

North Topsail Beach Multi-Use Path Study

July 1, 2016

Prepared for:



Prepared by:

Kimley»Horn

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ACKNOWLEDGEMENTS

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Dr. Mike Benson

EXECUTIVE SUMMARY

The Town of North Topsail Beach is located along the Atlantic Coast of North Carolina on the northern end of Topsail Island. The Town was incorporated in 1990 and has a permanent population of 743 people according to census data published in 2010 by the United States Census Bureau. The Town's population swells during summer months with over 78%, or approximately 2,000, of its 2,547 total housing units available for seasonal, recreational, or occasional use.

The Town identified a need to investigate alternate means of transportation on the island to reduce congestion and improve safety in the early 2000's. In 2006, The Town adopted the Town of North Topsail Beach Bike Plan. This master planning document outlined a 10-foot wide bike path along State Road 1568 (SR 1568) or New River Inlet Road and River Drive. New River Inlet Road serves as the only road to the northern end of the island. It is a 2-lane asphalt road running parallel to the coastline with no available alternate route or accommodations for pedestrians or cyclists. The proposed bike path would be an extension of the Town's existing paved bike path from Town Hall, located at the intersection of New River Inlet Road and NC Highway 210, to North Topsail Beach Park along New River Inlet Road.

The purpose of this project is to further investigate the originally proposed bike path. The Town retained planning and engineering consultants, Kimley-Horn, to assist with the preliminary design of a multi-use path and developing a construction cost estimate. The limits of the project were established using the Town's 2006 Bike Plan. This



proposed alignment is approximately 4.7 miles long beginning at North Topsail Beach Park, continuing north along New River Inlet Road, and ending at the current Town-owner parking lot at the terminus of River Drive.

PRELIMINARY DESIGN PROCESS

The Consultant hosted a Kick-off Meeting and Work Session with Town staff and stakeholders to review the project goals, confirm project limits, and gather institutional knowledge of the project corridor.

The following goals were established:

1. Mitigate congestion along New River Inlet Road (SR 1568).
2. Improve pedestrian and cyclist safety.
3. Improve connectivity to the surrounding community.
4. Incorporate the project into the Eastern

Carolina RPO transportation planning documents.

5. Incorporate into Onslow County Comprehensive Transportation Plan (CTP).
6. Establish a feasible preliminary alignment.
7. Develop a construction cost estimate in order to identify an order of magnitude for design, right-of-way, easements, and construction costs.
8. Position the project for NCDOT funding or other related grant opportunities.

Large-scale maps of the proposed path corridor were displayed. These maps were developed from available aerial photography and GIS data provided by Onslow County. Town staff and stakeholders drafted comments on sticky notes and posted them to specific areas on the maps to note potential opportunities and constraints.

The Consultant then conducted a site visit of the entire proposed project corridor to make field observations. Existing conditions, including drainage structures, utilities, vegetation, roadway structures, and other physical features, within the approximate right-of-way were observed and noted.

Input from the Kick-off Meeting and Work Session, along with the Consultant's field observations were used to develop the preliminary path alignment. The Consultant used the following criteria during this design process:

1. Maximize the existing right-of-way for the proposed path alignment.
2. Consider existing Town-owned parcels for the proposed path alignment to reduce encroachments.



3. Minimize path crosswalks along New River Inlet Road.
4. Minimize impact to environment features.
5. Consider elevated timber boardwalks parallel to bridge structures.
6. Comply with AASHTO and NCDOT guidelines.

The Consultant drafted a preferred alignment that addressed the stated criteria and, using this, created map exhibits suitable for presentation to the public. This mapping became Preliminary Multi-use Path Alignment documents.

The Preliminary Multi-use Path Alignment was presented by the Consultant, Kimley-Horn, at the Public Meeting on April 12, 2016. The document was then presented by the Town's Planning Director, Deborah J. Hill, to the Town's Planning Board on April 14, 2016. The Board recommended approval by the Board of Alderman.

On May 5, 2016, Deborah J. Hill presented the Preliminary Multi-use Path Alignment to the Town's Board of Alderman. The Board approved the preliminary alignment unanimously. The purpose of the motion was to seek approval for establishing the construction cost estimate.

STAKEHOLDER INPUT

The majority of the proposed project limits fall within the residential corridor made up of mid-rise condominium buildings, townhomes, and single-family homes. It is imperative to actively engage these residents as stakeholders in the project and



receive meaningful input throughout the design process. The Town included members of the Board of Alderman, staff members, and residents early and often during the project. Stakeholders participated in the project Kick-off Meeting and Work Session at the onset of the design phase. The Town and Consultant hosted a Public Meeting at Town Hall on the evening of April 12, 2016. The public meeting was advertised on the Town's website, social media, and electronic communications. The preliminary multi-use path alignment, typical sections of the path construction, and existing conditions were presented by the Consultant. Large-scale mapping of the entire 4.7 mile proposed alignment was displayed along the walls for attendees to review and ask specific questions. Town staff and the Consultant were available to respond to questions and concerns. The Consultant prepared a Sign-in Sheet, Comment Sheet, and presentation for

the Public Meeting. The Town posted the public meeting mapping online through the Town’s website for further comment. The comment period was available for 2-weeks following the meeting. In addition, Town staff continue to receive comments for the next several weeks leading up to the Board of Alderman meeting on May 5, 2016.

PROJECT SCHEDULE

The Consultant worked with Town staff to develop a comprehensive schedule, including dates for the below milestones.

OPINION OF PROBABLE CONSTRUCTION COST

The Consultant developed an Opinion of Probable Construction Costs (OPCC) based on the approved Preliminary Multi-use Path Alignment. This alignment was drafted in AutoCAD using base mapping previously developed. This process allows for better accuracy in measuring and calculating quantities associated with the construction of the path. The OPCC is formatted using the North Carolina Department of Transportation’s (NCDOT) Master Pay Item List. Pay Items were identified based on the Consultant’s experience in designing

Milestone	Date
Project Kick-off Meeting & Work Session with Town Staff	March 7, 2016
Site Visit	March 7, 2016
Public Meeting	April 12, 2016
Town Planning Board Meeting	April 14, 2016
Town Board of Alderman Meeting	May 5, 2016





multi-purpose paths similar to the project. Unit costs were calculated using historical data from recent competitive bids on similar projects in the region.

