Cecil County
Oversight Committee
Meeting Packet

May 27, 2009

Table of Contents

Agenda and Meeting Information

CECIL COUNTY COMPREHENSIVE PLAN
CITIZEN OVERSIGHT COMMITTEE

Meeting Agenda
Wednesday, May 27, 2009, 6 p.m.
Cecil County Administration Building
Elk Room
200 Chesapeake Boulevard
Elkton, MD 21921

I.	Call to Order	6:00
II.	Approval of Minutes	6:00
III.	Old Business • Future Use of Subcommittee Goals	6:05
IV.	New Business • Map Issues • Introduction , Decision making	6:10
	• Issues	
	Adjourn	9:00

Oversight Committee
Meeting Minutes

CECIL COUNTY COMPREHENSIVE PLAN CITIZEN OVERSIGHT COMMITTEE
MEETING MINUTES
20 May 2009

Present: Bennett, John; Broomell, Diana; Buck, Walter; Butler, Eileen; Cairns, Ed; Clewer, Jeff; Colenda, Sarah; Denver, John; Derr, Dan; Doordan, B. Patrick; Duckett, Vernon; Edwards, Sandra; Folk, Patricia; Gell, Robert; Gilley, Paula; Hodge, Robert, Jackson, Ann; Kilby, Phyllis; Lane, Diane; Priapi, Vic; Polite, Dan; Pugh, Mike; Rossetti, Rupert; Stewart, Gary; Tapley, Donna; Thorne, Owen; Walbeck, Carl; Whiteman, Will; Wiggins, Kennard; Bayer, Michael – ERM; Graham, Clive – ERM; Sussman, Ben – ERM; Hofman, Tony – Michael Baker Corp.; Di Giacomo, Tony; Sennstrom, Eric

Absent: Bolender, Brian; Bunnell, John; Day, Shawn; Deckard, Donna; Ellerton, Vaughan; Shaffer, Henry; Strause, Vicky; Smyser, Chuck; Snyder, Linda; Whitehurst, Dan

Observers: Hartman, Ron; Moore, Tari; Ulrich, Pat

Call to Order: Dr. Lane called the meeting to order at 6:10 p.m.

Approval of Minutes: Motion was made by Paula Gilley to approve the 15 April 2009 meeting minutes. Eileen Butler noted that the minutes needed to revise her comments to read that the COC should consider 3rd party management of open space in addition to HOA's. The purpose would be to have these groups manage these areas to preserve and enhance natural habitats. Dan Derr requested that the "as" be changed to "when" in the second to last paragraph on page 3. Motion and amendments to motion were seconded by Carl Walbeck. Bennett, Broomell, Buck, Butler, Cairns, Clewer, Colenda, Denver, Derr, Doordan, Edwards, Folk, Gell, Gilley, Hodge, Jackson, Kilby, Priapi, Polite, Pugh, Rossetti, Stewart, Tapley, Thorne, Walbeck, Whiteman, and Wiggins voted in favor of motion to approve as amended. Duckett voted in opposition as he did not receive the minutes. Motion carried.

Old Business: Dr. Lane shared the observations and comments she has received from the Planning Commission and the Chamber of Commerce with whom she has recently met. Both entities have expressed a desire to have more commercial and employment areas designated on the land use map. Both groups are concerned with quality of life issues and with maintaining a growth area of adequate size to discharge its intended function. The Chamber and the Planning Commission are appreciative of the dedication of the COC to its task and are impressed by the volume of work going into this endeavor. Dr. Lane continued that both groups felt that there needs to be flexibility in locating employment/commercial sites.

Dr. Lane reminded the COC that there is a great deal to be accomplished in the next three meetings. She stated that the draft map is a visual representation of the Plan and that the success of the map will depend on the COC's goals. The Committee needs to look at the draft goals prior to the next meeting. Michael Bayer is placing the goals into one document and will send it to each member on Friday.

Discussion ensued on the format for arranging the goals, the process to resolve differences, the method of surveying, and the use of any survey that might be undertaken of the COC members.

New Business: Clive Graham presented a brief summary as to how ERM will proceed with putting the text together once the goals are finalized. Mr. Graham also reviewed the evening's agenda and introduced the presenters, Ben Sussman from ERM and Tony Hofman from Michael Baker Associates. Mr. Sussman will discus the draft findings relative to the water resources element and Mr. Hofman will present the transportation and traffic data findings.

Ben Sussman presented the implications and findings of the water resources impacts of the proposed map relative to water, wastewater, and stormwater. The full buildout of the concept map would result in 121,927 total housing units and 146,337 jobs. The questions to be answered are what infrastructure would be needed? Could we reasonably provide the infrastructure? Would we have problems? Do we think the problems could be solved? Does the plan have fatal flaws? What would the County need to do during the Comprehensive Plan to meet its needs? Mr. Sussman indicated that the draft land use map would result in 67% of equivalent dwelling units (EDU) being served by a public system at buildout rather than the 56% that would be served under current zoning. Additionally, the draft map would require an additional net demand of 9.8 mgd of water supply at buildout. He stated that additional sources for drinking water are groundwater on the Elk Neck peninsula and in the coastal plan aquifers, surface water appropriations from the Susquehanna River and surface impoundments, and other sources such as conservation and desalinization. The drinking water findings reveal that adequate drinking water exists or can be provided to support demand at buildout, that investment is needed in facilities and impoundments, rural wells in the south are likely to be sustainable, and rural wells in the north may not be sustainable due to difficulty accessing groundwater.

Mr. Sussman continued by presenting the implications and findings of the wastewater impacts of the draft maps. Under current zoning there would be a net demand for 14 mgd wastewater treatment capacity of at buildout. Options available to the County to increase treatment capacity include nutrient trading, upgrading minor WWTPs, retire/connect minor WWTPs to ENR facilities, retire septic system/connect to ENR facilities, land application, effluent reuse, and tertiary treatment wetlands. The wastewater findings indicate that there is adequate WWTP capacity existing or that can be provided to support demand at buildout. There will be significant investment necessary in new/expanded WWTPs and land for spray irrigation and tertiary wetlands.

Mr. Sussman presented findings relative to nonpoint source nutrient loads concerning septic systems and stormwater. Requiring the installation of full denitrifying septic systems based on the draft concept plan map would result 271,536 pounds of nitrogen per year at buildout as compared to 274,236 pounds per year of nitrogen existing loading with minimal de-nitrification based on current zoning. The analysis reveals that with universal de-nitrification at buildout, septic systems can be accommodated without substantial water quality impacts. Stormwater analysis reveals that more concentrated development within the growth area can be more efficiently treated by SWM facilities. This concentrated development will also preserve forest/open space which in turn filter pollutants.

Mr. Sussman concluded by stating that the recommended major actions are, within the lifetime of the 2009 Comprehensive Plan, identify land and facilities necessary to meet water resources needs of the Plan, as well as funding mechanisms, work with MDE, MGS, DNR and other agencies to obtain detailed information about the County's hydrogeology particularly the Piedmont region, and to require de-nitrification for all new septic systems and to strongly pursue retrofit of or provision of sewer to all existing systems.

Tony Hofman presented the transportation report. Mr. Hofman indicated that the regional traffic model area includes Cecil, Kent, Queen Anne's and New Castle Counties and presented the 2005 base conditions as well as the planned improvements based on existing zoning and the required additional lane miles to maintain a LOS of D relative to the draft map and existing zoning. The draft map was also analyzed using a 15% transit component. In addition to 73 miles of additional lanes recommended in current plans and studies, existing zoning would require 55 miles of additional lane mileage the draft map would require 63 additional lane miles, and the transit component would reduce the 63 lane miles to 58 additional lane miles. Discussion ensued regarding the location of jobs both within and without the County, the benefits of transit on lane mile improvements, TAZ loading, I-95 toll evasion, and cost of adding lanes.

Adjournment: Dr. Lane adjourned the meeting at 8:55 p.m.

Next Meeting: Wednesday, 27 May 2009, 6:00 p.m., Elk Room, County Administration Building

Respectfully Submitted:

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Eric S. Sennstrom, AICP
Director – Planning & Zoning

Water Resources Evaluation

Management

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To: The Cecil County Comprehensive Plan Oversight Committee

From: Ben Sussman

Date: May 26, 2009

Subject: Evaluation of Water Resources at Buildout (2009 Cecil County Comprehensive Plan)

ERM

PURPOSE

The Water Resources Element for the 2009 Cecil County Comprehensive Plan will examine public water and sewer capacity, demand for groundwater, and the nonpoint source pollution impacts of development in Cecil County through 2030.

In developing the 2009 Comprehensive Plan, the Comprehensive Plan Oversight Committee also sought to understand the impacts of the Plan's land use and development policies at buildout—the point in time (long after 2030) when all developable land will have been developed.

This memo summarizes the water resources implications of buildout in Cecil County, pursuant to two buildout options: a Current Zoning option and a Concept Plan option. It discusses whether the likely drinking water and wastewater discharge demands of buildout could be supported by reasonably available drinking water resources and wastewater treatment facilities. It also discusses whether the overall water pollution discharges at buildout, could be managed without violating water quality regulations.

SUMMARY OF FINDINGS

This section describes the overall conclusions with regard to the adequacy of Cecil County's Water Resources to accommodate buildout. It also discusses the actions and initiatives that the County should focus on within the life of the 2009 Comprehensive Plan in order to work towards accommodating buildout. More detailed discussion of these conclusions can be found in subsequent sections of this document.

WATER SUPPLY

Overall, the County's public water systems (including systems operated by municipalities and private utilities) could reasonably accommodate development at buildout. Water supply for individual wells in the southern rural portion of Cecil County should be sufficient to support

buildout. It is less clear whether development on individual wells in the northern rural portion of the County can be supported by available groundwater resources, regardless of buildout option. Thus, the County should be conservative in deciding how much development should occur in the northern rural area. The impact of new wells on existing wells should be carefully studied before a large amount of development is permitted.

SEWER SYSTEM CAPACITY

Overall, the County's public sewer systems (including systems operated by municipalities and private utilities) could reasonably accommodate development at buildout. However, doing so will require considerable effort to plan and construct new wastewater infrastructure. Particularly important will be identifying and securing land to be used for alternative wastewater disposal systems, such as land application or tertiary treatment wetlands.

NUTRIENT LOADS AND ASSIMILATIVE CAPACITY

At buildout nutrient loads from point sources and septic systems could reasonably be managed in a way that does not further contribute to water quality concerns.

The amount of development at buildout and the pattern of that development are key considerations in shaping the County's future land use pattern. Less development (as would occur under the Current Zoning option) will result in lower overall nutrient loads (including point and nonpoint sources).

A more concentrated development pattern (as would occur under the Concept Plan option) will allow for more efficient stormwater management and will preserve forest and open space, which act as natural filters for stormwater.

RECOMMENDED MAJOR ACTIONS AND INITIATIVES

The initiatives listed below are long-term in nature, but should be initiated in the short-term, within the life of the 2009 Comprehensive Plan.

1. The County should conduct a study to identify the land and facilities needed to secure water resources required by the buildout of the 2009 Comprehensive Plan's land use concept (whether it is one or a combination of the two options discussed in this memo). This study should identify the location, size, and likely cost of facilities such as reservoirs, tertiary treatment wetlands, and major water and sewer transmission lines. It should also identify potential funding mechanisms for these facilities, and a list of implementation steps necessary to secure these sites and facilities.

2. The County should work with MDE, DNR, and the Maryland Geological Survey to complete the Fractured Rock Water Supply Study, and/or develop an in-depth study of the hydrogeology of Cecil County itself, focusing particularly on water-bearing formations in the Piedmont region.

3. Require denitrification units to be installed with all new septic systems (Senate Bill 554 from the 2009 session requires denitrification for all new septic systems in the Chesapeake Bay Critical Area). Use state funding, along with other funding sources if possible, to retrofit *existing* septic systems with denitrifying units. Priority should be given to existing septic systems within the Chesapeake Bay Critical Area, as well as septic systems that are closest to the County's rivers and streams.

METHODOLOGY

Two buildout options have been evaluated as part of this analysis (see Figures 1 and 2):

- **Current Zoning:** The existing (1990) Comprehensive Plan, as implemented through current zoning.

- **Concept Plan:** The 2009 Concept Plan, a land use and development concept that has emerged through the 2009 Comprehensive Plan process.

ERM, with input from the Oversight Committee and County Staff, created residential Development Capacity Analyses for each of these options, showing the number of new housing units that could be built, given land development policies (e.g., zoning or comprehensive plan land use categories) and likely densities. In addition, ERM estimated the population and number of new jobs associated with each option.

Development capacity and employment estimates were disaggregated to each of the County's 87 Transportation Analysis Zones. However, water resources (particularly point and nonpoint source wastewater discharges) are best evaluated at the 8-digit watershed level. The TAZ and watershed boundaries in Cecil County are not especially congruent. Therefore, for purposes of this memo, several TAZs were "split" along watershed lines, with that TAZ's jobs and housing units also being divided in a similar manner.

Table 1 summarizes existing and projected housing units and employment in each the County's 8-digit watersheds. Table 2 summarizes the total demand that is anticipated in areas to be served by public water and sewer systems, as well as demand that would be served by individual wells and septic systems.

Figure 1: Current Zoning in Cecil County, the basis for the "Current Zoning" buildout option.

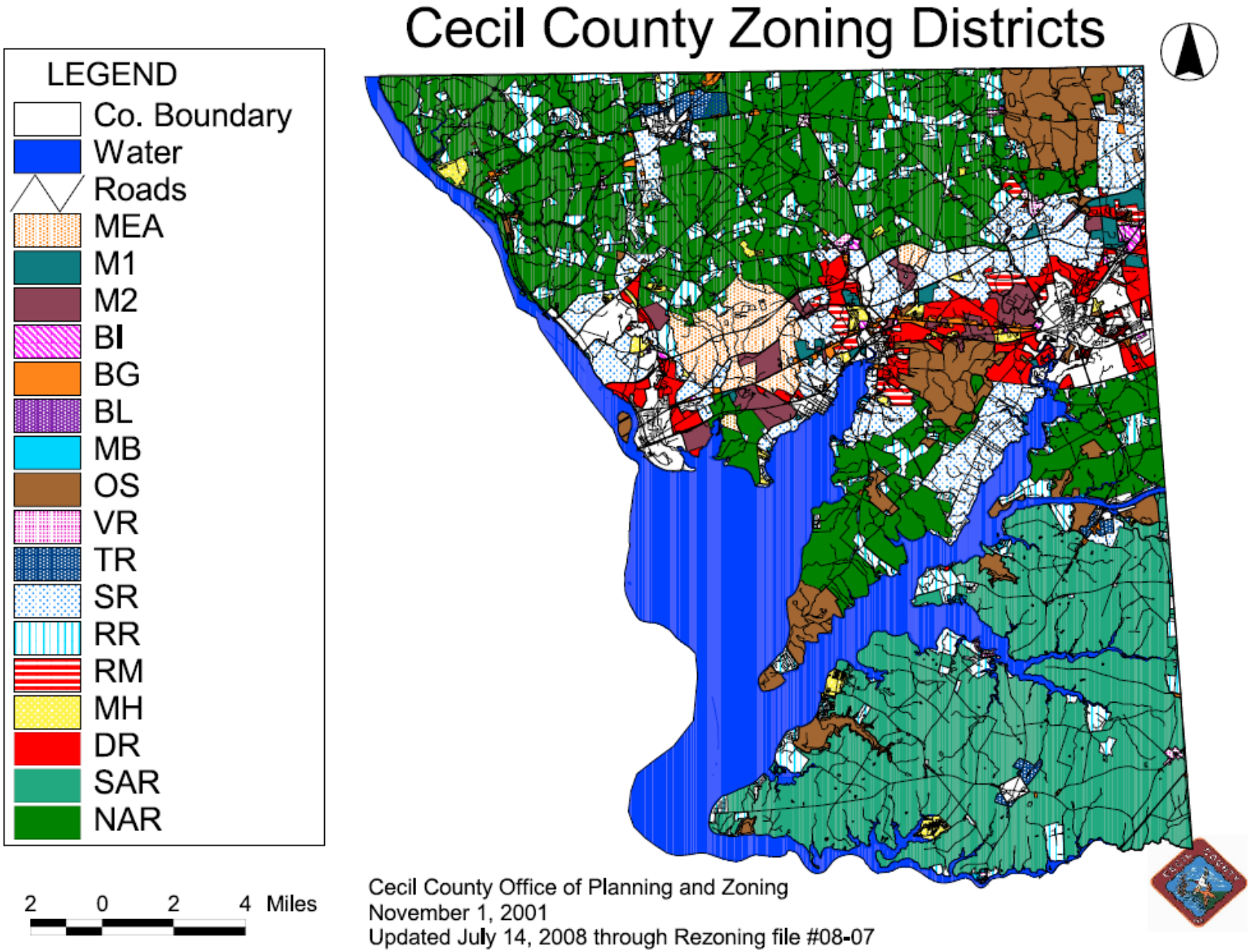
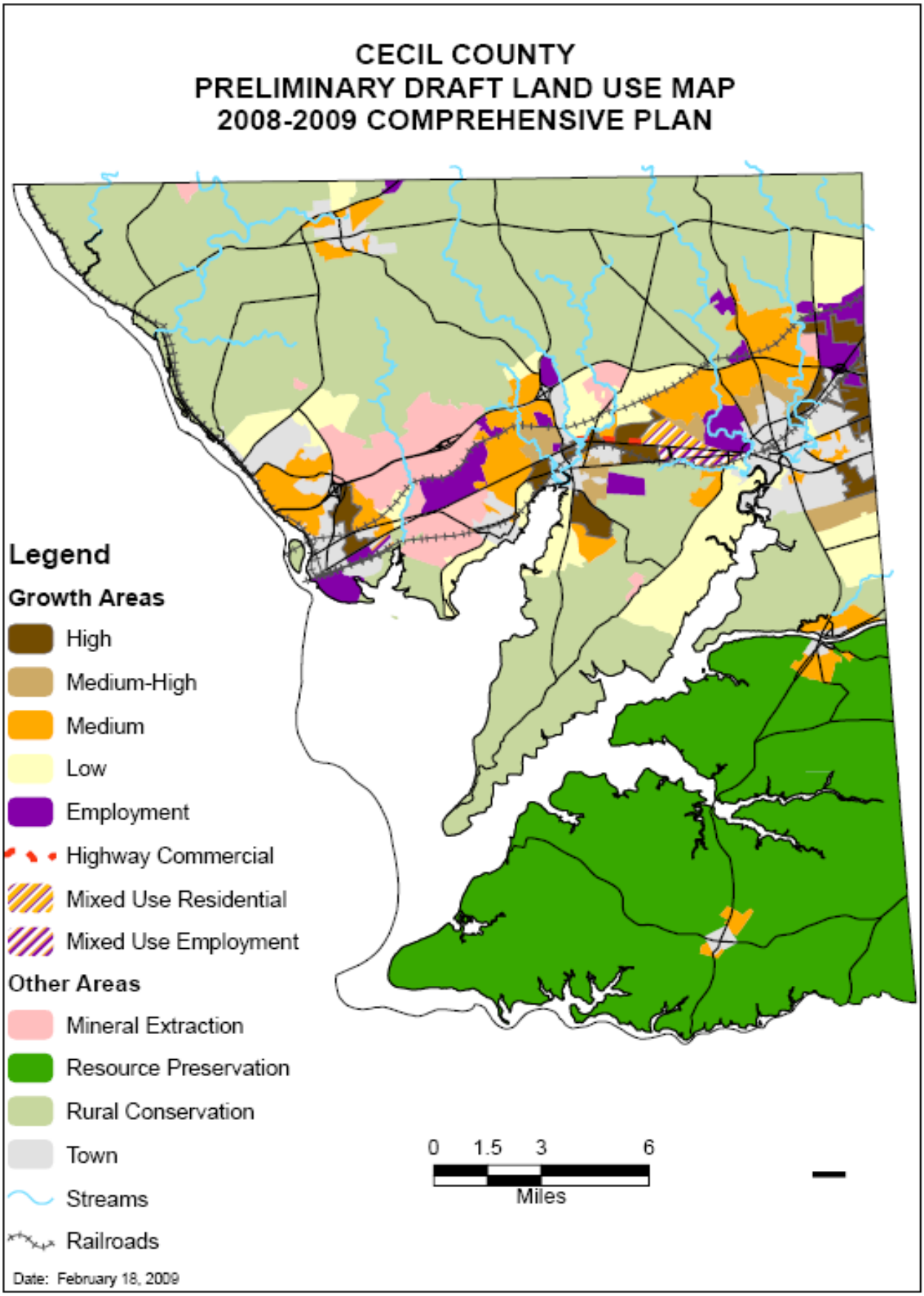


Figure 2: The 2009 Concept Plan option.



For purposes of this analysis, and because of the nature of the TAZ geography, "public water and sewer service areas" include TAZs that generally follow the limits of the Designated Growth Area (DGA) consisting of the Development, Suburban, Town Districts and to a limited extent, Village District, and areas surrounding Rising Sun and Chesapeake City. This includes the water and sewer systems in and around the towns of Charlestown, Chesapeake City, Elkton, North East, Perryville, Port Deposit, and Rising Sun, as well as the Meadowview, Highlands, Cherry Hill and Pine Hills systems. This analysis further assumes that the Cherry Hill and Highlands plants will be converted to pump stations, and that their effluent will be treated and discharged by the Meadowview WWTP.

