

# Town of Navassa Environmental Plan 2010-2015



Town of Navassa  
Brunswick County, North Carolina  
Adopted on August 19, 2010

# Town of Navassa

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Antonio Burgess  
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## **Environmental and Stormwater**

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Dorsey Jones Jr., Vice Chair  
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## **Town Administrator**

Claudia Bray

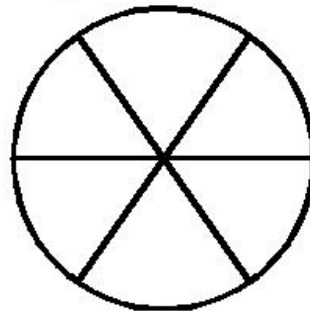
## **Town Clerk**

Charlena Alston

## **Town Planner**

Travis Barnes, MPA, LEED AP

**People Working**



**For People**

## Table of Contents

Executive Summary.....	4
Navassa Core Environmental Commitments: .....	4
Introduction .....	5
Responsibilities of Navassa Personnel.....	6
Municipal Facilities, Operations, and Maintenance .....	6
Energy Conservation .....	7
Energy Performance Indicators .....	8
Energy Reduction - Supply Side (utility side of meter) .....	8
Energy Reduction - Demand Side (owner side of meter) .....	9
Water Conservation.....	9
Municipal Green Building Policy .....	11
Municipal Fleet Vehicle Management.....	11
Municipal Waste Reduction and Good Housekeeping .....	12
Land Conservation and Public Open Space.....	13
Environmental Education.....	14
Staff Training & Education .....	14
Public Education & Outreach .....	14
Appendix 1- Green Challenge Resolution .....	16
Appendix 2- Green Building Resolution .....	17
Appendix 3- Anti-Idling Policy for Fleet Vehicles .....	18

## Executive Summary

The Town of Navassa recognizes that environmental stewardship both now and in the future is fundamentally important to our quality of life and essential to maintaining a vibrant economy. Protecting our natural resources, promoting conservation, and supporting environmental initiatives enhance our town's mission to improve the quality of life for our citizens.

Navassa's history as an industrial hub, current economic conditions, and future development pressure present many challenges to maintaining a healthy environment. This plan is the town's endeavor to be the leader in our community for implementing environmentally friendly standards and programs that are designed to promote the use of best practices for ensuring that current and future generations have an abundance of natural resources and a clean, safe community that they can be proud of.

The foundation for this Environmental Plan is the Navassa Town Council's resolution to participate in the North Carolina League of Municipalities' Green Challenge, which created a need for a comprehensive plan to advance the town's environmental initiatives. During the development of this document the town reviewed previous planning documents, such as the town's CAMA Land Use Plan, and incorporated previously adopted policy statements, town resolutions, and municipal goals for promoting conservation into a single environmental plan. Navassa's Environmental Plan will act as a working document to help the town reduce its ecological footprint, save taxpayer's money through reduced operating and maintenance costs, and serve as an example for local citizens and businesses. From this planning process the following core environmental commitments were made.

### Navassa Core Environmental Commitments:

- *Promoting environmental best practices and protecting our natural resources: the air we breathe, the water we drink, and the natural ecosystems we cherish, including the tree canopy and local waterways;*
- *Recognizing important interrelationships among air quality, water resources, land preservation, and energy and resource conservation;*
- *Making sound land use decisions regarding our future growth and development. The town is aware that to sustain a high level of growth, we cannot jeopardize our existing community or future generations of citizens;*
- *Achieving our goals of becoming a leader in the successful stewardship of our environment by maintaining a cooperative and open agenda with Brunswick County, our regional neighbors, the business community, state and federal agencies (in particular the Environmental Protection Agency), and environmental organizations; and*
- *Leading by example and promoting sound, cost effective environmental and energy conservation practices in town operations.*

## Introduction

In February of 2010, the Navassa Town Council passed a resolution that the town would participate in the North Carolina League of Municipalities' Green Challenge, laying the foundation for the creation of this Environmental Plan. The Town Council's resolution can be found in **Appendix 1** for further review and a link to the NCLM Green Challenge website can be found at (<http://www.nclm.org/programs-services/Pages/Green-Challenge.aspx>). The NCLM Green Challenge was launched in order to help municipalities across North Carolina make strong commitments at the local level to preserve our state's natural resources, make smart decisions regarding the expenditure of public funds, and recognize the achievements and best practices of municipalities so that other cities and towns could learn from example. The Green Challenge is based on a point system in which certain environmental commitments are awarded points, and reaching a set score of points allows participating municipalities to achieve certain levels of recognition.