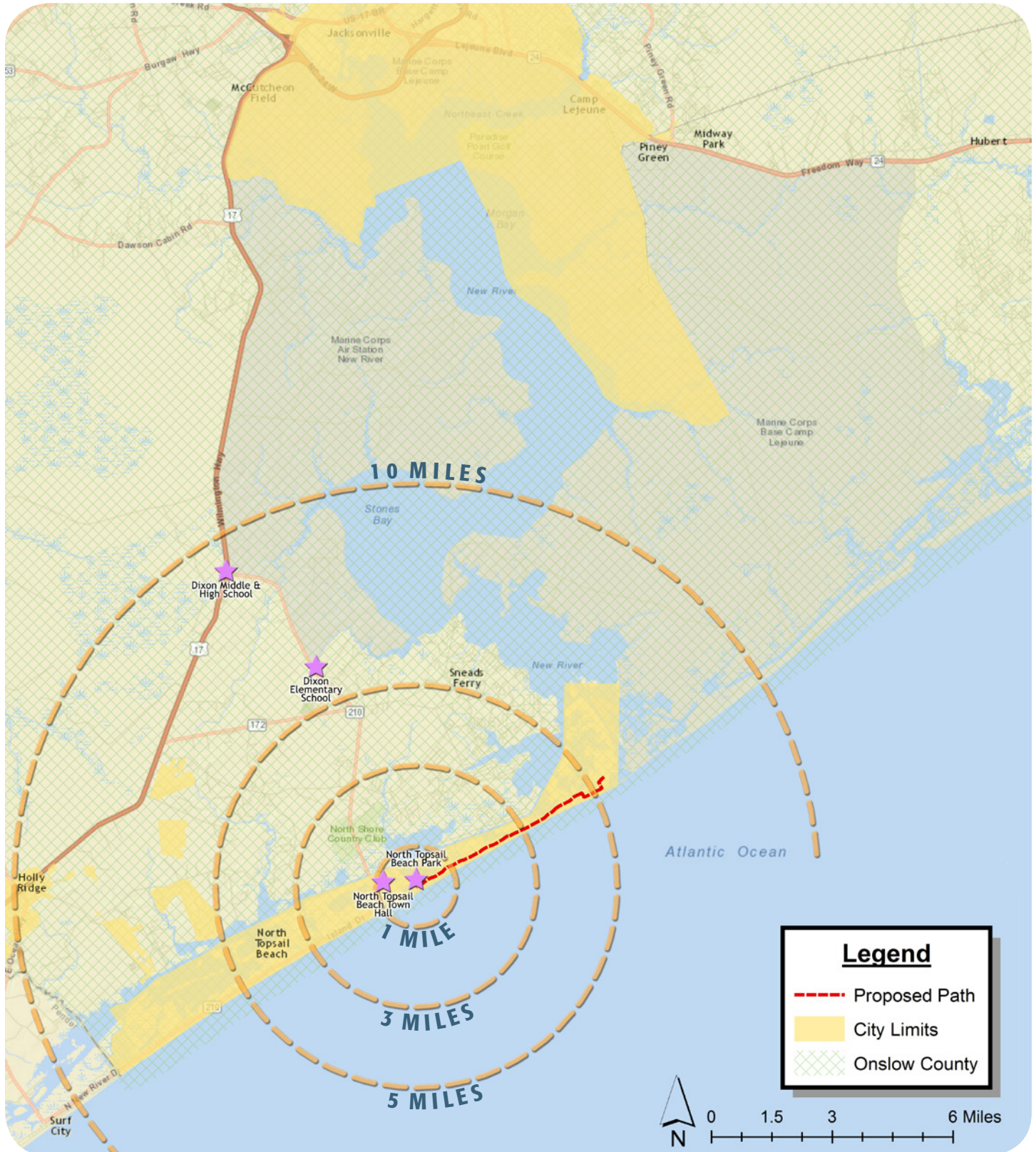
Opinion of Probable Construction Cost Disclaimer. The Consultant has no control over the cost of labor, materials, equipment, the Contractor's methods of determining prices, or

over competitive bidding or market conditions. Opinions of probable costs provided are based on the information known to Consultant at this time and represent only the Engineer's judgment as a design professional familiar with the construction industry. The Consultant cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from its opinions of probable costs.

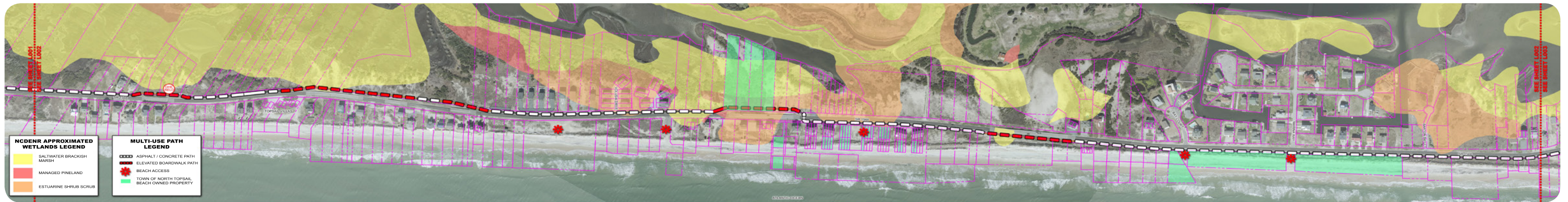
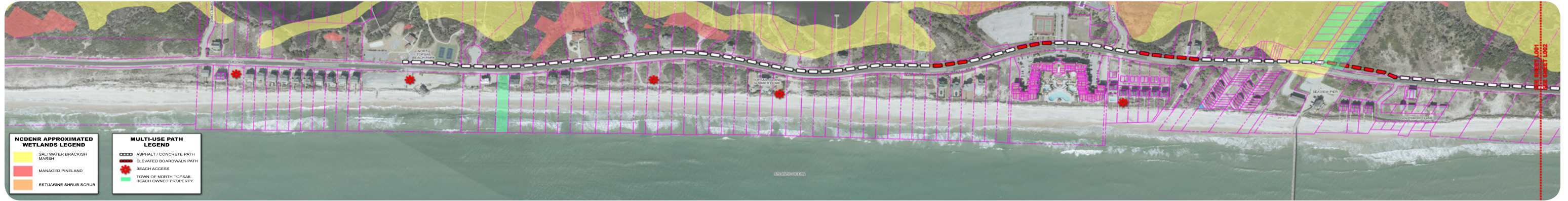
POTENTIAL PHASING OPPORTUNITIES

Section	Beginning	Ending	Length (Miles)
1	North Topsail Beach Park	Seaview Pier	1.06
2	Seaview Pier	Bay Court Beach Access	1.55
3	Bay Court Beach Access	Ship Watch Villas	0.75
4	Ship Watch Villas	Terminus of River Drive	1.37
Total Length:			4.73

