



# Shoreline Erosion Control Plan



## WRIGHT'S CREEK PARK BEAUFORT COUNTY, NC

*Prepared by:*



*February, 2020*



# WRIGHT'S CREEK PARK SHORELINE EROSION CONTROL PLAN BEAUFORT COUNTY, NC



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DATE: 2/25/20

DATE: 02/27/20

This report was prepared by Beaufort County under grant award #NA17NOS4190066 to the Department of Environmental Quality, Division of Coastal Management from the Office for Coastal Management, National Oceanic and Atmospheric Administration. The statements, findings, conclusions, and recommendations are those of the authors and do not necessarily reflect the views of DEQ, OCM or NOAA.



# TABLE OF CONTENTS

	PAGE
INTRODUCTION	1
PROJECT OVERVIEW	2
HISTORICAL EROSION	3
SUBMERGED AQUATIC VEGETATION SURVEY	5
ENVIRONMENTAL SCOPING	5
PROPOSED SHORELINE ENHANCEMENT OPTIONS	6
RIP-RAP REVETMENT OPTION	
LIVING SHORELINE OPTION	
PERMITTING REQUIREMENTS	7
PRELIMINARY COST OPINION	9
POTENTIAL FUNDING OPPORTUNITIES	9
CAMA WATER ACCESS GRANTS	
CLEAN WATER MANAGEMENT TRUST FUND GRANTS	
RECOMMENDATION	10
APPENDICES	11
A. SUBMERGED AQUATIC VEGETATION REPORT	
B. INTERAGENCY SCOPING MEETING ATTENDEES	
C. RIP-RAP ARMORING CALCULATIONS	
D. CAMA GRANT INFORMATION	
LIST OF FIGURES	
1. PARK DEVELOPMENT CONCEPT	
2. PROJECT VICINITY	
3. SHORELINE EROSION HISTORY	
4. RIP-RAP REVETMENT OPTION	
5. RIP-RAP REVETMENT TYPICAL CROSS-SECTION	
LIST OF TABLES	
1. CONSTRUCT RIP-RAP REVETMENT, PRELIMINARY OPINION OF PROBABLE COST	



# INTRODUCTION

Wright's Creek Park is a 5.9 acre parcel of land owned by Beaufort County. The property adjoins Wilkins Road in the southeastern portion of Beaufort County near the Pamlico Beach community.

The County has developed preliminary plans to improve the property as a waterfront park with a picnic shelter, restroom facility, fishing pier, walking trails and boardwalks along with various other passive recreational amenities (Figure 1). Funding for initial park development has been received from the North Carolina Parks and Recreation Trust Fund.

The site has three distinct shorelines, several of which have been subjected to erosion from wave action. Prior attempts to assist in erosion prevention have met with varying degrees of success. The County desires to mitigate additional shoreline erosion potential as part of park development.

Beaufort County was awarded a grant from the NC Division of Coastal Management to develop a shoreline erosion control plan. Subsequently, the County issued a Request for Qualifications for an engineering firm to evaluate the current shoreline concerns and develop a plan to mitigate future erosion potential. Rivers & Associates, Inc. of Greenville, NC was selected and a professional services agreement was executed in October 2019.

**FIGURE 1  
PARK DEVELOPMENT CONCEPT**

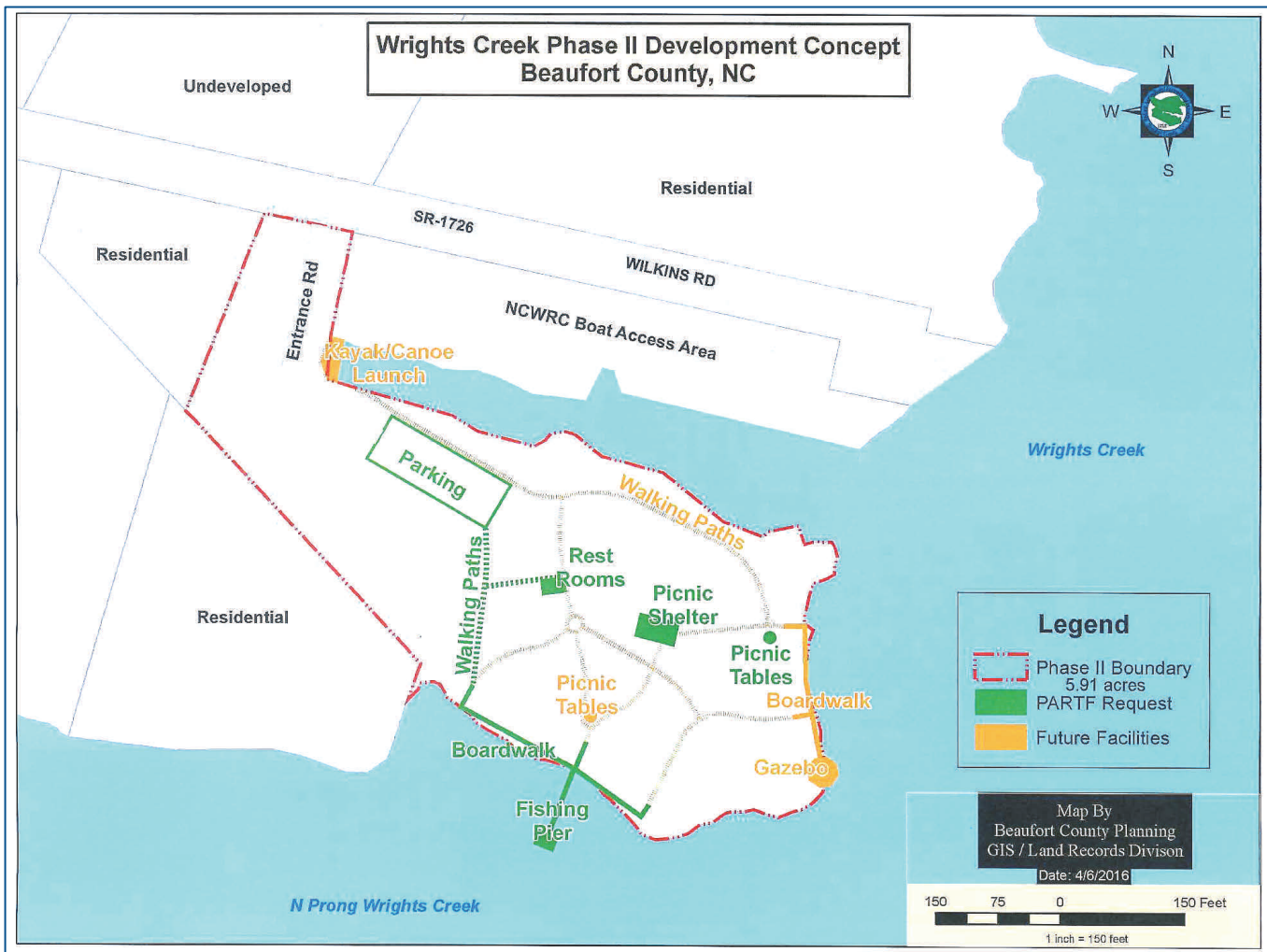


Image furnished by Beaufort County





Wright's Creek Park Property, North Facing Shoreline (looking south)

## PROJECT OVERVIEW

The study area consists of 5.9 acres of land currently owned by Beaufort County, NC. The property is located at the end of Wilkins Road (NCSR 1726) along the shoreline of Wright's Creek, a tributary of the Pungo River. Future plans for the property include improvements made to Wright's Creek Park.

The shoreline has experienced a history of erosion. Current measures have proved inadequate in preventing erosion. The purpose of this report is to identify the causes of the existing erosion and to develop a plan to mitigate future erosion in line with the planned developments to the park site.

The proposed park is located off of Wright's Creek and has three distinct shorelines. The northern shoreline is sparsely vegetated and is located south of the NCWRC Wilkin's Road Boat Access Area. The north shoreline has a distinct beach to the east of an existing tree line and west of the vegetated point.

The eastern shoreline along Wrights Creek is located approximately 1500 feet from the confluence with the Pungo River. The northern and eastern shores are exposed to an open fetch of water approximately 2.5 miles in length. Initial observations show the primary cause of the existing erosion is due to wind-driven waves propagating across the Pungo River.

The shoreline to the northeast and east is vegetated with a variety of wetland and marsh grass, and the shoreline

to the south is vegetated with mature pine trees and a variety of hardwoods and underbrush ranging approximately 20 to 40 feet from the shoreline.

**FIGURE 2  
PROJECT VICINITY**



The location of Wright's Creek Park in relation to the Pungo River is illustrated in Figure 2.

## HISTORICAL EROSION

There is evidence of continuing erosion on all three shorelines and evidence of erosion near the top of the bank resulting from major storm or wind events. The western portion of the north shore is provided some protection from northeastern wind events by the NC Wildlife Commission boat access area located to the north; however the eastern portion of the north shoreline,

along with all of the eastern shoreline, is exposed to an approximate 2.5-mile fetch across the Pungo River.

Aerial imagery taken on April 11, 2010 shows a well-vegetated northern shoreline. Imagery taken on February 12, 2012 shows a loss of vegetation (presumably during Hurricane Irene).

Further evidence of erosion was observed using NC OneMap imagery taken on February 12, 2012 and February 1, 2016. A comparison between the two imagery dates illustrates erosion along the northern and eastern



*Aerial Imagery from April 11, 2010*



*Aerial Imagery from February 12, 2012*



**FIGURE 2**  
**SHORELINE EROSION HISTORY**



shorelines, with a maximum erosion of approximately 15 feet. A comparison between the 2012 and the 2016 shorelines imagery can be seen in Figure 2.

A field reconnaissance of the site was performed on August 8, 2019. Visual inspection of the shorelines



*Northern Shoreline Erosion (looking west)  
August 8, 2019*



*Southern Shoreline Erosion (looking west)  
August 8, 2019*

confirmed the existence of erosion along both the northern and southern shorelines, although more pronounced on the northern shore.

