

WATER RESOURCES ELEMENT

INTRODUCTION

North Beach lies within Calvert County, a peninsula in southern Maryland, along the Chesapeake Bay. Anne Arundel County shares a northern boundary with the Town, while Chesapeake Beach is the Town's southern boundary and Calvert County the western boundary. The beautiful Chesapeake Bay that provides the town and tourists with recreational opportunities is the eastern town boundary.

North Beach is in the West Chesapeake Beach Bay drainage basin. The Aquia aquifer is the main source of potable water for the Town, which is treated at two well sites to serve its residents. Based on the semi-annual ground water withdrawal reports, the Town pumps an average of 133,000 gallons per day, with no appreciable increases during the summer months. The potable water supply is provided by two eight inch wells that safely yield approximately 400,000 gallons per day each from the aquifer. Well # 1 is located at Public Work's Property at 11th and Dayton Avenue and Well # 2 is located at 8th and Greenwood Avenue. The elevated steel storage tank at 11th Avenue and Dayton Avenue has a storage capacity of 250,000 gallons. The Town water system has adequate pressure for potable use and fire protection. Fire hydrants are located throughout the Town system and each customer's water supply is metered. The existing water distribution system for North Beach is physically interconnected to the water system of Chesapeake beach by way of a manually operated valve for use in emergencies.

The Town sewerage treatment is provided by the Chesapeake Treatment Plant in Chesapeake Beach. Calvert and Anne Arundel counties and the towns of North Beach and Chesapeake beach entered into a four party inter-jurisdictional agreement, which governs cost sharing and the number of taps that can be allocated to each jurisdiction. As of May 2008, the treatment plant served approximately 8,900 people and had a current design capacity of 1.18 million gallons a day. Although the treatment plant is currently being updated, the allocation of taps for North Beach will remain as stated in the inter-jurisdictional agreement as amended and restated in May of 1990, which is 1251 Taps. Some of these taps have been already allotted to projects since that time. The Water Resources Analysis will indicate approximately how many taps are available in early 2009 and the projections of needed taps based on projected housing units to be constructed during the planning period.

The Town follows their adopted Storm Water Management Ordinance; however, there are a number of properties within the town where improvements were constructed many years before adoption of this ordinance. Therefore, there were some citizens who completed the Comprehensive Plan public survey that was conducted in the Fall of 2008 that indicated that they had problems with water flooding parts of their yards. There are some goals and policies that follow that help to address localized ponding and improve quality of runoff.

The Water Resources Mandate of House Bill 1141

Due to water quality concerns and shell fish decline in the Chesapeake Bay, House Bill 1131 was approved by the Maryland Legislature and signed By the Governor in 2006 which resulted in a mandate to provide a Water Resources Element in all future Comprehensive Plans. The purpose of this element is to analyze long-term water needs and supplies for the land uses in North Beach, to analyze the sewerage and Stormwater generated in the community, and to provide goals, policies, and strategies for conservation, pollution reduction, and water quality degradation in the Town

during the planning period. Efforts to make North Beach a more sustainable community will require participation from the public and private sector with assistance from the citizens in the community.

Current Statistics and Future Projections

The Town of North Beach is currently home to 1,880 residents and 803 households, which are projected to grow to a population of 2,295 residents and 981 households by 2030.

Future growth will result from infill development or redevelopment all within the current municipal boundaries. Opportunities for annexation are severally limited resulting from limitations imposed by existing adjacent development.

The southern boundary is shared by the incorporated Town of Chesapeake Beach. The eastern boundary is the Chesapeake Bay. The northern boundary is Anne Arundel County and the western boundary is existing developed land in Calvert County that is currently served by a public water and sewer system.

Table 1 below provides the 2030 population and household figures.