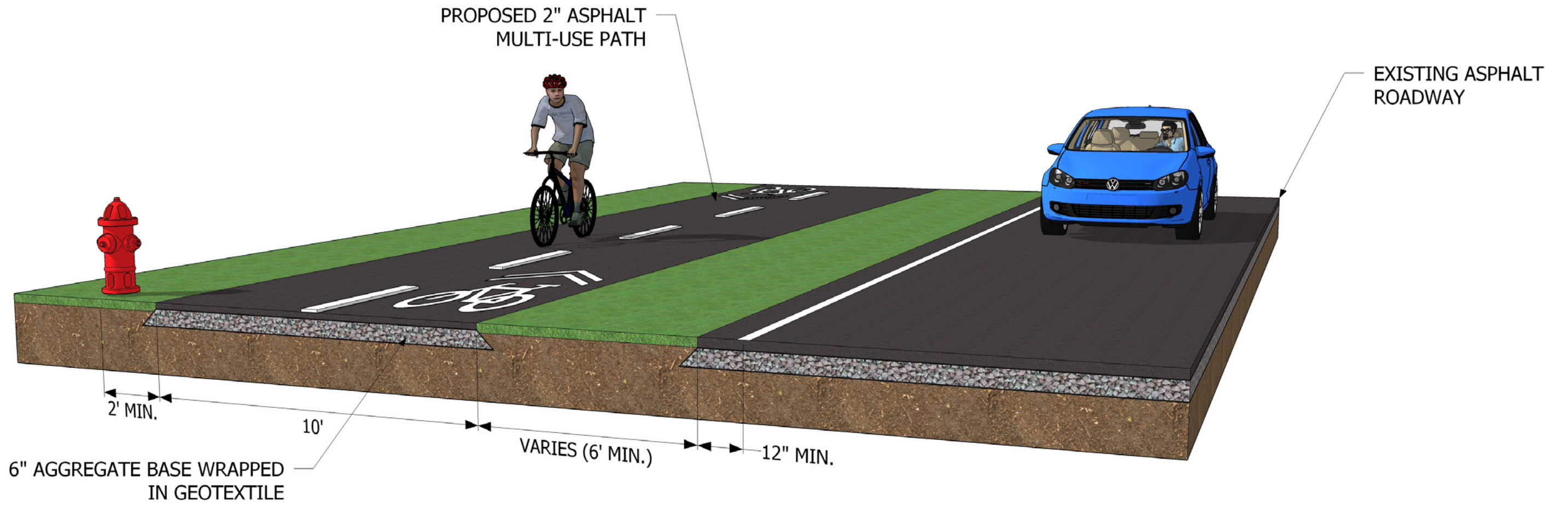
Location Map



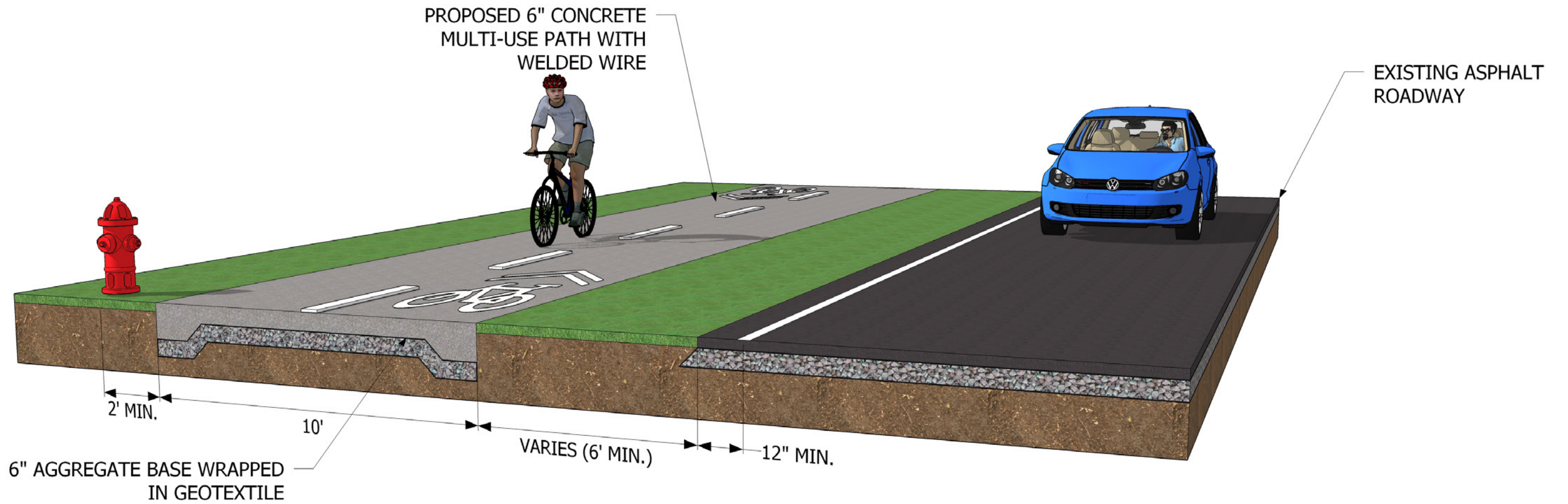
Preliminary Multi-Use Path Alignment



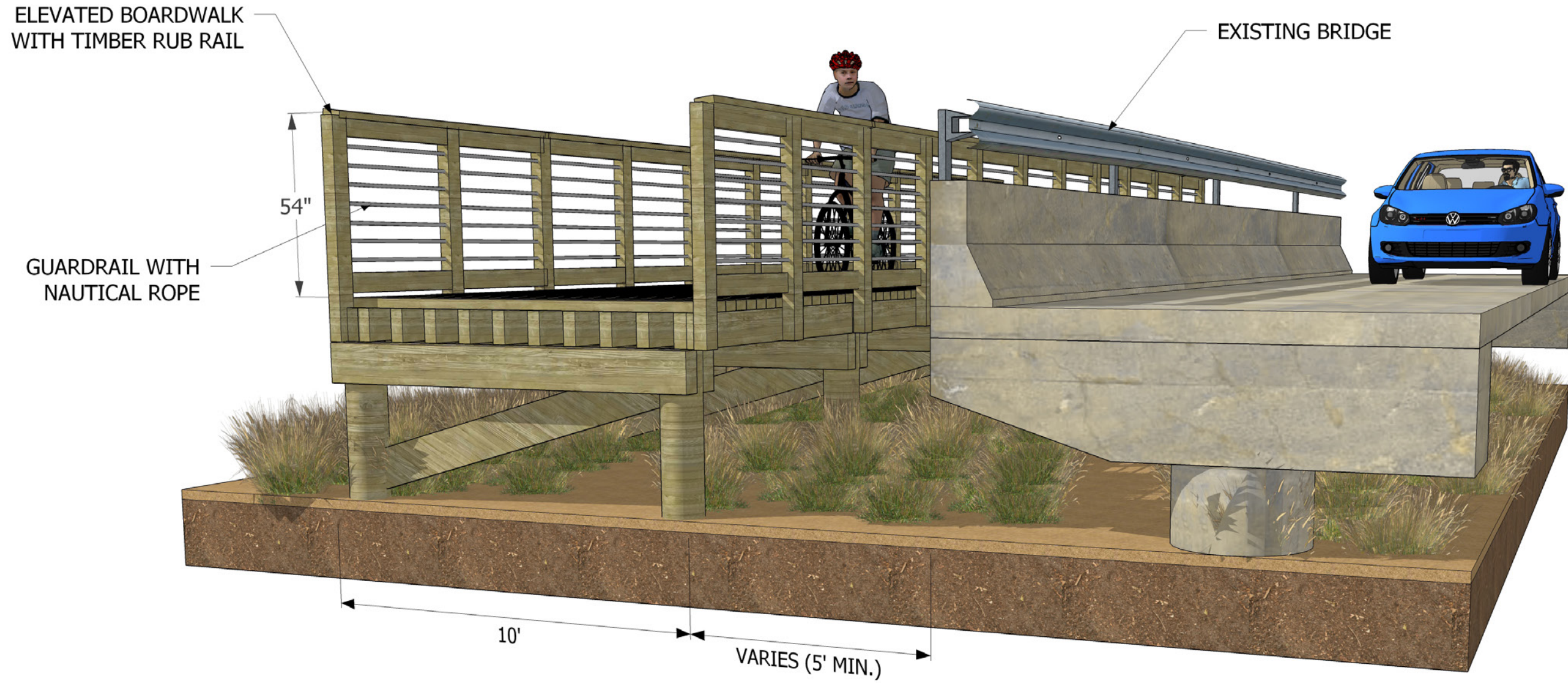
Asphalt Multi-Use Path



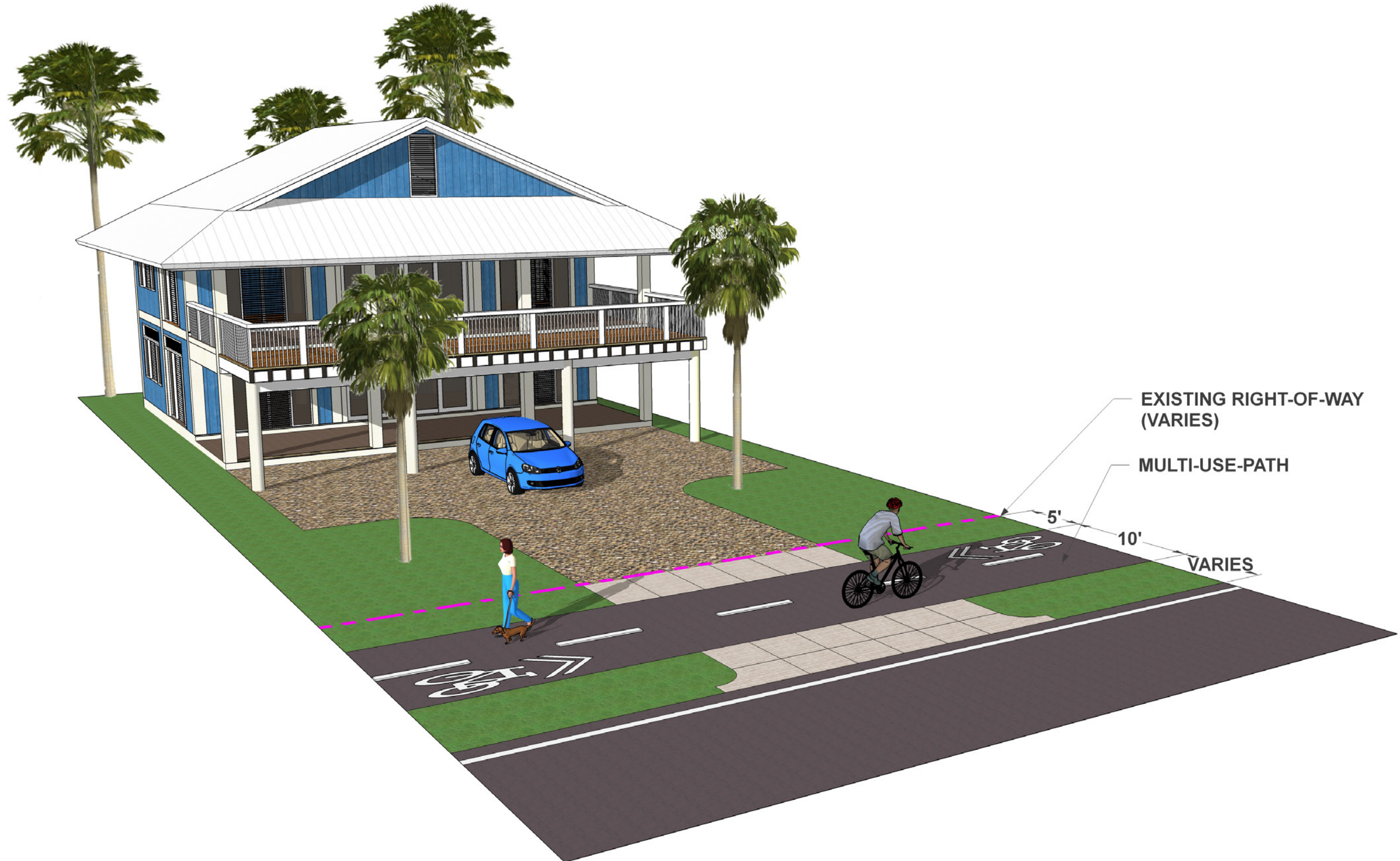
Concrete Multi-Use Path



Boardwalk Multi-Use Path with Railing



Typical Driveway Apron



Typical Street Crossing



Opinion of Probable Cost

ITEM NO.	ITEM NUMBER	SECTION	DESCRIPTION	UNIT	QTY	UNIT PRICE	AMOUNT
SITE WORK							
1	0000100000-N	800	MOBILIZATION	LS	1	\$ 42,100.00	\$ 42,100.00
2	0000400000-N	801	CONSTRUCTION SURVEYING	LS	1	\$ 22,000.00	\$ 22,000.00
3	0000700000-N	SP	FIELD OFFICE	LS	0	\$ -	\$ -
4	0001000000-E	200	CLEARING & GRUBBING - 4.75 ACRES	LS	1	\$ 32,000.00	\$ 32,000.00
5	0001010000-N	200	SELECT TREE REMOVAL	EA	64	\$ 500.00	\$ 32,000.00
6	0156000000-E	250	REMOVAL OF EXISTING ASPHALT PAVEMENT	SY	583	\$ 9.00	\$ 5,247.00
7	0043000000-N	226	GRADING	LS	1	\$ 125,000.00	\$ 125,000.00
8	0366000000-E	310	15" RC PIPE CULVERTS, CLASS III	LF	300	\$ 235.00	\$ 70,500.00
9	1264000000-E	SP	DITCHING	LF	20225	\$ 6.00	\$ 121,350.00
10	2830000000-N	858	ADJUSTMENT OF MANHOLES	EA	6	\$ 685.00	\$ 4,110.00
11	2845000000-N	858	ADJUSTMENT OF METER BOXES OR VALVE BOXES	EA	51	\$ 500.00	\$ 25,500.00
12	4273000000-N	907	GENERIC SIGNING ITEM - EX.SIGNAGE RELOCATION (NON-ELECTRICAL)	EA	2	\$ 300.00	\$ 600.00
13	6133000000-N	SP	GENERIC EROSION CONTROL ITEM	LS	1	\$ 10,000.00	\$ 10,000.00
14	4399000000-N	1105	TEMPORARY TRAFFIC CONTROL	LS	1	\$ 25,000.00	\$ 25,000.00
15	4400000000-E	1110	WORK ZONE SIGNS (STATIONARY)	SF	160	\$ 7.00	\$ 1,120.00
16	4405000000-E	1110	WORK ZONE SIGNS (PORTABLE)	SF	128	\$ 19.00	\$ 2,432.00
17	4415000000-N	1115	FLASHING ARROW BOARD	EA	2	\$ 2,700.00	\$ 5,400.00
18	4420000000-N	1120	PORTABLE CHANGEABLE MESSAGE SIGN	EA	2	\$ 10,000.00	\$ 20,000.00
19	4455000000-N	1150	FLAGGER	DAY	260	\$ 320.00	\$ 83,200.00
20	4516000000-N	1180	SKINNY DRUM	EA	440	\$ 35.00	\$ 15,400.00
SITE ELEMENTS / HARDSCAPE							
21	1519000000-E	610	ASPHALT CONC SURFACE COURSE, TYPE S.5B - 2"	SY	21900	\$ 20.00	\$ 438,000.00
22	1498000000-E	610	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B - 4"	SY	240	\$ 20.00	\$ 4,800.00
23	1489000000-E	610	ASPHALT CONCRETE BASE COURSE, TYPE B25.0B - 4"	SY	240	\$ 20.00	\$ 4,800.00
