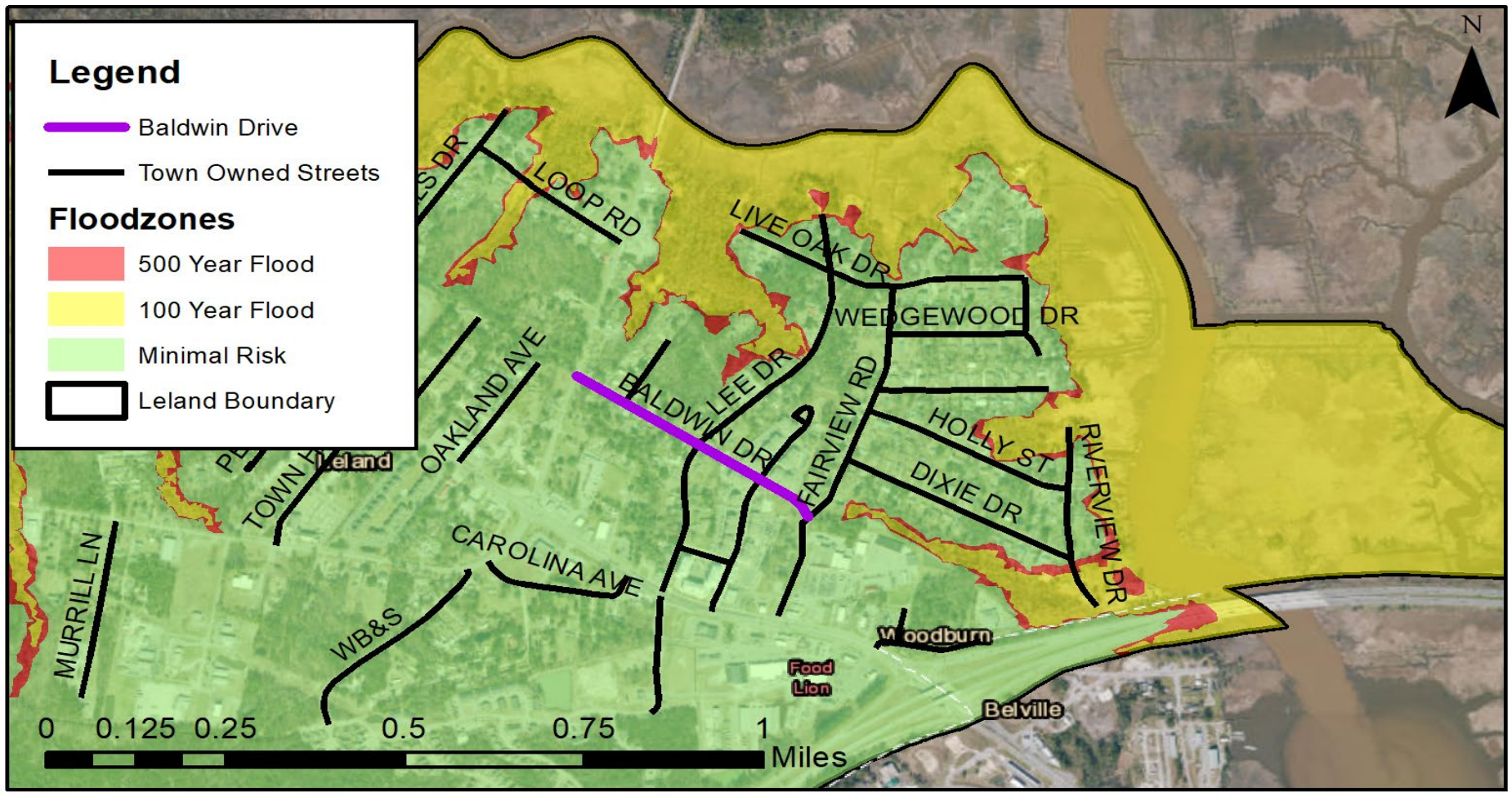
APPENDIX F

PROJECT PORTFOLIO

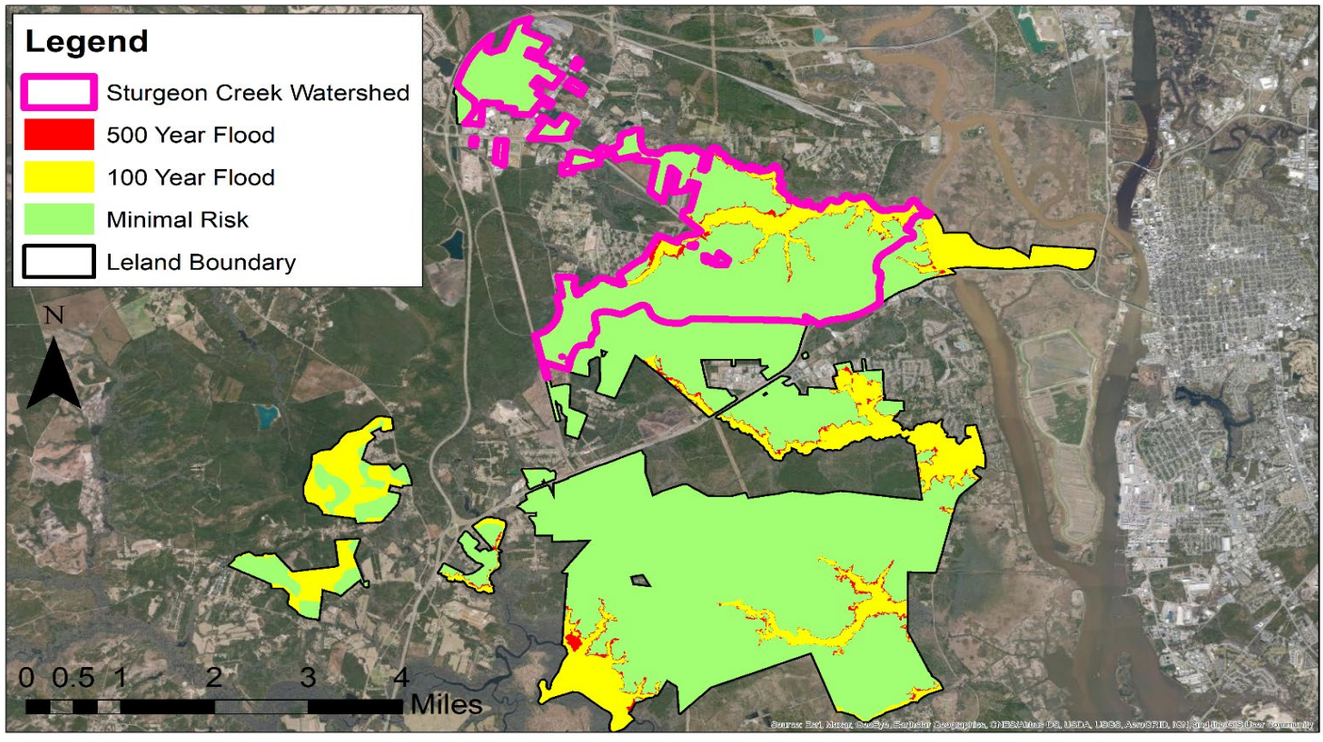
Project Number	Project Name
a	Baldwin Area Regional Stromwater Management
b	Feasibility Study for Sturgeon Creek Watershed Flood Risk Reduction
c	FEMA Buyout Program Feasibility Studies
d	Highway 133 Flood Mitigation
e	Old Fayetteville Road Flood Mitigation
f	Community Education and Outreach Programs
g	Lift Station Relocation
h	Improving Resilience to Critical Transportation Routes
i	Stoney Creek Area
j	Emergency Fuel Preparedness
k	Low Country Blvd. Culvert Enhancements
l	Magnolia Greens Stormwater Solutions
m	Mallory Creek Dr. Drainage Plan
n	Lanvale Trace Stormwater Wetland
o	Stream Crossing and Barrier Assessment to Improve Flood Risk and Fish Passage

