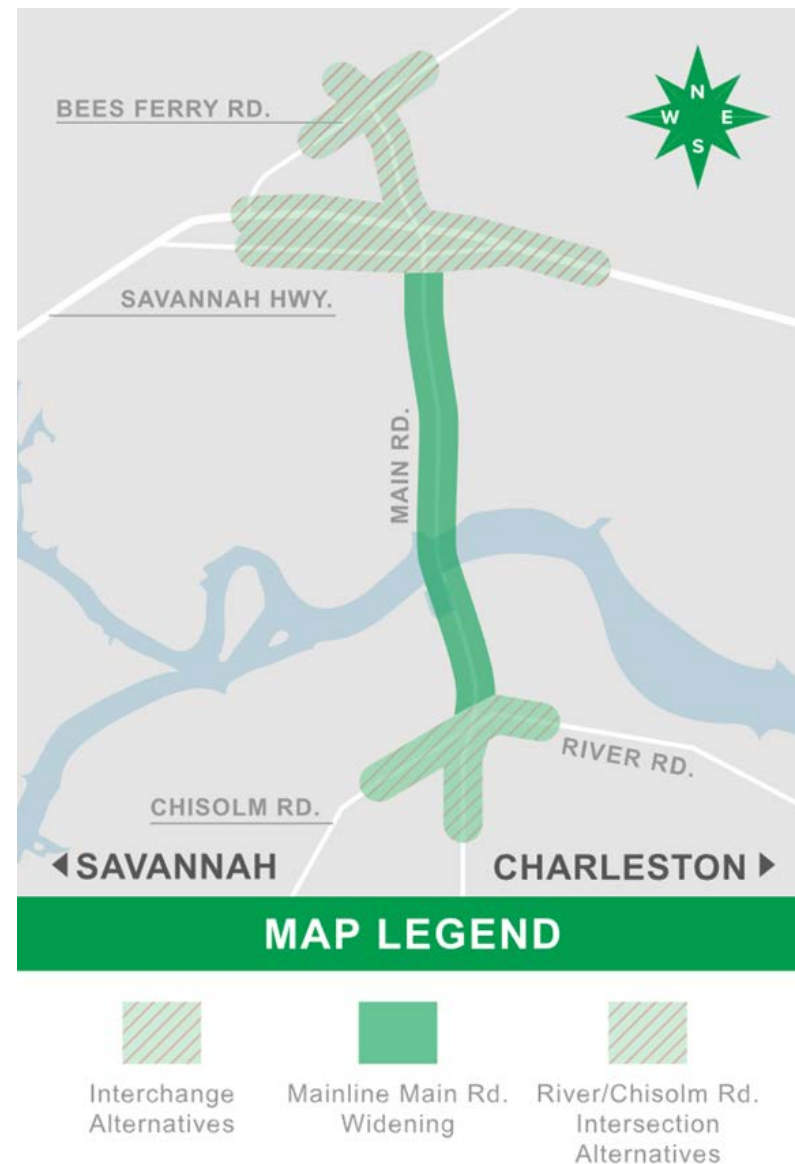
SEGMENTS OF MAIN ROAD / BOHICKET ROAD CORRIDOR



Segment A

Segment A of the project begins at Bees Ferry Road and continues along Main Road across US 17, ending at the intersection of River Road at Chisolm Road. Charleston County is currently advancing preliminary design work for both the widening of Main Road between Bees Ferry Road and Chisolm Road and a new interchange at the intersection of Hwy. 17 and Main Road.

Also as part of the project, the West Ashley Greenway will be extended to Bees Ferry Road



PROJECT PURPOSE

The applicants stated purpose of the project is to improve mobility and enhance traffic operations by reducing congestion within the Main Road Corridor while accommodating future traffic needs.

The primary purpose of the project is to:

- Reduce congestion/improve capacity at the intersection of US 17 and Main Road
- Increase capacity on Main Road from Bees Ferry Road to River/Chisolm Road

The secondary purpose of the project is to:

- Provide opportunities for bicyclist and pedestrians to travel throughout the project area
- Provide drainage and other improvements to lessen impacts to Main Road during storms

PROJECT NEED

There are three primary areas that contribute to the need of the project:

- Growth in population and employment
- Decrease mobility and increased traffic congestion
- Lack of pedestrian and bicycle accommodations

ALTERNATIVES DEVELOPMENT PROCESS





1

Preliminary Purpose & Need Screening



Interchange Type

Critical Intersection
LOS (AM/PM)









Carried Forward

Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5	Alternative 6	Alternative 7*	Alternative 7A*	Alternative 8*	Alternative 8A*	Alternative 9	Alternative 10
Tight Diamond	Single Point Urban	Partial Clover Directional Ramps	Partial Clover 2 Loops	Cloverleaf 1 Loop	Directional Flyover	Full Directional Flyover	Full Directional Flyover	Partial Directional Flyover	Partial Directional Flyover	Dual Lane Roundabout	Diverging Diamond
C(25.8)/C(27.2)	C(20.7)/C(20.1)	A(8.7)/A(8.6)	D(52.8)/C(23.7)	B(18.6)/B(16.3)	C(27.6)/D(41.0)	A(6.9)/A(9.1)	A(6.9)/A(9.1)	C(22.3)/C(33.8)	C(22.3)/C(33.8)	C(16.4)/D(25.6)	A(9.7)/B(11.6)
Yes	Yes	Yes	No	Yes	No	Yes	Yes	Yes	Yes	No	Yes

* Alternatives 7 & 8 - Causeway over Marsh
Alternatives 7A & 8A - Raised Structure over Marsh

2

Preliminary Environmental Screening

	Alternative 1	Alternative 2	Alternative 3	Alternative 5	Alternative 7*	Alternative 7A*	Alternative 8*	Alternative 8A*	Alternative 10
 Streams (feet)	135	140	40	67	293	45	175	55	135
 Wetlands (acres)	11.65	11.58	9.85	11.35	25.01	11.58	20.64	10.77	11.66
 Right-of-Way Impacts (acres)	10.73	10.52	13.52	11.40	17.02	17.02	12.28	12.28	14.76
 Relocations	8	8	10	7	3	3	3	3	11
 Floodplains (acres)	65.79	63.92	63.73	61.92	68.54	54.13	57.35	45.60	68.38
 Cultural Resources	0	0	0	0	0	0	0	0	0
 Farmlands (acres)	9.81	9.04	10.17	10.72	14.32	10.41	14.53	10.51	9.70
 Protected Lands	0	0	0	0	0	0	0	0	0
Carried Forward	Yes	Yes	Yes	Yes	No	Yes	No	Yes	Yes

* Alternatives 7 & 8 - Causeway over Marsh
Alternatives 7A & 8A - Raised Structure over Marsh

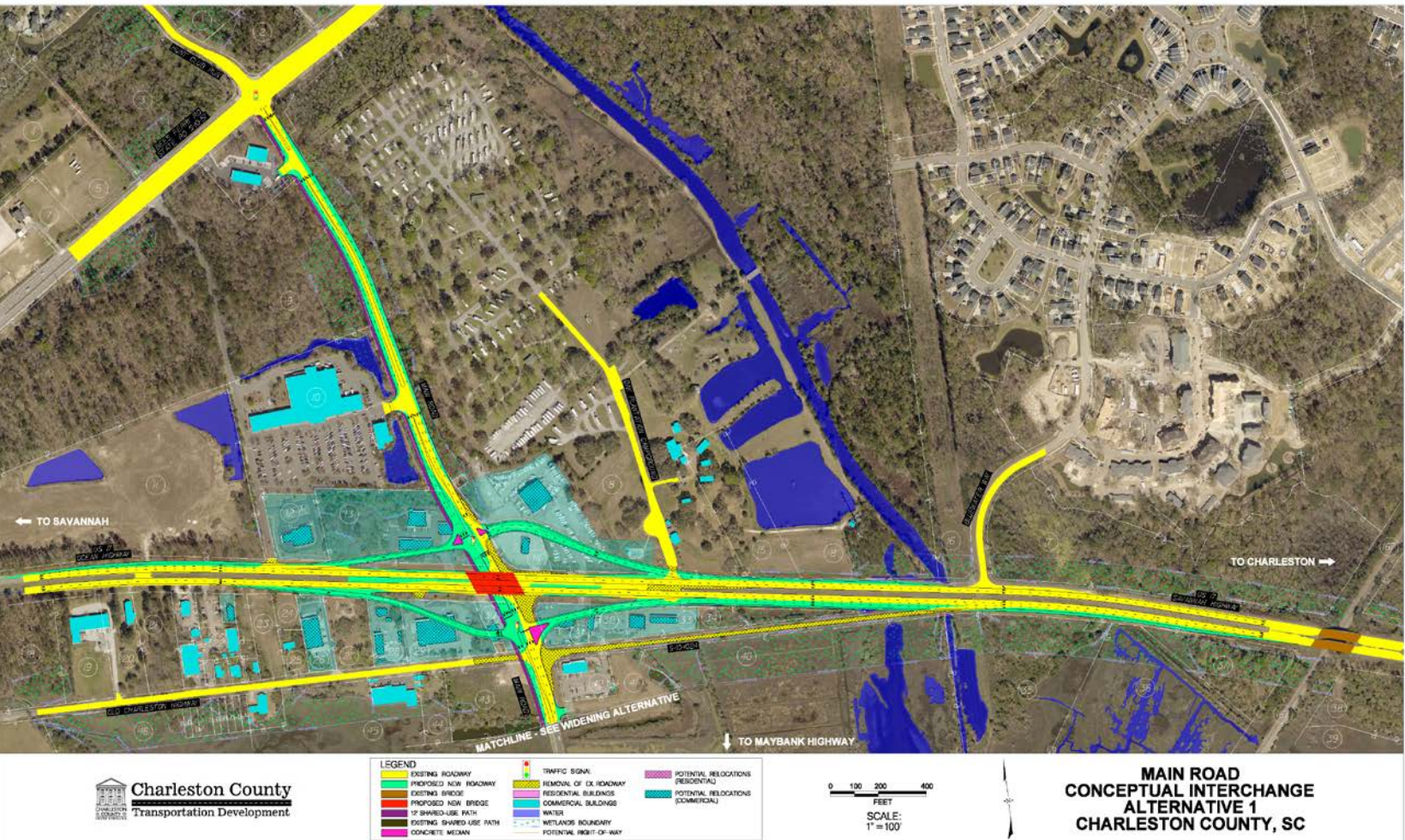
Alternative 1

STATS

Interchange Type: Tight Urban Diamond
Total Wetlands Impacted (Acres): 11.79
Potential Relocations: 12
Floodplains Impacted (Acres): 65.69
Farmlands of Statewide Significance (Acres): 9.81

