CECIL COUNTY
MASTER WATER & SEWER PLAN

July 22, 2019

Prepared by:

Cecil County Department of Land Use & Development Services
200 Chesapeake Boulevard, Suite 2300
Elkton, MD 21921

Alan J. McCarthy – County Executive
Alfred C. Wein, Jr. – Director of Administration
Eric S. Sennstrom – Director Land Use and Development Services

AMENDMENTS

Name	Council Date	MDE Date
Table 10 – Conowingo MH Court and Maybelle Manor	8/20/2019	10/10/2019
Sections 3.2.6, 3.2.9, 3.2.10.3, 3.2.10.6, Appendices D, F, and G – Town of North East and Artesian Water	4/7/2020	6/12/2020
Tables 13 & 15A – Town of Perryville	4/21/2020	6/22/2020
Chapter 4, Section 4.1.9; Table 13; Appendix D - North East Advanced WWTP Service Area and Triumph Industrial Park Sewer Service Districts	8/16/2022	10/31/2022
Tables 6 & 16 - Town of Port Deposit and Artesian Water	10/17/2023	2/22/2024

RESOLUTION
CERTIFICATION BY CECIL COUNTY GOVERNMENT

WHEREAS, Section 9-503 of the Environment Article of the Annotated Code of Maryland requires the County to have a County Water and Sewer Plan; and

WHEREAS, Section 9-503 of the Environment Article of the Annotated Code of Maryland requires Cecil County to review, revise, or amend its Plan every 3 years; and

WHEREAS, pursuant to the requirements of Section 9-503 of the Environment Article of the Annotated Code of Maryland, the Plan has been sent to the principal elected official of each municipal corporation; and

WHEREAS, pursuant to the requirements of Section 9-506 of the Environment Article of the Annotated Code of Maryland, the Cecil County Department of Land Use and Development Services, the official planning agency for the County, has certified that the Plan is consistent with the Cecil County Comprehensive Plan; and

WHEREAS, a public hearing was held by the Planning Commission on January 23, 2019; and

WHEREAS, the Planning Commission has recommended approval of the Cecil County Master Water and Sewer Plan; and

WHEREAS, a public hearing was held by the Cecil County Council on March 19, 2019; and

WHEREAS, all requirements of the Environment Article of the Annotated Code of Maryland have been met with regard to the amendment of the Master Water and Sewer Plan;

WHEREAS, the County Council of Cecil County approved the Cecil County Master Water and Sewer Plan on April 2, 2019;

NOW, THEREFORE, BE IT ENACTED, that the Cecil County Master Water and Sewer Plan is hereby adopted.

DATE: 4/2/19

BY: Dr. Alan J McCarthy

Dr. Alan J. McCarthy, County Executive

ATTEST: Alfred C. Wein, Jr.

Alfred C. Wein, Jr. – Director of Administration

COUNTY COUNCIL OF CECIL COUNTY, MARYLAND
LEGISLATIVE SESSION 2019-03

RESOLUTION NO. 12-2019

Title of Resolution: Approval - Master Water and Sewer Plan 2018

Synopsis: A Resolution to repeal the Master Water and Sewer Plan 2015 in its entirety and reenact the Master Water and Sewer Plan 2018.

Introduced by: Council President on behalf of the County Executive

Introduced and order posted on: **February 5, 2019**

Public hearing scheduled on: ~~**March 5, 2019**~~ **MARCH 19, 2019** **at 7:00 p.m.**

Consideration scheduled on: ~~**March 19, 2019**~~ **APRIL 2, 2019**

By: James Massey
Council Manager

PUBLIC HEARING

Notice of time and place of public hearing and title of Resolution having been posted by February 5, 2019 at the County Administration Building, 200 Chesapeake Blvd., Elkton, and having been published according to the Charter on March 6, 2019 and March 13, 2019, a public hearing was held on March 19, 2019, and concluded on March 19, 2019.

By: James Massey
Council Manager

Explanation: CAPITAL LETTERS INDICATE LANGUAGE ADDED TO EXISTING DOCUMENT
~~Strike through~~ indicates language deleted from existing document
Underlining indicates language added to document by amendment.
~~Double Strike through~~ indicates language stricken from document by amendment

WHEREAS, each county shall have a Master Water and Sewer Plan, which has been approved by the Department of the Environment, pursuant to Section 9-503 of the Environment Article of the Annotated Code of Maryland; and

WHEREAS, the Master Water and Sewer Plan must cover at least 10 year period and be adopted by the county governing body; and

WHEREAS, the Master Water and Sewer Plan must include the county's water supply systems, sewerage systems, solid waste disposal systems solid waste acceptance facilities and the systematic collection and disposal of solid waste, including litter; and

WHEREAS, each county governing body shall review its county plan at least once every three years in accordance with a schedule set by the Department of the Environment; and

WHEREAS, each county governing body shall adopt and submit to the Department of the Environment a revision or amendment to its county plan; and

WHEREAS, before a county governing body adopts any revision or amendment to its county plan or adopts a new county plan, the governing body shall conduct a public hearing on the county plan, give the principal elected officials of each municipal corporation that is affected notice of the county plan at least fourteen days before the hearing, and

WHEREAS, notice of the time and place of the public hearing, together with a summary of the plan, shall be published in at least one newspaper of general circulation in the county once each week for two successive weeks, with the first publication of notice appearing at least fourteen days before the hearing; and

WHEREAS, a public hearing was held by the Planning Commission on January 23, 2019; and

WHEREAS, the Planning Commission has recommended approval of the Cecil County Master Water and Sewer Plan 2018 (Appendix 1); and

WHEREAS, the County planning agency has certified that the plan is consistent with the County's Comprehensive Plan and

WHEREAS, a public hearing by the County Council is scheduled on March 5, 2019; and

WHEREAS, all requirements of the Environment Article of the Annotated Code of Maryland have been met with regard to the amendment of the Cecil County Master Water and Sewer Plan.

NOW, THEREFORE, BE IT ENACTED, BY THE COUNTY COUNCIL OF CECIL COUNTY, MARYLAND, that the Master Water and Sewer Plan 2018 (Appendix 1) is hereby adopted.

AND, BE IT FURTHER ENACTED BY THE COUNTY COUNCIL OF CECIL COUNTY, MARYLAND, that this resolution will become effective on the date of its passage.

INTRODUCED: February 5, 2019

ADOPTED: April 2, 2019

President of the Council

ATTEST:

Council Manager

Cecil County, Maryland - 2019 Master Water & Sewer Plan

TABLE OF CONTENTS

Executive Summary	1
CHAPTER 1 – Goals and Objectives	3
CHAPTER 2 – Background Information	11
CHAPTER 3 – Water Systems	17
CHAPTER 4 – Sewerage Systems	58

APPENDICES

APPENDIX A	GENERAL REFERENCES
APPENDIX B	TABLES
APPENDIX C	SANITARY SEWER SYSTEM MAPS
APPENDIX D	WATER SYSTEM MAPS
APPENDIX E	FINANCIAL STATEMENTS
APPENDIX F	AGREEMENTS INCORPORATED BY REFERENCE
APPENDIX G	ARTESIAN WATER MARYLAND – NONEXCLUSIVE WATER SERVICE AREA
APPENDIX H	ARTESIAN RESOURCES MASTER INFRASTRUCTURE PLAN
APPENDIX I	ARTESIAN WATER MAP – REGIONAL WATER SUPPLY ROUTE TO CECIL COUNTY
APPENDIX J	ARTESIAN WATER SYSTEM MAP – NEW CASTLE COUNTY
APPENDIX K	GENERAL REFERENCE MAPS AND CHARTS
APPENDIX L	MOUNTAIN HILL – CARPENTERS POINT INTERCONNECTION
APPENDIX M	PSC APPROVAL OF ELKTON WEST WATER & WASTEWATER FRANCHISE
APPENDIX N	TOWN OF RISING SUN WATER INTERCONNECTION WITH CHESTER WATER AUTHORITY

EXECUTIVE SUMMARY

The former Board of County Commissioners adopted a new Comprehensive Plan for Cecil County on April 13, 2010. The primary intent of the Comprehensive Plan is to concentrate development in growth areas. This will allow the County to efficiently plan for and implement water and wastewater infrastructure and deflect future growth away from rural areas.

The growth areas (High, Medium High, Medium, Low, Residential Mixed Use, Employment Mixed Use, and Employment) are the areas most suitable for future development based on the County's existing built environment and land use patterns as well as its future land use goals. The growth area is either served or planned to be served by water and wastewater facilities. The goal is to concentrate residential, industrial, and commercial growth in the growth area, thereby reducing the cost of providing infrastructure by making it more efficient and by limiting growth pressure in the rural areas of the County.

The Comprehensive Plan recognizes that concentrating development in growth areas will help protect rural character by directing development to higher density areas served or intended to be served by water and wastewater infrastructure. Perhaps the most strategic growth area is the I-95/U.S. Route 40 corridor. This area has been designated for growth for many years, but development has been stymied by the lack of water and sewer infrastructure. The County has attempted to move development forward by awarding a franchise to Artesian Water Maryland to provide water service to portions of the area and to expand the County's wastewater infrastructure.

The 2010 Comprehensive Plan contains a Water Resources Element that has the following goals and objectives:

1. Increase the capacity and extent of water resources infrastructure – water supply and wastewater collection, treatment, and discharge capacity – in growth areas.

2. Plan growth in a way that allows sufficient time to develop adequate drinking water and wastewater resources and infrastructure.

3. Work with municipalities in the County, 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.

The Master Water and Sewer Plan will provide the mechanism for the implementation of the goals and objectives of the County's Comprehensive Plan and to achieve the recommendations of the Plan's water resources and land use elements.

The engineering aspects of the water and sewerage projects described in this plan have been reviewed for adequacy for a registered engineer licensed in the State of Maryland.

CHAPTER 1
GOALS AND OBJECTIVES

1.0 GOALS

This section outlines the goals that the Master Water and Sewer Plan for Cecil County seeks to realize. Achieving these goals will require a concerted effort by private franchisees, Municipal, County, and State governments as well as the citizens of Cecil County. These goals were derived from the Cecil County Comprehensive Plan and were developed to ensure and enhance the high quality of life that the citizens of Cecil County enjoy.

- A high quality of life is achieved through the universal stewardship of the land, water and air, resulting in sustainable communities and protection of the environment.
- Growth is concentrated in existing population and business centers, growth area adjacent to these centers, or strategically selected new centers.
- Growth areas have the water resources and infrastructure to accommodate population and business expansion in an orderly, efficient, and environmentally sensitive manner.
- Strategies, policies, programs and funding for growth and development, resource conservation, infrastructure and transportation, are integrated across the local, regional, state and interstate level.
- Incentivize development within growth areas and discourage development outside growth areas.
- Encourage maximum growth and high density development in the growth area.
- Achieve a balance of residential development and employment opportunities.
- Attract high density, mixed use development at appropriate locations in the growth area.
- Concentrate high density development in areas where adequate public or private facilities will be provided.
- Provide land in appropriate locations for growth and expansion of economic development opportunities.
- Establish a clear relationship between existing and proposed future development, the drinking water resources, and wastewater facilities that will be necessary to serve that development.
- Increase the capacity of water resources infrastructure, water supply, wastewater collection, treatment and discharge capacity in growth areas.
- Plan growth in a way that allows sufficient time to develop adequate drinking water and wastewater resources and infrastructure.
- Work with municipalities in the County, neighboring jurisdictions, the Susquehanna River Basin Commission, other regional organizations, and private service providers to address resource issues related to water supply, wastewater treatment, and nonpoint source pollution.
- Direct most future growth to growth areas.

- Facilitate growth in growth areas by creating mixed use zoning districts and allowing planned unit developments to develop in desired locations.
- Encourage the provision of infrastructure and incentives that will enable growth areas to develop as attractive, well designed places.
- Promote the construction of new development on privately or publicly owned and operated water and wastewater systems, including shared facilities, to implement the County Comprehensive Plan and to avoid becoming an undue burden upon the financial resources of the residents of the County.
- Consider using shared facilities to promote clustering and the preservation of open space.
- Explore the establishment of new surface water sources such as surface impoundments and withdrawals.
- Identify areas suitable for treated wastewater land application and tertiary treatment wetlands.
- Pursue the abatement of failing septic systems through connection to community systems where appropriate.

1.1 Objectives

These objectives are to provide more specific definitions to the goals that the County seeks to achieve. These objectives were derived from the Cecil County Comprehensive Plan. These objectives were also derived from the goals stated in the previous section.

- Facilitate development in the County's growth area.
- Provide adequate water and sewer infrastructure to serve the growth area.
- Coordinate with the Towns to plan for future annexation areas.
- Aggressively pursue development of water and wastewater resource infrastructure in the growth area
- Cooperate and coordinate with public and private utilities through the execution of franchise agreements to provide long term water supply and wastewater collection and treatment facilities for the needs of development within the County.

1.2 Objectives for Water and Sewer Facilities and Services for the Land Use Districts

The Cecil County Comprehensive Plan Land Use element outlines several land use districts which have specific goals, objectives, and policies to encourage the desired type, form, density, and intensity of development in given areas. The following are excerpts from that Plan regarding water and sewer service to those districts.

High Density Growth Area – Generally located adjacent to the Towns of Elkton, North East, and Perryville, this district offers the highest density development with a mix of housing types including duplexes, townhouses, apartments, and condominiums. This district is served or planned to be served by sewer and water facilities.

Medium High Density Growth Area – Generally located adjacent to the Towns of North East and Elkton this district is envisioned to act as a transition from High to Medium growth areas. The district is intended to include a mix of housing types including single family, townhouse, apartments, and condominiums. This district is served or planned to be served by sewer and water facilities.

Medium Density Growth Area – Generally found on the periphery of the growth area around the Towns of Elkton, Charlestown, Perryville, Port Deposit, and the smaller Towns of Cecilton, Chesapeake City and Rising Sun. This district is served or planned to be served by sewer and water facilities.

Low Density Growth Area – This district provides a transition between more densely developed areas and rural areas. Although most areas of the district are not shown as water and sewer areas, there are areas that are served or planned to be served by water and sewer facilities. The remaining areas are eligible for service in the future. As such, they represent future growth opportunities in the designated growth area.

Employment – The intent of this district is to provide for major industrial, manufacturing, office, and business uses and economic development opportunities near major roads and railroads. Employment areas have or are planned to be served by sewer and water facilities.

Employment Mixed Use – Located south of U.S. Route 40 and north of MD Route 7 on the west side of Elkton adjacent to rail lines, this district is envisioned to contain master planned office, commercial, and residential areas. This district is served or planned to be served by sewer and water facilities.

Residential Mixed Use – Located on the north side of U.S. Route 40 west of Elkton, this district is envisioned to create mixed use transit supportive nodes with a residential emphasis. This district is served or planned to be served by sewer and water facilities.

Resource Protection and Rural Conservation Districts – Extension of water and sewer systems will not be permitted except in cases of where a threat to public health exists. Private shared facilities may be permitted and can provide an opportunity to preserve large open space areas. These areas may coincide with the municipal greenbelt designations. Annexation of these areas will be subject to maintain the minimum County use standards established for these districts and the intent of the municipal greenbelt designation.

Village District – Extension of water and sewer service is only anticipated when there is a threat to public health or where water and sewer services can be readily extended from nearby areas.

Mineral Extraction – Water and Sewer service should be provided to land zoned for commercial and industrial uses or to correct existing problems with septic systems.

1.3 Policies

This section is intended to demonstrate how the goals and objectives will be achieved. Further, it is intended to clarify and qualify specific actions necessary to ensure the goals and objectives are achieved.

1.3.1 General Policies Regarding Water Supply and Sanitary Sewage Systems

A. Existing water and wastewater treatment plants shall continue to be maintained and improved to meet Maryland Water Quality Standards and State and EPA NPDES permit requirements.

B. The County will cooperate with State efforts to reduce any sources of stream pollution.

C. The citizens of Cecil County will be informed of pollution problems and their advice and cooperation solicited.

D. Where existing private water supply or private sewer systems prove inadequate or unsafe and are reasonably near public systems, the County or private provider will attempt to provide connection to the public or private system.

E. The nature and extent of existing water and sewer problems will be investigated and solutions sought. A coordinated effort between the Cecil County Health Department and Cecil County Department of Public Works to identify potential health problems and evaluate potential solutions will prove invaluable to resolving said problems.

F. In planning for and proposing private or public water and sewer facility construction programs, at a minimum the following shall be considered and documented:

- Recommendations of the Comprehensive Plan;
- Franchises granted to provide water and wastewater services;
- Areas experiencing public health hazards needing immediate attention;
- Existing systems in need of upgrade;
- Developing areas; and
- Determination of physical and financial feasibility.

G. For all development of residential, commercial, or industrial properties, the County shall ensure that water supply and sanitary sewer system installations shall be properly connected to an approved and functioning public and/or private wastewater treatment/water supply system in accordance with the following:

- A Water Appropriation and Use Permit or Notice of Exemption, as applicable, must be obtained from the Maryland Department of the Environment Water and Science Administration.
- A well construction permit must be obtained from the Maryland Department of the Environment via the Cecil County Health Department.

- A financial management plan must be submitted to the Maryland Department of the Environment Water Supply Program for review and approval. This plan shall detail estimated operating costs and revenues required to support these costs.

- An operation and maintenance (O&M) plan must be prepared and submitted to the Maryland Department of the Environment Division of Engineering and Permits for review and approval.

- National Pollutant Discharge Elimination Permits (NPDES) must be obtained for wastewater treatment plant discharges

- A State Water construction permit must be obtained from the Maryland Department of the Environment prior to the installation of a water or wastewater system, depending on the size and extent of the system

H. After a State construction permit has been issued, there are additional requirements which must be met prior to actual operation of new systems, which are:

- All County permits must be obtained, and all inspections performed, as may required by the approving authorities.

- A water or wastewater treatment plant superintendent and operator certified in the appropriate classification must be employed prior to startup and to attend the plant on a daily basis.

- Plans must be made for compliance with monitoring and reporting requirements of MDE in advance of the start up.

I. Recapturing Unused Water & Sewer Commitments

- The Department of Land Use and Development Services or a private utility may issue commitments to a specified project for water and/or sewer service. However, the commitment will remain valid only if the original conditions of the commitment remain unchanged. The applicant cannot propose changing the project without risking the commitment. Commitments are considered granted when a public works agreement (PWA) has been executed between Cecil County Government and the owner/developer.

- Any commitment holder shall lose their commitment for water and/or sewer service if they do not develop in a timely manner. From the date that Cecil County Government or the private utility grants a commitment, through the execution of a PWA to the project, the developer/owner shall have 18 months in which to construct one third of the project in residential developments. Nonresidential projects must be under construction to the satisfaction of the approving authority. If this has not been done, the commitment may be

forfeited and subject to reallocation. Cecil County Government or the private utility may extend this period for up to one additional year only if the applicant can demonstrate that the delay is attributable to governmental action or conditions beyond human control. Alternative schedules may be negotiated at the discretion of Cecil County Government or the private utility.

J. Flow Reduction Program

- Substantial reductions in the operation costs of water and wastewater facilities and withdrawal of groundwater are possible through the implementation of a flow reduction program. All existing structures within an existing or proposed water or wastewater service area shall be required to use low flow fixtures when upgrading plumbing fixtures. The installation of water conserving devices as an interim measure shall be strongly encouraged in all areas.

- All new structures to be constructed within the County shall be required to incorporate the following flow reduction measures:

  i. A pressure reducer will be required to maintain a system pressure not in excess of 60 psi.

  ii. No toilet utilizing in excess of 1.6 gallons per flush will be permitted.

  iii. Lavatories in the restrooms of public facilities will be equipped with devices that stop the flow of water (hot and cold combined) after not more than one gallon of water has flowed through the fitting.

  iv. Whenever possible, retrofitting of water conserving devices and/or fixtures shall be encouraged in all situations short of remodeling as defined by the Water Conservation Plumbing Fixtures Act.

K. Lots shall provide at least the minimum size and area requirements of the zoning district in which they are located and any other applicable local laws, ordinances, and regulations of Cecil County, the Health Department or MDE, whichever is more stringent. For county or municipal water supply sources, water transmission lines, and WWTPs that received MDE funding (except funding provided from the Biological Nutrient Removal Fund and the Bay Restoration Fund), all MDE-funded capacity may only be allocated to the following:

  - Existing water and sewer service customers already served by the water supply source, water transmission line, or WWTP at the time of the MDE funding request;

  - Areas meeting the State Priority Funding Area (PFA) criteria;

  - Areas that have received a PFA exception; or

- Growth-related project areas approved for water or sewer service in the Master Water and Sewer Plan prior to October 1, 1998, and utilizing the capacity of a water supply source or WWTP existing prior to October 1, 1998.

Growth-related project areas that do not meet these criteria must finance the capacity allocations and infrastructure connections to the water or sewer system with non-State funding (i.e. local government or private funds). The Rising Sun Water Service Area and Chesapeake City WWTP is subject to the requirements listed above.

L. Individual Water Supply and Individual Sewer Systems

- An individual water supply or individual sewer system may not be permitted to be installed where an adequate community water or wastewater facility is available (as determined by the Cecil County Department of Environmental Health). If an existing community water or sewer facility is inadequate or is not available, an individual system may be used as set forth below.

- Such systems are found by the Department of Environmental Health to be adequate, safe, and in compliance with State and local requirements.

- Permits for such systems shall bear a notice regarding the interim nature of the permit and stating that connection to a future community system shall be made when such system becomes available.

1.3.2 Policies Regarding Interjurisdictional Coordination

A. All branches of Cecil County Government as well as private utilities will be expected to comply with the policies of the Plan.

B. Cecil County Government shall aid and encourage river basin cooperation with all adjoining jurisdictions including the Susquehanna River Basin Commission and Delaware River Basin Commission and private utilities.

C. Public and private water and sewer facilities will be designed and sized not to exceed the growth recommendations of the Comprehensive Plan for the area and based on the advice of the Director of Land Use and Development Services and the Director of Public Works.

1.3.3 Policies on Areas to be Served

A. W1 and S1 are areas that are presently served by central water and/or sewer facilities. New development occurring in the W1 and S1 areas shall be served by the central water and/or sewer systems. Exceptions shall only be permitted due to capacity problems or physical constraints that would preclude hook up to the central system. The burden of proof of feasibility shall be on the owner/developer and shall be reviewed by the entity responsible for the central water and/or sewer facility.

B. W2 and S2 are areas to be served by extension of community and multi-use water and sewage systems in the next 0-2 years. It is not the intent of the County to finance the construction of water and/or sewer facilities to all properties designated as W2 and S2, but to encourage private entities to finance the same. Privately financed water and/or sewer facilities shall be dedicated to the County at the discretion of the County. Exceptions shall occur when the County grants a franchise to a private entity to serve a portion of the County with private water and/or sewer facilities.

C. W3 and S3 are areas where improvements to construct new community multi-use water and sewer systems will be given priority in the next 2-3 years. Privately financed water and/or sewer facilities shall be dedicated to the County at the discretion of the County. Exceptions shall occur when the County grants a franchise to a private entity to serve a portion of the County with private water and/or sewer facilities.

D. W4 and S4 are areas that may be served within 3 to 6 years of the date of the adoption of this plan. Except as provided below, no parcel designated as W4 or S4 shall be served with water and sewer before the appropriate time. This limitation applies to proposed privately financed service extensions as well.

E. W5 and S5 are areas that may be served within 6 to 10 years of the date of the adoption of this Plan. Except as provided below, no parcel designated as W5 and S5 shall be served with water and sewer before the appropriate time. This limitation applies to proposed privately financed service extensions as well.

1.3.4 Denied Service Area Exceptions

Parcels not designated for service may only be served with water and sewer facilities under the following circumstances:

- To provide service to an existing residence, commercial, or industrial operation that is experiencing health or environmental problems that would be solved by the service extension as recommended by the Cecil County Health Department.

- To provide service to a property under a written agreement with the County, executed prior to the date of the creation of the service area designation that obligates the County to serve said property in a manner consistent with said agreement.

- For economic development purposes after a public hearing and upon receipt of a recommendation from the Economic Development Commission and the Planning Commission.

1.3.5 Amendment Procedures

This document, including service area boundaries, may be amended from time to time provided that no action be taken until a public hearing is held by the Planning Commission for a recommendation on said amendment and by the County Council for a final decision. Amendments must be reviewed and approved by the Maryland Department of the Environment in accordance with Section 9-507 of the Environment Article of the Annotated Code of Maryland.

At least fifteen (15) days prior to the Planning Commission hearing, one notice shall be published in a newspaper of general circulation in the County. The notice shall state the time, place and reason for the hearing.

Amendments to service areas within incorporated municipalities shall be considered by the municipality via a public hearing process prior to proceeding through the County public hearing process described above.

CHAPTER 2
BACKGROUND INFORMATION

2.0 Physical Features

2.1 Location and Area

Cecil County is located in Maryland's northeastern corner and is bordered by Delaware to the east, Pennsylvania to the north, the Susquehanna River and Harford County to the west, and the Sassafras River and Kent County to the south. The Chesapeake Bay borders the County to the southwest. The County covers 354 square miles.

2.2 Topography

The topography of Cecil County is an expression at the surface of the variations in the type of bedrock and the geological processes that have been at work in different periods throughout hundreds of millions of years. Water falling on the surface has sculpted the surface into its present form. The forms vary because many rocks and soil types differ in their resistance to weathering and decomposition. Geologic forces have created two distinctly separate areas in the County and these produce unmistakably different topographic features.

The southern portion of Cecil County lies within the Coastal Plain of the Delmarva Peninsula. Generally, the land shows little relief and its streams are small and sluggish. Marshes and other wetland areas of limited drainage abound. The entire region is underlain by relatively unconsolidated sediments (gravel, sands, and clay) of continental origin that dip gently to the southeast. These sediments are easily eroded, and wave action from the Chesapeake Bay, in addition to surface runoff, has created locally steep slopes and bluffs from 20 feet to nearly 100 feet in height.

The northern portion of Cecil County lies within the eastern Piedmont and expresses topography of typically eroded ancient uplands that possessed a wide variety of rocks of plutonic, metamorphic, and volcanic origin. The general characteristics of such areas depend on the degree of orogeny (mountain building), the kind of rocks present, and the extent of the subsequent erosion. The history of the Piedmont appears to be marked by moderate to weak orogeny and a considerable variety of rock types followed by long periods of erosion. The result is an uneven, hilly terrain punctuated by small gorges, cliffs, and ridges.

More specifically, the northeastern portion of the County is moderately hilly, with the greatest relief provided by the gorges of the Big Elk Creek and the Little Elk Creek as they cut through the more resistant rock layers. The north central section of the County is only slightly hilly, with wide

valleys and large scale undulations in the terrain; an exception being found in Bayview where the east branch of the North East Creek makes its way through a layer of metavolcanic rocks. The northwest section of the County provides the most varied topography. Near Port Deposit, bedrock of resistant diorite provides a mini plateau, which is incised by the Susquehanna River, revealing granite cliffs and providing little floodplain. Further north, the Octoraro and Conowingo Creeks form deep gorges as they pass through alternately resistant rocks and softer, altered formations, both of plutonic origin (Baltimore Complex). This region is also home to the highest elevation in the County, a point near Rock Springs at 535 feet above sea level.

2.3 Geology – Rock Types

The rock types in Cecil County can be grouped into two categories which are almost opposite in characteristics such as hardness, texture, structure, and permeability. This marked separation that is reflected in the development of dissimilar topography between the north and south portions of the County arises because of large differences in geologic age, involvement with processes, and origins of the rocks.

In the north, the rocks are both igneous and sedimentary in origin and have subsequently undergone extensive metamorphism through great heat and pressure as a result of deep burial and crustal deformation.

The rocks exposed in the south are all of sedimentary origin, are generally unconsolidated and of a much more recent age. Except for some degree of compaction, these sediments have changed very little in appearance since they were deposited. These sedimentary rock beds are underlain at depth by metamorphic bedrocks of types similar to those exposed in the north.

2.4 Soil Characteristics

Approximately 30% of the County's soils have adequate percolation rates for on-site sewage disposal systems. Only 19% of this group has both good percolation rates and level to gently sloping topography (classified as slight limitation).

Of the various soil associations found in Cecil County, those generally best for the use of septic systems are the Chester-Glenelg-Glenville, Sassafras-Woodstown, and Collington-Glenville. The Chester-Glenelg-Glenville association occurs on gently rolling land in the northern quarter of the County. The second association occurs on widely scattered gently sloping to hilly tracts in the southern two thirds of the County. The Collington-Glenville association occurs on many very steep slopes and extends up wooded ravines into pastures and cultivated fields in the southern one third of the County east of the Elk River.