Again, due to the nature of TAZ geography (large TAZs that cannot be easily divided), demand for public water and sewer services in and around Cecilton (as well as in other smaller systems) is grouped with demand for "individual" water and sewer systems, although this municipality does own and operate public water and wastewater systems. The Water Resources Element of the 2009 Comprehensive Plan will consider the demands in these systems in more detail.

Table 1: Existing and Future Housing Units and Jobs, by Watershed

Watershed	Existing (2005)		Increment (New Development) Through Buildout				Total Development at Buildout			
			Current Zoning		Concept Plan		Current Zoning		Concept Plan	
	Housing Units	Jobs	Housing Units	Jobs	Housing Units	Jobs	Housing Units	Jobs	Housing Units	Jobs
Back Creek	1,469	982	1,327	1,054	2,361	1,506	2,796	2,036	3,830	2,488
Big Elk Creek	1,898	2,317	4,090	4,555	8,803	6,341	5,988	6,872	10,701	8,658
Bohemia River	1,000	813	1,969	1,178	1,861	1,409	2,969	1,991	2,861	2,222
Christina River	2,873	1,432	3,196	5,668	2,769	4,572	6,069	7,100	5,642	6,004
Conowingo Dam	607	36	1,108	275	573	330	1,715	311	1,180	366
Furnace Bay	2,582	2,023	7,474	14,406	8,575	17,125	10,056	16,429	11,157	19,148
Little Elk Creek	3,013	4,708	6,862	6,435	10,209	13,692	9,875	11,143	13,222	18,400
Lower Elk River	1,825	677	2,581	1,428	1,277	1,713	4,406	2,105	3,102	2,390
Lower Susquehanna	3,301	3,152	6,873	16,258	9,391	18,117	10,174	19,410	12,692	21,269
Northeast River	7,174	6,584	14,831	18,771	17,290	24,501	22,005	25,355	24,464	31,085
Octoraro	4,472	2,890	5,128	2,618	3,908	4,541	9,600	5,508	8,380	7,431
Sassafras River	647	620	891	994	964	1,192	1,538	1,614	1,611	1,812
Upper Elk River	7,490	12,266	8,696	11,898	15,595	12,798	16,186	24,164	23,085	25,064
Total	**38,351**	**38,500**	**65,026**	**85,538**	**83,576**	**107,837**	**103,377**	**124,038**	**121,927**	**146,337**

Table 2: Existing and Future Housing Units, by Water/Sewer Service

Future Water and Sewer Service	Total Development at Buildout	
	Current Zoning	Concept Plan
Public[1]	58,325	82,061
Individual[2]	45,052	39,866
Total	**103,377**	**121,927**
Percent served by public systems	**56%**	**67%**

Notes:

1: Estimates the housing units in TAZs (or TAZ segments) that predominantly fall within areas that are likely to be served by public water and sewer at buildout. This includes most TAZs in the DGA and areas in and around Rising Sun and Chesapeake City, but excludes development in and around Cecilton, due to large TAZ sizes and the impracticality of splitting those TAZs.

2: Estimates the housing units in TAZs that are not likely to be served by public water and sewer (e.g., reliant on individual wells and septic systems) at buildout. It is understood that development in the vicinity of Cecilton will be on public water and sewer.

DRINKING WATER

This section discusses the capacity of the County's drinking water resources to accommodate demand in public systems as well as outside of public systems.

SUPPLY AND DEMAND

Table 3 shows the water demand in Cecil County at buildout, as well as the available capacity in public water systems (including systems operated by private utilities) as of 2008. The total water demand would be three to five times larger (depending on buildout option) than the current demand of approximately 4.8 MGD. Available capacity (the difference between the permitted capacity and estimated demand on those systems) in public water systems as of 2008 was approximately 4.0 MGD.

Under the Current Zoning option, an additional 13.1 million gallons per day (MGD) of water would be needed to serve demand in public systems, with another 7.4 MGD of water necessary to serve individual wells outside of major public water systems. Under the Concept Plan option, an additional 20.1 million gallons per day (MGD) of water would be needed to serve demand in public systems, with another 5.9 MGD of water necessary to serve individual wells outside of major public water systems.

Table 3: Projected Water Demand and Supply

	Total Development at Buildout			
	Current Zoning		Concept Plan	
Water Demand	**EDU[1]**	**MGD[1]**	**EDU**	**MGD**
Public Systems				
Residential Demand	58,325	12.8	82,061	18.1
Nonresidential Demand[2]	19,442	4.3	27,354	6.0
Subtotal – Demand from Public Systems	77,767	17.1	109,415	24.1
Available Capacity (2008)[3]	18,182	4	18,182	4
Future Water Needed at Buildout	**59,585**	**13.1**	**91,233**	**20.1**
Individual Systems				
Residential Demand at Buildout	45,052	9.9	39,866	8.8
Nonresidential Demand At Buildout[2]	15,017	3.3	13,289	2.9
Subtotal – Total Water Demand at Buildout	**60,069**	**13.2**	**53,155**	**11.7**
Existing Total Demand (2008)	26,344	5.8	26,344	5.8
Net New Water Demand, 2008 to Buildout	**33,725**	**7.4**	**26,811**	**5.9**

Notes:

1: One Equivalent Dwelling Unit is 220 gallons per day. MGD = Million Gallons Per Day

2: For purposes of analysis, it is assumed that nonresidential demand comprises 25 percent of total demand in public systems. This includes commercial, industrial, and institutional uses, but does not include agricultural irrigation.

3: Source: ERM, Cecil County Draft Water Resources Element (Existing Conditions), July 16, 2008 (Updated May 2009). Includes the Charlestown, Chesapeake City, Elkton, Harbour View, Meadowview/Highlands, North East, Perryville, Pine Hills, Port Deposit, and Rising Sun water systems.

POTENTIAL SOURCES OF DRINKING WATER

Individual wells in the southern portion of the County (areas south of Elkton) currently use approximately 1.3 MGD of groundwater, and would require another 1.2 (Concept Plan) to 1.4 MGD (Current Zoning) to accommodate buildout. Areas in the northern part of the County (including Elk Neck and areas north of the DGA) use approximately 4.5 MGD, and would require 4.7 (Concept Plan) to 6.0 (Current Zoning) MGD to accommodate buildout.

Planned Public System Expansions

In addition to the 4 MGD of currently available capacity shown in Table 3, this analysis assumes that the following planned capacity expansions will be completed:

- Artesian Water Maryland, Inc. ("Artesian") will provide water service to the Elkton West area (areas to the west and north of Elkton) through an interconnection to Artesian Water Company of Delaware. Artesian will initially provide 3 MGD of water for Elkton West, with plans to expand water production for this area up to 5 MGD. Artesian currently purchases much of its water from the Chester Water Authority in Pennsylvania, but plans to develop its own wells in Cecil County.

- It should be noted that the Meadowview system, also to be acquired by Artesian, relies heavily on water purchased from United Water of Delaware. The Artesian acquisition may reduce the reliance on United Water, through interconnection with Artesian's system and the development of additional supply wells in Cecil County.

- An interconnection to Artesian's Elkton West system will allow the Town of Elkton to draw an additional 1 MGD of water (in addition to the supply committed for Elkton West).

- The Mountain Hill Water Company, also an Artesian subsidiary, serves the Principio Business Park, Charlestown Crossing mixed use development, and the surrounding area. Artesian plans to increase the current 287,000 gpd capacity of this system to 1 MGD, a net gain of approximately 0.7 MGD.

- The Town of Perryville will upgrade its water pumping, sedimentation, filtration, and storage capacities to increase its water production capacity from 0.8 MGD to 2.0 MGD (a net gain of 1.2 MGD)—the Town's current withdrawal limit from the Susquehanna River.

- The Town of Port Deposit will withdraw up to 1.5 MGD from the Susquehanna River (a net increase of 1.4 MGD), due to a successful petition to the Susquehanna River Basin Commission. This withdrawal will largely serve the Bainbridge development.

- The Town of North East will upgrade its water system to at least 2.0 MGD, from the current 1.2 MGD capacity (a net gain of 0.8 MGD).

- The Town of Chesapeake City will purchase as much as 0.4 MGD of water (while retiring its two water treatment plants) from Artesian Water Delaware. This represents a net capacity gain of 0.2 MGD.

These planned expansions of public water systems could provide approximately 10.3 MGD of water beyond the available capacity already shown in Table 3. Thus, the remaining deficit for public systems would be approximately 2.8 MGD of water under the Current Zoning option, and 9.8 MGD of water under the Concept Plan option.

Other Potential Water Sources

Beyond the system expansions described above, several other potential sources of water may exist to serve Cecil County's needs. These sources are briefly described below.

Groundwater

Cecil County straddles two different physiographic provinces, the Piedmont and the Coastal Plain. The dividing line between these regions, known as the Fall Line, generally follows the I-95 corridor. Geologic formations in the Piedmont region, to the north and west of the Fall Line are not generally suitable for large-scale groundwater withdrawal—i.e., these formations cannot support public water systems. Coastal Plain aquifers, to the south and east of the Fall Line are generally suitable for public water supplies. The major coastal plain aquifers in Cecil County are the Potomac, Magothy, and Monmouth formations.

Coastal Plain aquifers in Cecil County have historically been adequate to serve public systems and individual wells. However, the cumulative impact of development throughout the Delmarva Peninsula on these aquifers is the subject of increasing concern. The US Geological Survey (USGS) reports that "withdrawals from Maryland Coastal Plain aquifers have caused ground-water levels in confined aquifers to decline by tens to hundreds of feet from their original levels. Continued water-level declines could affect the long-term sustainability of ground-water resources in agricultural areas of the Eastern Shore."[1] In most cases, the recharge areas for these aquifers are not necessarily found on the Eastern Shore.

To more specifically define the ultimate capacity of the Coastal Plain aquifer system, the Maryland Department of the Environment (MDE), the Maryland Geological Survey (MGS), and the US Geological Survey (USGS) have begun work on a Coastal Plain Aquifer Study, but that study remains incomplete. The County should use the data and recommendations of the Coastal Plain Aquifer Study (once completed) to shape its own water use policies and ordinances. However, the County also recognizes the need for and supports the development of broader regional water policies to protect Coastal Plain groundwater supplies.

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[1] Source: USGS. 2006. Sustainability of the Ground Water Resources in the Atlantic Coastal Plain of Maryland. USGS Fact Sheet 2006-3009

The most significant potential groundwater supplies for the northern rural areas of Cecil County are under the Elk Neck peninsula. Aquifers in these locations may be productive enough to serve a significant portion of the DGA, particularly the Elkton area, (as well as rural development on Elk Neck).

Groundwater resources within and to the north of the DGA are less consistent, due to the underlying fractured rock formations. Individual wells do provide drinking water for thousands of homes and businesses in these areas, totaling approximately 4.5 MGD. However, the ability of these formations to support 4.7 to 6.0 MGD of future growth is not as well understood.

The issue is not necessarily quantity of water; application of the Water Balance methodology, as described in *Models and Guidelines 26*, MDP's official guidance for preparing the Water Resources Element, shows that the northern rural area receives as much as 26 MGD of groundwater recharge (see appendix for Water Balance assumptions and calculations). However, not all of this water is accessible, due to the nature of the water-bearing formation and seasonal variations in water availability. Drilling wells in the piedmont tends to be a hit-or-miss proposition. In meetings with the Water Resources Subcommittee, the County and MDE both cited cases (albeit anecdotal) in this part of the County where productive wells have been very difficult to locate. Thus, the County should be conservative in deciding how much development should occur in the northern rural area. The impact of new wells on existing wells should be carefully studied before a large amount of development is permitted.

Surface Water

Several opportunities exist to meet Cecil County's water supply needs with surface water. The most promising such options are listed below.

- Withdrawals from the Susquehanna River. The Susquehanna River Basin Commission (SRBC), a regional governing body, handles requests for additional withdrawals from the river. In recent years, the SRBC has been reluctant (although not entirely averse) to grant withdrawals that would result in interbasin transfer of water (e.g., from the Conowingo and Lower Susquehanna watersheds to other parts of Cecil County). However, some additional withdrawal may be available to serve western portions of the DGA.

- Surface water impoundments. Cecil County's 2006 Surface Water Supply Study evaluated the potential to create new surface water impoundments to supply public water systems. The two most promising potential impoundments were:

    - An offline reservoir site near the mouth of Principio Creek, which could supply as much as 2.3 MGD to the North East area.

    - Elk Mills Quarry, adjacent to Big Elk Creek. Once extraction activity ceases on this site (after approximately 2068), this source could provide as much as 13.2 MGD of water supply to the Elkton area.

Additional Considerations

- Water conservation is an often-overlooked, but critically important element of water supplies. Cecil County currently assumes that one household uses an average of 220 gallons per day (gpd) of drinking water. If, through education and installation of water-efficient appliances and fixtures, average water use could be reduced to 200 gpd, the County would reduce its water demand at buildout by 1-2 MGD.

- The Cecil County Department of Public works has suggested that desalination, coupled with withdrawals from the tidal Elk River and other tidal river mouths in the Chesapeake Bay may be required in order to meet the County's long-term drinking water needs. Although very expensive at the present time, it is not unreasonable to assume that the costs of desalinization will drop over time, as more and more communities in the US (and around the world) begin to rely on such systems. Supplies of brackish water are presumed to be substantial, although treatment to remove pollutants could also add expense to the process. While not a primary strategy at this time, the County should nonetheless continue to examine desalinization as a long-term option for water supply.

- In other jurisdictions, water from tertiary treatment wetlands (see the discussion of Public Sewer Systems) meets potable water standards, and can be reused as drinking water. Safety concerns would be the paramount issue in such reuse, but this option may be viable in the long term.

- The majority of this section has focused on available quantities of drinking water. However, the costs of transporting water are important. To meet the County's needs at buildout, interconnection of water systems may become necessary. Interconnection may also be needed to ensure redundancy in case of system damage or failure. For example, the 13.2 MGD of water from Elk Mills Quarry (reservoir) may be needed in North East, or even Rising Sun, rather than Elkton itself. Interconnected water systems would be expensive to install, but may be necessary to give the County the flexibility it needs to maintain safe and adequate water supplies.

- In addition to residential and non-residential demand, agricultural irrigation is a significant water use (accounting for approximately 1 MGD in 2000),[2] particularly in the southern portion of Cecil County. However, most agricultural irrigation uses surficial aquifers, rather than the confined aquifers typically used for public drinking water systems or individual wells (most new wells will likely access confined aquifers). Thus, while agricultural water use is an important consideration, it can be considered separately from public water supplies.

[2] Source: USGS Water Science Center http://md.water.usgs.gov/freshwater/withdrawals/#top

CONCLUSIONS FOR DRINKING WATER

Public Systems

At buildout, the County's water demand will be three to five times its current demand. Considering planned increases in groundwater and surface water withdrawals, likely additional groundwater and surface water sources, and the likelihood that widespread water conservation efforts will reduce demand, it can reasonably be stated that water demand from public systems in the DGA and Rising Sun (taken as a whole) could be met at buildout, regardless of which buildout option becomes part of the Comprehensive Plan.

To ensure the long-term adequacy of water supplies for public systems, the County should work with its Municipalities and private water companies to develop the following water sources and systems:

- New surface water impoundments, particularly on Principio Creek and at Elk Mills Quarry.
- New surface water withdrawals from the Susquehanna River, coordinated with SRBC and municipalities, as necessary.
- Additional groundwater wells on Elk Neck Peninsula (coordinating with the Maryland Department of Natural Resources, for well locations on State Forest land), and elsewhere throughout the County.
- The County, municipalities, and private water systems should work to plan a water distribution network that interconnects existing and proposed water systems in the DGA, as well as Rising Sun and Chesapeake City. Such a network would allow for more efficient distribution of drinking water and redundancy in case of system problems.

Individual Systems

The prospects for supplying drinking water to individual or rural users vary according to the part of the County being evaluated. While the results of the Coastal Plain Aquifer Study should guide long-term development decisions in southern Cecil County, it is likely that an additional 1.2-1.4 MGD of demand over the very long term in this area will be sustainable. This increment is small, compared to existing and projected groundwater demand in the rest of the Coastal Plain aquifer system.

The Concept Plan would result in less demand for water in the northern rural area (4.7 MGD) than the Current Zoning (6.0 MGD), but the ability of underlying groundwater to support either concept at buildout is not known. Overall water recharge rates suggest that adequate water quantity exists to serve this amount of development. However, the highly complex hydrogeology that contains this water makes that water quantity difficult to access. The County, MDE, and MGS should work together to carefully monitor groundwater in the northern rural area.

MDE's planned statewide Fractured Rock Water Supply Study (recommended by the 2008 final report of the Advisory Committee on the Management and Protection of the State's Water Resources, commonly referred to as the "Wolman Report") could provide further guidance on growth decisions in this area. In the meantime, the County should proceed cautiously with regard to development in the northern rural area, and should be prepared to limit growth in this area—regardless of which development option is chosen—if groundwater supplies prove to be inadequate or too difficult to reliably tap.

WASTEWATER (POINT SOURCE DISCHARGES)

This section discusses the capacity of the County's wastewater systems to accommodate demand, as well as point source discharges of nitrogen and phosphorus (collectively referred to as "nutrients"). The impact of septic systems is evaluated in the next section.

DEMAND AND CAPACITY

Table 4 shows the sewer demand in Cecil County at buildout, as well as the available capacity in major public sewer systems (including systems operated by private utilities) as of 2008. The major public sewer systems evaluated here include the Cherry Hill, Chesapeake City, Elkton, Highlands, Meadowview, Perryville, Port Deposit, Rising Sun, and Seneca Point WWTPs. Available capacity (the difference between the permitted capacity and estimated demand on those systems) in these systems as of 2008 was approximately 3.1 MGD.

Table 4: Projected Sewer Demand and Supply

	Total Development at Buildout			
	Current Zoning		Concept Plan	
Sewer Demand	**EDU**	**MGD**	**EDU**	**MGD**
Residential Demand	58,325	12.8	82,061	18.1
Nonresidential Demand[1]	19,442	4.3	27,354	6.0
Subtotal – Demand in Public Systems	77,767	17.1	109,415	24.1
Available Capacity (2008)[2]	14,091	3.1	14,091	3.1
Future Sewer Capacity Needed at Buildout	**63,676**	**14.0**	**95,324**	**21.0**

Notes:

1: For purposes of analysis, it is assumed that nonresidential demand comprises 25 percent of total demand in public systems.

2: Source: ERM, Cecil County Draft Water Resources Element (Existing Conditions), July 16, 2008 (Updated March 2009)

Under the Current Zoning option, an additional 14.0 million gallons per day (MGD) of sewer capacity would be needed to serve demand in public systems, while the Concept Plan option would require an additional 21.0 MGD. This additional capacity must be gained in a way that does not result in violations of nitrogen and phosphorus (collectively referred to as "nutrients") caps set by MDE for each WWTP that discharges to the Chesapeake Bay and its tributaries.

POTENTIAL SEWER SYSTEM OPTIONS AND ALTERNATIVES

Each WWTP in Cecil County has been assigned "nutrient caps"—an upper limit on the mass of nitrogen and phosphorus that it can discharge. These caps are tied to efforts to control pollution and improve water quality in the Chesapeake Bay. (Of the public systems included in this analysis, only the Meadowview WWTP discharges outside of the Chesapeake Bay basin—it discharges to the Christina River, which flows to the Delaware Bay). WWTPs can expand their treatment capacity, as long as they do not exceed their nutrient caps. To evaluate whether the County's buildout can be supported by public sewer systems, it is necessary to determine not only where sufficient treatment capacity can be added, but also how that additional treated wastewater can be discharged without exceeding nutrient caps. This section discusses some of the options for expanded treatment capacity and discharge options.

Planned Public System Expansions

In addition to the 3.1 MGD of available capacity shown in Table 4, this analysis assumes that the following planned capacity expansions will be completed:

- The Meadowview WWTP will be upgraded to Enhanced Nutrient Removal (ENR) technology, and will be expanded to a capacity of 4.0 MGD. At the same time, the Highlands and Cherry Hill WWTPs will be retired, with their flows transferred to Meadowview, for a net gain of approximately 3.4 MGD of capacity. Meadowview discharges to the Delaware Bay basin; the County and Artesian Wastewater Maryland, Inc. (which will own and operate the facility), believe that 4.0 MGD of discharge is within the limits of that watershed's Total Maximum Daily Load (TMDL) for nutrients. As a result, the 3.4 MGD of capacity could be gained within the Elkton West service area, and approximately 0.3 MGD (the permitted capacity of the retired Cherry Hill WWTP) could be transferred to another WWTP within the Chesapeake Bay watershed.

- Port Deposit will upgrade its WWTP to 1.0 MGD (using ENR technology), a net gain of approximately 0.9 MGD.

- Chesapeake City will upgrade and expand its WWTP to a 0.3 MGD BNR facility, a net increase of approximately 0.1 MGD

- After ENR upgrades are complete, and using nutrient trading (connecting septic systems to the public sewer), the Seneca Point WWTP will expand to 3.7 MGD, a net increase of approximately 2.3 MGD. The County plans to eventually expand the WWTP to 11.3 MGD. However, such increased volumes cannot be discharged without additional nutrient trades or offsets from other areas.

These expansions of public sewer systems would provide approximately 7.0 MGD of wastewater capacity beyond the available capacity already shown in Table 4. Thus, the remaining need would be approximately 7.0 MGD of sewer capacity under the Current Zoning option, and 14.0 MGD of sewer capacity under the Concept Plan option.