Project Name	Baldwin Area Regional Stromwater Management
Project Description	The Town of Leland is planning for the Baldwin Drive Roadway Improvement Project. This project entails that Baldwin Drive will be paved and that adjacent sidewalk will be added (from Lee Dr. to Navassa Rd.). The Town also has a goal that as part of this project, a regional stormwater feature be included for flood mitigation.
Hazard(s) addressed by project	Flooding
Type of Solution	Infrastructure
Project Estimated Cost	To be Determined
Potential Implementation Funding Sources	Local
Projected Estimated Timeline	Short- Term
Priority Rating	Immediate
Project Map	

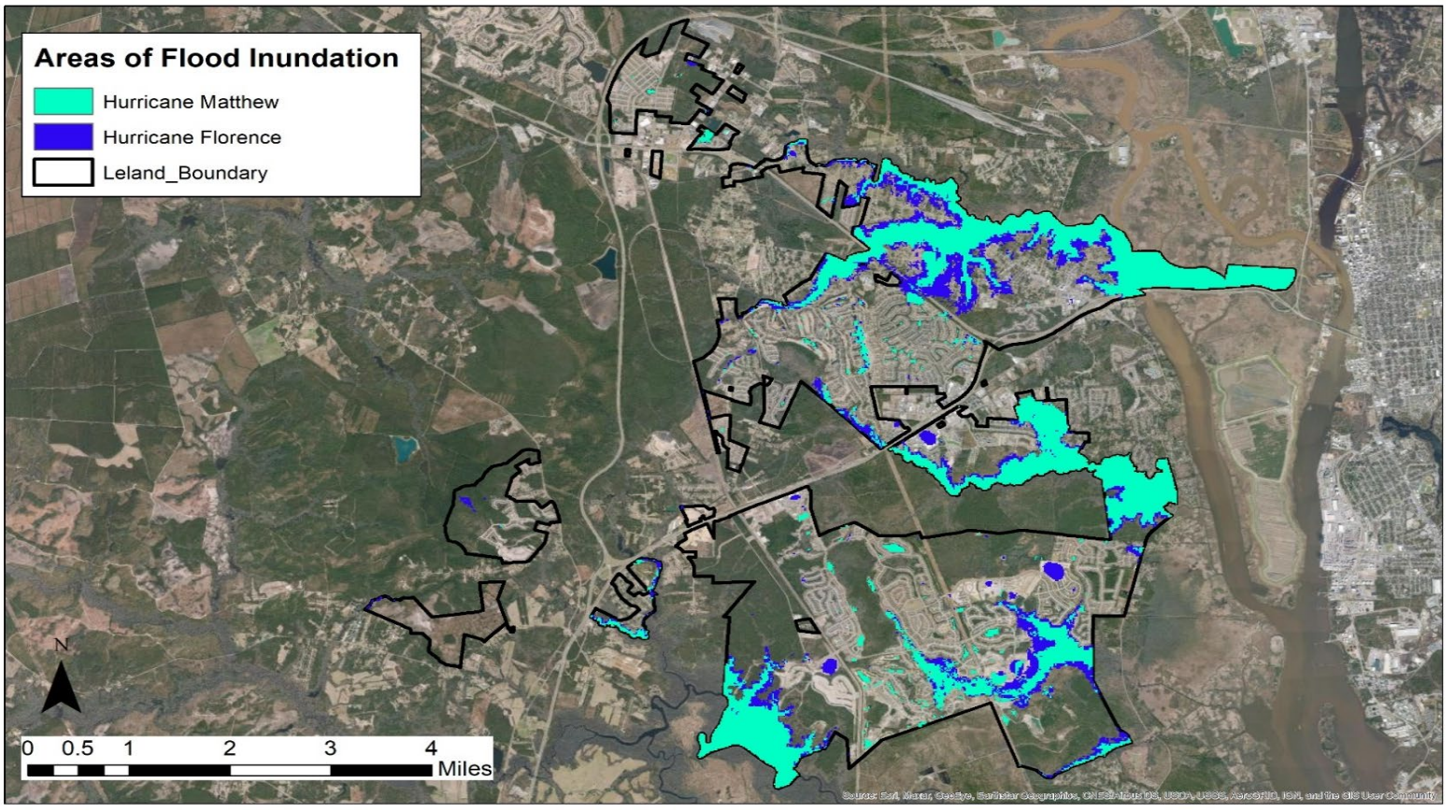


Project Name	Feasibility Study for Sturgeon Creek Watershed Flood Risk Reduction
Project Description	The Town of Leland will seek to coordinate and collaborate with the NC Department of Transportation and other partners to evaluate the Sturgeon Creek watershed and identify drainage and flood control solutions at road and stream crossings. Solutions may include additional stormwater/storage capacity, evaluate culvert size, and/or other nature-based solutions to mitigate flood hazards in this area that is prone to frequent flooding associated with storm events and climate change.
Hazard(s) addressed by project	Flooding
Type of Solution	Nature-based/Gray infrastructure solution
Project Estimated Cost	$300,000 Feasibility Study
Potential Implementation Funding Sources	Building Resilient Infrastructure and Communiteies (BRIC) Grant; NCDOT
Projected Estimated Timeline	Two years
Priority Rating	Mid-term