24	1121000000-E	520	AGGREGATE BASE COURSE - 6"	SY	21900	\$ 20.00	\$ 438,000.00
25	0000960000-E	SP	GENERIC MISC. ITEM - 10' CONCRETE SIDEWALK (6" - VEHICULAR RATED)	SY	950	\$ 55.00	\$ 52,250.00
26	0000930000-E	SP	GENERIC MISC. ITEM - 10' BOARDWALK (H5 RATED)	LF	4760	\$ 700.00	\$ 3,332,000.00
27	2612000000-E	848	6" CONCRETE DRIVEWAY	SY	2100	\$ 75.00	\$ 157,500.00
28	2549000000-E	846	2'-6" CONCRETE CURB & GUTTER	LF	535	\$ 38.00	\$ 20,330.00
29	2542000000-E	846	1'-6" CONCRETE CURB & GUTTER	LF	625	\$ 14.00	\$ 8,750.00
30	2605000000-N	848	CONCRETE CURB RAMP	EA	29	\$ 950.00	\$ 27,550.00
31	2655000000-E	852	5" MONOLITHIC CONCRETE ISLANDS (KEYED IN)	SY	26	\$ 70.00	\$ 1,820.00
32	4685000000-E	1205	THERMOPLASTIC PAVEMENT MARKING LINES (4", 90 MILS)	LF	4845	\$ 3.25	\$ 15,746.25
33	4700000000-E	1205	THERMOPLASTIC PAVEMENT MARKING LINES (12", 90 MILS)	LF	116	\$ 7.50	\$ 870.00
34	4710000000-E	1205	THERMOPLASTIC PAVEMENT MARKING LINES (24", 120 MILS)	LF	750	\$ 12.00	\$ 9,000.00
35	4702000000-E	1205	THERMOPLASTIC PAVEMENT MARKING LINES (12", 120 MILS)	LF	720	\$ 8.00	\$ 5,760.00
36	4725000000-E	1205	THERMOPLASTIC PAVEMENT MARKING SYMBOL (90 MILS)	EA	252	\$ 150.00	\$ 37,800.00
37	4810000000-E	1205	PAINT PAVEMENT MARKING LINES (4")	LF	215	\$ 1.00	\$ 215.00
38	0000915000-N	SP	GENERIC MISCELLANEOUS ITEM - PERMANENT BOLLARDS	EA	24	\$ 500.00	\$ 12,000.00
39	0000915000-N	SP	GENERIC MISC. ITEM - STANDARD NCDOT COLLAPSIBLE BOLLARDS	EA	28	\$ 1,000.00	\$ 28,000.00
40	0000930000-E	SP	GENERIC MISC. ITEM - TIMBER APPROACH FENCING	LF	480	\$ 50.00	\$ 24,000.00
WAYFINDING							
41	0000900000-N	SP	GENERIC MISC. ITEM - RAPID FLASH BEACON	EA	4	\$ 10,000.00	\$ 40,000.00
42	0000915000-N	SP	GENERIC MISC. ITEM - PATH STOP / NO MOTOR VEHICLE SIGN	EA	29	\$ 1,245.00	\$ 36,105.00
43	0000915000-N	SP	GENERIC MISC. ITEM - CAUTION SIGN (SLIPPERY WHEN WET)	EA	18	\$ 1,320.00	\$ 23,760.00
44	0000915000-N	SP	GENERIC MISC. ITEM - CROSSWALK AHEAD SIGN	EA	9	\$ 1,320.00	\$ 11,880.00
LANDSCAPE							
45	6640000000-N	1670	GENERIC PLANTING ITEM - ORNAMENTAL TREE	EA	82	\$ 450.00	\$ 36,900.00
46	6640000000-N	1670	GENERIC PLANTING ITEM - GROUNDCOVER	EA	410	\$ 15.00	\$ 6,150.00
47	6650000000-E	1670	MULCH FOR PLANTING	CY	24	\$ 69.00	\$ 1,656.00
48	6102000000-E	1664	SODDING	SY	18200	\$ 6.00	\$ 109,200.00