2.5 Population

Population change is governed by three variables: birth, death, and net migration. All three are influenced by an infinite number of factors. Some factors can be rationally ascertained by analyzing past trends. Others, such as wars, depressions, disasters, and natural emergencies cannot be foreseen and forecasts assume they will not happen.

Population forecasting requires an intensive study of past trends of the area concerned. The primary source of this data is the U.S. Census Bureau, the Maryland Department of Planning, and Cecil County Land Use and Development Services.

The population growth of Cecil County during the past several decades is shown in Table 1. Some of the increase can be attributed to suburbanization and some to natural increase (difference between births and deaths). Historically, natural increase has been the controlling factor producing net growth in County population. However, recent population growth has occurred due to development pressure from the Wilmington, Philadelphia, and Baltimore regions.

The method used for projecting the County's population superimposes net migration figures on the national population increase. This technique is only as accurate as the assumptions made and the records available for births, deaths, and migration. Implementation of the County's Comprehensive Plan should direct the majority of future growth to the County's growth area.

Table 1

Year	POPULATION	Ave. Annual Growth Rate
1930	25,827	-
1940	26,407	0.22%
1950	33,356	2.36%
1960	48,408	3.79%
1970	53,291	0.96%
1980	60,430	1.26%
1990	71,347	1.67%
2000	85,951	1.87%
2010	101,108	1.76%
2020	104,600	0.34%
2030	119,550	1.43%
2040	135,450	1.32%

As can be seen in Table 2, the Maryland the Maryland Department of Planning projects that the County's growth rate will remain within historical norms over the next 30 years. Triennial review of the Plan and careful planning of staged construction will compensate for unforeseen circumstances affecting population forecasts. It will also allow the County to gauge the success of this plan in lessening the development pressure on the rural areas of the County and by providing the necessary water and wastewater infrastructure in the growth area. Additionally, use of the Chesapeake Bay for water based recreation will continue causing greater seasonal variations in the County's population.

Table 2 – POPULATION PROJECTIONS

County	2020 Pop.	2020 Housing	2030 Pop.	2030 Housing	2040 Pop.	2040 Housing
Total	104,600	39,507	119,550	44,743	135,450	50,001

Additional population projections are provided in Table 3 for the Elkton West franchise area. The projections are based on Traffic Analysis Zones (TAZ) that are located entirely or partially within the Elkton West Franchise Area.

Table 3 – ELKTON WEST FRANCHISE AREA POPULATION PROJECTIONS

NAME	2010	2020	2030	2040
Elkton West Total	16,166	22,180	27,359	29,962
Change	0	6,014	5,179	2,333

(*Note: The Elkton West Franchise Area consists of the entirety of the following TAZs – 503, 505, 508, 516, 590, 600 and 610. The Elkton West Franchise Area contains a portion of the following TAZs – 510, 511, 513, 515, 518, 519, 525, 540, 550, 551, 552, 565, 585, 591, 595, 630, and 940.)*

2.6 Land Use

Land use / land cover data is periodically prepared by the Maryland Department of Planning. Table 4 shows the land use for the years 1973 and 2010.

Table 4 – LAND USE/LAND COVER

	1973		*2010*			
Land Use	Acres	Percent	Acres	Percent	Change, Acres	1973-2010 Percent
Development Lands [1]	16,334	7.3%	53,021	23.8%	36,687	225%
Low Density Residential	8,768	3.9%	20,255	9.1%	11,487	131%
Medium/High Density Residential	1,531	0.7%	6,469	2.9%	4,938	323%
Commercial / Industrial	1,655	0.7%	4,808	2.2%	3,153	191%
Rural Residential [2]	n/a	n/a	13,987	6.3%	n/a	n/a
Other categories [3]	4,380	2.0%	7,502	3.4%	3,122	71%
Resource Lands [4]	206,325	92.7%	169,922	76.2%	-36,403	-18%
Agriculture	112,729	50.6%	85,625	38.4%	-27,104	-24%
Forest	91,259	41.0%	81,325	36.5%	-9,934	-11%
Wetlands	2,337	1.0%	2,972	1.3%	635	27%
Total [5]	222,659	100%	222,943	100%		

Notes:

1) Residential densities are defined as follows: Rural = 0.05-0.2 du/acre; Low = 0.2-2 du/acre; Medium/High = 2-up du/acre

2) Rural Residential and Transportation categories were not included in MDP's 1973 Land Use/Land Cover dataset.

3) Institutional, Extractive, Open Urban, Beaches, Bare Rock, Bare ground, Transportation

4) Excludes water

5) Change in overall land area is likely due to changes in MDP's mapping techniques and shifts in shoreline.

Sources: Maryland Department of Planning 1973 & 2010 Land Use Land Cover datasets.

CHAPTER 3
WATER SYSTEMS

3.0 General Description

Maryland Department of the Environment (MDE) regulations require that the governing bodies within each county develop their water supply systems so as to be consistent with the county comprehensive planning. In order to ensure and protect the health, safety, and welfare of the people of Cecil County, basic essential infrastructure facilities must be provided which include adequate water supply and distribution systems.

The water supply sources in Cecil County originate from both groundwater and surface water. The majority of the County's residents receive their water supply from wells, which include public and private water supply systems and individual on lot wells. Over half of the total County population receives water from individual on site wells, and the rest receive water from a public or private water supply system.

In addition to a water supply source, the larger systems must be able to transfer this supply to its consumers through suitably sized water distribution networks coupled with sufficient storage capacity to enable these systems to deliver peak demand flows and recommended fire flows.

The purpose of this chapter is to provide a phased approach to developing water distribution systems to satisfy regulatory requirements and to meet the water demands throughout the County within the near future.

3.1 Water Supply Sources

3.1.1 Water Resources Inventory

Over the recent past, there has been a substantial increase in population as well as commercial and industrial development due to the County's location within the transportation corridor connecting Baltimore, MD and Philadelphia, PA. Water use has increased accordingly, and potential for water quality change due to human related activity has also increased. Changes in farming practices, particularly the introduction of no till farming have had potentially significant positive effects on water quality. Groundwater and surface water sources in Cecil County are described in the following sections, along with the existing water systems owned and operated by various providers.

3.1.2 Groundwater Sources

A. General

Groundwater is utilized in Cecil County by public and private water systems and private on site wells. The latter includes industrial, commercial, institutional, and agricultural enterprises and individual domestic wells. A majority of County residents receive their water supply from wells. According to August 2018 estimates by the Maryland Department of the Environment, about 55% of County residents use water from a public or private water supply system.

The total amount of water allocated by groundwater sourced Water Appropriation and Use Permits is about 10 mgd as an annual average. Water Appropriation and Use Permits from groundwater sources total 3.9 mgd for potable supplies for private and government run water supplies, recreational, commercial, institutional, educational entities. Agricultural use of groundwater allocations totals 3.4 mgd. Mining and related activities allocations total 2.1 mgd. Industrial groundwater sourced Water Appropriation and Use Permits total 0.34 mgd for Cecil County. Actual water usage is hard to pinpoint since many small systems using an annual average of less than 10,000 gpd have no reporting requirements.

B. Geology and Potential Yields

Available groundwater is determined by both the hydrogeologic characteristics of subterranean rock formations and the local climate (amount of rainfall). In Cecil County, two basic forms of rock formation exist. The northern one third of the County is underlain by crystalline (igneous-metamorphic rock) rocks, whereas unconsolidated sediments underlie the southern two-thirds. Since the latter generally hold more water, the potential for land use development based on groundwater resources is greater south of the I-95 corridor.

1. Crystalline Rocks – there are two types of crystalline rocks, igneous and metamorphic. Igneous rocks are crystalline rocks that have solidified from a molten state either from subsurface magma or from the extrusive volcano. Metamorphic rocks are those that have been altered as a result of intense temperature and or pressure and introduction of new chemical substances. This process may alter the original massive character of the rock, developing leaf like bands known as foliation. Extensive development of the foliation is seen in schist formations. Recrystallization, which may accompany these geologic processes, eliminates any porosity that may have existed prior to metamorphism. The igneous intrusive bodies have no porosity.

   There are occurrences of crustal deformation resulting in the formation of many fractures, many of them steeply dipping, which cut through the rock. Such fractures, known as faults and joints, are not equally developed in all areas. These fractures created passageways for infiltrating

precipitation to percolate downward into the rock. In some cases the reaction of the rock with the groundwater caused alteration and solution of the minerals and enlargement of the fractures. Decomposition of the individual mineral grains, which is more extensive at the surface and decreases with depth, also created some porosity between grains. The groundwater flows through and is stored in these openings. The kind of minerals and the difference in their reactions with the groundwater as well as the degree and number of joints and fractures create different environments for groundwater movement and storage. Furthermore, in areas of moderate relief more of the weathered rock is stripped away, providing less area for groundwater retention than flat lying areas where there is a thicker weathered zone.

Formations such as the Port Deposit gneiss and Wissahickon schist develop depths of weathered zones that average 30 to 40 feet but may be as much as 100 feet. The depths of weathering are greatest for these formations in areas of gently rolling topography with low relief. On ridges that rise prominently above the surrounding area, or where there is moderate relief from deeply incised valleys, the depth of weathering is much less. Fracture traces are the surface expression of fractures. Zones with numerous closely spaced fractures may also produce deep zones of weathering. The groundwater potential is greatest in these formations in which deep zones of weathering can be developed. Greatest groundwater availability occurs in areas where fractures are interconnected.

The well yields in the granite, gneiss, and schist range from 0 to 300 gpm with very few wells over 50 gpm. Careful geologic interpretation may make it possible to locate wells of 50 to 100 gpm.

The basic rocks such as the gabbroic gneiss and serpentine do not commonly develop deep zone weathering. Soil cover is much thinner where these formations occur because the mineral assemblage has a greater resistance to reaction with percolating water. For this reason, these rocks are also found in areas of more rugged terrain. The volcanic gneiss formations, as well as the highly quartzitic gneiss, have similar hydrogeologic characteristics.

The best well locations are in stream valleys. Higher yields occur in stream valleys because the valleys usually lay over fracture zones of less resistant rocks. The range of yields may be expected to fall between 2 to 5 gpm, but the more probable range of yields would be 5 to 10 gpm. 50 to 75 gpm would be unusual but possible.

2. Unconsolidated Sediments – the formations included are the Cretaceous, Tertiary, and Pleistocene gravels, sands, silts, and clays that underlie the southern portion of the County. The sediments range in grain size from coarse gravel to clay. Individual beds may consist of gravel mixed with sand, sand mixed with silt and clay, or silt and clay. The coarser grain horizons termed aquifers have the greatest porosity and permeability. The horizons that

are predominantly clay, clay and silt, or close to being impervious, are called aquacludes. This porous structure, developed at the time of deposition, may have been somewhat reduced through compaction but has not been affected by recrystallization or a significant amount of cementation. The original water in the pore spaces may have been salt water; however, rainwater percolating down from the outcrop areas has flushed out the salt water and provided a reservoir of potable groundwater. Some of the deposits are composed of layers of various grain sizes and are interfingered in a series of lenses. However, lenses of low permeability can be mixed with a coarse gravel deposit, as well as moderately permeable layers found within beds of silt and clay. The location of such irregularities cannot be accurately predicted.

The surface deposits of sand and silt of Pleistocene age range from zero to about 100 feet thick. This is also true for the surficial deposits of recent age found along stream channels. The underlying formations, which are the Patuxent, Patapsco, and Raritan formations of the Potomac group and the Magothy, Matawan, and Monmouth formations of the Cretaceous age have a potential of producing from 5 to over 1000 gpm. Where large yields have been purposely attempted, flows of 500 to 700 gpm were obtained.

Wells in the Potomac Group at higher elevations are not likely to yield a supply exceeding the needs of a single home. Whenever the base of the Potomac lies above sea level, groundwater is not stored but simply drains off the underlying crystalline bedrock.

C. Geologic Summary

The geologic formations in the northern half of Cecil County are relatively impervious, crystalline rocks. Fracturing occurring during periods of crustal deformation and subsequent weathering by rain water percolating downward through the fractures and along foliation planes created the open space which provided the porosity and permeability necessary for groundwater storage and circulation. Proper geologic location of the well sites will assist in the development of wells with yields of more than 50 gpm. Such potential is greater in the eastern portion of the County than in the western. The record to date indicates little potential below depths of 150 feet except in unique situations. Sedimentary rocks, which form the coastal plain of Cecil County, can provide yields of 500 to 700 gpm.

The quality of groundwater is good. The sedimentary rocks produce water in which the pH is often low enough and iron content great enough that treatment is required to improve the quality. This can also happen in crystalline rocks. The water temperatures are in such a range that it will adequately serve for cooling purposes. The potential for groundwater development for parts of the County may not exceed attempts to utilize it, depending on the geographic location. An unused moderate potential is present in many portions of the eastern half of the County north of Elkton and a large undeveloped potential is present in much of the southern

portion of the County below Elkton. Additional groundwater development is still possible in many areas of the County.

D. Problems

Knowledge of groundwater is based on understanding parameters such as precipitation, stream flows, pump testing of wells, and geologic study of bedrock. Because direct observation and measurement of groundwater at a site cannot be made, accurate determinations of volume and quality for desired locations and depths cannot be predicted. Consequently, plans for the development of groundwater are sometimes based on subjective interpretation of available facts. For this reason, all nearby wells should be considered when planning a large water supply. More than one well may have to be drilled in order to determine the potential available. As more information is accumulated from the results of additional well explorations, the projections for future development will become more accurate. The unconsolidated sediments in the southern portion of the County lend themselves to more accurately projecting potential yields.

Contamination of groundwater may occur through the purposeful discharge of wastes into the wells. Such practices lower the groundwater quality of an area around the well and down-gradient of groundwater flow. Such discharges of untreated waste have occurred in the past and may still be taking place although the State attempts to control such uses of wells. Any such discharge must be reported, by law, to the Maryland Department of the Environment. When contamination is found, it is often difficult to determine the source. Most waste that goes down wells is through damaged or improperly constructed wells.

Variations in groundwater levels occur in almost all wells over a given period. Long term observations of wells have shown that the groundwater levels generally fall in the summer and fall, and rise in the winter and spring. If a series of years with below average precipitation occur consecutively, such as was experienced by Cecil County in the 1960's, the groundwater level may fall to progressively lower levels each summer.

For unconfined wells, one year of above average precipitation can restore the groundwater levels to a normal range of fluctuation. For wells in the crystalline rock and particularly for those located in the upper elevations where there is moderate relief, the fluctuations can be many tens of feet, although such extremes are rare. Those wells located in low elevations or where the topography is quite flat are least affected. Confined wells in the coastal plain may exhibit long term regional rate of declines as a result of increased withdrawals. Water levels in confined wells are regulated by MDE to ensure water levels are maintained above regulatory thresholds to ensure the sustainability of the withdrawal.

All wells produce a cone of depression when pumped. Large yielding wells generally produce a cone of depression the size of which depends on local geologic conditions and the amount of water pumped. These cones of depression can sometimes impact water availability to nearby wells.

E. Quantity

The total quantity of groundwater available cannot be calculated because of the variable subsurface conditions, precipitation, and withdrawals, some of which cannot be measured. The best understanding to date of the potential quantity has been developed from the study of the hydrologic cycle and long term measurement of stream flows.

Geology, because it affects the topography and type of soils as well as the subsurface storage capacities, determines the volume of groundwater that can be stored and whether the aquifer will yield water to the wells. Thus the potential estimation of the northern half of the County is different from the southern half. Previous investigators have determined that approximately 540,000 gallons per day per square mile is the average long term period rate of recharge in the area of metamorphic, crystalline rocks. It must be remembered that variable geologic conditions in the crystalline rocks, because of weather resistant rock types and areas of steep slopes, would cause the actual figure to significantly differ from one area to another. In the Coastal Plain or southern area of the County, the rate of recharge of groundwater has been calculated to be 740,000 gallons per day per square mile. The difference in recharge is determined by geologic conditions such as porosity of soils and topography.

Not all of the water that infiltrates is available for consumption through wells. Some of the water must serve to maintain the base flow of the streams and much water is in sediments like silt and clay that will not yield water to wells easily. However, considerable quantities can be withdrawn with no effect on stream flows. Most of the water that is used in homes, commercial establishments, and industry is returned to the ground or streams via septic systems. A large percentage of the water used for irrigation, however, is lost to evapotranspiration.

The range of yields is different for crystalline and sedimentary rocks. The most productive wells in the crystalline rocks yield about 100 gpm. Some large wells in the unconsolidated sediments have been pumped at over 1,000 gpm. Of course, for both areas there are wells that have yielded little or no water at all. The average yields for the formations which have been calculated by others lack accuracy for two reasons. First, there is no reliable record of the dry wells that were drilled and abandoned. Second, and more importantly, most of these wells were drilled for home use, which can be satisfied with 2 to 5 gpm. In this latter case, the potential of the site is not developed by going the full depth of the water bearing zones, and geologic data is not used to locate the well. In crystalline rocks, the best potential lies between 50 and 150 feet. Only in the favorable geologic locations would there be a significant yield

below this depth. In unconsolidated sediments, the potential depths range from 30 to 50 feet, the greater depths occurring toward the south near the Sassafras River. Large quantities of water can be developed at greater depths in the unconsolidated sediment; however, depths that exceed 500 feet seem to encounter brackish water.

F. Quality

The quality of groundwater in Cecil County is generally acceptable to all the users that it has served. Most of the water is soft with the exception of some wells in the serpentine and a few in the unconsolidated sediments. Iron, which has been a problem in only a few of the wells in the crystalline rock, has occurred in numerous wells in the unconsolidated sediments. Large users of this water with iron may be able to treat the water. Many of the waters from the unconsolidated sediments have a low pH and consequently are aggressive in their reaction with plumbing. This condition can also be treated to make the water acceptable.

Where wells are properly constructed there is little problem with pollution. The nature of the soils over both the crystalline and sedimentary rocks is such that there is most often more than 6 feet of fine grained cover to provide sufficient filtering to purify the water. This filtering phenomenon is what creates the generally high quality of groundwater in comparison to water taken from the surface streams. Unlike the open reservoirs created by the impoundments of the stream, the groundwater reservoir is covered and not subject to wide ranging changes in quality over short periods of time.

Except where waste may be deliberately pumped down a well, the quality of groundwater remains constant throughout the year. The groundwater temperature ranges from 56 degrees in the northern part of the county to 58 degrees in the southern part.

Salinity may be a problem in shallow wells adjacent to the estuaries of the Chesapeake Bay. Investigators have reported that wells drilled to over 500 feet in the sedimentary rocks in the southern portion of the County have encountered brackish water where salinity approaches 1,000 ppm or more.

G. Groundwater and Well Development

The full potential of groundwater supplies will not be realized unless all the technical data and information presently available in published reports and through trained and experienced professionals is fully utilized. Money spent on the location and construction of wells to supply commercial, industrial, and public or private water supplies could be wasted because of poor location and inadequate well construction and testing. Too often, the parties planning a well rely on the advice of friends or local groundwater lore due to the mistaken belief that

groundwater is a mystery about which little is known. Professional assistance is available through agencies such as the Maryland Geological Survey and professional consultants.

Well location is very critical to obtaining maximum yields in the area underlain by crystalline rocks and in the zone along the fall line. In the unconsolidated sediments the exact location is of less importance. A well diameter of 6 inches is sufficient to most of the available yields to be anticipated in the crystalline rocks. In the few wells which may yield more than 150 gpm, the well diameter should be 8 inches. For the development of the larger yields in the unconsolidated sediments, the well diameter is important. The screen size and gravel pack are determined by the grain size in the aquifer, not the yield. Increasing the diameter of the casing and screen may increase yield slightly, but more importantly, a larger pump can be lowered in the well.

Pumping tests are usually run on all wells to determine the reliable yield. In the unconsolidated sediments, additional testing such as electric logging and grain size analysis are essential for evaluating which strata should be cased off and which should be screened. There are other forms of testing which can be performed if conditions require them. The state laws applicable to groundwater development are contained in Title 5 of the Environment Article of the Annotated Code of Maryland.

3.1.3 Groundwater Potential by District

A. General

An examination of well yields within the County as well as groundwater development in comparable geologic settings were studied to evaluate the potentials. In almost any district in the County it is possible to drill a well that has little or no yield. At the same time, unusually large yields for a particular rock type have been encountered where there is no observable explanation. Estimates of well yields that may be encountered are given for the purpose of evaluating the relative potential between different areas. These figures for estimated yield are given not for wells located at random, but for sites that have been chosen based on study interpretation of available geologic information. The actual yields that may encountered could vary considerably from these given here.

B. Election District No. 1 (Cecilton)

District No. 1 has a surface deposit ranging from 15 to 90 feet thick which is composed of silts and sands that are satisfactory for the development of domestic supplies. 500 to 1,000 gpm wells might be located within the underlying sequence of cretaceous sands and gravels. In the southeast corner of the district from Fredericktown to Warwick the Aquia formation of the

tertiary period outcrops or subcrops beneath the Pleistocene deposits. Yields from this formation may be limited to 100 to 200 gpm. However, wells could penetrate this formation to the underlying Cretaceous horizons.

C. Election District No. 2 (Chesapeake City)

Pleistocene deposits on the surface would be sufficient for wells to supply homes. Large yields of 500 to 1,000 gpm can be obtained from the underlying Cretaceous formation. The groundwater resources of this Election District as well as District No. 1 are for the most part undeveloped. The supply should be sufficient to meet the needs of considerably greater industrial and urban development than presently exists.

D. Election District No. 3 (Elkton)

The state of Maryland completed a resource management plan for northeastern Cecil County in 1986 that addressed a number of problems being experienced by the Town of Elkton. The chief findings were:

- Groundwater levels in the area near U.S. Route 40 and the Maryland/Delaware state line have been declining rapidly due to heavy groundwater pumping from the Town of Elkton's No. 3 well and Artesian Water Company's No. 1 and No. 2 wells. The Town of Elkton has reduced its output as a result;

- Well interference was occurring in the area within the Patuxent formation and overlaying shallower formations;

- Limited additional groundwater supplies are available south of Elkton near the intersection of Maryland Route 213 and Frenchtown Road.

E. Election District No. 4 (Fair Hill)

This District is underlain by the Wissahickon formation on the north side and Port Deposit gneiss on the south side. A narrow body of gabbro and gneiss extends through the District parallel to Maryland Route 273. Wells of 50 to 100 gpm may be possible in the southern portion of the District east of the Big Elk Creek. The best sites in the rest of the District may have more yields of 5 to 50 gpm. Many locations will have yields ranging from 0 to 5 gpm. Small areas of unconsolidated sedimentary rocks exist in the far southeast corner of this district near Meadowview.

F. Election District No. 5 (North East)

The land area in this District to the east, south, and southwest of North East is underlain by the Potomac group of formations of the Cretaceous age with scattered relatively thin deposits of Pleistocene sand and gravels. The best potential well sites in the district would be on the peninsula between the North East and Elk rivers. Wells of sufficient depth to reach bottom horizons of the Potomac group may produce yields of 200 to 500 gpm.

The part of the District north of U.S. Route 40 has deposits of Cretaceous and Pleistocene ages on high elevations essentially capping the hills. The lack of substantial thickness and depth below the stream valleys makes it unlikely that wells greater than 5 to 10 gpm can be developed in these deposits. Greater yields may be possible in wells that penetrate the underlying crystalline rock formations such as in the Port Deposit gneiss. However, the sedimentary cover makes it difficult to locate the desired geologic structures in the gneiss. The Port Deposit gneiss along the north side of the District north of Theodore Road may have some potential sites that would yield 50 to 100 gpm.

G. Election District No. 6 (Rising Sun)

The bedrock in this District is metamorphic crystalline rock. North of Maryland Route 273 the bedrock is the basic variety, both serpentine and Baltimore gabbro formations. This bedrock, in conjunction with the topography of moderate relief makes it unlikely that wells greater than 25 gpm can be developed. South of Rising Sun and Maryland Route 273 the District is underlain by the Wissahickon formation and the Port Deposit gneiss. The well potential here may fall between 25 and 75 gpm for locations properly related to the underlying geologic structure. The area along the west side of the District near Mt. Pleasant Church appears to have limited potential ranging from 5 to 20 gpm.

H. Election District No. 7 (Port Deposit)

Most of this District is underlain by the Port Deposit gneiss with a narrow zone of Wissahickon formation crossing the District in a northeasterly direction near New Valley and a zone of metavolcanics paralleling Interstate 95. The depth of weathering and the topography are such that there appears to be little potential for a well of more than 25 gpm. The best area would appear to be a small section between the former Bainbridge Naval Training Center and Woodlawn. The former Woodlawn landfill site is located in this District. Remediation of the former landfill site has been completed with long term monitoring of the groundwater in place.

I. Election District No. 8 (Oakwood)

Most of the bedrock in this District is the basic type consisting of the serpentine and Baltimore gabbro complex. The topography has moderate relief with numerous areas of slopes along

stream valleys. This is also true for the Wissahickon formation that occurs in the northwest corner. It is unlikely that wells could be located with yields greater than 30 gpm and most wells are in the range of 5 to 10 gpm. The best potential appears to be in the area adjacent to U.S. Route 222 between Kilby's Corner and Rock Springs.

J. Election District No. 9 (Calvert)

The Wissahickon formation underlies most of the area within the District. Port Deposit gneiss occurs along the southeast side of the District and in a small area on the west side. Serpentine and Baltimore gabbroic gneiss occur in irregularly shaped areas along the northern boundary. The best potential for groundwater development in this District would be yields of 20 to 40 gpm. Wells on preferred geologic structures would probably average 10 to 25 gpm.

3.1.4 **Surface Water Sources**

A. General

Cecil County is essentially divided into two definite geologic sections, the Upland Piedmont Plateau and the Atlantic Coastal Plain. The fall line dividing the two sections lies between the CSX railroad and the Amtrak Northeast Corridor railroad.

The Upland Piedmont Plateau is dissected by four major waterways – the Susquehanna, the Octoraro, the North East, and the Elk. These waterways and several smaller streams provide a major portion of the water used daily in Cecil County. Most of the flow of the Octoraro is diverted north of Cecil County for use by the Chester Water Authority.

The Atlantic Coastal Plain is drained by the Bohemia and Sassafras rivers. The Chesapeake and Delaware Canal also effects drainage in this area.

B. Quantity

Surface water allocations for Cecil County presently total approximately 8.7 mgd. Groundwater allocations for Cecil County are presently 10 mgd.

C. Quality

The streams that flow through the southeastern portion of the County are small, sluggish, and flanked by many wet or marshy areas. The level in the stream is dependent on the tides and the water is brackish. The streams that flow through the northwestern portion of the County are non-tidal and flow faster due to the higher elevation of the area.

The water supply for Port Deposit, Perry Point VA Medical Center and Perryville are withdrawn from the tidally influenced portion of the Susquehanna River. North East has an intake on the tidal portion of the North East River. Non-tidal streams are utilized by Elkton and North East for their water supplies. Additionally, the Town of Elkton has an interconnection with Artesian Water Maryland, Inc, which in turn has pipeline connections to surface water sources in Pennsylvania. The Town of Rising Sun, via an interconnection agreement with the Chester Water Authority, also accesses surface water sources in Pennsylvania.

3.2 Major Community Water Systems

The existing conditions and planned facilities for major community water systems are described below. Appendix D shows the existing water facilities for the entire County and delineates service areas. The existing and proposed water service areas have been designated as follows:

W-1	Existing
W-2	0-2 years
W-3	2-3 years
W-4	3-6 years
W-5	6-10 years

3.2.1 Cecilton

A. Existing System

The Town's water supply is comprised of two wells approximately 300 feet deep located in the Magothy aquifer each capable of producing 250 gallons per minute (gpm). The Town's Groundwater Appropriation Permit (CE1972G004(05)) provides for an allocated average daily withdrawal of 176,000 gallons. Catalytic sand media in two pressure filters provide water treatment. Each sand filter is capable of treating 250 gpm. Water storage is provided via a 400,000 gallon elevated storage tank.

Over the past years, the Town of Cecilton has worked with the Maryland Port Administration (MPA) to extend water to the Pearce Creek Service Area. Consisting of approximately 235 existing dwellings and 125 unimproved lots of record, the Pearce Creek Service Area includes the communities of Sunset Pointe, Bay View Estates, West View Shores and several other lots in the immediate vicinity of the Pearce Creek Dredged Material Containment Facility (DMCF).