Table 1 – Population and Household Projections for 2030

	Population		Households		Population Change	Household Change
	2000	2030	2000	2030		
North Beach	1,880	2,295	803	981	415	178

Drinking Water Supply Assessment

The residents of Chesapeake Beach receive their drinking water from two (2) 8-inch wells supplied by groundwater in the Aquia aquifer. Each well is capable of pumping 300 gallons per minute (GPM) or 400,000 gallons per day (GPD) via 30 horsepower submersible pumps which alternate use providing pressure of 70 psi. Raw water is treated at each well site with liquid hypochlorite for disinfection and a sequestering agent for iron removal. A 5,000-gallon chlorine tank provides contact time for disinfection to occur prior to distribution to customers. The existing state groundwater appropriation permit limits withdrawal to an average daily flow of 185,000 GPD and 300,000 GPD during the month of maximum use.

The Aquia aquifer, from which North Beach obtains its' water supply, provides an adequate quantity and quality of drinking water to meet the needs of the residents. According to the Maryland Geological Survey, Southern Water Supply Report updated in 2005, the projected water demand in Calvert and St. Mary's Counties through 2030 could be met by increased pumpage in the Aquia aquifer (without shifting withdrawals to deeper aquifers) without reducing water levels below the 80-percent management level. The raw water is calcium carbonate type with pH levels from 7.3 – 8.0 and iron concentration from 0.15 to 4.5 mg/l. Withdrawals from the Aquia aquifer are projected to increase to 8.2 Mgal/day over the planning period. While arsenic is not an immediate problem for

Box WR-1

The Purpose of the Water Resource Element (WRE) is to ensure that future municipal comprehensive plans take into account the opportunities and limitations presented by local and regional water resources. The WRE planning process will assist local governments in protecting public health, safety, and welfare; in meeting State Smart Growth policies; and in protecting Maryland's land and water resources.

North Beach, elevated arsenic levels may be problematic in the future. Should arsenic levels exceed the maximum contaminate level of 10ppm, new wells may be needed drawing from the deeper Patapsco aquifer.

The Town's potable water storage is provided by one (1) 250,000 gallon elevated water storage tank located at Eleventh Street and Dayton Avenue. The elevation of the tank overflow provides adequate pressure and volume throughout the distribution system for domestic and fire suppression needs. The Town's water distribution piping consists of pipe ranging in size from 4-inches to 12-inches with fire hydrants spaced strategically throughout the public street system.

According to the Town's water production records, the average daily water use for the Town is 133,000 GPD or 70 gallons per capita per day. The maximum daily demand is 171,000 GPD. The average day drought demand (average day of 133,000 GPD + 10%) is 146,500 GPD. By subtracting this value from the 185,000 GPD allowed by the existing groundwater appropriation permit, an excess average daily capacity of 38,500 GPD exists in the system or approximately 192 taps using 200 GPD/EDU (historical use is 165 GPD/EDU). With the ability of the well field to pump and treat 400,000 GPD, which is in excess of the permit limit of 300,000 GPD in the month of maximum use, the limiting factor in providing water supply is the average day permit limit of 185,000 GPD currently imposed by the State.

The projected population as indicted in Table 1 is 2,295 persons. The projected average day demand based on the historical usage of 70 GPDC is 160,650 GPD. Adding 10% for drought conditions the average day flow is projected to be 176,715 GPD, which remains less than the current permitted allocation of 185,000 GPD.

Using the State of Maryland's conservative estimate of 250 GPD/dwelling, the projected 2030 increase in households of 178 dwellings, the increase in average day use would be 44,500 GPD or 177,500 GPD total. Increasing this by 10% for drought conditions would yield an average day use of 195,250 GPD necessitating an increase in the permitted allocation by 10,250 GPD. This worse case scenario would therefore require the Town to seek and obtain an increase in the existing appropriation permit to 195,200 GPD by 2030.

The Town has indicated that projects in the development review pipeline reflect an increase in average daily use of 27,000 GPD to 40,000 GPD, which would remain within the available allocated average daily flow limitations.

Table 2 below provides the projected water demand for the year 2030.

Table 2 – Projected Water Service Demand for 2030

	Population		Households		Change		Wastewater Demand (MGD)	
	2000	2030	2000	2030	Population	Household	Current	Future
North Beach	1,880	2,295	803	981	415	178	0.133	0.160

The Town's existing water storage consists of one (1) 250,000 gallon elevated storage tank. Analyzing the sufficiency of the existing storage requires a judgment involving the quantity and duration of fire flow. Given the nature of development in town of residential, relatively small-scale

multi-family and commercial, and the ability of the existing 12-inch main to convey flow, a value of 1,500 GPM for two (2) hours was used. An analysis of the existing storage volume given the existing and 2030 projected population is provided below in Table 3. Although the analysis illustrates a slight deficiency in storage volume, the Town has the option of using water (and storage) provided by Chesapeake Beach through an emergency interconnection should it become necessary.