As the town began to participate in the Green Challenge there became a need to compile the town's existing environmental policies, adopted resolutions, and initiatives into a comprehensive Environmental Plan that enables better implementation across each of the town's departments. During the plan's development the town reviewed previous planning initiatives, such as the town's CAMA Land Use Plan and the Navassa Strategic Energy Plan, and incorporated previously adopted policy statements and municipal goals for promoting conservation into a single environmental plan. Navassa's Environmental Plan will act as a working document to help the town reduce its ecological footprint, save taxpayer's money through reduced operating and maintenance costs, and serve as an example for local citizens and businesses. The plan will also act as a mechanism for ensuring enhanced performance monitoring across all of the town's departments so that progress towards meeting the town's goals can be measured over time.

The Environmental Plan was developed by the Navassa Planning Department and the town's Environmental and Stormwater Advisory Committee in an effort by the town to take a proactive leadership role in modeling best practices for its citizens. The town recognizes that conscientious environmental stewardship and concern for the public interest requires more than meeting mandates and minimum standards. Environmental protection requires leadership that will balance the need for growth and economic development with the need to conserve existing natural resources. This document is intended to be a working document that will be updated every five years at minimum, with new goals and policies to be added on a continuous basis. The plan establishes benchmark performance indicators and a system for continuous data collection that will enable local elected officials, municipal employees, and the public to track the town's progress toward reducing energy and water consumption, while also establishing a framework for ongoing public education on a variety of environmental initiatives and town policies designed to protect our natural resources and public investments. Additionally, this document establishes a means of continuing environmental education for municipal employees and the public and encourages the cultivation of new ideas to improve the efficiency, waste reduction, and performance of daily town operations.

The plan is organized into multiple sections that address the key elements of energy conservation, water conservation, land conservation and open space, and public education and outreach. These key environmental issues will be addressed through implementation of best practices in the operation and maintenance of municipal facilities, the procurement of office supplies, the adoption of green building policies for future construction of public facilities, and a number of programs designed to help the local community become more knowledgeable of environmental issues.

## Responsibilities of Navassa Personnel

The Town of Navassa recognizes that energy and water consumption can be managed to the town's benefit. Energy and water management is a responsibility of the occupants at each facility, guided and supported by the Sustainability Manager and Public Works Director. The Town Planner has been designated as the acting Sustainability Manager and has the responsibility to help reduce overall consumption and cost for the town in partnership with the Public Works Director and all town employees. The Sustainability Manager shall be charged with updating the Environmental Plan every five years, at minimum. The Public Works Director will be responsible for ensuring that adequate data regarding the energy and water consumption of the town and its facilities is properly recorded and maintained in order to provide a means of tracking the town's progress towards meeting stated goals in the reduction of natural resources.

The Sustainability Manager and Public Works Director will review progress and results annually, and will support staff training in energy and water conservation at least once a year. Additional information regarding training opportunities for town staff is included in the Environmental Education section of this plan. Each employee shall be mindful of the role they play in helping the town achieve the goals of reduced natural resource consumption and shall make it a point to pursue common sense strategies for reducing the town's ecological footprint. Such common sense strategies include turning off lights when a room is not in use, turning off computers when not being used, turning off printers and fax machines when not in use, utilizing town recycling facilities, maintaining a consistently controlled office climate within the approved temperature ranges, reporting water leaks, and searching for new methods of improving the town's efficiency at providing municipal services to the public.

## Municipal Facilities, Operations, and Maintenance

The policies in this section of the Environmental Plan are intended to direct the town to design, construct, and operate sustainable public facilities which meet the functionality and service delivery needs of the citizens of Navassa while minimizing environmental impacts and conserving resources.

The foundation for this policy is Town Council's resolution to participate in the North Carolina League of Municipalities' Green Challenge. In particular the Council's resolutions states, *"the town wants to demonstrate that conservation practices can be applied to the daily operations of municipal government and to infrastructure projects; and the town seeks to find methods of service delivery and operations that conserve energy and resources, thus saving taxpayer dollars and protecting and preserving the*

*environment.”* In order to adhere to these stated goals of the town and to the related Navassa Core Environmental Commitments this section will outline operating procedures and policies designed to educate the town’s staff on the benefits of energy and water conservation while also establishing performance measures that will allow for a continuous comparison of resource consumption from the established baseline of fiscal year 2008-2009.

## Energy Conservation

At the time of plan formation the Town of Navassa’s municipal complex is comprised of a 1,512 square foot Town Hall building, an unheated public works building, and a manufactured home that has been converted to a Police Department. For the past few years the town has been planning to construct a community multi-purpose facility that will be roughly 16,000 square feet. The town accounts for approximately 1,900 residents and spends just under \$3,800 per year on electricity, although this cost is expected to increase with the addition of the multi-purpose facility in the coming years. The Town of Navassa is dedicated to monitoring our energy usage so that progress on energy conservation can be measured over time.