## SUBMERGED AQUATIC VEGETATION (SAV) SURVEY

Once authorized to initiate contracted services, Rivers immediately sub-contracted with Land Management

Group, Inc. for performance of a submerged aquatic vegetation (SAV) survey to identify any specific vegetative constraints to development of particular options, such as harden shoreline options.

The SAV survey was completed on October 22, 2019. The results of the survey demonstrated that no submerged aquatic vegetation was present along the northern or eastern shorelines. The southern shoreline did show a sparse amount of vegetation (~20% coverage), comprised of approximately 2-4 square foot patches.

The SAV report concluded that the lack of vegetation along the north shore was due to the existing substrate conditions. The lack of vegetation along the eastern shoreline was determined to be due to the same higher velocities that are the cause of the existing erosion issues.

The complete SAV report can be found in Appendix A.

## ENVIRONMENTAL SCOPING

An interagency “scoping” meeting was scheduled in the Washington Regional Field Office of NCDEQ. The meeting was held on December 3, 2019 with representatives of NC Coastal Management, USA Corps of Engineers, NC Wildlife Resources Commission, NC Division of Water Resources, and NC Division of Energy, Mineral and Land Resources in attendance along with representatives of Beaufort County and Rivers’ project team. A list of attendees is provided in Appendix B.

Topics discussed in the meeting included proposed uses of the park property (including the influence of the existing uses from the adjacent NC Wildlife Commission public boat ramp); location of existing erosion concerns and their possible causes; a discussion on possible erosion control measures, and; a conversation dealing with the regulatory process.

Regarding the existing and proposed uses of the property, the current use of the adjoining NC Wildlife Commission boat ramp was discussed. The existing boat ramp is commonly used by both recreational boaters and commercial fishermen. The conversation focused on the use by commercial fishermen; specifically on the use of the Wright’s Park property as their staging ground.





Feedback from attendees lead to the conclusion that some aspects of the County's proposed site plan would need to be altered. Possible revisions include moving the proposed kayak launch, as well as other land-borne structures outside of any riparian buffer areas. Other potential site-plan revisions include defining access points to water-borne structures (i.e. boardwalk).

Site plan revisions, including any accommodations for commercial fisherman, are beyond the scope of this erosion control report, but are noted here as significant items requiring attention by the County as it moves forward with its site development goals.

The Submerged Aquatic Vegetation survey report was reviewed. The results of the survey indicated the possibility of incorporating a "living shoreline" along the south shore. It was determined that this would be considered in the project design, but that any erosion control measure should prioritize long-term strength and stability over any environmental improvements.

The scoping meeting concluded with the agreement that any future project should proceed under a major permit.

## PROPOSED SHORELINE ENHANCEMENT OPTIONS

The length of the open-water fetch across the Pungo River along with the history of shoreline erosion, suggests the most appropriate way to mitigate future erosion on the north and east facing shorelines would be either a rip-rap revetment or a bulkhead.

Preliminary research was conducted to compare differences in material costs associated with a rip-rap revetment versus a bulkhead. The average cost per linear foot of a rip-rap revetment is estimated to be between \$90 - \$150 per ton. For the given dimensions of this project, the estimated cost would be between \$140 - \$160 per linear foot.

Prices per linear foot for a bulkhead vary based upon the material chosen. A timber bulkhead could possibly be built for a price comparable to rip-rap, but would be anticipated to have a significantly shorter lifespan than other materials. Prices for concrete or vinyl bulkheads could potentially range between \$500 - \$1000 per linear foot solely for materials. Additional analysis would be needed to determine if toe protection would be required,

potentially further increasing material costs.

Both design approaches (rip-rap, bulkhead) would be sufficient in mitigating future erosion, but with potentially vastly different construction costs. Considering the site conditions and price differences, the rip-rap revetment was explored in further detail.

### Rip-Rap Revetment Option

The relationship between the 2016 and 2012 shorelines (Figure 3) was used to determine and define the limits of the revetment option. The proposed revetment begins approximately one-half way along the northern shoreline and ends at the southeast corner of the property.

Existing elevations in the project area are generally higher than the surrounding properties. The surface has a relatively flat top, with side slopes ranging from 3:1 to 5:1 forming a well-defined perimeter.

The width of the proposed revetment was determined by using available LIDAR data. The proposed revetment would begin at the existing top of bank, and roughly follow the existing grade to the bottom of the side slopes.

The proposed revetment would extend from the existing top of bank to an elevation of approximately 1 foot below mean sea level. The top of bank elevations range between 5.0 - 6.0 FT NAVD, resulting in the total height of the revetment between 6 - 8 feet. Revetment slopes will range between 3:1 to 5:1, based upon the local geometry. The toe of the revetment would be at least 3 feet in width. The base of the revetment would be lined with geotextile fabric, and any disturbed ground not covered by the rip-rap would need to be re-seeded for stability.

Relative to the existing side terrain the estimated limits of the revetment are shown in Figure 4. The 2012 shoreline is illustrated for reference. The anticipated revetment length is estimated as approximately 520 linear feet. Given the slopes and distances in the typical cross-section, the total estimated amount of rip-rap would be approximately 450 cubic yards.

Preliminary design calculations show the need for either a Class 1 or Class 2 rip rap. The required volume of material would require an estimated 800 - 1,000 tons of either Class 1 or Class 2 rip-rap, with between 600 - 700 square yards of geotextile fabric liner.

A typical revetment cross-section is illustrated in Figure 5. Preliminary rip-rap sizing calculations are contained in Appendix C.

## Living Shoreline Option

During the regulatory scoping meeting, the potential for the development of a “living shoreline” along the southeastern shore was discussed. Implementation of such a feature could be included in the park as an environmental educational feature.

The SAV report determined that although an area of potentially suitable SAV habitat exists, there exists only several sparse isolated beds of submerged aquatic vegetation along this shoreline. This is likely due to higher water flow velocities and/or frequent wave energy sufficient to inhibit submerged aquatic vegetation growth. Higher velocities and wave energy also potentially impact water clarity and light attenuation needed to support submerged aquatic vegetation growth.

Observation of aerial photographs suggests this portion of the shoreline has experienced minimal erosion over the past twenty years. Site observations also noted an abundance of shoreline vegetation at this location.

Considering the sparse coverage of submerged aquatic vegetation, a determination was rendered that attempting to construct a “living shoreline” at this location would not likely be sustainable.



Existing Southern Shoreline, Credit SAV Report (looking west)

Given the lack of erosion at this location, the abundance of existing shoreline vegetation as well as the sparse coverage of submerged aquatic vegetation, creation of a “living shoreline” at this location was not included in the final recommendations for this report. The concept can be revisited later per the conditions of the major CAMA permit, discussed below.

## PERMITTING REQUIREMENTS

The location of the project area requires permitting from the North Carolina Division of Coastal Management (DCM) pursuant to the Coastal Area Management Act (CAMA). Under CAMA requirements, two types of development permits are available; major and minor. The threshold for the major versus minor permit is at 500 linear feet of proposed shoreline improvements. As shown in Figure 4, the length of proposed rip-rap revetment is slightly more than 500 linear feet, thus requiring a CAMA Major Development permit.

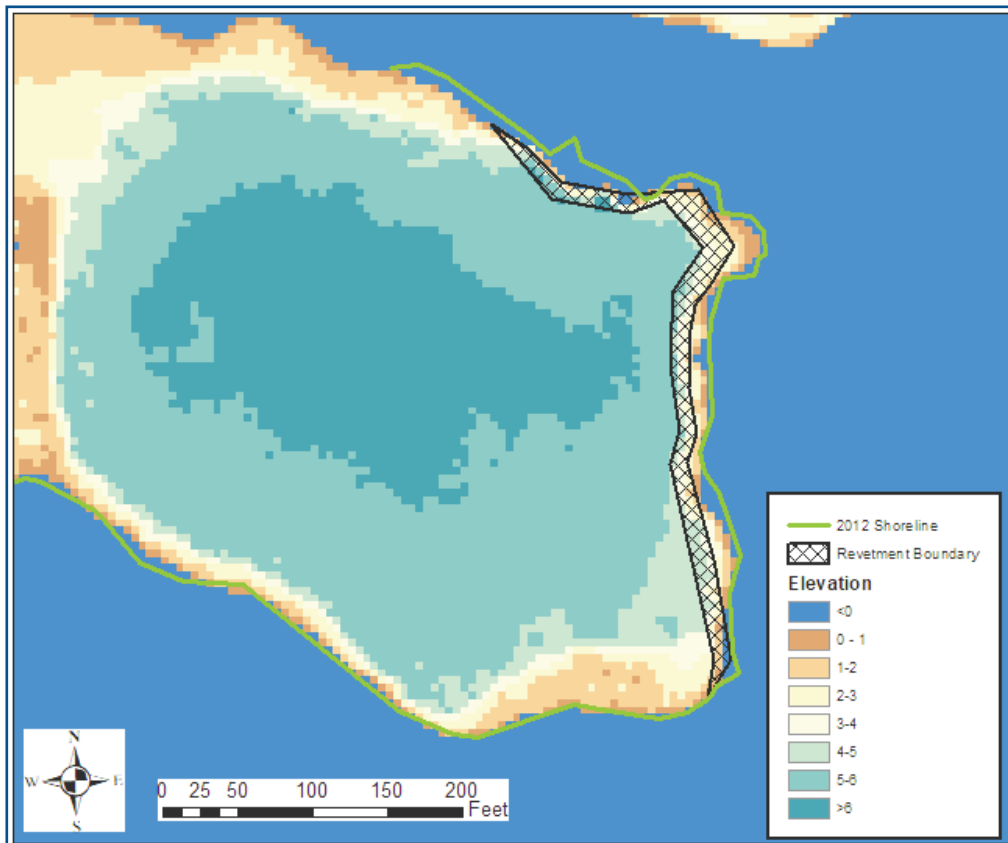
The length of the revetment could conceivably be truncated to qualify the proposed improvements for the Minor Development permit. The major drawback to that approach would be that any proposed design would be constrained by the limitation of a “Minor Development” permit. Any needed revisions to project scope which would extend the length of improvements would require a new permitting process. By approaching the improvements through the “Major Development” permit process, Beaufort County will be free to revise the scope of the project within a three-year window.