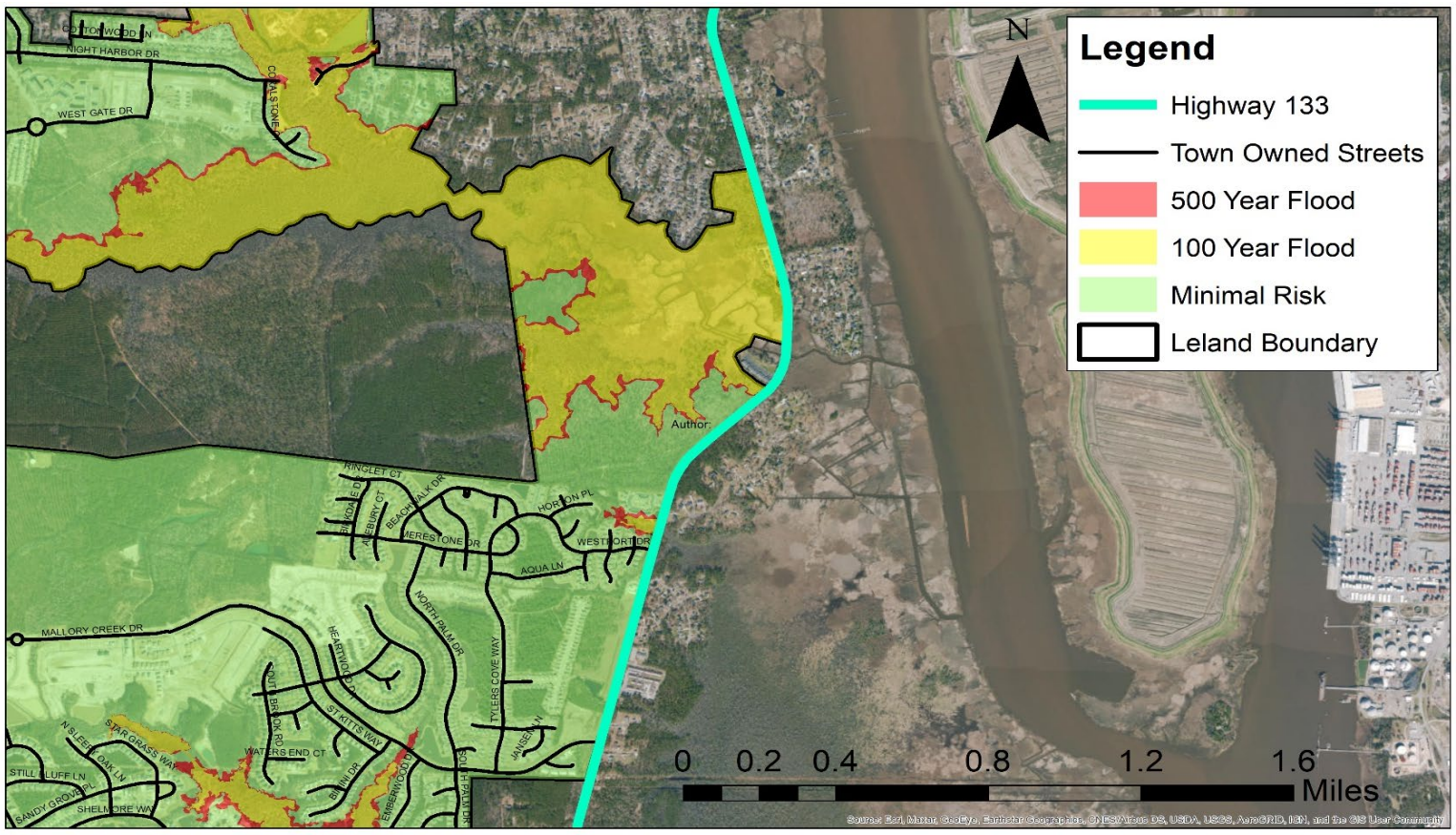
Project Map



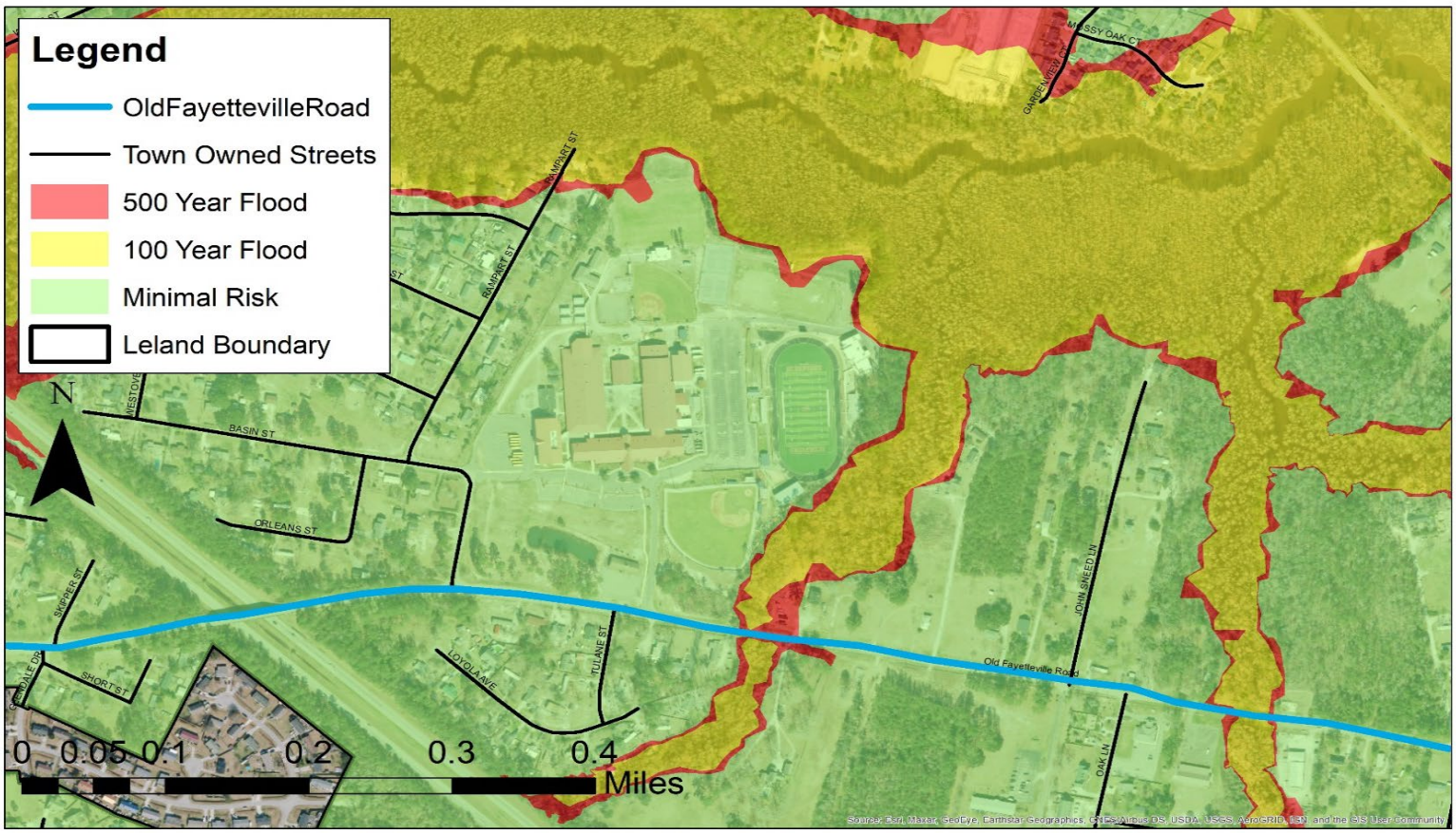
Project Name	FEMA Buyout Program Feasibility Studies
Project Description	Feasibility studies would be conducted on a number of sites (number and location of sites to be identified) within five years*. Purpose of these studies is to provide support and justification in demolition or buyout options of property within flood-prone areas.
Hazard(s) addressed by project	Flooding and Storm Surge
Type of Solution	Flood Risk Reduction
Project Estimated Cost	To be Determined/based on need
Potential Implementation Funding Sources	FEMA/federal
Projected Estimated Timeline	*will be determined by Town based on number of sites to be included
Priority Rating	Low Priority/Ongoing Evaluation by Town
Project Map	Flood Inundation from Previous Hurricanes