A 2013 United States Geological Survey (USGS) study found that previous use of the DMCF had degraded the groundwater beneath the DMCF. The study also found that migration of this groundwater had adversely affected adjacent wells in the above-mentioned communities. As a

condition of the MPA reactivating the DMCF, MDE required that corrective measures be taken to address the impacted wells.

In 2017, the Town of Cecilton and the MPA extended a 12 inch water main from the western extent of the Town boundary on MD Route 282, westerly along MD Route 282 to Grove Neck Road and then along Pond Neck Road to the Pearce Creek Service Area. As of this writing (late 2018), the project's trunk lines are complete, almost all individual homes are connected, and the existing private wells for the homes served by the newly installed water infrastructure are being abandoned by well drillers.

B. Proposed Improvements

None.

C. Water Service Area

Maps in Appendix D show the locations of the various service area categories.

3.2.2 Charlestown

A. Existing System

The Charlestown water system is comprised of three wells. Two wells are used regularly, and the third well provides backup. The permitted capacities of the system are 207,000 gpd average daily flow and 300,000 gpd maximum daily flow. Demand on the system is approximately 82,000 gpd. Based on recently proposed subdivision activity at Cool Springs, Scott Gardens, and the Payne property, the Town anticipates near term (0-5 years) demand to increase to approximately 182,000 gpd. Treatment of the water supply is provided for iron removal, pH adjustment, and disinfection. A 500,000 gallon elevated tank provides storage.

B. Proposed Improvements

The Town is contemplating additional facilities (i.e. an additional elevated storage tank) upon the build-out of the Cool Springs subdivision. Additionally, an Emergency Interconnect Agreement between the Town of Charlestown and Artesian Water, Inc. was signed on March 9, 2010. Although the Town has no immediate plans to begin construction of the infrastructure associated with the emergency interconnect, it may occur at some time in the future.

C. Water Service Area

The water service area maps in Appendix D show the various service area categories.

3.2.3 Chesapeake City

A. Existing System

The Town, split by the Chesapeake & Delaware Canal historically maintained two separate water systems to serve its population of 673. The two water systems were connected, via a conduit installed beneath the canal, in late 2011.

In 2012, the Town initiated an interconnection agreement to purchase bulk water in the amount up to 400,000 gpd from Artesian Water Company. The bulk purchase required the extension and installation of a Town water main along Biddle Street from the Town's corporate limits to the Delaware state line. In April 2013 a commencement certificate was executed between the Town and Artesian Water Company. The Town no longer has any wells as the water supply is provided exclusively by Artesian Water Company.

In 2013, the Town extended water service to the Bohemia Manor Middle School and Bohemia Manor High School to provide potable water and fire service. A twelve inch diameter line provides the approximately 8,000 gpd needed by the two schools.

The Town further extended the water service to Chesapeake City Volunteer Fire Company's Station 12 (2859 Augustine Herman Hwy), Paramedic 3 (2865 Augustine Herman Hwy), and the Chesapeake Blues, LLC shopping center (2842-2860 2859 Augustine Herman Hwy).

B. Proposed Improvements

The Town recently (July 2018) finished construction of a 300,000 gallon water storage tank on the south side of town to provide water storage capabilities for both sides of Chesapeake City. The completion of the new storage tank permitted the removal of the existing south side water storage tank.

Construction of a new Chesapeake City Elementary School is being planned for the Bohemia Manor school complex, and the Town plans to extend water service to the new school.

C. Water Service Area

The water service area maps in Appendix D show the various service area categories.

3.2.4 Fair Hill Natural Resources Management Area Water System (State of Maryland owned)

A. Existing System

None.

B. Proposed Improvements

In May 2018, the Maryland Board of Public Works approved $1 million for proposed infrastructure improvements at the Fair Hill Natural Resources Management Area (4493 Telegraph Rd, Elkton, MD 21921) in anticipation of the site hosting a newly designated premier international equestrian event.

The proposed improvements, which will be completed in phases over the next few years, are essential for the site to host major equine events and other recreational opportunities. In summary, the project includes conversion of a test well into a new backup well and installation of various pipelines (approximately 2,000 feet of four inch HDPE raw water, 3,500 feet of six inch DIP, 6,200 feet of ten inch DIP for finished waters, and various two inch HDPE service lines).

Other improvements include a new precast concrete water treatment plant building (over a cast in place concrete wet well), 10,000 gallon hydropneumatic tank, a 150,000 gallon "old" style steel elevated tank, high service vertical turbine pumps, chemical feed systems, HVAC, instrumentation and controls, emergency generator, and various other electrical and related site work items.

C. Service Area

The water service area maps in Appendix D show the location of the proposed service area.

3.2.5 Elkton

A. Existing System

The Town's water system serves approximately 15,718 residents along with commercial, industrial, institutional, and governmental facilities within the corporate limits. Additionally, the Town provides water to customers outside the corporate limits, including Thomson Estates, Holly Hall, Elkwood Estates, the YMCA (MD 279/ US Route 40), and Triumph Industrial Park. The

Town sells water to Artesian Water Maryland for service to the State Highway Administration maintenance facility on MD Route 7, a number of properties in the MD Route 7/ West Pulaski Highway corridor, and two specific properties on Belle Hill Road via an interconnection agreement with Artesian Water Maryland.

Water Production System

The Town provides service to 6,687 water customer accounts using water from three sources, i.e., surface water, groundwater, and purchased water, to include the following:

1) Elkton Water Treatment Plant, operating under State Water Appropriation and Use Permit CE1966S005 (10) [February 15, 2016 – June 30, 2019], that allocates a daily average withdrawal of 1,500,000 gallons and a daily average withdrawal during the month of maximum use (MMU) of 2,000,000 gallons from the Big Elk Creek;

2) The Holly Hall system, consisting of three (3) wells, including Well Nos. 1R and 2R, operating under Water Appropriation and Use Permit No. CE2001G026 (02) [September 1, 2013 – May 1, 2022] that allocates a daily average withdrawal of 100,000 gallons and a daily withdrawal during the month of maximum use (MMU) of 200,000 gallons, and Well No. 3, operating under Water Appropriation and Use Permit No. CE1961G007 (12) [May 1, 2012 – May 1, 2022] that allocates a daily average withdrawal of 500,000 gallons and a daily average withdrawal during the month of maximum use (MMU) of 800,000 gallons;

3) Well No. 5 operating under Water Appropriation and Use Permit No. CE2013G001(01) [March 1, 2014 – May 1, 2022] that allocates a daily average withdrawal of 100,000 gallons and a daily average withdrawal during the month of maximum use (MMU) of 150,000 gallons;

4) Artesian-Elkton Interconnection providing up to a maximum of 1.5 mgd and a minimum take of 250,000 gpd. The Artesian-Elkton interconnection provides water to the Red Hill Reservoir, the Town's largest potable water storage facility, for distribution. The Town's water system processes and distributes approximately 1.8 mgd.

Inframark (formerly known as Severn Trent Environmental Services) operates Elkton's treatment plant and well system under an agreement expiring in 2023.

Water Storage System

The Town's potable water storage system includes:

1.) Red Hill Reservoirs – two (2) 900,000- gallon in-ground reservoirs (1,800,000 gallons total);
2.) Blue Ball water tower – 500,000 gallons;

3.) Walnut Hill water tower – 500,000 gallons;
4.) Belle Hill water tower – 400,000 gallons;
5.) Thomson Estates standpipe – 200,000 gallons.

Total storage capacity is 3.4 million gallons.

Belle Hill Interconnection

The Town annexed two parcels of land on Belle Hill Road, specifically lands owned by Belle Hill LLC and Belle Hill Manor LP, et al., which are located in Artesian's water franchise territory. (In 2016, 8.7 acres of land was subdivided from the Belle Hill LLC property and is owned by JDOLIVER LLC.) Artesian is providing water service to this annexation area via an interconnection with Elkton's water service on Belle Hill Road. At the Belle Hill Interconnection, Artesian can purchase from the Town up to fifty thousand (50,000) gallons per day. Artesian utilizes an average of approximately 7,750 gpd, 15.5% of the allowable amount per the agreement with the Town of Elkton.

B. Proposed Improvements

The Town has a Water Appropriation and Use Permit for one additional well that is not constructed.

Well No. 4, located along Frenchtown Road, on the west side of the Augustine Herman Highway (MD 213), is permitted under Water Appropriation and Use Permit No. CE2006G024 (02) [May 1, 2014 – May 1, 2022] for a daily average withdrawal of 500,000 gallons and a daily average withdrawal for the month of maximum use (MMU) of 720,000 gallons; however the well house and necessary improvements for this well have not been constructed.

C. Water Service Area

The water service area maps in Appendix D show the various service area categories.

3.2.6 North East

A. Existing System

The Town of North East owns and operates two water treatment plants (WTP), the Rolling Mill WTP and the Leslie WTP. The combined maximum design treatment capacity is 2.83 million gallons per day. The water system presently provides potable water and fire protection

to a population of approximately 8,965 people and to the Maryland Transit Authority Rest Stop on Interstate 95. It also provides water to Artesian Water via an interconnection on Red Toad Road. A combination of five elevated and three underground storage tanks provide a total reserve of approximately 2,960,000 gallons.

The Rolling Mill WTP is rated at 2.0 million gallons per day. The Rolling Mill WTP is a package surface water treatment plant with two separate filter trains and has provisions for a future third filter unit. As part of the Rolling Mill WTP, a raw water pumping station near the mouth of the North East River allows the Town to pump water from the river and discharge it into the raw water reservoir at the Rolling Mill WTP. This pumping station is used under severe drought conditions and other emergencies.

The Leslie WTP has a capacity to treat 830,000 gallons per day. The design of the Rolling Mill WTP allows transfer of water to the higher pressure zones served by the Leslie WTP.

B. Proposed Improvements

The Town of North East's priorities for improvement of the water system include:

1) Install powder activated carbon additions at both water treatment plants;
2) Install tank mixers in finished water storage tanks;
3) Dredge the raw water pond at the Leslie water treatment plant;
4) Replace the Rolling Mill finished water booster pump station;

Additionally, the Town has completed an updated twenty year capital improvement study. This study has identified evaluated potential capital improvements that will need to be completed over the next twenty years.

Future Projects:

5) Rehabilitate the Irishtown Road water booster pump station;
6) Rehabilitate the Razor Strap Road water booster pump station;
7) Various water main replacement projects;
8) Rehabilitate/Replace Leslie WTP Raw Water Pump Station;
9) Additional water storage tank to serve Zone 2;
10) Perform various SCADA upgrades;
11) Construct a new water storage tank and booster pumping station to serve Zone 3; and
12) Install a third filter unit at the Rolling Mill WTP to provide for future expansion.

C. Service Area Agreements

The Town and the County have entered into various agreements during the last four decades. In November 1972, the Town and County entered into an agreement outlining the scope of the Town's responsibility for the service area on the periphery of the Town. Subsequent agreements were entered into in June 1983, November 1986, February 1989, and March 2002. The 2002 agreement superseded the previous agreements. Cecil County Government has also permitted the Town to serve portions of the Candlelight Ridge and Bedrock Subdivisions.

In January 2018, the Town and Artesian Water Maryland Inc. finalized an interconnection agreement that would enable Artesian to purchase a minimum of 35,000 gallons a day from the town, with the option to eventually increase that amount to as much as 150,000 gallons. In 2019, the interconnection infrastructure on Red Toad Road was constructed and service began to be provided. In June 2019, a revised agreement was executed with Artesian Water that supersedes the 2018 agreement. This revised agreement allows Artesian Water to take up to 350,000 gallons per day, which includes a second connection from the Bayberry Tank.

Should the Town receive a request to expand the agreement beyond 350,000 gallons per day, some of the projects noted above will need to be completed to meet the request.

In June 2019, the Town and Artesian Water Maryland, Inc. executed a subsequent interconnection agreement that superseded the January 2018 agreement with the establishment of an additional interconnection between Artesian and the Town on the east side of the Town that would enable Artesian to purchase up to 200,000 gallons per day from the Route 40 east interconnection.

D. Water Service Areas

The water service area maps in Appendix D show the various service area categories.

3.2.7 Perryville

A. Existing System

The Town owns a surface water treatment plant located on the Susquehanna River. Previously, the Town had a treatment plant on Mill Creek, which is no longer in operation. The Susquehanna WTP, which is located on Frenchtown Road, is permitted by MDE to withdraw an average daily flow of 1.0 mgd and a maximum daily withdrawal of 2.0 mgd. The Susquehanna WTP can produce only 1.0 mgd in a 24 hour period due to water quality standards, the operational constraints of the facility, and a Susquehanna River Basin Commission Consumptive Use Permit. Under normal operational conditions, 18 hours at a normal pump rate allows the plant to produce 0.5 mgd. Average daily demand is approximately 0.4 mgd. At the maximum pump rate during an 18 hour period, the plant can produce approximately 0.86 mgd. Storage is provided via a 0.5 mg tank at I-95 and a 1.0 mg tank adjacent to Hollywood Casino.

B. Proposed Improvements

The Town is extending water service to The Community Fire Company of Perryville's Station 16 located at 16 GR Dawson Drive.

The possibility exists that the Town may expand the Susquehanna WTP to a 2.0 mgd facility. The timeline of said expansion may be impacted by the proposed Great Wolf Lodge land development project at the Chesapeake Overlook property.

C. Water Service Area

The water service area maps in Appendix D show the various service area categories.

3.2.8 Rising Sun

A. Existing System

In February 2019, the Town of Rising Sun finished construction of a new water line interconnect that supplies water from Pennsylvania's Chester Water Authority (CWA).

CWA constructed a water line through Pennsylvania to a metered location along the Pennsylvania/Maryland border in the area of Freemont Road and Red Pump Road. The Town then constructed a water line from this point, down Red Pump Road and west along adjacent private property easements, running south towards Route 1, and crossing Route 1 to connect to the Town's existing water distribution system that dead ends at the edge of the incorporated limits of Rising Sun along Walnut Street. The Town targets a daily demand ranging from 250,000 gpd to 750,000 gpd.

The existing, previously used wells have been placed in standby mode and will be exercised periodically. Should the wells ever be needed in an emergency, they would have to be properly flushed and sampled before MDE approval would be given for use.

The Town has a 500,000 gallon water storage tank on the south side of the Town which is capable of supplying roughly two days of water supply to the Town

B. Proposed Improvements

As the Town's water customers increase over the years from both expansion and infill, the updated water model results will trigger the need for construction of a second 500,000 gallon water storage tank on the north side of town to meet the system pressure demands and fire flow requirements. This tank is necessary in part due to the two large residential developments on the north side of town, and it will provide redundancy and increased storage needed to meet average daily flows plus fire flow reserves.

The Town has concluded a study to replace roughly 10,000 linear feet of 4 inch water lines throughout the water distribution system. The Town has had problems with breakage and leaks and in many circumstances is unable to isolate the existing mains. Furthermore the undersized lines are not conducive to future development. The project will cost roughly $1.9 million dollars to complete and will commence as soon as a funding source can be identified.

All service extensions will be limited to the requirements set forth in Chapter 1, Section 1.3.1(K).

C. Water Service Area

The water service area maps in Appendix D show the various service area categories.

D. Water Problem Areas

a. West Nottingham Academy

West Nottingham Academy currently has a population of 250 students and faculty. MDE's Water Supply compliance history suggests frequent exceedances of nitrate in groundwater. In 2017, it was as high as 15.3 mg/L. In addition, elevated levels of naturally occurring radiation / gross alpha have been detected. Elevated levels of lead and copper have also been an issue. The recommended planned correction is connecting to a public water system. MDE allows and encourages connection to the Town of Rising Sun's public water system.

b. Rising Sun Elementary School

Rising Sun Elementary School currently has a population of 726 students and faculty. MDE's Water Supply compliance history suggests high nitrate in groundwater and occasional operational/MCL violation. The recommended planned correction is connecting to a public water system. MDE allows and encourages connection to the Town of Rising Sun's public water system.

3.2.9 Artesian Water Maryland, Inc.

A. INTRODUCTION TO ARTESIAN WATER MARYLAND

Artesian Water Maryland is a wholly-owned subsidiary of Artesian Resources Corporation and a public utility subject to regulation by the Maryland Public Service Commission (“MdPSC”).

Artesian Resources Corporation

Artesian Resources operates as the parent holding company of five regulated public utilities: Artesian Water Company, Inc., or Artesian Water, Artesian Water Pennsylvania, Inc., or Artesian Water Pennsylvania, Artesian Water Maryland, Inc., or Artesian Water Maryland, Artesian Wastewater Management, Inc., or Artesian Wastewater, Artesian Wastewater Maryland, Inc., or Artesian Wastewater Maryland, and four non-regulated subsidiaries: Artesian Utility Development, Inc., or Artesian Utility, Artesian Development Corporation, or Artesian Development, Artesian Storm Water Services, Inc., or Artesian Storm Water, and Artesian Consulting Engineers, Inc., or Artesian Consulting Engineers. The terms "we," "our" and the "Company" as used herein refer to Artesian Resources and its subsidiaries. The business activity conducted by each of our subsidiaries is discussed below under separate headings.

Artesian Resources Corporation ("Artesian Resources"), is a Delaware corporation incorporated in 1927. Artesian Resources' Class A Non-Voting Common Stock is listed on the NASDAQ Global Select Market and trades under the symbol "ARTNA." Artesian Resources is a member of the Russell 2000® Index. The aggregate market value of the Class A Non-Voting Common Stock held by non-affiliates of the registrant exceeds $300 million. Our Securities and Exchange Commission ("SEC") quarterly (Form 10-Q) and annual (Form 10-K) filings are available on our website at www.artesianresources.com, or at the SEC's website, www.sec.gov.

Artesian Resources' 2017 and 2016 operating revenues were $82.2 million and $79.1 million, respectively. Net income for 2017 and 2016 was $14.0 million and $13.0 million, respectively. In addition, as of December 31, 2017 it had $106.6 million in debt capital. The proceeds from debt issuances financed capital expenditures and in some cases refinanced higher interest long-term debt with lower interest debt.

As of December 31, 2017, Artesian Resources employed 233 full-time employees. Many of these employees have worked for the company for years and have maintained our Delaware water facilities up to, and in many instances above, the requirements of the Delaware Public Service Commission, the Delaware Department of Natural Resources and Environmental Control, the Delaware Fire Marshal's office and the Delaware Division of Public Health.

Artesian Water Company, Inc.

Artesian Water, our principal subsidiary, is the oldest and largest public water utility in the State of Delaware and has been providing water service within the state since 1905. Artesian Water distributes and sells water to residential, commercial, industrial, governmental, municipal and utility customers throughout the State of Delaware. We hold Certificates of Public Convenience and Necessity, ("CPCNs"), for approximately 284 square miles of exclusive water service territory, most of which is in Delaware and some in Maryland and Pennsylvania. In addition, Artesian Water provides services to other water utilities, including operations and billing functions, and has contract operation agreements with private and municipal water providers. We also provide water for public and private fire protection to customers in our service territories.

Artesian Water Maryland, Inc.

Artesian Water Maryland began operations in August 2007. Artesian Water Maryland distributes and sells water to residential, commercial, industrial and municipal customers in Cecil County, Maryland. Artesian Water Maryland owns and operates 8 public water systems including one in Port Deposit that has the ability to supply up to 1 million gallons per day

("mgd") of water through an intake in the Susquehanna River, located in Cecil County, Maryland. Artesian's peak water supply capacity in Cecil County, Maryland is approximately 2.0 mgd.

In Maryland, we have one interconnection that connects the Artesian Water system in Delaware to the Meadowview System, one interconnection with a neighboring utility, and three interconnections with the Town of Elkton. The interconnection with the Artesian Water Delaware system is capable of providing up to 3.0 mgd of water to our Maryland systems, of which 1.5 mgd is available to the Town of Elkton per our agreement with the Town. In January 2018, Artesian Water Maryland signed an interconnection agreement with the Town of North East that has a "take or pay" clause requiring us to purchase a minimum of 35,000 gallons per day that shall commence on the first day of the month following the date on which the interconnection is completed. Construction on the interconnection finished in early 2019.

A subsequent interconnection agreement was executed in June 2019 between the Town of North East and Artesian Water Maryland that established an additional interconnection east of the Town at Route 40 that makes an additional 200,000 gallons per day available to Artesian. In Cecil County, Maryland we have 8 storage tanks capable of storing approximately 2.4 million gallons. The number of metered water customers in Maryland totaled approximately 2,300 as of December 31, 2017.

Artesian Water Maryland shares the financial, managerial, and technical resources of its sister subsidiaries including Artesian Water, which for more than 100 years has provided water services in Delaware. The corporate officers of Artesian Water Maryland will be the persons with the primary responsibility for assurance of compliance with the requirements of those bodies providing regulatory oversight in Maryland.

In summary, Artesian Resources and its subsidiaries are profitable, well capitalized companies with access to the short-term debt and long-term debt and equity capital markets. In Artesian Water Maryland's capacity as a public utility regulated by the Maryland Public Service Commission, it is required to maintain adequate financial, managerial, and technical abilities to ensure proper service to its customers.

B. ARTESIAN WATER'S SOURCES OF WATER SUPPLY

Artesian Water derives about 95% of its self-supplied groundwater from wells located in the Atlantic Coastal Plain. The remaining 5% comes from wells in the Piedmont Province. Artesian Water uses a variety of treatment methods, including aeration, pH adjustment, chlorination, fluoridation, arsenic removal, nitrate removal, and iron removal, to meet Federal, State and local water quality standards. Additionally, a corrosion inhibitor is added to all of Artesian Water's self-supplied groundwater and most of the supply from interconnections. Artesian Water has 54 different water treatment facilities in Delaware, 17 of which are located in its northern New Castle County system. All water supplies that Artesian Water purchases from neighboring utilities are potable.

Artesian Water's primary sources of water are Artesian Water's wells that pump groundwater from confined aquifers and other formations. To supplement Artesian Water's groundwater supply, Artesian Water purchases surface water through interconnections in Artesian Water's

New Castle County, Delaware system. The purchased surface water is blended with Artesian Water's groundwater supply for distribution to its customers. Nearly 84% of the overall 7.8 billion gallons of water that Artesian Water distributed in all of its Delaware systems during 2017 came from its groundwater wells, while the remaining 16% came from interconnections with other utilities and municipalities. During 2017, Artesian Water's average rate of water pumped was approximately 18.1 MGD from its groundwater wells and approximately 3.4 MGD was supplied from interconnections. Artesian Water's peak water supply capacity in Delaware is approximately 55 MGD.

Artesian Water has an Interconnection Agreement with the Chester Water Authority that contains a "take or pay" clause requiring Artesian Water to purchase 3 MGD. During the fiscal year ended December 31, 2017, Artesian Water used the minimum draw under this Agreement. The Chester Water Authority Agreement, which expires December 31, 2021, provides for the right to extend the term of this Agreement another 25 years through, and including, December 31, 2047, at Artesian Water's option, subject to the approval of the Susquehanna River Basin Commission. Under this Agreement, Artesian Water is authorized to increase its purchase to 9 MGD.

The sale of water authorized by this Interconnection Agreement was approved by the Susquehanna River Basin Commission (SRBC) in 1989. At that time, all water taken by Artesian Water constituted an out-of-basin transfer. As a condition of that approval, Artesian Water has been paying SRBC's consumptive use charge. Transfer of a portion of the water consumption authorized by the CWA Interconnection Agreement to Artesian Water Maryland and its Elkton West franchise area will result in the discharge of at least a portion of the Chester Water Authority consumption back into the Chesapeake drainage basin, albeit, below SRBC jurisdiction.

Under Delaware State laws and regulations, Artesian Water is required to file applications with DNREC for water allocation permits for each of its operating wells pumping greater than 50,000 gallons per day. In addition to the sources noted below, throughout the State of Delaware, Artesian Water has 117 operating and 59 observation and monitoring wells in its systems. As of December 2017, Artesian Water had allocation permits for 103 wells. Artesian Water's ability to supply the demands of its customers historically has not been affected by private usage of the aquifers by landowners or the limits imposed by the State of Delaware. Because of the extensive regulatory requirements relating to the withdrawal of any significant amounts of water from the aquifers, Artesian Water does not anticipate that third party usage of the aquifers within its service territory will interfere with its ability to meet the present and future demands of its customers.

Delaware Self-Sufficiency Review

As a result of the record drought of 2002, the Delaware General Assembly enacted the Water Supply Self-Sufficiency Act of 2003, which required each public water utility in northern New Castle County to demonstrate its ability to meet projected demands through a repeat of the 2002 drought of record using only its own sources of supply. Any contractual agreement

utilizing out-of-State supply existing on July 1, 2003 may be counted as part of a utility's self-supply only to the extent of required minimum takes under such contract. This law requires Artesian Water to file a certification of Water Supply Self-Sufficiency with the Delaware Public Service Commission ("DePSC") every three years. In July 2011, the Self Sufficiency Act was amended to transfer the authority to review/approve water conservation plans and certifications of adequate water supply from the Public Service Commission to the Water Supply Coordinating Council (WSCC).

Artesian Water filed its initial certification of self-sufficiency of supply with the DePSC on March 8, 2005. The review was completed on June 20, 2006. The DePSC concluded that Artesian Water demonstrated that it had sufficient water supply to meet the demands of its customers through 2006. On June 30, 2006, Artesian Water filed with the DePSC a new certification of self-sufficiency for the period through 2009. On July 24, 2007, the DePSC accepted Artesian Water's certification of sufficient water supply through 2009. Artesian Water filed a new certification of self-sufficiency with the DePSC in June 2009 for the period through 2012. On June 1, 2010, the DePSC accepted Artesian Water's self-sufficiency certification through 2012.

Subsequent to that filing, Delaware statute was changed to move jurisdiction for review and approval of future certifications of self-sufficiency of investor-owned water utilities in northern New Castle County to the Delaware Water Supply Coordinating Council (WSCC), which always had such jurisdiction for municipal water utilities. On June 20, 2012, Artesian Water filed a new certificate of self-sufficiency for the period through 2015. On September 26, 2012, the WSCC accepted Artesian's self-sufficiency certificate through 2015. On June 25, 2015, Artesian Water filed a new certificate of self-sufficiency for the period through 2018. On February 4, 2016, the WSCC accepted Artesian's self-sufficiency certificate through 2018.

Summary of Artesian Water's Supply and Demand

Artesian Water's water supply and demand balance projected through the year 2018 is summarized below. For purposes of reviewing water supply capacity for the drought-sensitive portion of its system (northern New Castle County, Delaware), Artesian Water has a total water supply capacity of 29.02 MGD (23.90 MGD from production wells, 1.42 MGD from an aquifer storage and recovery well (ASR), and 3.7 MGD through interconnections with Chester Water Authority and the City of New Castle) during a recurrence of the drought of record. This total does not consider other interconnections and water supply sources that are not considered by Delaware to be available during conditions comparable to the drought of record or an additional 6 MGD that is available from Chester Water Authority pursuant to the Interconnection Agreement (Appendix F). Accordingly, Artesian Water has supply in excess of its projected Delaware demand of 8.72 MGD, with the option for 6 MGD of additional supply available through its interconnection with the Chester Water Authority.

In the event of a drought or other conditions that cause the Chester Water Authority to curtail water delivery to other utilities, the Chester Water Authority may curtail water supply delivered to Artesian Water, "but only in the same proportion and to the same extent and in common with all other utilities purchasing water from Chester" (see Section 2.6 of the Interconnection Agreement). Artesian Water, nevertheless, remains contractually committed to Artesian Water Maryland to supply up to 3 MGD through its interconnection serving Cecil County. As described by Figure 3.1, Artesian Water has more than adequate available supply capacity under drought of record conditions to meet its supply commitment to Artesian Water Maryland, with a 8.72 MGD supply margin available from its northern New Castle County water system in addition to the 6.0 MGD available from the Chester Water Authority, subject to a potential proportional reduction (10% = 0.9 GPD).

This supply capacity is more than adequate, and with sufficient system redundancy to ensure that the projected demands within the Meadowview/Elkton West franchise area will be met when built out. For purposes of providing assurances of Artesian Water Maryland's capability to provide water supply to meet the needs of the Elkton West service area, several conclusions can be drawn from Artesian Water's Delaware self-sufficiency certification and Figure 3-1:

1. Artesian Water has documented and the WSCC has accepted that Artesian Water has adequate supply from its own well fields to meet the projected water supply need of its Delaware water system, leaving nearly 8.72MGD of excess Delaware capacity available for other beneficial use.