SUBTOTAL							\$ 5,527,801.25
ENGINEERING, PUBLIC INVOLVEMENT, & CONTINGENCY (15%)							\$ 829,170.19
CONSTRUCTION ENGINEERING & INSPECTION (10%)							\$ 552,780.13
NEPA DOCUMENTATION							\$ 15,000.00
TEMPORARY EASEMENT & RIGHT-OF-WAY AQUISITION							\$ 465,000.00
FULL PROJECT IMPLEMENTATION COST							\$ 7,389,751.56
NOTES AND CLARIFICATIONS: The Engineer & Landscape Architect have no control over the cost of labor, materials, or equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs, as provided here, are made on the basis of the Engineer's and Landscape Architect's experience and qualifications and represent the Engineer's and Landscape Architect's judgment as a design professional familiar with the construction industry. The Engineer and Landscape Architect cannot and do not guarantee that proposals, bids or actual construction will not vary from opinions of probable cost prepared for the Owner.							

Appendix 'A': NCDOT 5-Year Crash Data

North Carolina Department of Transportation Traffic Engineering Accident Analysis System Strip Analysis Report

Study Criteria Summary

County: ONSLOW **City:** All and Rural
Date: 5/1/2011 to 4/30/2016 **Study:** 41000041385
Location: River Drive from SR 1568 (New River Inlet Road) to the end of the route

Report Details

Study Criteria

Study Name	Log No.	PH No.	TIP No.	K/A Cf.	B/C Cf.	ADT	ADT Route
41000041385				76.8	8.4	500	50026030

Request Date	Courier Service	Phone No.	Ext.	Fax No.
--------------	-----------------	-----------	------	---------

County			Municipality			Y-Line Ft.	Begin Date	End Date	Years
Name	Code	Div.	Name	Code					
ONSLOW	67	3	All and Rural		0	5/1/2011	4/30/2016	5.00	

Location Text	Requestor
River Drive from SR 1568 (New River Inlet Road) to the end of the route	

Fiche Roads

Name	Code
RIVER	50026030
NEW RIVER INLET	50036357
SR 1568	40001568

Strip Road

Name	Code	Begin MP	End MP	Miles	Kilometers
RIVER	50026030	0.000	0.272	0.272	0.438

06/30/2016

All data presented in this report comes explicitly from the Traffic Engineering Accident Analysis System based upon v: criteria provided by the report's creator. The onus is strictly upon the user of this report to exercise due diligence in ir and further representing this data.