Alternative Preference

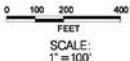
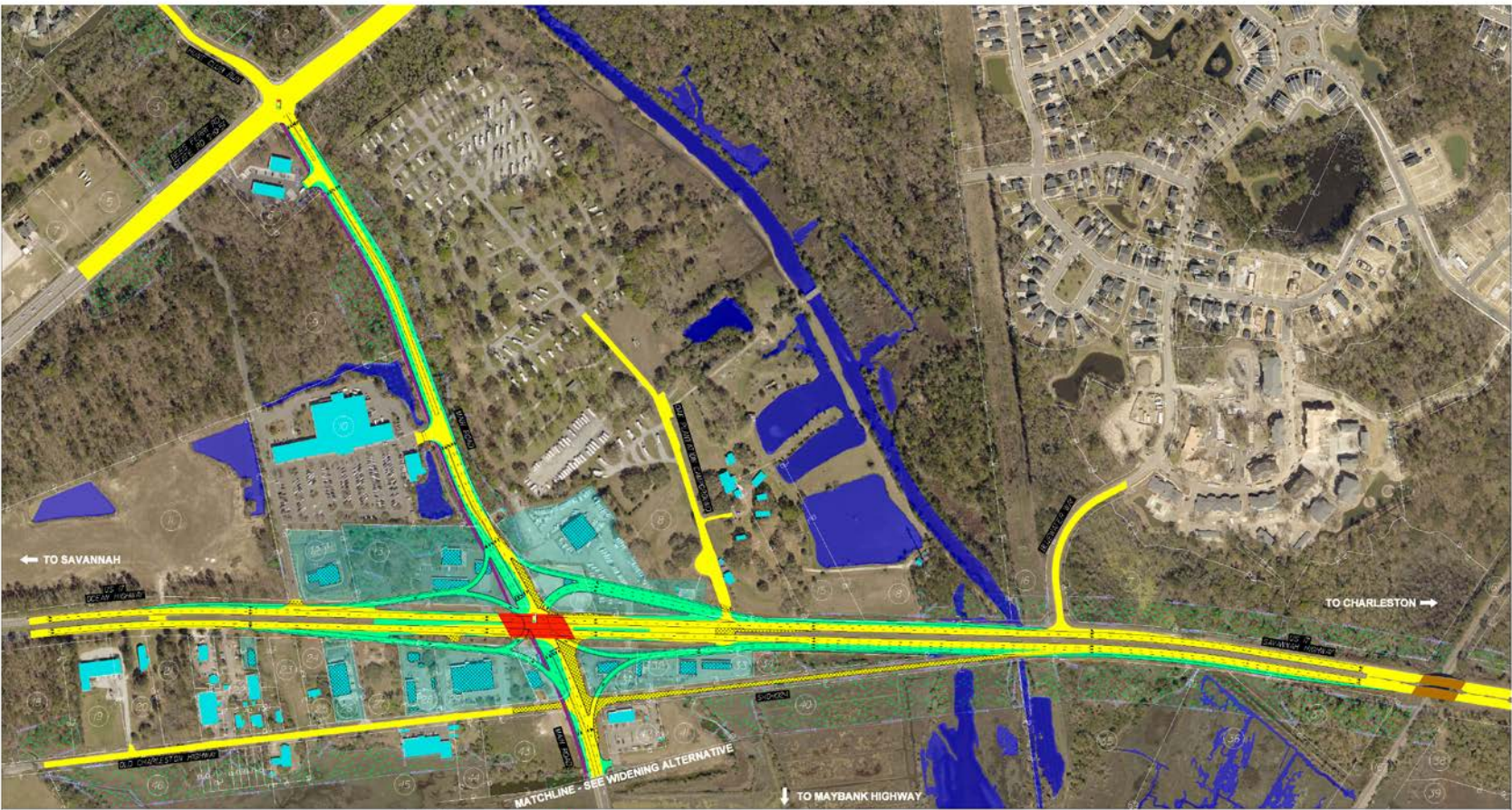
Alternative	Number in Favor	Percent in Favor
1	23	10.95%
2	27	12.86%
3	27	12.86%
4	7	3.33%
5	68	32.38%
6	43	20.48%
7	15	7.14%



Alternative 2

STATS

Interchange Type: Single Point Diamond Interchange
Total Wetlands Impacted (Acres): 11.73
Potential Relocations: 12
Floodplains Impacted (Acres): 63.92
Farmlands of Statewide Significance (Acres): 9.04



**MAIN ROAD
CONCEPTUAL INTERCHANGE
ALTERNATIVE 2
CHARLESTON COUNTY, SC**

Alternative Preference

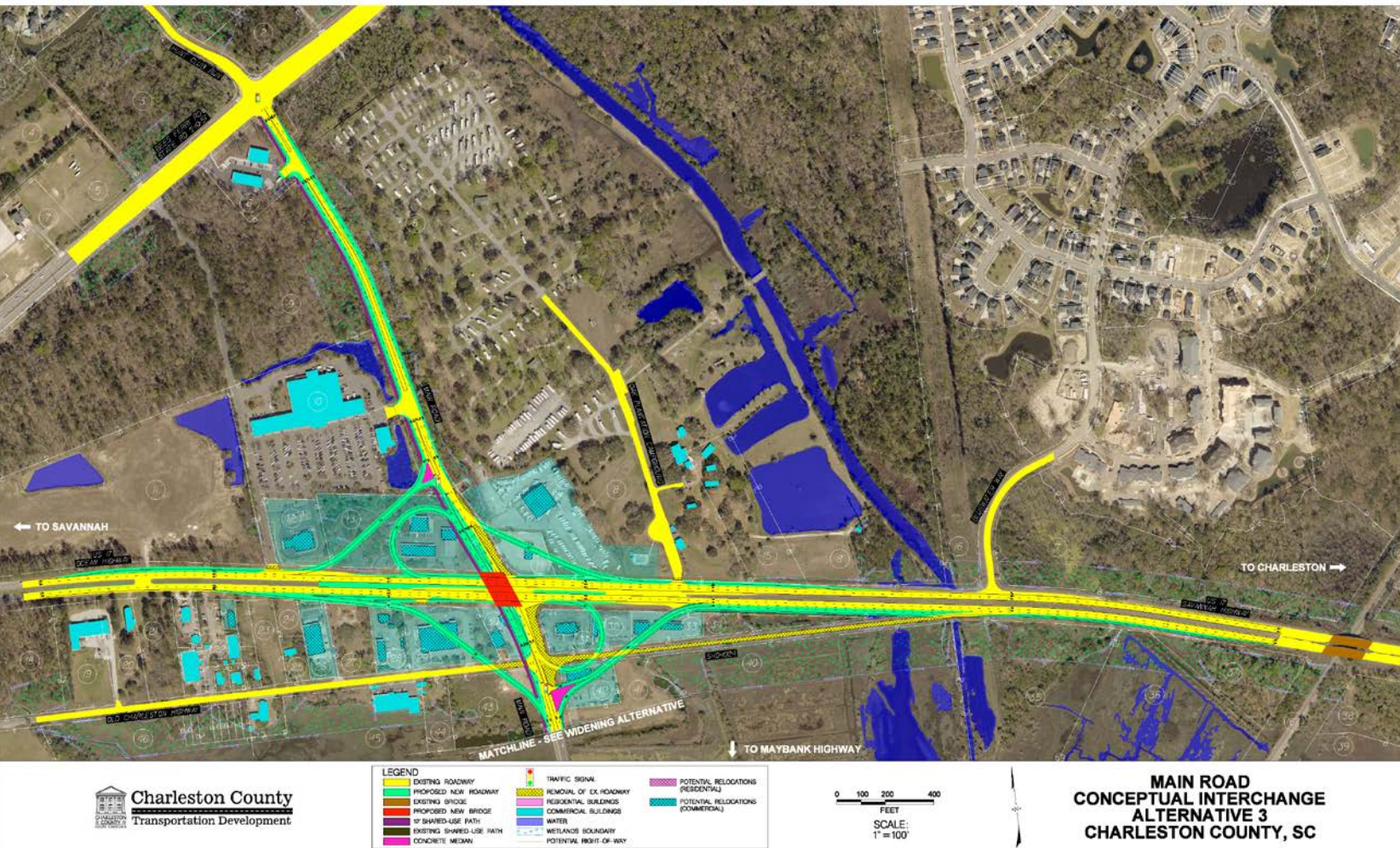
Alternative	Number in Favor	Percent in Favor
1	23	10.95%
2	27	12.86%
3	27	12.86%
4	7	3.33%
5	68	32.38%
6	43	20.48%
7	15	7.14%

Alternative 3

STATS

Interchange Type: Partial Cloverleaf
Total Wetlands Impacted (Acres): 9.87
Potential Relocations: 13
Floodplains Impacted (Acres): 63.73
Farmlands of Statewide Significance (Acres): 10.17