2. Only the minimum take required under the Chester Water Authority Interconnection Agreement (3 MGD) is considered by the Delaware self-sufficiency review. Thus, any additional water purchased from the Chester Water Authority (up to 6.0 MGD) is excess supply and available for transfer to Artesian Water Maryland. The term of the Chester Water Authority agreement extends through 2021, with Artesian Water having the option to extend the agreement for an additional 25 years through 2047.

3. In addition to the 6 MGD available to Artesian Water Maryland from Artesian Water, it is important to note that Artesian Water Maryland controls other water supplies, such as existing and proposed well fields in the Pine Hills, Harbor View, and Meadowview systems, and Artesian Water Maryland's Interconnection Agreement with United Water of Delaware.

For reference, the map in Appendix I depicts the Chester Water Authority main from Octoraro Reservoir to the Delaware State line, which is the means of conveyance for the 9.0 MGD available from the Chester Water authority, and the most direct transmission main components in New Castle County. The map in Appendix J depicts Artesian Water's extensive water distribution network in New Castle County that, collectively, provide water flow to the interconnection point with Artesian Water Maryland at the Maryland State line.

C. SUMMARY OF ARTESIAN WATER'S AND ARTESIAN WATER MARYLAND'S SYSTEM INFRASTRUCTURE

Most of Artesian Water's New Castle County, Delaware water system is interconnected. Artesian Water has 22 interconnections with two neighboring private water utilities and six municipalities that provide it with the ability to purchase or sell water. As of December 2017, Artesian Water served customers through approximately 1,244 miles of transmission and distribution mains throughout Delaware. Mains range in diameter from 2 inches to 24 inches, and most of the mains are made of ductile iron or cast iron. Artesian Water supplies public fire protection service through approximately 5,849 hydrants installed throughout its service territories. Artesian Water has 29 storage tanks, most of which are elevated, providing total system storage of 42 million gallons. Artesian Water has developed and is using an Aquifer Storage and Recovery or ASR system in northern Delaware. Artesian Water's ASR system provides approximately 130 million gallons of storage capacity, which can be withdrawn at a rate of up to approximately 1.5 MGD. At some locations, Artesian Water relies on hydropneumatic tanks to maintain adequate system pressures. Where possible, Artesian Water combines smaller satellite systems with systems having elevated storage facilities. The New Castle County system is depicted in Appendix J.

In Cecil County, Artesian Water Maryland has 8 water storage tanks with a total capacity of approximately 2.35 million gallons. Artesian has 13 wells in 6 well fields. Each well field has a Groundwater Appropriation Permit issued by the Maryland Department of the Environment. The well fields are permitted for a total average daily withdrawal of 747,000 gallons and a total average daily withdrawal of 1,082,000 gallons for the month of maximum use. Artesian has two interconnections capable of providing over 1.5 million gallons per day with commitments to provide over 3 million gallons per day. Artesian also has a permit for withdrawal from the Susquehanna River which is limited to a daily average withdrawal of 1,000,000 gallons on a yearly basis and a maximum daily withdrawal of 1,500,000 gallons. There is a combined total of approximately 48 miles of distribution main ranging in size from 2 to 20 inches in diameter in the Artesian Maryland systems

D. ARTESIAN WATER MARYLAND'S SUPPLY FROM ARTESIAN WATER AND CECIL COUNTY'S CONTINUING REGULATORY OVERSIGHT AND PROTECTIONS RELATED TO THE WATER SYSTEM

Throughout the duration of the Franchise Agreement, Artesian Water Maryland, as a public utility regulated by the MdPSC, will act to ensure that it meets its obligations to serve its customers.

Artesian Water is required under Delaware law to meet the water supply needs of its New Castle County, Delaware customers in periods of record drought without reliance upon purchases of water from the Chester Water Authority in excess of the 3 MGD "minimum take"

required by its Interconnection Agreement with the Chester Water Authority. That Interconnection Agreement permits draws of up to 6 MGD, and includes a provision that allows Artesian to increase the maximum draw to as much as 9 MGD.

Artesian Water entered into an Interconnection Agreement with Artesian Water Maryland dated November 23, 2009 (to provide up to 3 MGD of water supply through an interconnection at the Maryland/Delaware State line, which agreement is separate from the Interconnection Agreement with the Town of Elkton (see Appendix F). The Interconnection Agreement between Artesian Water Maryland and Artesian Water that takes up to 3 MGD, will ensure adequate water resources will be available to meet projected water demands in the Elkton West franchise area.

The Franchise for Water Services and Water Services Agreement clearly provides that Cecil County retains authority and regulatory control over the water systems acquired by Artesian Water Maryland. In the Agreement's Explanatory Statement, Paragraph D, the County and Artesian Water Maryland expressly acknowledge that:

(i) pursuant to §§67-1, 67-2 and 67-3 of the County Code, the [Franchise] Service Area forms part of the County sanitary district, under the jurisdiction and control of the Commissioners, subject to the administration and direction of the Director of Public Works of the County, acting in his capacity as the Director of Sanitary Facilities; (ii) pursuant to §67-16 of the County Code, no Water System may be constructed by Franchisee [, Artesian Water Maryland,] without the prior approval of the Director of Sanitary Facilities; (iii) pursuant to §5-204 of the PUC Article, a Person may not construct a Water System for public use without the prior authorization of the Commission; (iv) pursuant to §7-105(b) of the PUC Article, Franchisee is required to obtain the consent of the Commissioners before laying pipes or constructing water works within the Service Area, and the Commissioners may adopt reasonable regulations for the laying of pipes, construction of works and operations of a Water Company; and

(ii) pursuant to §5-201 of the PUC Article, Franchisee may not exercise a Franchise except upon a demonstration to the Commission that the Commissioners have provided the required consent for the exercise of the Franchise, and then only to the extent authorized by the Commission.

The Franchise Agreement further provides in Section 6, particularly Section 6.8, that Artesian Water Maryland must apply for and secure appropriate permits from the County before commencing construction of any facilities. Section 7 defines the standards of service which must be complied with in the delivery of services to the customers within the franchise area. Section 8 requires specific recordkeeping and reporting requirements of the County.

Figure 3-1: Artesian Water's Summary of Supply and Projected Demand for Northern New Castle County, Delaware and Cecil County, Maryland

Northern New Castle County, Delaware

Source of Supply

Self-Supply	23.90 MGD
ASR (Aquifer Storage and Recovery)	1.42 MGD
Interconnections	3.70 MGD
Chester Water Authority	3.0 MGD
City of New Castle	0.7 MGD
Total Available Supply	28.85 MGD
Projected Peak Demand[1]	20.30 MGD
Northern New Castle County Margin	*8.72 MGD*

Cecil County, Maryland

Source of Supply[2]

Northern New Castle County Margin	8.72 MGD
Supply from Chester Water Authority [3]	6.00 MGD
Contractually committed to Artesian Water Maryland	3.0 MGD
Contractually committed to the Town of Elkton	1.5 MGD
Additional available supply (not committed)	1.5 MGD
Total Available Supply	14.72 MGD
Projected Peak Demand (through 2020)	
Elkton West/Meadowview	3.00 MGD
Town of Elkton	1.50 MGD
Total Projected Peak Demand	4.50 MGD
Cecil County Margin	*10.22 MGD*

[1] Peak demand projections through 2018 as reported in the 2015 Self-Sufficiency analysis.

[2]This table only identifies water supplies available to Artesian Water for sale to Artesian Water Maryland. It does not consider other sources of supply controlled by Artesian Water Maryland, which include surface and groundwater supplies existing or proposed within the State of Maryland.

[3] This interconnection supply is in addition to supply accounted for in the New Castle County Interconnection total.

These provisions of the Franchise Agreement and County Code are in addition to the clear statutory authority of the County over Comprehensive Water and Sewerage Plans and Plan amendments, which are codified in Title 9, Subtitle 5, of the Environment Article of the Maryland Code. Pursuant to Section 9-511 of the Environment Article, a water supply system may not be constructed or extended except in conformity with the County Master Water and Sewer Plan.

The Franchise Agreement contemplates its own termination and, in that eventuality, it requires an orderly and coordinated transition of ownership and fully addresses the process that will occur upon termination (if it should ever occur). Sections 12.4 (Effect of Termination - Expiration of Term), 12.6 (Effect of Termination - Default) and 12.7 (Effect of Termination - Taking) all conclude by stating that "The County and Franchisee shall be bound to cooperate with one another and to exercise due diligence to effectuate the sale and transfer."

The sections describe or refer to the other sections within the Franchise Agreement that outline the process for (and financial aspects of) the County's assuming control of the water system, should the Franchise Agreement terminate.

In summary, upon termination of the franchise, the County obtains control of any sources of supply developed for, or within, the franchise. Artesian Water Maryland will develop sources of supply within Maryland as environmentally and financially viable and appropriate.

In addition, "Amendment 1" of the Artesian Water Maryland Interconnection Agreement designates the County as a third party beneficiary of the Agreement. Under these provisions, in the event of a breach under the Franchise Agreement that results in default and the County taking control of the Elkton West franchise area, the County will be able to continue to purchase water from Artesian Water in accordance with the terms of the Interconnection Agreement.

The Artesian Water Maryland Interconnection Agreement will continue in effect for a ten-year term following its assignment to the County, thus ensuring that the franchise area would continue to have a reliable source of supply and providing the County more than adequate time to develop alternative sources of supply.

Finally, by Maryland law, Artesian Water Maryland will not be permitted to cease the provision of water service within the franchise area without the prior approval of the MdPSC. As part of that process, the MdPSC is required to ensure that there are plans for an adequate, safe, and reliable water supply to be provided in the franchise area. Under the MdPSC's broad statutory charge, it is beyond any reasonable doubt that the MdPSC could impose a requirement upon Artesian Water Maryland to maintain supplies under pre-termination contractual relations which existed between the regulated franchisee and any other suppliers. It is these statutory and regulatory realities that provide the assurance that in the unlikely event of termination of the franchise, there will remain sources of water supply to serve the customers within the franchise.

E. WATER CAPACITY PLANNING AND ALLOCATION

Estimating Future Demand

Projections of future water supply demand should account for domestic, industrial, and commercial usage and a certain amount of system loss, especially in the older systems. Assuming that commercial and industrial growth is in relation to population growth, these consumption values can be added to estimated domestic per capita consumption to estimated total demand. The factors assumed by this plan for purposes of projecting total future demand using population projections are 2.5 persons per household and 250 gallons per day per household or 100 gallons/capita/day (gpcd).

Water demand is not constant throughout the day, nor is daily demand consistent throughout the year. The maximum day demand is called the peak flow and for planning purposes can be estimated to be the average factor of 1.7 times the average daily demand. It should be noted that the average factor varies and is affected by a variety of considerations, such as the size of the water system and the diversity within the water system, to name a few. Pipe and plant size are generally designed to meet the maximum day demand plus fire flow.

It should be noted that not all water used is processed through the sewerage system. Lawn watering, car washing, evaporation from cooling systems, and water included in processed products are all examples of how water demand can exceed sewage treatment demand. Consequently, sewage treatment demand may not identically match water demands.

Allocation of Capacity

Artesian Water Maryland allocates its system capacity of its water systems for its customers, including any new development within those systems. The purpose of this allocation tracking is to ensure that the available capacity of each water facility is not exceeded. Before demand on a particular system approaches 70% of its total permitted water appropriation(s) and contractual limit for water acquisition, additional planning is undertaken to ensure the system's capacity is not exceeded. Each community water supply system larger than 20,000 gpd will prepare and submit to MDE a Water Supply Capacity Management Plan before operating at 80% of its permitted and contractual water supply limits.

Artesian provides the County with quarterly reports that detail each water system's appropriated/contractual water supply limit, existing demand, existing capacity allocations, and water capacity allocations granted since the previous report. In addition, Artesian Water Maryland will provide the County and MDE with written notice when the actual demand plus

unused allocations in any water supply system reach 50%, 70%, and 75% of the system's appropriated/contractual water supply limit.

As of 2019, no significant development is anticipated within the Pine Hills or Harbor View service territories. Although future growth is anticipated within the Elkton West service area, including the Meadowview system, this system is not approaching the 80% capacity threshold. Within the Meadowview system and the Elkton West area, water supply capacity consists of the Meadowview well field and the existing interconnection with SUEZ Delaware, with up to 3.0 MGD of capacity committed (and as much as 4.5 MGD available) through interconnection with Artesian Water from Delaware sources. An additional 1.5 MGD has been committed to the Town of Elkton through this interconnection and is reserved for emergency use, resulting in a maximum transfer through the interconnection with Artesian Water of 6.0 MGD.

Both Cecil County and Artesian are committed to the continued accurate monitoring and allocation of available capacity within each of these systems. All allocations issued by Artesian Water Maryland will be reported to the County on a project-specific basis and accounted for in the quarterly allocation and capacity reports.

Consistent with State Law, Cecil County does not approve building permits or subdivision plats unless adequate water supply exists to serve the proposed project. Artesian Water Maryland sits on the Cecil County Technical Advisory Committee and provides an "Ability to Serve" letter for each new project as part of the County's development review process. The Cecil County Health Officer, or his/her designee, is responsible for confirming the adequacy of water and sewer systems to serve every proposed development project or subdivision before the County approves a building permit or subdivision plat.

F DESCRIPTION OF ARTESIAN WATER MARYLAND WATER SYSTEMS

3.2.10.1 Mountain Hill, Carpenters Point, and Chestnut Point

A. **Existing System**

In an effort to simplify the overall plan for these three systems, they are described together within this section. Artesian Water Maryland plans to combine all three systems, which, due to elevations, will create service breaks for multiple pressure zones. The combination of these systems is consistent with Artesian Water Maryland's plan to ultimately have an interconnected system from the Maryland/Delaware State line to Port Deposit.

On August 7, 2007, Artesian closed on the acquisition of the Carpenters Point water system, which serves the 130 lot subdivision of Carpenters Point, and provides sufficient groundwater supply and elevated water storage to serve additional customers in the undeveloped portions of the surrounding area, including the community of Chestnut Point.

There are presently 143 customers on this system. The system consists of three wells, which are limited to a daily average withdrawal of 80,000 gallons for the month of maximum use, a treatment facility, and a 75,000 gallon elevated storage tank. The peak usage is approximately 62,000 gpd which accounts for 77% of the peak system capacity.

On August 1, 2008, Artesian closed on the acquisition of the Mountain Hill water system, which serves the residential developments of Whitaker Woods and Charlestown Crossing, as well as the commercial and industrial uses in the Principio Industrial Park. The acquisition also provides Artesian the right to serve the entire 8,000 acres of surrounding area owned by Sunrise Holdings L.P., the sole member of the original owner of the Mountain Hill water system, up to included parcels that border Baron Road.

There are presently 189 customers on this system. The system consists of three wells capable of supplying up to 388,800 gpd, a treatment facility and a 500,000 gallon elevated storage tank. The peak usage is approximately 196,000 gpd which accounts for 40% of the peak system capacity.

In March 2018, Artesian completed construction and start-up of the Chestnut Point water treatment plant. This facility will serve the age-restricted community of Chestnut Point Estates, which will include 86 manufactured homes at build-out. The system consists of one well with a daily average withdrawal of 12,000 gpd on a yearly average and 18,000 gpd average for the peak month. The treatment facility includes an 18,000 gallon water storage tank.

B. Proposed Improvements

Artesian executed an agreement with the Town of North East in January 2018 to provide an interconnection on Red Toad Road near the CSX rail line as an additional source of supply for the Mountain Hill system.

As demand on the Carpenters Point and Mountain Hill systems increases, Artesian Water Maryland will connect the two systems. The immediate plan for the Mountain Hill and Carpenters Point systems is to increase the amount of available water supply. At Carpenters Point, Artesian Water Maryland has completed a pumping test at Well #3 and is planning to submit a request to MDE for an increase in allocation limits. Artesian Water Maryland has also identified improvements to the Carpenters Point system that can add, at a minimum, an additional 0.5 MGD of supply. At Mountain Hill, Artesian Water Maryland has completed test drilling that has also identified 0.3 MGD of additional supply. Upgrades to the two existing treatment facilities for the increased supply would be evaluated when the systems combine and continue to expand.

The two systems will be integrated when either the Mountain Hill or Carpenters Point systems reach 80% of their capacity. Artesian Water Maryland will connect the two systems together via

a looped 12-inch potable main extending from the Carpenters Point Treatment Facility to the Mountain Hill system as shown on the water service area map.

Chestnut Point will be integrated into this regional system at that time, or earlier if other communities are developed in the area and require a regional water system.

Once the three systems are tied together, multiple pressure zones would be created. These pressure zones are required due to the topography of the land and the overall plan for integrating with Port Deposit and Meadowview. The Meadowview system has a maximum hydraulic grade of 268 feet, which will be ideal for service territory on the south side of Route 40, while the Mountain Hill system requires a 403 feet hydraulic grade. The treatment facilities and supply for the Mountain Hill and Carpenters Point systems are on the south side of Route 40. Therefore, when the Meadowview system is connected along Route 40, a pressure break would be needed near the intersection of Route 40 and Route 7, going north towards Principio. At this location, the intersection of Route 40 and Route 7, Artesian Water Maryland proposes a booster station and tank site. The tank site would allow for increased storage on the lower pressure side of the system, while the booster station would pump into the newly created Principio pressure zone, which will have a hydraulic grade of about 403 feet.

To connect the Elkton West system with the Mountain Hill/Carpenter Point system, the water main on Red Toad Road would be extended east along the CSX railroad tracks to connect with a future main extension from the Meadowview system that ends on Baron Road. At this location, Artesian Water Maryland also proposes a booster station that would pump from the Meadowview system, hydraulic grade of 268 feet, into the Principio pressure zone of about 403 feet. This booster station would be a back-up, or work in sync with the proposed booster station at the intersection of Route 7 and Route 40. To loop the water system to create redundancy, the water main would then run south on Baron Road and tie into the proposed Meadowview main along Route 40. This main would continue going west along Route 40 until it tied into an existing main at the subdivision of Charlestown Crossing.

The Mountain Hill/Carpenters Point system would extend west along Route 40 to the intersection with Jackson Station Road. The water main would then run north along Jackson Station Road to just before where it intersects with Interstate 95. At this location, Artesian Water Maryland would install a pressure-reducing valve for a future tie-in point with the Port Deposit water system. This is because Port Deposit's hydraulic grade is about 506 feet and flow would go from the Port Deposit system into the Carpenters Point pressure zone with a hydraulic grade of 268 feet.

C. Service Area

Maps in Appendices D and H show the location of the service area.

3.2.10.2 Port Deposit Water System

A. Existing System

On November 2, 2010, Artesian closed on the agreement to buy the water assets of the Town of Port Deposit. Artesian has operated Port Deposit's water system since April 2009 and received approval from the Maryland Public Service Commission to purchase the assets in July 2010. The acquisition includes access to the Susquehanna River as a source of supply, giving Artesian another reliable water source for Cecil County. It includes the water service rights for the service area that encompasses Port Deposit's existing customers in addition to several adjacent tracts of land including the Bainbridge property, a 1,200-acre former U.S. Navy facility which has the potential to be developed into a mix of commercial, retail, residential, office, employment, warehouse, research and development, light industrial manufacturing, and flex space uses.

There are presently 258 customers on this system. The system consists of the Susquehanna intake, which is limited to a daily average withdrawal of 1,000,000 gallons on a yearly basis and a maximum daily withdrawal of 1,500,000 gallons, a treatment facility, a 500,000 gallon ground storage tank, and a booster station. The average daily usage is approximately 89,000 gpd,which accounts for 6% of the peak system capacity.

Artesian has completed various upgrades to the Port Deposit treatment facility, including safety and security improvements. Artesian is undertaking an investigation of the Susquehanna intake structure and plans to perform maintenance and/or upgrades as necessary.

B. Proposed Improvements

Artesian Water Maryland is in the process of planning improvements to the water system to meet the future water needs of the former Naval Training Center Site at Bainbridge and the proposed development of neighboring parcels. Due to its location and access to water, the Bainbridge site is zoned for commercial and industrial facilities with large water requirements. The system will ultimately be connected to the planned larger Artesian Water Maryland system throughout Cecil County. It is anticipated that the improvements will have multiple phases of construction.

Phase 1 includes expansion of the existing water treatment facility to a treatment capacity of 1.1 MGD. This will be accomplished by retrofitting existing treatment equipment and replacing pumps. Downstream from the water treatment plant, new pumps will be installed at the existing Hillside pump station. This station will then pump to a new booster station and tank complex on the Bainbridge property. This new station will be responsible for pressuring the Bainbridge distribution system. This will require an evaluation and possible replacement of existing water lines on the property. In addition to these permanent installations, a portable package plant may be utilized to support construction and supplement treatment capacity.

Phase 2 includes an evaluation, permitting, and construction of the intake for an increased demand of up to 10.0 MGD. Additional treatment capacity will be installed at the Port Deposit water treatment plant and a new site as required to supply anticipated demands of the Bainbridge property. These facilities will require ancillary improvements such as the restoration of existing raw water mains, reconnecting supply pipelines and additional pumping / pressurization capacity. This phase will be constructed in sub-phases as the Bainbridge and surrounding area are built out.

Phase 3 consists of connecting the Port Deposit system to the larger proposed Artesian Water Maryland system described throughout this Plan. Artesian plans to install a sufficient diameter main starting from the southeast side of the Port Deposit territory to the proposed infrastructure from the other Artesian systems.

C. Service Territory

Maps in Appendices D and H show the location of the Port Deposit service area.

3.2.10.3 Elkton West / Meadowview Water System

A. Existing System

On December 21, 2011, Artesian completed the purchase of several Cecil County-owned water systems in the eastern portion of the County serving approximately 1,500 customers. Through the agreement, originally negotiated in 2008, Artesian acquired the Meadowview, Harbor View, Pine Hills, and Route 7 water systems as further described below.

On November 15, 2012, Artesian acquired the water assets of CECO Utilities, Inc. a small company serving approximately 160 customers in the communities of the Pines at Cherry Hill and Manchester Park. Artesian has expanded this system north to serve two public schools and the W.L. Gore facility. This area of Cherry Hill is now part of the Meadowview water system.

The Meadowview water system includes three hydraulic service levels referred to as Meadowview, Highlands, and Cherry Hill. There are 1,258 customers on this system.

The Meadowview service level consists of two wells, two interconnections, one storage tank, and a booster station. The Highlands service level consists of one booster station and a hydropneumatic tank. It is connected to the Meadowview service level by a 2.4 mile long water main. The Cherry Hill service level consists of two storage tanks and one booster station. It is connected to the Meadowview service level by a recently installed 2.7 mile-long water main. The two wells in the Meadowview system are limited to a daily average withdrawal of 275,000 gallons for the month of maximum use. The two interconnections (Artesian Water Delaware and United Water) are capable of providing up to 4,000,000 gpd. The system has over 1,000,000 gallons of elevated storage.

The total peak usage (Meadowview, Highlands, and Cherry Hill) is approximately 870,000 gpd, which accounts for 21% of the peak system capacity (wells and interconnections).

Artesian has installed three major water mains interconnecting the Meadowview system as follows: the main connecting the Meadowview and Cherry Hill service levels, the main from the Cherry Hill booster station to the two Cherry Hill schools and the Gore facility, and the main connecting Meadowview to the Artesian Delaware-Artesian Maryland interconnection at the Delaware/Maryland State line. Artesian has completed various upgrades to the Meadowview treatment facility and the Cherry Hill booster station. An altitude valve has been installed at the Meadowview elevated storage tank. Additional hydrants have been installed in the Meadowview and Cherry Hill service levels.

B. Proposed Improvements

There have been various businesses, developers, and homeowners within Cecil County that have a growing need for a reliable source of water service. Some have production wells that are dropping in capacities, and others are looking to develop land due to the increasing interest in development within Cecil County. Artesian has plans to expand infrastructure throughout the County to prepare for this future growth, as well as to provide reliable water supply and fire protection to existing and future customers. Appendix H depicts the proposed major main extensions and facilities for the area known as "Elkton West." Artesian Water Maryland proposes to add another 12 inch diameter main on the north side of Interstate 95. A 12 inch main will extend north near Appleton Road, crossing under Interstate 95, and connect to the southern portion of the Meadowview system along Airport Road in the Appleton Business Park.

In order to have redundant supply and looped systems, Artesian Water Maryland also proposes a 12 inch diameter main on the northern side of Interstate 95 to connect the Route 213 main to the Meadowview system. This main would extend east along Johnstown Road, through the proposed subdivision of Baldwin Mills, along Fletchwood Road, crossing the Elk River, and eventually connecting to an existing 10-inch diameter main on the Meadowview system.

Continuing off of the extended 20 inch diameter main, Artesian Water Maryland would extend a 12-inch diameter main south from the Interstate 95/Route 213 intersection to the Elkton town limits where a flow control valve and meter would be placed in an underground concrete pit should the Town of Elkton desire an interconnection. An additional benefit to the interconnection would be availability of water service to property owners along Ricketts Mill Road.

Moving west of Elkton, Artesian Water Maryland would extend water service from the Route 213/Interstate 95 intersection parallel to Interstate 95 to Blue Ball Road. The main would then turn south along Blue Ball Road until intersecting with Route 279, where it would then continue south along Route 279 until it tied into an existing interconnection at Route 7. It is here that Artesian serves residents via an interconnection with the Town of Elkton. This area, being part of the Artesian Water Maryland franchise, would be connected to the system via this main extension.

The proposed main along Blue Ball Road will also serve future subdivisions. One such subdivision is known as Dogwood. In the vicinity of the Dogwood subdivision, Artesian Water Maryland proposes to add an elevated water storage tank on the system. The construction of a 1 MG water storage tank would provide for more consistent water pressure, continued service in the event of power outages, additional supply for peak demands, and fire protection.

There are several large proposed subdivisions that will be served from the main extension on Blue Ball Road. The largest of the proposed subdivisions is called Heron Lake. This subdivision received preliminary approval to have approximately 4,000 service connections. Another main is proposed to extend from the rear of the Heron Lake subdivision to Marley Road. This proposed main will run south along Marley Road to the intersection of Nottingham Road, and then continue north along Nottingham Road until it comes to the railroad crossing.

Near this railroad crossing, Artesian Water Maryland proposes to construct a 1 MG elevated storage tank. This tank is to support further residential, commercial, and industrial growth in the area. This proposed tank location is in the westernmost part of Artesian Water Maryland's Elkton West franchise territory. Artesian Water Maryland then proposes, via an easement with the CSX Railroad Company, to extend this water main parallel to the railroad and to connect to the existing Mountain Hill water system at Baron Road.

On the northernmost portion of the Meadowview system, there is a proposed subdivision called Aston Pointe. A main is proposed to extend from the Highlands to Aston Pointe. A 1 MG elevated storage tank is proposed for construction in the Aston Pointe area. This tank will stabilize water pressures and provide fire protection for the area. The County previously applied for a groundwater appropriation permit for the wells located in the Aston Pointe subdivision. MDE determined that a groundwater appropriation permit in the amount of 0.244 MGD average annual appropriation and 0.355 MGD for the month of maximum use would be issued provided a recharge easement is executed for the full golf course property in the subdivision. A Groundwater Allocation Permit (GAP) issued to the County (CE2005G005(01)) was transferred to Artesian Water Maryland with final transfer of other assets of the system.

Water supply capacity in this system has been substantially expanded by execution of the Interconnection Agreement with Artesian Water. Incremental water supply capacity increases will also be implemented through groundwater well permitting and development described

above. Artesian and the Town of North East executed an interconnection agreement in June 2019 to provide up to 200,000 gallons per day to the Elkton West service area.

C. Service Area

Maps in Appendices D and H show the location of the Meadowview/Elkton West service area.

3.2.10.4 Harbor View Water System

A. Existing System

The Harbor View water system serves the 218 lot subdivision of Harbor View. There are 124 customers on this system. The system consists of two wells that are limited to a daily average withdrawal of 83,000 gallons for the month of maximum use, a treatment facility, and two 5,000 gallon hydropneumatic tanks. The peak usage is approximately 38,000 gpd, which accounts for 54% of the peak system capacity.

Artesian added green sand filters at this facility to reduce the manganese levels. As a result of impacts from the Court House Point dredge disposal area, any unimproved lots within the W-1 service area and any existing residences within the W-1 service area needing to replace their well should be required to connect to the public water system, as long as Artesian has the capacity to serve.

B Proposed Improvements

There is no anticipated expansion within this service territory within the next five years.

C Service Area

Maps in Appendices D and H show the location of the Harbor View service area.