The use of the “Major Development” permit will allow for changes in scope to not only the rip-rap revetment, but also the inclusion of any other land or water-borne structures/measures deemed desirable or necessary for development of the park (i.e. piers, boardwalks, etc.). Should the County decide to incorporate a living shoreline (or any other measure) to the project scope, the Major Development permit can be modified for their inclusion.

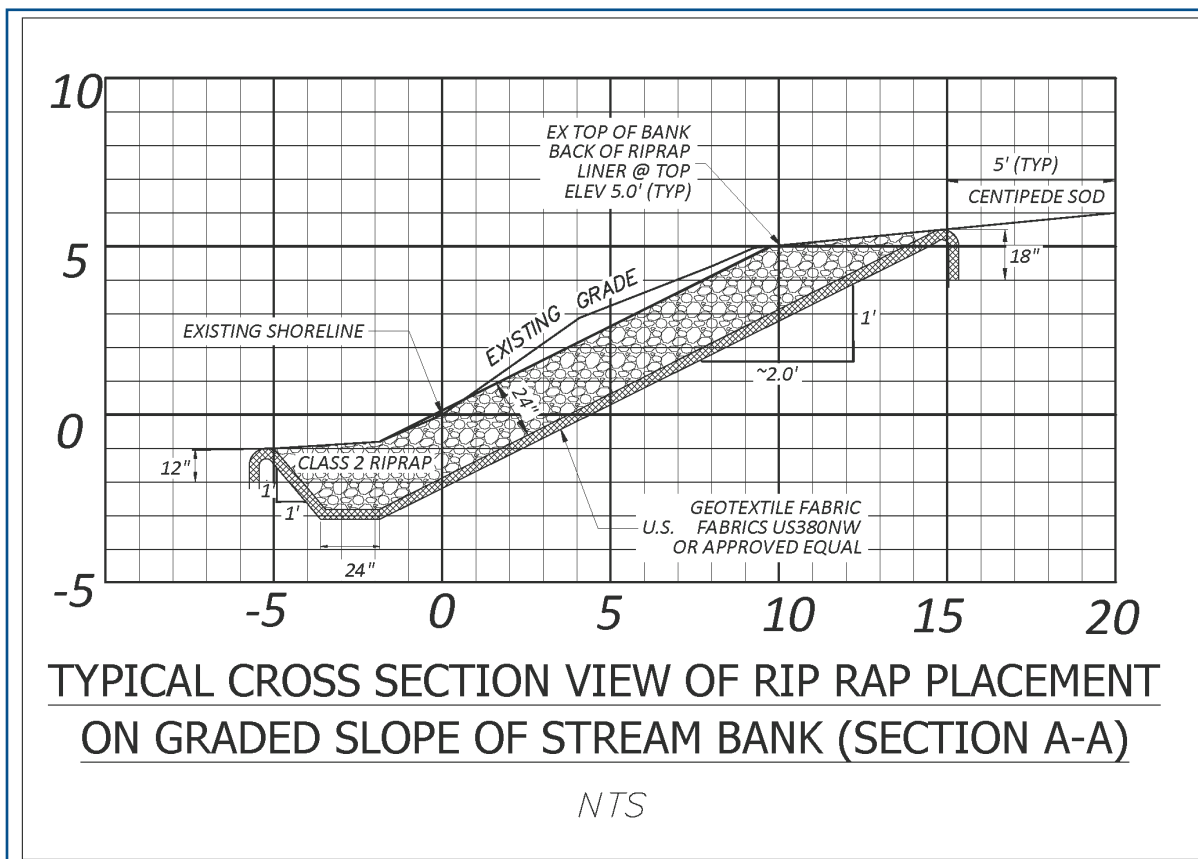
Permitting would be processed via the prescribed Major Development permit application protocol. Application for one Major Development permit will ensure all required state and federal stakeholder agencies are a part of the review process for proposed construction activity approval.



**FIGURE 4  
RIP-RAP REVETMENT OPTION**



**FIGURE 5  
RIP-RAP REVETMENT TYPICAL CROSS-SECTION**



Development of the application documents includes preparation of “permit drawings”. Permit drawings typically require design development of construction plans to a point such that specifics of the proposed construction are identified for permitting purposes. That level of detail is utilized to prepare the “permit drawings”.

The application fee for a Major Development permit will vary between \$250-\$475. The window of time for issuance of the permit after application submittal may vary from 2 - 6 months dependent upon complexity of the project and stakeholder input.

## PRELIMINARY COST OPINION

At this stage of project proposal, the proposed plan consists of only a conceptual level of design. Based upon this level of effort and other similar projects, a preliminary opinion of probable project cost is estimated. It should be noted that details of construction to be defined during the course of design development and the permitting process will have an impact upon the final cost for plan implementation.

Additionally, market conditions at the time of project bidding/construction can have a profound impact upon the actual prices bid, as will any elections by the County that modifies the methods or extent of construction proposed by the conceptual plan.

The preliminary opinion of probable project cost for constructing a rip-rap revetment along the northern and eastern shores of the Wright’s Creek Park property is approximately \$287,000. The detailed cost opinion is provided in Table 1.

## POTENTIAL FUNDING OPPORTUNITIES

Funding opportunities specifically for erosion control projects are limited. As such, these activities generally occur as part of a larger overall project.

### CAMA Water Access Grants

On January 14, 2020, the North Carolina Division of Coastal Management (DCM) announced grant funding available for Public Beach and Coastal Waterfront Access projects for the upcoming 2020-21 fiscal year. Lo-

TABLE 1

**CONSTRUCT RIP-RAP REVETMENT  
PRELIMINARY OPINION OF PROBABLE PROJECT COST  
FEBRUARY, 2020**

ITEM NO.	QTY.	UNIT	DESCRIPTION	UNIT PRICE	TOTAL ESTIMATED COST
1.	1	LS	Mobilization (3% +/-)	\$6,400.00	\$6,400
2.	1	LS	Clearing	\$5,000.00	\$5,000
3.	875	TON	Class 2 Rip-Rap and Stone	\$160.00	\$140,000
4.	650	SY	Geotextile Filter Fabric	\$10.00	\$6,500
5.	1	LS	Earthwork Excavation & Disposal	\$50,000.00	\$50,000
6.	550	LF	Silt Fence	\$5.00	\$2,750
7.	2,500	SY	Seeding & Mulching	\$1.00	\$2,500
Total Estimated Construction					\$213,150
Plus,					
Contingency (10%)					\$21,200
Shoreline Topo Survey (700 LF x 50' Corridor into Water's edge)					\$8,000
Design & Construction Engineering Services Allowance (15%)					\$32,000
Permitting Services Allowance (5%)					\$10,600
Legal & Administrative Allowance (1%)					\$2,100
<b>Total Estimated Project Cost</b>					<b>\$287,050</b>



cal governments were invited to apply for funding for projects that are anticipated to begin after November 2020 and are to be completed within 18 months.

Grant funds are available to provide pedestrian access to public beaches and waterfronts within the 20 coastal counties. Grant funds may be used for either land acquisition or site improvements. Details on funding requirements, timelines, and application information can be found in Appendix D.

### Clean Water Management Trust Fund Grants

The North Carolina Clean Water Management Trust Fund (CWMTF) is administered by the North Carolina Department of Natural and Cultural Resources (NCDNR). Stream Restoration is one of several categories also including land acquisition and innovative stormwater measures for the highly competitive grant funds.

Stream restoration projects include those projects designed to enhance or restore degraded waters and to protect downstream natural resources such as drinking water supplies, fisheries and recreation opportunities. The intent of the grant program is to restore previously degraded lands to re-establish their ability to protect water quality. Although the majority of eligible projects have been stream restoration projects, other approaches to restoring impaired waters may include riparian wetland enhancement, floodplain and streambank enhancements, and estuarine shoreline erosion control.

Reviewing the project eligibility with the CWMTF Eastern Region Field Representative is advisable prior to proceeding with an application.

## RECOMMENDATIONS

It is recommended that shoreline erosion control mitigation be pursued utilizing a revetment of rip-rap armoring. The revetment is proposed to extend from the north facing shoreline, around the east-facing shoreline to the southeastern point of the peninsula of land forming the Wright's Creek Park property.

Prior to initiating survey, design and permitting tasks, Beaufort County may wish to pursue grants to assist with funding of the shoreline erosion mitigation improvements.

A topographic survey of the shoreline and adjoining water's edge will need to be completed such that detailed design tasks may be undertaken. Based upon the topographic survey, engineering design of the revetment armoring as well as specific siting of the revetment armoring will need to be initiated so as to develop construction drawings to the extent that permit drawings for a CAMA permit can be prepared to accompany the permit application documents for approval by the regulatory agency.

It is also recommended that a CAMA Major Development permit be pursued such that additional shoreline and water-borne related park uses may be implemented under the same permit, or future amendments thereto.