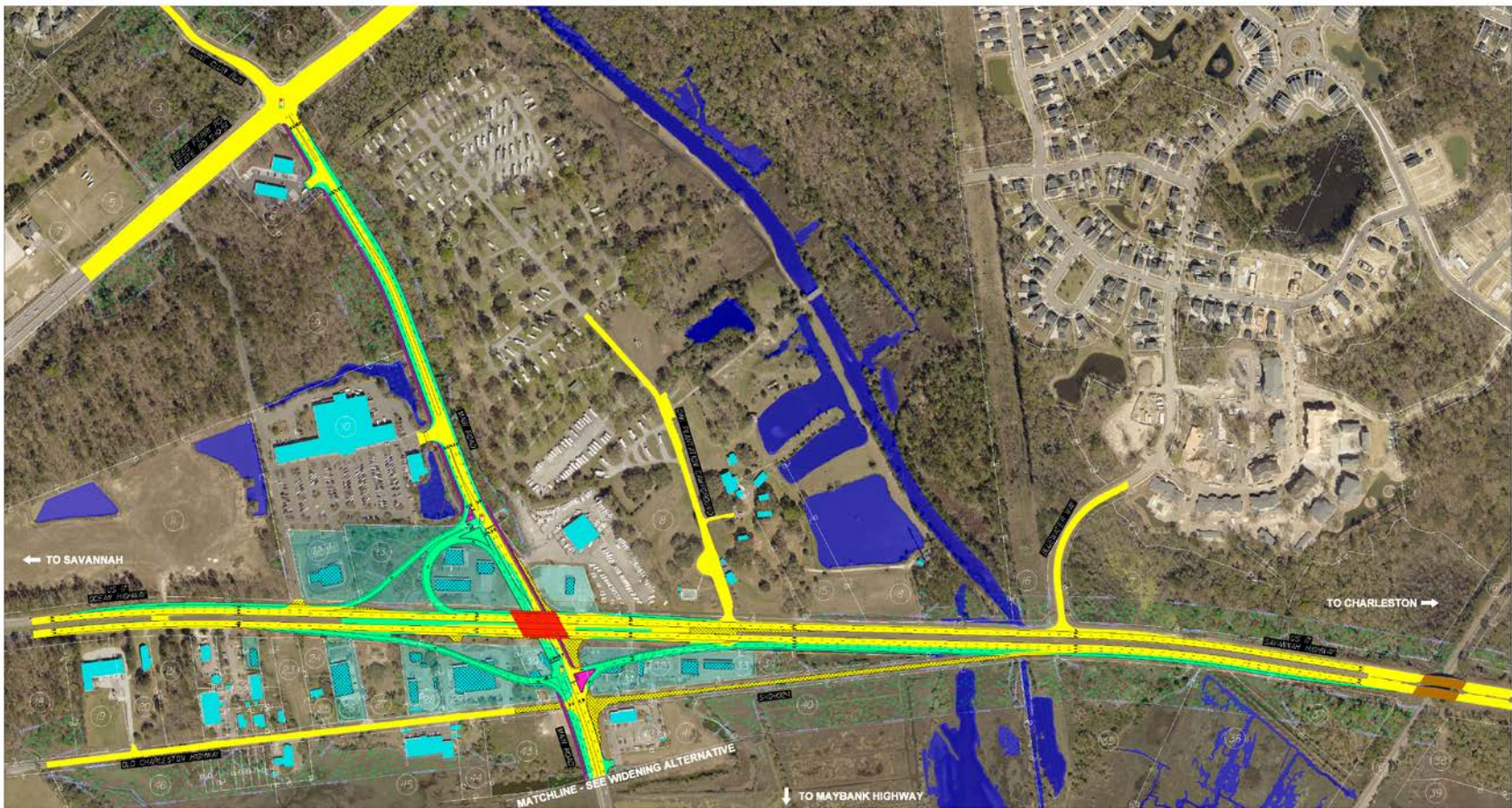
Alternative Preference		
Alternative	Number in Favor	Percent in Favor
1	23	10.95%
2	27	12.86%
3	27	12.86%
4	7	3.33%
5	68	32.38%
6	43	20.48%
7	15	7.14%



Alternative 4

STATS

Interchange Type: Partial Cloverleaf - 1 Loop
Total Wetlands Impacted (Acres): 11.39
Potential Relocations: 12
Floodplains Impacted (Acres): 61.92
Farmlands of Statewide Significance (Acres): 10.72



Alternative Preference

Alternative	Number in Favor	Percent in Favor
1	23	10.95%
2	27	12.86%
3	27	12.86%
4	7	3.33%
5	68	32.38%
6	43	20.48%
7	15	7.14%

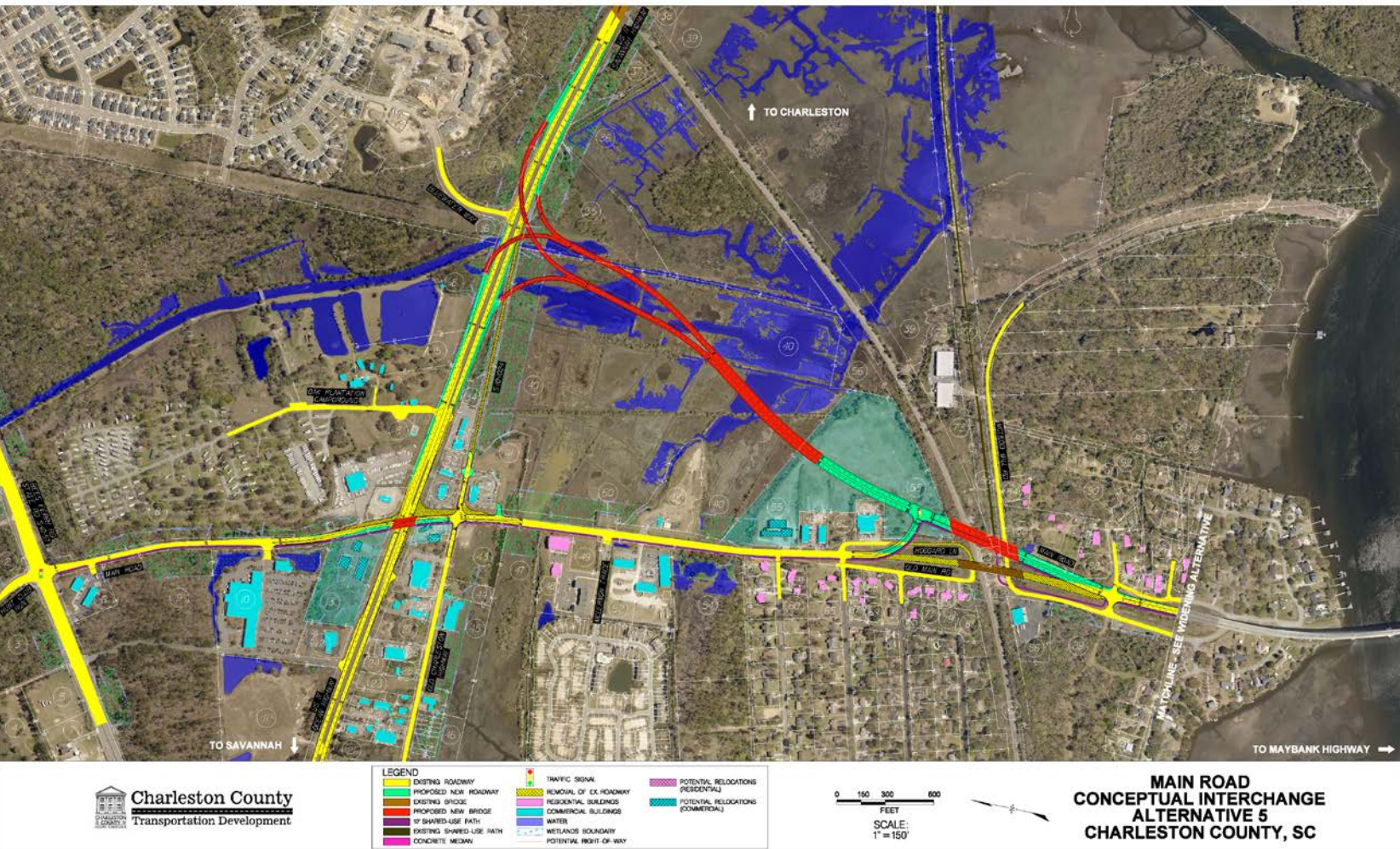
Alternative 5

STATS

Interchange Type: Full New Location
Total Wetlands Impacted (Acres): 15.65
Potential Relocations: 4
Floodplains Impacted (Acres): 54.13
Farmlands of Statewide Significance (Acres): 10.41

Alternative Preference

Alternative	Number in Favor	Percent in Favor
1	23	10.95%
2	27	12.86%
3	27	12.86%
4	7	3.33%
5	68	32.38%
6	43	20.48%
7	15	7.14%