Project Name	Highway 133 Flood Mitigation
Project Description	A site-scale/neighborhood-scale nature-based solution will be defined to mitigate flooding of Hwy 133, which runs parallel to the Brunswick River and is prone to frequent flooding, posing a critical transportation and evacuation route concern. This may be a phased approach and will require coordination with the NC Department of Transportation to evaluate opportunities for stream crossing improvements and elevating low lying areas.
Hazard(s) addressed by project	Flooding
Type of Solution	Gray Infrastructure
Project Estimated Cost	To Be Determined
Potential Implementation Funding Sources	NC Department of Transportation/federal/state/local
Projected Estimated Timeline	Feasibility Study/1 - 2 years to evaluate and develop design plans
Priority Rating	Mid-Term
Project Map	



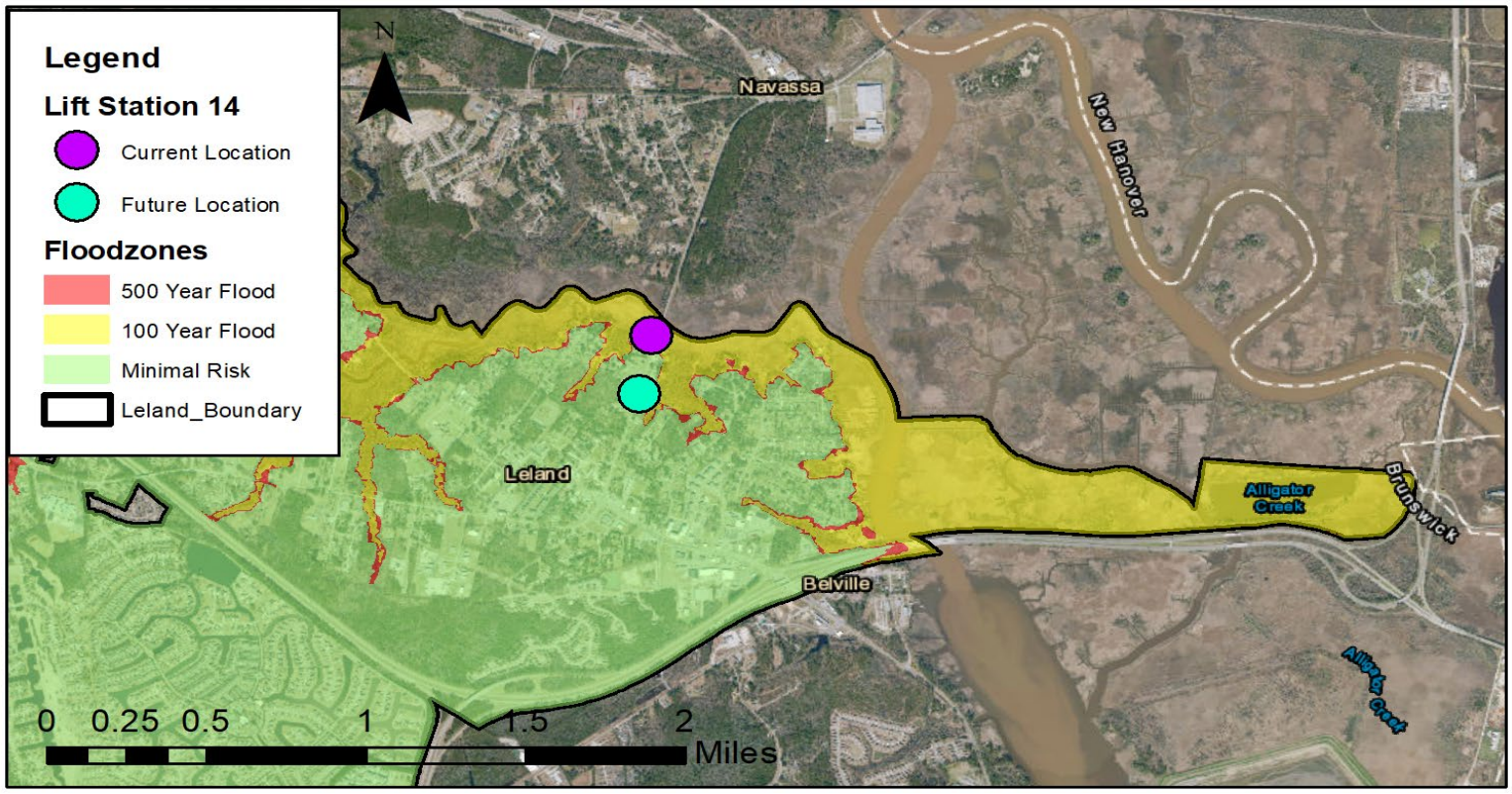
Project Name	Old Fayetteville Road Flood Mitigation
Project Description	A site-scale/neighborhood-scale nature-based solution will be used to mitigate flooding of Old Fayetteville Road by North Brunswick High School, which currently floods during heavy precipitation events and is a critical transportation concern. The culvert located on Old Fayetteville Road has failed during three previous major hurricane events.
Hazard(s) addressed by project	Flooding
Type of Solution	Nature-based/Gray Infrastructure solution
Project Estimated Cost	To Be Determined
Potential Implementation Funding Sources	NC Department of Transportation/FEMA/federal/state/local
Projected Estimated Timeline	Feasibility Study/2 years
Priority Rating	mid-term
Project Map	