Other Options to Gain Sewer Capacity

To bridge the remaining gap in sewer capacity demand, the County will need to investigate a number of alternatives. This section discusses some of these options:

Nutrient Trading

Under the state's Policy for Nutrient Cap Management and Trading,[3] nutrient discharges can be traded between one point source and another within the same trading basin (for Cecil County, this includes the entire portion of the Chesapeake Bay Watershed except for the Potomac and Patuxent basins). In such a scenario, an existing WWTP outside of Cecil County (likely in Maryland, but trades from Pennsylvania could also be considered) would agree to forego a certain amount of development in exchange for payment, and then send or "trade" that excess treatment capacity to one of the County's WWTPs. The receiving WWTP would then be allowed to expand beyond its current permitted capacity (as long as its discharges would not exceed the limits set by a TMDL).

Credits can be accrued through other methods:

- Upgrading an existing minor WWTP (in Cecil County, this is a WWTP other than Elkton, Seneca Point, or Perryville) to Biological Nutrient Removal (BNR) or ENR technology;
- Retiring an existing minor WWTP after connecting its flow to BNR or ENR facility; or
- Retiring an existing On Site Disposal System (OSDS or septic system) by connecting to an ENR facility.

The County's WWTPs are already pursuing some of these opportunities, particularly with the retirement of the Cherry Hill and Highlands WWTPs (and diversion of their flows to the Meadowview WWTP). In addition, retirement of existing OSDS (those already constructed as of approximately 2007) has already been mentioned as one strategy for increasing capacity in the Seneca Point WWTP. Under the state policy, Seneca Point or any other WWTP could receive the following nutrient credits for each type of OSDS retired:

- OSDS in the Chesapeake Bay Critical Area: approximately 5.3 EDU per OSDS.
- OSDS within 1,000 feet of any perennial surface water: 3.3 EDU per OSDS.
- Any other OSDS: 2 EDU

As an example, there are approximately 3,000 residential units on septic systems in the Critical Area in Cecil County. By connecting half of those units to a WWTP (assuming that the other half are too far from the WWTP to extend service), the County's WWTPs could gain approximately 2 MGD of capacity.

[3] Information available at: http://www.mde.state.md.us/Water/nutrientcap.asp

In addition, MDE and the Maryland Department of Agriculture (MDA) are developing guidelines that would allow trades between nonpoint sources (such as agriculture) and point sources.

Land Application of Treated Wastewater

The application of treated wastewater effluent directly to the soil can allow pollutants to be absorbed before the effluent reaches receiving streams. Land application would not count toward nutrient caps. Spray irrigation is the most common form of land application, although other options (such as drip irrigation or subsurface discharge) can also be considered.

A desktop analysis conducted by URS Corporation and presented to the Comprehensive Plan Water Resources Subcommittee in August 2008 showed that, within approximately five miles of the Seneca Point WWTP, there were more than 1,600 acres of land that was potentially suitable for land application. This amount of land could accommodate disposal of as much as 4.4 to 5.8 MGD of wastewater effluent.

Factors such as slope, soil depth and granularity, water table depth and behavior, and buffers from streams and developed areas are important in determining true suitability of sites for land application. Other important considerations include effluent storage and seasonal restrictions; land application systems typically require large storage lagoons capable of holding several months' worth of effluent. Land application may not be permitted during winter months, when frozen soil cannot accept effluent, or during other months when water tables rise.

Those caveats notwithstanding, there does appear to be an opportunity for public sewer systems in Cecil County to utilize land application as an alternative or enhancement to surface water discharge. However, as shown by the URS analysis, a significant amount of land would need to be reserved for land application.

Tertiary Treatment Wetlands

In this system, effluent is treated at a BNR or ENR WWTP and then discharged into a series of constructed, vegetated wetlands. These wetlands purify the effluent to the point where the eventual discharge meets or exceeds water quality standards. A conventional WWTP paired with a tertiary treatment wetland could potentially increase its discharges without violating nutrient caps or other discharge limits. In addition to providing wastewater treatment, the wetlands can also provide habitat for wetland-dwelling species.

The best-known application of this technology occurs in Clayton County, Georgia. In this system (which treats 9.3 million gallons of wastewater per day), the wetland-treated effluent is pure enough to be used for drinking water.[4] Other smaller applications of tertiary

[4] For more information, see http://www.ccwa1.com/operations/water.reclamation.aspx

treatment wetlands can be found throughout Maryland. These facilities are typically used at schools and other institutional uses. Implementation of such a facility would depend heavily on soil characteristics and other conditions.

The CH2MHill Corporation, which designed and maintains the Clayton County tertiary treatment wetland system, estimates that 15 acres of land are needed for each MGD of wastewater treated. Depending on individual site, soil, and vegetation conditions, the entire remaining 14 MGD sewer capacity deficit in the County could be met through the use of tertiary treatment wetlands covering perhaps 300-400 acres (including buffers, and other site considerations).

Wastewater Reuse

Treated wastewater can also be reused to sustain landscaping, or in industrial processes. The latter is the case at the Mattawoman WWTP in Charles County. The vast majority of treated effluent from that plant is pumped to the Panda Co-Generation Station (power plant) in Brandywine, MD, where it is used as cooling water.

In some cases, treated wastewater effluent can also be used to recharge groundwater aquifers. As with tertiary treatment wetlands, effluent is treated to potable (or better) standards before being injected into the aquifer. One such large-scale system is in place in Orange County, California.[5] In that system, treated effluent is used not only to recharge the aquifer (and to provide some drinking water as a result), but also to halt and even reverse saltwater intrusion from the Pacific Ocean into the aquifer. This technique is not typically used in Maryland.

CONCLUSIONS FOR WASTEWATER SYSTEMS

Considering planned WWTP upgrades and expansions, the potential wastewater capacity gained through nutrient trading (including retirement of OSDS), and the adoption of alternative disposal methods such as land application, tertiary treatment wetlands, and wastewater reuse, it can reasonably be stated that wastewater demand in public systems in the DGA and Rising Sun (taken as a whole) could be met at buildout, regardless of which development concept becomes part of the Comprehensive Plan.

To ensure the long-term adequacy of public wastewater systems and provide as much as 13.5 MGD of additional sewer capacity, the County should work with its Municipalities and private wastewater companies to:

- Upgrade all large and moderate-sized WWTPs to ENR. In cases where ENR upgrades are not the technologically or financially preferable option, WWTPs should be retired, and effluent should be pumped to an ENR facility.

[5] For more information, see http://www.gwrsystem.com/

- Identify and acquire property suitable for land application of treated effluent, to be paired with existing WWTPs. Conduct the engineering studies necessary to determine land application system parameters, including necessary acreage, appropriate buffers, effluent storage, and annual discharge rate.

- Identify and acquire approximately 400 acres of land suitable for tertiary treatment wetlands. Conduct the engineering studies necessary to determine system parameters, including facility layout, vegetation requirements, and system capacity.

- Identify County businesses that would be willing to use treated effluent in their industrial processes.

- Work with MDE to investigate the possibility of groundwater recharge with treated effluent.

NUTRIENT LOADS AND ASSIMILATIVE CAPACITY

This section discusses the effect of the buildout options on nonpoint source (NPS) pollution. NPS pollution includes overland (stormwater) flow, as well as nutrient loads from septic systems.

NUTRIENT LOADS

Table 5 shows the estimated existing nonpoint source nitrogen and phosphorus loads (as of 2007) for each 8-digit watershed in Cecil County, as well as future nitrogen loads from septic systems under each development option. Existing nutrient loads from stormwater are estimated using loading rates contained in the Chesapeake Bay Program Watershed Model, Phase 4.3, applied to the various land uses in each watershed.

Stormwater Loading

Stormwater pollution rates are based on the type of development (e.g., low density residential vs. agriculture), and the techniques (referred to as Best Management Practices, or BMPs) used to manage the stormwater from that development. In general, higher levels of urban development (residential, commercial, industrial, etc.) and higher levels of agricultural activity are correlated with higher nonpoint source pollution, while forest and wetland generate minimal nutrient flows.

This analysis does not evaluate stormwater nutrient loads at buildout, because estimating the amount of forest, agriculture, urban, and other land cover that will be present at buildout would be too conjectural, and would not be useful or meaningful. It would also be conjectural to account for the implementation and effectiveness of BMPs for urban and agricultural land uses.

Table 5: Existing Nitrogen and Phosphorus Loading

Watershed	Existing Conditions			
	Nitrogen Loading[1]			Total Phosphorus Loading
	Septic Systems	Other NPS	Total Nitrogen	
Back Creek	8,925	47,973	56,898	5,038
Big Elk Creek	12,439	60,810	73,249	6,095
Bohemia River	11,538	172,309	183,847	19,989
Christina River	8,675	37,947	46,622	3,658
Conowingo Dam	6,646	23,076	29,721	961
Furnace Bay	17,951	74,992	92,943	7,294
Little Elk Creek	28,393	98,086	126,479	9,492
Lower Elk River	30,348	120,727	151,075	12,271
Lower Susquehanna	17,349	81,924	99,273	3,167
Northeast River	49,242	227,233	276,475	21,346
Octoraro	40,515	165,299	205,815	8,123
Sassafras River	7,049	106,084	113,132	12,086
Upper Elk River	35,166	97,603	132,769	7,671
Total	**274,237**	**1,314,063**	**1,588,299**	**117,192**

Notes:

1: Nitrogen and Phosphorus loading expressed as lbs/year.

The above limitations notwithstanding, it is reasonable to conclude that additional development under the Current Zoning and Concept Plan options will generate higher stormwater nutrient loads than currently exist, particularly to the degree that development results in the consumption of forest and open space. At the same time, new development in Cecil County (and throughout Maryland) will be subject to the Maryland Stormwater Management Act of 2007, which requires the use of Environmental Site Design (ESD), a menu of BMPs intended to ensure that post-development stormwater characteristics are the same as, or better than pre-development characteristics.

Thus, while Countywide nutrient loads from stormwater runoff at buildout will likely be higher than present levels, the increase in nutrient loading in all watersheds will not be proportional to growth. It can be expected that new development—or development that has been retrofitted to meet ESD requirements—will contribute less nitrogen and phosphorus than existing development.

The relationship between stormwater nutrient loads in the two buildout options is not clear-cut. The Concept Plan will result in more new residential and nonresidential development, but a larger portion of that new development will be concentrated in the DGA, where urban stormwater BMPs (including retrofits) can treat large nutrient loads in a relatively cost-effective manner (as measured by the cost of treatment per household). The Current Zoning option will result in less overall new development, but would result in more development outside of the DGA, which would consume more agricultural and forest land.

The most likely result of the two buildout scenarios (assuming consistent application of stormwater BMPs) is that the Current Zoning option would generate less overall nutrient loading from stormwater, but that its impacts may be higher in the County's more rural, forested watersheds and areas such as the Elk Neck Peninsula and the Conowingo Dam/Susquehanna River watershed.

Septic System Loading

Nitrogen loading from residential and commercial septic systems (or OSDS) is a significant component of overall NPS nutrient loads. [6] Table 6 shows the estimated nitrogen loads at buildout for the Current Zoning and Concept Plan options.

Table 6: Nitrogen Loads from Septic Systems

	Total Septic EDU[1]			Nitrogen Loading from Septic Systems (lbs/year)[2]		
	Existing	Current Zoning	Concept Plan	Existing	Current Zoning	Concept Plan
Back Creek	1,153	2,183	2,672	8,925	8,015	9,811
Big Elk Creek	876	1,155	1,668	12,439	7,780	11,238
Bohemia River	1,333	3,959	3,815	11,538	16,255	15,664
Christina River	1,373	4,613	3,247	8,675	13,827	9,731
Conowingo Dam	809	2,287	1,573	6,646	8,908	6,129
Furnace Bay	1,031	2,635	2,247	17,951	21,774	18,568
Little Elk Creek	2,695	5,075	4,339	28,393	25,371	21,691
Lower Elk River	2,433	5,875	4,136	30,348	34,765	24,476
Lower Susquehanna	992	2,616	2,243	17,349	21,709	18,611
Northeast River	4,509	11,108	9,865	49,242	57,556	51,117
Octoraro	4,576	7,689	7,319	40,515	32,303	30,746
Sassafras River	863	2,051	2,148	7,049	7,951	8,329
Upper Elk River	2,896	8,825	7,884	35,166	50,849	45,426
Total	**25,540**	**60,069**	**53,155**	**274,236**	**307,063**	**271,536**

Notes:

1: Includes units on individual septic systems (see Table 2), as well as non-residential septic discharges, estimated for purposes of this analysis to be approximately 25% of total septic discharges.

2: Assumes that at buildout, all units on septic systems will use denitrification units, which cuts nitrogen output by approximately half.

Nitrogen loading from septic systems would increase somewhat above current levels under the Current Zoning option, and might actually decrease under the Concept Plan option, compared to existing conditions. A large factor in this calculation is the assumption that, at buildout, all septic systems (including existing septic systems) would use denitrification units (all existing septic systems would be retrofitted), which cut nitrogen loading from the septic system by about half. (For comparison, if all existing septic systems in the County currently used denitrification systems, their nitrogen output would be approximately 130,000 lbs/year, compared to the 274,236 lbs/year shown in Table 6). The Concept Plan option would result in lower nitrogen loads because it would result in fewer new septic systems than the Current Zoning option.

COMBINED POINT AND NONPOINT SOURCE LOADINGS

Taken alone, the increase in nutrient loading from septic systems under the Current Zoning option will probably not severely exacerbate water quality problems. However, a key

[6] MDE does not consider septic systems to be a significant source of phosphorus loading.

question is whether the combination of septic, other NPS, and point source (particularly WWTP) nutrient loads would degrade water quality in the County's watersheds to levels that are incompatible with MDE regulations and the health of the Chesapeake Bay.

As discussed above, point source discharges are essentially capped by MDE policy (including TMDLs). TMDLs establish specific caps for point sources, as well as for non-point sources of nutrients. The expanded discharge capacities described in the Point Source section would have to occur without increasing nutrient loads above those limits. Similarly, the increase in nutrients from septic systems is expected to be relatively modest, given the use of denitrification systems. The largest nutrient impacts from development will therefore be from stormwater runoff.

Many of Cecil County's 8-digit watersheds are considered "impaired" by nutrients (see Figure 3). Water bodies are classified as "impaired" when they are too polluted or otherwise degraded to support their designated and existing uses. MDE has prepared TMDLs for three watersheds—the Northeast River, Bohemia River, and Sassafras River—and will eventually prepare TMDLs for the Conowingo Dam, Furnace Bay, Upper Elk River, Lower Elk River, and Back Creek watersheds. A TMDL also governs discharges into the Christina River, which is part of the Delaware Bay basin. These TMDLs will set limits for point source and non-point source nutrient loads.

On May 12, 2009, President Obama signed an Executive Order[7] to increase the federal commitment to restoring and protecting the Chesapeake Bay. It calls on the federal government to lead the effort to control pollution that flows to the Bay and to protect wildlife habitats in the region. On the same date, the Chesapeake Bay Program Executive Council set new goals for restoring the water quality Bay-wide, with a set of two-year milestones that call for accelerated actions to address point and non-point sources of pollution.

The Environmental Protection Agency is in the process of formulating a Bay-wide TMDL. State level allocations could be assigned by thesummer of 2009, with the TMDL completed by the end of 2010. The Bay-wide TMDL will be broken down into individual TMDLs for each of the tidal river segments, and these will, in turn, establish TMDLs for the upstream sections of the watershed and will set maximum daily loads for point sources, stormwater, agriculture and septics that will require county-level implementation plans.

While nutrients from new development will impact water quality in all watersheds, the nutrient impairments in the Bohemia, Sassafras, and Lower Elk Rivers are likely tied to agricultural sources of nitrogen and phosphorus. Thus, development-related nutrient concerns are highest in the Northeast River, Furnace Bay, Upper Elk River, and Back Creek, where much of the County's future development will occur.

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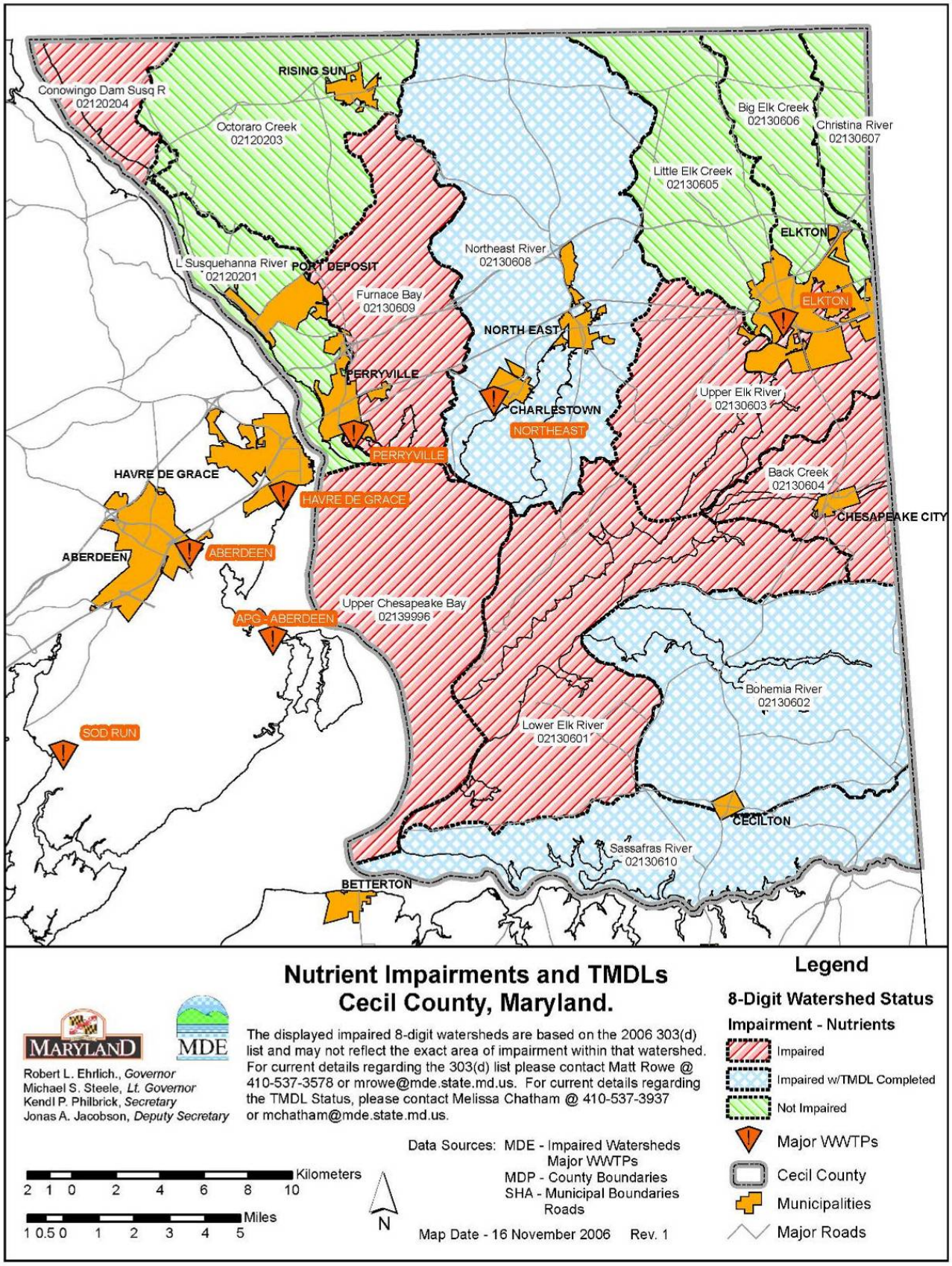
[7] http://www.whitehouse.gov/the_press_office/Executive-Order-Chesapeake-Bay-Protection-and-Restoration/

Figure 3: Cecil County's 8-digit watersheds, with nutrient impairment status.



The Current Zoning option would result in approximately 68,000 EDU of residential and non-residential development in these watersheds, while the Concept Plan option would add more than 83,000 EDU.

Clearly, less development in these impaired watersheds will make it easier to manage nutrients from stormwater. However, the land use pattern is also important. The ideal land use pattern would incorporate and balance the following goals:

- New development (including infill development) should be concentrated in higher densities wherever reasonably feasible, and should use urban stormwater management systems that meet the requirements of the 2007 Stormwater Act. These systems are often more efficient when applied to more densely populated areas.

- New development (particularly lower-density development outside of the DGA) should consume as little forest and open space as possible, since these types of land cover act as natural filters for stormwater.

In defining a long-term land use pattern for buildout a balance between the amount of development, the location of development, and the density of development should be carefully considered to help minimize nutrient loads from stormwater runoff.

The land use pattern of the Concept Plan option supports these goals, by concentrating development in the DGA, where new and retrofitted stormwater systems can have the greatest benefit. The Concept Plan option also limits development in rural areas (particularly the northern rural area), compared to the Current Zoning option. However, the smaller amount of development in the Current Zoning option means that overall nutrient loads (including point and nonpoint sources) are likely to be markedly lower than the Concept Plan.

CONCLUSIONS FOR NUTRIENT LOADS

Although new development will incorporate ESD stormwater techniques and septic denitrification units, buildout of Cecil County (regardless of option) will likely result in higher nonpoint source nutrient loads.

Assuming, over the very long term, that all septic systems are constructed or retrofitted with denitrification units, the nutrient loads from septic systems should not exacerbate water quality impairments at buildout.