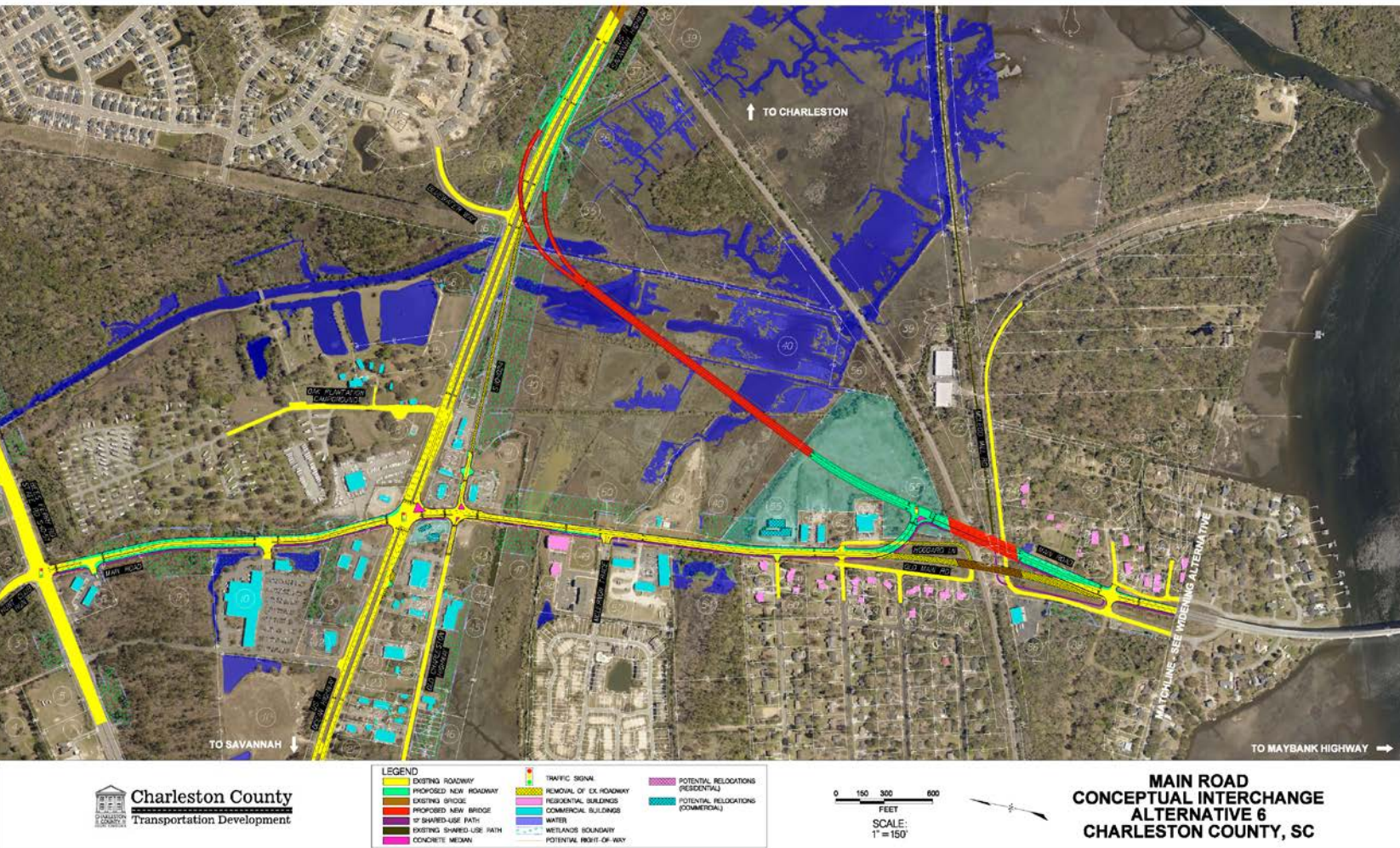
Alternative 6

STATS

Interchange Type: Partial New Location
Total Wetlands Impacted (Acres): 13.3
Potential Relocations: 1
Floodplains Impacted (Acres): 45.6
Farmlands of Statewide Significance (Acres): 10.51

Alternative Preference

Alternative	Number in Favor	Percent in Favor
1	23	10.95%
2	27	12.86%
3	27	12.86%
4	7	3.33%
5	68	32.38%
6	43	20.48%
7	15	7.14%

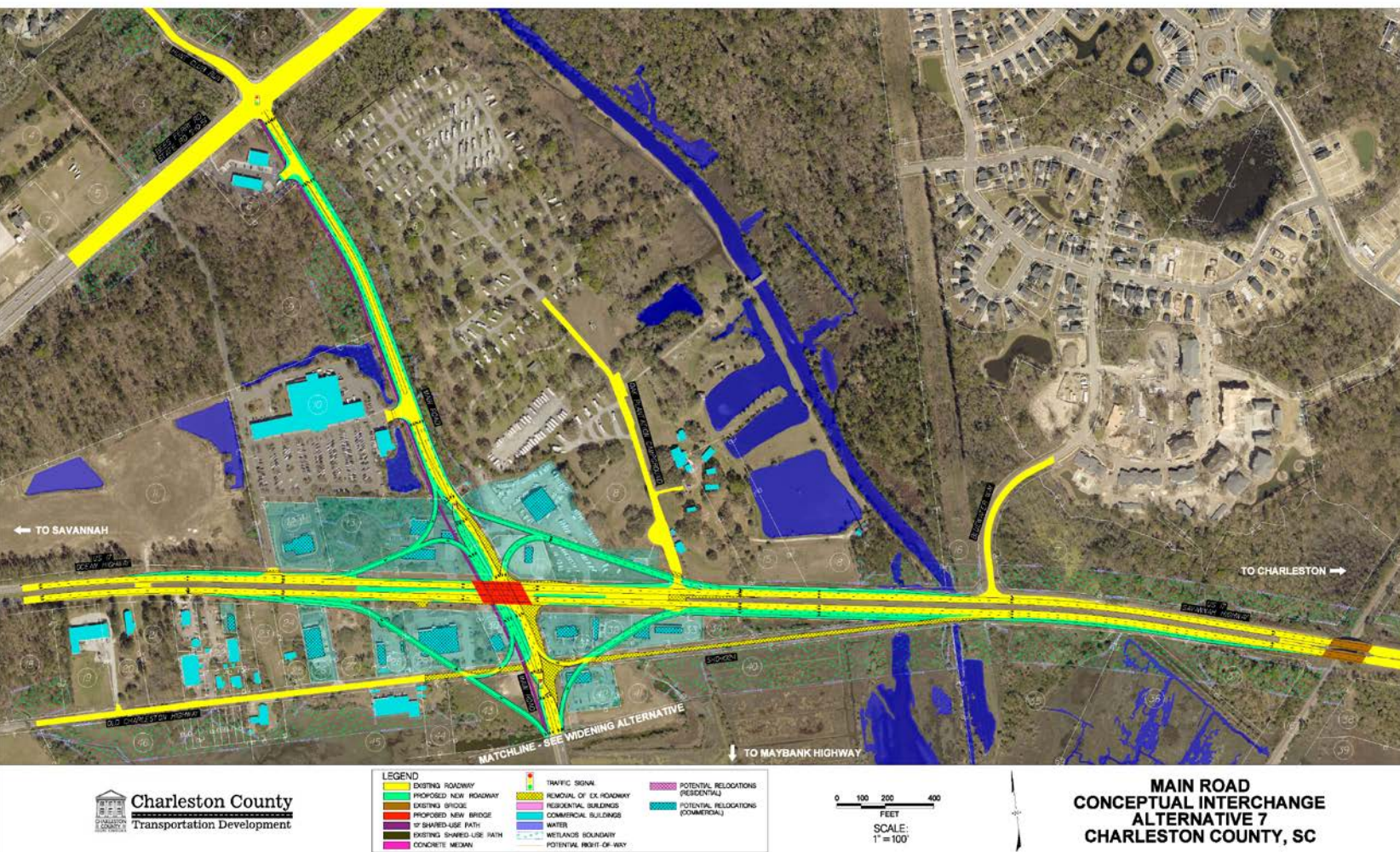


Alternative 7

STATS

Interchange Type: Diverging Diamond
Total Wetlands Impacted (Acres): 11.8
Potential Relocations: 14
Floodplains Impacted (Acres): 68.38
Farmlands of Statewide Significance (Acres): 9.7

Alternative Preference		
Alternative	Number in Favor	Percent in Favor
1	23	10.95%
2	27	12.86%
3	27	12.86%
4	7	3.33%
5	68	32.38%
6	43	20.48%
7	15	7.14%



Public Information Meeting Overview

- ✓ 443 Attendees
- ✓ 95 Written Comments
- ✓ 169 Email Comments through Website
- ✓ 2 Letters

Alternative Preference		
Alternative	Number in Favor	Percent in Favor
1	23	10.95%
2	27	12.86%
3	27	12.86%
4	7	3.33%
5	68	32.38%
6	43	20.48%
7	15	7.14%



PUBLIC INFORMATION MEETING

May 20 | 6:00 - 8:00 PM
St. John's High School Cafeteria
1518 Main Road, Johns Island, SC 29455

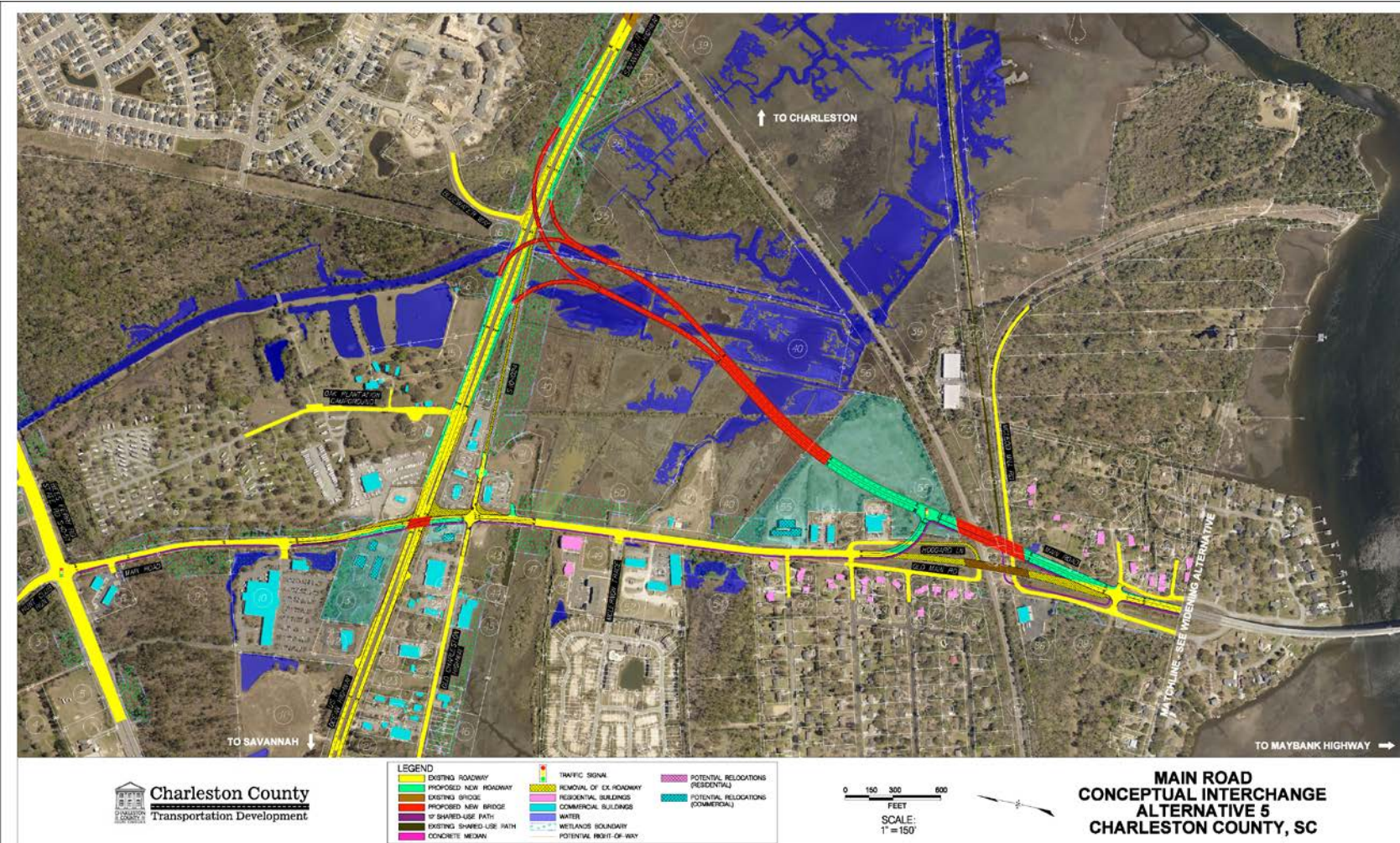
Join Charleston County on Monday, May 20, for a Public Information Meeting regarding Segment A: US 17 and Main Road Intersection & Main Road Improvements - Bees Ferry to River Road. This meeting will present the preliminary alternatives of the Main Road Corridor between Bees Ferry Road and the River Road/Chisolm Road intersection. The drop-in meeting starts at 6 PM with staff available at each display station to answer questions. Attendees will have the opportunity to provide comments on each of the proposed alternatives, and the Project Team will use this input to help shape the future of this project.