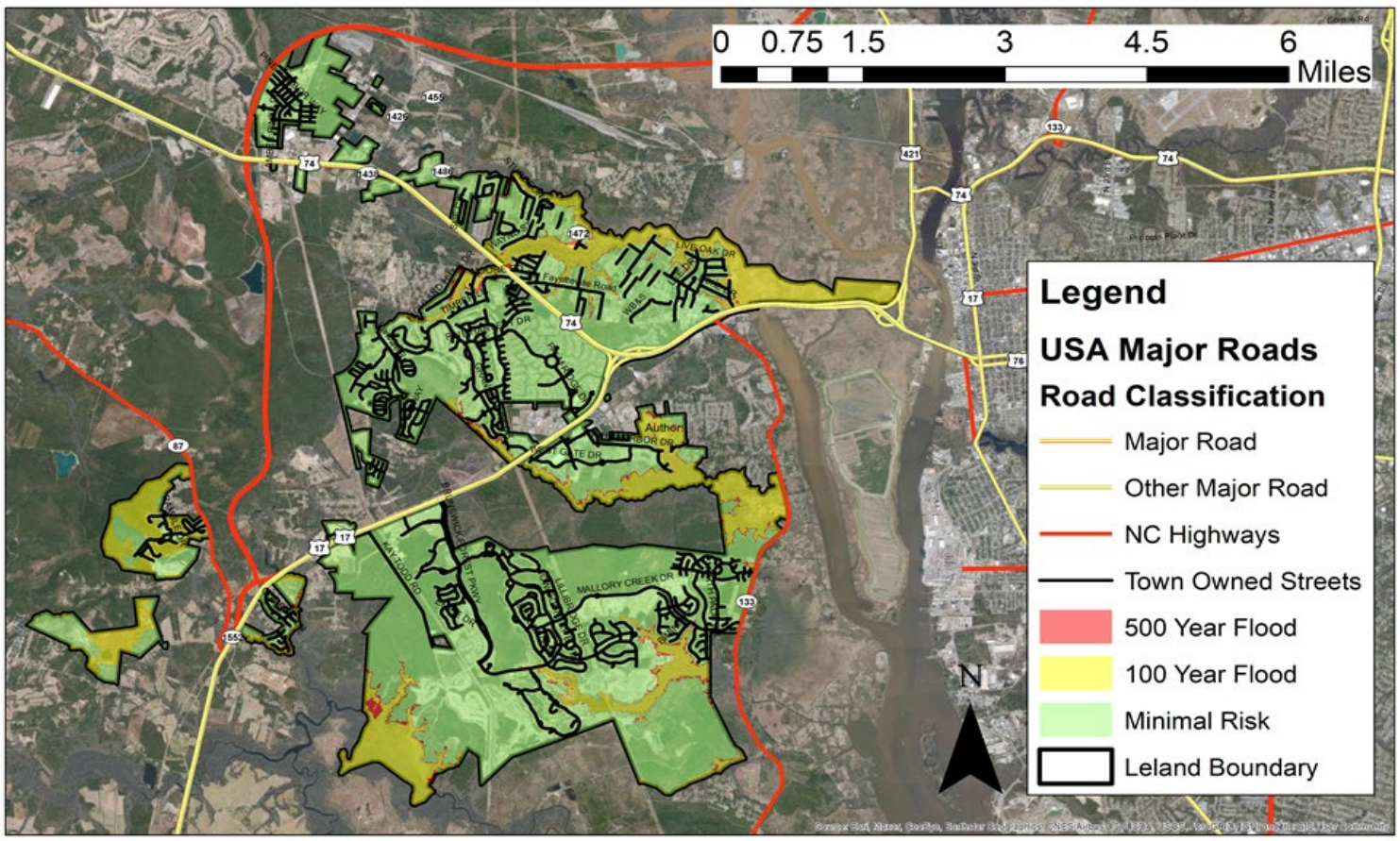
Project Name	Community Education and Outreach Programs
Project Description	The Town of Leland aims to increase public awareness for more support on projects and grants through education and outreach programs. Potential programs/ initiatives include: Stormwater Education for HOAs, improved communication between Town and HOAs; Education on nature-based strategies for residents to bolster support (put materials together about cost-effectiveness, life of projects), Education on site-scale BMPs for residents/homeowners (encouragement for changing behaviors)
Hazard(s) addressed by project	Flooding
Type of Solution	Communicaton and Outreach
Project Estimated Cost	$25,000/year (staff capacity needs + materials)
Potential Implementation Funding Sources	Soil and Water Conservation District/Division
Projected Estimated Timeline	Annual
Priority Rating	Mid-Term
Project Map	N/A

Project Name	Lift Station Relocation
Project Description	This project will relocate Lift Station #14 from its current location within the 100-year flood zone to another site owned by the Town of Leland. The new site of this lift station will be outside of the 100-year flood zone, reducing its exposure to natural hazards.
Hazard(s) addressed by project	Flooding
Type of Solution	Gray Infrastructure
Project Estimated Cost	Based on specific relocation and needs
Potential Implementation Funding Sources	Local/state
Projected Estimated Timeline	Ongoing
Priority Rating	Long-term