The Town of Navassa believes that it is the responsibility of local government to save taxpayer’s money whenever possible and will therefore seek to utilize the most cost effective means of conserving energy while also seeking outside sources of funding for energy improvement projects. In the first half of 2010, the town applied for and received grant funding from the American Recovery and Reinvestment Act’s Energy Efficiency and Conservation Block Grants administered through the NC State Energy Office that will be utilized to implement energy saving projects. As part of this grant application the town utilized an energy consultant from Advanced Energy to conduct an energy audit of the Navassa Town Hall. The energy audit identified a number of potential energy saving ideas for the town to consider implementing, many of which will be funded by the energy efficiency grant. The town will make it a priority to continue to seek additional grant funding that will enable further resource conservation in municipal operations.

In January of 2010, the town utilized the energy consultant to create a Strategic Energy Plan that has subsequently been incorporated into this Environmental Plan. Navassa recognizes the importance of controlling its energy usage and has plans to implement energy savings measures and projects. The town has the goal of reducing energy consumption by 5% over the next five years as measured from the baseline of fiscal year 2008-2009. Navassa will achieve these energy savings from the following energy saving measures and projects:

- Monitoring and tracking utility bills and electric rate schedules
- Implementing energy policies and energy conservation guidelines
- Educating/training staff and the public
- Replacing indoor lighting with more energy efficient bulbs and fixtures
- Replacing HVAC systems to a more energy efficient model
- Replacing the Town Hall’s hot water heater to a more energy efficient model
- Establishing routine replacement of air filters in municipal buildings

## Energy Performance Indicators

In order for Navassa to be successful at reducing the town’s energy consumption it is important to monitor energy usage over time. To accomplish this goal, the town utilized the professional assistance of an energy consultant to develop key performance indicators designed to assist the town in monitoring its energy consumption. Below is a list of the key performance indicators for energy conservation and the baseline data from fiscal year 2008-2009.

Key Performance Indicator		Fiscal Year 08-09 (July 08 - June 09)
Energy per square foot per year	(kBtu/ft <sup>2</sup> /year)	81.7
Energy cost per square foot per year	(\$/ft <sup>2</sup> /year)	\$2.37
Energy per occupant per year	(kBtu/occupant/year)	24,714
Energy cost per occupant per year	(\$/occupant/year)	\$715

## Energy Reduction - Supply Side (utility side of meter)

The Town of Navassa intends to work very closely with our supply side utilities, including Progress Energy for electricity, and plan to continue this relationship into the future in order to achieve the best rate available to the town. The town also plans to take advantage of the numerous Customer Assistance Programs offered by Progress Energy to help conserve energy. Below is an example of the supply side tactics table that will be used to describe specific strategies for managing utility rates and consumption.

Supply Side Tactics Table						
Past 12 months Activities (07/09 – 06/10)	Measurement	Savings	Cost	Jobs	Assigned to	Funding Source
	Actual	Actual				
Track utilities	1	-	-	2 hours per month	Sustainability Manager	Salary
Optimize electric rate schedule annually	1	-	-	4 hours per year	Sustainability Manager and Progress Energy	Salary
Next 12 months Activities (07/10 – 06/11)	Measurement	Savings	Cost	Jobs	Assigned to	Funding Source
	Expected	Expected				
Continue tracking utilities	1	-	-	2 hours per month	Sustainability Manager	Salary
Continuing optimize electric rate schedule annually	1	-	-	4 hours per year	Sustainability Manager and Progress Energy	Salary

## Energy Reduction - Demand Side (owner side of meter)

The Town of Navassa recognizes that there are a number of easily implemented policies and programs that can be administered to reduce energy consumption. As a part of the Environmental Plan, the town is pursuing practices for reducing energy consumption that will yield the most reductions in energy consumption for the least cost to the tax payers. A brief list of these practices is provided below:

1. During cooling season, thermostat controls will be set at 75 degrees.
2. Setbacks will be employed in the air conditioning system upon leaving for the end of the day.
3. During heating season, thermostats will be set at 70 degrees.
4. The heating system will be switched to the night time setting (55 – 60 degrees) at the end of each working day.
5. Use of electric space heaters is strongly discouraged due to the increased fire hazard and the inefficient energy consumption of these appliances.
6. HVAC vents and thermostats will not be blocked with furniture, equipment, books, etc.
7. Turn off lights, computer processors, monitors, printers, copy machines, laminating machines, etc. at the end of the day.

## Water Conservation

The Town of Navassa's municipal buildings do not currently have water bills and therefore water usage has not historically been monitored, but in the future there are plans to track water usage in order to reduce overall consumption. The town recognizes that in order to start a successful water conservation program in the community it must first start with the town's own municipal facilities. In April of 2010, the town held a rain garden planting day in which a rain barrel was installed at the Town Hall as a means of promoting water conservation and stormwater management. The rain barrel was donated by the Brunswick Soil and Water Conservation District and serves as an educational demonstration project. The rain barrel works by collecting rain water from the roof of the town hall which is then used to water the town hall park and garden. A second rain garden will be installed in the fall of 2010 in partnership with Lowe's Home Improvement Store, who will be donating the additional rain barrel and landscaping supplies needed for the second rain garden. The town will continue to strive to partner with like-minded civic organizations, community groups, and local businesses in order to promote the town's environmental initiatives and water conservation program.