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**North Carolina Department of Transportation
Traffic Engineering Accident Analysis System
Strip Analysis Report**

Study Criteria Summary

County: ONSLOW **City:** All and Rural
Date: 05/01/2011 to 04/30/2016 **Study:** 41000041386
Location: SR 1568 (New River Inlet Rd) from Osprey Dr to River Dr

Report Details

Acc No	Crash ID	Milepost	Date	Accident Type	Total Damage	Injuries				Condition			Road		Trfc Ctl	
						F	A	B	C	R	L	W	Ch	Ci	Dv	Op
1	104118437	0.683	07/19/2014 16:10	REAR END, SLOW OR STOP	\$ 3000	0	0	0	0	1	1	1	1	0		
Unit	1 : 1	Alchl/Drugs:	0	Speed: 35 MPH Dir: S		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 4	Alchl/Drugs:	0	Speed: 30 MPH Dir: S		Veh Mnvr/Ped Actn:				4	Obj Strk:					

2	103665565	0.861	01/13/2013 11:40	LEFT TURN, SAME ROADWAY	\$ 1000	0	0	0	0	1	1	1		0	0	
Unit	1 : 20	Alchl/Drugs:	0	Speed: 10 MPH Dir: N		Veh Mnvr/Ped Actn:				8	Obj Strk:					
Unit	2 : 3	Alchl/Drugs:	0	Speed: 10 MPH Dir: NE		Veh Mnvr/Ped Actn:				5	Obj Strk:					

3	104090062	0.861	06/14/2014 13:30	LEFT TURN, SAME ROADWAY	\$ 7000	0	0	0	1	1	1	1	1	0	0	
Unit	1 : 3	Alchl/Drugs:	0	Speed: 20 MPH Dir: N		Veh Mnvr/Ped Actn:				8	Obj Strk:					
Unit	2 : 1	Alchl/Drugs:	0	Speed: 45 MPH Dir: S		Veh Mnvr/Ped Actn:				4	Obj Strk:					

4	103505468	1.153	07/14/2012 09:25	RIGHT TURN, DIFFERENT ROADWAYS	\$ 6000	0	0	0	0	1	1	1	1	0		
Unit	1 : 2	Alchl/Drugs:	0	Speed: 5 MPH Dir: E		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 4	Alchl/Drugs:	0	Speed: 40 MPH Dir: S		Veh Mnvr/Ped Actn:				4	Obj Strk:					

5	104055731	1.618	01/24/2014 16:15	ANIMAL	\$ 1500	0	0	0	0	1	1	1	1	0	0	
Unit	1 : 1	Alchl/Drugs:	0	Speed: 45 MPH Dir: N		Veh Mnvr/Ped Actn:				4	Obj Strk:		17			

6	104049531	1.646	04/12/2014 18:32	ANGLE	\$ 5000	0	0	0	0	1	1	1	1	0	0	
Unit	1 : 2	Alchl/Drugs:	0	Speed: 5 MPH Dir: W		Veh Mnvr/Ped Actn:				8	Obj Strk:					
Unit	2 : 2	Alchl/Drugs:	0	Speed: 45 MPH Dir: N		Veh Mnvr/Ped Actn:				4	Obj Strk:					

7	104073387	1.646	05/15/2014 15:31	OVERTURN/ROLLOVER	\$ 1000	0	0	1	0	1	1	1	7	11		
Unit	1 : 20	Alchl/Drugs:	0	Speed: 45 MPH Dir: N		Veh Mnvr/Ped Actn:				8	Obj Strk:					

8	103377236	1.944	01/25/2012 14:35	REAR END, TURN	\$ 3000	0	0	0	1	1	1	1	5	0	0	
Unit	1 : 2	Alchl/Drugs:	0	Speed: 45 MPH Dir: N		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 1	Alchl/Drugs:	0	Speed: 45 MPH Dir: N		Veh Mnvr/Ped Actn:				4	Obj Strk:					

NORTH TOPSAIL BEACH MULTI-USE PATH STUDY

**North Carolina Department of Transportation
Traffic Engineering Accident Analysis System
Strip Analysis Report**

Acc No	Crash ID	Milepost	Date	Accident Type	Total Damage	Injuries				Condition			Road		Trfc Ctl	
						F	A	B	C	R	L	W	Ch	Ci	Dv	Op
9	103900846	1.963	10/12/2013 20:24	ANIMAL	\$ 3000	0	0	0	0	1	5	1	1	0	0	
Unit	1 : 1	Alchl/Drgs:	0	Speed: 35 MPH Dir: S		Veh Mnvr/Ped Actn:				4	Obj Strk:		17			
10	103516174	2.029	07/25/2012 16:45	REAR END, SLOW OR STOP	\$ 24500	0	0	1	0	1	1	1	1	0	1	1
Unit	1 : 1	Alchl/Drgs:	0	Speed: 45 MPH Dir: N		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 4	Alchl/Drgs:	0	Speed: 45 MPH Dir: N		Veh Mnvr/Ped Actn:				4	Obj Strk:					
11	103500581	2.629	06/30/2012 12:59	REAR END, SLOW OR STOP	\$ 1200	0	0	0	0	1	1	1	1	0		
Unit	1 : 4	Alchl/Drgs:	0	Speed: 45 MPH Dir: N		Veh Mnvr/Ped Actn:				4	Obj Strk:		18			
Unit	2 : 1	Alchl/Drgs:	0	Speed: 45 MPH Dir: N		Veh Mnvr/Ped Actn:				11	Obj Strk:					
12	104297334	2.652	01/24/2015 02:15	RAN OFF ROAD - RIGHT	\$ 1540	0	0	0	0	3	5	3	1	0		
Unit	1 : 2	Alchl/Drgs:	7	Speed: 45 MPH Dir: N		Veh Mnvr/Ped Actn:				4	Obj Strk:		60			
13	104177078	2.661	09/17/2014 20:55	ANIMAL	\$ 1000	0	0	0	0	1	4	1	1	0		
Unit	1 : 1	Alchl/Drgs:	0	Speed: 45 MPH Dir: N		Veh Mnvr/Ped Actn:				4	Obj Strk:		17			
14	103212903	3.560	07/14/2011 19:05	REAR END, SLOW OR STOP	\$ 1800	0	0	0	0	1	1	1	1	0		
Unit	1 : 1	Alchl/Drgs:	0	Speed: 45 MPH Dir: N		Veh Mnvr/Ped Actn:				11	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 45 MPH Dir: N		Veh Mnvr/Ped Actn:				11	Obj Strk:					
15	103190127	4.181	05/24/2011 08:55	RAN OFF ROAD - RIGHT	\$ 5100	0	0	0	0	1	1	1	5	0	13	1
Unit	1 : 20	Alchl/Drgs:	0	Speed: 35 MPH Dir: S		Veh Mnvr/Ped Actn:				4	Obj Strk:		18			
16	103797457	4.438	06/04/2013 15:57	RAN OFF ROAD - RIGHT	\$ 10000	0	0	1	0	1	1	1	1	0		
Unit	1 : 4	Alchl/Drgs:	1	Speed: 60 MPH Dir: S		Veh Mnvr/Ped Actn:				4	Obj Strk:					
17	103435972	4.519	04/12/2012 02:55	RAN OFF ROAD - RIGHT	\$ 11000	0	0	0	0	1	4	1	1	0		
Unit	1 : 4	Alchl/Drgs:	7	Speed: 70 MPH Dir: N		Veh Mnvr/Ped Actn:				4	Obj Strk:					
18	104462939	5.040	07/30/2015 20:10	ANGLE	\$ 3500	0	0	0	0	1	1	1	1	0	1	1
Unit	1 : 1	Alchl/Drgs:	0	Speed: 3 MPH Dir: W		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 30 MPH Dir: N		Veh Mnvr/Ped Actn:				4	Obj Strk:					