Table 3 – Water Storage Analysis

Year	POP	EDUs	Average Daily Demand (GPD)	Equalizing Storage (GAL)	Fire Flow (GAL)	Emergency Reserve (GAL)	Required Storage (GAL)	Existing Storage (GAL)	Surplus (Deficit) (GAL)
EXISTING 2000	1,800	803	133,000	34,600	180,000	71,500	286,100	250,000	36,100
2030	2,295	980	162,000	42,120	180,000	74,000	296,120	250,000	46,120

Column 2 – EDUs x 165 GPD/EDU

Column 3 – Equalizing storage is 20% of maximum daily demand – Maximum daily demand is assumed at 1.3 x average daily demand.

Column 4 – Fire Flow at 2 hours duration (per AWWA Manual M31) at 1,500 GPM

Column 5 – Emergency Reserve is 25% of total storage.

Column 6 – Required Storage is Column 3 + 4 + 5

NOTE: North Beach is interconnected to Chesapeake Beach water system for emergency use.

Wastewater Treatment and Stormwater Management Assessment

The Town of North Beach is currently served by the Chesapeake Beach Wastewater Treatment Plant designed for 1.18 MGD. The Chesapeake Beach Wastewater Treatment Plant currently serves four (4) entities including: Chesapeake Beach; North Beach; Calvert County; and Anne Arundel County (Rose Haven and Holland Point). An inter-jurisdictional Agreement provides for the shared responsibilities and a flow allocation to each entity. The flow allocation is shown in the table 4 below.

Table 4 – Wastewater Treatment Allocation

Jurisdiction	Allocation [Flow in GPD (# of Taps)]	Percentage
Calvert County	302,325 (1,512 Taps)	25.6%
North Beach	250,200 (1,251 Taps)	21.2%
Chesapeake Beach	489,975 (2,450 Taps)	41.5%
Anne Arundel	137,500 (550 Taps)	11.7%
Total Flow	1,180,000 (5,763 Taps)	100.0%

The existing 1.18 MGD Chesapeake Beach Wastewater Treatment Plant currently serves a population of 8,933 people and discharges effluent via a 30-inch gravity outfall offshore in the Chesapeake Bay (Tributary Basin #02139998). The plant is currently designed for biological nutrient removal utilizing a cyclic nitrogen removal process. Recent improvements completed in

2008 include replacement of the outfall and the addition of a surge tank for shellfish protection and interim expansion. In addition to the cyclic nitrogen removal process, the plant includes three (3) clarifiers and disinfection using chlorine gas (150 lb. cylinders) and sulfur dioxide gas for dechlorination.

A new project to retrofit the plant for enhanced nutrient removal (ENR) is planned but has not yet begun. The ENR process, when completed will limit the nitrogen loading to 18,273 lbs/year and the phosphorus loading to 1,371 lbs/year with a total treatment capacity of 1.5 MGD. Upon completion of the upgrade, the plant will be capable of achieving an effluent with a total nitrogen goal of 3 mg/l and a total phosphorus goal of 0.3 mg/l. It is anticipated the project will begin in early 2011 and be completed in 2013.

The Town of North Beach's wastewater collection system consists of gravity sewer lines ranging in size from 6 inches to 12 inches, force mains from 4 inches to 8 inches and four pumping stations. The Bay Avenue pumping station is designed to pump at a rate of 120 GPM at 28 feet of total dynamic head using duplex 3 ½ HP submersible pumps in a 6 foot x 6 foot wet well. The station is equipped with an emergency generator and separate valve vault. The pumping station conveys on average 26,000 GPD via a 4 inch force main.