Located in one of Charleston County's fastest-growing areas on and near Johns Island, US 17 & Main Road is critical for accommodating increased traffic, reducing congestion, providing safe options for bicyclists and pedestrians, and mitigating flooding issues.

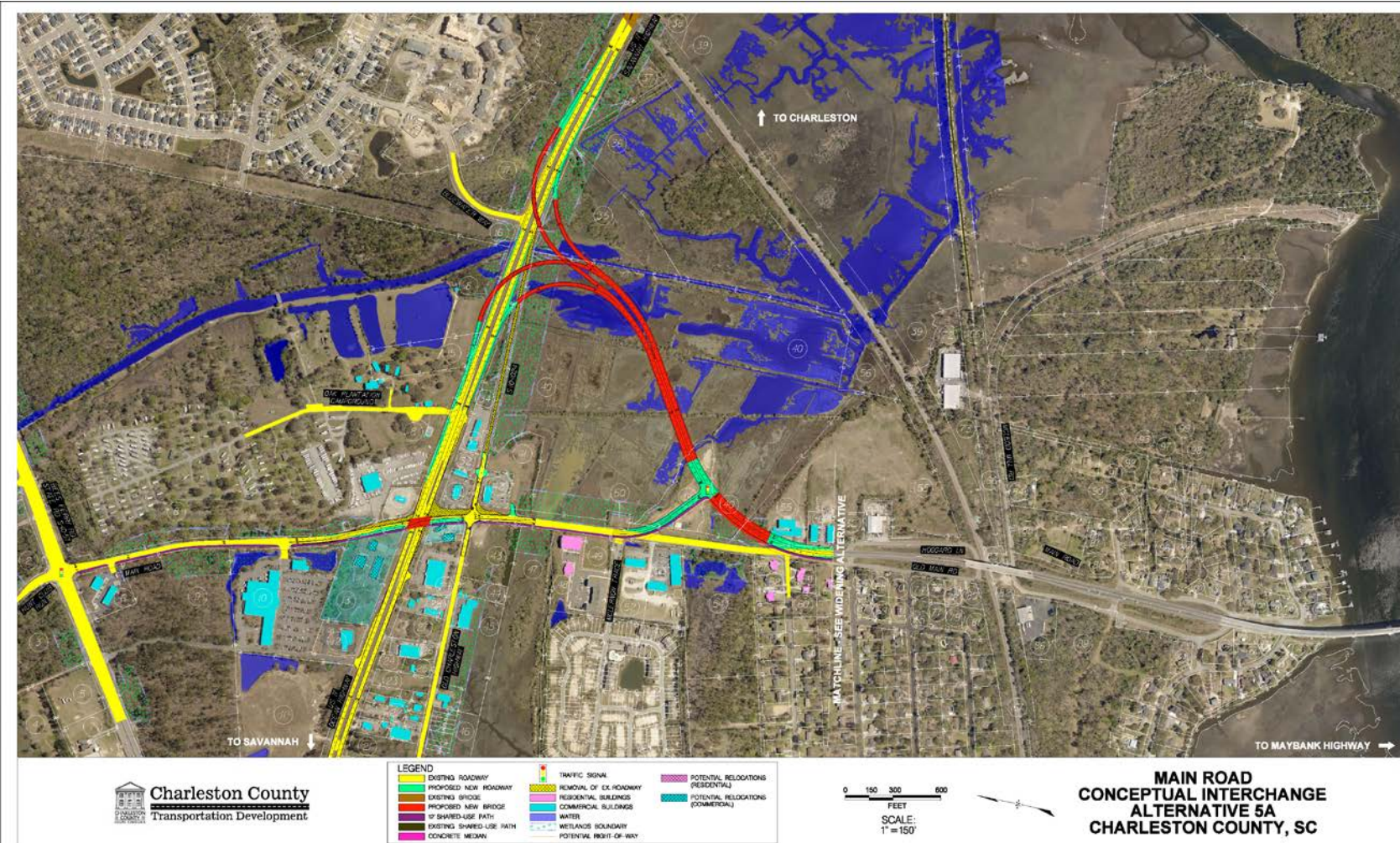
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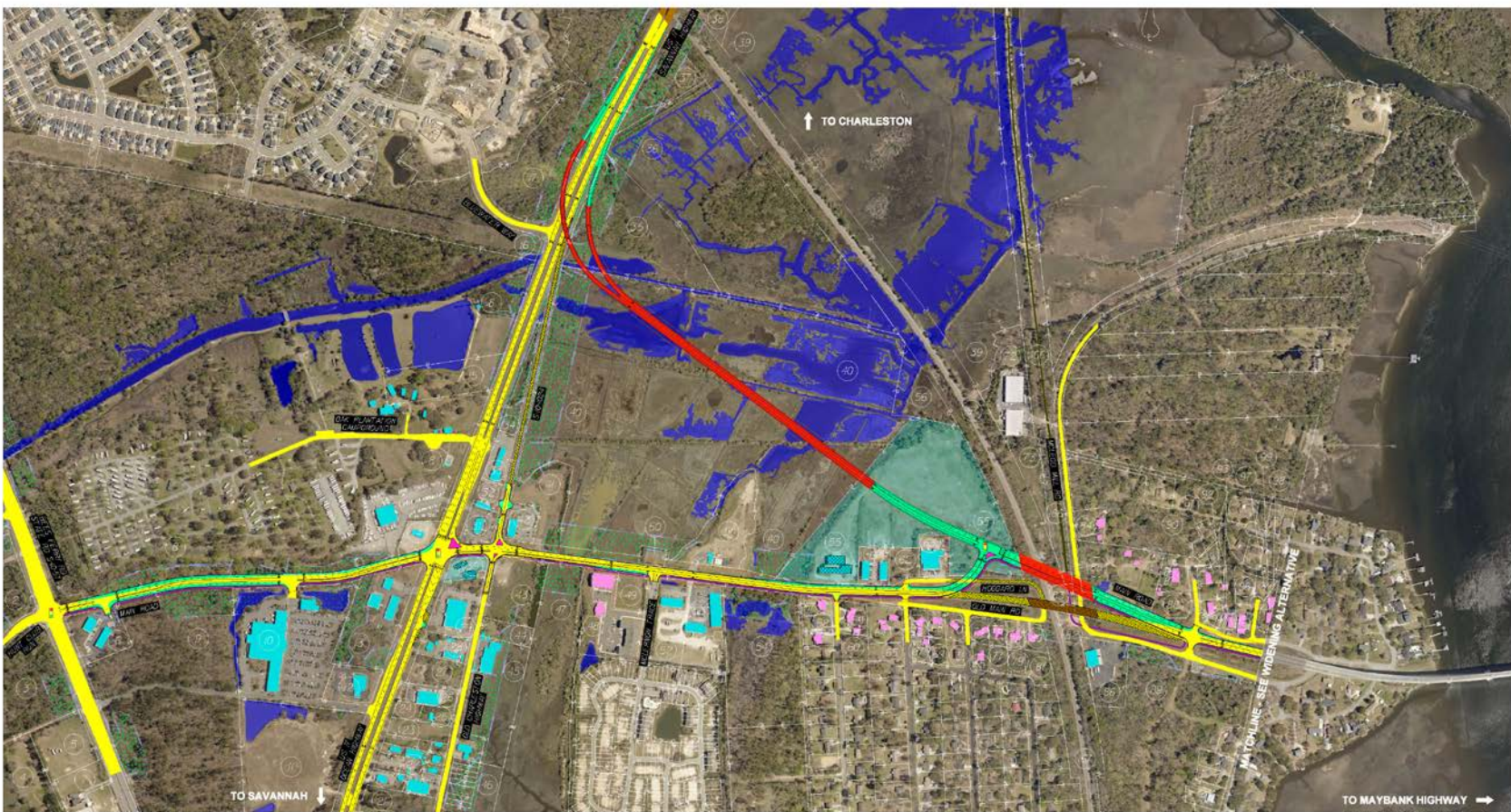
Alternative 5