**North Carolina Department of Transportation
Traffic Engineering Accident Analysis System
Strip Analysis Report**

Acc No	Crash ID	Milepost	Date	Accident Type	Total Damage	Injuries				Condition			Road		Trfc Ctl	
						F	A	B	C	R	L	W	Ch	Ci	Dv	Op

Legend for Report Details:

Acc No - Accident Number
 Injuries: F - Fatal, A - Class A, B - Class B, C - Class C
 Condition: R - Road Surface, L - Ambient Light, W - Weather
 Rd Ch - Road Character
 Rd Ci - Roadway Contributing Circumstances
 Trfc Ctl - Traffic Control: Dv - Device, Op - Operating
 Alchl/Drgs - Alcohol Drugs Suspected
 Veh Mnvr/Ped Actn - Vehicle Maneuver/Pedestrian Action
 Obj Strk - Object Struck

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Summary Statistics

High Level Crash Summary

Crash Type	Number of Crashes	Percent of Total
Total Crashes	18	100.00
Fatal Crashes	0	0.00
Non-Fatal Injury Crashes	5	27.78
Total Injury Crashes	5	27.78
Property Damage Only Crashes	13	72.22
Night Crashes	4	22.22
Wet Crashes	1	5.56
Alcohol/Drugs Involvement Crashes	1	5.56

Crash Severity Summary

Crash Type	Number of Crashes	Percent of Total
Total Crashes	18	100.00
Fatal Crashes	0	0.00
Class A Crashes	0	0.00
Class B Crashes	3	16.67
Class C Crashes	2	11.11
Property Damage Only Crashes	13	72.22

Vehicle Exposure Statistics

Annual ADT = 2400

Total Length = 4.659 (Miles)

7.498 (Kilometers)

Total Vehicle Exposure = 20.43 (MVMT)

32.88 (MVKMT)

Crash Rate	Crashes Per 100 Million Vehicle Miles	Crashes Per 100 Million Vehicle Kilometers
Total Crash Rate	88.11	54.75
Fatal Crash Rate	0.00	0.00
Non Fatal Crash Rate	24.48	15.21
Night Crash Rate	19.58	12.17
Wet Crash Rate	4.90	3.04
EPDO Rate	269.23	167.29

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Miscellaneous Statistics

Severity Index =	3.06
EPDO Crash Index =	55.00
Estimated Property Damage Total = \$	90140.00

Accident Type Summary

Accident Type	Number of Crashes	Percent of Total
ANGLE	2	11.11
ANIMAL	3	16.67
LEFT TURN, SAME ROADWAY	2	11.11
OVERTURN/ROLLOVER	1	5.56
RAN OFF ROAD - RIGHT	4	22.22
REAR END, SLOW OR STOP	4	22.22
REAR END, TURN	1	5.56
RIGHT TURN, DIFFERENT ROADWAYS	1	5.56

Injury Summary

Injury Type	Number of Injuries	Percent of Total
Fatal Injuries	0	0.00
Class A Injuries	0	0.00
Class B Injuries	3	60.00
Class C Injuries	2	40.00
Total Non-Fatal Injuries	5	100.00
Total Injuries	5	100.00

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Monthly Summary

Month	Number of Crashes	Percent of Total
Jan	4	22.22
Feb	0	0.00
Mar	0	0.00
Apr	2	11.11
May	2	11.11
Jun	3	16.67
Jul	5	27.78
Aug	0	0.00
Sep	1	5.56
Oct	1	5.56
Nov	0	0.00
Dec	0	0.00

Daily Summary

Day	Number of Crashes	Percent of Total
Mon	0	0.00
Tue	2	11.11
Wed	3	16.67
Thu	4	22.22
Fri	1	5.56
Sat	7	38.89
Sun	1	5.56

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Hourly Summary

Hour	Number of Crashes	Percent of Total
0000-0059	0	0.00
0100-0159	0	0.00
0200-0259	2	11.11
0300-0359	0	0.00
0400-0459	0	0.00
0500-0559	0	0.00
0600-0659	0	0.00
0700-0759	0	0.00
0800-0859	1	5.56
0900-0959	1	5.56
1000-1059	0	0.00
1100-1159	1	5.56
1200-1259	1	5.56
1300-1359	1	5.56
1400-1459	1	5.56
1500-1559	2	11.11
1600-1659	3	16.67
1700-1759	0	0.00
1800-1859	1	5.56
1900-1959	1	5.56
2000-2059	3	16.67
2100-2159	0	0.00
2200-2259	0	0.00
2300-2359	0	0.00

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Light and Road Conditions Summary

Condition	Dry	Wet	Other	Total
Day	14	0	0	14
Dark	3	1	0	4
Other	0	0	0	0
Total	17	1	0	18

Object Struck Summary

Object Type	Times Struck	Percent of Total
ANIMAL	3	50.00
MAILBOX	1	16.67
MOVABLE OBJECT	2	33.33

Vehicle Type Summary

Vehicle Type	Number Involved	Percent of Total
LIGHT TRUCK (MINI-VAN, PANEL)	2	7.14
MOTORCYCLE	3	10.71
PASSENGER CAR	12	42.86
PICKUP	5	17.86
SPORT UTILITY	6	21.43

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Yearly Totals Summary

Accident Totals

Year	Total Accidents	Fatal Accidents	Injury Accidents	Property Damage Only Accidents
2011	2	0	0	2
2012	5	0	2	3
2013	3	0	1	2
2014	6	0	2	4
2015	2	0	0	2
2016	0	0	0	0
Total	18	0	5	13

Injury Totals

Year	Fatal Injuries	Class A, B, or C Injuries
2011	0	0
2012	0	2
2013	0	1
2014	0	2
2015	0	0
2016	0	0
Total	0	5

Miscellaneous Totals

Year	Property Damage	EPDO Index
2011	\$ 6900	2.00
2012	\$ 45700	19.80
2013	\$ 14000	10.40
2014	\$ 18500	20.80
2015	\$ 5040	2.00
2016	\$ 0	0.00
Total	\$ 90140	55.00

Type of Accident Totals

Year	Left Turn	Right Turn	Rear End	Run Off Road &			
				Fixed Object	Angle	Side Swipe	Other
2011	0	0	1	1	0	0	0
2012	0	1	3	1	0	0	0

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Year	Left Turn	Right Turn	Rear End	Run Off Road & Fixed Object	Angle	Side Swipe	Other
2013	1	0	0	1	0	0	1
2014	1	0	1	0	1	0	3
2015	0	0	0	1	1	0	0
2016	0	0	0	0	0	0	0
Total	2	1	5	4	2	0	4

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Strip Diagram

Features	Milepost	Crash IDs	
OSPREY	0.66		
	0.67		
	0.68	104118437	
	0.69		
	0.70		
	0.71		
	0.72		
	0.73		
	0.74		
	0.75		
	0.76		
	0.77		
	0.78		
	0.79		
	Structure:660230	0.80	
		0.81	
		0.82	
		0.83	
		0.84	
		0.85	
0.86		103665565 104090062	
0.87			
0.88			
0.89			
0.90			
0.91			
0.92			
0.93			
0.94			
0.95			
0.96			
0.97			
0.98			
0.99			
1.00			
1.01			
1.02			
1.03			
1.04			
1.05			
1.06			
1.07			
1.08			