The Chesapeake Avenue pumping station which conveys about 70% of all flow from the town is designed to pump at a rate of 750 GPM using two-15 Hp pumps in a dry well/wet well configuration with a 10 foot diameter wet well and equipped with an emergency generator. A new programmable logic controller and control panel with transducer was recently installed. The pump station conveys an average 150,000 GPD of flow via an 8-inch force main.

The Greenwood Avenue pumping station consists of duplex 5-Hp submersible pumps in a 5 foot diameter wet well pumping at a rate of 100 GPM at 34 feet of total dynamic head through a 4-inch force main. The station is equipped with an emergency generator and a recently installed transducer and control panel for level control. The station pumps an average 67,000 GPD. The San Francisco pump station, recently installed as part of a new residential multi-family development, consists of duplex 3 ½ Hp submersible pumps at a rate of 130 GPM through a 4 inch force main. The station is equipped with an emergency generator and emergency pump around connection.

The Town currently has no septic tanks or grinder pumps within the Town. It is suspected, based on the pump station flow data, that excessive inflow and infiltration exists in the sewer collection system. In order to potentially increase the number of sewer taps and reduce operational costs for the pumping stations, an inflow/infiltration study and rehabilitation project is recommended.

The historical wastewater flow from the Chesapeake Beach treatment plant for the past three (3) years (2006 – 2008) is 810,000 GPD. The design capacity of the plant is 1,180,000 GPD. The plant is scheduled for an ENR upgrade as well as a capacity increase to 1,500,000 by year 2013.

Based on the existing inter-jurisdictional Agreement, the Town of North Beach has been allocated 1,251 taps or 21.2% of the plant's flow. According to the Town's accounting, the existing number of sewer taps used or committed to development is 1,114. The remaining taps available are therefore 137 taps based on the existing plant capacity of 1,180,000 GPD. The number of taps needed to provide for development projected in year 2030 is 177. The Town will therefore need to participate in the planned upgrade of the plant to 1.5 MGD in order to obtain an increased allocation of taps to provide for all projected development over the planning period.

At the present time, North Beach does not meter sewer flows that are conveyed by the Town to the Chesapeake Beach Wastewater Treatment Plant. The number of taps is accounted for as new development is considered for approval based on the number of homes or equivalent dwelling units in the case of commercial development. Flows from portions of Calvert County also pass through the Town's sewer system un-metered. At this time, it is not possible to determine precisely the quantity of flow contributing to the treatment plant from North Beach. Table 5 below summarizes the projected wastewater service demand.

Table 5 – Projected Wastewater Service Demand for 2030

	Population		Households		Change		Wastewater Demand (MGD)	
	2000	2030	2000	2030	Population	Household	Current	Future
	North Beach	1,880	2,295	803	981	415	178	0.222

The Town of North Beach is located along the Chesapeake Bay and within the critical area with surface storm water runoff directed towards the Bay. As discussed previously, the Town's boundaries are envisioned to remain in tact with little opportunity for expansion in the future. Future development will be limited to infill on remaining lots or redevelopment on existing lots. Because of the flat terrain and low lying roads, storm water collection and conveyance relies on storm water pump stations and conventional storm drain and inlets. A storm water pump station is located at Fifth Street consisting of duplex 15 Hp submersible pumps discharging into the Bay with tide flex check valves to prevent backwater. A second submersible duplex 5 Hp pump station is located at Ninth Street and Atlantic Avenue. Neither station is equipped with screening capability. A third pump station is planned at Seventh Street and Atlantic with a 54 inch discharge pipe to the Bay to relieve localized flooding.

The Town currently enforces storm water management regulations for new or redevelopment using the State of Maryland 2000 Maryland Design guidelines. Addressing water quality is the main emphasis. In urban sub water sheds, such as North Beach, American Forests recommend an overall twenty-five percent tree canopy and fifteen percent in commercial areas. Tree canopies intercept and absorb rainfall, filter pollutants, and reduce temperatures at the ground that is important especially where heat islands are created due to asphalt and roofs absorption of the sun's rays. Encouraging planting of trees within the Town can have a beneficial effect and assist reducing rain water, providing a cooler environment, and reduce storm water.