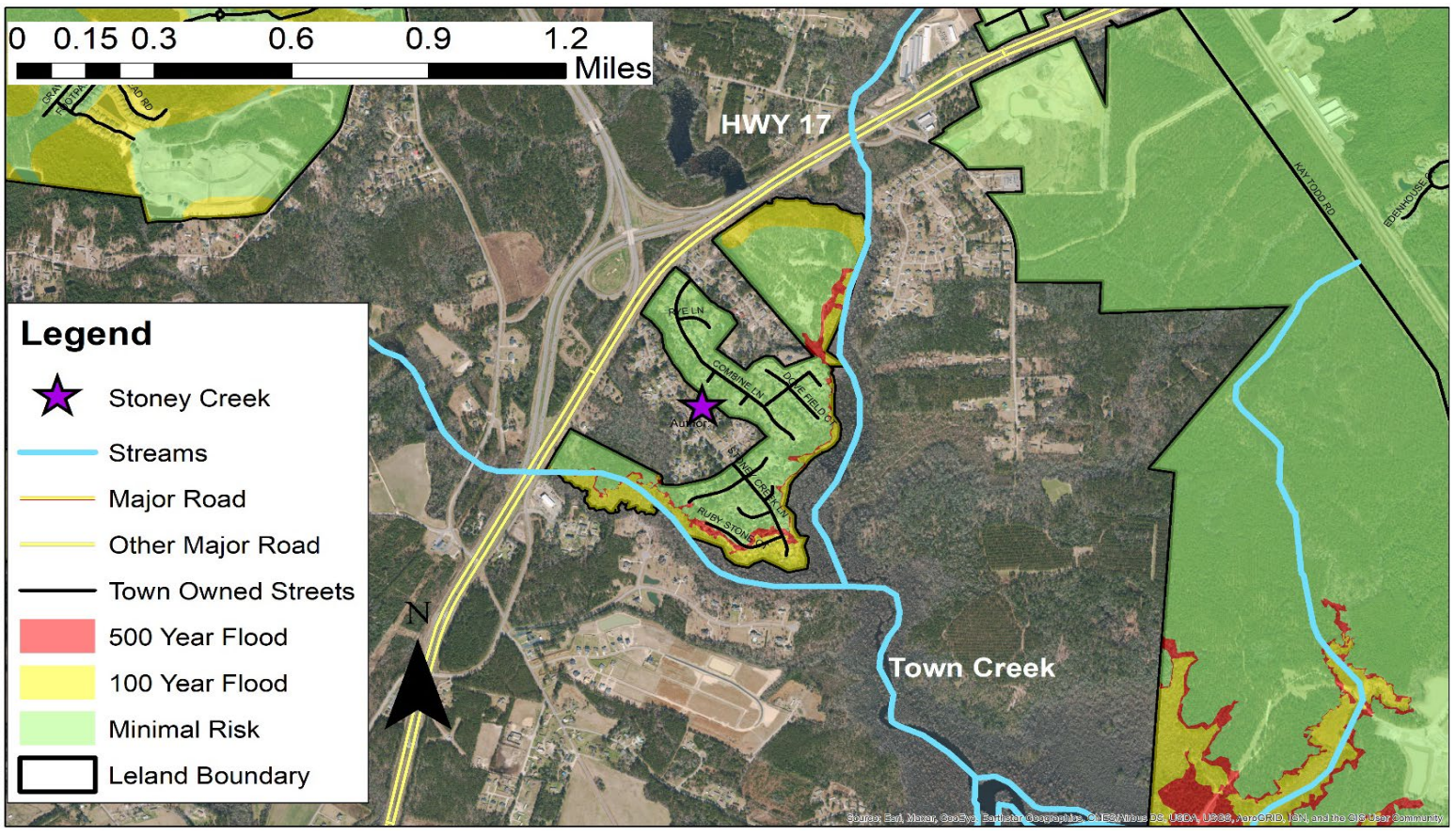
Project Map



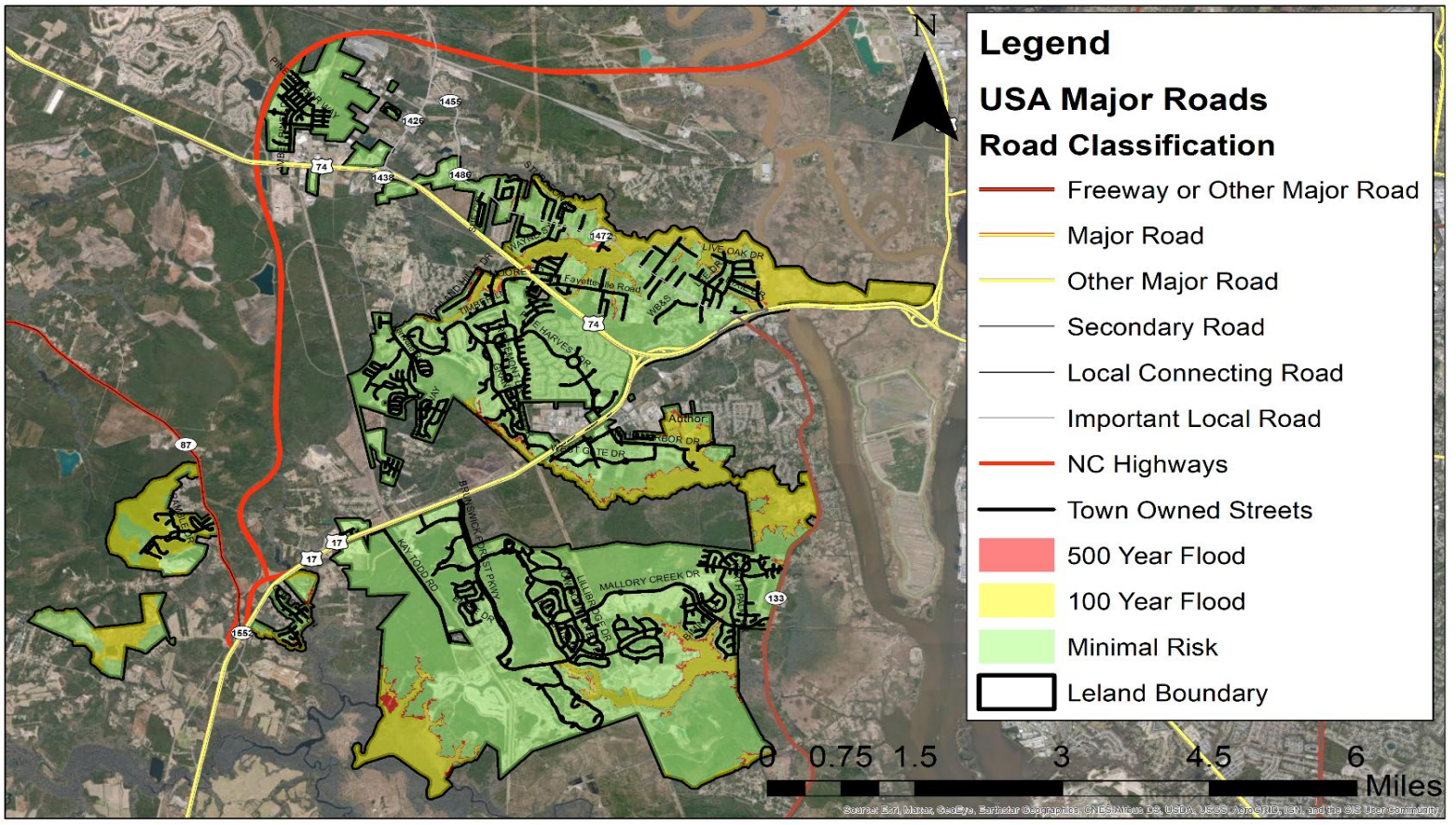
Project Name	Improving Resilience to Critical Transportation Routes
Project Description	The Town of Leland will work with partners incluidng NC Department of Transportation, NC Emergency Management and others to identify critical transportation routes in which the residents can use in such events as an evacuation. The Town's Emergency Management Department encourages residents to use Hwy 74/76 West to Charlotte or I-95 during times of mandatory evacuation. Road closures and flooding of critical transportation routes within the Town has severly affected the movement of vital goods and services which effects emergency response and the local economy. The Town will work with partners to evaluate improvements to design standard updates as well as opportunities to strategically implement natural infrastructure, buyouts of flood-prone properties and evaluate current ordinances for floodplain management.
Hazard(s) addressed by project	Flooding/Intense Precipitation during Storm Events
Type of Solution	Natural Infrastructure/Floodplain Buyout/Improve Floodplain Ordinances
Project Estimated Cost	To be Determined
Potential Implementation Funding Sources	Federal/State/Local
Projected Estimated Timeline	Mulitple Year Study
Priority Rating	Short-term
Project Map	