3.2.10.5 Pine Hills Water System

A. Existing System

The Pine Hills water system serves the residential developments of Arundel, Arundel Shores, Mariner's Cove, and Pine Hills. There are 348 customers on this system. The system consists of three wells, which are limited to a daily average withdrawal of 191,000 gallons for the month of

maximum use, a treatment facility, and a 200,000 gallon standpipe. The peak usage is approximately 175,000 gpd, which accounts for 91% of the peak system capacity. Water treatment for this system includes sodium hydroxide to control the pH, sodium hypochlorite for disinfection, and a corrosion inhibitor.

B. Proposed Improvements

The Pine Hills system will be connected to another source of supply between the existing facility and Artesian's service territory in the Route 7 area, on Oldfield Point Road (Cooke property). This source of supply will also be connected to Artesian Water Maryland's Route 7 water system.

C. Service Area

Maps in Appendices D and H show the location of the Pine Hills service area.

3.2.10.6 Route 7 Water System

A. Existing System

The Route 7 water system is located in the vicinity of the Route 7-Route 40 intersection. There are approximately 24 customers on this system. Supply for this system is provided by the interconnection with the Town of Elkton on Route 279. At this interconnection, Artesian can purchase up to 8,000 gpd from the Town. The Route 7 system is for distribution only. Therefore, no treatment or storage is required or provided. The system presently utilizes an average of approximately 4,400 gallons per day, 55% of the allowable amount per the agreement with the Town of Elkton.

B. Proposed Improvements

The Route 7 system will be connected to another source of supply to the south of Artesian's service territory in the Route 7 area. This source of supply is anticipated to be located on a parcel owned by Artesian Water Maryland on Oldfield Point Road (Cooke parcel). This source of supply will also be connected to Artesian Water Maryland's Pine Hills' water system.

Artesian has executed an interconnection agreement with the Town of North East to provide an additional source of supply to this service area at a location near the intersection of Routes 40 and 272.

C. Service Area

Maps in Appendices D and H show the location of the Route 7 service area on the Meadowview maps.

CHAPTER 4
SEWERAGE SYSTEMS

4. GENERAL DESCRIPTION

Almost half of the County's total population (102,603 persons per July 2016 population estimates from the Maryland Department of Planning) is served by public or private community sewage treatment plants. The remainder of the County's population utilizes subsurface disposal.

There are approximately 30 municipal and community wastewater treatment plants in the County, ranging from plants using subsurface disposal to tertiary treatment plants. The Susquehanna River, North East River, and Elk River are three major effluent receiving streams for the public wastewater treatment plants. The Meadowview wastewater treatment plant discharges its effluent into tributaries of the Christina River. The Chesapeake and Delaware Canal assimilates the discharge from the two Chesapeake City plants and the Corps of Engineers system while the Cecilton system discharges to a tributary of the Bohemia River.

Warwick has a fluctuating high water table into which many septic systems discharge directly during wet weather periods. Fredericktown has several septic systems near the Sassafras which also discharge to groundwater.

For all new septic systems in Cecil County, the Health Department requires at least four feet of unsaturated soil between the bottom of the subsurface disposal system and the groundwater table. This requirement is a part of COMAR 26.04.02.

The most suitable soils for subsurface disposal are found in the lower reaches of Cecil County and in the north central section. These areas, as is usually the case, are also best suited by soil association for agriculture. The coastal areas represent the greatest potential pollution areas in the County. Adequate collection systems, treatment plants, and monitored discharges are the means to protect Cecil County from gross pollution problems.

4.1 Major Community Sewerage Systems

The existing conditions and planned facilities for major community sewerage systems are described below. Appendix C shows the existing sewer facilities for the entire County and delineates service areas. The existing and proposed sewer service areas have been designated as follows (see Section 1.3.3 for Service Area policies):

S-1	Existing
S-2	0-2 years
S-3	2-3 years
S-4	3-6 years
S-5	6-10 years

4.1.1 Cecilton

A. Existing System

The Town operates a wastewater treatment plant and disposal system that utilizes an activated sludge process (using a sequencing batch reactor), polishing of the treated effluent in the sand filters that were part of the previous treatment plant, disinfection with sodium hypochlorite, de-chlorination with sodium bisulfate, followed by discharge to the Black Duck Creek. The wastewater treatment plant was completed in 2009 and is permitted for 0.100 MGD (NPDES Permit MD0020443, effective October 1, 2012). The 3-year average flow from 2011 – 2013 was 0.067 MGD.

B. Proposed Improvements

There are no proposed improvements to the Cecilton wastewater treatment plant.

C. Sewer Service Areas

Maps in Appendix C show the locations of the various service area categories.

4.1.2 CECO Utilities

A. Existing System

The CECO Utilities wastewater system consists of an antiquated lagoon treatment and stream discharge into Dogwood Run. Serving 126 customers, the capacity of the system is approximately 0.080 mgd with an average daily flow of 0.040 mgd. The system cannot meet permit standards, and as such, CECO operates under a consent order issued by MDE.

B. Proposed Improvements

A $2.85 million dollar grant from the Maryland Department of the Environment will be used to construct a pump station and associated force main to convey the collection system's contents to the Cecil County Department of Public Works' Cherry Hill WWTP for treatment.

Once the new force main and pump station become operational, the lagoon treatment facility will be decommissioned.

C. Sewer Service Areas

Maps in Appendix C show the locations of the various service area categories.

4.1.3 Crystal Beach – Port Herman – Elk Neck State Park

The Crystal Beach area does not have a community sewerage system at present, but due to a high concentration of small lots using subsurface disposal, the Cecil County Department of Public Works foresees possible construction of a wastewater treatment plant in the future. Although no funds for the project have been budgeted in the 2019 Capital Improvement Plan, preliminary identification of a possible service area, encompassing the communities of Crystal Beach, Buttonwood Beach, Elk View Shores, Cabin John Heights, and Woodmour Manor, has been completed.

The Port Herman condominium development is served by a community system that utilizes subsurface disposal.

The Elk Neck State Park wastewater treatment plant (WWTP), which serves most of the Park and the North Bay Adventure Camp, is an extended aeration treatment plant rated for .108 mgd but permitted for .060 mgd. The Parks' sewer collection system includes five sewage pumping stations, 11,770 linear feet of force main and approximately 17,900 linear feet of gravity sewer. The treatment plant influent flow varies substantially throughout the year due to the seasonal nature of the Park. The North Bay facility operates year round except for a few holiday breaks. The daily average flow for the WWTP is .015 MGD and has peaks during the summer holidays of up to .044 MGD (2017 data). This plant is operated by the Maryland Environmental Service (MES), and the plant produces effluent that meets the requirements of its discharge permit. MES is in the process of upgrading the facility to meet ENR (enhanced nutrient removal) effluent limits and the Maryland Department of the Environment has provided a grant to cover the cost of a Preliminary Engineering Report.

Maps in Appendix C show the locations of the various service area categories.

4.1.4 Chesapeake City

A. Existing Systems

The sewerage system for Chesapeake City is split by the Chesapeake and Delaware Canal, and two separate collection and treatment systems are maintained. The two plants treat a combined flow of 0.163 mgd from approximately 900 people. In 2013, the Bohemia Manor Middle School and High School was connected to the Town's south collection system with an allocated capacity of 8,000 gpd. The North side is served by a 0.075 mgd package activated sludge plant and the South side is served by a similar 0.088 mgd plant. Both plants include chlorination/dechlorination facilities. Effluent is discharged into the C&D Canal.

B. Proposed Improvements

Existing Service Area

The Town is in the process of upgrading the wastewater treatment facilities which includes the consolidation of the two existing WWTPs into a new single WWTP located on the north side of

the C&D canal. The new facility will have a total treatment capacity of 300,000 gpd and be capable of meeting Enhanced Nutrient Removal standards. The new facility will be constructed adjacent to the existing WWTP to allow the existing facilities to remain in service during construction. The new WWTP construction will include new headworks, sequencing batch reactors (SBRs), effluent filters, UV disinfection, and cascade aeration prior to discharge to the C&D Canal. Supporting processes will include chemical additional and monitoring equipment, utility water reuse, and sludge processing, storage, and dewatering.

As part of the improvements, the South WWTP will be demolished and replaced with an upgraded pumping station to convey flow under the canal to the new WWTP. The Town previously installed two parallel 8-inch conduits to allow for the installation of the proposed force main required to convey the flow under the canal. The majority of the existing North WWTP will be demolished with the exception of the control building which will be repurposed if possible.

The proposed capacity is in accordance with the Town and County comprehensive plans. Capacity will be allocated in accordance with the Town's allocation policies and capacity management policies.

All service extensions will be limited to the requirements set forth in Chapter 1, Section 1.3.1(K).

Potential Service Area Expansion

There are several nearby communities that may have interest in connecting to the Town's collection and treatment system. Any such connection would be subject to approval by the County and must comply with MDE's Nutrient Cap Management and Trading Policy. The Town is in preliminary discussions with the mobile home community of Chesapeake Estates, which has a failing community onsite disposal system. Similar to the County's approach with the Seneca Point WWTP, the Town would seek to decommission the community onsite disposal system and connect the community to the Town's collection and treatment system. Conceptual plans include the construction of a new pump station at Chesapeake Estates along with approximately 6,100 linear feet of 4" force main to convey the flow to the collection system on the south side of the Canal. The flow would then be conveyed to the new pump station at the former South WWTP site and ultimately to the new WWTP on the north side of Town.

All service extensions will be limited to the requirements set forth in Chapter 1, Section 1.3.1(K).

Other facilities will be considered as opportunities for decommission become available. In conjunction with these connections, the Town would realize additional nutrient discharge credits for their point source discharge.

C. Sewer Service Areas

Figure 4-1 shows the location of the various service area categories.

4.1.5 Elkton

A. Existing System

The Town provides sewer service to its residents, as well as to all commercial, industrial, institutional, and governmental facilities within the Town via a collection and conveyance system comprised of gravity mains, force mains, and thirteen pumping stations. Additionally, service is provided to customers outside the corporate limits, including Thomson Estates, Holly Hall, Elkwood Estates, and the Maryland State Highway Administration's maintenance facility on MD Route 7.

Wastewater treatment is provided at the Elkton Wastewater Treatment Plant (BNR/ENR), located at 200 West Pulaski Highway in Elkton. The plant has a treatment capacity of 3.2 mgd, operating under State Discharge Permit No. 13-DP-0671 and NPDES Permit No. MD0020681 (November 1, 2013 – October 31, 2018 w/ permit renewal being processed). Elkton's treatment plant is operated by Inframark under an agreement expiring in 2023.

The Elkton Wastewater Treatment Plant processes approximately 1.8 million gallons of wastewater on a daily basis, treated wastewater is discharged to the Big Elk Creek and treated solids are distributed under Sewage Sludge Utilization Permit No. 2015-STF-5342 (August 29, 2016 – August 28, 2026).

B. Proposed Improvements

Provisions for enlarging the reactor, adding a third clarifier, and adding the necessary equipment were included in the initial design of this plant. Significant capital improvements for adding treatment capacity to the WWTP are not anticipated within the next five years.

C. Sewer Service Areas

Maps in Appendix C show the locations of the various service area categories.

4.1.6 Perryville

A. Existing System

The Town operates a WWTP which was recently upgraded for Enhanced Nutrient Removal. The treatment includes an SBR, disc filters, and UV disinfection, with discharge into Mill Creek. The WWTP serves a Town population of approximately 4,419 people and has a contractual allocated capacity of approximately 300,000 gallons per day to the Perry Point Veterans Administration Hospital. The design and permitted capacity of the WWTP is 1.65 mgd with an average flow of

approximately 0.785 mgd (including the VA Hospital). The Town continues to identify and correct infiltration and inflow sources and has taken actions on some areas that were identified in the I/I report.

B. Proposed Improvements

No improvements are proposed at this time.

C. Sewer Service Areas

Maps in Appendix C show the locations of the various service area categories.

4.1.7 Port Deposit

A. Existing System

Cecil County owns and operates the Port Deposit Wastewater Treatment Plant, two pump stations located in Town, and the collection system. The WWTP is a 0.150 mgd packaged activated sludge wastewater treatment plant, and the system's two pump stations are packaged "can type"' stations. Originally constructed in 1971 and serving approximately 767 people, the WWTP meets discharge permit requirements with annual average flows of 0.06 mgd.

B. Proposed Improvements

The existing Port Deposit Wastewater Treatment Plant (WWTP) is 40+ years old, is located on the banks of the Susquehanna River within the 100 year floodplain, has reached the end of its useful life, and needs to be replaced. The County will construct an enhanced nutrient removal packaged WWTP at a new location either on the grounds of the former Bainbridge Naval Training Center or on the site of the existing WWTP or immediately adjacent thereto to the east of the railroad tracks.

The new WWTP will have an initial capacity to treat up to 150,000 gallons of wastewater per day but will be sited, designed, and built such that it can be readily expanded in steps over time as needed to accommodate increased flows. The new plant will require modifications to the collections system to convey sewage to the new WWTP and a connection to convey treated effluent to the existing outfall. The existing plant will be removed from service once the new plant is operational. The project will serve existing Port Deposit residents, provide wastewater treatment plant capacity needed to support the redevelopment of the Tome School and Bainbridge sites, and other users within its service area.

C. Sewer Service Areas

Maps in Appendix C show the locations of the various service area categories. The S-1 area corresponds to the existing Town limits, not including the Bainbridge site. It is anticipated that sewer service will be provided to the Bainbridge site within the next two years; therefore, the area is designated as S-2.

D. Sewer Service Expansion

The County is working with the Bainbridge Development Corporation to extend sewer to the former Bainbridge Naval Base property. Once this extension is in place, developers can then extend sanitary sewer in support of development on this and neighboring sites.

The county is proposing a project to extend new sanitary sewerage facilities from the existing Port Deposit Collection System to the Rock Run Road area. This project will eliminate on lot systems and connect several homes in this area that have no wastewater treatment. The project will be conducted in accordance with the new Maryland Chesapeake Bay Watershed Implementation Plan, improve public health, improve water quality, and earn nutrient credits for NERAWWTP expansion.
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4.1.8 Rising Sun

A. Existing System

In August 2015, the Town of Rising Sun's new $14 million wastewater treatment plant went online. Using orbal ditch treatment processes, the WWTP meets biological nutrient removal and enhanced nutrient removal standards. Effluent from the plant is reaerated using cascade aeration and then discharged into the receiving stream (a main branch of Stone Run). The WWTP operates under authority granted by NPDES Discharge Permit Number MD0020265 and State Discharge Permit Number 08-DP-0107. It has a design capacity of 0.5 MGD, and an average daily flow of approximately 0.240 MGD,

B. Proposed Improvements

The collection system suffers from inflow and infiltration problems. Potential solutions to remedy the inflow and infiltration issues are being studied.

C. Sewer Service Areas

Maps in Appendix C show the locations of the various service area categories.

4.1.9 North East River Advanced WWTP

A. Existing Facilities

Owned and operated by Cecil County, the Northeast River Advanced WWTP (NERAWWTP) was originally a built-in-place concrete extended aeration system constructed in 1981 and subsequently upgraded to BNR level of treatment. In 2016 the plant was upgraded to Enhanced Nutrient Removal through modification to the 4 stage Bardenpho treatment process and addition of MBR and chemical systems. With the upgrade to ENR, landowners may potentially qualify for assistance connecting to the plant's collection system using the Bay Restoration Fund grants program. Located at Seneca Point on the Northeast River, the facility serves the Town of North East, Town of Charlestown, Principio Business Park, the I-95 Service Plaza, Cecil College, numerous surrounding communities in the County, including the Carpenters Point area, and the Cecil County Central Landfill leachate system.

The Northeast River Advanced WWTP is designed for an annual average flow of 2.0 mgd, and the WWTP operates under State Discharge Permit No. 09-DP-1082 and NPDES Permit No. MD0052027. Annual average daily flow at the plant is 1.0 mgd. As part of the most recent discharge permit (dated October 1, 2010), MDE granted conditional authorization for a three step increase in the plant's design flow to 3.0 mgd, 3.17 mgd, and 3.7 mgd. Granting of the larger flows is predicated upon the County satisfactorily meeting numerous conditions as outlined in the discharge permit.

B. Proposed Improvements

The County recently completed upgrading the plant to ENR (2016). Future improvements to administrative and control spaces and sludge handling are proposed.

The NERAWWTP presently has an assigned nutrient allocation from MDE of 24,364 lbs/year of total nitrogen (TN) and 1,827 lbs/year total phosphorus (TP). These loading limits are equivalent to operation at 4.0 mg/L TN and 0.3 mg/L TP at the design capacity of 2.0 mgd. In order to expand the capacity of the NERAWWTP beyond the permitted flow of 2.0 mgd, the County proposes to maintain the nutrient cap by transferring nitrogen and phosphorus credits to the NERAWWTP under MDE's Nutrient Cap Management and Trading Policy by the following means:

1. Operate the NERAWWTP for enhanced performance with a target effluent TN of 3.0 mg/L and effluent TP of 0.12 mg/L at the future capacities. The plant has been upgraded to and operating at ENR level since June 2016. With the completion of the ENR upgrade, the total nitrogen allocation (TN) permitted increased to 27,038 lbs/year (and credits). It is anticipated that future upgrades to the NERAWWTP will be necessary to serve the projected growth in the central portion of the County's growth area.

2. Connect existing houses within the County served by septic systems to the NERAWWTP collection system and remove the septic systems from service. Areas of the County with failing septic systems near the Chesapeake Bay will be targeted, including Holloway Beach, Cara Cove, Red Point, and Hances Point. Additional septic systems will be connected in areas where sewer extension projects are planned. An important aspect of this scenario is the health benefit to be realized through the elimination of the failing septic systems.

3. Decommission minor WWTPs and community on-site disposal systems, and connect the service area to the NERAWWTP collection system. Facilities being considered for potential projects include those in the Hances Point area, such as Shelter Cove and Bay Boat Works. Other facilities will be considered as opportunities for decommissioning become available. Please refer to Section 4.1.9.C for additional detail regarding other projects.

4. Nutrient credits will also be transferred to the NERAWWTP as a result of the Elkton West collection system construction.

5. Nutrient credits will be generated by the connection of properties with existing septic systems that have access to existing sewer.

6. The removal from the Chesapeake Bay of the flow from the Cherry Hill WWTP and potentially the flow from the CECO Utilities WWTP will permit credits to be available to NERAWWTP.

7. The County will seek to use Development Rights Trading Credits as opportunities become available.

8. The County will seek to utilize water reuse opportunities at the NERAWWTP to reduce the quantity of water (and nutrients) discharged from the facility through beneficial reuse.

C. Collection System Expansion Projects

The following collection system expansion projects are proposed in the NERAWWTP service area:

1. *Elkton West and Route 40 Business Corridor* - This project consists of the area generally from the western boundary of the Town of Elkton to just west of Marley Road along the Route 40 corridor. Construction will start on the collection system, pump station, and force main in late 2018. The initial service area shall be located in the vicinity of Nottingham Road and Route 40 and provide a backbone for expansion into surrounding areas in this business corridor. The Northrup Grumman (fka ATK Orbital) site is connected and Triumph Industrial Park will be connected to the system in the near future. The project includes all infrastructure to connect the industrial park sewer system. The sewer will be extended in phases to meet future demand within the service area.

2. *East Old Philadelphia Road Collection System* - This project will construct gravity sewer, force main, and one pump station in the vicinity of Whispering Pines Mobile Home Park. It will decommission on-lot septic systems in accordance with the Maryland Chesapeake Bay Watershed Implementation Plan, improve water quality, eliminate potential public health concerns, earn nutrient credits for NERAWWTP expansion, and help meet the nutrient TMDL (total maximum daily load) for the Northeast River.

3. *West Old Philadelphia Road Collection System* - This project will construct a sewer collection system consisting of gravity sewer, force main and one pump station south of Route 40 from Wells Camp Road to the west of Red Toad Road. It will decommission on-lot septic systems in accordance with the Maryland Chesapeake Bay Watershed Implementation Plan, improve water quality, eliminate potential public health concerns, earn nutrient credits for NERAWWTP expansion, and help meet the nutrient TMDL (total maximum daily load) for the Northeast River.

4. *Hances Point Sewer Collection System* - This project will construct pump stations, force main, gravity sewer, and pressure sewer to service the Hances Point Road community. It will decommission on-lot septic systems in accordance with the Maryland Chesapeake Bay Watershed Implementation Plan, improve water quality, eliminate potential public health concerns, earn nutrient credits for NERAWWTP expansion, and help meet the nutrient TMDL (total maximum daily load) for the Northeast River.

5. *Route 40 Principio West Sanitary Sewer Collection System* - This project will construct sewer pump stations, force mains and gravity and pressure sewers to service the area along Route 40 to serve the area west of Belvidere Road to approximately Jackson Station Road. Conveyance will be to the Northeast River Advanced WWTP. This project will provide sewage collection facilities for future economic development in the Route 40 business corridor.

6. *Route 40 West Sanitary Sewer Collection System* - This project will construct gravity sewers to provide sewer service for future development in the Route 40 business corridor from Route 272 to east of Cool Spring Road. This project will be completed in three phases. Phase 1 involves construction of a gravity sewer from the high point west of Red Toad Road to the Stoney Run Sewer Interceptor on Wells Camp Road. Phase 2 consists of a pump

station, force main, and gravity sewer to connect to the terminus of Phase 1. Phase 3 involves construction of gravity sewer from Cool Springs Road to the pump station constructed in Phase 2.

6. *Holloway Beach Sewer* - This project will provide sewer service to Holloway Beach. It will decommission on-lot septic systems in accordance with the Maryland Chesapeake Bay Watershed Implementation Plan, improve water quality, eliminate potential public health concerns, earn nutrient credits for NERAWWTP expansion, and help meet the nutrient TMDL (total maximum daily load) for the Northeast River.

D. Sewer Service Areas

Maps in Appendix C show the locations of the various service area categories.

4.1.10 Harbor View, Red Point Beach

A. *Harbor View* - Owned and operated by Cecil County, the Harbor View WWTP has a design flow of 0.065 mgd and is intended to serve all recorded lots within the Harbor View subdivision (including undeveloped lots with no dwellings erected on them) and the Harbor North Marina. The treatment plant is a packaged, extended aeration plant with chlorination, dechlorination, and post aeration, with a 2,200 linear foot discharge pipe into the Elk River. The WWTP will be upgraded to ENR with construction expected to start in the summer of 2018.

B. *Red Point Beach* - The Department of Public Works proposes, as part of the Capital Improvement Program, construction of a sewer collection system and ENR WWTP in the Red Point Beach area of the County. This project will construct pump stations, force mains, and pressure and gravity sewers along with a packaged treatment facility (with an approximate capacity of 50,000 gpd) for the Red Point community. This will decommission on-lot septic systems in accordance with the Maryland Chesapeake Bay Watershed Implementation Plan, improve water quality, eliminate potential public health concerns, earn nutrient credits for NERAWWTP expansion, and help meet the nutrient TMDL (total maximum daily load) for the Northeast River.

4.1.11 Cherry Hill, Highlands, Meadowview

A. *Cherry Hill* – Owned and operated by Cecil County, the Cherry Hill WWTP lies within the Little Elk Creek Drainage Basin and presently serves the Cherry Hill Sanitary Subdistrict. The WWTP was upgraded in 2003 to increase its capacity from 0.080 mgd to 0.250 mgd.

MDE and the County have entered into an agreement to connect the CECO Utilities service area to the Cherry Hill WWTP collection system via pump station and force main. This will eliminate

MDE's concerns regarding the poor level of treatment at the CECO Utilities WWTP and take advantage of available capacity of the Cherry Hill WWTP.

Pursuant to the available capacity at the Cherry Hill WWTP being consumed and the proposed expansion at the Meadowview WWTP, the Cherry Hill WWTP will be converted to a pump station and the sewage effluent will be conveyed via force main for treatment at the Meadowview WWTP. The force main will also serve parcels 90, 102, 244, and 559 on tax map 21, the Cecil Manor Elementary School, and other lots adjoining the proposed force main alignment.

The proposed wastewater conveyance to the Meadowview WWTP will result in the removal of the Cherry Hill and CECO nutrient loads from the Chesapeake Bay, thereby further enhancing water quality.

B. Highlands – Wastewater from this service area is conveyed via gravity sewer to the Meadowview WWTP for treatment.

C. *Meadowview* - Owned and operated by Cecil County, the Meadowview WWTP has a permitted capacity of 1.0 mgd conditioned on the elimination of possible biological and chemical hazards from aerosols from the oxidation ditch adjoining properties to the west and south.

The Meadowview WWTP discharges into the Christina River which in turn ultimately flows into the Delaware Bay. Maximizing treatment capabilities at this facility will eliminate nutrient discharge into the Chesapeake Bay.

D. Collection System Expansion Projects

The Elkton West service area has been identified as a growth area in the County. The first phase of the project proposes to provide preliminary engineering, design engineering, and construction of initial facilities to provide a sewer backbone allowing for expansion of the sewer service for this area. It will consist of the construction of a pump station in the vicinity of Belle Hill Road, Appleton Road, and/or the Big Elk Creek to convey sewer via force main under I-95 and on to the Meadowview WWTP.

Subsequent phases will build a network of gravity sewer, pump stations, and force mains to extend out from the backbone into the service area. It is expected that the parts of the service area presently treated by private onsite package treatment plants will eventually connect to the County sewer backbone.

E. Sewer Service Areas

Maps in Appendix C show the locations of the various service area categories.

APPENDIX A

GENERAL REFERENCES

GENERAL REFERENCES

1. Comprehensive Water and Sewerage Plan (1 970) by Buchart-Horn.

2. Comprehensive Water and Sewerage Plan; 1971, 1972 and 1973 Amendments by Frederick Ward Associates, Inc.

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APPENDIX B

TABLES

Cecil County 2019 Master Water & Sewer Plan Appendix B – Table of Contents

Key for Acronyms, Abbreviations, and Symbols in Tables and Text

Table 1	Population Projections
Table 2	Land in County
Table 3	Projected Water Supply Demands and Planned Capacity
Table 4	Inventory of Existing Community System Wells
Table 5	Inventory of Existing Raw Water Impounded Supplies
Table 6	Inventory of Existing Water Treatment Facilities
Table 7	Inventory of Water Problem Areas
Table 8	Immediate, 5 and 10 Year Priorities for Water Development
Table 9	Projected Sewerage Demands and Planned Capacity
Table 10	Inventory of Existing Sewage Treatment Plants
Table 10A	Inventory of Select Single Lot Large Flow Sewerage Systems
Table 11	Inventory of Sewage Problem Areas
Table 12	Water Quality Problems due to Storm Drainage Outfalls and Non-Point Sources
Table 13	Immediate, 5 and 10 Year Priorities for Sewerage Development
Table13A	Marinas
Table 14	Water and Sewerage Map Symbols
Table 15	Flow Data - Wastewater Treatment Plants
Table 15A	Sewer Pump Stations and Force Mains
Table 16	Artesian Water Maryland – Projected Water Supply Demands and Planned Capacity

KEY FOR ACRONYMS, ABBREVIATIONS, AND SYMBOLS IN TABLES AND TEXT

ASR	Aquifer storage and recovery
BNR/ENR	Biological Nutrient Removal /Enhanced Nutrient Removal
coag	Coagulation
COMAR	Code of Maryland regulations
char	Activated charcoal treatment
cl	Chlorination (disinfection)
CWA	Chester Water Authority
DePSC	Delaware Public Service Commission
DNREC	Delaware Department of Natural Resources and Environmental Control
DNR-WRA	Maryland Department of Natural Resources Water Resources Administration
DRBC	Delaware River Basin Commission
ENR	Enhanced nutrient reduction
fil	Filtration
GAP	Groundwater Appropriation and Use Permit
gpd	Gallons per day
ion	Ion exchange softening
MDE	Maryland Department of the Environment
MDP	Maryland Department of Planning
MdPSC	Maryland Public Service Commission
mgd	Million gallons per day
MHS	Mobile homes
NERAWWTP	Northeast River Advanced Wastewater Treatment Plant
NPDES	National Pollutant Discharge Elimination System

ph	PH adjustment
PDR	Preliminary Design Report
PFA	Priority Funding Area
PWA	Public Works Agreement
s	Season
SBR	Sequencing Batch Reactor
SEC	Federal Securities and Exchange Commission
sed	Sedimentation
SRBC	Susquehanna River Basin Commission
TAZ	Transportation Analysis Zone
TN	Total nitrogen allocation
TP	Total phosphorus
uv	Ultraviolet light treatment
WCMP	Water Supply Capacity Management Plan
WCPFA	Water Conservation Plumbing Fixtures Act
WTP	Water Treatment Plant
WWTP	Wastewater Treatment Plant
*	Maximum from water appropriations permit

Table 1 - 2018 Master Water & Sewer Plan - Population Projections

	2010 (census)	2016 (estimate)	2020	2025	2030	2035	2040	2045
Cecil County (entirety)	101,108	102,603	104,600	111,600	119,550	127,200	135,450	142,550

Notes

1) Cecil County (entirety) projections for the years 2020 through 2045 are taken from August 2017 projections by the Maryland Dept. of Planning. For details please see: http://www.mdp.state.md.us/msdc/S3_Projection.shtml

2) The 2016 population estimate is derived from US Census Bureau data released on May 25, 2017 and available on MDP's website at: http://www.mdp.state.md.us/msdc/Pop_estimate/Estimates/popest_md.shtml

Region	2016 Population Estimate	TAZs	Average % change (2010-2020)	2020 est. Population	Average % change (2020-2030)	2030 est. Population	Average % change (2030-2040)	2040 est. Population
Town of Cecilton (water & sewer)	675	parts of 950, 960, 970, and 980	12.88%	762	13.46%	864	10.90%	959
Town of Chesapeake City (water & sewer)	700	parts of 900, 910, 920, 930, and 940	5.19%	736	15.24%	849	10.95%	941
Town of Elkton (water & sewer)	15,744	All of 400, 410, 420, 430, and 480. Parts of 465, 470, 475, 490, 495, 500, 510, 511, 513, 515, 519, & 520	16.59%	18,356	17.16%	21,506	11.19%	23,912
Town of North East (water only, see Note #6)	3,650	Parts of 540, 545, 550, 551, 552, and 553	26.08%	4,602	26.91%	5,840	17.67%	6,872
Town of Charlestown (water only)	1,196	Parts of 565 & 570	5.37%	1,260	25.62%	1,583	16.50%	1,844
Town of Rising Sun (water & sewer)	2,799	Parts of 770 & 780	10.55%	3,094	16.15%	3,594	18.89%	4,273
Town of Perryville (water & sewer)	4,419	Parts of 695, 700, 705, & 720	18.48%	5,236	17.03%	6,127	7.36%	6,578

Town of Port Deposit (water & sewer)	767	Parts of 720, 730, and 740	7.60%	825	26.67%	1,045	9.92%	1,149
Cherry Hill (sewer only)	648	Parts of 585, 590, 591, and 630	12.10%	726	10.86%	805	9.71%	883
Harborview (sewer only)	329	Part of 940	-2.20%	322	4.13%	335	3.67%	347
Meadowview (sewer only) (includes Highlands as of 2015)	2,946	Parts of 503, 505, 600, and 610	7.88%	3,178	12.44%	3,574	9.94%	3,929
North East River Adv. WWTP (sewer only)	13,430	Parts of 535, 540, 543, 545, 551, 552, 553, 555, 560, 565, 570, & 680	33.29%	17,901	25.89%	22,535	16.65%	26,288

Notes:

1) The 2016 population estimates for the eight incorported towns are derived from US Census Bureau data released on May 25, 2017 and available on MDP's website at: http://www.mdp.state.md.us/msdc/Pop_estimate/Estimates/popest_md.shtml

2) The following methodology was used to determine the estimated population for the eight incorporated towns:
   a) The Transportation Analysis Zones (TAZ) within the service areas were identified;
   b) The percentage population change for each TAZ was derived from the Wilmapco source data;
   c) For service areas having more than one TAZ, the average percentage population change was determined;
   d) The previous year's population was then adjusted using the average percentage population change.