*Rip - Rap Revetment Example*

# APPENDICES



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## APPENDIX A



# Submerged Aquatic Vegetation Survey

For:

Wrights Creek Park  
Beaufort County, North Carolina

Prepared By:

Land Management Group  
3805 Wrightsville Avenue  
Wilmington, North Carolina

November 2019

## Contents

1. Purpose .....	1
2. Site Description .....	1
3. Methodology.....	2
4. Results.....	3
5. Conclusions .....	5

## 1. Purpose

Land Management Group (LMG) was contracted by Rivers & Associates, Inc. to conduct a submerged aquatic vegetation (SAV) survey in proximity to Wright’s Creek Park, off Wilkins Road, in Beaufort County, NC. Proposed actions include shoreline stabilization along the property’s eroding shoreline reaches. This report provides a summary of the methods and findings of the SAV resource survey.

## 2. Site Description

The property consists of approximately 5.88 acres along the south side of Wilkins Road and across from the Wildlife Resource Commission (WRC) public boat ramp in Beaufort County (Figure 1). The northern boundary of the property is adjacent to an excavated canal that serves for boat dockage and the public boat ramp. The eastern and southern shorelines abut Wrights Creek, approximately 0.25 miles upstream of the Pungo River. The eastern shoreline and northeast corner of the property show signs of ongoing severe erosion with portions devoid of any wetland fringe (Figure 2). Concrete rubble and debris have been placed in these areas, presumably to help abate erosion. The southern shoreline, not exposed to the northeast fetch, had a narrow but stable coastal wetland fringe (Figure 4).

The water quality classification along the shoreline is SA, HQW, NSW and Inland Waters under the jurisdiction of WRC in the Tar-Pamlico river basin. The waters are closed to the harvest of shellfish for human consumption and the location is not mapped as Primary Nursery Area.

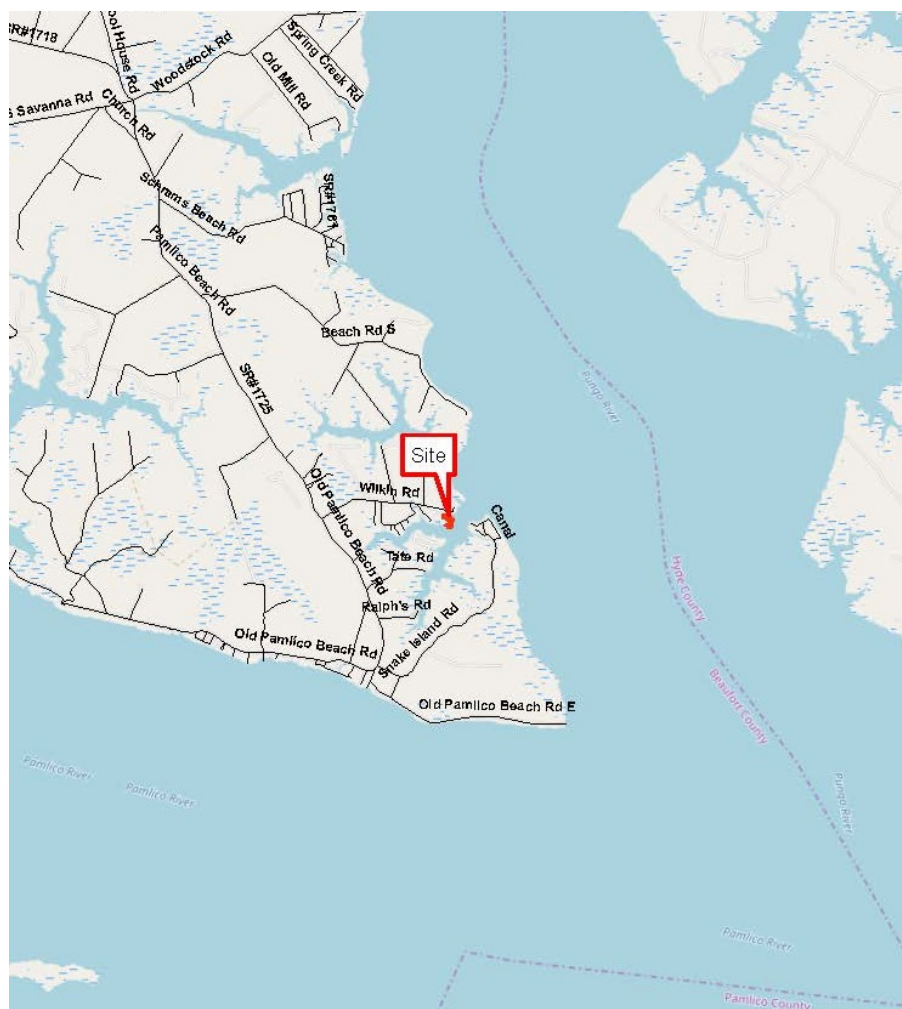


Figure 1. Site Location Map



Figure 2. View of the northern shoreline, looking south.



Figure 3. View of the eastern shoreline, looking north.



Figure 4. View of the southern shoreline, looking west.

### 3. Methodology

The SAV survey was conducted on October 22, 2019 from approximately 11 am to 4 pm. Air temperature was 74°F with partly sunny skies. Winds were southeasterly at 15 mph. Water clarity was measured with a secchi disk and found to average 3 feet.

LMG’s standard SAV survey protocol includes a systematic sampling of transects spaced evenly across the footprint of proposed dredging and adjacent waters. Transects are aligned approximately every 75’ perpendicular to the shoreline, with sampling points located every 20 feet to 30 feet parallel to the shoreline along the transects until a limiting depth is reached.

Sampling was conducted on foot and the presence of SAV was first noted by sight where water clarity allowed. Sampling points were then raked to a depth of approximately -6” below bottom using a clam rake. Any individuals or beds of SAV or SAV rhizomes were noted, GPS-located, and identified to species. Sample plots on transects in the existing canal adjacent to the boat ramp where depths were greater than -3 to -4 feet NWL could not be sampled due to the soft bottom and this area is presumed void of SAV as noted below.

## 4. Results

Bottom type within the survey area was characterized as a firm loamy sand bottom on the eastern and southern shorelines, and soft silty mud and soft silty sand within the canal adjacent to the northern shoreline.

No SAV was visually observed adjacent to the northern shoreline or in the shallow waters (less than -3' NWL) within the canal. Sample plots were raked for the presence of SAV or SAV rhizomes and none were located.

Likewise, on the eastern shoreline, no SAV was observed in the shallow waters adjacent to the shoreline or found in samples plots out to an approximate -4' to -5' MLW depth.

SAV identified as Widgeon grass (*Ruppia maritima*) was visually observed and found in sample plots in the shallow waters adjacent to the southern shoreline (Figure 5). The presence of Widgeon grass was limited to a 15 to 20-foot zone along the shoreline, where water depths ranged between -1' MLW and -3' MLW and the substrate was a firm loamy fine grain sand. Density of the vegetation was sparse and estimated to be an approximately 20% coverage comprised of approximately 2 to 4 square foot patches. Two isolated beds were found just south of the point that separates the eastern and southern shorelines. No other SAV or SAV rhizomes were identified within the survey area (Figure 6).



Figure 5. *Ruppia maritima* collected samples



Figure 6. SAV survey results.

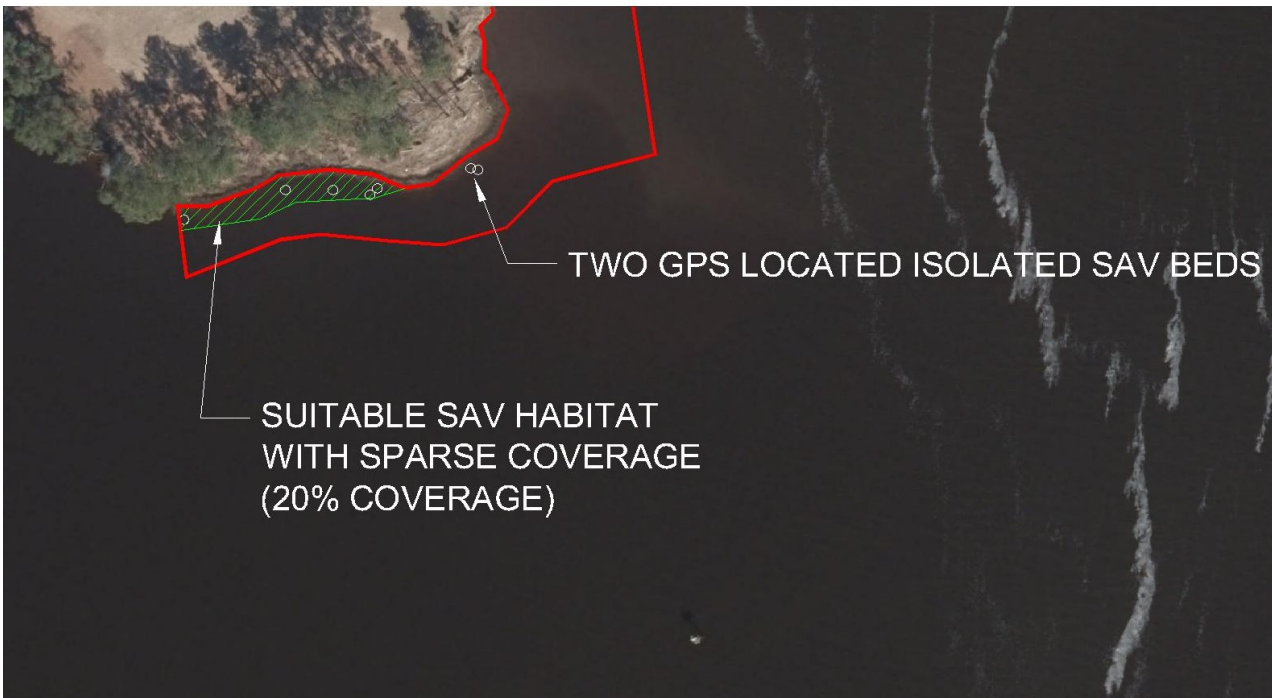


Figure 7. SAV survey results detail view.