Project Name	Evaluation of Stoney Creek Watershed for Flood Abatement Capacity
Project Description	The Town of Leland's residential developments, Stoney Creek Plantation and Snee Farm, experiened damaging flooding due to Stoney Creek overtopping its banks during Hurricane Florence. The Town of Leland will work with partners to evaluate water storage and extent of flood risk reduction mitigation opportunities through strategically expanding natural infrastructure within the Stoney Creek Watershed.
Hazard(s) addressed by project	Flooding
Type of Solution	Nature-based infrastructure/gray infrastructure/FEMA buy-out
Project Estimated Cost	Feasibility Study and Hydraulic Modeling Analysis/$300,000
Potential Implementation	
Funding Sources	Federal/State/Local
Projected Estimated Timeline	2 years and is dependent on availability of water surface data
Priority Rating	High
Project Map	

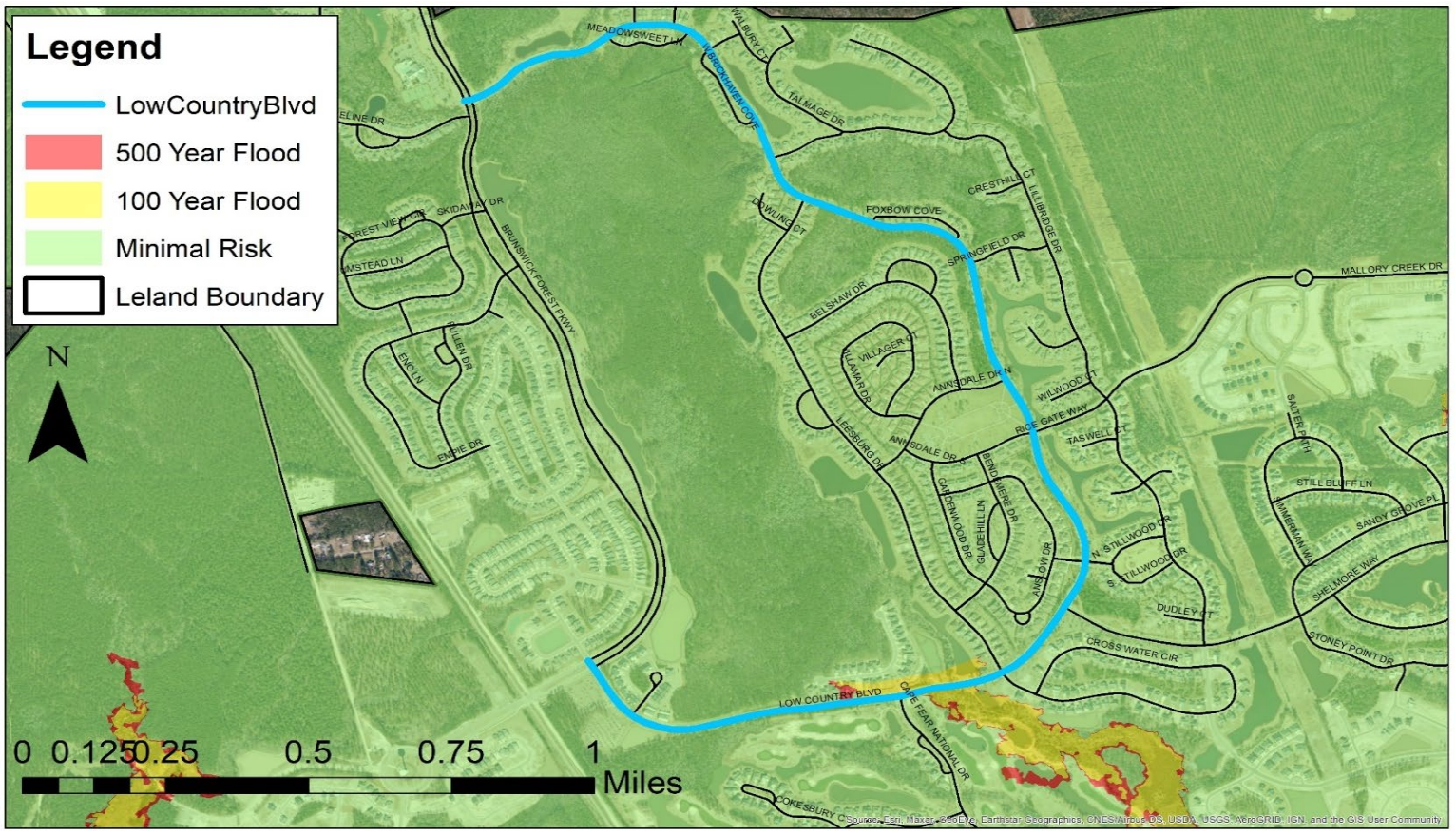


Project Name	Emergency Fuel Preparedness
Project Description	The Town of Leland will accquire emergency fuel supplies and plans/transportation mechanisms in place to store and distribute supplies in natural disaster situations. The Town will seek storage outside of floodplain utilizing recent and available data to evaluate flood risk. Brunswick County has funded a portion of this project and should start construction of an improvement to pump and storage capacity at the fuel site on Trade Street. This is considered a short-term solution to this project. However, as the Town continues to grow, a future assessment of town-owned option would be conducted.
Hazard(s) addressed by project	Storm Surge and Flooding from Hurricanes/ major storm events
Type of Solution	Emergency Prepardeness
Project Estimated Cost	To be Determined
Potential Implementation Funding Sources	State/local
Projected Estimated Timeline	Long-term
Priority Rating	Intermediate
Project Map	