Navassa will also start utilizing water loss calculator software in order to create monthly water loss reports so that water consumption rates can be gathered over time. The Town of Navassa intends to continue to find ways of reducing the water consumption of public facilities with the goal of reducing water consumption by 5% over the next five years as measured from the baseline of fiscal year 2009-2010. Navassa can achieve these water savings from the following water conservation measures and projects:

- Monitoring and tracking water flow rates and identifying other key performance indicators

- Implementing water system maintenance procedures
- Improving hydrant flushing procedures to reduce unnecessary water loss
- Improve water quality testing procedures to reduce water loss
- Educating/training staff and the public
- Establish a citizen hotline so that water leaks can be quickly reported, repaired, and recorded
- Replacing plumbing fixtures with low flow fixtures where appropriate
- Installing rain barrels and other water conservation features to promote water conservation
- Monitoring fleet vehicle washing to ensure water conservation

In addition to these specific water conservation measures, the town intends to work closely with Brunswick County, regional utility providers, and the North Carolina Rural Water Association in order to identify sources of inflow and infiltration into the town’s municipal utility system. Stormwater runoff and ground water that finds its way into the municipal utility system is processed at the Brunswick County wastewater treatment plant along with legitimate wastewater from buildings and households throughout Navassa. This excess water entering the town’s municipal utility system causes undue energy consumption to be expended on treating the water, which also adds an undue financial burden on the town and its citizens. By identifying and correcting problems that lead to inflow and infiltration the town can save taxpayer’s money.

Navassa has already begun identifying sources of inflow and infiltration and in May of 2010, the town’s Public Works Department started to inspect sewer manholes in order to work towards correcting existing problems. The Public Works Department also intends to work with the North Carolina Rural Water Association to perform smoke tests of the town’s municipal utility system in order to further identify sources of stormwater inflow and correct all problems identified. This Environmental Plan will provide a means for the town to continue to document our efforts, record progress, and monitor success over time. An example of a table that will be utilized to record the town’s efforts is found below.

<b>Water Tactics Table</b>						
<b>Past 12 months Activities (07/09 – 06/10)</b>	<b>Measurement</b>	<b>Savings</b>	<b>Cost</b>	<b>Jobs</b>	<b>Assigned to</b>	<b>Funding Source</b>
	<b>Actual</b>	<b>Actual</b>				
Monitor water usage/check for leaks	(gallons)	(gallons)	Unknown	TBD	Public Works Director	Salary
Attended NC Rural Water Association meeting on water reduction	TBD	TBD	TBD	TBD	Public Works Director	Salary
<b>Next 12 months Activities (07/10 – 06/11)</b>	<b>Measurement</b>	<b>Savings</b>	<b>Cost</b>	<b>Jobs</b>	<b>Assigned to</b>	<b>Funding Source</b>
	<b>Expected</b>	<b>Expected</b>				
Monitor water usage/check for leaks	(gallons)	TBD	Unknown	TBD	Public Works Director	Salary
Look into Implementation of Water Conservation Policy	Gallons	TBD	TBD	TBD	Public Works Director	Salary

## Municipal Green Building Policy

Numerous municipalities across the United States and abroad have started to realize the benefits of incorporating energy and resource-efficient principles into public works and facilities management. Green facilities save taxpayer money, support local economies, and help to reduce resource consumption. Utilizing proven green building technologies in municipal construction and facility operations provides numerous benefits related to natural resource conservation and increased public health. Green buildings provide improved indoor air quality that contributes to increased worker productivity, reduced absenteeism, and reduced health issues associated with sick buildings. Constructing a green building also enables the town to have a showcase facility that will serve as a concrete example of the town's desire to be a steward to the natural environment, while also saving taxpayer dollars in reduced operating costs associated with lower energy and water bills, reduced demand for facility maintenance and increased productivity of town staff.

The town acknowledges that sustainable building practices conserve energy, water, and other natural resources, promote health and create high quality enduring structures, and construction and operation and maintenance of buildings in accordance with the Leadership in Energy and Environmental Design (LEED) U.S. Green Building Council guidelines promotes these goals.

In order to ensure that future municipal buildings will be constructed to high environmental standards the Navassa Town Council adopted a resolution in June of 2010. The resolution is included in this document as **Appendix 2** and directs the Town Council to take the steps necessary to assure that all future town buildings over 3,000 square feet of heated space are to be designed and built in accordance with the standards and requirements of the Leadership in Energy and Environmental Design (LEED) Green Building Rating System so that at a minimum the "certified level" can be achieved as specified in the most current version of the LEED Green Building Rating System at the time of building design. The town's policy is to also design and construct such municipal facilities to be built to the highest LEED Certification appropriate above and beyond the certified level without requiring additional appropriations from the Town Council.