In defining its buildout pattern, the County should consider not just the amount of development, but also the location and pattern of development. Less development will be easier to manage, as will a more concentrated development pattern that avoids consumption of forest and open space.

APPENDIX

WATER BALANCE METHODOLOGY FOR NORTHER RURAL AREAS

Water balance calculations were performed, in accordance with procedures set forth in Models and Guidelines 26 (see http://www.mdp.state.md.us/mgs/pdf/mg26.pdf), the official state guidance on preparing the Water Resources Element, to estimate the amount of groundwater available for individual wells in the northern rural portion of Cecil County.

Table A-1. Water Balance for Northern Rural areas of Cecil County

Watershed	Acreage outside of DGA	Reference Gauge	Drought Recharge	7Q10	Available Recharge (gpd)
Conowingo Dam	4,870	Big Elk Creek (4950)	7.5	2.6	1,774,119
Octoraro Creek	18,951		7.5	2.6	6,903,762
Furnace Bay	4,488		7.5	2.6	1,634,958
Northeast River	23,329		7.5	2.6	8,498,647
Little Elk Creek	10,704		7.5	2.6	3,899,418
Big Elk Creek	6,581		7.5	2.6	2,397,428
Christina River	3,506		7.5	2.6	1,277,220
Total	**72,429**				**26,385,552**

Formula: [Available Recharge] = ([Drought Recharge] –[7Q10]) x [Acres] x 74.346

Where:

Drought Recharge = the effective recharge rate (inches per year)

7Q10 = the 7-day, 10-year low-flow volume (inches per year)

Area = the area of the basin used for calculation

74.346 = a conversion factor

Source: M&G 26, pages 61-65

The water balance methodology indicates the theoretical maximum amount of groundwater that could be available for withdrawal, but does not take into account seasonal variations, or other difficulties in extracting this groundwater. The calculations above also assume that seasonal variations and extraction difficulties can be overcome.

Oversight Committee Goals

Memorandum

Environmental Resources Management, Inc.
200 Harry S. Truman Parkway, Suite 400
Annapolis, MD 21401
(410) 266-0006
(410) 266- 8912 (Fax)

ERM®

To:	Citizens Oversight Committee
From:	Michael Bayer and Clive Graham
Date:	May 22, 2009
Subject:	COC Goals

COC members:

As a follow-up to the discussion at the meeting on May 20, attached please find two tables that include the goals of the COC subcommittees and show how we will use this input as we move through the discussion of the map issues next week and the development of the Concept Plan ("white paper") and draft Comprehensive Plan this spring and summer.

The first table, labeled as "Unsorted Goals," includes the goals of each committee as submitted to and compiled by Dr. Lane. This is the table we reviewed and discussed briefly at the May 20 meeting.

These "goals" are comprised of text that we would broadly consider ***goals***, ***objectives***, ***policies*** or ***action items*** in a plan document. Thus, we have classified each COC goal into one of these categories and lightly edited them to serve as potential plan language and the basis for COC discussion as the process moves forward.

To facilitiate our analysis of this input, we also have classified each goal by the major issue it addresses and the specific type of input it provides. This is our way of fitting the specific goals identified by the subcommittees into a larger planning framework.

The second table, then, labeled as "Sorted Goals," sorts the goals by major issue. This enables us to identify overlapping input, regardless of the committee from which it originated. For example, many of the goals submitted by different COC subcommittees broadly relate to "managing growth." Within this issue, the subcommittees have provided detailed input related to different aspects of growth and the many elements the Comprehensive Plan addresses.

We anticipate that the "Sorted Goals" table will be a living document as the process moves forward. We will continue to refine it as the COC provides input, and we will use it as a tracking device to show how the final plan document addresses the goals and input of the COC and its subcommittees. All of the subcommittee goals in the "Unsorted Goals" table are in the Sorted table but in a different order.

To facilitate the discussion of this input, we have added color codes that relate to when we anticipate addressing them with the COC. Beginning May 27, the

process will have three major stages: addressing the future land use ***map***, developing and discussing the ***Draft Concept Plan (White Paper)***, and developing the ***Draft Comprehensive Plan***. The following table shows the color codes and when we would address each scale of issue with the COC:

Step in process	**Start of discussion with COC**
Map Issues	May 27
Draft Concept Plan (White Paper)	June 17
Draft Comprehensive Plan	September 16

The subcommittees were very comprehensive in their approach and covered many issues. Some of these goals have broad support but others may not and will require discussion by the COC. Therefore, we have put in **bold** text those items we think merit discussion by the COC at the appropriate step in the process and that we will explicitly incorporate into our presentations and documents.

The other items (those not in bold) will be addressed but will not necessarily be flagged for detailed discussion unless, in the COC's review of these issues, the COC would like to specifically address them. Thus, we would ask each COC member to carefully review the document of sorted goals and flag any unbolded item you believe merits discussion with the COC and bring these to the May 27 meeting.

Finally, there are a number of major issues that we have discussed with the COC over time but may not have been explicitly addressed in the goals document. We have added these to the end of the sorted goals table. Many of these issues relate to the future land use map and will be addressed beginning May 27.

Cecil County Comprehensive Plan
Citizens Oversight Committee Goals, Objectives, Policies and Action Items

	MAJOR ISSUE (What?)	TYPE of ISSUE	PROPOSED GOALS/OBJECTIVES (What are we trying to achieve? How would we measure it?)	PROPOSED POLICIES (What should we do?)	PROPOSED ACTION ITEMS (What will we do?)	COMMITTEE INPUT	CMTE
	Issues to be discussed at the Map stage	Issues to be addressed in the Draft Concept Plan (White Paper)	Issues to be addressed in the Draft Comprehensive Plan	**Bold text indicates issues for specific COC consideration**			
1	Managing Growth	Balancing Residential and Employment Uses		Encourage a balance of residential development and employment opportunities in the county so that tax revenues are retained in the county.		4. Encourage a balance of residential development and employment opportunities in the county so that tax revenues are retained in the county.	ED
2	Managing Growth	Design quality, zoning regulations, implementation tools		Ensure a sufficient mix of residential, commercial, and industrial zoning within the growth area to attract desired activities with flexibility for innovative plans and/or designs.		3. Ensure a sufficient mix of residential, commercial, and industrial zoning within the growth area to attract desired activities with flexibility for innovative plans and/or designs.	LU
3	Managing Growth	Development process			**Promote fast track permitting in the growth corridor**	d. Promoting fast track permitting in the growth corridor	APM
4	Managing Growth	Development process		Provide for the timely review of applications for development, including subdivision plat review and permit processing within the growth area.		6. Timely review of applications for development, including subdivision plat review and permit processing within the growth area.	LU
5	Managing Growth	Development process, infrastructure, implementation tools		**The permitting process should ensure that the plans of all proposed developments include adequate provision for developer financed infrastructure.**		3. The permitting process should insure that the plans of all proposed developments include adequate provision for developer financed infrastructure.	IT
6	Managing Growth	High densities		Consider an Urban District classification within the growth area to accommodate the highest density development.		7. Consider an Urban District classification within the growth area to accommodate the highest density development.	LU
7	Managing Growth	High densities, mixed use, identifying growth areas		Provide incentives to attract high density, mixed use development in the designated growth areas.	Direct housing to areas appropriate for such growth.	11. Provide incentives to attract high density, mixed use development in the designated growth areas. Direct housing to areas appropriate for such growth.	HR
8	Managing Growth	High density development	Encourage high density development in growth corridor			a. Encouraging high density development in the growth corridor;	APM
9	Managing Growth	High density development, Implementation tools		**Concentrate high density development in areas where adequate public facilities are provided.**		8. Concentrate high density development in areas where adequate public facilities are provided.	ED
10	Managing Growth	Housing, Mixed use	Reduce the commute times to and from work.	Encourage the development of mixed use communities that will create housing, retail, and employment opportunities in close proximity		2. Encourage development of mixed use communities that will create housing, retail, and employment opportunities in close proximity and help reduce the commute time to and from work.	HR
11	Managing Growth	Housing, Mixed use, equity		Integrate housing options with shopping and employment opportunities.		6. Integrate housing options with shopping and employment opportunities.	HR
12	Managing Growth	Housing, Mixed use, transit		Provide attractive, mixed use housing that will support mass transit in the growth corridor.		5. Provide attractive, mixed use housing that will support mass transit in the designated growth corridor.	HR
13	Managing Growth	Identifying growth areas		Designate and map formal “growth area” with plan		1. Designate and map formal “growth area” with plan	ED
14	Managing Growth	Identifying growth areas		Plan for maximum growth in the designated growth area.		1. Plan for maximum growth in the designated growth area.	LU
15	Managing Growth	Implementation tools		Assure that PDR and TDR programs are effective	Amend PDR and TDR programs to make them more effective	e. Providing effective TDR and PDR Programs;	APM
16	Managing Growth	Implementation tools			**Consider establishing an APFO**	f. Implementing & Promoting the use of APFO’s ;	APM
17	Managing Growth	Implementation tools			**Consider establishing impact fees**	g. Implementing & Promoting the use of impact fees;	APM
18	Managing Growth	Implementation tools			Update land development regulations to implement Comp Plan goals	h. Upgrading zoning laws and subdivision regulations;	APM
19	Managing Growth	Implementation tools			See TDR above	b. Improve and expand the County TDR Ordinance.	APM

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	Issues to be discussed at the Map stage	Issues to be addressed in the Draft Concept Plan (White Paper)	Issues to be addressed in the Draft Comprehensive Plan	**Bold text indicates issues for specific COC consideration**			
20	Managing Growth	Implementation tools		**Encourage modest, controlled development adjacent to towns outside the growth corridor.**	**Require developers of annexed property to use TDRs or develop at densities no less than what is required under the county zoning ordinance**	12. Encourage modest, controlled development adjacent to towns outside the growth corridor. Require the developer of annexed property to use TDRs or develop at county density.	APM
21	Managing Growth	Implementation tools			**Develop a long-range strategic plan for the County that includes consideration of an APFO**	3. Consideration for available and adequate public facilities is an important part of all residential growth planning. Therefore, forward thinking to provide adequate public facilities and services should be developed as a long range strategic plan and the funding mechanisms for such.	HR
22	Managing Growth	Implementation tools		**Require impact fees, adequate to provide for the necessary infrastructure (including but not limited to schools, parks, roads and water/sewer facilities) in new developments.**		1. Require impact fees, adequate to provide for the necessary infrastructure (including but not limited to schools, parks, roads and water/sewer facilities) in new developments.	IT
23	Managing Growth	Implementation tools		**A "Special Taxing District" should be created for existing developments and neighborhoods which require new or upgraded infrastructure, e.g., schools, parks, roads and water/sewer facilities.**		2. A "Special Taxing District" should be created for existing developments and neighborhoods which require new or upgraded infrastructure, e.g., schools, parks, roads and water/sewer facilities.	IT
24	Managing Growth	Implementation tools		Identify and offer incentives for development such as town centers, urban centers, PUDs, increased densities as sites will allow, and flexible design standards including increased height opportunities; to encourage development within the growth area and discourage development outside of the growth area.		5. Identify and offer incentives for development such as town centers, urban centers, PUD's, increased densities as sites will allow, and flexible design standards including increased height opportunities; to encourage development within the growth area and discourage development outside of the growth area.	LU
25	Managing Growth	Infrastructure		Provide adequate infrastructure in the growth corridor to support growth		c. Providing infrastructure in the growth corridor	APM
26	Managing Growth	Infrastructure		Concentrate county funding, consistent with state priority funding areas, towards infrastructure improvements to the growth area, except to correct safety problems outside the district.		9. Concentrate county funding, consistent with state priority funding areas, towards infrastructure improvements to the growth area, except to correct safety problems outside the district.	ED
27	Managing Growth	Infrastructure, roads, funding, condition of roads and bridges		**Focus transportation and infrastructure investments in defined growth areas, permitting improvements outside of these areas only to upgrade non-standard roads and under-capacity bridges.**		3. Focus transportation and infrastructure investments in defined growth areas, permitting improvements outside of these areas only to upgrade non-standard roads and under-capacity bridges.	IT
28	Managing Growth	Minimum densities			**Establish minimum densities in the growth corridor**	b. Stipulating minimum allowable densities in the growth corridor	APM
29	Managing Growth	Mix of housing types		Encourage a mix of housing densities and types, principally in the development district, to accommodate residential growth.		15. Encourage a mix of housing densities and types, principally in the development district, to accommodate residential growth.	ED
30	Managing Growth	Rural character	Maintain the rural character of the County		Provide residential growth incentives within the defined growth corridor	1. Maintain the rural character of the County by providing residential growth incentives within the defined growth corridor.	HR
31	Managing Growth			**Restrict growth outside the growth corridor**		3. Restrict growth in non growth areas by:	APM

Cecil County Comprehensive Plan
Citizens Oversight Committee Goals, Objectives, Policies and Action Items

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32	Integrating Land Use and Transportation	Identifying growth areas, transportation infrastructure	**Reduce the County's burden towards public highway and road infrastructure costs**	Development should occur in the County's growth corridor		13. To lessen the County's burden towards public highway and road infrastructure costs, development should occur in areas consistent with the County's recognized development corridor.	ED
33	Integrating Land Use and Transportation	Mixed use areas, transportation infrastructure		Embrace mixed use development to reduce trip length and number of trips		10. Reduce trip length and number of trips by embracing mixed use development.	ED
34	Integrating Land Use and Transportation	Roads, land use, coordination among transportation agencies		Maintain and enhance the quality of the existing road system to correspond to and support the overall Land Use Plan in coordination with appropriate state and regional agencies.		2. Maintain and enhance the quality of the existing road system to correspond to and support the overall Land Use Plan in coordination with appropriate state and regional agencies.	IT
35	Supporting Transit	Transit, infrastructure, rail		Establish commuter rail transit and infrastructure along existing rail lines in Cecil County that will serve the growth corridor and the five towns located along them.		4. Establish commuter rail transit and infrastructure along existing rail lines in Cecil County that will serve the growth corridor and the five towns located along them.	IT
36	Supporting Transit	Transit, rail service		Emphasize public transportation and rail service		11. Public transportation and rail service should be emphasized.	ED
37	Supporting Transit/Implementing Travel Demand Management Programs/Supporting Alternative Transportation Modes	Transit, funding for transportation alternatives, rail		Prioritize transportation funding toward mass transit rail and bus service, along with projects that discourage the expansion of vehicular traffic and encourage the use of alternative transportation modes.		1. Prioritize transportation funding toward mass transit rail and bus service along with projects that discourage the expansion of vehicular traffic and encourage the use of alternative transportation modes.	IT
38	Supporting Regional Accessibility	Airports, transit, rail		Encourage accessibility to nearby commercial airports in Baltimore and Philadelphia via interstate buses and rail.		7. Encourage accessibility to nearby commercial airports in Baltimore and Philadelphia via interstate buses and rail.	IT
39	Promoting Ride Sharing	Park and ride lots			Promote ride sharing by establishing and expanding park and ride lots along major commuter roads.	8. Promote ride sharing by establishing and expanding park and ride lots along major commuter roads.	IT
40	Protecting Scenic Highways	Roads, scenic vistas		**Protect the inherent nature of "scenic highways" as designated by the State Highway Administration.**		9. Protect the inherent nature of "scenic highways" as designated by the State Highway Administration.	IT
41	Supporting Efficient Freight Systems	Infrastructure, rail, goods, shipping, truck traffic		Encourage commercial goods shipments on the existing rail lines to reduce through truck traffic on major roads.		5. Encourage commercial goods shipments on the existing rail lines to reduce through truck traffic on major roads.	IT
42	Developing Walkable Communities	Pedestrian facilities		Encourage the development of walkable communities that will serve a wide range of incomes and physical abilities.		7. Encourage development of walkable communities that will satisfy a wide range of income and physical abilities.	HR
43	Preserving Historic Character	Historic sites and resources, visual character		Encourage the identification, preservation, and restoration of sites and structures having historical significance; control development in their vicinity to protect their visual character.		16. Encourage the identification, preservation, and restoration of sites and structures having historical significance and control development in their vicinity to protect their visual character.	HR
44	Providing Infrastructure	High densities, mixed use, infrastructure		Provide public and encourage private infrastructure and services to the growth area sufficient to accommodate high density, mixed use development.		2. The county should provide public and encourage private infrastructure and services to the growth area sufficient to accommodate high density, mixed use development.	LU
45	Providing Infrastructure	Natural gas infrastructure		Encourage and support the provision of natural gas services to commercial, industrial, governmental, and residential users in the designated Growth Area.		1. Encourage and support the provision of natural gas services to commercial, industrial, governmental, and residential users in the designated Growth Area.	IT

Cecil County Comprehensive Plan
Citizens Oversight Committee Goals, Objectives, Policies and Action Items

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46	Developing the Labor Force	Job training		Encourage the training and development of labor force to fulfill the needs of industry.		3. Encourage the training and development of labor force to fulfill the needs of industry.	ED
47	Supporting the Local Economy	Fisheries, water access		Preserve commercial fishing interests and access to waterways.		7. Preserve commercial fishing interests and access to waterways.	ED
48	Supporting the Local Economy	Manufacturing, high tech, research and development industries	Encourage manufacturing, high tech, and research and development industries			2. Encourage manufacturing, high tech, and research and development industries	ED
49	Supporting the Local Economy	Land inventory, opportunity sites		Attract industry from Delaware and Pennsylvania from the East and BRAC from the West.	Ensure that an inventory of readily available land is available for economic development	12. Inventory of readily available land should be available towards adjacent jurisdictions to attract industry from Delaware and Pennsylvania from the East and BRAC from the West.	ED
50	Expanding Broadband Opportunities	Internet, infrastructure, economic development		Encourage and support the provision of broadband high speed internet services to commercial, industrial, governmental, and residential users in the designated Growth Area to advance the economic, essential services, and cultural development of the County.		1. Encourage and support the provision of broadband high speed internet services to commercial, industrial, governmental, and residential users in the designated Growth Area to advance the economic, essential services, and cultural development of the County.	IT
51	Expanding Broadband Opportunities	Internet, infrastructure, economic development		After broadband services are provided in the Growth Area, extend it to less-developed areas of the County so that all citizens may ultimately enjoy the benefits of high speed internet service.		2. After broadband services are provided in the Growth Area, extend it to less-developed areas of the County so that all citizens may ultimately enjoy the benefits of high speed internet service.	IT
52	Utilizing Waterway Connections	Waterways, goods, shipping, barges		Utilize County waterway connections to the Chesapeake and Delaware Bays to promote shipment of commodity goods such as gravel and agricultural products out of the County by barge.		6. Utilize County waterway connections to the Chesapeake and Delaware Bays to promote shipment of commodity goods such as gravel and agricultural products out of the County by barge.	IT
53	Preserving Access to Natural Resources	Waterfront access		**Waterfront development should not limit public access in places where access previously existed.**		14. Waterfront development should not limit public access where access previously existed.	HR
54	Protecting Agriculture	Agribusiness and ag-supportive uses		Permit the development of agriculture and forestry support enterprises in the Rural Conservation district and Resources Protection District, including farm implement sales and servicing, seed fertilizer dealers, and industries that process agricultural and forestry products grown in the county.		17. Permit the development of agriculture and forestry support enterprises in the Rural Conservation district and Resources Protection District, including farm implement sales and servicing, seed fertilizer dealers, and industries that process agricultural and forestry products grown in the county.	ED
55	Protecting Agriculture	Agribusiness, local markets	Promote, protect and sustain the farming and forestry industries	Expand allowable uses for agricultural and forested lands	Provide flexible standards for retail on-site sales; sales should not be strictly limited to farm or forest products, nor strictly limited to county-only produced products, though County products should be the preponderance of goods sold, with the balance coming from the local region.	14. Expand allowable uses for agricultural and forested lands to promote, protect and sustain the farming and forestry industries by providing flexible standards for retail on-site sales. These sales should not be strictly limited to farm or forest products, nor strictly limited to county-only produced products, though Cecil County products should be the preponderance of goods sold, with the balance coming from the local region.	APM
56	Protecting Agriculture	Agriculture, agribusiness	Protect agricultural and forested lands; encourage sustainable agribusiness and other resource based industries	**Discourage development of rural land except for agribusiness**	Allow value added agricultural related enterprises to the list of allowed uses in the zoning regulations	2. Discourage the rezoning of rural property for anything other than value added agricultural related enterprises. Identify and protect our agricultural and forested lands and encourage sustainable agribusiness and other resource based industries by including value added agricultural related enterprise in the zoning code.	APM
57	Protecting Agriculture	Agriculture, forests			Amend zoning code to allow more resource based uses on agricultural and forested lands	i. Expanding allowable resource based uses for agricultural and forested lands;	APM

Cecil County Comprehensive Plan
Citizens Oversight Committee Goals, Objectives, Policies and Action Items