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Features	Milepost	Crash IDs
	1.09	
	1.10	
	1.11	
	1.12	
	1.13	
	1.14	
	1.15	103505468
	1.16	
	1.17	
	1.18	
	1.19	
	1.20	
	1.21	
	1.22	
	1.23	
	1.24	
	1.25	
	1.26	
	1.27	
	1.28	
	1.29	
	1.30	
	1.31	
	1.32	
	1.33	
	1.34	
	1.35	
	1.36	
	1.37	
	1.38	
	1.39	
	1.40	
	1.41	
	1.42	
	1.43	
	1.44	
	1.45	
	1.46	
	1.47	
	1.48	
	1.49	
Structure: 660231	1.50	
	1.51	
	1.52	
	1.53	

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Features	Milepost	Crash IDs
	1.54	
	1.55	
	1.56	
	1.57	
	1.58	
	1.59	
	1.60	
	1.61	
	1.62	104055731
	1.63	
	1.64	
	1.65	104049531 104073387
	1.66	
	1.67	
	1.68	
	1.69	
	1.70	
CAPE	1.71	
	1.72	
	1.73	
	1.74	
	1.75	
	1.76	
Structure:660232	1.77	
	1.78	
	1.79	
	1.80	
	1.81	
	1.82	
	1.83	
	1.84	
	1.85	
	1.86	
	1.87	
	1.88	
	1.89	
	1.90	
	1.91	
	1.92	
	1.93	
FISHING PIER	1.94	103377236
	1.95	
	1.96	103900846
	1.97	
Structure:660233	1.98	

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Features	Milepost	Crash IDs
	1.99	
	2.00	
	2.01	
	2.02	
GOLDSBORO	2.03	103516174
	2.04	
	2.05	
	2.06	
	2.07	
	2.08	
	2.09	
	2.10	
	2.11	
	2.12	
	2.13	
	2.14	
	2.15	
	2.16	
	2.17	
	2.18	
	2.19	
	2.20	
	2.21	
	2.22	
	2.23	
	2.24	
	2.25	
	2.26	
	2.27	
	2.28	
	2.29	
	2.30	
	2.31	
	2.32	
Structure:660234	2.33	
	2.34	
	2.35	
	2.36	
	2.37	
	2.38	
	2.39	
	2.40	
	2.41	
	2.42	
	2.43	

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Features	Milepost	Crash IDs
	2.44	
	2.45	
	2.46	
	2.47	
	2.48	
	2.49	
	2.50	
	2.51	
	2.52	
	2.53	
Structure:660235	2.54	
	2.55	
	2.56	
	2.57	
	2.58	
	2.59	
Structure:660236	2.60	
	2.61	
	2.62	
	2.63	103500581
	2.64	
	2.65	104297334
	2.66	104177078
	2.67	
Structure:660237	2.68	
	2.69	
	2.70	
	2.71	
	2.72	
	2.73	
	2.74	
	2.75	
	2.76	
	2.77	
	2.78	
	2.79	
	2.80	
	2.81	
	2.82	
	2.83	
	2.84	
VOLUSIA	2.85	
	2.86	
	2.87	
	2.88	

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Features	Milepost	Crash IDs
	2.89	
	2.90	
	2.91	
	2.92	
	2.93	
	2.94	
	2.95	
	2.96	
	2.97	
	2.98	
	2.99	
	3.00	
	3.01	
Structure:660240	3.02	
	3.03	
	3.04	
	3.05	
	3.06	
	3.07	
	3.08	
	3.09	
	3.10	
	3.11	
	3.12	
	3.13	
	3.14	
	3.15	
	3.16	
	3.17	
	3.18	
	3.19	
JENKINS	3.20	
	3.21	
	3.22	
	3.23	
	3.24	
	3.25	
	3.26	
	3.27	
	3.28	
	3.29	
	3.30	
	3.31	
	3.32	
Structure:660241	3.33	

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Features	Milepost	Crash IDs
	3.34	
	3.35	
	3.36	
	3.37	
	3.38	
	3.39	
	3.40	
	3.41	
	3.42	
	3.43	
	3.44	
	3.45	
	3.46	
	3.47	
	3.48	
	3.49	
BAY	3.50	
	3.51	
	3.52	
	3.53	
	3.54	
	3.55	
	3.56	103212903
	3.57	
	3.58	
	3.59	
	3.60	
	3.61	
MARINA	3.62	
	3.63	
	3.64	
	3.65	
	3.66	
	3.67	
	3.68	
	3.69	
	3.70	
	3.71	
	3.72	
	3.73	
	3.74	
	3.75	
	3.76	
BARTON BAY	3.77	
	3.78	

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Features	Milepost	Crash IDs
	3.79	
	3.80	
	3.81	
	3.82	
	3.83	
	3.84	
	3.85	
	3.86	
	3.87	
	3.88	
	3.89	
	3.90	
	3.91	
	3.92	
	3.93	
	3.94	
	3.95	
	3.96	
	3.97	
	3.98	
	3.99	
	4.00	
	4.01	
	4.02	
	4.03	
	4.04	
	4.05	
	4.06	
	4.07	
	4.08	
	4.09	
	4.10	
	4.11	
	4.12	
	4.13	
	4.14	
	4.15	
	4.16	
	4.17	
	4.18	103190127
	4.19	
	4.20	
	4.21	
	4.22	
	4.23	
	4.24	

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Features	Milepost	Crash IDs
	4.25	
	4.26	
	4.27	
	4.28	
	4.29	
	4.30	
	4.31	
	4.32	
	4.33	
	4.34	
	4.35	
	4.36	
	4.37	
	4.38	
	4.39	
	4.40	
	4.41	
	4.42	
	4.43	
	4.44	103797457
	4.45	
	4.46	
	4.47	
BAYVIEW	4.48	
	4.49	
	4.50	
	4.51	
	4.52	103435972
	4.53	
	4.54	
SANDPIPER	4.55	
	4.56	
	4.57	
	4.58	
	4.59	
	4.60	
GRANT	4.61	
	4.62	
	4.63	
	4.64	
	4.65	
	4.66	
	4.67	
	4.68	
BOTTLENOSE	4.69	

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Features	Milepost	Crash IDs
	4.70	
	4.71	
	4.72	
	4.73	
	4.74	
	4.75	
	4.76	
	4.77	
	4.78	
	4.79	
	4.80	
	4.81	
MARINE SEA GULL	4.82	
	4.83	
	4.84	
	4.85	
	4.86	
	4.87	
	4.88	
	4.89	
	4.90	
	4.91	
	4.92	
	4.93	
	4.94	
	4.95	
	4.96	
	4.97	
	4.98	
	4.99	
	5.00	
	5.01	
	5.02	
	5.03	
SEA GULL	5.04	104462939
	5.05	
	5.06	
	5.07	
	5.08	
	5.09	
	5.10	
COASTAL	5.11	
	5.12	
	5.13	
	5.14	

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Features	Milepost	Crash IDs
	5.15	
	5.16	
	5.17	
OYSTER	5.18	
	5.19	
	5.20	
	5.21	
	5.22	
	5.23	
PORT	5.24	
	5.25	
	5.26	
	5.27	
	5.28	
	5.29	
	5.30	
	5.31	
RIVER	5.32	