## 5. Conclusions

Although *Ruppia maritima* can be found in waters as deep as 6 feet, the average water column depth is described in the NC Coastal Habitat Protection Plan (NC CHPP) to be 2.3 feet. Widgeon grass is also known to prefer low velocity, low wave energy and more firm loamy sand habitats. The results of this report support these habitat characteristics with most SAV occurring at -2.5 MLW depths and located on the southern shoreline sheltered from the higher energy northeast fetch. Within the canal along the northern shoreline the soft silty mud substrate is likely the limiting factor prohibiting SAV occurrence along this portion of the property. While the eastern shoreline has a suitable substrate and water depths to support Widgeon grass, evidence of ongoing severe erosion indicates that this portion of the shoreline experiences higher velocity flow and/or wave energy on a frequency sufficient to prohibit SAV occurrence. As evidenced by the shoreline condition and also the aerial in Figure 6, higher velocity flow and wave energy can potentially affect water clarity and light attenuation contributing to prohibit SAV occurrence along this portion of the property.

## APPENDIX B



**SIGN UP SHEET  
INTERAGENCY/SCOPING MEETING**

**APPENDIX B**

Scoping Mtg. – Wrights Creek Erosion Control Study-Beaufort County

Purpose of this meeting is to discuss a proposed project and provide environmental permitting and regulatory information which will improve communications and the permitting processes.

**December 3, 2019 10 am**  
Conference line – 919-850-2822

Name	Agency	Phone	Email
<i>[Signature]</i> Steve Janowski	Rivers and Associates	252-714-3002	sjanowski@riversandassociates.com
Mark Garner	Rivers and Associates	252-752-4135	mgarner@riversandassociates.com
<i>[Signature]</i> Matt Prokop	Rivers and Associates	252-752-4135	mprokop@riversandassociates.com
<i>[Signature]</i> Kevin Richards	Mid-East Commission Planning, Economic Development & Community Services	252-974-1823	krichards@mideastcom.org
<i>[Signature]</i> Jamie Heath	Mid-East Commission Planner	252-974-1843	jheath@mideastcom.org
<i>[Signature]</i> Raleigh Bland	USACE	910-251-4564	Raleigh.W.Bland@saw02.usace.army.mil
Josh Pelletier	USACE	910-251-4605	Josh.R.Pelletier@usace.army.mil
<i>[Signature]</i> Shane Staples	Coastal Management	252-948-3950	shane.staples@ncdenr.gov
<i>[Signature]</i> Maria Dunn	NCWRC	252-948-3916	maria.dunn@ncwildlife.org
<i>[Signature]</i> Curt Weychert	NCDMF	252-808-8050	curt.weychert@ncdenr.gov
Anthony Scarbraugh	DWR-401	252-948-3924	Anthony.scarbraugh@ncdenr.gov
Chris Pullinger	DWR-401	252-948-3973	chris.pullinger@ncdenr.gov
<i>[Signature]</i> Greg Finch	LMA	910-452-0001	g.finch@LMGroup.NET
<i>[Signature]</i> Randall Jones	DEWLR	252-948-3857	randall.jones@ncdenr.gov
<i>[Signature]</i> Lyn Hardison	DEQ	252-948-3842	lyn.hardison@ncdenr.gov

## APPENDIX C

Determining initial D50 of rip-rap for revetment

Hudson's Equation

K values set for tolerable damage

$$W_{50} = \frac{\gamma_r H_{10}^3}{4.37 (G_s - 1)^3 (\cot \alpha)}$$

Table 7.3.1-1. Variations in the general form of the stability equation

Source	Coefficients			Remarks
	a	b	K	
USACE (1975) [11]	3	0.67	3.62	Average zero damage level for the worst wave conditions
	3	1.00	4.37	Average limit of tolerable damage for the worst wave conditions

- $W_{50}$  Median stone weight
- $\gamma_r$  Stone Density
- $H_{10}$  Characteristic wave height
- $G_s$   $\gamma_r/62.4$
- $\cot \alpha$  slope (H:V)

$$H_{10} = 1.27 \times H_s$$

In 2008, the USACE updated their *Coastal Engineering Manual*, EM-1110-2-1100, to use a modified equation for calculating  $H_s$  [3]:

$$H_s = 0.0245 F^{1/2} VMPH (1.1 + 0.0156 VMPH)^{1/2}$$

Where:

- $H_s$  = The significant wave height (feet)
- = Design wind velocity over water (mi/h)
- $VMPH$
- $F$  = Fetch (mi)

VMPH= 75 mi/hr  
F= 2.8 miles

$H_s$ = 4.63 ft  
 $H_{10}$ = 5.88 ft

$\gamma_r$  162.5 lb/ft<sup>3</sup>  
 $G_s$  2.60  
 $\cot \alpha$  3 :1

$W_{50}$  610 lb

$$V_{50} = W_{50}/\gamma_r = 0.75(D_{50})^3$$

D50= 1.70 ft  
20 in

## Varying Wind Speeds

Fetch Length	2.8 mi
$\gamma_r$	162.5 lb/ft <sup>3</sup>
$G_s$	2.60
$\cot \alpha$	3 :1

Wind Speed (mi/hr)	Fetch (mi)	H <sub>s</sub> (ft)	H <sub>10</sub> (ft)	W <sub>50</sub> (lb)	D <sub>50</sub> (ft)	D <sub>50</sub> (in)	Rip-Rap Class
30	2.8	1.54	1.96	22	0.57	7	1
35	2.8	1.84	2.34	38	0.68	8	1
40	2.8	2.15	2.73	61	0.80	10	1
45	2.8	2.48	3.15	93	0.92	11	1
<b>50</b>	<b>2.8</b>	<b>2.81</b>	<b>3.57</b>	<b>137</b>	<b>1.04</b>	<b>12</b>	<b>2</b>
<b>55</b>	<b>2.8</b>	<b>3.16</b>	<b>4.01</b>	<b>193</b>	<b>1.16</b>	<b>14</b>	<b>2</b>
<b>60</b>	<b>2.8</b>	<b>3.51</b>	<b>4.46</b>	<b>266</b>	<b>1.29</b>	<b>16</b>	<b>2</b>
<b>65</b>	<b>2.8</b>	<b>3.87</b>	<b>4.92</b>	<b>358</b>	<b>1.43</b>	<b>17</b>	<b>2</b>
<b>70</b>	<b>2.8</b>	<b>4.25</b>	<b>5.40</b>	<b>472</b>	<b>1.56</b>	<b>19</b>	<b>2</b>
75	2.8	4.63	5.88	611	1.70	20	3
80	2.8	5.03	6.38	781	1.85	22	3
85	2.8	5.43	6.89	983	1.99	24	3
90	2.8	5.84	7.41	1224	2.14	26	3
95	2.8	6.26	7.95	1507	2.29	28	4
100	2.8	6.69	8.49	1839	2.45	29	4

In 2008, the USACE updated their *Coastal Engineering Manual*, EM-1110-2-1100, to use a modified equation for calculating  $H_s$  [3]:

$$H_s = 0.0245 F^{1/2} VMPH (1.1 + 0.0156 VMPH)^{1/2}$$

Where:

- $H_s$  = The significant wave height (feet)
- = Design wind velocity over water (mi/h)
- $VMPH$
- $F$  = Fetch (mi)

$$W_{50} = \frac{\gamma_r H_{10}^3}{4.37 (G_s - 1)^3 (\cot \alpha)}$$

$$V_{50} = W_{50} / \gamma_r = 0.75 (D_{50})^3$$

## APPENDIX D



ROY COOPER  
Governor  
MICHAEL S. REGAN  
Secretary  
BRAXTON C. DAVIS  
Director

## Invitation to Submit Pre-application Access Grant Proposals Public Beach and Coastal Waterfront Access Funds 2020-21 Cycle

**TO:** Local Officials in the Coastal Area

**FROM:** Mike Lopazanski, Policy & Planning Section Chief  
Division of Coastal Management

**DATE:** January 14, 2020

We are pleased to notify local governments in the 20-county coastal area that the Division of Coastal Management (DCM) has grant funding available for Public Beach and Coastal Waterfront Access projects for the upcoming 2020-21 fiscal year. Local governments are invited to apply for funding for projects that are anticipated to begin after November 2020 and to be completed in eighteen (18) months.

Local governments interested in applying for financial assistance must complete and submit **two (2) printed copies** of the enclosed Pre-application form with attachments. Your local DCM District Planner must receive pre-applications on or before 5:00 pm on **Friday, April 17, 2020**.

**Process:** The application process has three (3) steps: the Pre-application, invitation to submit a Final Application, and grant contract approval.

DCM will review the pre-applications and select a number of proposals for further consideration based on available funding. Local governments that submitted applications in previous years but were not selected for funding must re-apply for consideration during this grant cycle. Only pre-applications titled 2020-21 will be accepted as the application packet and application forms are adjusted annually.

Local governments whose proposals are selected will be notified by **Friday, May 15, 2020** to submit a Final Application with more detailed project information. A final application form will be provided with the notification. Prior to submitting a Final Application, the local government shall hold a public meeting or hearing to discuss its proposal and consider comments prior to its decision to submit a Final Application for state funds. Final Applications are anticipated to be due on or before 5:00 pm on **Monday, August 17, 2020**.



Local governments are encouraged to include their local contribution in their FY 2020-21 budget. All final applicants will be notified in September whether their project has been selected for funding.

**Match:** Local government matching contributions for acquisition must be at least 15% of the total project cost. For Tier 1 counties and their municipalities, the match for acquisition is at least 10%. Grants for improvements to existing sites must be at least 25% however, for Tier 1 counties and their municipalities; the match is 10%.<sup>1</sup> At least half of the local contribution must be cash match; the remainder may be in-kind match. Guidelines for determining allowable cash and non-cash in-kind match contributions are enclosed.