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58	Protecting Agriculture	Agriculture, forests	**Protect, preserve and sustain at least 80% of remaining agricultural and forested land outside of the designated growth areas**			9. Protect, preserve and sustain at least 80% of remaining agricultural and forested land outside of the designated growth areas.	APM
59	Protecting Agriculture	Buffering incompatible uses		Discourage non agribusiness commercial, industrial and residential development in and around rural village and road hubs.	**Prohibit new petroleum filling stations for auxiliary petroleum fuel sales outside areas not served by public water.**	13. Discourage non agribusiness commercial, industrial and residential development in around rural village and road hubs. Prohibit new petroleum filling stations for auxiliary petroleum fuel sales outside areas not served by public water.	APM
60	Protecting Agriculture	Land equity		Maintain the equity value of agricultural land.		16. Maintain the equity value of agricultural land.	ED
61	Protecting Agriculture	Shared facilities			**Prohibit shared facilities in districts where agricultural preservation and open space are higher priorities than residential development, except in cases where the environmental benefit(s) can be quantitatively demonstrated, and clustering can be better achieved, and shared facilities do not permit greater density than would otherwise be permitted, and the permitting of said shared facilities would not then permit any extension of public facilities, now or in the future.**	19. Shared facilities are inappropriate in districts where agricultural preservation and open space are higher priorities than residential development, except in cases where the environmental benefit(s) can be quantitatively demonstrated, and clustering can be better achieved, and shared facilities do not permit greater density than would otherwise be permitted, and the permitting of said shared facilities would not then permit any extension of public facilities, now or in the future.	APM
62	Protecting Agriculture	Agribusiness		Encourage the economic viability of farming and farming related business.		5. Encourage the economic viability of farming and farming related business.	ED
63	Protecting Agriculture/Natural Resources	Implementation tools			Increase funding to expand the PDR program to protect more of the County's most productive agricultural and forest lands.	a. Increase funding to expand the Cecil County Purchase of Development Rights Program capacity to protect more of our most productive agricultural and Forest lands.	APM
64	Protecting Agriculture/Natural Resources	Implementation tools			Increase funding to expand the PDR program to protect more of the County's most productive agricultural and forest lands.	17. Increase funding to expand the Cecil County Purchase of Development Rights Program capacity to protect more of our most productive agricultural and Forest lands.	APM
65	Protecting Agriculture/Protecting Open Space	Agriculture, open space, forests		Plan for the protection of prime agricultural lands, open space, and forests.		4. Plan for the protection of prime agricultural lands, open space, and forests.	LU
66	Protecting Agriculture/Sensitive Areas	Agriculture	Maintain equity value of ag and resource lands.			6. Maintain the equity value of natural resource land. Maintain the equity value of agricultural land.	APM
67	Protecting Natural Resources	Drinking water reservoirs, septic disposal or spray areas, tertiary treatment wetlands, landfills, wetlands reconstruction, recreational areas	Protect lands crucial to public health and welfare	Protect drinking water reservoirs, septic disposal or spray areas, tertiary treatment wetlands, landfills, wetlands reconstruction, recreational areas	Identify other land uses crucial to the health and welfare of our environment and citizenry	7. Identify other land uses crucial to the health and welfare of our environment and citizenry (e.g. Drinking water reservoirs, septic disposal or spray areas, tertiary treatment wetlands, landfills, wetlands reconstruction, recreational areas, etc.) and ensure that these areas are protected.	APM
68	Protecting Natural Resources	Ecosystems, agriculture, forests, tourism		Identify fragile ecosystems to ensure a healthy environment and the continued viability of tourism, agriculture, and forestry economies.	Direct housing to areas safe for such growth.	9. Identify fragile ecosystems to ensure a healthy environment and the continued viability of tourism, agriculture, and forestry economies. Direct housing to areas safe for such growth.	HR
69	Protecting Natural Resources	Environmental corridors			**Adopt Green Infrastructure Plan**	a. Adopt the 2007 Cecil County Green Infrastructure Plan	APM
70	Protecting Natural Resources	Environmental corridors		Develop a systematic approach to protect the County's green infrastructure	**Create a Natural Resources District to apply to priority resource areas; adopt regulations to result in a zero net loss of forest in the Natural Resource district; identify funding available to help with this goal**	5. Create a Natural Resources District encompassing higher priority green infrastructure areas, develop and implement protection mechanisms for a zero net loss of forest in that Natural Resources District, and create the capability to work with officials at all levels to develop a systematic approach to protecting this green infrastructure and to draw on any funding available to help with this goal.	APM

Cecil County Comprehensive Plan
Citizens Oversight Committee Goals, Objectives, Policies and Action Items

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71	Protecting Natural Resources	Environmental corridors			**Prioritize the existing green infrastructure hubs and corridors; focus County efforts to protect as many of the higher priority areas as possible, including those within the growth corridor, particularly higher priority streams including but not limited to the Principio, North East, Mill and Elk Creeks.**	10. Prioritize the existing green infrastructure hubs and corridors. Focus efforts to protect as many of the higher priority areas as possible including those within the growth corridor particularly higher priority streams including but not limited to the Principio, North East, Mill and Elk Creeks.	APM
72	Protecting Natural Resources	Environmental corridors; environmental resources in growth areas		Conserve and restore natural resource systems in the growth corridor	**Enact zoning provisions that protect natural resource systems, especially in the growth corridor**	g. Encourage conservation (and restoration where practical) of ecological connections and natural resource systems throughout Cecil County's urban. suburban & rural areas	APM
73	Protecting Natural Resources	Forests		**Increase the protection levels for forests under the County's zoning regulations**		15. Increase the protection levels for forests under the Maryland Forest Conservation Act and the Cecil County subdivision rules by:	APM
74	Protecting Natural Resources	Forests			**Require that forest stand delineations evaluate adjoining land parcels to preserve contiguous forest stands.**	a. requiring the forest stand delineations evaluate adjoining land parcels to try to preserve contiguous forest stands.	APM
75	Protecting Natural Resources	Forests			**Require County to evaluate adjoining land parcels for afforestation and reforestation requirements**	b. assuring the Planning and Zoning evaluate adjoining land parcels for afforestation and reforestation requirements	APM
76	Protecting Natural Resources	Forests			**Enact zoning requirements to increase percentage of forest retention, afforestation and reforestation for each type of development**	c. increasing the percentage of forest retention, afforestation and reforestation threshold requirements for each type of development	APM
77	Protecting Natural Resources	Forests, Environmental corridors, wildlife habitats		Encourage enhanced protection of forests under the Forest Conservation Act, preservation of critical area and green infrastructures, and maintain large areas of contiguous habitat, where possible, to avoid fragmentation of these areas.		8. Encourage enhanced protection of forests under the Forest Conservation Act, preservation of critical area and green infrastructures, and maintain large areas of contiguous habitat, where possible, to avoid fragmentation of these areas.	LU
78	Protecting Natural Resources	Forests, farmlands, Environmental corridors		**Expand and connect forests, farmlands, and other natural lands as a network of contiguous green infrastructure**		c. Expand and connect forests, farmlands, and other natural lands as a network of contiguous green infrastructure	APM
79	Protecting Natural Resources	Forests, farmlands, Environmental corridors	**Support a productive forestland base and forest resource industry, emphasizing economic viability of privately owned forestland.**			f. Support a productive forestland base and forest resource industry, emphasizing economic viability of privately owned forestland.	APM
80	Protecting Natural Resources	Forests, HOAs			**Require that developers and homeowners' associations control the spread of invasive species in forested and reforested areas, as well as in the open space areas; control trespass and vandalism within these areas.**	e. requiring that developers and home owners' associations control the spread of invasive species in the above areas, as well as in the open space areas, and control trespass and vandalism within these areas.	APM
81	Protecting Natural Resources	Forests, steep slopes			**Reevaluate the County's standards for steep slope restrictions.**	f. reevaluating the standards for steep slope restrictions.	APM

Cecil County Comprehensive Plan
Citizens Oversight Committee Goals, Objectives, Policies and Action Items

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82	Protecting Natural Resources	Forests, street buffers			**Require an extension of the time requirement that developers and home owners' associations maintain/replace the trees the afforested and reforested areas, as well as the trees in the street buffers.**	d. requiring an extension of the time requirement that developers and home owners' associations maintain/replace the trees the afforested and reforested areas, as well as the trees in the street buffers.	APM
83	Protecting Natural Resources	Green infrastructure, resource industries		**Develop a systematic approach to protect green infrastructure areas**	**Develop the capacity to track and monitor natural resources areas in a way that informs land use decisions with natural resource and renewable resource-based industry priorities, and targets areas for restoration and/or additional protection.**	16. Create land use management responsibilities for county government to develop a systematic approach to protecting green infrastructure areas and to develop the capacity to track and monitor natural resources areas in a way that informs land use decisions with natural resource and renewable resource-based industry priorities, and targets areas for restoration and/or additional protection.	APM
84	Protecting Natural Resources	Habitats, Environmental corridors		**Maintain large areas of contiguous habitat and avoid fragmenting these areas where possible; Protect Green Infrastructure, wildlife corridors, stream buffers and downstream residents and habitats from the impact of upstream non-point source pollution**		18. Maintain large areas of contiguous habitat and avoid fragmenting these areas where possible. Protect Green Infrastructure, wildlife corridors, stream buffers and downstream residents and habitats from the impact of upstream non-point source pollution	APM
85	Protecting Natural Resources	Habitats, Environmental corridors, bicycle and pedestrian facilities		**Maintain meaningful wildlife corridors and potential bicycle and pedestrian connections between habitat areas and adjacent land uses.**		18. Maintain meaningful wildlife corridors and potential bicycle and pedestrian connections between habitat areas and adjacent land uses.	APM
86	Protecting Natural Resources	Heritage areas			Define the Lower Susquehanna Heritage Greenway as the County's Heritage Area. The area would extend from the existing heritage area to include Charlestown, North East and Elkton.	18. The Lower Susquehanna Heritage Greenway should be defined in the Comprehensive Plan as Cecil County's Heritage Area. The area would extend from the existing heritage area to include Charlestown, North East and Elkton.	ED
87	Protecting Natural Resources	Implementation tools			Work with land trusts to increase acres of protected lands in the county	j. Encouraging county government to work with land trusts;	APM
88	Protecting Natural Resources	Implementation tools			**Make preservation easements permanent if funded or purchased with tax dollars**	k. Making preservation easements permanent if funded or purchased with tax dollars;	APM
89	Protecting Natural Resources	Implementation tools		**Expand funding for land preservation**	Identify and create additional funding sources for land preservation	l. Identifying and creating additional funding sources for preservation;	APM
90	Protecting Natural Resources	Implementation tools		Maximize the County's participation in land conservation and preservation programs, including but not limited to MALPF, Rural Legacy, Program Open Space, Forest Legacy and Federal programs		m. Maximizing participation in land conservation and preservation programs including but not limited to MALPF, Rural Legacy, Program Open Space, Forest Legacy and Federal Programs	APM
91	Protecting Natural Resources	Implementation tools			**Create a watershed priority overlay district to discourage development in high value natural areas; require subdivision designs that direct the required open space into the priority zones.**	11. Create watershed priority zoning overlays to discourage development in high value natural areas. Using the watershed priority zoning, review and approve subdivision designs that direct the required open space into the priority zones.	APM
92	Protecting Natural Resources	Implementation tools		Encourage cluster and planned development to protect open space and minimize disturbance to natural resources.		14. Cluster and planned development should be encouraged as a means to protect open space and minimizing disturbance to natural resources.	ED

Cecil County Comprehensive Plan
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	MAJOR ISSUE (What?)	TYPE of ISSUE	PROPOSED GOALS/OBJECTIVES (What are we trying to achieve? How would we measure it?)	PROPOSED POLICIES (What should we do?)	PROPOSED ACTION ITEMS (What will we do?)	COMMITTEE INPUT	CMTE
	Issues to be discussed at the Map stage	Issues to be addressed in the Draft Concept Plan (White Paper)	Issues to be addressed in the Draft Comprehensive Plan	**Bold text indicates issues for specific COC consideration**			
93	Protecting Natural Resources	Mineral extraction		Provide for reclamation of mineral extraction district land for other appropriate uses consistent with the land use plan.		6. Provide for reclamation of mineral extraction district land for other appropriate uses consistent with the land use plan.	ED
94	Protecting Natural Resources	Mineral resources			**Encourage dialog with the community to create a common vision while protecting the sensitive natural resource areas along streams**	8. Protect mineral resources for future extraction, provide for reclamation of extracted land for other uses compatible with the surrounding area, and encourage dialog with the community to create a common vision while protecting the sensitive natural resource areas along streams.	APM
95	Protecting Natural Resources	Setting priorities			Adopt the State of Maryland Goals for Natural Resource Land Conservation	b. Adopt the State of Maryland Goals for Natural Resource Land Conservation, including the following:	APM
96	Protecting Natural Resources	Watersheds		**Plan and manage the effect of land and water uses on habitats and residents at the watershed level**		18a."Plan by Watershed!" At the local watershed level, plan and manage the effect of land and water uses on habitats and residents.	APM
97	Protecting Natural Resources	Watersheds, stream corridors, riparian buffers, floodplains, water recharge areas		**Manage watersheds in ways that protect, conserve and restore stream corridors, riparian forest buffers, wetlands, floodplains, and aquifer recharge areas and their associated hydrologic and water quality functions**		e. Manage watersheds in ways that protect, conserve and restore stream corridors, riparian forest buffers, wetlands, floodplains, and aquifer recharge areas and their associated hydrologic and water quality functions.	APM
98	Protecting Natural Resources	Watersheds, wildlife habitat and Environmental corridors	**Protect sensitive environmental lands, green infrastructure hubs and corridors, and other areas critical to the health of the County's watersheds, wildlife habitats and the Chesapeake Bay.**	Identify and protect sensitive areas		1. Identify and protect sensitive environmental lands, our network of green infrastructure hubs and corridors, and areas critical to the health of our watersheds, wildlife habitats, and the Chesapeake Bay.	APM
99	Protecting Natural Resources	Wildlife habitat		Protect critical terrestrial and aquatic habitats, biological communities and populations		d. Protect critical terrestrial and aquatic habitats, biological communities, and populations.	APM
100	Preserving Open Space	Implementation tools			**Amend subdivision regulations to preserve useful and sustainable open spaces and encourage reforestation in designated areas; enforce code to assure compliance**	4. Craft new programs & amend subdivision regulations to preserve useful, sustainable open spaces and encourage reforestation in designated open spaces. Delegate responsibility for maintaining open space and hold those responsible for failure to do so.	APM
101	Preserving Open Space	Parks, open space		**Develop residential open space as park land or designate as farmland and require ongoing maintenance at developer or occupant expense.**		12. Develop residential open space as park land or designate as farmland and require ongoing maintenance at developer or occupant expense.	HR
102	Preserving Open Space	Parks, recreation facilities, land preservation			Enact recommendations, as appropriate, from the LPPRP	20. The APM subcommittee supports and endorses the recommendations in the Cecil County 2005 Land Preservation, Parks, and Recreation Plan (LPPRP)	APM
103	Preserving Open Space/Providing Recreational Facilities	Parks, recreation facilities, land preservation			Acquire public recreation land in accordance with the Land Preservation Parks & Recreation Plan (LPPRP) guidelines.	1. Acquire public recreation land in accordance with the Land Preservation Parks & Recreation Plan (LPPRP) guidelines.	HR
104	Protecting Property Rights	Land ownership		**Ensure Cecil County government and agencies strive to protect the private property rights of landowners.**		9. Ensure Cecil County government and agencies strive to protect the private property rights of landowners.	LU
105	Supporting Sustainability	Energy efficiency, building standards	**Improve energy efficiency standards in new development**		**Establish a rating system for new residential development.**	13. Improve energy efficiency standards and establish a rating system for new residential development.	HR
106	Supporting Sustainability	Sustainable materials, green building standards		Encourage sustainable materials and green construction in new buildings.		8. Encourage sustainable materials and green construction.	HR
107	Protecting Public Health	Public health, funding			Provide adequate public health funding.	4. Provide adequate public health funding.	PS

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108	Protecting Public Health	Public health, partnerships			Expand collaborative efforts of the Union Hospital, the Health Department, Social Services and charitable organizations to coordinate care.	3. Expand collaborative efforts of the Union Hospital, the Health Department, Social Services and charitable organizations is needed to coordinate care.	PS
109	Protecting Public Health/Managing Growth	Public health, funding, infrastructure			Provide adequate funding for public health services and infrastructure as needed.	1. Provide adequate funding for public health services and infrastructure as needed.	PS
110	Protecting Public Health/Managing Growth	Public health, infrastructure			Provide satellite health facilities in areas of population growth as needed.	1. Provide satellite health facilities in areas of population growth as needed.	PS
111	Protecting Public Health/Managing Growth	Public health, infrastructure			Develop a timeline to plan for future space needs/renovation/new construction of the Health Department facility on Bow Street in Elkton	3. The Health Department facility on Bow Street in Elkton will be 50 years old in 2030, a timeline to plan for future space needs/renovation/new construction should be developed.	PS
112	Protecting Public Health/Managing Growth	Public health, infrastructure			Open the first medical building in the Principio Medical Campus in Perryville and begin providing services in the spring of 2009.	4. Open the first medical building in the Principio Medical Campus in Perryville and begin providing services in the spring of 2009.	PS
113	Protecting Public Health/Managing Growth	Public health, infrastructure, EMS, 911			Expand the EMS infrastructure including 911 technology, paramedic stations, equipment, additional staff, et. Al, as population grows.	2. Expand the EMS infrastructure including 911 technology, paramedic stations, equipment, additional staff, et. Al, as population grows.	PS
114	Protecting Public Health/Supporting Transit	Public health, transit			Establish public transit opportunities serving health care facilities.	2. Establish public transit opportunities serving health care facilities.	PS
115	Providing Correctional Services/Managing Growth	Facilities			Renovate and expand the current facility to meet immediate and future needs.	1. Renovate and expand the current facility to meet immediate and future needs.	PS
116	Providing Correctional Services/Managing Growth	Facilities			Acquire land for a future county correctional facility	2. Acquire land for a future county correctional facility as the current site will not allow for future expansion.	PS
117	Providing Emergency Services	Debris, animal sheltering			Provide funding to support specialized efforts in debris management, special needs sheltering, animal sheltering, and continuity of government	3. Funding to support specialized efforts in debris management, special needs sheltering, animal sheltering, and continuity of government is needed.	PS
118	Providing Emergency Services	EMS, communications, infrastructure		Expand EMS communications systems to maintain a high level of service.		2. Expansion of the EMS communications systems is a top priority to maintain a high level of service.	PS
119	Providing Emergency Services	EMS, funding, recruitment, retention		Enhance recruitment and retention of EMS staff	Improve EMS Paramedic quarters	1. Funding and support to address the need for improved EMS Paramedic quarters will enhance recruitment and retention of staff.	PS
120	Providing Emergency Services	Training, EMS, dispatch, IMS, safety			Provide funding to support education and training in the areas of Dispatch, EMS, Hazardous Materials, IMS, Safety, and Homeland Security.	4. Funding to support education and training in the areas of Dispatch, EMS, Hazardous Materials, IMS, Safety, and Homeland Security.	PS
121	Providing Emergency Services	Vehicles, funding, hazardous materials			Provide funding for new vehicles to address hazardous material emergencies as identified in the Emergency Services Plan	6. Funding sources for new vehicles to address hazardous material emergencies as identified in the Emergency Services Plan is recommended.	PS
122	Providing Emergency Services/Managing Growth	Electronic services, fire and rescue, equipment			Expand the Electronic Services Division to accommodate demands associated with fire and rescue services, EMS services, law enforcement needs, including the installation of repair of warning devices and radio communications.	5. Expansion of the Electronic Services Division to accommodate demands associated with fire and rescue services, EMS services, law enforcement needs and including the installation of repair of warning devices and radio communications.	PS

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123	Providing Fire and Rescue Services	Access and egress, roads and bridges			Consider access and egress of fire and rescue equipment when planning and making road/bridge width and capacity decisions and when connecting new developments with adjacent existing ones to provide multiple routes of access.	3. Access and egress of fire and rescue equipment must be considered when planning and making road/bridge width and capacity decisions and when connecting new developments with adjacent existing ones to provide multiple routes of access.	PS
124	Providing Fire and Rescue Services	Apparatus			Continue funding of the apparatus replacement program.	2. Continue funding of the apparatus replacement program.	PS
125	Providing Fire and Rescue Services	Funding			Increase county funding to reduce need for fund raising.	1. Increase county funding to reduce need for fund raising.	PS
126	Providing Fire and Rescue Services	Funding, paid staff			Provide funding to support those departments that need to hire paid personnel.	4. Provide funding to support those departments that need to hire paid personnel.	PS
127	Providing Fire and Rescue Services	Hydrants, holding tanks			Require new developments without public water systems to provide access to water in case of fire. Examples include the installation of dry hydrants or holding tanks.	1. Require new developments without public water systems to provide access to water in case of fire. Examples include the installation of dry hydrants or holding tanks.	PS
128	Providing Fire and Rescue Services	Sprinklers, residential and commercial development			Require building sprinkler systems in all new residential and commercial development with public water systems.	2. Residential sprinklers are required in some municipalities. The consensus among fire service personnel in the county is that such should be required in all new residential and commercial development with public water systems.	PS
129	Providing Fire and Rescue Services	Training facility			Establish a Fire Training Facility in Cecil County	5. Establish a Fire Training Facility in Cecil County to reduce travel.	PS
130	Providing Fire and Rescue Services	Volunteers, funding sources			Establish funding source for additional support of volunteers (e.g. Impact Fees).	1. Establish funding source for additional support of volunteers (e.g. Impact Fees).	PS
131	Providing Fire and Rescue Services	Volunteers, funding sources, incentives			Provide funding for incentives to promote volunteer activity.	2. Provide funding for incentives to promote volunteer activity.	PS
132	Providing Fire and Rescue Services	Volunteers, recruitment			Provide funding for volunteer recruitment.	3. Provide funding for volunteer recruitment.	PS
133	Providing Fire and Rescue Services/Managing Growth	Facilities, CIP			Establish a capital improvement program for the purpose of land acquisition and buildings.	3. Establish a capital improvement program for the purpose of land acquisition and buildings.	PS
134	Providing Fire and Rescue Services/Managing Growth	Funding, facilities			Determine the adequacy of the present appropriations program in light of the predicted growth of the county.	4. Determine the adequacy of the present appropriations program in light of the predicted growth of the county.	PS
135	Providing Juvenile Services	Facilities			Develop a juvenile detention facility or evening reporting center	2. A juvenile detention facility or evening reporting center located in Cecil County is requested in future years and before 2030.	PS
136	Providing Juvenile Services	Personnel			Provide staff should be provided in conjunction with the needs for services.	1. Additional staff should be provided in conjunction with the needs for services.	PS
137	Providing Law Enforcement	Facilities			Create a Central Booking Center that is operational 24 hours a day, 7 days a week.	1. Create a Central Booking Center that is operational 24 hours a day and 7 days a week.	PS
138	Providing Law Enforcement	Facilities, substations		Identify funding for additional facilities, including substations and other infrastructure to support both law enforcement and corrections.	Substations will be needed south of the canal in the proximity of Chesapeake City and Cecilton, as well as in the northwest part of the County in the proximity of Rising Sun and Conowingo. Information as to the specifics of such will be determined according to growth, crime rate and needs to protect and serve the citizenry.	4. Identify funding for additional facilities, including substations and other infrastructure to support both law enforcement and corrections. Substations will be needed south of the canal in the proximity of Chesapeake City and Cecilton, as well as in the northwest part of the County in the proximity of Rising Sun and Conowingo. Information as to the specifics of such will be determined according to growth, crime rate and needs to protect and serve the citizenry.	PS