3) The current population for Meadowview (1,091 accounts), Cherry Hill (240 accounts), Harborview (122 accounts), and the NERA WWTP (4,974 accounts) represent the number of customer accounts (based on billing data) multiplied by the average household size (2.70 persons) from the 2010 US Census.

4) The same methodology used to estimate population for the incorporated towns was also used for the four sanitary sewer service areas.

5) Data source = Wilmapco population projections by TAZ dated May 11, 2017.

6) The Town of North East projections contained within this table pertain solely to the incorporated town boundary.

7) The May 11, 2017 Wilmapco population projections do not go beyond the year 2040. As such, the town and sewer service area projections that rely on population projections by TAZ also stop at the year 2040. To estimate population for these areas using the County wide average change projected for 2040-2045 would do a disservice, as it would ignore unique population drivers in these smaller areas.

Table 2 - Land in County

Cecil County's total acreage is approximately 223,700 acres

Breakdown of Total Acreage by Land Use Categories from the Comprehensive Plan

Land Use Category	*Total Acreage*	*% of total*
Employment Mixed Use	795	0.36
Residential Mixed Use	655	0.29
Low Density Growth Area	15,125	6.76
Medium Density Growth Area	12,281	5.49
Medium High Density Growth Area	3,310	1.48
High Density Growth Area	4,084	1.83
Employment	5,659	2.53
Mineral Extraction District	8,442	3.77
Rural Conservation District	95,819	42.83
Resource Protection District	63,469	28.37
Villages	1,641	0.73
Incorporated Town	12,423	5.55

source: Table 3.5, 2010 Cecil County Comprehensive Plan

Note: Due to annexations, the Incorporated Towns total 12,971 acres as of April 2018

Breakdown of Total Acreage by Zoning Districts

Land Use Category	*Total Acreage per 2011 calcs*	*% of total*
BG (Business General)	1,420.52	0.64
BI (Business Intensive)	312.77	0.14
BL (Business Local)	141.39	0.06
EMU (Employment Mixed Use)	576.72	0.26
LDR (Low Density Residential)	14,762.91	6.60
M1 (Light Industrial)	1,819.74	0.81
M2 (Heavy Industrial)	3,902.92	1.74
MB (Maritime Business)	365.86	0.16
MEA (Mineral Extraction A)	5,496.17	2.46
MH (Manufactured Home)	2,272.67	1.02
NAR (Northern Agricultural Residential)	64,035.58	28.63
OS (Open Space)	17,444.68	7.80
RM (High Density Residential)	3,712.42	1.66
RMU (Residential Mixed Use)	418.93	0.19
RR (Rural Residential)	19,871.90	8.88

SAR (Southern Agricultural Residential)	53,839.88	24.07
ST (Suburban Transition Residential)	10,476.01	4.68
UR (Urbanized Residential)	2,057.61	0.92
VR (Village Residential)	653.16	0.29
Incorporated Towns	12,971.00	5.80
Open Water	7,150.16	3.20

Table 3 - Projected Water Supply Demands and Planned Capacity

Municipally-Owned Community Water Supply Systems

System ID	Name	Plant Name	2017			2020		
			Population Served	ADF (MGD)	Capacity (MGD)	Population Served	ADF (MGD)	Planned Capacity (MGD)
007004	Town of Cecilton *(all numbers include the Pearce Creek service area)*	WTP Well 2, 3A	1,375	0.042	0.098	1,462	0.136	0.183
0070006	Chesapeake City	Service provided by Artesian via interconnect along Biddle St at Delaware state border	700	0.090	0.400	736	0.119	0.400
0070011	Town of Elkton	Big Elk Creek Filter Plant	15,744	1.533	1.500	18,356	1.82	2.850
		Holly Hall (Wells 1R & 3)			0.650			
		Holly Hall (Well 2R)			0.100			
		Holly Hall (Well 4)			0.500			
		Well 5 (200 W Pulaski Hwy)			0.100			
0070016	Town of North East (includes areas beyond town borders)	Rolling Mill WTP & Leslie WTP	8,390	0.644	0.325 1.383	11,122	1.12	2.267
0070018	Town of Perryville	Susquehanna FILT PLT	4,419	0.439	1.000	5,236	0.53	2.000
0070021	Town of Rising Sun	Pumphouse Well 1,2,3,5,11	2,799	0.171	0.193	3,094	0.31	0.750
		Pumphouse Well 6			0.067			
0070029	Town of Charlestown	Pumphouse Well 1,2,3	1,196	0.089	0.207	1,260	0.132	0.207

Table 3 - Projected Water Supply Demands and Planned Capacity

Municipally-Owned Community Water Supply Systems

System ID	Name	Plant Name	2030			2040		
			Population Served	ADF (MGD)	Capacity (MGD)	Population Served	ADF (MGD)	Planned Capacity (MGD)
007004	Town of Cecilton (including Pearce Creek service area)	WTP Well 2, 3A	1,564	0.148	0.183	1,659	0.16	0.183
0070006	Chesapeake City	Service provided by Artesian via interconnect along Biddle St at Delaware state border	849	0.137	0.400	941	0.152	0.400
0070011	Town of Elkton	Big Elk Creek Filter Plant Holly Hall (Wells 1R & 3) Holly Hall (Well 2R) Holly Hall (Well 4) Well 5 (200 W Pulaski Hwy)	21,506	2.130	2.850	23,912	2.361	2.850
0070016	Town of North East	Rolling Mill WTP & Leslie WTP	14,141	1.420	2.267	16,688	1.669	2.267
0070018	Town of Perryville	Susquehanna FILT PLT	6,127	0.637	2.000	6,578	0.698	2.000
0070021	Town of Rising Sun	Pumphouse Well 1,2,3,5,11 Pumphouse Well 6	3,594	0.350	0.750	4,273	0.383	0.75
0070029	Town of Charlestown	Pumphouse Well 1,2,3	1,583	0.167	0.207	1,844	0.195	0.207

Notes

1) Cecil County (entirety) projections for the years 2020 through 2045 are taken from August 2017 projections by the Maryland Dept. of Planning. For details please see: http://www.mdp.state.md.us/msdc/S3_Projection.shtml

2) The 2016 population estimate is derived from US Census Bureau data released on May 25, 2017 and available on MDP's website at: http://www.mdp.state.md.us/msdc/Pop_estimate/Estimates/popest_md.shtml

Notes

1) Cecil County (entirety) projections for the years 2020 through 2045 are taken from August 2017 projections by the Maryland Dept. of Planning. For details please see: http://www.mdp.state.md.us/msdc/S3_Projection.shtml

2) The 2016 population estimate is derived from US Census Bureau data released on May 25, 2017 and available on MDP's website at: http://www.mdp.state.md.us/msdc/Pop_estimate/Estimates/popest_md.shtml

Table 4 - Inventory of Existing Community System Wells

Well Name or Number	Owner	Permit Number	Aquifer	Location (coordinates)	Depth (Feet)	Diameter (Inches)	Max Safe Yield (gpm)	Pumping Capacity (gpm)	Water Quality
Pine Hills Well #1	Artesian	CE-81-2915	Lower Patapsco	N691043.46 E1626436.1	268	6	120	120	Good
Pine Hills Well #2	Artesian	CE-73-3908	Lower Patapsco	N691020.1 E1626511.5	265	6	120	120	Good
Pine Hills Well #3	Artesian	CE-95-0349	Lower Potomac	N691844.4 E1625397.5	298	8	350	350	Good
Harbor View Well #1	Artesian	CE-73-2410	Lower Patapsco	N673057.78 E1630163.89	90	4	50	55	Good
Harbor View Well #2	Artesian	CE-94-0110	Lower Patapsco	N673057.78 E1630163.89	92	6	50	60	Good
Harbor View Well #3	Artesian	CE-95-1690	Lower Potomac	N673232.16 E1630039.91	625	4	50	50	Good
Meadowview Fletchwood Well	Artesian	CE-73-6885	Lower Patapsco	N726005.6 E1651144.05	68	6	240	240	Good
Meadowview Sycamore Well	Artesian	CE-73-1690	Lower Patapsco	N725709.92 E1650802.6	68	12	140	140	Good
Mountain Hill Well #1	Artesian	CE-95-0945	Lower Patapsco	N 696248.0743 E 1592572.6082	132	8	90	85	Good
Mountain Hill Well #2	Artesian	CE-95-1453	Lower Patapsco	N 696123.3910 E 1591024.0392	152	8	200	180	Good
Mountain Hill Well #3	Artesian	CE-95-3375	Lower Patapsco	N 696010.001 E 1590009.562	115	8	105	100	Good
Carpenters Point Well #1	Artesian	CE-81-0339	Lower Potomac	N685675.85 E1592115.972	90	6	85	60	Good
Carpenters Point Well #2R	Artesian	CE-16-0136	Lower Potomac	N685546.197 E1591994.155	123	6	200	50	Good
Carpenters Point Well #3	Artesian	CE-94-2653	Lower Potomac	N685464.986 E1591842.419	120	6	275	60	Good
Chestnut Point Estates	Artesian	CE1968 G010(04)	Lower Potomac	N 689799 E 1591167	117	4	35	35	Good

Table 4 - Inventory of Existing Community System Wells (page 2)

Well Name or Number	Owner	Permit Number	Aquifer	Location (coordinates)	Depth (Feet)	Diameter (Inches)	Max Safe Yield (gpm)	Pumping Capacity (gpm)	Water Quality
Elkton - Well 3	Town of Elkton	CE-04-5556	Potomac	39.603255 N 75.792923 W	156	12	550	550	Good
Elkton - Well 2R	Town of Elkton	CE-10-0297	Potomac	39.597688 N 75.823868 W	171	8	160	160	Good
Elkton - Well 5	Town of Elkton	CE-13-0053	Potomac	39.599478 N 75.835812 W	148	8	120	120	Good
Cecilton - Well #1	Town of Cecilton	CE-95-0476	Magothy	39.4012252 N 75.8717853 W	300	8	250	250	Good
Cecilton - Well #2	Town of Cecilton	CE-95-0477	Magothy	39.4014234 N 75.8715516 W	300	8	250	250	Good
Charlestown - Well #1	Town of Charlestown	CE-88-2612	Lower Potomac	39 34' 25.47"N 75 58' 46.92"W	137	6"	100	100 gpm	Good
Charlestown - Well #2	Town of Charlestown	CE-88-1910	Lower Potomac	39 34' 31.76"N 75 58' 46.98" W	132'	6"	100	100 gpm	Good
Charlestown - Well #3	Town of Charlestown	CE-88-2017	Lower Potomac	39 34' 37.95"N 75 58' 53.70" W	99'	6"	Not Used (no pump in well)	Not Used (no pump in well)	Undetermined
Rising Sun - Well #1	Town of Rising Sun	Has been taken offline following CWA interconnect completion in February 2019. These wells will be put in standby mode and will be excercised periodically.			85-400 ft	Has been taken offline following CWA interconnect completion in February 2019. These wells will be put in standby mode and will be excercised periodically.			Good
Rising Sun - Well #3	Town of Rising Sun				85-400 ft				Good
Rising Sun - Well #5	Town of Rising Sun				85-400 ft				Good
Rising Sun - Well #8	Town of Rising Sun				85-400 ft				Good
Rising Sun - Well #12	Town of Rising Sun				85-400 ft				Good

Note: The Town of Perryville (Susquehanna River) and Town of North East (North East Creek) do not use wells as a water source.
The Town of Port Deposit receives its water from the Susquehanna River. No wells are involved.
The Town of Chesapeake City receives its water from an Artesian Water pipeline.

Table 5

INVENTORY OF EXISTING RAW WATER IMPOUNDED SUPPLIES

Location	Dam Location	Crest Elevation (FT)	Spillway Length	Total Length of Dam (FT)	Height of Crest Above Stream Bed (FT)	Flood Area of Crest Elevation (Acres)	Length of Shore Line (Linear Feet)	Area of Land Owned (Acres)	Reservoir Capacity (MG)	Safe Yield (MG)	Average Daily Withdrawal (MGD)
Elkton	Big Elk Creek	12.75	--	105	6.75	--	--	--	*	--	1.5
North East	WTP site	--	5	30	8.9	1.7	830	17.5	2	-	1.2

* = Raceway 1.0 MG, plus 2 reservoirs 1.8 MG (Combined), (Red Hill Rd. - Rt. 281)

-- Data not available

Table 6 - Inventory of Existing Water Treatment Facilities

ARTESIAN WATER MARYLAND - COMMUNITY WATER SYSTEMS - EXISTING TREATMENT FACILITIES

System	Owner	Water Source	Type Treatment	Plant Location	Rated Plant Capacity (MGD)	Average Plant Capacity (MGD)	Max Peak Flow (MGD)	Storage Capacity	Planned Expansion (MGD) Dates	Method of Sludge Disposal	Operating Agency
Pine Hills	Artesian Water Maryland	Three Wells	Disinfection, pH adjustment, and corrosion inhibitor	94 Arbutus St, Elkton, MD	0.191	0.110	0.191	200,000 gallon standpipe	n/a	n/a	Artesian Water Maryland
Harbor View	Artesian Water Maryland	Three Wells	Disinfection, pH adjustment, and corrosion inhibitor	84 Basin Rd, Chesapeake City, Md	0.07	0.05	0.07	2 -5,000 gallon hydropneumatic tanks	n/a	n/a	Artesian Water Maryland
Meadowview	Artesian Water Maryland	Two Wells with AWC (3.0 MGD) and United (back-up) interconnections	Disinfection, pH adjustment, and corrosion inhibitor	235 Fletchwood Rd, Elkton, MD	0.185	0.185	0.275	800,000 gallon tank	2019	n/a	Artesian Water Maryland
Mountain Hill	Artesian Water Maryland	Three Wells	Disinfection, pH adjustment, and corrosion inhibitor	1875 W Old Philadelphia Rd, North East, MD	0.4	0.4	0.4	500,000 gallon elevated tank	1.0 (2019)	n/a	Artesian Water Maryland
Carpenters Point	Artesian Water Maryland	Three Wells	Disinfection, pH adjustment, and corrosion inhibitor	1595 Carpenters Point Rd, Perryville, MD	0.25	0.25	0.25	75,000 gallon elevated tank	1.0 (2019)	n/a	Artesian Water Maryland
Port Deposit	Artesian Water Maryland	Susquehanna River	Disinfection, pH adjustment, and corrosion inhibitor	401 N Main St, Port Deposit, MD	0.86	0.1	0.86	500,000 gallon elevated tank	See Note #1	n/a	Artesian Water Maryland
Chestnut Point Estates	Artesian Water Maryland	One well	Disinfection, pH adjustment, and corrosion inhibitor	35 White Oak Dr, Perryville, MD	0.012	TBD	0.018	18,000 gallon elevated tank	n/a	n/a	Artesian Water Maryland

Note #1
2023-2024 Design and Construct 1.0 MG Elvated Storage Tank

2023-2025 Design and Construct Phase 1 of new WTP
2026-2050 Construct additional treatement trains for WTP as required to meet demand

Table 6 - Inventory of Existing Water Treatment Facilities (page 2)

MUNICIPAL COMMUNITY WATER SYSTEMS - EXISTING TREATMENT FACILITIES

System	Owner	Water Source	Type Treatment	Plant Location	Rated Plant Capacity (MGD)	Average Plant Capacity (MGD)	Max Peak Flow (MGD)	Storage Capacity	Planned Expansion (MGD) Dates	Method of Sludge Disposal	Operating Agency
Cecilton	Town of Cecilton	Two wells	Catalytic sand media in two pressure filters.	233 S Bohemia Ave, Cecilton, MD	0.176	0.098	0.163	400,000 gallon elevated storage tank.	n/a	n/a	John Neddo
Elkton	Town of Elkton	Big Elk Creek Filter Plant	Coagulation, flocculation, tube settlers, mixed media filtration	109 Delaware Ave, Elkton, MD	2	1.5	2	See Section 3.2.6 of text for details	n/a	n/a	Inframark
Fair Hill State Park	State of Maryland	Wells	TBD	4493 Telegraph Rd, Elkton, MD	TBD	0.012	0.062	150,000 gallon elevated storage tank.	n/a	n/a	Maryland Environmental Service
North East	Town of North East	Rolling Mill Water Treatment Plant	two filter trains (provision for third)	39 Rolling Mill Ln, North East, MD	2	0.644	1.383	See Section 3.2.7 of text for details	n/a	n/a	EnTech Engineering
North East	Town of North East	Leslie Water Treatment Plant	chlorine dioxide, flocculators, and ultraviolet disinfection	39 N Leslie Rd, North East, MD	0.83	0.325	0.644	See Section 3.2.7 of text for details	n/a	n/a	EnTech Engineering
Charlestown	Town of Charlestown	Three wells	iron removal, pH adjustment, and disinfection	481 Frederick St, Charlestown MD	0.18	0.207	0.3	500,000 gallon elevated storage tank.	None	n/a	Miller Environmental
Perryville	Town of Perryville	Susquehanna Filtration Plant	Flocculation, membrane filtration, chlorine disinfection	1 Water Plant Dr, Perryville, MD	2	0.5	1	500,000 gallon tank at I-95 and a 1 million gallong tank adjacent to Hollywood Casino	Unknown	n/a	Town of Perryville
Rising Sun	Town of Rising Sun	Five wells	Water is purchased from Chester Water Authority	100 Dairy St, Rising Sun, MD	0.24	0.181	0.22	500,000 gallon elevated storage tank.	n/a	n/a	Town of Rising Sun

Table 6A - Private Community and Non-Community Water Supply Systems

Well Name	Well number(s)	Aquifer	Depth of well (feet)	Diameter of well (inches)	*Public water supply inventory number*	*Allocated average*	*Map*	*Parcel*	*Water use*
Alliant Techsystems Operations		Patuxent Formation			*1070052*	*40,000*	*26*	*127,482*	*Institutional Drinking/Sanitary*
Arrowhead Acres	CE945746	Nonmarine Cretaceous Aquifer	400	6	*70001*	*2,200*	*29*		*Trailer Park/Apartment Bldg/Condo*
Arrowhead Acres	CE660512	Nonmarine Cretaceous Aquifer	40	6					
Bay Country Estates	CE660196	James Run Formation	49	6	*70207*	*25,000*	*18*	*82,155,255*	*Trailer Park/Apartment Bldg/Condo*
Bay Country Estates	CE690306	James Run Formation	61	6					
Bay Country Estates	CE810212	James Run Formation	200	6					
Bay Country Estates	CE810015	James Run Formation	200	6					
Benjamin's Village/Homestead MHP	CE730335	Port Deposit Gneiss	90	15	*70209*	*20,900*	*23*	*240*	*Trailer Park/Apartment Bldg/Condo*
Benjamin's Village/Homestead MHP	CE660444	Port Deposit Gneiss	50	30	*70209*	*20,900*	*23*	*240*	*Trailer Park/Apartment Bldg/Condo*
Benjamin's Village/Homestead MHP	CE700157	Port Deposit Gneiss	96	10	*70209*	*20,900*	*23*	*240*	*Trailer Park/Apartment Bldg/Condo*
Benjamin's Village/Homestead MHP	CE730225	Port Deposit Gneiss	90	40	*70209*	*20,900*	*23*	*240*	*Trailer Park/Apartment Bldg/Condo*
Benjamin's Village/Homestead MHP	CE942983	Port Deposit Gneiss	80	50	*70209*	*20,900*	*23*	*240*	*Trailer Park/Apartment Bldg/Condo*
Brantwood Court MHP	CE952027	Lower Patapsco Aquifer	318	6		*2,000*	*38*	*197,317*	*Trailer Park/Apartment Bldg/Condo*
Brantwood Court MHP	CE881133	Lower Patapsco Aquifer	312	4					
Bright Tower Properties,LLC Apartments	CE882295	Patuxent Formation	105	6		*2,100*	*26*	*58*	*Trailer Park/Apartment Bldg/Condo*
Buttonwood Beach RV Resort	CE730885	Upper Patapsco Aquifer	120	8	*1071025*	*30,000*	*51*	*31*	*Recreational Drinking/Sanitary*
Buttonwood Beach RV Resort	CE730774	Upper Patapsco Aquifer	120	8					
Calvert Manor Healthcare Center	CE660030	Baltimore Gabbro Complex	158	6	*70206*	*10,700*	*11*	*139,140,*	*Institutional Drinking/Sanitary*

Calvert Manor Healthcare Center	CE812044	Baltimore Gabbro Complex	275	6					
Camp Shadowbrook Girl Scout Camp		Ultramafic And Gabbroic Rocks			*1071015*	*5,000*	*8*	*54,179,55*	*Recreational Drinking/Sanitary*
Cecil Manor Elementary Scool		James Run Formation			*1070007*	*4,000*	*21*	*173*	*Institutional Drinking/Sanitary*
Cecil Woods MHP	CE812944	Port Deposit Gneiss	200	50	*70244*	*30,200*	*25*	*731,110*	*Trailer Park/Apartment Bldg/Condo*
Cecil Woods MHP	CE880594	Port Deposit Gneiss	240	50					
Cecil Woods MHP	CE950646	Port Deposit Gneiss	300	30					
Cecil Woods MHP	CE950647	Port Deposit Gneiss	300	30					
Cecil Woods MHP	CE100074	Port Deposit Gneiss	300	UNK					
Cecil Woods MHP	CE100075	Port Deposit Gneiss	260	UNK					
Cecilton MHP	CE811703	Magothy Formation	325	4	*70236*	*4,000*	*63*	*49*	*Trailer Park/Apartment Bldg/Condo*
Cherry Hill Plaza	CE811134	Port Deposit Gneiss	160	6	*1071229*	*4,500*	*20*	*52*	*Commercial Drinking/Sanitary*
Cherry Hill Plaza	CE811747	Port Deposit Gneiss	225	6					
Cherry Hill Plaza	CE812286	Port Deposit Gneiss	175	6					
Cherry Wood Apartments		Port Deposit Gneiss				*9,600*	*20*	*821*	*Trailer Park/Apartment Bldg/Condo*
Chesapeake Estates MHP	CE952025	Upper Patapsco Aquifer	260	4	*70211*	*11,200*	*43*	*26*	*Trailer Park/Apartment Bldg/Condo*
Christopher Diebold Apartment	CE943012	Volcanic Complex Of Cecil County	500	10		*2,800*	*19*	*468*	*Trailer Park/Apartment Bldg/Condo*
Cinnamon Woods MHP	CE881737	Baltimore Gabbro Complex	250	6	*70246*	*31,600*	*8*	*87*	*Trailer Park/Apartment Bldg/Condo*
Cinnamon Woods MHP	CE881199	Baltimore Gabbro Complex	250	6					
College Crossing Shopping Center	CE946533	James Run Formation	200	6		*2,000*	*19*	*612*	*Commercial Drinking/Sanitary*
Conowingo MHP	CE710047	Baltimore Gabbro Complex	90	6	*70214*	*20,000*	*8*	*8*	*Private Water Supplier*
Conowingo MHP	CE732978	Baltimore Gabbro Complex	136	6					
Conowingo MHP	CE710046	Baltimore Gabbro Complex	120	6					
Conowingo Veteran's Center		Ultramafic And Gabbroic Rocks			*1071358*	*2,400*	*8*	*41*	*Trailer Park/Apartment Bldg/Condo*
Crab Shack		Potomac Group Deposits			*1071069*	*2,000*	*43*	*90*	*Commercial Drinking/Sanitary*
Craft Haven	CE732605	Patuxent Formation	79	4	*1071070*	*7,300*	*35*	*421*	*Commercial Drinking/Sanitary*

Craft Haven	CE690089	Patuxent Formation	67	unk					
Craft Haven	CE882600	Patuxent Formation	77	4					
Crystal Beach Manor	CE941759	Upper Patapsco Aquifer	215	4	*70008*	*32,000*	*56*	*109*	*Private Water Supplier*
Crystal Beach Manor	CE880737	Upper Patapsco Aquifer	220	6					
Elk Neck State Park Rogues Harbor/Wirstins		Nonmarine Cretaceous Aquifer			*1071167*	*21,000*	*45,46, 50*		*Recreational Drinking/Sanitary*
Elk View	CE027841	Lower Patapsco Aquifer	173	4	*70012*	*2,800*	*46*	*97*	*Private Water Supplier*
Elkside	CE710012	Lower Patapsco Aquifer	281	6	*70010*	*4,300*	*38*	*56*	*Private Water Supplier*
Elkton Christian School	CE810604	Baltimore Gabbro Complex	250	25	*1070014*	*3,300*	*27*	*855,713*	*Institutional Drinking/Sanitary*
Fair Hill State Park	CE945191	Port Deposit Gneiss	300	6	*1071278*	*12,000*	*13*	*385*	*Recreational Drinking/Sanitary*
Fair Hill State Park	CE944454	Port Deposit Gneiss	137	4					
Forest Green Court MHP	CE945911	Port Deposit Gneiss	520	6	*70217*	*23,300*	*26*	*12,535,293*	*Trailer Park/Apartment Bldg/Condo*
Golden Kay Apartments	CE810499	Patuxent Formation	101	6	*70202*	*5,600*	*26*	*62*	*Trailer Park/Apartment Bldg/Condo*
Graymount Apartments	CE945022	Potomac Group Deposits	112	4	*70203*	*3,500*	*26*	*63*	*Trailer Park/Apartment Bldg/Condo*
Highlands MHP	CE943377	Port Deposit Gneiss	400	20	*70247*	*21,000*	*23*	*153,165,89*	*Trailer Park/Apartment Bldg/Condo*
Highlands MHP	CE943437	Port Deposit Gneiss	400	15					
Highlands MHP	CE946364	Port Deposit Gneiss	UNK	UNK					
Highlands MHP	CE731763	Port Deposit Gneiss	200	6					
Highlands MHP	CE051217	Port Deposit Gneiss	UNK	UNK					
Highlands MHP	CE670179	Port Deposit Gneiss	80	6					
Indian Acres	CE880041	Magothy Formation	278	6	*1071115*	*90,000*	*62*	*9*	*Trailer Park/Apartment Bldg/Condo*
Indian Acres	CE946192	Magothy Formation	275	100					
Indian Acres	CE733504	Magothy Formation	278	6					
ISE America		Magothy Formation			*1070058*	*43,000*	*63*	*4*	*Food Processing (Onsite)*
Leeds Elementary School	CE670312	Port Deposit Gneiss	162	6	*1070020*	*2,700*	*20*	*418*	*Institutional Drinking/Sanitary*
Leeds Singerly, LLC Apartment complex		Port Deposit Gneiss				*2,400*	*20*	*763*	*Trailer Park/Apartment Bldg/Condo*