North Beach is currently about twenty-percent impervious. Maintaining impervious surfaces to less than twenty-five percent can achieve certain goals" such as having swim able, fishable waters, and reducing nutrient loads to a point that precludes algal blooms. In order to accommodate growth and lower pollutant loads the following goals, policies, and strategies are offered.

WATER RESOURCES GOALS

1. To ensure the quality of water and protect the public health, safety, and welfare of its citizens.

2. To protect North Beach and the States' land and water resources and meet Smart Growth policies.
3. To participate with other jurisdictions to preserve and improve the conditions of the Chesapeake Bay, its marshes, and other waters of the State.
4. To minimize nutrient runoff and erosion and practice Best Management Practices to reduce impacts from development.
5. Maintain fishable and swim able status.

POLICY AND IMPLEMENTATION STRATEGIES

Policy WR.1: In order to minimize nutrient runoff and erosion, Best Management Practices including Low Impact Development Strategies to reduce impacts from development is recommended to be completed. Such techniques include the following implementation strategies.

Implementation Strategies

1. Minimizing disturbance by clustering development and preserving open space.
2. Vegetative filter strips and other multi-functional landscape areas.
3. Utilizing roof top storage.
4. Develop bioretention facilities in appropriate places such as parking lots.
5. Use drywells onsite.
6. Encourage the planting of street trees and landscaping to reduce temperature and enhance nutrient reduction.
7. Use infiltration trenches.
8. Limit overall impervious surfaces to twenty-five percent or less.
9. Update Storm Water Management Ordinance using the latest model ordinance from the State of Maryland.
10. Promote living shorelines, green roofs, sand filters, and tidal marshes.

Policy WR.2: Major capital and operational improvements that address long-range needs for public water and sewer must be utilized.

Implementation Strategies

1. Initiate an inflow and infiltration study and subsequent sewer system rehabilitation program to reduce excessive inflow/infiltration and potentially increase the number of available sewer taps and reduce operational expenses associated with operating pumping stations.
2. Replace sewer lines in Fifth Street between Bay Avenue and Chesapeake Avenue to increase slope and self-cleaning velocity.
3. Replace sewer line in First Street from Chesapeake Avenue to Dayton Avenue to eliminate a low point and create a continuous pipe slope to reduce maintenance costs.
4. Replace aging pumps at Pumping Station number 2.
5. Replace aging pumps at Chesapeake Avenue Pumping Station and install an emergency pump around the connection.
6. Install emergency generator at the existing storm sewer pumping stations.

7. Install emergency generator at well number 1.
8. Consider the installation of permanent meters to continuously monitor sewer flows to the Chesapeake Beach Wastewater Treatment Plant to monitor actual flows from Town and at strategic locations throughout the sewer system to monitor areas of excessive inflow and infiltration.
9. Add Backflow Preventers to individual water services for existing customers to prevent potential contamination of the water supply. (New development is required to do this as part of the existing Town's water and sewer policy).
10. Initiate the Enhanced Nutrient Reduction Program at the wastewater treatment plant to lower nitrogen and phosphorus loadings into the Chesapeake Bay.
11. Develop a system for allocating and monitoring sewer taps.
12. Since there is a limited amount of taps allocated to North Beach, the Town should consider a Sunshine Policy where the taps must be used in a certain time period or they must be placed back into the tap pool to be available for other applicants.

IMPLEMENTATION

Introduction

There are several sections of the Comprehensive Plan that have implementation strategies. To avoid the old idea of a Comprehensive Plan being placed on a shelf to pick up dust, a Plan Implementation section has been included. Not only will all strategies be placed in a logical order, the Planning Commission may make recommendations to the Mayor and Council relative to what priority the specific strategy should have. Determinants of prioritization are: budget, grant availability, logical sequence of accomplishing one priority before the other; and timing of the need. Certainly there are other reasons to assign one priority before the other; however, these will surface at the time of prioritization.

There should be three levels of priorities. The first is Priority 1: those items that are short term; Priority 2: those items should be done within the approximately the next ten years; and Priority 3: those items that should be completed by the end of the planning period in 2030. However, it is recognized that the priorities may change with the six year update of the Comprehensive Plan. Obviously, the highest priorities will be completed first. In addition, each priority will be assigned as tasks for an appropriate agency, staff, jurisdiction, or several entities. Some tasks will require a partnership between different entities; however, the main entity listed will manage the completion of the project.