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139	Providing Law Enforcement	Personnel, recruitment, retention			Provide salary and benefit packages that will allow the County to recruit and retain qualified candidates and address the current shortage of law enforcement officers.	3. Provide salary and benefit packages that will allow the County to recruit and retain qualified candidates to address the current shortage of law enforcement officers.	PS
140	Providing Law Enforcement	Technology, efficiencies			Support the need to invest more money in technology to deliver efficient and effective public safety services.	5. Support the need to invest more money in technology to deliver efficient and effective public safety services.	PS
141	Providing Law Enforcement	Training, personnel			Provide support that is sensitive to the time constraint needed to train law enforcement officers.	6. Provide support that is sensitive to the time constraint needed to train law enforcement officers. It generally takes four to six months to recruit and hire a new law enforcement officer. Once hired, there is a 26 week training academy and 8 weeks of field training required before the officer is fully certified.	PS
142	Providing Law Enforcement/Managing Growth	Personnel			Provide funding to increase the number of law enforcement personnel, including sworn and civilian support staff, to meet anticipated demand for additional public safety services associated with growth.	2. Provide funding to increase the number of law enforcement personnel, including sworn and civilian support staff, to meet anticipated demand for additional public safety services associated with growth.	PS
143	Providing Law Enforcement/Managing Growth	Planning for growth			Establish a public safety committee to periodically review demographic information to adequately prepare and plan for future population expansion.	7. Establish a public safety committee to periodically review demographic information to adequately prepare and plan for future population expansion.	PS
144	Providing Solid Waste Services	Facilities, regulations, land use		Future solid waste management facilities must be developed in accordance with the County's zoning and land use regulations, and consistent with the State, regional, and local comprehensive land use plans and regulations.		3. Future solid waste management facilities must be developed in accordance with the County's zoning and land use regulations, and consistent with the State, regional, and local comprehensive land use plans and regulations.	PS
145	Providing Solid Waste Services	Gas to energy		Pursue the gas-to-energy production sales at the Central Landfill as long as the benefits are cost effective.		8. Pursue the gas-to-energy production sales at the Central Landfill as long as the benefits are cost effective.	PS
146	Providing Solid Waste Services	Land use		The County's solid waste goals and objectives must be consistent with the land uses stated in the Comprehensive Plan.		1. Goals and objectives must be consistent with the land uses stated in the County's Comprehensive Plan.	PS
147	Providing Solid Waste Services	Land use, regulations		Solid waste facilities must conform to all applicable land uses and federal, state, and local regulations.		2. Solid waste facilities must be in conformance with all applicable land uses and federal, state, and local regulations.	PS
148	Providing Solid Waste Services	Recycling		Encourage single stream recycling.		6. Encourage single stream recycling.	PS
149	Providing Solid Waste Services	Waste to energy		Pursue waste to energy diversions to extend the life cycle of the current solid waste management facilities.		7. Pursue waste to energy diversions to extend the life cycle of the current solid waste management facilities.	PS
150	Providing Solid Waste Services	Waste to energy, partnerships		Pursue waste-to-energy options independently or in partnership with Harford County or other regional interested parties.		9. Pursue waste-to-energy options independently or in partnership with Harford County or other regional interested parties.	PS
151	Providing Solid Waste Services/Managing Growth	Facilities			Expand existing facilities where possible to meet County needs.	4. Expand existing facilities where possible to meet County needs.	PS
152	Providing Solid Waste Services/Managing Growth	Facilities, CIP		Plan capital improvements based on growth projections.		5. Plan capital improvements based on rate of growth projections.	PS

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153	Supporting Library Needs/Managing Growth	Libraries, infrastructure			Support the Board of Library Trustees' plans to accommodate growth and demand for new or expanded facilities in Elkton, North East, and Rising Sun.	1. Support the Board of Library Trustees plans to accommodate growth and demand for new or expanded facilities in Elkton, North East, and Rising Sun.	PS
154	Supporting Library Needs/Managing Growth	Libraries, infrastructure			Support the Board's plan to provide quality branch libraries to accommodate growth and demand in Cecilton, the Port Deposit/Bainbridge area and Chesapeake City.	2. Support the Board's plan to provide quality branch libraries to accommodate growth and demand in Cecilton, the Port Deposit/Bainbridge area and Chesapeake City.	PS
155	Supporting Library Needs/Managing Growth	Libraries, infrastructure			Evaluate the need for library services in the Conowingo/Oakwood area and at Fair Hill.	3. Evaluate the need for library services in the Conowingo/Oakwood area and at Fair Hill.	PS
156	Supporting School Needs	Schools, infrastructure, construction process			Consider employing creative financing methods and streamlining the process to allow for the funding and building of projects of immediate need.	8. Consider employing creative financing methods and streamlining the process to allow for the funding and building of projects of immediate need.	PS
157	Supporting School Needs	Schools, partnerships, innovation, programming			Explore opportunities with other agencies, businesses and educational sources to develop innovative educational programs and partnerships.	6. Explore opportunities with other agencies, businesses and educational sources to develop innovative educational programs and partnerships.	PS
158	Supporting School Needs	Schools, strategic plan, infrastructure			**Make funds available to support the Cecil County Public Schools Strategic Plan.**	7. Funds must be made available to support the Cecil County Public Schools Strategic Plan.	PS
159	Supporting School Needs/Developing the Labor Force	Schools, curriculum, math and science, economic development			Identify and develop science, mathematics and technology programs that will provide students with the competencies and skill needed for emerging professions.	3. Identify and develop science, mathematics and technology programs that will provide students with the competencies and skill needed for emerging professions.	PS
160	Supporting School Needs/Developing the Labor Force	Schools, strategic plan, economic development			**Support funding of the Cecil College Strategic Plan as it shows vision and creates academic offerings that are responsive to the economic development needs of the region.**	1. Support funding of the Cecil College Strategic Plan as it shows vision and creates academic offerings that are responsive to the economic development needs of the region.	PS
161	Supporting School Needs/Developing the Labor Force	Schools, technology, career development			**Move forward with funding for the new comprehensive career and technology (CTE) high school.**	2. It is imperative for the County to move forward with funding for the new comprehensive career and technology (CTE) high school.	PS
162	Supporting School Needs/Developing the Labor Force	Schools, workforce development, needs of industry			Support academic program institutes that focus on the rapid development of learning solutions, to strengthen workforce development and is attentive to the "fast to market" requirements of private industry.	2. Support academic program institutes that focus on the rapid development of learning solutions, to strengthen workforce development and is attentive to the "fast to market" requirements of private industry.	PS
163	Supporting School Needs/Managing Growth	Schools, infrastructure		**Funding of the Capital Improvement Plan, even if State funding is not provided, must be a priority of the County. "Front funding" of projects may be necessary to avoid delay in addressing capacity issues in schools in high growth areas.**		1. Funding of the Capital Improvement Plan, even if State funding is not provided, must be a priority of the County. "Front funding" of projects may be necessary to avoid delay in addressing capacity issues in schools in high growth areas.	PS

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164	Supporting School Needs/Managing Growth	Schools, infrastructure			Consider funding source options that reflect the need to purchase land and construct school facilities within the growth areas as well as balance facility needs in the non-growth areas.	3. The County needs to consider funding source options that reflect the need to purchase land and construct school facilities within the growth areas as well as balance facility needs in the non-growth areas.	PS
165	Supporting School Needs/Managing Growth	Schools, infrastructure		**New or expanded school facilities should be required as concept plans are considered by the County. As sub divisions are presented to the Cecil County Planning Commission for approval, the school system shall review the current state rated capacities of those schools affected. If the facilities are over capacity the County should consider funding for the purchase of land and planning for any new or renovation/addition projects as recommended in the Capital Improvement Plan.**		4. New or expanded school facilities should be required as concept plans are considered by the County. As sub divisions are presented to the Cecil County Planning Commission for approval, the school system shall review the current state rated capacities of those schools affected. If the facilities are over capacity the County should consider funding for the purchase of land and planning for any new or renovation/addition projects as recommended in the Capital Improvement Plan.	PS
166	Supporting School Needs/Managing Growth	Schools, infrastructure, Cecil College			Support infrastructure needs related to institutional growth with special consideration to additional acreage at the North East and Bainbridge locations and the optimal utilization of Elkton Station.	4. Support infrastructure needs related to institutional growth with special consideration to additional acreage at the North East and Bainbridge locations and the optimal utilization of Elkton Station.	PS
167	Supporting School Needs/Managing Growth	Schools, infrastructure, Cecil College			Support the Bainbridge expansion to provide programs and services to the western corridor of the County.	5. Support the Bainbridge expansion to provide programs and services to the western corridor of the County.	PS
168	Supporting School Needs/Managing Growth/Developing the Labor Force	Educational programming, BRAC, economic development, partnerships			Support the school system's science, technology, engineering and mathematic curriculum; invest in STEM and other such programs will help prepare for the Base Realignment and Closure (BRAC) initiative of the United States Department of Defense and the opportunities coming to the County. The STEM program needs to have business partners and college accessibility.	5. The County needs to support the school system's science, technology, engineering and mathematic curriculum; investing in STEM and other such programs will help prepare for the Base Realignment and Closure (BRAC) initiative of the United States Department of Defense and the opportunities coming to the County. The STEM program needs to have business partners and college accessibility.	PS
169	Providing Housing Options	Housing, seniors, assisted living facilities		Encourage the development of housing options for active senior adults and associated care facilities.		10. Encourage the development of housing options for active senior adults and associated care facilities.	HR
170	Providing Housing Options	Housing stock		Promote the Preservation or Renovation of Existing Housing Stock		17. Promote the Preservation or Renovation of Existing Housing Stock	HR
171	Supporting Affordable Housing	Housing, Homelessness	Address the housing needs of the economically disadvantaged and the homeless by focusing on affordable housing.			4. Address housing need of the economically disadvantaged and the homeless with the focus on affordable housing.	HR
172	Supporting Affordable Housing	Workforce housing, transit		Develop workforce housing to create opportunities for ownership in proximity to employment and mass transit.		15. Develop workforce housing to create opportunities for ownership in close proximity to employment and mass transit.	HR
173	Supporting Affordable Housing	Workforce housing			Include the recommendations in the 2006 Governor's Task Force on Work Force Housing in the Comprehensive Plan.	18. The sub-committee supports the recommendations presented in the 2006 Governor's Task Force on Work Force Housing and further recommends that these recommendations be considered by the Oversight Committee for inclusion in the 2010 Cecil County Comprehensive Plan	HR

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174	Providing Recreational Facilities	Adequate facilities			Ensure continued or alternate use of existing facilities and recreational land.	3. Ensure continued or alternate use of existing facilities and recreational land.	HR
175	Providing Recreational Facilities	Adequate facilities			Continue to address long term recreational needs in the Capital Improvement Plan (CIP).	5. Continue inclusion of long term recreational needs in the Capital Improvement Plan (CIP).	HR
176	Providing Recreational Facilities	Adequate facilities		Recognize that funding of the CIP for parks and recreation is an integral part of a successful residential and recreational plan.		6. Funding of the CIP for parks and recreation must be recognized by the County as an integral part of a successful residential and recreational development plan.	HR
177	Providing Recreational Facilities	Funding sources			Identify potential public and private partnerships and funding sources to implement recreation goals.	7. Explore additional public and private partnerships and funding sources to achieve recreation goals.	HR
178	Providing Recreational Facilities	Organizational capacity			Provide organizational leadership in coordinating and delivering park and recreational services.	8. Provide organizational leadership in coordinating and delivering park and recreational services.	HR
179	Providing Recreational Facilities	Parks, recreation facilities, land preservation			Provide facilities and programs to meet current and future demands as outlined in the LPPRP.	2. Provide facilities and programs to meet current and future demands as outlined in the LPPRP.	HR
180	Providing Recreational Facilities	Trails, infrastructure		Promote the interconnection of Hiking and Biking Trails to provide a network of such trails throughout the County, including connections to the Lower Susquehanna Greenway in Harford County, and the White Clay Preserve in New Castle County.		1. Promote the interconnection of Hiking and Biking Trails to provide a network of such trails throughout the County, including connections to the Lower Susquehanna Greenway in Harford County, and the White Clay Preserve in New Castle County.	IT
181	Providing Recreational Facilities/Managing Growth	Adequate facilities		Locate new facilities in or convenient to existing populations and designated growth areas; meet demand for facilities in rural areas.		4. Locate new facilities in or convenient to existing populations and designated growth areas and meet existing unmet demand in rural areas.	HR
182	Supporting Arts and Culture	Schools, arts			Cultivate and encourage an interest in the performing arts by further strengthening the relations with area Arts Councils, the Community Cultural Center, and the fine and performing arts faculty/staff of the institution.	6. Cultivate and encourage an interest in the performing arts by further strengthening the relations with area Arts Councils, the Community Cultural Center, and the fine and performing arts faculty/staff of the institution.	PS
183	Developing New Water Supplies	Allocations, SRBC, drought management			Secure new allocations of water from the Susquehanna River Basin Commission, providing the necessary reservoirs for storage in case of drought..	1. Secure new allocations of water from the Susquehanna River Basin Commission, providing the necessary reservoirs for storage in case of drought..	WR
184	Developing New Water Supplies	Cisterns, health concerns, implementation tools			Draft new or amend existing County development and health regulations to permit and provide specifications for collection of rainwater in cisterns.	5. Draft new or amend existing County development and health regulations to permit and provide specifications for collection of rainwater in cisterns.	WR
185	Developing New Water Supplies	Desalinization			Investigate opportunities to implement water desalinization for public supply.	3. Investigate opportunities to implement water desalinization for public supply.	WR
186	Developing New Water Supplies	New sources, reservoirs			Secure new surface water sources within the county (per 2006 studies), providing the necessary reservoirs for storage.	2. Secure new surface water sources within the county (per 2006 studies), providing the necessary reservoirs for storage.	WR

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187	Developing New Water Supplies	Sources, recharge areas, implementation tools			Secure new groundwater sources within the county (per 2006 studies) and protect recharge areas from pollution through land use regulations (link to Land Use element).	4. Secure new groundwater sources within the county (per 2006 studies) and protect recharge areas from pollution through land use regulations (link to Land Use element).	WR
188	Developing New Water Supplies		Develop new water supplies			*Water Supply Goal 2: Develop new water supplies* :	WR
189	Enhancing Stormwater Management Programs	Environmental site design measures, implementation tools			Amend the County's development ordinances as necessary to implement the 2007 Maryland Stormwater Management Act to the maximum extent feasible, removing obstacles to Environmental Site Design (ESD) techniques, including engineering design that utilizes the soil's infiltration capacity under impervious surfaces.[5]	2. Amend the County's development ordinances as necessary to implement the 2007 Maryland Stormwater Management Act to the maximum extent feasible, removing obstacles to Environmental Site Design (ESD) techniques, including engineering design that utilizes the soil's infiltration capacity under impervious surfaces.[5]	WR
190	Enhancing Stormwater Management Programs	Impervious surface			Monitor the amount of impervious surface at the 8 digit watershed level and take measures to protect water quality, especially in watersheds that approach critical thresholds.[4]	1. Monitor the amount of impervious surface at the 8 digit watershed level and take measures to protect water quality, especially in watersheds that approach critical thresholds.[4]	WR
191	Enhancing Stormwater Management Programs		Enhance storm water management programs, to reduce non-point source loading of nutrients and sediment into the bay, and to increase infiltration and aquifer recharge			*Urban Non-Point Source Goal 1: Enhance storm water management programs, to reduce non-point source loading of nutrients and sediment into the bay, and to increase infiltration and aquifer recharge*	WR
192	Enhancing Stormwater Management Programs/Protecting Natural Resources	Afforestation, reforestation			**Develop afforestation and reforestation policies**	c. Develop afforestation and reforestation policies	WR
193	Enhancing Stormwater Management Programs/Protecting Natural Resources	Forests			Conserve existing forest during and after development	b. Conserve existing forest during and after development	WR
194	Enhancing Stormwater Management Programs/Protecting Natural Resources	Stream and wetland buffers			**Expand stream and wetland buffers**	a. Expand stream and wetland buffers	WR
195	Enhancing Stormwater Management Programs/Protecting Natural Resources	Water quality, forests, environmental corridors			**Adopt and amend forest policies as necessary to protect and improve water quality, as referred to in the Cecil County Green Infrastructure Plan and the Forest Conservation Act.**	3. Adopt and amend forest policies as necessary to protect and improve water quality, as referred to in the Cecil County Green Infrastructure Plan and the Forest Conservation Act.	WR
196	Enhancing Stormwater Management Programs/Protecting Open Space	Land acquisition, implementation tools			**Allocate funds from Maryland's Program Open Space to acquire land important for maintaining water quality.**	4. Allocate funds from Maryland's Program Open Space to acquire land important for maintaining water quality.	WR
197	Managing Impacts of Non Point Sources	Non point analysis, coordination with MDE			Update the non-point source loading analyses (including point source data) annually, and refine this analysis in coordination with MDE.[6]	1. Update the non-point source loading analyses (including point source data) annually, and refine this analysis in coordination with MDE.[6]	WR

Cecil County Comprehensive Plan
Citizens Oversight Committee Goals, Objectives, Policies and Action Items

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198	Managing Impacts of Non Point Sources	Water quality, wildlife habitats, forests, environmental corridors, tributary strategies		**Develop and administer a system to track and report on changes in the County's Green Infrastructure network, water quality, and habitat conditions. The system should include an inventory of priority restoration and reforestation opportunities, track nutrient management progress, and facilitate application of the County's Tributary Strategy goals.**		2. The County should develop and administer a system to track and report on changes in the County's Green Infrastructure network, water quality, and habitat conditions. The system should include an inventory of priority restoration and reforestation opportunities, track nutrient management progress, and facilitate application of the County's Tributary Strategy goals.	WR
199	Managing Impacts of Non Point Sources	Water reuse, onsite irrigation, non potable water			Promote re-use of storm water and treated wastewater for purposes such as on-site irrigation (storm water), non-potable process water (industrial activities), and other uses, where appropriate.	7. Promote re-use of storm water and treated wastewater for purposes such as on-site irrigation (storm water), non-potable process water (industrial activities), and other uses, where appropriate.	WR
200	Managing Impacts of Non Point Sources	Watershed planning, water quality, wetland restoration, environmental corridors, implementation tools		**Identify and designate Restoration Focus Watersheds (using 12-digit watersheds) where water quality enhancement would be encouraged through reforestation, wetland restoration, zoning, and other development ordinances. The goal would be to maintain or achieve at least 40% forest and wetland cover within these watersheds, including preservation of existing forest and wetland resources, as prescribed by the Cecil County Green Infrastructure Plan.**		6. The County Planning Department should identify and designate Restoration Focus Watersheds (using 12-digit watersheds) where water quality enhancement would be encouraged through reforestation, wetland restoration, zoning, and other development ordinances. The goal would be to maintain or achieve at least 40% forest and wetland cover within these watersheds, including preservation of existing forest and wetland resources, as prescribed by the Cecil County Green Infrastructure Plan.	WR
201	Managing Impacts of Non Point Sources	Wellhead protection, septic denitrification, nutrient offsets, septic systems			**Require all new development outside of existing public sewer service areas in the Chesapeake Bay Critical Area and wellhead protection areas, or within 300 feet of streams to use septic denitrification systems. Elsewhere, require nutrient offsets for subdivisions built using individual septic tanks.[7]**	3. Require all new development outside of existing public sewer service areas in the Chesapeake Bay Critical Area and wellhead protection areas, or within 300 feet of streams to use septic denitrification systems. Elsewhere, require nutrient offsets for subdivisions built using individual septic tanks.[7]	WR
202	Managing Impacts of Non Point Sources/Protecting Natural Resources	Forest conservation		**Review and revise as necessary the current Forest Conservation ordinance to target forest conservation areas in stream and wetlands buffers.**		4. The County should review and revise as necessary the current Forest Conservation ordinance to target forest conservation areas in stream and wetlands buffers.	WR
203	Managing Impacts of Non Point Sources/Protecting Natural Resources	Forest conservation, environmental corridors			**Create a County-level Forest Conservation program that would allow participation by of parcels that are not large enough to qualify for a state Forestry Stewardship Plan, where the parcel adjoins an area that is already in Forestry Stewardship, or is in a designated Green/Blue Infrastructure high priority area.**	5. Create a County-level Forest Conservation program that would allow participation by of parcels that are not large enough to qualify for a state Forestry Stewardship Plan, where the parcel adjoins an area that is already in Forestry Stewardship, or is in a designated Green/Blue Infrastructure high priority area.	WR