**Overview:** The primary objective of the public access grant program is to provide pedestrian access to public beaches and public trust waters in the 20 coastal counties. Grant funds may be used for land acquisition (including “unbuildable” lots) and site improvement projects that are consistent with the state guidelines for public access in the coastal area (15A NCAC 7M .0300)<sup>2</sup>. Any facility constructed with these grant funds must meet state and federal guidelines for handicap accessibility.

Examples of eligible projects include the following:

- Land acquisition - purchase of land for future public access facilities.
- Land easement acquisition - purchase of easements for public access.
- Parking areas, restrooms and other facilities.
- Urban waterfront access sites - improved public access to deteriorating or under-utilized urban waterfronts through reconstruction or rehabilitation.
- Reconstruction or relocation of existing damaged public access facilities. Primarily for sites not originally funded by this program or for improvements to any sites at least fifteen (15) years old.
- Handicap facilities - Local governments are encouraged to submit proposals designed to enhance handicap accessibility at existing facilities.
- Boat Launch facilities- boat launch and ramp facilities, whether motorized or not, maybe part of a project provided pedestrian access is still a major component of the project.

Proposals that include both land acquisition and site improvements are to be submitted under separate applications.

A Pre-application Packet is enclosed. The packet includes:

- a. Notice of the Availability of Funds
- b. Guidance for Grant Proposals
- c. Pre-Application Form

DCM hopes you will consider utilizing funding through this grant program to help make a positive and lasting contribution to your community’s public access efforts. Your local DCM District Planner looks forward to receiving your pre-application and assisting you in this process. If you have any questions, please contact your local DCM District Planner listed in the enclosed “Local Contacts and Resources”.

<sup>1</sup> The NC Department of Commerce 2020 Article 3J County Tier Designations.

<sup>2</sup> See <https://deg.nc.gov/about/divisions/coastal-management/coastal-management-rules/coastal-development-rules>

# **North Carolina Public Beach and Coastal Waterfront Access Fund**

## **2020-21 Cycle**

## **Pre-application**



Division of Coastal Management  
Department of Environmental  
Quality



## Table of Contents

	<u>Page</u>
Table of Contents .....	4
Notice of Available Funds and Requirements .....	5
Tier 1 Coastal Communities.....	7
Local Contacts and Resources .....	8
Guidance for Grant Proposals .....	9
Pre-application Form 2020-21 Funding Cycle .....	16

This application is also available online at:

<https://deg.nc.gov/about/divisions/coastal-management/coastal-management-beach-waterfront-awareness-program/public-access-grant-application-package>

The application is available in a fillable .pdf and Word version.

# Notice of Available Funds and Requirements 2020-21 Cycle

**Funds Available:** The N.C. Division of Coastal Management (DCM) estimates that approximately \$1 million dollars will be available for public beach and coastal waterfront access projects in FY 2020-21.

**Eligible Applicants:** The 20 coastal counties and municipalities therein that have public trust waters (ocean, estuarine or riverine waters) within their jurisdictions.

**Anticipated Contract Period:** Eighteen (18) months beginning between November 2020 and January 2021.

**Maximum Request:** There is no limit on maximum request. However due to the limited funds available, applicants need to be mindful that larger requests may be difficult to accommodate.

**Match Requirements:** Local government matching contributions for acquisition must be at least 15 percent of the total project cost. The match is reduced to 10 percent for counties designated by the NC Department of Commerce as Tier 1.<sup>1</sup>

Matching contributions for improvements to existing sites must be at least 25 percent of the total project cost. The match is reduced to 10 percent for counties designated by the NC Department of Commerce as Tier 1.<sup>1</sup> The match requirement for municipalities within counties qualifying as Tier 1 is also 10 percent.

At least half of the local match must be cash match; the remainder may be in-kind non-cash match. Pre-award costs associated with surveying, title work, appraisals, permitting fees, and design and engineering costs associated with permits that are incurred within the last three (3) years may also be eligible for credit towards non-cash match, provided they are documented in the grant application and contract budget. See "Guidelines for Local Match" enclosed.

**Use of Other State or Federal Funds for Local Cash Match:** Other state and federal monies are eligible for use to meet local match provided such funds are not already being used to match other grants by other state or federal agencies. Local cash and non-cash in-kind match that is already being used or intended to be used to also match other state or federal grants must be disclosed and recognized within the application process and award contract.

**Public Use:** Property acquired with a grant through the Public Beach and Coastal Waterfront Access Program must be retained and used for public access. Facilities built or renovated with grant funds must be maintained for public access.

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<sup>1</sup>The NC Department of Commerce 2020 Article 3J County Tier Designations.

# Notice of Available Funds and Requirements 2020-21 Cycle

**Site Control:** The applicant must own or have at least a 25-year lease on property where grant funds are used to build or renovate facilities, except where improvements are proposed on “Other Agency Lands” (see below).

**Required Development Permits:** Receipt of a grant award does not guarantee approval of a CAMA development permit or any other State permit. The local government is required to obtain all applicable permits.

**Improvements on Other Agency Lands:** A local government may apply for a grant to fund improvements on property owned by a public school administrative unit or a state or federal agency. The county or municipality, however, must serve as the applicant for the project. Improvements must enhance public access to public trust waters and not just serve other recreational purposes.

**Notice of Limitations and Use Restrictions:** Acquired properties funded through the grant program will require recorded deed restrictions to be in place prior to a reimbursement of grant funds. Land acquired with access grant funds shall be dedicated in perpetuity for public access and the benefit of the general public. The dedication shall be recorded in the property records by the grantee. Any lease or easement agreement shall extend at least 25 years. If land acquired or improved with grant funds is sold or otherwise disposed of, the local government shall reimburse the State with an equal percentage of access grant funds at current market rate.

## **Criteria used to prioritize and select projects to receive grant assistance:**

- Lack of access opportunities in the area;
- Demonstrated need for the project due to high demand and limited opportunities;
- Project is identified in a local beach or waterfront access plan or certified CAMA Land Use Plan;
- Community has not received previous assistance from this grant program;
- The commitment of matching funds exceeds the minimum required local match;
- Project proposal includes multiple funding sources (in addition to DCM);
- Location includes donated land deemed “unbuildable” due to regulations or physical limitations and;
- The community has demonstrated its ability to complete previous projects and/or has demonstrated its ability to operate and maintain facilities previously funded.

# Tier 1 Coastal Communities 2020-21 Cycle

<i>County</i>	<i>Municipality</i>
<b>Beaufort County</b>	
	Town of Aurora
	Town of Bath
	Town of Belhaven
	Town of Chocowinity
	Town of Pantego
	City of Washington
	Town of Washington Park
<b>Bertie County</b>	
	Town of Askewville
	Town of Aulander
	Town of Colerain
	Town of Kelford
	Town of Lewiston-Woodville
	Town of Powellsville
	Town of Roxobel
	Town of Windsor
<b>Chowan County</b>	
	Town of Edenton
<b>Hertford County</b>	
	Town of Ahoskie
	Town of Cofield
	Town of Como
	Town of Harrellsville
	Town of Murfreesboro
	Town of Winton
<b>Hyde County</b>	
<b>Onslow County</b>	
	Town of Holly Ridge
	City of Jacksonville
	Town of N. Topsail Beach
	Town of Richlands
	Town of Swansboro
<b>Pasquotank County</b>	
	City of Elizabeth City
<b>Perquimans County</b>	
	Town of Hertford
	Town of Winfall
<b>Tyrrell County</b>	
	Town of Columbia
<b>Washington County</b>	
	Town of Creswell
	Town of Plymouth
	Town of Roper

# Local Contacts and Resources

## 2020-21 Cycle

### Local Contacts for Application Packet

**Bertie, Camden, Chowan, Currituck, Dare, Gates, Hertford, Pasquotank, Perquimans, Tyrrell and Washington** counties:

Charlan Owens, AICP, District Planner  
Division of Coastal Management  
401 South Griffin Street, Suite 300, Elizabeth City, N.C. 27909  
(252) 264-3901 [charlan.owens@ncdenr.gov](mailto:charlan.owens@ncdenr.gov)

**Beaufort, Carteret, Craven, Hyde and Pamlico** counties:

Rachel Love-Adrick, District Planner  
Division of Coastal Management  
400 Commerce Ave. Morehead City, NC 28557  
(252) 808-2808 [rachel.love-adrick@ncdenr.gov](mailto:rachel.love-adrick@ncdenr.gov)

**Brunswick, New Hanover, Onslow and Pender** counties:

Mike Christenbury, District Planner  
Division of Coastal Management  
127 Cardinal Drive Extension, Wilmington, N.C. 28405-3845  
(910) 796-7475 [mike.christenbury@ncdenr.gov](mailto:mike.christenbury@ncdenr.gov)

An electronic copy of the application is available on the N. C. Division of Coastal Management website at:

<https://deq.nc.gov/about/divisions/coastal-management/coastal-management-beach-waterfront-awareness-program/public-access-grant-application-package>.

A Word file of the complete packet will be available as well as a fillable PDF version of the application. District Planners can also send you a hard copy of the application.

**Public Access Rules:** A copy of the rules that apply to the Public Beach and Coastal Waterfront Access Program, 15A NCAC 7M Section .0300 Shorefront Access Policies, are available on the N. C. Division of Coastal Management web site at:

<https://deq.nc.gov/about/divisions/coastal-management/coastal-managementrules/coastal-development-rules>.

# Guidance for Grant Proposals

## 2020-21 Cycle

### Introduction

The N.C. Public Beach and Coastal Waterfront Access Program is a matching grant program administered by the Department of Environmental Quality, Division of Coastal Management. Rules and policies for administration of the access program are provided in 15A 7M .0300 of the North Carolina Administrative Code and N.C.G.S. 113A-134.1 through 113A-134.3. Land acquisition, site improvements, and amenities for public access to coastal waters are funded through this grant program.