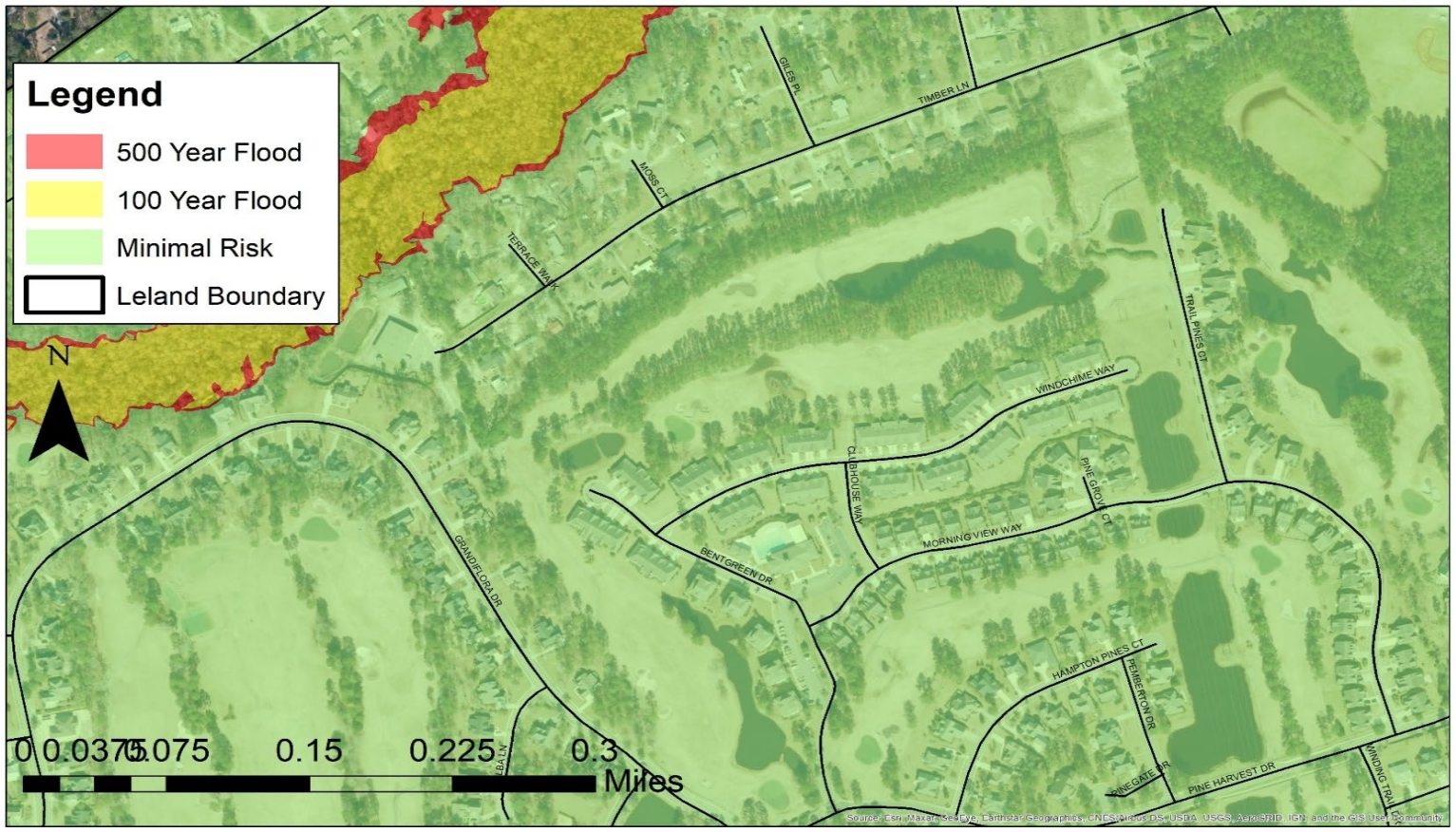


Project Name	Low Country Blvd. Culvert Enhancements
Project Description	The Town will continue to monitor the culverts under Low Country Boulevard for flood mitigation purposes and compare to new floodplain maps as they are released.
Hazard(s) addressed by project	Flooding
Type of Solution	Gray Infrastructure
Project Estimated Cost	To be Determined
Potential Implementation Funding Sources	State/local
Projected Estimated Timeline	Long-term
Priority Rating	Low

Project Map



Project Name	Magnolia Greens Stormwater Solutions
Project Description	The Town will continue to monitor Magnolia Greens Subdivision for flood mitigation of the existing stormwater pond and low-lying road.
Hazard(s) addressed by project	Flooding
Type of Solution	Nature-based solution/Gray Infrastructure
Project Estimated Cost	To be Determined
Potential Implementation Funding Sources	State/local
Projected Estimated Timeline	Long-term
Priority Rating	Low
Project Map	



Project Name	Mallory Creek Dr. Drainage Plan
Project Description	The Town of Leland will continue to monitor Mallory Creek Drive for flooding during future storm events. Monitoring of this area will determine needs for future retrofits.
Hazard(s) addressed by project	Flooding
Type of Solution	Gray infrastructure
Project Estimated Cost	Staff time for monitoring
Potential Implementation Funding Sources	Local
Projected Estimated Timeline	Long-term
Priority Rating	Low
Project Map	

Project Name	Lanvale Trace Stormwater Wetland
Project Description	The Town will continue to monitor Lanvale Trace for flood mitigation purposes.
Hazard(s) addressed by project	Flooding
Type of Solution	Nature-based solution
Project Estimated Cost	To be Determined
Potential Implementation Funding Sources	State/local
Projected Estimated Timeline	Long-term
Priority Rating	Low
Project Map	

Project Name	Stream Crossing and Barrier Assessment to Improve Flood Risk and Fish Passage
Project Description	The Southeast Aquatic Resources Partnership (SARP) aims to conduct barrier assessments within the Town of Navassa's water bodies to identify areas of restricted flow or culverts or other structures in poor condition.
Hazard(s) addressed by project	Flooding
Type of Solution	Nature-based
Project Estimated Cost	Assessment is being conducted by SARP. Future design/engineering of barriers can range between $250,000 - $500,000.
Potential Implementation Funding Sources	federal/state/local
Projected Estimated Timeline	Long-term
Priority Rating	High

Project Map