Cecil County Comprehensive Plan
Citizens Oversight Committee Goals, Objectives, Policies and Action Items

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204	Managing the Impacts of Non Point Sources		Manage the impacts of nonpoint source loading in a way that minimizes the impact of development.			*Urban Non-Point Source Goal 2: Manage the impacts of nonpoint source loading in a way that minimizes the impact of development.*	WR
205	Providing Wastewater Treatment Capacity		Provide new wastewater treatment capacity to meet projected demand.			*Waste Water Goal 2: Provide new wastewater treatment capacity to meet projected demand.*	WR
206	Providing Wastewater Treatment Capacity/Managing Growth	Facilities, capacity		Expand Countywide wastewater system capacity to accommodate projected growth, while complying with nutrient discharge limitations, the County, working with other public and private entities, should give high priority to wastewater system capacity improvements		4. In order to expand Countywide wastewater system capacity to accommodate projected growth, while complying with nutrient discharge limitations, the County, working with other public and private entities, should give high priority to the following improvements:	WR
207	Providing Wastewater Treatment Capacity/Managing Growth	Facilities, capacity			Provide additional water and wastewater capacity in the Elkton West Service Area	c. Provide additional water and wastewater capacity in the Elkton West Service Area	WR
208	Providing Wastewater Treatment Capacity/Managing Growth	Facilities, capacity, trading system			Expand the North East (Seneca Point) WWTP to 5 MGD by 2030[3]. This will likely require the County to earn or purchase nutrient credits (through the provisions of MDE's Nutrient Trading Policy).	a. Expand the North East (Seneca Point) WWTP to 5 MGD by 2030[3]. This will likely require the County to earn or purchase nutrient credits (through the provisions of MDE's Nutrient Trading Policy).	WR
209	Providing Wastewater Treatment Capacity/Managing Growth	Facilities, ENR			Retire existing minor WWTPs (such as Cherry Hill) and connect their flows to an ENR facility.	a. Retire existing minor WWTPs (such as Cherry Hill) and connect their flows to an ENR facility.	WR
210	Providing Wastewater Treatment Capacity/Managing Growth	Facilities, ENR, tertiary treatment			Over the long term, upgrade all remaining WWTPs to ENR or better, through a combination of conventional and tertiary treatment.	b. Over the long term, upgrade all remaining WWTPs to ENR or better, through a combination of conventional and tertiary treatment.	WR
211	Providing Wastewater Treatment Capacity/Managing Growth	Facilities, nutrient caps			Expand the Meadowview WWTP. Meadowview discharges into the Christina River, which flows into the Delaware Bay and is governed by a less stringent TMDL than those required under the Chesapeake Bay nutrient caps.	b. Expand the Meadowview WWTP. Meadowview discharges into the Christina River, which flows into the Delaware Bay and is governed by a less stringent TMDL than those required under the Chesapeake Bay nutrient caps.	WR
212	Providing Wastewater Treatment Capacity/Managing Growth	Infrastructure, nutrient caps, TMDLs		Continue to ensure that existing and planned public wastewater collection and treatment systems meet projected demand without exceeding nutrient caps, TMDLs, and other water quality limitations.		1. Continue to ensure that existing and planned public wastewater collection and treatment systems meet projected demand without exceeding nutrient caps, TMDLs, and other water quality limitations.	WR
213	Providing Wastewater Treatment Capacity/Managing Growth	Nutrient caps, trading system			Utilize MDE's Nutrient Cap Management and Trading policy for point sources, and forthcoming regulations for nonpoint source trading, and identify nutrient reduction strategies that could provide credits to WWTPs.	2. Utilize MDE's Nutrient Cap Management and Trading policy for point sources, and forthcoming regulations for nonpoint source trading, and identify nutrient reduction strategies that could provide credits to WWTPs.	WR

Cecil County Comprehensive Plan
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214	Providing Wastewater Treatment Capacity/Managing Growth	Wastewater treatment, evaluation, implementation tools			**Amend the County's land development regulations to require a positive determination that, for all rezoning requests and proposed development (as depicted on site plans/subdivision plats) under consideration: a. sufficient wastewater discharge capacity exists or will exist to serve projected development, without jeopardizing the ability to meet projected wastewater needs within the remainder of the water service area; b. Total Maximum Daily Load (TMDL) or other regulated measures of water quality will not be exceeded**	3. Same wording as water supply policy Goal 1, Policy 2. Amend the County's land development regulations to require a positive determination that, for all rezoning requests and proposed development (as depicted on site plans/subdivision plats) under consideration: a. sufficient wastewater discharge capacity exists or will exist to serve projected development, without jeopardizing the ability to meet projected wastewater needs within the remainder of the water service area; b. Total Maximum Daily Load (TMDL) or other regulated measures of water quality will not be exceeded	WR
215	Providing Water and Wastewater Infrastructure	County role		**County Government should maintain the lead responsibility for overseeing sewer and water infrastructure in the growth area, whether or not a Private Service Provider has been granted a franchise.**		2. County Government should maintain the lead responsibility for overseeing sewer and water infrastructure in the growth area, whether or not a Private Service Provider has been granted a franchise.	WR
216	Providing Water and Wastewater Infrastructure/Managing Growth	Regional planning			Work with the Cecil County COG, neighboring jurisdictions, the Susquehanna River Basin Commission, other regional organizations and private service providers to address water resource issues related to water supply, wastewater treatment, and nonpoint source pollution.	1. Work with the Cecil County COG, neighboring jurisdictions, the Susquehanna River Basin Commission, other regional organizations and private service providers to address water resource issues related to water supply, wastewater treatment, and nonpoint source pollution.	WR
217	Providing Water and Wastewater Infrastructure/Managing Growth	Water sources, Susquehanna		**Encourage and support the provision of water and wastewater services to commercial, industrial, governmental, and residential users in the designated Growth Area. Strongly recommend the withdrawal within Cecil County of Susquehanna River water for use in the County, rather than sources that may be subject to out-of-state controls.**		1. Encourage and support the provision of water and wastewater services to commercial, industrial, governmental, and residential users in the designated Growth Area. Strongly recommend the withdrawal within Cecil County of Susquehanna River water for use in the County, rather than sources that may be subject to out-of-state controls.	IT
218	Sustaining and Optimizing Wastewater Treatment Capacity	Community wastewater systems, capacity management plans		**Require the development and use of a Waste Water Capacity Management Plan (as defined by MDE) for <u>all</u> community wastewater systems, regardless of available capacity. (Same wording as the Water Supply)**		1. Require the development and use of a Waste Water Capacity Management Plan (as defined by MDE) for <u>all</u> community wastewater systems, regardless of available capacity. (Same wording as the Water Supply)	WR
219	Sustaining and Optimizing Wastewater Treatment Capacity	Community wastewater systems, health		**Develop or expand community wastewater treatment systems in areas with widespread septic system problems that are a health concern, cannot be addressed by on-site maintenance and management programs, and are too far from public sewer systems to be connected.**		6. Develop or expand community wastewater treatment systems in areas with widespread septic system problems that are a health concern, cannot be addressed by on-site maintenance and management programs, and are too far from public sewer systems to be connected.	WR

Cecil County Comprehensive Plan
Citizens Oversight Committee Goals, Objectives, Policies and Action Items

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220	Sustaining and Optimizing Wastewater Treatment Capacity	Retrofits, zoning			Amend the County Zoning Ordinance as necessary to eliminate any provisions allowing additional density for community system retrofits.	a. Amend the County Zoning Ordinance as necessary to eliminate any provisions allowing additional density for such retrofits.	WR
221	Sustaining and Optimizing Wastewater Treatment Capacity	Failing septics, health		Continue to actively pursue the abatement of failing septic systems—particularly those identified in the County Water and Sewer Master Plan—through connection to public systems.		5. Continue to actively pursue the abatement of failing septic systems—particularly those identified in the County Water and Sewer Master Plan—through connection to public systems.	WR
222	Sustaining and Optimizing Wastewater Treatment Capacity	Inflow and infiltration, capacity			Continue to identify and eliminate sources of inflow and infiltration (I/I) to free up additional capacity at treatment plants.	2. Continue to identify and eliminate sources of inflow and infiltration (I/I) to free up additional capacity at treatment plants.	WR
223	Sustaining and Optimizing Wastewater Treatment Capacity	Innovative methods		Encourage opportunities to use innovative and alternative methods of wastewater collection, treatment, and disposal, particularly in areas where nutrient loading is high.		3. Encourage opportunities to use innovative and alternative methods of wastewater collection, treatment, and disposal, particularly in areas where nutrient loading is high.	WR
224	Sustaining and Optimizing Wastewater Treatment Capacity	Land applications, tertiary treatment wetlands			Develop guidance for and identify areas in the County that are suitable for land application techniques (such as spray irrigation) and tertiary treatment wetlands.	a. Develop guidance for and identify areas in the County that are suitable for land application techniques (such as spray irrigation) and tertiary treatment wetlands.	WR
225	Sustaining and Optimizing Wastewater Treatment Capacity	Sludge management plan, land application, agriculture			Develop a Sludge Management Plan (for sludge from Cecil County and municipal wastewater treatment plants) that includes provision for land application on Ag land in the PPAs	b. Develop a Sludge Management Plan (for sludge from Cecil County and municipal wastewater treatment plants) that includes provision for land application on Ag land in the PPAs	WR
226	Sustaining and Optimizing Wastewater Treatment Capacity		Sustain and optimize existing wastewater treatment capacity			*Waste Water Goal 1: sustain and optimize existing wastewater treatment capacity*	
227	Sustaining and Optimizing Wastewater Treatment Capacity/Managing Growth	Extensions, health		Develop a Denied Access policy to govern water and sewer system extensions into rural areas in order to address health concerns.		4. Develop a Denied Access policy to govern water and sewer system extensions into rural areas in order to address health concerns.	WR
228	Sustaining and Protecting Water Supplies	Accounting and loss control			Implement water accounting and loss control procedures	b. Implement water accounting and loss control procedures	WR
229	Sustaining and Protecting Water Supplies	Buffers and setbacks, implementation tools			**Update and enhance the County's development ordinances to further protect drinking water supplies, through buffering and setback requirements, as well as other appropriate measures.**	7. Update and enhance the County's development ordinances to further protect drinking water supplies, through buffering and setback requirements, as well as other appropriate measures.	WR
230	Sustaining and Protecting Water Supplies	Conservation			**Implement conservation rate structures.**	d. Implement conservation rate structures.	WR
231	Sustaining and Protecting Water Supplies	Criteria, LPPRP, forest conservation		**Include water resource protection as a criterion in the Land Preservation, Parks and Recreation Plan (LPPRP) and for individual developments within Forest Conservation Plans.**		6. Include water resource protection as a criterion in the Land Preservation, Parks and Recreation Plan (LPPRP) and for individual developments within Forest Conservation Plans.	WR
232	Sustaining and Protecting Water Supplies	Drought management			**Create and implement drought management procedures**	8. Create and implement drought management procedures	WR

Cecil County Comprehensive Plan
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233	Sustaining and Protecting Water Supplies	Public outreach			Conduct outreach programs to all Cecil County residents, whether on public water supply or individual wells.	9. Conduct outreach programs to all Cecil County residents, whether on public water supply or individual wells.	WR
234	Sustaining and Protecting Water Supplies	Reuse, public outreach			Develop water reuse initiatives.	c. Develop water reuse initiatives.	WR
235	Sustaining and Protecting Water Supplies	Surface water sources, groundwater recharge areas			**Establish and require watershed protection upstream of all community surface water sources and in groundwater recharge areas.**	b. Establish and require watershed protection upstream of all community surface water sources and in groundwater recharge areas.	WR
236	Sustaining and Protecting Water Supplies	System audits			Conduct routine system-wide water audits	a. Conduct routine system-wide water audits	WR
237	Sustaining and Protecting Water Supplies	Water conservation			**Design and implement a rigorous water conservation program for all public water supplies.**	10. Design and implement a rigorous water conservation program for all public water supplies.	WR
238	Sustaining and Protecting Water Supplies	Water quality, quantity, partnerships, sustainability		**The County, working cooperatively with the Municipalities, State agencies, and private water suppliers, should routinely monitor water quality and quantity in streams and aquifers to ensure that they remain at safe and sustainable levels.[2]**		4. The County, working cooperatively with the Municipalities, State agencies, and private water suppliers, should routinely monitor water quality and quantity in streams and aquifers to ensure that they remain at safe and sustainable levels.[2]	WR
239	Sustaining and Protecting Water Supplies	Wellhead protection			**Establish and require wellhead protection around all public and community water supply wells.**	5. Establish and require wellhead protection around all public and community water supply wells.	WR
240	Sustaining and Protecting Water Supplies	Wellhead protection			**Adopt the already-drafted wellhead protection ordinance (to include specific itemization of permitted and prohibited uses).**	a. The WRE subcommittee recommends that the County adopt the already-drafted wellhead protection ordinance (to include specific itemization of permitted and prohibited uses).	WR
241	Sustaining and Protecting Water Supplies		Sustain and protect water supplies			*Water Supply Goal 1: Sustain and protect water supplies:*	WR
242	Sustaining and Protecting Water Supplies/Managing Growth	Allocation and expansion, prioritization		Growth areas, as designated by the County and its municipalities, should have the highest priority for water and sewer system allocation and expansion.		12. Growth areas, as designated by the County and its municipalities, should have the highest priority for water and sewer system allocation and expansion.	WR
243	Sustaining and Protecting Water Supplies/Managing Growth	Drinking water, infrastructure		Plan growth in a way that allows sufficient time to develop adequate drinking water and wastewater resources and infrastructure.		14. Plan growth in a way that allows sufficient time to develop adequate drinking water and wastewater resources and infrastructure.	WR
244	Sustaining and Protecting Water Supplies/Managing Growth	Funding, impact fees, implementation tools			**Require new development to pay for the cost of providing the water it needs, either directly, or indirectly using proffers, e.g. impact fees.**	11. Require new development to pay for the cost of providing the water it needs, either directly, or indirectly using proffers, e.g. impact fees.	WR
245	Sustaining and Protecting Water Supplies/Managing Growth/Protecting Agriculture/Natural Resources	Balancing growth		Aggressively pursue development of water resources infrastructure in growth areas in order to reduce development pressure on rural areas.		13. Aggressively pursue development of water resources infrastructure in growth areas in order to reduce development pressure on rural areas.	WR
246	Sustaining and Protecting Water Supplies/Providing Water and Wastewater Infrastructure	Agriculture, fees		Ensure the availability of water to serve agricultural purposes; encourage MDE to maintain existing permitted agricultural water appropriations and to maintain current water appropriation permit procedures for agricultural users, including fee exemption.		3. Ensure the availability of water to serve agricultural purposes; encourage MDE to maintain existing permitted agricultural water appropriations and to maintain current water appropriation permit procedures for agricultural users, including fee exemption[1].	WR

Cecil County Comprehensive Plan
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247	Sustaining and Protecting Water Supplies/Providing Water and Wastewater Infrastructure	Community water systems, capacity management plans			**Require the development and use of Drinking Water and Wastewater Capacity Management Plans (as defined by MDE) for <u>all</u> community water systems, regardless of available capacity.**	1. Require the development and use of Drinking Water and Wastewater Capacity Management Plans (as defined by MDE) for <u>all</u> community water systems, regardless of available capacity.	WR
248	Sustaining and Protecting Water Supplies/Providing Water and Wastewater Infrastructure	Drinking water, evaluation, implementation tools			**Amend the County's land development regulations to require a positive determination that, for all rezoning requests and proposed development (as depicted on site plans/subdivision plats) under consideration, sufficient drinking water exists to serve proposed development without jeopardizing the ability to meet projected water needs within the remainder of the water service area or watershed (See Wastewater policies, Goal 2, policy 4)**	2. Amend the County's land development regulations to require a positive determination that, for all rezoning requests and proposed development (as depicted on site plans/subdivision plats) under consideration, sufficient drinking water exists to serve proposed development without jeopardizing the ability to meet projected water needs within the remainder of the water service area or watershed (See Wastewater policies, Goal 2, policy 4)	WR
249	Coordinating with Other COC Committees	Identifying growth areas		The WRE sub-committee recognizes the need for more effective strategies to channel development away from agricultural and forest land and towards designated growth areas. To that end, the WRE sub-committee urges that:		The WRE sub-committee recognizes the need for more effective strategies to channel development away from agricultural and forest land and towards designated growth areas. To that end, the WRE sub-committee urges that:	WR
250	Coordinating with Other COC Committees	Implementation tools, MALPF, Rural Legacy program		The Agriculture subcommittee should review our MALPF & Rural Legacy programs and ensure that the County maintains its active status		c. the Agriculture subcommittee should review our MALPF & Rural Legacy programs and ensure that the County maintains its active status	WR
251	Coordinating with Other COC Committees	Implementation tools, TDR		The Land Use, Agriculture, and Infrastructure subcommittees should review and improve the current TDR program.		a. the Land Use, Agriculture, and Infrastructure subcommittees should review and improve the current TDR program.	WR
252	Coordinating with Other COC Committees	Implementation tools, TDR		The Infrastructure subcommittee should re-examine and propose options to accelerate the completion of water and sewer infrastructure in the designated growth areas, thereby creating a receiving area for Transfer of Development Rights and providing an incentive for growth to avoid rural areas.		b. the Infrastructure subcommittee should re-examine and propose options to accelerate the completion of water and sewer infrastructure in the designated growth areas, thereby creating a receiving area for Transfer of Development Rights and providing an incentive for growth to avoid rural areas.	WR
253	Coordinating with Other COC Committees	Natural Resources District		The Land Use and Agriculture subcommittees should review the "Preserved Ag Land and Natural Resource Land District" proposed by Dan Derr.		d. the Land Use and Agriculture subcommittees should review the "Preserved Ag Land and Natural Resource Land District" proposed by Dan Derr.	WR
254	Protecting Agriculture/Natural Resources	**Priority Preservation Area**					
255		**County's Future Growth Potential**					
256		**Town District area south of Rising Sun**					
257		**Potential growth area south of Frenchtown Road**					
258		**Designation of commercial areas on the Land Use Map**					

Cecil County Comprehensive Plan
Citizens Oversight Committee Goals, Objectives, Policies and Action Items

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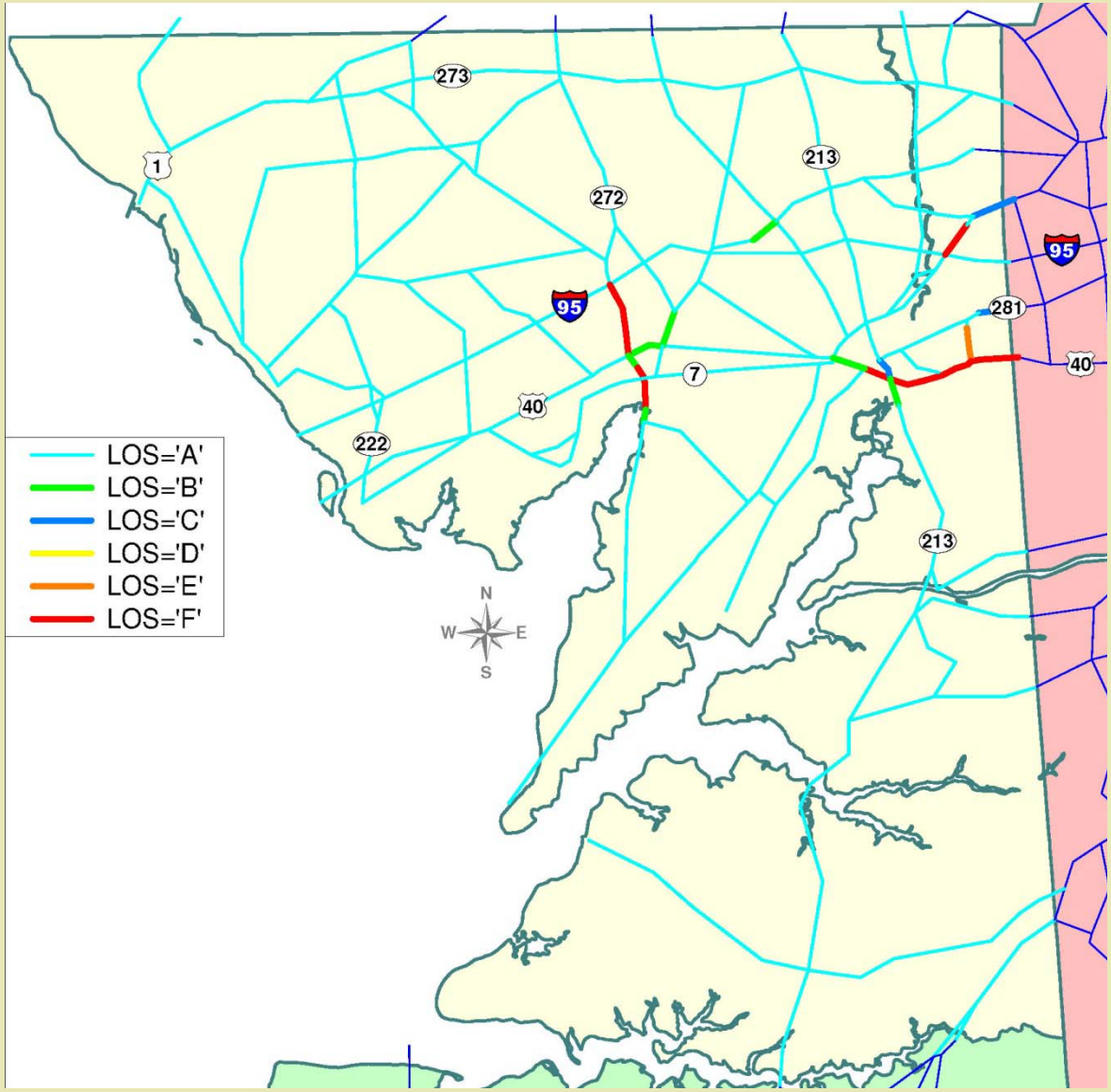
259		**Density in the Rural Areas**					
260		**Protection of key environmental areas**					
261		**"Growth area" v "Growth Corridor"**					
262		**Priority Funding Area v Growth Corridor**					
263		**Map changes for consistency with Elkton Comprehensive Plan**					
264		**Identification of villages**					