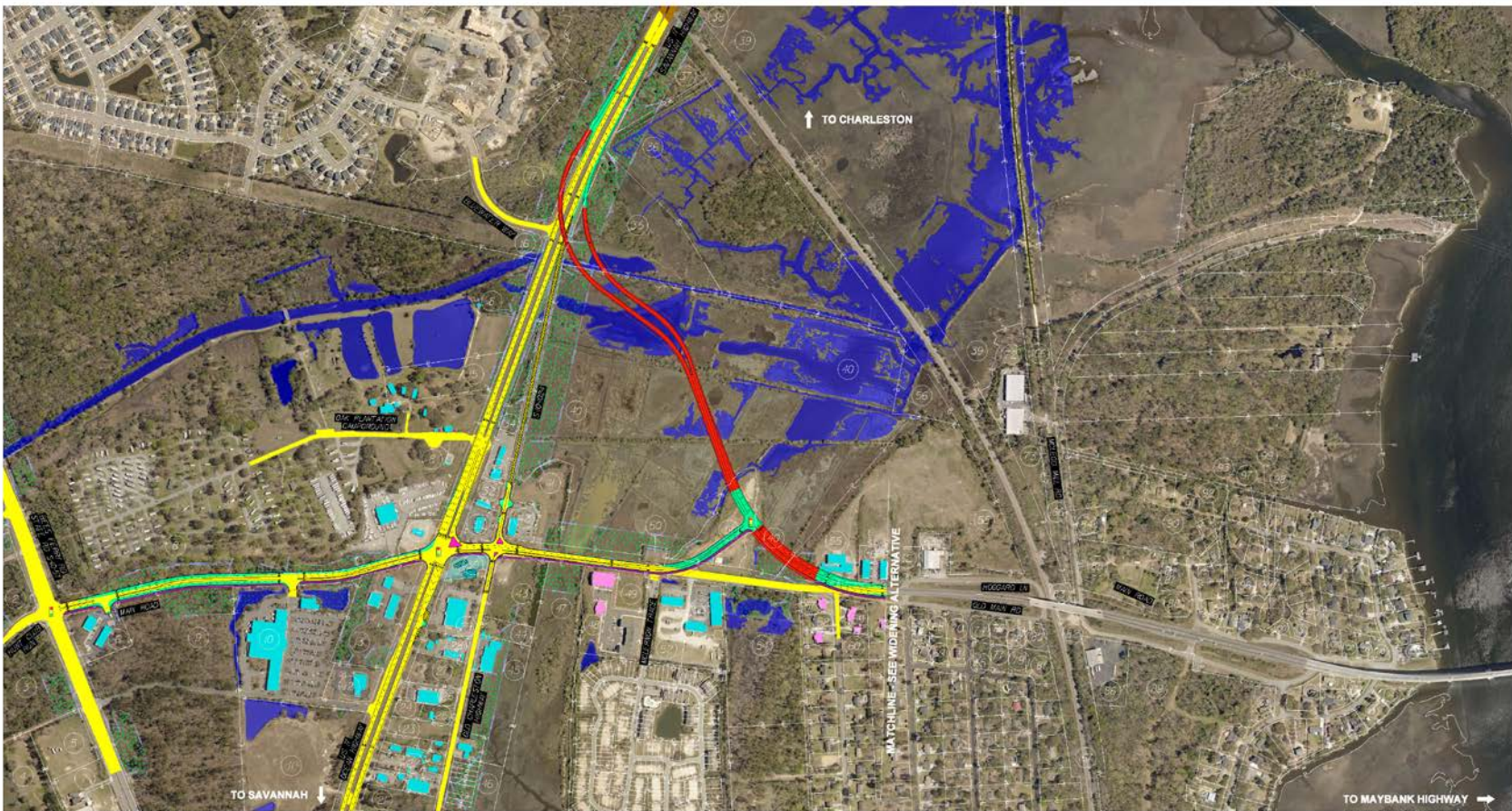
Alternative 5A



Alternative 6



Alternative 6A



3 Reasonable Alternatives Screening



Streams (feet)

135

135

66

66

0

0

0

0

135



Freshwater Wetlands (acres)

7

7

7

6.6

6

4.9

5.5

5.1

7



Critical Area (acres)

3.7

3.7

3.8

3.7

1.8

1.6

3.4

2.2

3.7



Essential Fish Habitat

Yes

Yes

Yes

Yes

Yes

Yes

Yes

Yes

Yes



(AM/PM)

LOS without MCX

B(18.2)/C(21.4)

D(40.3)/C(30.0)

C(20.6)/D(49.9)

C(25.7)/D(46.3)

A(0.0)/A(0.0)

A(0.0)/A(0.0)

F(127.3)/F(101.8)

F(166.2)/F(135.1)

B(10.4)/B(11.4)

LOS with MCX

C(23.9)/B(18.1)

D(47.3)/C(29.3)

B(15.3)/C(20.7)

B(19.3)/C(26.0)

A(0.0)/A(0.0)

A(0.0)/A(0.0)

F(146.2)/F(98.2)

F(146.2)/F(98.2)

B(10.3)/B(11.5)



Relocations
(Residential | Commercial)

0 | 12

0 | 12

0 | 13

0 | 11

204 | 2

0 | 2

204 | 1

0 | 1

0 | 13



Estimated Cost
(in millions)

\$89.8

\$88.2

\$84.4

\$85.0

\$92.7

\$91.0

\$68.7

\$64.9

\$87.0

Main Road at US 17 Interchange

3

Reasonable Alternatives Screening



Streams (feet)

135

0

135



Freshwater Wetlands (acres)

7

4.9

7

Critical Area (acres)

3.7

1.6

3.7



Essential Fish Habitat

Yes

Yes

Yes



LOS without MCX

B(18.2)/C(21.4)

A(0.0)/A(0.0)

B(10.4)/B(11.4)

LOS with MCX

C(23.9)/B(18.1)

A(0.0)/A(0.0)

B(10.3)/B(11.5)



Relocations
(Residential | Commercial)

0 | 12

0 | 2

0 | 13



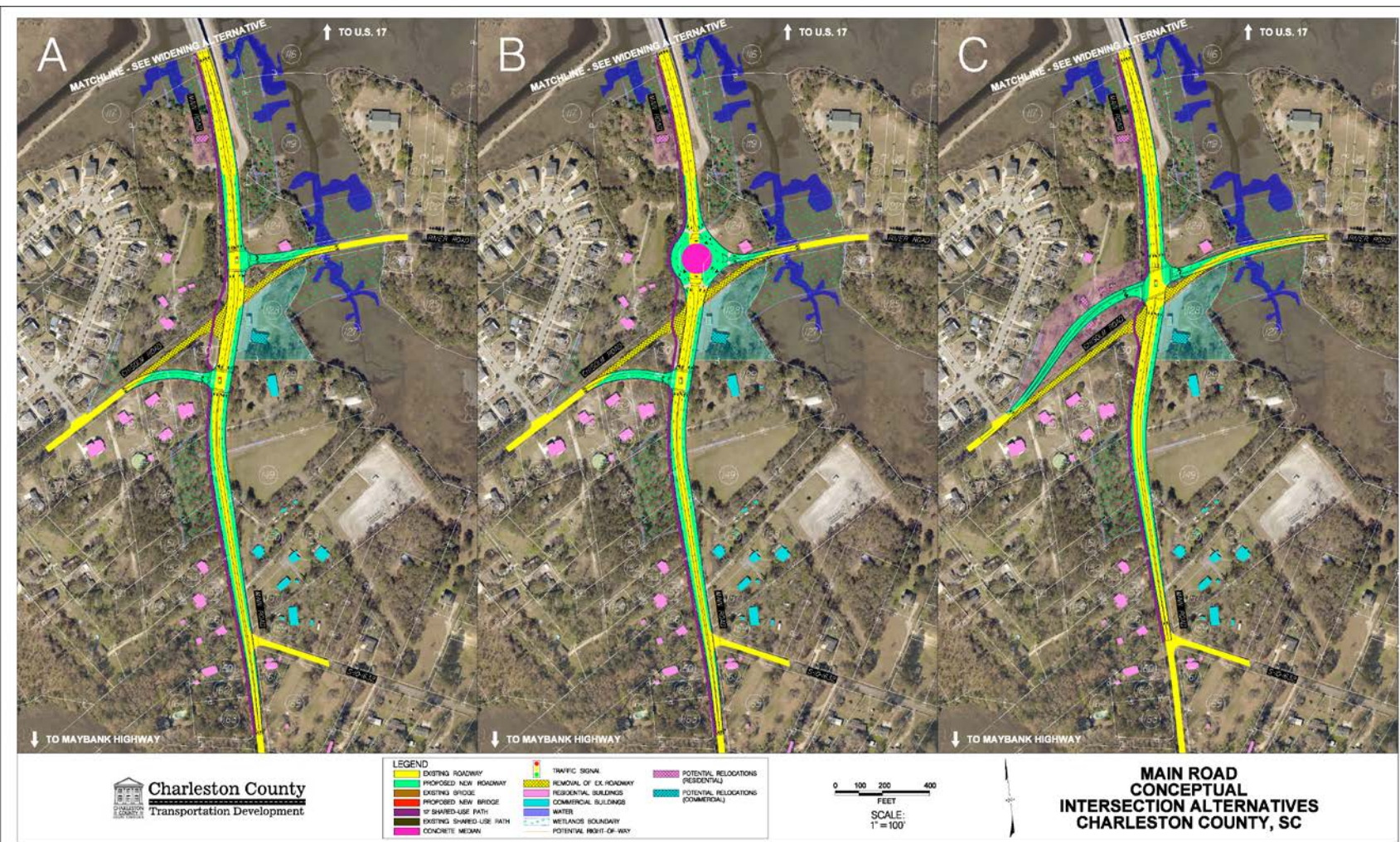
Estimated Cost
(in millions)

\$89.8

\$91.0

\$87.0

River Road/Chisolm Road Intersection Alternatives



Alternative Preference		
Alternative	Number in Favor	Percent in Favor
A	14	21.54%
B	32	49.23%
C	19	29.23%

Please note that for the intersection of River Road/Chisolm Road, 26 comments stated that they **do not wish to see a roundabout** at this intersection. Staff will take these comments into consideration moving forward.