Following are abbreviations that will be placed in the column next to a priority that represents the entity that is responsible for completing the priority. In some cases, two or three entities may be placed in the box if there are partnerships to complete a task. Additions may be made to this list.

DPW Department of Public Works
ENG Town Engineer
CIP Capital Improvements Program
CAL County Commissioners
CAL Calvert County Economic Dev.
CALP Calvert County Planning
CCPS Calvert County Public Schools
CALT Calvert County Tourism
GD Grant Dependent
FIN Town Treasurer
M&C Mayor and Council
MD State of Maryland
OG Project On-Going
PL Planning Commission
POL Police

IMPLEMENTATION

Policy and Implementation Strategy		Priority	Responsibility
LAND USE			
LU-1	Develop a recreation and park plan for the Town to include gateway areas, public parks, and outdoor water related facilities.		
LU-2	Enhance design guidelines to provide for safe pedestrian walkways, a signage program; and bicycle racks in parking areas or facilities.		
LU-3	Promote new or redevelopment that incorporates environmental resources as site amenities. This can be incorporated in the Zoning Ordinance as a low percentage of SWM and be increased if it proves beneficial to the Town.		
LU-4	Require new or redevelopment projects to provide handicap accessible access on pedestrian walkways and public sidewalks.		
LU-5	A Town Tree List should be prepared and adopted so that the appropriate species or street trees and landscaping for public and private projects would be used which may provide a cost savings to the Town.		
LU-6	Provide incentives for adaptive reuse of historic structures and incentives to preserve or document historic structures.		
LU-7	Review and amend the Development Regulations to expand and further define screening and buffer yard requirements when incompatible use are adjacent to each other; and, to accommodate future increased density.		
LU-8	Continue to require BMP and low-impact development in site design techniques to minimize the impact of infrastructure on adjacent environmentally sensitive areas.		
LU-9	Avoid potential negative impacts on the built environment through site design with emphasis on facility access, building heights, scale, massing, and setbacks.		
LU-10	Promote high quality mixed use in the Waterfront Renaissance district with a higher residential density while still maintaining view sheds of the Chesapeake Bay.		
LU-11	Require developers to partner with the Town to fund infrastructure improvements associated with their development and develop and approve developer agreements for all proffers made during the review and approval of their final site plan.		

Policy and Implementation Strategy		Priority	Responsibility
<i>Land Use</i>			
LU-12	Reduce sign pollution by amending land use regulations to promote the use of monumental signs and avoid pole and temporary signs. Encourage business to clear sidewalks of obstacles that impede handicap accessibility.		
LU-13	Maintain and enhance the quality of existing residential neighborhoods.		
LU-14	Continue to streamline regulatory mechanisms to encourage economic growth.		
LU_15	Review the Zoning Ordinance for standards for compatibility of historic structures in the neighborhoods. Draft requirements to provide standards for a Historic Overlay District.		
ENVIRONMENTAL			
EN-1	Encourage protection and minimize adverse impacts of public and privately owned wetlands and the 100 Year floodplain		
EN-1:1	Inventory the privately owned wetlands and land within the 100-year flood plain and establish incentives to preserve them and minimize any negative impacts to them.		
EN-1:2	Purchase property or obtain easements in the vicinity of the wetlands so that the Town can protect the wetlands and eco-safe recreational activities can take place.		
EN-1:3	Plan and redesign the History and Bayside Nature Center to provide historic and environmental education for the citizens and tourists during the twenty-year planning period.		
EN-1:4	Promote appreciation of the natural environment by capitalizing on the educational and recreational values and opportunities in the natural area at the north end of Town.		
EN-2	Encourage regeneration of lost or damage natural and man-made environmental features.		
EN-2:1	Reinstate and promote the Tree City program to enhance streetscapes that provide shade and reduce storm water. A tree list should be used that lists trees that are indigenous to the area.		