Maple Hill MHP	CE720222	Port Deposit Gneiss	56	50	*70223*	*18,100*	*23*	*344*	*Trailer Park/Apartment Bldg/Condo*
Maybelle Manor MHP	CE920286	Baltimore Gabbro Complex	500	15	*70248*	*7,500*	*8*	*82,109,144*	*Trailer Park/Apartment Bldg/Condo*
Maybelle Manor MHP	CE920287	Baltimore Gabbro Complex	500	13					
Misty Meadows 2	CE943438	Port Deposit Gneiss	500	12	*70249*	*9,000*	*23*	*617,465*	*Trailer Park/Apartment Bldg/Condo*
Mount Aviat Academy		Port Deposit Gneiss			*1070024*	*4,500*	*20*	*165*	*Educational Drinking/Sanitary*
North Bay Adventure Camp		Nonmarine Cretaceous Aquifer			*1071018*	*40,000*	*46*	*12*	*Institutional Drinking/Sanitary*
Oak Lane MHP	CE680096	Port Deposit Gneiss	200	6	*70226*	*6,500*	*23*	*301*	*Trailer Park/Apartment Bldg/Condo*
Oblates of St Francis-Blue Ball Rd	CE940582	James Run Formation	320	6	*1071359*	*4,000*	*26*	*9*	*Institutional Drinking/Sanitary*
Octoraro MHP	CE010616	Conowingo Diamictite	25	6	*70227*	*1,800*	*9*	*129*	*Trailer Park/Apartment Bldg/Condo*
Octoraro MHP	CE941959	Conowingo Diamictite	220	6					
Pleasant Hill MHP	CE670002	Port Deposit Gneiss	225	UNK	*70230*	*2,200*	*13*	*199*	*Trailer Park/Apartment Bldg/Condo*
Pleasant Hill MHP	CE650034	Port Deposit Gneiss	74	UNK	*70230*	*2,200*	*13*	*199*	*Trailer Park/Apartment Bldg/Condo*
Pleasant Hill MHP	CE882363	Port Deposit Gneiss	300	20	*70230*	*2,200*	*13*	*199*	*Trailer Park/Apartment Bldg/Condo*
Pleasant View Baptist Church	CE732374	Port Deposit Gneiss	125	6	*1070021*	*1,500*	*23*	*18,172,173*	*Institutional Drinking/Sanitary*
Port Herman Beach Condominium, Inc.	CE811191	Upper Patapsco Aquifer	386	6	*70027*	*7,600*	*37*	*313*	*Trailer Park/Apartment Bldg/Condo*
Port Herman Beach Condominium, Inc.	CE943495	Upper Patapsco Aquifer	70	6					
Prost German Restaurant	CE733737	Port Deposit Gneiss	300	6	*1071010*	*2,000*	*23*	*95,613*	*Commercial Drinking/Sanitary*
Recovery Centers of America	CE150194	Magothy Formation			*1070065*	*15,700*	*61*	*12*	*Institutional Drinking/Sanitary*
Recovery Centers of America	CE150195	Magothy Formation							
Rising Sun Elementary School	CE881478	Lower Pelitic Schist Of Wissahickon Formation	575	6	*1070027*	*5,400*	*10*	*360*	*Institutional Drinking/Sanitary*

Rising Sun Elementary School	CE029199	Lower Pelitic Schist Of Wissahickon Formation	162	8					
Rising Sun High School	CE880687	Wissahickon Formation	140	6	*1070044*	*9,300*	*12*	*357*	*Institutional Drinking/Sanitary*
Rock Creek MHP	CE700253	James Run Formation	168	6	*70233*	*20,000*	*19*	*280, 313*	*Trailer Park/Apartment Bldg/Condo*
Rock Creek MHP	CE881135	James Run Formation	148	6					
Rock Creek MHP	CE690035	James Run Formation	63	6					
Rock Creek MHP	CE690326	James Run Formation	207	6					
Rock Creek MHP	CE710229	James Run Formation	150	8					
Rock Creek MHP	CE731009	James Run Formation	UNK	UNK					
Rock Creek MHP	CE733059	James Run Formation	UNK	UNK					
Rock Creek MHP	CE813647	James Run Formation	380	6					
Rock Creek MHP	CE710111	James Run Formation	145	6					
Rock Creek MHP	CE710157	James Run Formation	105	6					
Rock Creek MHP	CE882380	James Run Formation	450	6					
Rodney Scout Camp	CE690267	Lower Patapsco Aquifer	130	8	*1071123*	*8,300*	*41*	*89*	*Recreational Drinking/Sanitary*
Rodney Scout Camp	CE002124	Lower Patapsco Aquifer							
Rodney Scout Camp	CE950982	Lower Patapsco Aquifer	174	6					
Rodney Scout Camp	CE812235	Lower Patapsco Aquifer	174	8					
S And Y Properties, LLC Apartments & store		Nonmarine Cretaceous Aquifer				*1,800*	*25*	*225*	*Trailer Park/Apartment Bldg/Condo*
Sandy Cove		Nonmarine Cretaceous Aquifer			*1070053*	*46,000*	*36*	*148,381,*	*Institutional Drinking/Sanitary*
Sandy Hill Camp	CE940609	Lower Patapsco Aquifer	300	6	*1071141*	*9,900*	*46*	*15*	*Institutional Drinking/Sanitary*
Shelter Cove Marina	CE943119	Patuxent Formation	not drilled		*1071238*	*3,900*	*36*	*349*	*Private Water Supplier*
Shelter Cove Marina	CE732771	Patuxent Formation	92	6					
Sherwood Forest/Forest View Village MHP	CE813025	Potomac Group Deposits	120	4	*70250*	*25,400*	*32*	*23*	*Private Water Supplier*
Sherwood Forest/Forest View Village MHP	CE813024	Potomac Group Deposits	120	4					
Skipjack Cove Marina	CE881048	Magothy Formation	289	6	*1071239*	*8,500*	*67*	*3*	*Commercial Drinking/Sanitary*
Skipjack Cove Marina	CE881084	Magothy Formation	267	6					
Skipjack Cove Marina	CE881085	Magothy Formation	330	4					
Timber Grove MHP	CE880238	Baltimore Gabbro Complex	160	6	*70245*	*7,800*	*3*	*29*	*Private Water Supplier*
Town & Country MHP	CE660547	Patuxent Formation	71	UNK	*70235*	*36,000*	*25*	*486*	*Trailer Park/Apartment Bldg/Condo*
Town & Country MHP	CE731092	Patuxent Formation	50	6					

Triton Marina	CE952503	Lower Patapsco Aquifer	145	4	*1071343*	*6,100*	*37*	*368*	*Commercial Drinking/Sanitary*
Triton Marina	CE733064	Lower Patapsco Aquifer	127	4					
Union Hotel Restaurant	CE881574	Port Deposit Gneiss	149	6	*1071194*	*1,700*	*22*	*55*	*Commercial Drinking/Sanitary*
Villages of North East		Nonmarine Cretaceous Aquifer	**not built**		*70033*	*170,000*	*36*	*76*	*Private Water Supplier*
Walter Cleveland Clark III Mobile home park		Baltimore Gabbro Complex				*1,500*	*23*	*28*	*Trailer Park/Apartment Bldg/Condo*
Warwick Mushroom Farm	CE952677	Magothy Formation	340	4	*1070062*	*139,000*	*58*	*16*	*Institutional Drinking/Sanitary*
Weaver's Apartments	CE670277	Potomac Group Deposits	102	15	*70242*	*3,300*	*25*	*571,557,*	*Trailer Park/Apartment Bldg/Condo*
Weaver's Apartments	CE690309	Potomac Group Deposits	57	6					
Weaver's Apartments	CE730615	Potomac Group Deposits	85	6					
Weaver's Apartments	CE011227	Potomac Group Deposits	UNK	UNK					
West Nottingham Academy	CE053998	Port Deposit Gneiss	92	10	*70204*	*10,000*	*17*	*3*	*Institutional Drinking/Sanitary*
West Nottingham Academy	CE930222	Port Deposit Gneiss	200	12	*70204*	*10,000*	*17*	*3*	*Institutional Drinking/Sanitary*
West Nottingham Academy	CE054001	Port Deposit Gneiss	40	20	*70204*	*10,000*	*17*	*3*	*Institutional Drinking/Sanitary*
West Nottingham Academy	CE942513	Port Deposit Gneiss	200	150	*70204*	*10,000*	*17*	*3*	*Institutional Drinking/Sanitary*
West Nottingham Academy	CE032198	Port Deposit Gneiss	88	25	*70204*	*10,000*	*17*	*3*	*Institutional Drinking/Sanitary*
West Nottingham Academy	CE880873	Port Deposit Gneiss	270	32	*70204*	*10,000*	*17*	*3*	*Institutional Drinking/Sanitary*
Whispering Pines MHP	CE730101	Patuxent Formation	125	30	*70213*	*13,000*	*32*	*172*	*Trailer Park/Apartment Bldg/Condo*
Whispering Pines MHP	CE730323	Patuxent Formation	129	6					
Whispering Pines MHP	CE700084	Patuxent Formation	136	4					
Whispering Pines MHP	CE731638	Patuxent Formation							
Williams MHP	CE680162	James Run Formation	122	6	*70238*	*6,000*	*29*	*76*	*Trailer Park/Apartment Bldg/Condo*
Williams MHP	CE710242	James Run Formation	72	4					
Williams MHP	CE943439	James Run Formation	600	2					
Williams MHP	CE943483	James Run Formation	450	2.5					
Williams MHP	CE946502	James Run Formation	600	3					
Williams MHP	CE950759	James Run Formation	540	5					
WL Gore at Fair Hill	CE733228	Sykesville Formation	280	6	*1070047*	*5,000*	*6*	*33*	*Institutional Drinking/Sanitary*

Woodlands Camping Resort	CE880357	Nonmarine Cretaceous Aquifer	232	6	*1071208*	*4,800*	*32*	*94*	*Recreational Drinking/Sanitary*
Woodlands Camping Resort	CE710290	Nonmarine Cretaceous Aquifer	159	6					
Woodlawn MHP-new	CE670286	Port Deposit Gneiss	113	UNK	*70239*	*18,000*	*23*	*250,12,291*	*Trailer Park/Apartment Bldg/Condo*
Woodlawn MHP-new	CE733840	Port Deposit Gneiss	300	UNK	*70239*	*18,000*	*23*	*250,12,291*	*Trailer Park/Apartment Bldg/Condo*
Woodlawn MHP-old	CE732988	Port Deposit Gneiss	137	6	*70241*	*7,000*	*23*	*P/O12,466*	*Trailer Park/Apartment Bldg/Condo*
Woodlawn MHP-old	CE730731	Port Deposit Gneiss	165	6					
Woodlawn MHP-old	CE008498	Port Deposit Gneiss	84	6					

Table 7 - Inventory of Water Problem Areas

Location	Population	Nature of Problem	Planned Correction
West Nottingham Academy	250	Compliance history suggests frequent exceedances of nitrate in groundwater. In 2017, it was as high as 15.3 mg/L. In addition, elevated levels of naturally occuring radiation/gross alpha. Lead and copper has also been an issue.	Recommend consolidation by connecting to a public water system
Rising Sun Elementary School	726	High nitrate in groundwater and occasional operational/MCL violation.	Recommend consolidation by connecting to a public water system
Benjamin's and Homestead Manufactued Home Parks	300	Inadequate water availability, Low Pressure, Lack of Storage Capacity	Unknown
William's Manufactured Home Park (Jackson Station Road, 1.5 miles from Rt 40)	90	Low Pressure, Lack of Storage Capacity, Also Dry Summers Reduce Water Supply	New Wells or Connect to Perryville Water Supply
Harbor View	300	Low Fire Flow Available	Unknown
Whispering Pines Manufactured Home Park (Rt. 7 between North East and Elkton)	300	Long-term Drought Might Require Third Well	Unknown
Elkton (Maloney Road*)	80	Private Shallow Wells Becoming Dry	Unknown
Port Deposit (Granite Road Area)	-	Low Fire Flow Available	Unknown
Elkton (Dogwood Road area)	180	Failing septic systems	Unknown
Elkton (Farr Creek)	65	Inadequate wells	Unknown
Elkton (Red Hill Road)	70	Failing septic systems	Unknown
Courthouse Point	-	Well water contamination due to dredge containment areas.	Unknown
Area southeast of the Telegraph Rd / Wilson Rd intersection	-	Known groundwater contamination (nitrates)	6-10 years (W-5 service category)

* = Maloney Road is not in the Town of Elkton service area at the present time

-- Data not available

Table 8 - Immediate, 5 and 10 Year Priorities for Water Development

Artesian Water Maryland System

				Estimated Costs*			Project Status Construction Start	
Fiscal Year and Project Number	**County Priority Assigned**	**Coordinate Location**	**Description**	**Total**	**Federal and/or State**	**Local**	**Immediate Priority Projects**	**5 and 10 Year Period Projects**
Elkton West/Meadowview								
2019	n/a	n/a	Water main extension to Belle Hill Area - includes MDTA crossing under Rt. 95	n/a	$0.00	$0.00	2019	
2020	n/a	n/a	Water main extension and associated infrastructure from Highlands to Aston Point area	n/a	$0.00	$0.00	2020	
2022	n/a	n/a	Water Main Extension and associated infrastructure from Cherry Hill booster station to Heron Lake area	n/a	$0.00	$0.00		2022
Pine Hills								
2023	n/a	n/a	Develop well site on Old Field Road (Cooke parcel) and add water main extension from Rte 7/40 to well site and to Pine Hills WTP					2023
Mountain Hill & Carpenters Point								
2021	n/a	N685464.986 E1591842.419	Redrill/replace Well #3 at Carpenters Point	n/a	$0.00	$0.00	2021	
2021	n/a	N697722.3646 E1594640.7406	Drill additional wells at Mountain Hill	n/a	$0.00	$0.00	2021	
2022	n/a	N691911.922 E1592485.477	Interconnect Carpenters Point and Mt. Hill Systems	n/a	$0.00	$0.00		2022
2028	n/a	Carpenters Point Road	Interconnect Carpenters Point/Mt. Hill System with Meadowview System	n/a	$0.00	$0.00		2028
2028	n/a	N710374.034 E1558324.812	Interconnect system with Port Deposit System	n/a	$0.00	$0.00		2028

Port Deposit								
2019	n/a	Port Deposit	Expansion of Existing WTP to 1.1 MGD	n/a	$0.00	$0.00	2019-2020	
2019	n/a	Bainbridge	Construct new pump station and tank complex at Bainbridge	n/a	$0.00	$0.00	2019-2020	
2020	n/a	Bainbridge	Construct Bainbridge WTP	n/a	$0.00	$0.00	2020-2021	
2021	n/a	Port Deposit	Upgrade intake from Susquehanna	n/a	$0.00	$0.00	2021-2022	
2021	n/a	Port Deposit	Convert existing treatment plant to pump station	n/a	$0.00	$0.00	2021-2022	
2021	n/a	Port Deposit	20" Raw water main rehabilitation and/or replacement	n/a	$0.00	$0.00	2021-2022	

Incorporated Towns

				Estimated Costs*			Project Status Construction Start	
Fiscal Year and Project Number	**County Priority Assigned**	**Location**	**Description**	**Total**	**Federal and/or State**	**Local**	**Immediate Priority Projects**	**5 and 10 Year Period Projects**
Charlestown								
2022	n/a	Cool Springs Rd	Additional facilities (i.e. elevated storage tank) upon the build-out of the Cool Springs subdivision	n/a	n/a	n/a	2022	
2023-2028	n/a	Carpenters Point Rd	Interconnection with Artesian's Carpenters Point water system	n/a	n/a	n/a		2023-2028
Chesapeake City								
2019	n/a	Augustine Herman Hwy	Construction of 300,000 gallon elevated storage tank on Bohemia Manor High School property	n/a	n/a	n/a	2019	
2022	n/a	Bethel Rd	Extend service to Chesapeake Estates MHP	n/a	n/a	n/a	2022	

Elkton								
2019	n/a	Town of Elkton	Improvements associated with Wells 2R, 4, and 5 (see text for details)	n/a	n/a	n/a	2019	
North East								
2019-2022	n/a	96 Irishtown Rd	Irishtown Road booster pump station rehabilitation	n/a	n/a	n/a	2019-2022	
2019-2022	n/a	39 Rolling Mill Ln and 39 N Leslie Rd	Powder activated carbon additions at both water treatment plants	n/a	n/a	n/a	2019-2022	
2019-2023	n/a	various locations	Install tank mixers in finished water storage tanks	n/a	n/a	n/a	2019-2022	
2019-2024	n/a	various locations	SCADA upgrades	n/a	n/a	n/a	2019-2022	
2019-2025	n/a	39 Rolling Mill Ln	Replace Rolling Mill finished water booster pump station	n/a	n/a	n/a	2019-2022	
2019-2026	n/a	39 N Leslie Rd	Dredge raw water pond at Leslie water treatment plant	n/a	n/a	n/a	2019-2022	
2019-2027	n/a	463 Razor Strap Rd	Razor Strap Road booster pump station rehabilitation	n/a	n/a	n/a	2019-2022	
Perryville								
2020	n/a	1 Water Plant Dr	Expand the Susquehanna WTP to a 2.0 mgd facility	n/a	n/a	n/a	2020	
Rising Sun								
2019-2021	n/a	Town of Rising Sun	Replace 10,000 linear feet of of 4 inch water lines throughout the water distribution system.	$1.9 million	n/a	n/a	2019-2021	
2020-2022	n/a	North side of town	Construction of a second 500,000 gallon water storage tank	n/a	n/a	n/a	2020-2022	

Table 9 - Projected Sewerage Demands and Planned Capacity

Name	Treatment	2017			2020		
		Population Served	ADF (MGD)	Capacity (MGD)	Population Served	ADF (MGD)	Planned Capacity (MGD)
Cecilton	SBR	675	0.068	0.100	762	0.08	0.100
Cherry Hill	ext. aer., fil., chem	648	0.070	0.250	726	0.073	0.250
Chesapeake City	activated sludge	700	0.109	0.163	736	0.119	0.3
Elk Neck State Park	biol. & UV disinfection	Seasonal	0.015	Permit 0.060 Design 0.108	Seasonal	0.015	Permit 0.060 Design 0.108
Elkton	oxidation ditch reactor	15,744	1.906	3.200	18,356	2.04	3.2
Harborview	ext. aer.	329	0.033	0.065	322	0.033	0.10
Meadowview *(includes Highlands as of 2015)*	orbital w/disk filter, UV	2,946	0.327	1.000	3,178	0.4576	1.00
North East River Adv. WWTP *(capacity includes prop. Elkton West for 2020)*	oxidation ditch - 4 stage bandenpho, UV	13,430	1.143	2.000	17,901	2.6	3.7
Perryville	SBR	4,419	0.810	1.650	5,236	0.81	1.650
Port Deposit	biol., chem.	767	0.077	0.150	825	0.082 MGD (residential); 0.160 MGD (comm/industrial); 0.242 MGD total	0.25
Rising Sun	orbital disk	2,799	0.240	0.500	3,094	0.31	0.50

Table 9 - Projected Sewerage Demands and Planned Capacity

Name	Treatment	2030			2040		
		Population Served	ADF (MGD)	Planned Capacity (MGD)	Population Served	ADF (MGD)	Planned Capacity (MGD)
Cecilton	SBR	864	0.09	0.10	959	0.10	0.10
Cherry Hill	ext. aer., fil., chem	Conveyed to Meadowview			Conveyed to Meadowview		
Chesapeake City	SBR / ENR	849	0.137	0.3	941	0.152	0.3
Elk Neck State Park	biol. & UV disinfection	Seasonal	0.015	Permit 0.060 Design 0.108	Seasonal	0.015	Permit 0.060 Design 0.108
Elkton	oxidation ditch reactor	21,506	2.35	3.2	23,912	2.59	3.2
Harborview	ext. aer.	335	0.034	0.10	347	0.036	0.10
Meadowview *(capacity includes ex. Highlands and Cherry Hill WWTP, and prop. Elkton West for 2030 & 2040)*	orbital w/disk filter, UV	4,379	0.4877	1.00	4,812	0.5174	1.00
North East River Adv. WWTP *(capacity includes prop. Elkton West for 2030 & 2040)*	oxidation ditch - 4 stage bandenpho, UV	22,535	3.4	3.7	26,288	3.96	3.7
Perryville	SBR	6,127	0.81	1.650	6,578	0.81	1.650
Port Deposit	biol., chem.	1,045	0.11 MGD (residential); 0.180 MGD (comm/industrial) 0.29 MGD total	0.4	1,149	0.12 MGD (residential); 0.2 MGD (comm/industrial) 0.32 MGD total	0.4
Rising Sun	orbital disk	3,594	0.36	0.50	4,273	0.42	0.50

Table 9 Notes:

1) Port Deposit's 2020 planned capacity is based on the 250,000 gpd figure for the new Port Deposit WWTP under construction at the Bainbridge site.

2) Port Deposit's 2020 average daily flow was calculated by taking the estimated amount of residential use (0.082 MGD) and adding the estimated amount of commercial/industrial use (160,000 gpd). The .16 MGD gpd commercial/industrial estimate includes the potential location of a large commercial facility on the Bainbridge site. The resulting estimated average flow is the combination of residential (0.082) and commercial (0.16 MGD) use. 0.082 MGD + 0.16 MGD = 0.242 MGD

3) For the 2030 and 2040 Port Deposit population and ADF estimates, the projections assume that development in Bainbridge begins to happen. The figures assume that residential growth happens in accordance with the projections in Table 1. Commercial growth, after an initial surge, is expected to happen at a slower pace.

4) In 2030, the planned capacity (MGD) of the Port Deposit WWTP will need to increase to accommodate projected flows. Module expansions of the plant happen in 0.15 MGD capacity increments.

5) Please see Table 1 for details regarding how the population served for each wastewater treatment plant was calculated.

Table 10 - Inventory of Existing Sewage Treatment Plants

Facility Name	*State Discharge Permit #*	*NDPES #*	*Owner*	*Treatment type*	*Coordinates*	*Point of discharge*	*Existing Capacity (MGD)*	*Average flow (MGD)*	*Peak Flow (MGD)*	*Abandonment Date*	*Operating Agency*
Army Corps of Engineers, Chesapeake City Project Office	14-DP-2524	MD0020206	US Army Corps of Engineers	tank, sand filter, UV disinfection	39°31'36" (N), 75°48'30" (W)	Back Creek	0.002	0.001	Unknown	None	US Army Corps of Engineers
Bohemia Bay	12-DP-3528	MD3528H05	Bohemia Bay Yacht Harbour Condominium Association, Inc.	aerobic treatment	39°29'17" (N), 75°53'46" (W)	Subsurface drainfield	0.004032	Unknown	Unknown	None	Yacht Harbour Condominium Association, Inc.
Camp Shadowbrook	07-DP-1237	MD0053139	Girl Scouts of Central Maryland	tank, sand filter, UV disinfection	39°41'51" (N), 76°11'36" (W)	Conowingo Creek	0.004	0.0031	Unknown	None	Unknown
Cecilton	12-DP-0111	MD0020443	Town of Cecilton	SBR, screen, sand filter, chlorination, dechlorination	39°24'45" (N), 75°51'31" (W)	Black Duck Creek	0.1	0.067	Unknown	None	Unknown
CECO Utilities	08-DP-0783	MD0023108	CECO Utilities, Inc	Secondary stabilization, lagoon	39.651388 (N) 75.845875 (W)	Dogwood Run	0.035	0.034	0.136	2019	Unknown
Cherry Hill	11-DP-1206	MD0052825	Cecil County DPW	screen, flow splitter tank, two package activated sludge, sand filter, UV unit	39° 39.74’ (N) 75° 51.47 ’ (W)	Tributary to Little Elk Creek	0.25	0.063	0.25	None	Cecil County DPW
Chesapeake City-North	13-DP-0155	MD0020401	Town of Chesapeake City	packaged activated sludge w/ aerobic digestion & sludge drying beds	39°31'46" (N), 75°48'45.5" (W)	C&D Canal	0.075	Unknown	Unknown	None	Unknown
Chesapeake City-South	13-DP-0143	MD0020397	Town of Chesapeake City	packaged activated sludge w/ aerobic sludge digestion & sludge drying beds	39°31'42.9"(N), 75°48'52.9" (W)	C&D Canal	0.088	Unknown	Unknown	None	Unknown
Cinnamon Woods	12-DP-2599	MD0069949	Catalyst Group L.P.	MBR followed by microfiltration & UV disinfection	39° 40’ 49” (N) 76° 10’ 29” (W)	Tributary through Funk's Pond to Susquehanna River	0.022	Unknown	Unknown	None	Unknown

Conowingo Mobile Home Court	12-DP-3762	MD0071374	Mobile Realty 2 LLC	MBR, UV disinfection	39° 40' 38.8" (N) 76° 11' 17.2" (W)	Tributary to Susquehanna River	0.029265	Unknown	Unknown	None	Unknown
Donaldson Brown Center (previously "Mount Ararat Farm")	13-DP-0251	MD0054950	University of Maryland, Baltimore	Imhoff tank, sand filter, & UV disinfection	39° 35’ 39” (N) 76° 06’ 08” (W)	Happy Valley Branch to Susquehanna River	0.005	Unknown	Unknown	None	Unknown
Elk Neck State Park	10-DP-0749	MD0023833	Elk Neck State Park	membrane bioreactor, sequencing batch reactor, denitrification filters, multi-staged activated sludge processes, Bardenpho	39° 28' 27.18" (N) 75° 58' 15.78" (W)	Elk River	0.06	0.02	0.044	None	MES
Elkton	13-DP-0671	MD0020681	Town of Elkton	oxidation ditch followed by post-anoxic & reaeration tanks, clarifiers, upflow filters, UV disinfection	39° 36' 04" (N) 75° 50' 03" (W)	Big Elk Creek	3.2	1.8	Unknown	None	Unknown
Forest Green Court MHP	12-DP-1252	MD0053279	Garden Homes Management Corporation	Lagoon treatment with aeration, chlorination, & de-chlorination	39° 37' 45" (N) 75° 53' 43" (W)	Laurel Run	0.027	0.0075	Unknown	None	Unknown
Harbor View	14-DP-0496	MD0024023	Cecil County DPW	Activated sludge package plant, screen, aeration tank, secondary clarifier, chlorination and dechlorination	39° 37' 45" (N) 75° 53' 43" (W)	Elk River	0.065	0.017	0.065	None	Cecil County DPW
Homestead Mobile Estates	06-DP-1033	MD0024961	Pinkard Properties, LLC	activated sludge, aeration, secondary clarifier, filter, chlorine & dechlorination, and digesters.	39° 37' 05" (N) 76° 03' 15" (W)	Rock Run	0.04	Unknown	Unknown	None	Unknown
Maybelle Manor MHP	12-DP-3259	MD3259H98	Mobile Realty 4, LLC	* To be treated at combined Conowingo Mobile Home Court wastewater treatment system						2019-2020	Mobile Realty 2, LLC
Maple Hill MHP	15-DP-1241	MD0053171	Homestead MHP, LLC	SBR, septic tank & fill tank	39° 37’ 55” (N) 76° 05’ 06” (W)	Tributary of Nesbitt Run	0.025	0.025	Unknown	None	Unknown
Meadowview	14-DP-0643	MD0022641	Cecil County DPW	BNR , orbital oxidation ditch, clarifiers, filters, UV disinfection, post aeration.	39° 39’ 14.4” (N) 75° 47’ 52.8” (W)	W Branch Christina River	0.7	0.337	1.34	None	Cecil County DPW