### Local Match Requirements

Total projects costs for the calculation of match includes grant funding and local cash and non-cash in kind match.

- **Land Acquisition:** For land acquisition, local government match must be at least 15% of the total project cost. At least one-half (1/2) of the local contribution (7.5% of the total project cost) must be cash; the remainder may be non-cash in-kind. For Tier 1 counties\* and their respective municipalities, the local government contribution for land acquisition is 10% of the total project costs. At least one-half (1/2) of the local contribution (5% of the total project cost) must be cash; the remainder may be in-kind.
- **Site Improvements and Amenities:** For site improvements and amenities, local government match must be at least 25% of the total project cost. At least one-half (1/2) of the local contribution (12.5% of the total project cost) must be cash; the remainder may be non-cash in-kind. For Tier 1 counties\* and their respective municipalities, the local government contribution for site improvement and amenities is 10% of the total project costs. At least one-half (1/2) of the local contribution (5% of the total project cost) must be cash; the remainder may be in-kind.

### Cash and Non-Cash In-kind Contributions (General)

- **Criteria for Claiming Contributions:** Cash and in-kind contributions may be claimed as part of the local government's match when such contributions meet all of the following criteria:
  1. Are provided for in the project budget approved by the Division of Coastal Management;
  2. Are verifiable from the local government's records;
  3. Are necessary and reasonable for proper and efficient completion of the project;
  4. Are not included as contributions for matching any other state or federally assisted projects or programs, except where authorized by state or federal statute;
  5. Use of other state or federal funds for local cash match must be identified to ensure that double matching does not occur;
  6. Do not include N.C. state sales tax; and,
  7. Conform to other provisions of these guidelines, as applicable.

In general, in-kind contributions are derived from resources already on hand or from donations, whereas cash contributions will be utilized to purchase new services or equipment necessary for proper completion of the access project.

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\*The NC Department of Commerce 2020 Article 3J County Tier Designations.

# Guidance for Grant Proposals

## 2020-21 Cycle

### Cash Contributions

Local cash contributions may be claimed for the following accountable items: planning and project design fees, permit fees, land acquisition (including survey and appraisal), labor (other than local government salaried employees), materials, construction equipment rental, amenities, and infrastructure. These costs must be incurred during the contract period.

- **Site Amenities:** The cost of amenities purchased by the local government during the contract period may be included as part of the cash contribution if it is an integral part of the access facility or its construction as presented in the Final Application submitted to the Division of Coastal Management and specified in the contract. Examples include park benches, bike racks, water fountains, trashcans, and lights (See also “Donations of Property and Services”).
- **Rental of Construction Equipment:** If the local government must rent construction equipment to complete the proposed project, (such as front loaders, graders, or dump trucks) rental costs may be included as cash contribution (See also “Donations of Property and Services”).
- **State and Federal Funds:** State and Federal funds may be counted as cash match provided the funds are not being used as a match for other programs. Local government employee salaries do not qualify as cash match but may be included toward non-cash in-kind match.

### Non-Cash In-kind Contributions

Local in-kind non-cash contributions may be claimed for the following accountable items: project design fees, permit fees, land acquisition (including survey and appraisal), labor (including local government salaried employees), materials, construction equipment rental, amenities, and infrastructure. Reasonable local government employee time can also be credited. These costs must be incurred during the contract period, except as specifically indicated below.

- **Site Assessments:** Title opinions, property appraisals, boundary surveys, and wetland delineations associated with land acquisitions and site improvements may be counted toward in-kind match, provided the costs are incurred within three (3) years of the grant award date.
- **Permits:** Project permit fees and design and engineering fees associated with permits that are expended prior to a grant contract may be counted toward non-cash in-kind match, provide the costs are incurred within three (3) years of the grant award date. Fees for preparing a grant or permit proposal are not eligible.
- **FEMA Buyout Properties:** Property that was part of a FEMA buyout or other similar mitigation program is eligible for this grant program, provided the original conditions for the buyout are not in conflict with the proposed improvements. Use of the recent buyout property’s value as non-cash in-kind match may be considered similarly as previously purchased or donated property. (See also “Donations of Property and Services”.)

# Guidance for Grant Proposals

## 2020-21 Cycle

- **Volunteer Services:** Volunteer services eligible as in-kind contribution are limited to professional engineering and architectural services when those services are not found in the local government. Paid fringe benefits that are reasonable, allowable and allocable may be included in the valuation, if approved by DCM. When an employer other than the local government furnishes the services of an employee, or when an individual contractor volunteers, these services shall be valued at the employee's regular rate of pay (plus an amount of fringe benefits, as described above), provided these services employ the same technical skill for which the employee is normally paid. All volunteer services must be documented by signed invoice showing the billing rate for the service, number of hours, and a statement that the charges are forgiven. Excluded from volunteer services are prison labor, court-required community service and other work programs, and volunteer civic groups. In those instances, in which the required skills are not found in the local government, or for other activities specifically approved by the Division of Coastal Management, rates shall be consistent with those paid for similar work in the labor market in which the local government competes for the kind of services involved. In either case, paid fringe benefits that are reasonable, allowable, and allocable may be included in the valuation.

### Donations of Property and Services

- **Land/Structures:** If the local government has land that has recently been donated or that will be donated, or structures for an access facility, and the donation is allowed by the Division of Coastal Management to be counted as local contribution, the value of the donation for purposes of in-kind contributions shall be established by an independent licensed appraiser. The donor of the land must be a private organization or individual. The community must provide a five-year history of conveyance for the property. Land that is transferred to the community due to a statute or rule is not considered a donation. If a landowner is proposing to sell land to the community for less than the appraised value, the amount of the donation is the difference between the appraised value and the amount paid by the applicant.

Donation to, or acquisition of, the property/structure by the local government must have occurred within five (5) years of the grant award. A long-term easement (more than 25 years from the date of the grant award) of land may also be considered.

- **Property Lease:** Lease arrangements must be for the life of the project (at least 25 years). When property is leased to the local government for an annual fee, the first year's lease payment may be considered as in-kind contribution.
- **Professional Fees:** If the usual fees of a licensed professional, such as an architect or engineer, are waived or donated to the local government for work associated with the access project, the fees may be claimed as in-kind contributions. Rates shall be consistent with local pay scales. Partial contribution of a fee (for example, the balance of a discount rate) will not be considered as in-kind match. *All volunteer professional services must be documented by invoice showing the billing rate for the service, the number of hours and that the charges are forgiven.*
- **Construction Equipment:** The use of privately-owned construction equipment (graders, loaders, dump trucks, etc.) donated for construction of the access facility may be claimed as in-kind contribution. The use value of rented equipment shall not exceed its fair rental value. Use of public agency equipment is not eligible for matching.



# Guidance for Grant Proposals

## 2020-21 Cycle

- **Building Materials, Site Amenities and Landscaping Materials:** Building materials (lumber, hardware, marl, etc.), site amenities (benches, bike racks, water fountains, etc.) and landscaping materials (plants, soil, timbers) donated to the project may be claimed as in-kind contribution. The value of any of these goods shall not exceed fair market value at the time of donation. To be eligible as an in-kind contribution, the building material, amenities or landscape materials must be an integral part of the original access project as presented in the Final Application submitted to the Division of Coastal Management and specified in the contract.
- **Attorney Fees:** Fees associated with the title opinion and other property transaction costs may be included as non-cash match prior to the effective date of the contract. Reasonable costs following the effective date of the contract may qualify as cash match. Such costs should be included in the budget.

### Additional Guidance

The following is further guidance to assist communities with making a grant request. For additional information, contact your local DCM District Planner listed in this packet (See Local Contacts and Resources).

#### Budget

- **Include All Costs:** List all items proposed for funding and the estimated cost of each item. All items included in cost estimates must be shown on the site plan, except for items such as grading, utilities, and planning. Round all cost estimates to the nearest dollar. Where practical, identify costs separately for independent elements of the same type of facilities or improvements on the same site.

#### Land Acquisition

- **Property Appraisal:** A preliminary property appraisal will be required as part of a Final Application. The preliminary appraisal is an educated estimate of the property's value. An estimate does not require a licensed appraiser. A certified property appraisal will be required prior to grant reimbursement. The appraiser is required to certify that the appraisal was completed using the Universal Standard of Professional Appraisal Practices. The appraisal must be for the value of the land and any existing structures that will be used for public access and recreational purposes. Two (2) certified appraisals are required for property with a value greater than \$600,000 prior to grant reimbursement.
- **When may a formal appraisal not be necessary:** With DCM's approval, the use of property value based on property tax assessment may be used instead only when all the following is evident:
  1. That the property owner will accept the tax appraisal assessment;
  2. The proposal is not locally controversial;
  3. The property is an unbuildable lot/ remnant or of a small size or awkward shape;
  4. The property is contiguous to existing publicly owned or controlled property, or FEMA buyout property and;

# Guidance for Grant Proposals

## 2020-21 Cycle

5. The property has an estimated value of less than \$15,000.
- **When to Take Title to Land/Leases/ Easements:** All communities must sign a contract with the state *before* accepting a title/lease/easement to land that will be acquired using grant funds. This also applies to property that is donated to the local government. A Contract for Purchase or a Loan Agreement may be accomplished prior to the effective date of a grant contract. Cash payments that occur prior to the effective date of the grant contract are not eligible for credit towards a cash match and are not reimbursable. The exception is when the intent is to use it toward non-cash match.
  - **Acquisition Documentation:** A report form along with two (2) copies of the deed with recorded restrictions, property title, property appraisal, and proof of payment will be required prior to grant reimbursement. DCM will supply the report form.