IMPLEMENTATION

Policy and Implementation Strategy		Priority	Responsibility
ENVIRONMENT			
EN-2:2	Establish a tree species list for planting within the Town and establish a maintenance schedule for pruning so that trees will not impede the view shed of the Bay.		
EN-2:3	Identify properties within the 100-year flood plain and discourage any expansion of existing buildings that are flood prone and encourage land uses like parking lots with permeable paving surfaces and parkland in these areas.		
EN-2:4	Explore sources for availability of excess materials for beach nourishment for erosion abatement purposes.		
EN-2:5	Protect steep slopes and require landscaping and trees to be part of the site planning process.		
EN-2:6	Restore the wetlands between Holland Point and the Town.		
EN-2:7	Identify sites available for tree planting and off-site mitigation.		
EN-3	Promote and plan educational programs to foster and provide a greater public awareness of the importance for conserving and sustaining natural and manmade resources.		
EN-3:1	Encourage citizens to use techniques to save water, properly dispose of pollutants, and to recycle household waste.		
EN-3:2	Establish a public education campaign for recycling solid waste and reduce the waste stream taken to the landfill.		
EN-3:3	Encourage voluntary cooperation by the Towns' citizens, businesses, and landowners in conserving as much of the natural vegetation as is feasible.		
EN-3:4	Encourage and educate Town residents to voluntarily use rain barrels to collect water from their roof drains for their yards; and, to compost and mulch their own yard waste such as grass clippings, leaves, and twigs to reduce the waste stream and to improve the saturation rate in their yard.		
EN-4	Continue to maintain a sufficient and potable water supply for consumption and fire protection.		

Policy and Implementation Strategy		Priority	Responsibility
ENVIRONMENT			
EN-4:1	Provide an educational program to consider placing fluoride in the Town's potable water.		
EN-5	Maintain a safe and efficient collection and treatment of sewerage, and continue to provide for efficient and innovative storm water management		
EN-5:1	During development review, establish pocket parks to provide passive recreation and Biorentention (rain gardens) to absorb, clean, and reduce storm water management.		
EN-6	Coordinate implementation of new and existing environment protection programs and regulations in partnership with Calvert County and the State.		
EN-6:1	Continue to coordinate with neighboring jurisdictions to ensure the adequacy and efficiency of wastewater treatment in the Town.		
EN-6:2	Work with the SHA to prevent channel clogging in the North Wetland area along Route 261 between Bay water and the tidal marsh.		
EN-7	Resolve unavoidable competitions between economic and environmental policy through the use of flexible regulations and innovative development techniques.		
EN-7:1	Periodically review updates to any Environmental regulations and update land use regulations for compliance.		
EN-7:2	Continue to improve and streamline development regulations.		
EN-7:3	During development review, encourage site designs that orient the buildings in the Waterfront district to provide for the best view sheds of the Bay.		
EN-7:4	Promote green building and low impact development.		
EN-8	Protect rare, threatened and endangered species.		

Policy No.	Policy and Implementation Strategy	Priority	Responsibility
	ENVIRONMENT		
EN-8	Protect rare, threatened and endangered species.		
EN-8:1	Establish standards in the development review process to require evaluation of the presence of rare, threatened and endangered species on development sites.		
EN-9	Evaluate and seek funding for the Town's storm water facilities and provide for upgrades for the benefits of all citizens.		
EN-9:1	Continue to eliminate or control storm water problems by enforcing the Town's storm water management ordinance and identify any innovative ways to reduce storm water.		
EN-9:2	Require storm filters in new and reconstructed parking lots to treat storm water.		
EN-9:3	Strive to reduce impervious cover and promote best practices for storm water management.		
EN-9:4	Incorporate Low Impact Development (LID) techniques into the Land Use Regulations.		
	COMMUNITY FACILITIES		
CF-1	Work with the Fire Department to determine what types of obstacles impede their service within the Town.		
CF-1:1	Encourage the fire and rescue service providers to review development plans during an early stage in the development process.		
CF-1:2	Support any efforts to have electric lines put underground.		
CF-1:3	Continue to prohibit open burning in Town.		
CF-1:4	Continue to test fire hydrants on a regular basis, especially when new construction that may affect pressure in water lines is being reviewed during the development process.		
CF-2	Encourage fire related public awareness to the citizens by providing education programs for children and the community.		
CF-3	Consider adopting an ordinance to require having fire suppression on all new or redeveloped properties.		
CF-4	Support your local public safety organization.		
CF-5	Provide statistics of crimes that are occurring in Town and report any sex offenders to the public on a periodic basis. Improve public awareness of crimes that are occurring in Town.		
CF-6	Continue to support the Beach Patrol		
CF-7	Establish a neighborhood watch program and fund signage and publications necessary to publish it.		