## Municipal Fleet Vehicle Management

As part of the development of the Navassa Environmental Plan and the town's participation in the NCLM Green Challenge, the town worked to identify policies and procedures that would be easy to implement while also providing environmental benefits to the community. One policy identified was the development of an anti-idling policy for fleet vehicles. Exhaust from vehicles is a substantial source of air pollution and greenhouse gases. Toxic air contaminants from vehicle exhaust has been proven by the Environmental Protection Agency to cause increased rates of respiratory ailments such as asthma, emphysema, allergies, and lung disease. Vehicle exhaust is also a substantial source of carbon monoxide, which has been identified as a greenhouse gas and contributor to global climate change. In an effort to decrease the amount of fuel consumed by the Town of Navassa's fleet of vehicles, the town has adopted a limitation on engine idling policy that will help reduce the amount of air pollution

generated by Navassa's vehicle fleet while also working towards saving taxpayer dollars in the form of lower fuel costs. A copy of the anti-idling policy is located in [Appendix 3](#) for further review.

Over the next five years the Navassa Town Council has also directed staff to search for grant funding sources to help the town continue to improve the environmental performance of our vehicle fleet by purchasing low emitting fuel-efficient vehicles for vehicle fleet replacement and by encouraging the use of emerging alternative fuels, such as biodiesel.

## **Municipal Waste Reduction and Good Housekeeping**

The Town of Navassa recognizes that a significant amount of waste is generated daily as part of the town's routine administrative functions and operations. The town also realizes that a number of small scale changes to the daily operations and housekeeping procedures of the town's staff can lead to significant environmental benefits. Navassa is dedicated to identifying cost effective means of reducing the amount of waste generated by office functions and to improve the town's procurement policy to include more sustainable products to be used to meet the town's needs.

In order to demonstrate the town's commitment to becoming more environmentally conscious and to reduce the amount of office waste generated, the town has started an office recycling program to be adhered to by municipal staff and visitors to local government facilities. The office recycling program was started informally in 2009, however by including it within this Environmental Plan the town is moving to formalize recycling into a required municipal policy. The office recycling program hereby mandates that all paper, plastic, aluminum cans, and cardboard generated by the town will be recycled at least biweekly by one of the town's employees.

At the time of the formation of this document the Town of Navassa does not yet have curbside recycling available to its citizens, although curbside recycling has been identified by concerned citizens as a major need within our community. Currently the town is waiting on Brunswick County to finalize negotiations to establish a countywide curbside recycling program, and the town looks forward to working with the county to provide this much needed service to our community.

Another policy that was developed as part of the Environmental Plan is the recycled office paper purchasing policy, which requires all standard sized office paper to contain a minimum of 30% post-consumer recycled content. By implementing this purchasing policy the town is doing its part to promote recycling and encourage the demand for recycled products in the marketplace, thereby reducing the consumption of raw natural resources. Over the next five years the town plans to develop a comprehensive Environmentally Preferred Purchasing Policy that would be implemented with the subsequent update of this plan if not sooner. The Environmentally Preferred Purchasing Policy would encourage employees to include environmental considerations in all of the town's procurement decisions which acts to reinforce the town's commitment to environmental stewardship. The town will continue to strive to find other means of ensuring that the town's procurement policy for office materials works to embody the town's Core Environmental Commitments to conserve natural resources, promote a clean environment, and to lead by example.

Routine housekeeping procedures such as washing fleet vehicles and performing janitorial services can also have an impact on the environment by contributing to stormwater pollution, increased erosion, and poor indoor air quality. Many common chemicals used in cleaning supplies contribute to diminished indoor air quality if used in inaccurate quantities or if mixed inappropriately. Similarly, the over application of pesticides or insecticides around municipal facilities can be harmful to the environment and public health. Such air quality concerns can contribute to decreased worker comfort and productivity due to the increased occurrence of allergies, headaches, and respiratory issues within the workplace. The town will strive to educate its staff regarding the proper use and storage of cleaning materials and pesticide application in order to minimize adverse impacts to the workplace and the environment.

The Town of Navassa will also work to ensure that stormwater pollution from the cleaning of fleet vehicles and fire and police department vehicles is minimized through the use of best practices and employee education. When vehicles are washed on concrete or other impervious surfaces the cleaning supplies drain directly into nearby gutter and ditch systems contributing to diminished water quality of adjacent streams and water bodies. The simple act of washing vehicles over a vegetated pervious surface and away from nearby gutters or ditches allows the wastewater and associated cleaning supplies to be filtered into the ground and cleaned through natural processes rather than draining directly to surface waters. Similarly, the town's Public Works Department will ensure that oil changes and other maintenance procedures performed by town employees will be properly performed so as to prevent adverse environmental impacts.