1

Preliminary Purpose & Need Screening



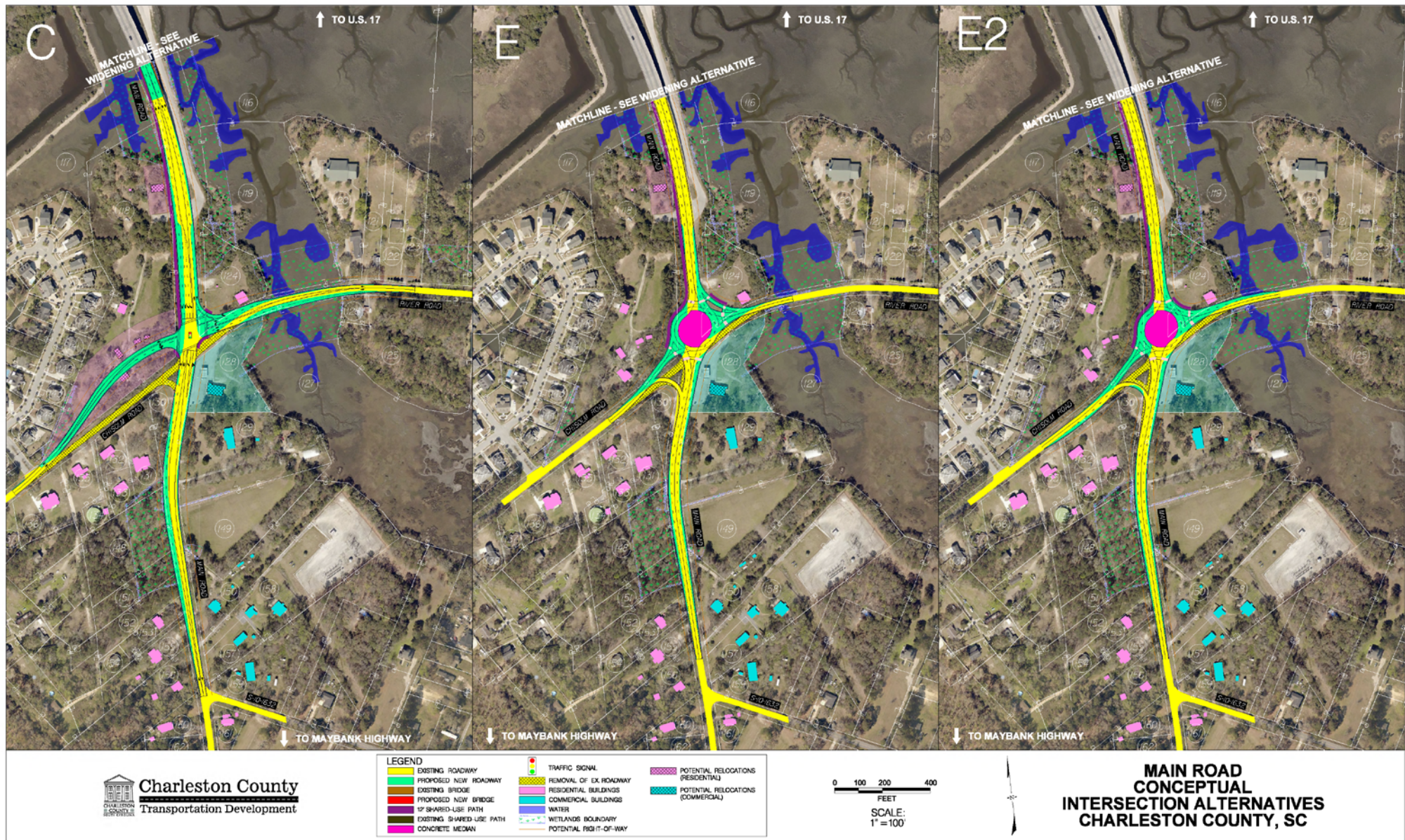
Critical Intersection
LOS (AM/PM)

Carried Forward

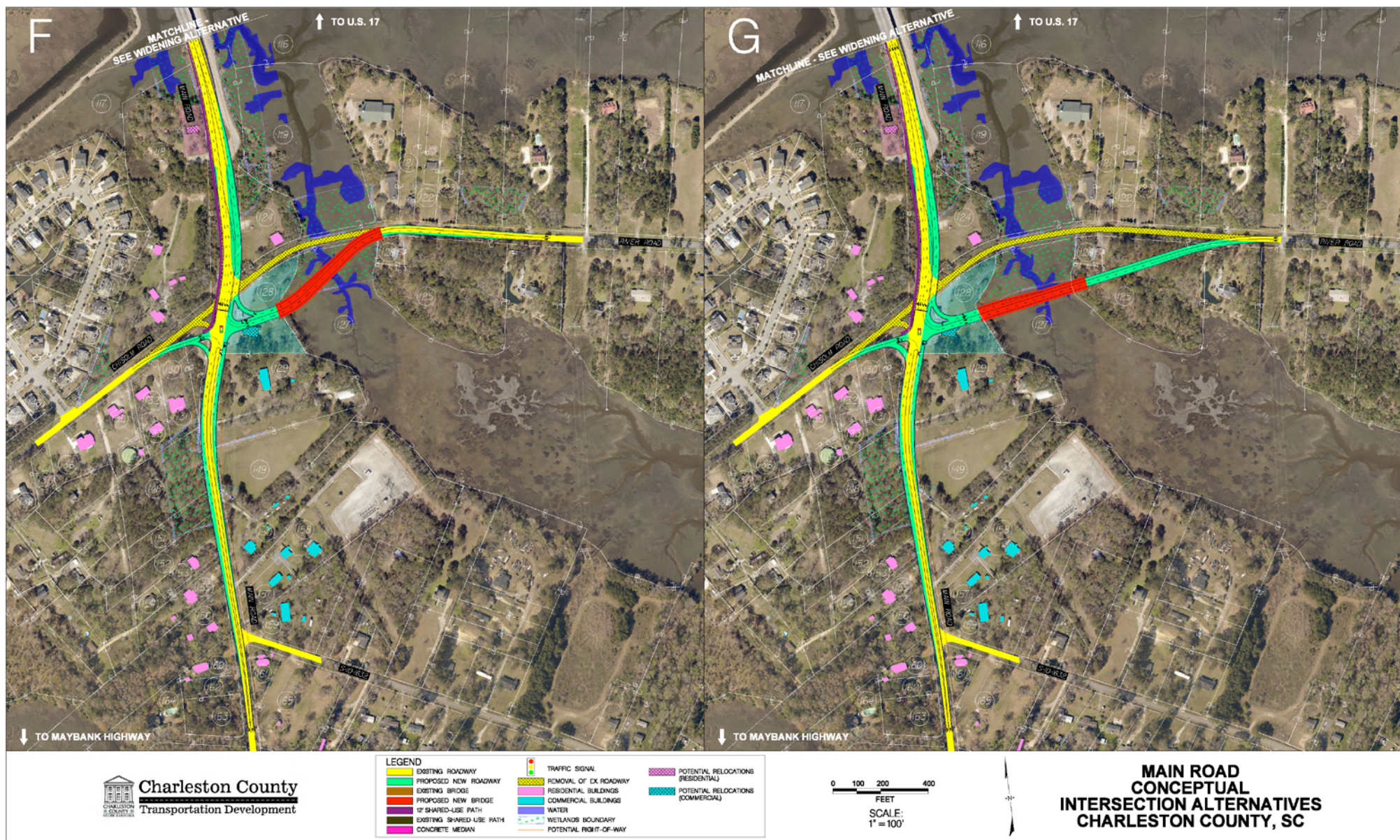
Alternative A		Alternative B		Alternative C	Alternative D		Alternative E	Alternative E2	Alternative F	Alternative G
A/B	E/E	C/F	E/E	C/D	E/F	A/B	C/E	C/E	C/D	C/D
No		No		Yes	No		Yes	Yes	Yes	Yes

Main Road at River/Chisolm









MAIN ROAD CORRIDOR SEGMENT A



MAIN ROAD CORRIDOR SEGMENT A









Preliminary Environmental Screening

	Alternative C	Alternative E	Alternative E2	Alternative F	Alternative G
 Streams (feet)	411	392.7	392.7	407.83	408.11
 Wetlands (acres)	4.44	2.7	3.24	4.43	3.64
 Right-of-Way Impacts (acres)	7.75	5.28	5.56	8.59	8.85
 Relocations	4	2	3	1	2
 Floodplains (acres)	20.92	14.97	16.33	19.9	20.12
 Cultural Resources	0	0	0	0	0
 Farmlands (acres)	5.67	5.11	5.36	5.85	5.84
 Protected Lands	0	0	0	0	0
Carried Forward					

Main Road at River/Chisolm

3

Reasonable Alternatives Screening

		Alternative C	Alternative E	Alternative E2	Alternative F	Alternative G
	Streams (feet)	411	392.7	392.7	407.83	408.11
	Freshwater Wetlands (acres)	1.59	1.12	1.28	1.32	1.31
	Critical Area (acres)	2.85	1.58	1.96	3.11	2.33
	Essential Fish Habitat	Yes	Yes	Yes	Yes	Yes
	LOS without MCX	C(25.8)/D(36.5)	E(42.3)/F(88.9)	C(16.9)/D(32.5)	C(25.8)/D(36.5)	C(25.8)/D(36.5)
(AM/PM)	LOS with MCX	B(11.0)/B(11.7)	A(8.3)/A(8.1)	A(7.7)/A(7.2)	B(11.0)/B(11.7)	B(11.0)/B(11.7)
	Relocations (Residential Commercial)	2 2	1 1	1 2	1 1	1 1
	Estimated Cost (in millions)	\$14.6	\$10.8	\$11.4	\$18.9	\$17.2