IMPLEMENTATION

Policy No.	Policy and Implementation Strategy	Priority	Responsibility
COMMUNITY FACILITIES			
CF-8	Identify site and developers who may partner with the Town to designate a new library site.		
CF-9	Continue to encourage residents to recycle, and reuse household items. Shred Yard waste to reduce the waste stream and provide mulch for yards.		
CF-10	Continue to dispose of yard waste if not mulched, save water by using soaker hoses for gardens, and rain barrels to collect rain water to water yards.		
CF-11	Promote conservation of energy by planting deciduous trees to block sun in the summer and loose their leaves in the fall to take advantage of heating and cooling elements of trees.		
CF-12	Identify the physical characteristics and qualities that need to be strengthened to revise and /or expand the existing Zoning Ordinance with design guidelines relative to proper height, scale, articulation, massing, setbacks, and elements of design that the Town is trying to achieve.		
CF-13	Increase the Tree Canopy and landscaping in the Town with appropriate species that will uptake water, will not raise sidewalks, and will provide shade but not block the view shed of the Bay.		
CF-14	Continue the community activities and festivals, yard sales, and the like. Partner with other adjacent communities in the area to hold events on the same day to increase attendance.		
CF-15	Encourage Green Building		
CF-16	Encourage public art reminiscent of North Beach when developing a site.		
CF-17	Continue to increase and enhance public access to the beach, shoreline, and wetlands and open space.		
CF-18	Continue to provide public facilities along the waterfront to increase the waterfront's recreational facilities and add to the ambience and excitement of this district.		
CF-18:1	Redevelopment of the Bay front area should include restaurants with tables outside or other public places for all citizens and tourists to enjoy the Bay view.		
CF-18:2	Identify space for public parking convenient to the waterfront.		
CF-18:3	Identify species of trees compativble with preserving a view shed in the waterfront area.		
CF-18:4	Support additional trolleys to transport citizens and tourists in a shorter time period.		

IMPLEMENTATION

Policy No.	Policy and Implementation Strategy	Priority	Responsibility
COMMUNITY FACILITIES			
CF.18.5	Continue to apply for State Grants to provide public improvements in the water front area.		
CF.19	Ensure that there are multiple activities and programs for all residents and tourists that visit the Town.		
CF.19.1.	Study the feasibility of constructing a canoe or small boat docking area.		
CF.19.2	Develop a unified signage plan in the Zoning Ordinance for business and way finding in the waterfront area.		
CF.20	Update architectural standards for the Waterfront Renaissance Zoning district to include Comprehensive Plan goals, policies, and implementation strategies. Provide criteria for some standards so that they can be applied objectively and consistently.		
CF.21	Continue to support multi-modal transportation to serve the waterfront area.		
CF.22	Require street improvements; curb; gutter, streetlights, street trees; and sidewalk in new development and redevelopments. This requirement should apply to repair or replacement of infrastructure that may be in place but in poor condition.		
CF.23	Increase the amount of active open space and public recreation amenities by requiring developers' contributions or construction of public park facilities as part of the impact of adding new residences to the Town.		
CF.23.1	During the update of the Zoning Ordinance incorporate the National Recreation and Park Associations' standards and create requirements for new or redevelopment of residential sites to provide parkland based on the number of units in the development.		
CF.23.2	Identify sites for small pocket parks.		
CF.23.3	Develop passive park amenities or features in lieu of landscaping or part of the landscaping requirement in downtown developments. Amend the Zoning Ordinance to add this provision.		
HOUSING			
H.1	Promote the availability of an adequate housing supply for current and future residents.		
H.1.1	Encourage a mix of dwelling types.		
H.1.2	Encourage higher density dwelling units in the		7

IMPLEMENTATION