## Land Conservation and Public Open Space

The Town of Navassa is committed to conserving land for public open spaces and environmental protection. Public parks are a vital means of enhancing the quality of life of the citizens of Navassa, while also helping to promote an active and healthy lifestyle. The town currently has two municipal parks including: Davis Creek Park that has a small watercraft and kayak launch and the Navassa Ball Park that has a baseball field, tennis court, and playground equipment. At the time of writing this Environmental Plan the Town of Navassa does not currently have a parks and recreation department, although this is under consideration due to the need to develop additional parks within the community and due to the upcoming construction of the Navassa Multipurpose and Community Center. Despite not having a formal parks and recreation department, the town's Public Works Department maintains the existing park facilities, and the town's Planning Department actively seeks to find ways of increasing the town's open space while also reviewing the development standards in order to ensure the adequate provision of public open space associated with new developments.

In early 2010, the town began working with the North Carolina Coastal Land Trust in order to establish a long-term lease on property owned by the Dupont Corporation. The Coastal Land Trust administers a permanent conservation easement on the property; however an agreement has been reached between the property owner and the town in order to develop a public park to be equipped with walking trails, a softball field, picnic areas, and playground equipment. The Navassa Planning Department has also been

in negotiations with a developer of an adjacent piece of property in order to provide for a multi-use trail that will connect to the public park and provide increased bicycle and pedestrian connectivity to another park to be developed in conjunction with the commercial and residential planned unit development. Additionally, the town is working with another private developer of a 900 acre planned unit development to ensure that all of the land within the 100 year flood plain located on the property will be preserved under a permanent conservation easement. These public/private partnerships involving the conservation of land reflect the town's core environmental commitment to:

*"Make sound land use decisions regarding our future growth and development. The town is aware that to sustain a high level of growth, we cannot jeopardize our existing community or future generations of citizens is an essential way to provide public open space while also protecting Navassa's coastal waterways and environment from degradation caused by future development."*

## **Environmental Education**

An important part of protecting the environment is educating people about the advantages that environmental stewardship provides them and the negative impacts that environmental degradation has on natural resources, the local economy, and other aspects of their lives. In order for the Town of Navassa to be a leader in promoting environmental stewardship the town must work to educate its staff and engage the citizens of Navassa with relevant environmental education.

## **Staff Training & Education**

In accordance with the Navassa core environmental commitment to promote best practices, the town will conduct staff training at least twice a year. Each staff member will be given a copy of this environmental plan to review and all new positions will be given a copy of the plan along with the Navassa Personnel Policy and Employee Handbook. The Sustainability Manager and Public Works Director will review progress towards meeting stated goals annually, and will support staff training in energy and water conservation at least once a year. The results and progress of the town's environmental initiatives will be shared with the staff and training will be provided in order to communicate additional ways for the town to reduce resource consumption and improve environmental stewardship. Additional topics of environmental education may include stormwater mitigation, illicit-discharge detection and elimination, good housekeeping procedures, recycling, and any other environmental initiatives or policies implemented by the town. It shall be the responsibility of each town employee to attend and participate in training opportunities designed to increase their knowledge regarding the town's environmental initiatives. As the town's environmental programs continue to grow, along with the number of personnel, training should become more frequent overtime.

## **Public Education & Outreach**

Educating the citizens of Navassa about the town's environmental initiatives is as equally important as educating the town's staff. It is essential that the citizens of Navassa understand the town's goal to become a better steward of the environment and appreciate the numerous benefits the town's

environmental initiatives provide to the local community. In September of 2009 the town formed the Environmental and Stormwater Advisory Committee in an effort to get the public more involved in the town's participation in the NCLM Green Challenge, in the development of the town's stormwater regulations, and in the development of this Navassa Environmental Plan. The committee has been active in recommending many of the policies found within this plan, in addition to volunteering to participate in environmental education events, such as the town's rain garden planting. The town will continue to rely on this committee for future policy recommendations, environmental event planning, and implementation of other environmental programs.

In addition to utilizing the Environmental and Stormwater Advisory Committee to encourage participation from the public, the town can use the following ways to perform environmental outreach education and outreach:

- Educational inserts in utility bills
- Environmental pages on the town website
- Educational pamphlets at the town hall and municipal buildings
- Educational articles in the town's newsletter
- Having an environmental display or handouts at local events
- Hosting environmental events such as Earth Day or Arbor Day
- Utilizing the town's automated message system to convey important environmental information
- Partnering with neighboring municipalities, environmental organizations, local businesses, and state and federal agencies in environmental education initiatives.

It will be the town's goal to incorporate environmental education regarding the town's stormwater regulations and environmental initiatives into annual events, such as the Navassa Homecoming Parade and the Fall Festival, both of which are heavily attended by the public. In October of 2009, over seventy-five stormwater education pamphlets were included in the trick or treat bags of children attending the annual Fall Festival. Events like this offer a great means of reaching Navassa citizens of all ages.

Another key way for the town to reach the public is by placing educational materials and updates on the town's website. In June of 2010, the Navassa Planning Department created a new "Environmental Initiatives" webpage on the town's website that describes the town's participation in the NCLM Green Challenge, the town's Green Building Policy, and the town's participation in the Environmental Protection Agency's Energy Star Challenge. The town also has a webpage dedicated to stormwater education. The town realizes the importance of keeping up to date information and educational resources on its website so that the public can stay informed on the town's environmental initiatives and have access to educational material that can help them become better environmental stewards.