Main Road at River/Chisolm

Recommended Applicants Preferred Alternative

US 17/Main Road

Alternative 5A

- *Streams – Lowest stream impacts*
- *Freshwater Wetlands- Lowest wetland*
- *Critical Area- Lowest critical area*
- *EFH- Present in all three best fit alts*
- *LOS- Best level of service*
- *Relocations- lowest relocations*
- *Cost – Highest cost by 4.5%*

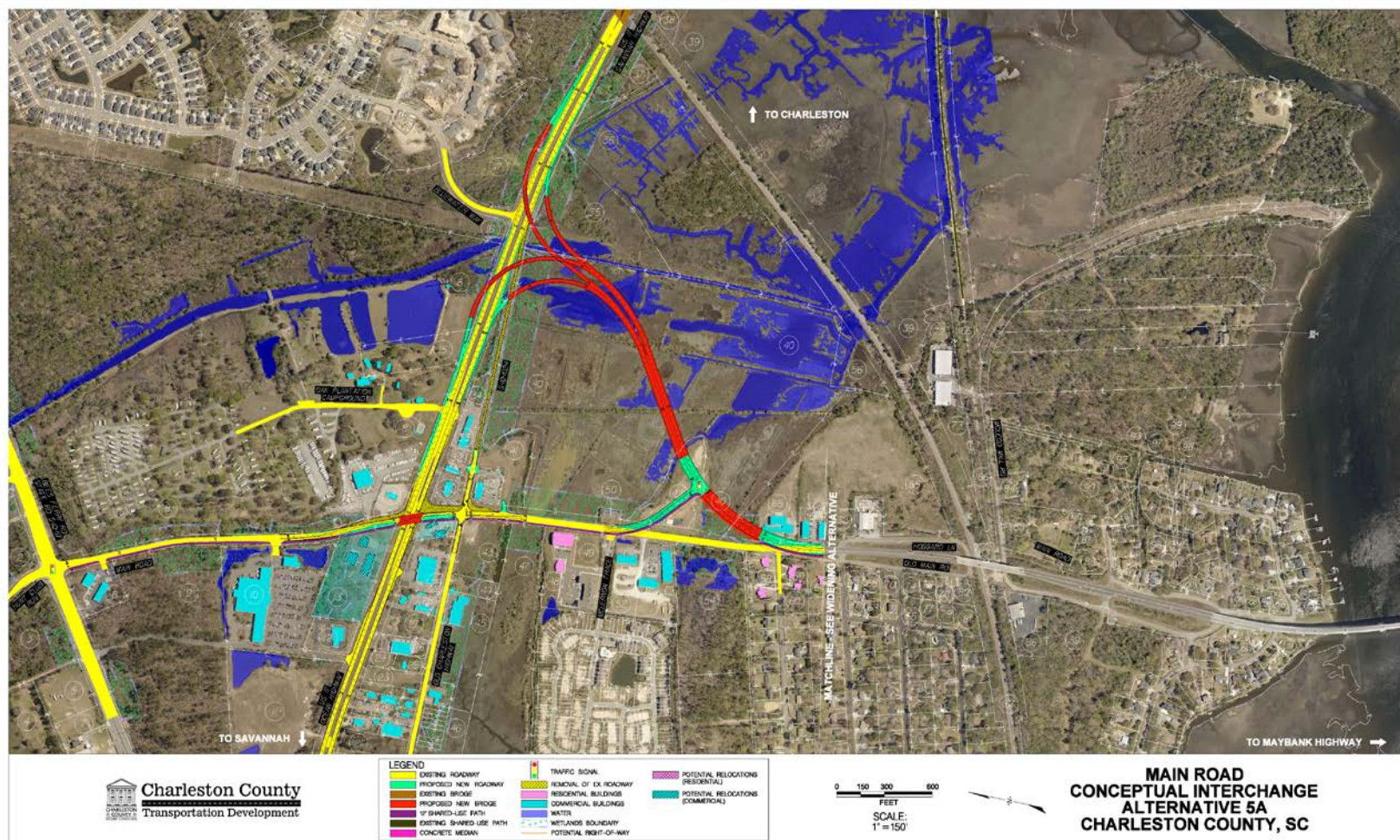
River/Chisolm Road

Alternative E2

- *Streams –lowest stream impacts*
- *Freshwater Wetlands- Second lowest wetland (.10 acre)*
- *Critical Area- Second lowest critical area (.38 acres)*
- *EFH- Present in all best fit alts*
- *LOS- Best overall level of service*
- *Relocations- lowest relocations*
- *Cost – Second lowest cost by 5.4%*

US 17/Main Road – Alt. 5A

River/Chisolm Rd. -- Alt. E2



4

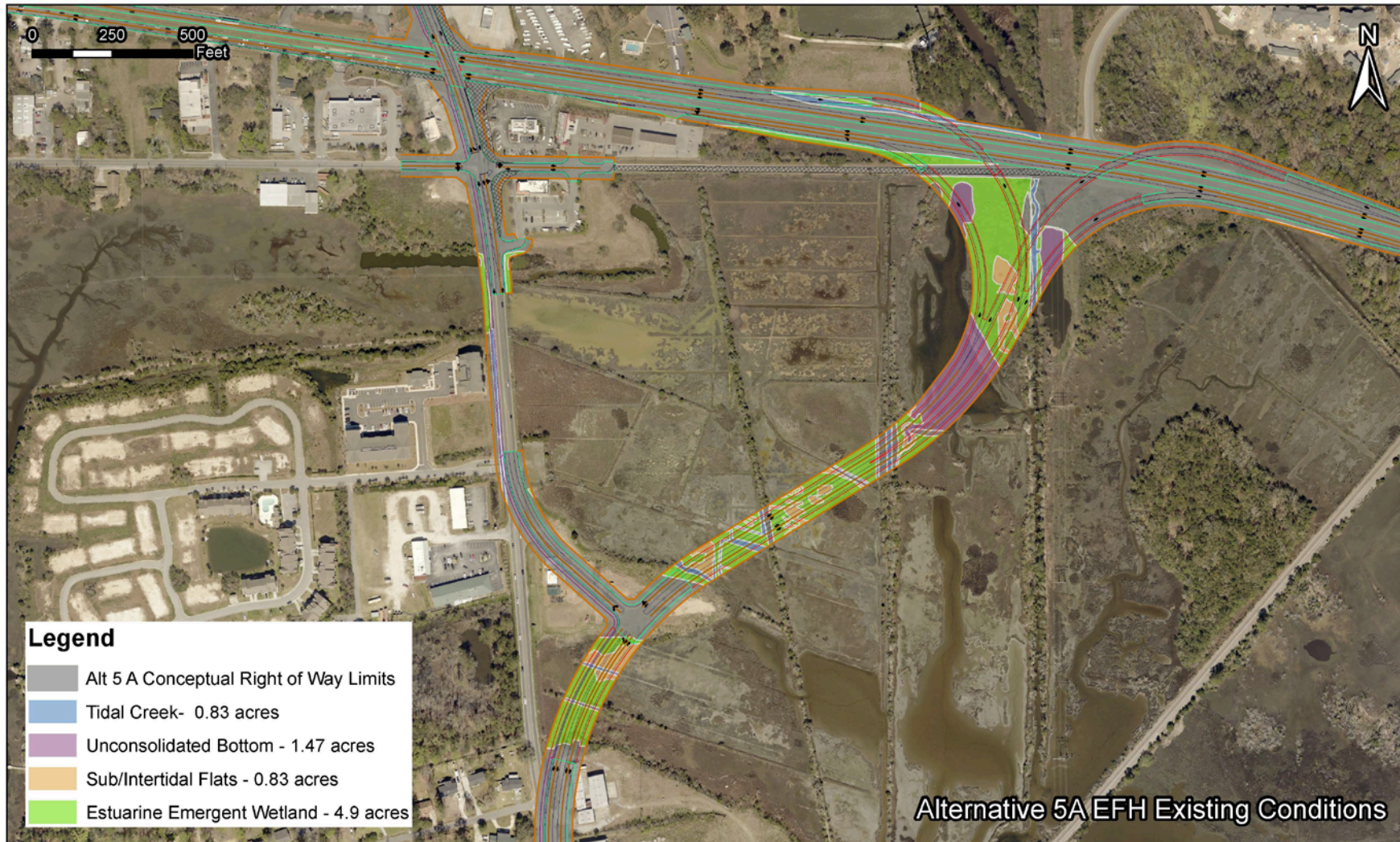
Reasonable Alternatives Screening Results

	Main Road at US 17 Interchange Alternative 5a		Main Road at River/Chisolm Alternative E2		Total Impacts
 Streams (feet)	0		392.7		392.7
 Freshwater Wetlands (acres)	4.9		1.28		6.18
 Critical Area (acres)	1.6		1.96		3.56
 Essential Fish Habitat	Yes	+	Yes	=	Yes
 LOS without MCX	A(0.0)/A(0.0)		C(16.9)/D(32.5)		
 LOS with MCX (AM/PM)	A(0.0)/A(0.0)		A(7.7)/A(7.2)		
 Relocations (Residential Commercial)	0 2		1 2		1 4
 Estimated Cost (in millions)	\$91.0		\$11.4		\$102.4

Next Steps

- Public input on preferred alternative
 - PIM Spring 2020
- Continue to refine design
- Complete detailed essential fish habitat analysis
- Complete detailed wetlands/stream and critical area analysis
- Develop mitigation strategies
 - Wetlands/Critical area
 - Essential Fish Habitat
- Permit Application









Mitigation

Anticipated Credit Needs

- *Freshwater Wetland Credits – 80*
- *Critical Area Wetland Credits – 80*
- *Linear Stream Credits – 2000*

Mitigation Approach

- *Mitigation Bank Availability*
- *Freshwater/Stream – Caton Creek, Great Swamp, Brosnan Forest*
- *Critical Area -- Clydesdale*

Permittee Responsible

- *Inventory of Potential Properties*

EFH Mitigation



Questions?