Transportation Analysis

Cecil County
Comprehensive Plan

Citizens Oversight Committee
May 20, 2009

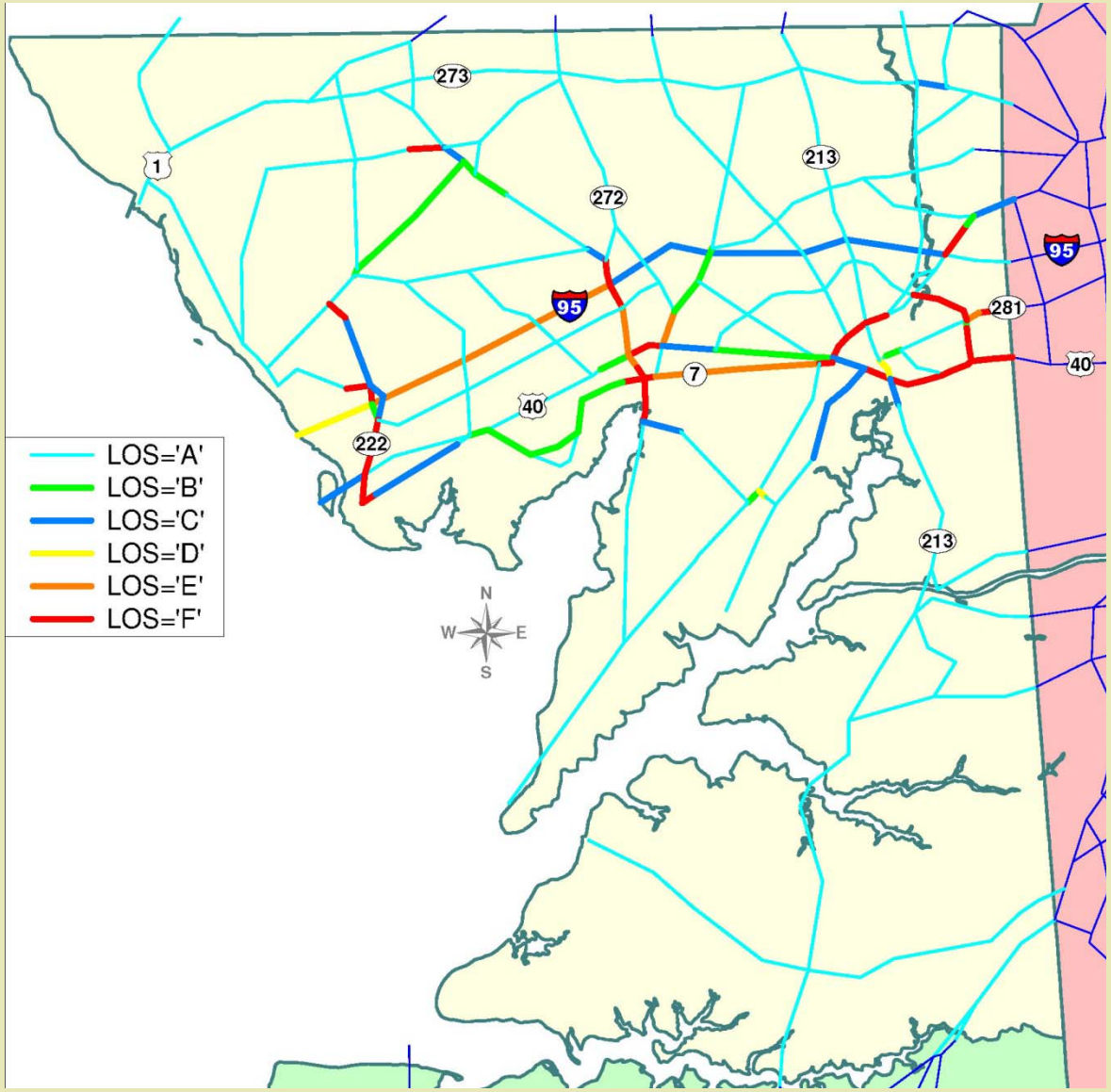
2005 Base Conditions



- Regional Model
- 640 Lane Miles
  - Growth Corridor = 340 lane miles
  - North = 186 lane miles
  - South = 114 lane miles
- 13 miles of PM peak LOS E/F

ERM

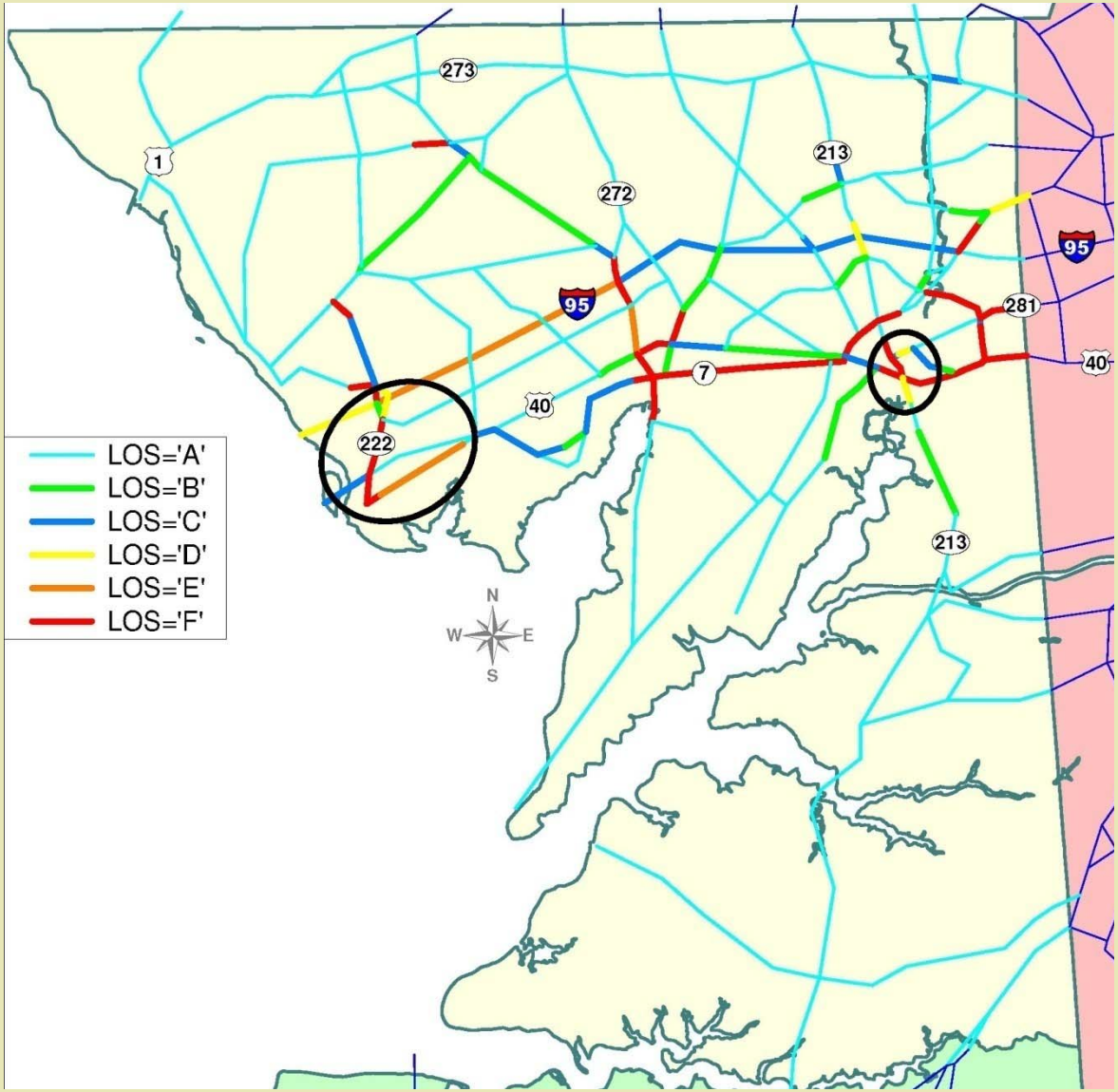
Existing Plan and Zoning



- Includes Strategic Plan improvements
  - Additional 73 lane miles
- 50 lane miles of PM peak LOS E/F

ERM

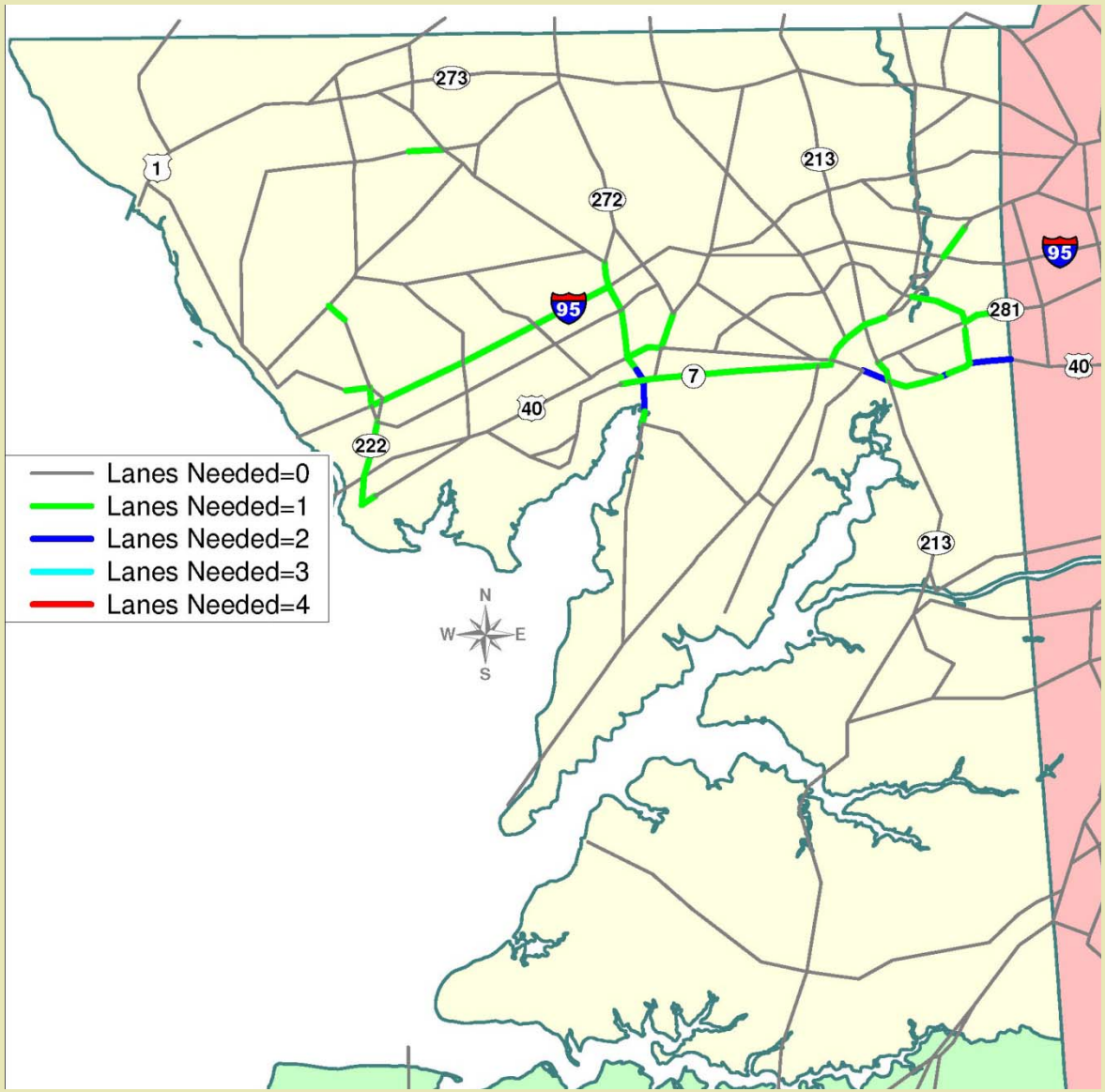
Future Concept Plan



- Increased congestion in Perryville and Elkton
- 57 lane miles of PM peak LOS E/F

ERM

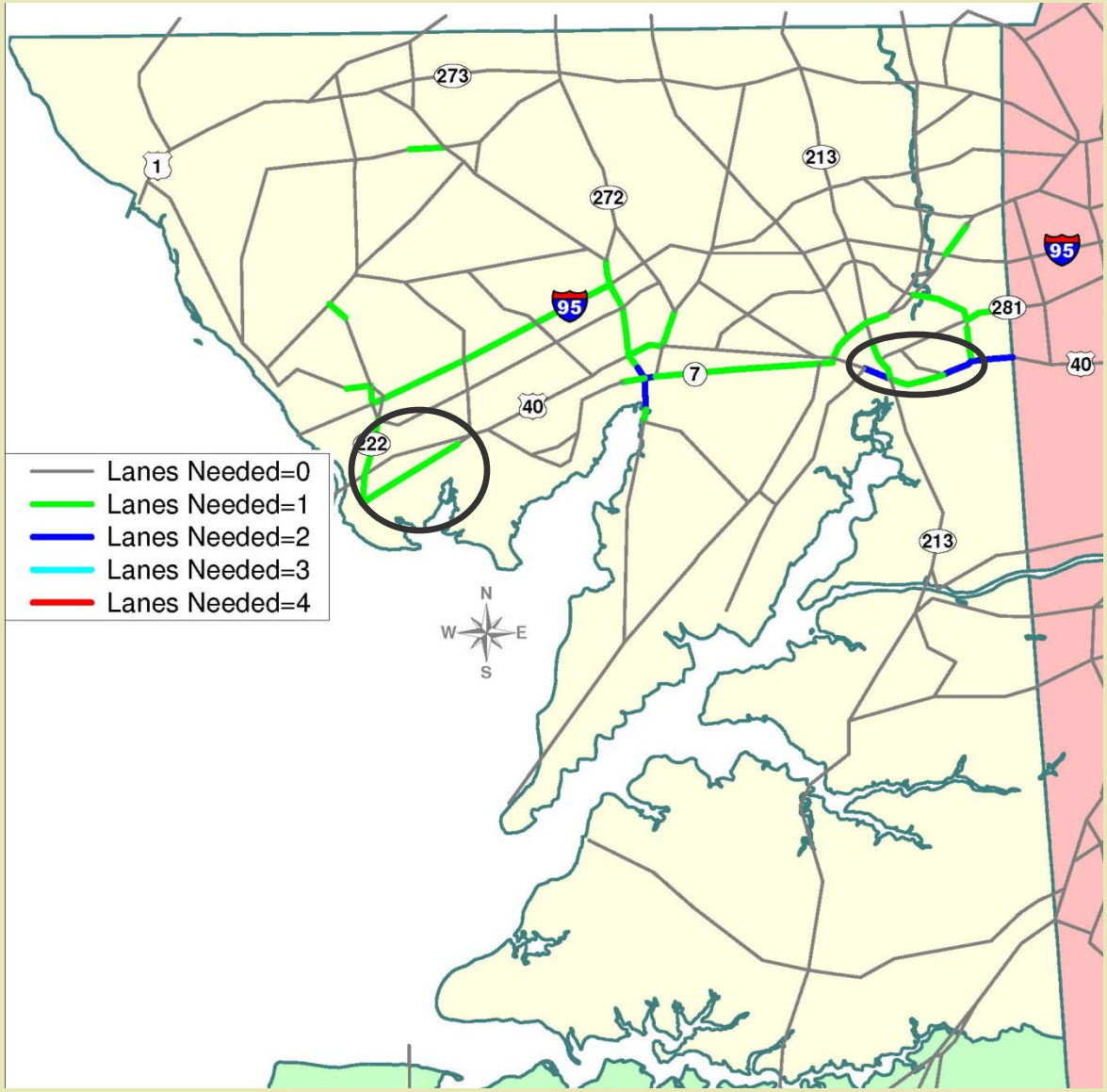
Existing Plan and Zoning



- Acceptable LOS of "D"
- Additional lane miles of roadway = 55

ERM

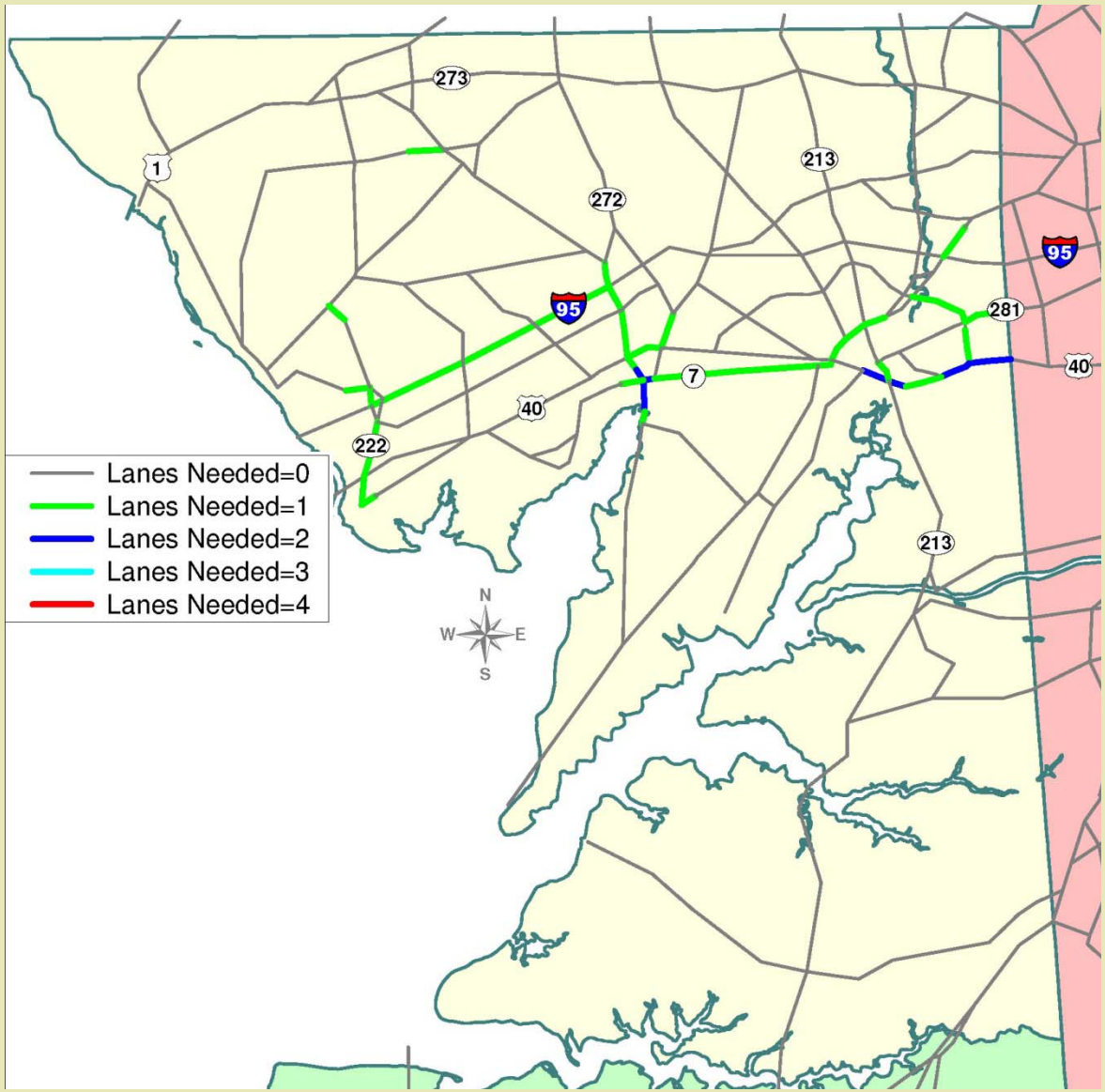
Future Concept Plan



- Acceptable LOS of "D"
- Additional lane miles of roadway = 63

ERM

Future Concept Plan w/ 15% Transit



- Acceptable LOS of "D"
- Additional lane miles of roadway = 58

ERM