# Appendix 1- Green Challenge Resolution

R-2010-02

## TOWN COUNCIL OF NAVASSA

### RESOLUTION INDICATING THAT THE TOWN OF NAVASSA WILL PARTICIPATE IN THE NORTH CAROLINA LEAGUE OF MUNICIPALITIES' GREEN CHALLENGE PROGRAM

The Town Council moved that the following resolution be adopted:

**WHEREAS**, the Town of Navassa formed an Environmental and Stormwater Advisory Committee in 2009, to help implement environmental programs within the Town;

**WHEREAS**, the Navassa Environmental and Stormwater Advisory Committee recommended that the Town participate in the North Carolina League of Municipalities' Green Challenge;

**WHEREAS**, the Town desires to become more sustainable by pursuing measures designed to conserve natural resources, emphasize the benefits of energy conservation, protect natural habitats and open space, promote environmental stewardship, and help educate the public about environmental issues;

**WHEREAS**, the Town wants to demonstrate that conservation practices can be applied to the daily operations of municipal government and to infrastructure projects;

**WHEREAS**, the Town seeks to find methods of service delivery and operations that conserve energy and resources, thus saving taxpayer dollars and protecting and preserving the environment;

**WHEREAS**, the Town recognizes that sound conservation practices can reduce government costs over the long-term;

**WHEREAS**, the Town desires to participate in the North Carolina League of Municipalities' Green Challenge in order to lead by example and demonstrate the practicality and effectiveness of conservation practices;

**NOW, THEREFORE, BE IT RESOLVED BY THE COUNCIL OF THE TOWN OF NAVASSA, NC** that the Town hereby adopts this resolution indicating that Navassa will participate in the North Carolina League of Municipalities' Green Challenge and pledges to work toward achieving the various levels of the challenge, indicating measures accomplished to save energy and other natural resources over the next three years.

Adopted this 18 day of February, 2010



Eulis A. Willis, Mayor

Attest:   
Charlena Alston, Town Clerk



Seal

## Appendix 2- Green Building Resolution

R-2010-15

### TOWN COUNCIL OF NAVASSA

#### RESOLUTION THAT ALL NEW TOWN OF NAVASSA MUNICIPAL BUILDINGS OVER 3,000 SQUARE FEET BE LEED CERTIFIED

The Town Council moved that the following resolution be adopted:

**WHEREAS**, the Town desires to become more sustainable by pursuing measures designed to conserve natural resources, emphasize the benefits of energy conservation, protect natural habitats and open space, promote environmental stewardship, and help educate the public about environmental issues;

**WHEREAS**, the Town wants to demonstrate that conservation practices can be applied to the daily operations of municipal government and to infrastructure projects;

**WHEREAS**, the Town seeks to find methods of service delivery and operations that conserve energy and resources, thus saving taxpayer dollars and protecting and preserving the environment;

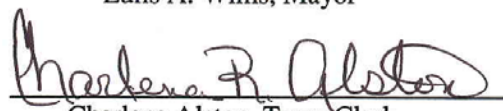
**WHEREAS**, the Town recognizes that sound conservation practices can reduce government costs over the long-term;

**WHEREAS**, sustainable building practices conserve energy, water, and other natural resources, promote health and safety and create high quality enduring structures, and construction and operation and maintenance of buildings in accordance with the Leadership in Energy and Environmental Design (LEED) U.S. Green Building Council guidelines promotes these goals;

**NOW, THEREFORE, BE IT RESOLVED BY THE COUNCIL OF THE TOWN OF NAVASSA, NC** that the Town Council hereby directs the Town Administrator to take the steps necessary to assure that all future Town Buildings over 3,000 heated square feet, for which design work has not already been completed, are to be designed and built in accordance with the standards and requirements of the Leadership in Energy and Environmental Design (LEED) Green Building Rating System, Certified Level, as specified in the "LEED Green Building Rating System, version current at the time of design and that such Town Buildings be built to the highest LEED Certification appropriate above and beyond the Certified level without requiring additional appropriations from Council.

Adopted this 17<sup>th</sup> day of June, 2010

  
\_\_\_\_\_  
Eulis A. Willis, Mayor

Attest:   
\_\_\_\_\_  
Charlena Alston, Town Clerk



Seal

## Appendix 3- Anti-Idling Policy for Fleet Vehicles

### TOWN OF NAVASSA

#### LIMITATION ON ENGINE IDLING POLICY

##### SEC. 1. FINDINGS AND PURPOSE

The Town of Navassa Public Works Department finds that:

Air pollution is a major health concern in many metropolitan areas of the United States. These air pollution problems are caused in large part by emissions from automobiles and trucks. Air pollution can cause or aggravate lung illnesses such as acute respiratory infections, asthma, chronic bronchitis, emphysema and lung cancer. In addition, diesel emissions have been identified as an issue that disproportionately affects low-income urban neighborhoods. Evidence suggests that diesel exhaust, particularly particulates, contributes to this urban health problem.