### Site Control for Properties to be Improved or Renovated

- **Site Control:** The applicant must own or have at least a 25-year lease or easement on the property where improvements or renovated facilities will be located. The community must submit copies of the deed or of the signed lease or easement, as well as the opinion by the community's attorney, regarding site control as part of the Final Application submittal. Proposals that include the leasing or acquisition of easements as part of the total project cost must identify the estimated costs and assumptions used in the request proposal. Where property is owned or controlled by another governmental entity or agency, a Joint Use Agreement may suffice, subject to approval of DCM.
- **Joint Use Agreement:** A local government and a school system or state or federal agency must include a draft Joint Use Agreement with a Final Application. The agreement describes the hours of use of the facilities by the public and how the site will be maintained. DCM staff must approve the formal agreement prior to a reimbursement of grant funds. It is the community's responsibility to ensure that the agreement is acceptable to DCM/DEQ prior to expenditure of local funds to be reimbursed. Recording of the Joint Use Agreement may be required.

### Costs to Build or Renovate Facilities

- **The Importance of Good Estimates:** If you receive a grant, you are expected to complete your project according to the cost estimates in your application. Obtain estimates from contractors, engineers or architects, who have experience in developing or designing access sites. Consider the impact of inflation by assuming that the project may be completed over an eighteen (18)-month period after the grantee signs a contract with the State.
- **Be Specific:** Include specific units (sizes, numbers, lengths, etc.) for each item in the cost estimates. Include dimensions or square footage of all indoor or sheltered facilities. The intended use of enclosed structures, especially partitioned interior areas, must be identified.
- **Equipment/Tools are Not Eligible:** Tools, maintenance equipment, office equipment and indoor furniture are not eligible for reimbursement with grant funds.

# Guidance for Grant Proposals

## 2020-21 Cycle

### Planning and Incidental Costs

- **Planning and Design Costs:** For projects to build or renovate facilities, the following items can be included in cost estimates: architectural and engineering fees, site plans, design drawings, construction drawings, construction management, and preparing cost estimates.
- **Incidental Land Acquisition Costs:** Appraisals, title searches, surveys, and attorney fees can be included in cost estimates.
- **Limit on Planning and Incidental Land Acquisition Costs:** The sum of planning costs, incidental land acquisition costs and the cost of preparing permit applications cannot exceed 20% of the total cost of the project. Exceptions may be made for Tier 1 jurisdictions\* with written approval from DCM.
- **Timing of Expenses:** Design, engineering and planning costs to develop projects and other incidental costs to acquire land are only eligible for consideration as cash match or for reimbursement after the local government signs a contract with the state. These expenses may be considered for non-cash match.

### Additional Improvement Requirements

- **Placing Utility Lines Underground:** All utility lines funded with a grant award must be placed underground unless agreed to otherwise within the contract.
- **Making Facilities Accessible:** All facilities funded with a grant award must comply with the Americans with Disabilities Act Accessibility Guidelines (ADAAG). Applicants are strongly encouraged to include the costs of building accessible facilities and access routes to those facilities in the grant application. Prior to closing out a project and receiving final payment of grant funds, the local building official will be required to provide a letter certifying compliance.

### Costs Not to be Included in a Grant Award or Local Match

- **Environmental Assessments:** other than preliminary work associated with site planning and wetland delineation.
- **Remediation Plans:** associated with contaminated sites. However, some costs of actual remediation or clean up may be eligible for non-cash in-kind match.
- **Restoration Plans:** however, wetland restoration may be eligible for cash or non-cash in-kind match credit.
- **Attorney Fees:** no fees for permitting, condemnation or other litigation will be considered.

# Guidance for Grant Proposals

## 2020-21 Cycle

### Timing Issues

- **Starting the Project:** A grantee must sign a grant contract before beginning any components of a project in order to be eligible for match or reimbursement. Certain costs can be incurred before the contract start date.
- **Completing the Project:** Though grant contracts may be amended and extended at the discretion of DCM, a contract typically is limited to eighteen (18) months. Despite amendments, state rules limit the total life of a contract to three (3) years.
- **Receiving Grant Funds and Reimbursements:** Access grants are paid as reimbursements of actual expenses. The program will reimburse grantees only after the community's required local cash match has been met. No grant funds may be dispensed/dispersed prior to a community meeting its local cash match. The community's cost estimates identify the total amount of grant funds to be reimbursed. The grantee is responsible for any additional costs needed to complete the project. The program will retain the final ten percent (10%) of the grant amount until the completion of the project. Contact your local District Planner for the details of the process.



## NORTH CAROLINA PUBLIC BEACH AND COASTAL WATERFRONT ACCESS PROGRAM

### PRE-APPLICATION 2020-21 CYCLE

Please complete a separate application for each proposed project and submit two (2) printed copies to your DCM District Planner. This application is also available [online](#).

**APPLICATION DEADLINE: FRIDAY APRIL 17, 2020**

<b>Project Name:</b>							
Provide a brief description of the proposed project:							
Is this an ongoing project (Phase II of a previously funded project, or improvements to an existing project)? Please Describe:							
<b>Government Name:</b> <b>Project Administrator</b> Name: Title: Address: City/State/Zip: Telephone: E-mail:	<b>Type of project:</b> <input type="checkbox"/> Land Acquisition <input type="checkbox"/> Site Improvement <b>Demand for Access:</b> <input type="checkbox"/> High <input type="checkbox"/> Medium <input type="checkbox"/> Low <b>Site Control:</b>  <input type="checkbox"/> Ownership <input type="checkbox"/> Lease (25 years or more) <input type="checkbox"/> Easement (25 years or more) <input type="checkbox"/> Joint Use Agreement						
Previous DCM Access Grant Recipient: <input type="checkbox"/> Yes <input type="checkbox"/> No	If yes, When?						
<b>Budget Totals and Financial Assistance Requested:</b> 1. DCM Grant Assistance Requested: \$ 2. Total Local Contribution:                     \$ 0.00  a. Local Cash:                                    \$ b. Other Grant Cash:                          \$ Source: c. Other Grant Cash:                          \$ Source: d. Local In-Kind:                              \$  <b>TOTAL PROJECT COST:</b> \$ 0.00	<b>Additional Project Costs/Funding Sources NOT included in the proposal (if applicable):</b>  <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 70%; border-right: 1px solid black; padding: 5px;">Source:</td> <td style="padding: 5px;">Cost: \$</td> </tr> <tr> <td style="border-right: 1px solid black; padding: 5px;">Source:</td> <td style="padding: 5px;">Cost: \$</td> </tr> <tr> <td style="border-right: 1px solid black; padding: 5px;">Source:</td> <td style="padding: 5px;">Cost: \$</td> </tr> </table>	Source:	Cost: \$	Source:	Cost: \$	Source:	Cost: \$
Source:	Cost: \$						
Source:	Cost: \$						
Source:	Cost: \$						

Signature: \_\_\_\_\_

Name (print): \_\_\_\_\_

Date: \_\_\_\_\_

**Provide the following ATTACHMENTS and NARRATIVE:**

- A. Project location maps:** Provide a regional location map and a detailed vicinity map (street map) showing the project location.
- B. Site description:** Provide a description of the site, including natural features and existing improvements. Also include NC Division of Water Resources Surface Water Classification(s).
- C. For Land Acquisition:** Provide an exhibit or boundary survey indicating land area, an estimated cost of the property, and basis for the estimate. *An overlay on aerial photos may be submitted.* Indicate whether or not the property would be acquired in phases.
- D. Project description:** Provide a description of the project, including information on features, materials, and proximity to closest/other access sites.
- E. Project site plan:** Provide a to-scale site plan showing property lines, proposed construction, significant natural features, and existing uses on adjacent lots. Include a north arrow and graphic scale. *Improvements shown as an overlay on aerial photos also may be submitted.* Provide to-scale building elevations and floor plans as applicable.
- F. Pre-project tasks:** Identify tasks that must be completed prior to starting the project.
- G. Is all or a portion of this project under consideration by other programs for funding?**  
YES  NO  *If so, indicate which program(s) and which fiscal year(s). Does the funding requested from another program duplicate or complement the funding requested from the Access Program? How viable is the project if complementary funding from another program is not secured?*
- H. Is this project identified as high local priority in your certified Future Land Use Plan or local Access Plan?**  
YES  NO  *If so, attach a brief description of the plan and a statement of the extent to which the project implements the policies of the plan.*
- I. Is this project reflected in other policy documents or ordinances?** YES  NO  *If so, attach a brief description of the document or ordinance and a statement of the extent to which the project implements goals of the document or ordinance.*
- J. Proposed Local Match and Cost Assumptions:** Provide narrative indicating the source of cash match and availability of funds. Provide narrative explaining the relevance of proposed in-kind match to the project. *If other state and/or federal funds are to be used as local match, indicate the amount, the funding source, when the funding will be awarded/available, and the specific project elements that will qualify for joint funding.*
- K. List the types and sources of utilities proposed; and identify associated costs.**
- L. List all necessary permits and/or certifications.**

**M. Proposed Summary Budget:** The form below must be completed and included with your application.

	<b>Grant Assistance Requested</b>	<b>Local Cash Contribution</b>	<b>Local In-Kind Contribution</b>	<b>TOTAL</b>
<b>Land Acquisition Costs:</b>				
	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00
	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00
Subtotal	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00
<b>Permit and Design Fees:</b>				
	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00
	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00
Subtotal	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00
<b>Site Improvement Costs:</b>				
Materials				
	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00
	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00
Subtotal	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00
<b>Site Improvement Costs: Labor</b>				
	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00
	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00
Subtotal	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00
<b>Local Administrative Costs:</b>				
In-kind				
	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00
	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00
Subtotal	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00
<b>TOTAL BUDGET</b>	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00

Additional Project Tasks NOT Included in this Proposal	Additional Project Cost
	\$ 0
	\$ 0
<b>TOTAL ADDITIONAL COST</b>	\$ 0

**N. Proposed Budget:** If available, attach a detailed breakdown of the cost assumptions upon which the Summary Budget is based. Proposals that include this information increase their likelihood of funding.