Exhaust from vehicles (both on- and off-road) is a substantial source of carbon monoxide, toxic air contaminants and greenhouse gases.

A study of idling exhaust emissions conducted by the U.S. Environmental Protection Agency (EPA420-R-02-025, October 2002) indicates that the typical 1980s – 2001 model year truck operating on diesel fuel emits 144 grams per hour of nitrogen oxide and 8224 grams per hour of carbon dioxide emissions and consumes 0.82 gallons of fuel per hour while idling.

Turning off and starting an engine uses less fuel than letting the engine run for thirty seconds.

Modern vehicles need a maximum of 30 seconds of idle at start up. The best way to warm up a vehicle is by driving it.

Engine wear is greater at prolonged idle than during normal operation.

The Town of Navassa can play an important role in improving air quality and reducing the consumption of petroleum products by limiting the amount of time vehicle engines are allowed to idle within its jurisdiction.

Under this Policy, a Limitation on Engine Idling is established by the Town of Navassa to discourage the idling of local government vehicle engines.

##### SEC. 2. DEFINITIONS

“Driver” means any person who drives, operates, or is in actual physical control of a vehicle.

“Emergency” means a sudden, urgent, usually unforeseen, occurrence.

“Equipment Operator” means any person who is in actual physical control of a piece of off-road equipment.

“Gross Vehicle Weight Rating” means the weight specified by the manufacturer as the loaded weight of a single vehicle.

“Heavy-Duty Vehicle” means any on-road motor vehicle with a manufacturer’s gross vehicle weight rating greater than 14,000 pounds.

“Idling” means the engine is running while the vehicle is stationary or the piece of off-road equipment is not performing work.

“Medium-Duty Vehicle” means any on-road motor vehicle with a manufacturer’s gross vehicle weight rating of 6,001 – 14,000 pounds.

“Official Traffic Control Device” means any sign, signal, marking or device placed or erected by authority of a public body or official having jurisdiction, for the purpose of regulating, warning or guiding traffic, but does not include islands, curbs, traffic barriers, speed humps, or other roadway design features.

“Off-Road Equipment” means all non-road equipment with a horsepower rating of 50 or more.

“Vehicle” means any on-road, self-propelled vehicle that is required to be registered and have a license plate by the Department of Motor Vehicles.

### SEC. 3. APPLICABILITY

There is hereby established a policy to be known as the Limitation on Engine Idling Policy that applies to the operation of all Town of Navassa vehicles regardless of gross vehicle weight rating, all heavy-duty vehicles regardless of fuel being used, all off-road diesel-powered equipment regardless of horsepower rating and all off-road equipment regardless of fuel being used, except as provided in Section 5.

### SEC. 4. IDLING LIMITATION

A driver of a vehicle:

must turn off the engine upon stopping at a destination; and

must not cause or allow and engine to idle more at any location for:

more than 30 consecutive seconds; or

a period or periods aggregating more than five minutes in any one-hour period.

An equipment operator of an off-road piece of equipment not identified in (1) above must not cause or allow an off-road piece of equipment to idle at any location for:

more than 30 consecutive seconds; or

a period or periods aggregating more than five minutes in any one-hour period.

The Town of Navassa will ensure that vehicle drivers and equipment drivers, upon employment and at least once per year thereafter, are informed of the requirements of this Policy.

#### SEC. 5. EXEMPTIONS

This Policy does not apply to a vehicle or piece of equipment for the period or periods during which:

Idling is necessary while stopped:

for an official traffic control device;

for an official traffic control signal;

for traffic conditions over which a driver has no control, including, but not limited to: stopped in a line of traffic, stopped at a railroad crossing or stopped at a construction zone; or

at the direction of a policeman or other official traffic controller.

Idling is necessary for testing, maintenance, repair or diagnostic purposes;

Idling is necessary to ascertain that the vehicle and/or off-road piece of equipment is in safe operating condition and is equipped as required by all provisions of law and established safety policies;

The vehicle is not expected to restart due to mechanical or electrical problems;

Idling the engine is required to power auxiliary equipment other than a heater or air conditioner, e.g. hoist, lift, computers, safety lighting, air compressor;

Idling is necessary to operate defrosters, heaters, air conditioners or other equipment to prevent a safety or health emergency, but not solely for the comfort of the driver or passengers;

Idling is necessary to cool down a turbo-charged heavy duty vehicle in accordance with the manufacturer's recommendation.

Idling is necessary for fire apparatus operations at a scene of an emergency or other public assistance incident. Fire apparatus operations will be directed by fire department operation policy;

Idling is necessary for Police vehicles during traffic stops, accidents, or other emergency situations in order to operate emergency lighting and other police equipment,