North East (NERAWWTP)	15-DP-1082	MD0052027	Cecil County DPW	mechanical screen, tank, oxidation ditch, ENR & membrane filtration, UV disinfection.	39° 33’ 51.32” (N) 75° 59’ 11.012” (W)	North East River	2	1.1	4.4	None	Cecil County DPW
Perryville	11-DP-0572	MD0020613	The Mayor & Commissioners of Perryville	SBR, screen, compactor unit, aeration blowers, alum feeder, tank, filter, UV disinfection, cloth disk filters, denitrification filters	39° 33’ 28” (N) 76° 03’ 51” (W)	Mill Creek into Furnace Bay	1.65	0.785	Unknown	None	Unknown
Port Deposit	12-DP-0114	MD0020796	Cecil County DPW	Activated sludge; screening, aeration, clarification, chlorination and de-chlorination.	39° 35’ 52” (N) 75° 06’ 32” (W)	Susquehanna River	0.15	0.031	0.12	None	Cecil County DPW
Recovery Centers of America	16-DP-3835	MD3835H16	Recovery Centers of America	MBR	39° 23’ 37” (N) 75° 55’ 56” (W)	Subsurface drainfield	0.02	Unknown	Unknown	None	RCA
Rising Sun	15-DP-0107	MD0020265	Town of Rising Sun	lagoon, UV disinfection, ENR: mechanical screen, orbital reactor, clarifier, filter, post aeration	39° 42’ 29.6” (N) 76° 4’ 46.15” (W)	Stone Run	0.5	0.24	Unknown	None	Unknown
Sandy Cove/ Morning Cheer	13-DP-1108	MD0052299	Morning Cheer Inc/ Sandy Cove Ministries	Screen, tanks, membrane filters, permeate control/backwash system & two UV disinfection systems	39° 32’ 26.4” (N) 75° 58’ 5.8” (W)	North East River	0.1	Unknown	Unknown	None	Unknown
Sandy Hill Camp	14-DP-3426	MD3426H07	Sandy Hill Holdings, LLC	aerobic treatment	39°29'50"N, 75°57'00"W	Subsurface drainfield	0.0063	Unknown	Unknown	None	Sandy Hill Holdings, LLC
Triumph Industrial Park	08-DP-0233	MD0024929	Triumph Indusrial Park, Inc.	aerated lagoon system with disinfection by ozone, UV disinfection	39.615° (N) 75.856° (W)	Little Elk Creek	0.625	Unknown	Unknown	None	Unknown
West Nottingham Academy	09-DP-2359	MD0062359	West Nottingham Academy	SBR	39.666912 (N) 76.081381 (W)	Subsurface drainfield	0.009121	Unknown	Unknown	None	WNA
Woodlawn Mobile Home Estates	12-DP-0629	MD0023337	Woodlawn Estates, LLC	septic system, aerated lagoon, filter, wet well, UV disinfection	39° 37.811” (N) 76° 3.945’ (W)	Tributary to Principio Creek	0.054	0.02	Unknown	None	Unknown

Table 10A - Inventory of Select Single Lot Large Flow Sewerage Systems

Name/Location	Facility type	Number of Sites Served	Treatment	Average Daily flow (MGD)	Treatment Capacity (MGD)	Point of discharge	*Acct #*	*Community(C)/ Multiuse(M) / Mobile Home Park (P) (see Note #1)*
Bay Country Estates (Ebenezer Church Rd)	Mobile Home Park	117	septic tank	0.02	0.04	Subsurface drainfield	*0805013100*	*C, M, P*
Beacon Hill Heights MD Rte 7	Mobile Home Park	6	septic tank	0.00132	0.0018	Subsurface drainfield	*0805026466*	*P*
Brantwood Court MHP MD Rte 213	Mobile Home Park	10	septic tank	0.0022	0.003	Subsurface drainfield	*0802009684*	*P*
Cecilton Manor MHP MD Rte282	Mobile Home Park	20	septic tank	0.002	0.005	Subsurface drainfield	*0801033018*	*M, P*
Chesapeake Estates MHP Buddy Blvd	Mobile Home Park	58	septic tank	0.05	0.08	Subsurface drainfield	*0802008548*	*M, P*
Clark's Mobile Home Village Cokesbury Rd	Mobile Home Park	7	septic tank	0.00154	0.0021	Subsurface drainfield	*0807002750*	*P*
Coklash MHP Mountain Rd	Mobile Home Park	3	septic tank	0.00066	0.0009	Subsurface drainfield	*0806004636*	*P*
Crystal Beach Manor Sect. E Earleville	Mobile Home Park	58	septic tank	0.0075	0.01	Subsurface drainfield	*0801024221*	*M, P*
Elkview Shores MHP & Camp Elkview Shores Rd	Mobile Home Park and Camp	255	septic tank	0.0561	0.0615	Subsurface drainfield	*0801008730*	*C, M, P*
Forest View Village MD Rte 7	Mobile Home Park	58	septic tank	0.01	0.02	Subsurface drainfield	*0803009475*	*C, M, P*
Graybeal's Trailer Park Craigtown Rd	Mobile Home Park	3	septic tank	0.00066	0.0009	Subsurface drainfield	*0807005059*	*P*
H&A Trailer Park Cokesbury Rd	Mobile Home Park	3	septic tank	0.00066	0.0009	Subsurface drainfield	*0807027923*	*P*
Highlands MHP Craigtown Rd	Mobile Home Park	60	Septic tank	0.008	0.01	Subsurface drainfield	*0807009704*	*M, P*
Jenifer & Son MHP Cokesbury Rd	Mobile Home Park	2	septic tank	0.00044	0.0006	Subsurface drainfield	*0807006624*	*P*
Knowles MHP Arbour Dr	Mobile Home Park	12	septic tank	0.00264	0.0036	Subsurface drainfield	*0805034744*	*P*
Misty Meadows MHP (I & II) MD Rte 275 & Craigtown Rd	Mobile Home Park	72	septic tank	0.0158	0.0216	Subsurface drainfield	*0807035705*	*C, M, P*
Oak Lane MHP Doctor Jack Rd	Mobile Home Park	40	septic tank	0.002	0.01	Subsurface drainfield	*0806019056*	*C, M, P*
Oakwood MHP Oakwood Rd	Mobile Home Park	11	septic tank	0.00242	0.0033	Subsurface drainfield	*0808005567*	*P*
Octoraro MHP US Rte 1	Mobile Home Park	11	septic tank	0.00242	0.0033	Subsurface drainfield	*0808006423*	*P*
Pauline Cash MHP Cokesbury Rd	Mobile Home Park	4	septic tank	0.00088	0.0012	Subsurface drainfield	*0807002475*	*P*

Pleasant Hill Mobile Manor Kirk Rd	Mobile Home Park	24	septic tank	0.0053	0.0072	Subsurface drainfield	*0804018796*	*M, P*
Peyton Place Park Surrey Ln (Chesapeake City)	Mobile Home Park	6	septic tank	0.00132	0.0018	Subsurface drainfield	*0802007940*	*P*
Pine Bluff Terrace MHP MD Rte 7	Mobile Home Park	4	septic tank	0.00088	0.0012	Subsurface drainfield	*0805074932*	*P*
Rock Creek MHP Stoney Chase Drive	Mobile Home Park	20	septic tank	0.0044	0.0060	Subsurface drainfield	*0805055768*	*M, P*
Running Brook MHP MD Rte 275	Mobile Home Park	24	septic tank	0.0053	0.0072	Subsurface drainfield	*0807009690*	*C, M, P*
Sherwood Forest MHP MD Rte 7	Mobile Home Park	70	septic tank, fixed activated sludge	0.0154	0.0210	Subsurface drainfield	*0803020193*	*M, P*
Stoney Chase MHP Stoney Chase Dr	Mobile Home Park	85	septic tank	0.0187	0.0255	Subsurface drainfield	*0805035449*	*M, P*
Timber Grove MHP Red Pump Rd	Mobile Home Park	38	septic tank	0.0084	0.0114	Subsurface drainfield	*0806016200*	*M, P*
Whispering Pines MHP Circle Ave	Mobile Home Park	106	septic tanks	0.0233	0.0318	Subsurface drainfield	*0805044685*	*M, P*
White Crystal Beach MHP and Camp White Crystal Beach Rd	Mobile Home Park and Camp	86	septic tank	0.0189	0.0258	Subsurface drainfield	*0801010751*	*C, M, P*
Williams MHP Jackson Station Rd	Mobile Home Park	29	septic tank	0.0064	0.0087	Subsurface drainfield	*0807044259*	*M, P*
Bainbridge Elementary 41 Preston Drive	School	410	septic tank		0.00615	Subsurface drainfield	*0807026846*	*C*
Conowingo Elementary 471 Rowlandsville Rd	School	567	septic tank		0.009	Subsurface drainfield	*0808009597*	*C*
Elk Neck Elementary 41 Racine School Rd	School	430	septic tank		0.011	Subsurface drainfield	*0805092442*	*C*
Leeds Elementary 615 Deaver Rd	School	411	septic tank		0.00625	Subsurface drainfield	*0803056872*	*C*
Rising Sun Elementary 500 Hopewell Rd	School	669	septic tank		0.0132	Subsurface drainfield	*0806025544*	*C*
Rising Sun High 100 Tiger Dr	School	1177	septic tank		0.03	Subsurface drainfield	*0809014551*	*C*
Buttonwood Beach RV Resort Earleville	Camp	537	septic tank		0.093975	Subsurface drainfield (see Note #2)	*0801020714*	*C*
Grove Point Girl Scout Camp Grove Point Rd	Camp	250	septic tank		0.04375	Subsurface drainfield	*0801027689*	*C, M*
Indian Acres campground Knights Island Rd	Camp	2161	septic tank		0.378175	Subsurface drainfield	*0801012894*	*C, M*
Rodney Scout Camp Boy Scout Camp Rd	Camp	160	septic tank		0.028	Subsurface drainfield	*0805060656*	*C, M*
Woodlands Campground 265 Starkey Ln	Camp	158	septic tank		0.02765	Subsurface drainfield	*0803029034*	*M*
Calvert Manor 1881 Telegraph Rd	Nursing Home	144 beds	aerobic tank		0.028	Subsurface drainfield	*0809001077*	*C, M*

Graymount Apartments 718 W Pulaski Hwy	Housing	17 units	septic tank		0.0051	Subsurface drainfield	*0803030180*	*M*
Golden Kay Apartments 728 W Pulaski Hwy	Housing	20 units	septic tank		0.006	Subsurface drainfield	*0803030172*	*M*
Oblates of St Francis 1120 Blue Ball Rd	Housing	62 beds	septic tank		0.00774	Subsurface drainfield	*0803023664*	*M*
Port Herman Condos Port Herman Dr	Housing	40 units	septic tank		0.0099	Subsurface drainfield	*0802028786*	*C, M*
Villas at Port Herman	Housing	5 units	septic tank		0.00225	Subsurface drainfield	*0802038528*	*C*
Blair Shore	Housing	37 units	septic tank		0.0111	Subsurface drainfield	*0802004879*	*M*
Pleasure Shores	Housing	39 units	septic tank		0.0117	Subsurface drainfield	*0802016192*	*M*
Lewis Shores	Housing	22 units	septic tank		0.0066	Subsurface drainfield	*0802012391*	*M*
Fair Hill NRMA Telegraph Rd	Mixed	condos, houses, offices, other	septic tank		over 0.01 (see Note #3)	Subsurface drainfield	*0804021266*	*C,M*
Wesley's Restaurant 3700 Telegraph Rd	Mixed	restaurant & apartments	septic tank		0.0101	Subsurface drainfield	*0804008448*	*C, M*
Granary Restaurant	Mixed	restaurant, marina, store	septic tank		0.0096	Subsurface drainfield	*0801012444*	*M*

Notes:

1) Community = more than 1 parcel, Multi-use = over 5,000 gpd

2) 76 separate sewage systems

3) Not possible to quantify, but it includes over 26 condos, several offices, over 12 homes, and the Fairgrounds and race track.

Cecil County, Maryland - 2018 Master Water & Sewer Plan
Table 11 - Inventory of Sewage Problem Areas

#	Location (Service Area)	Problem description	# of residences	# of businesses and/or institutional uses	Population	Acres	Treatment Capacity	Treatment Demand	Planned correction
1	Boat Yard Rd, Chesapeake City, MD	Failing septics, high water, clay	7	0	19	7.67	NA	NA	Extend public sewer from Chesapeake City WWTP
2	South of Chesapeake City, MD (Augustine Herman Hwy, Basil Ave, Randalia Rd, Chestnut Springs Rd, etc)	Failing septics: high water, clay	149	39	402	1280.17	NA	NA	Extend public sewer from Chesapeake City WWTP
3	Reserved for future use								
4	Dogwood Rd & Blueball Rd, Elkton, MD	Failing septics: high water, clay	128	10	346	396.73	NA	NA	Provide sanitary sewer service via Elkton West franchise area
5	Reserved for future use								
6	Eastwoods (Maloney Rd, Elkton, MD)	Failing septics: high water	89	2	240	256.00	NA	NA	None (at this time)
7	Farr Creek (Elkton, MD)	Failing septics: high water	47	1	127	150.32	NA	NA	Public sewer extension (Elkton)
8	Frenchtown Rd & Lewis Shore Rd (east of Route 213, Elkton, MD)	Failing septics: high water	153	9	413	986.42	NA	NA	None (at this time)
9	Harrisville, Rising Sun, MD	Failing septics: high water, clay	42	4	113	40.47	NA	NA	None (at this time)
10	Holloway Beach, Charlestown, MD	Failing septics: high water	66	0	178	28.72	NA	NA	Public sewer extension (NERA WWTP)
11	Johnstown Rd & vicinity (Elkton, MD)	Failing septics: high water, clay	53	3	143	188.61	NA	NA	Public sewer extension (Cherry Hill WWTP)
12	Locust Point (Blair Shore Rd, Borens Shore, Elkside Rd, etc), Elkton, MD	Failing septics: high water	105	0	284	161.94	NA	NA	None (at this time)
13	Red Hill Road & Delancy Rd, Elkton, MD	Failing septics: high water, clay	23	0	62	100.26	NA	NA	Public sewer extension (Elkton)
14	Blythedale Rd and vicinity, Perryville, MD	Failing septics: high water, clay	78	5	211	196.97	NA	NA	Public sewer extension (Perryville)
15	Rock Run Rd, Port Deposit, MD	Failing septics: rock, stream	14	0	38	5.80	NA	NA	Public sewer extension (Port Deposit)
16	Union Church Rd and vicinity, Elkton, MD	Failing septics: high water, clay	204	13	551	1029.85	NA	NA	None (at this time)
17	Red Point, North East, MD	Failing septics: high water, clay	147	0	397	90.98	NA	NA	See Section 4.1.10B of plan
18	Reserved for future use								

Cecil County, Maryland - 2018 Master Water & Sewer Plan
Table 11 - Inventory of Sewage Problem Areas (page 2)

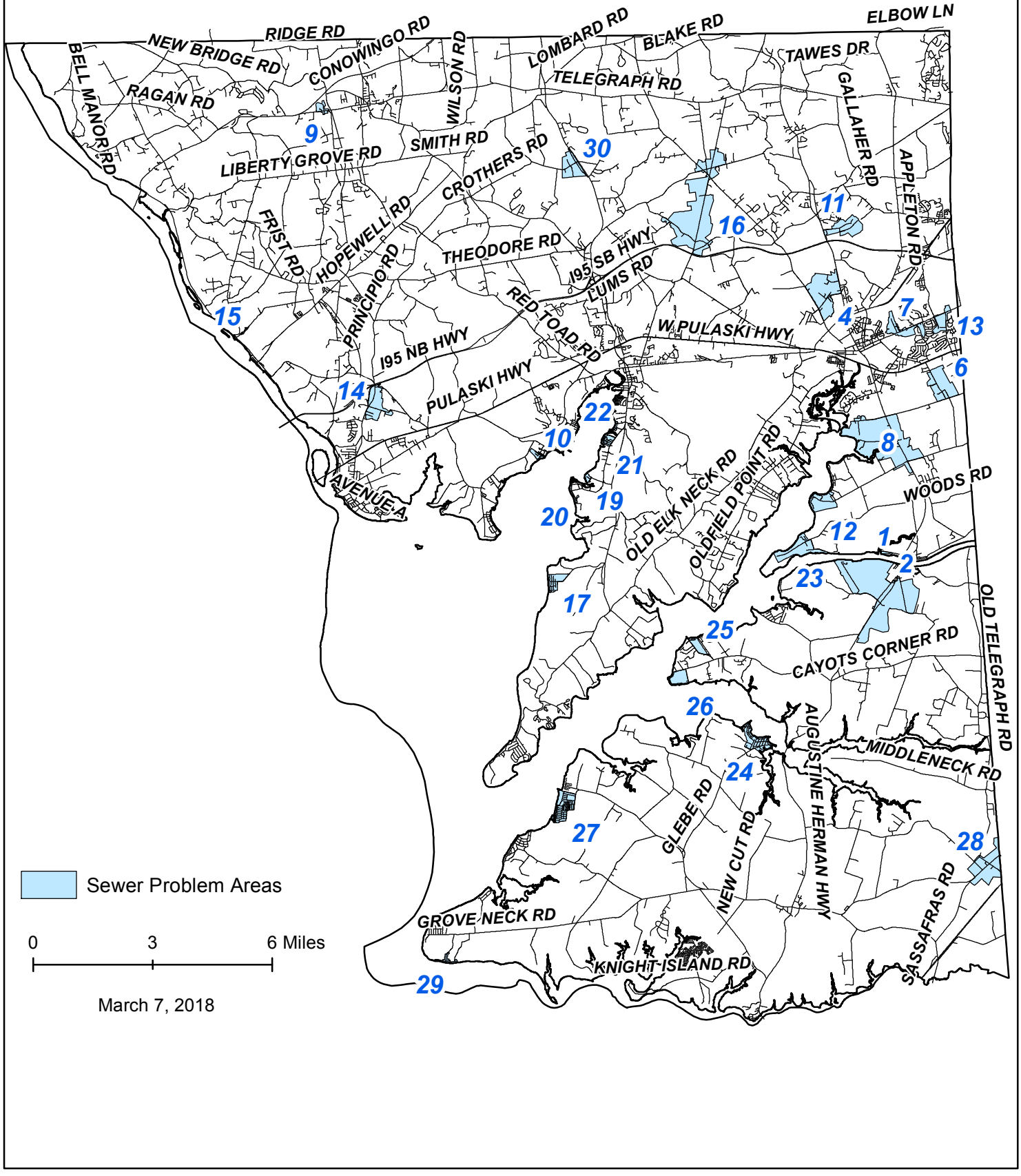
#	Location (Service Area)	Problem description	# of residences	# of businesses and/or institutional uses	Population	Acres	Treatment Capacity	Treatment Demand	Planned correction
19	Plum Shore, North East, MD	Failing septics: high water	17	0	46	16.09	NA	NA	None (at this time)
20	Hances Point, North East, MD	Failing septics: high water	47	0	127	18.65	NA	NA	None (at this time)
21	North East Heights, North East, MD	Failing septics: high water, clay	61	1	165	42.66	NA	NA	None (at this time)
22	West Shady Beach RD, North East, MD	Failing septics: high water	19	0	51	9.00	NA	NA	Public sewer extension (NERA WWTP)
23	Elk Forest Rd, Elkton, MD	Failing septics: high water, clay	89	0	240	218.97	NA	NA	None (at this time)
24	Hacks Point, Earleville, MD	Failing septics: high water, clay	298	5	805	161.93	NA	NA	None (at this time)
25	Pleasure Shores, Chesapeake City, MD	Failing septics: high water	39	0	105	56.99	NA	NA	None (at this time)
26	Town Point, Chesapeake City, MD	Failing septics: high water	35	0	95	94.88	NA	NA	None (at this time)
27	Crystal Beach, Earleville, MD	Failing septics: small lots, clay	518	2	1,399	187.60	NA	NA	None (at this time)
28	Village of Warwick, Warwick, MD	Failing septics: high water	114	7	308	321.80	NA	NA	None (at this time)
29	Cheshaven, Earleville, MD	Failing septics: high water	44	0	119	27.71	NA	NA	None (at this time)
30	Village of Zion, North East, MD	Failing septics: high water, clay	88	9	238	167.11	NA	NA	None (at this time)

Notes:

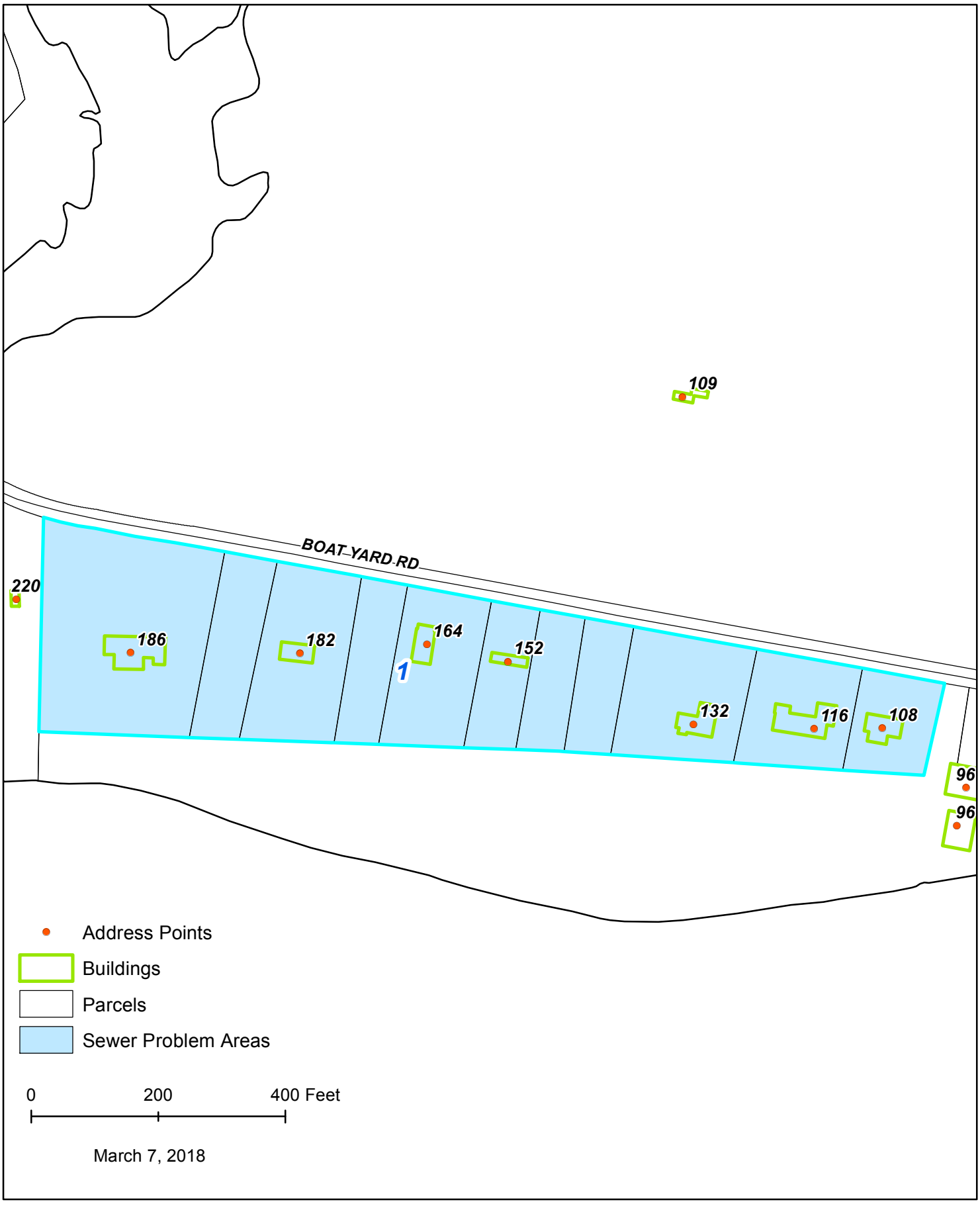
1) Population figures are based on the 2.7 persons per household average listed in the 2010 U.S. Census.

2) Treatment capacity and treatment demand are specific to problems associated with inadequate portions of community systems.
An example would be an undersized sanitary sewer trunk line collecting sewage in a specific area.
Since this table lists areas experiencing problems with individual onsite septic systems, both items are listed as "Not Applicable" (NA) in both columns.

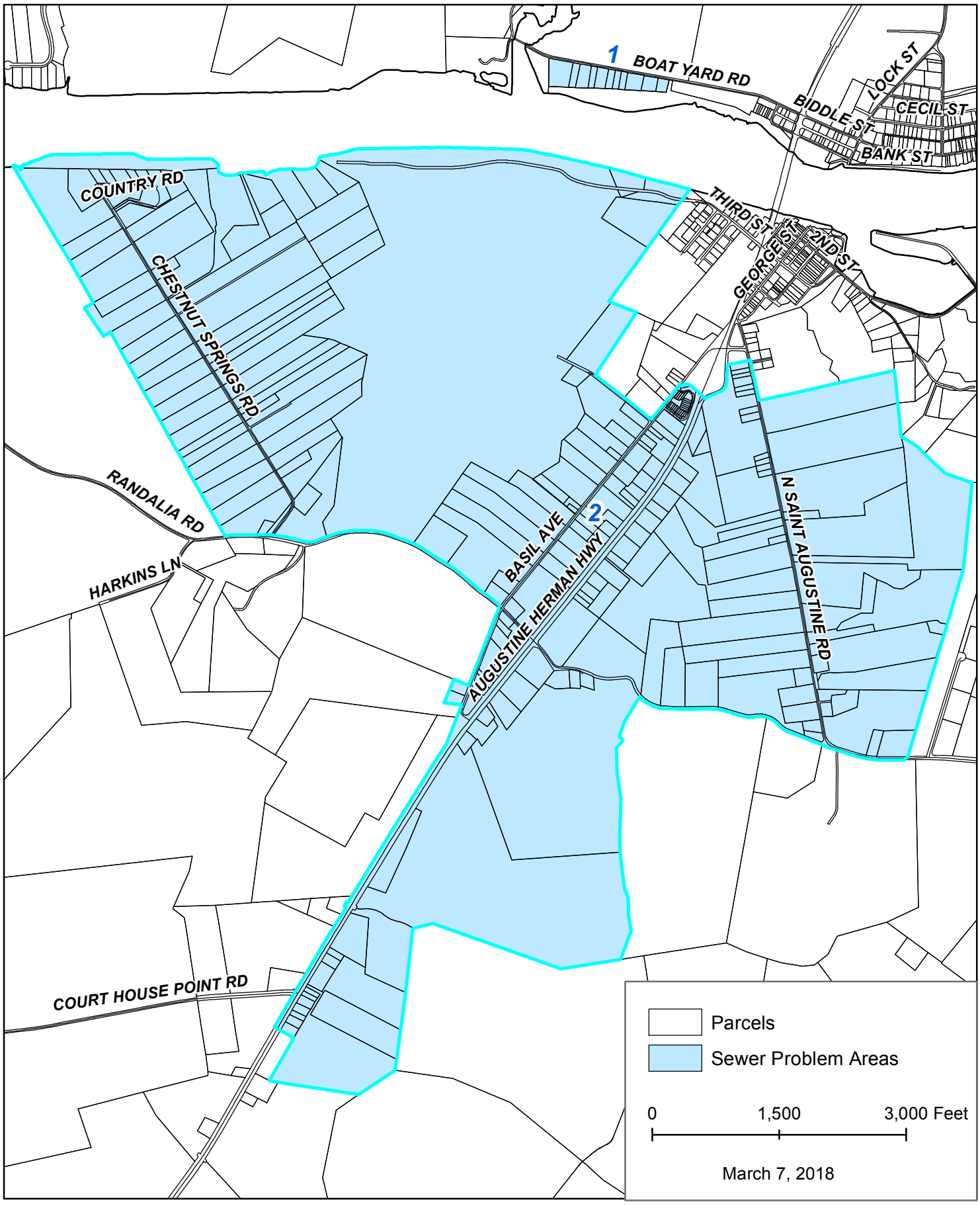
Cecil County 2018 Master Water & Sewer Plan
Table 11 - Inventory of Sewage Problem Areas



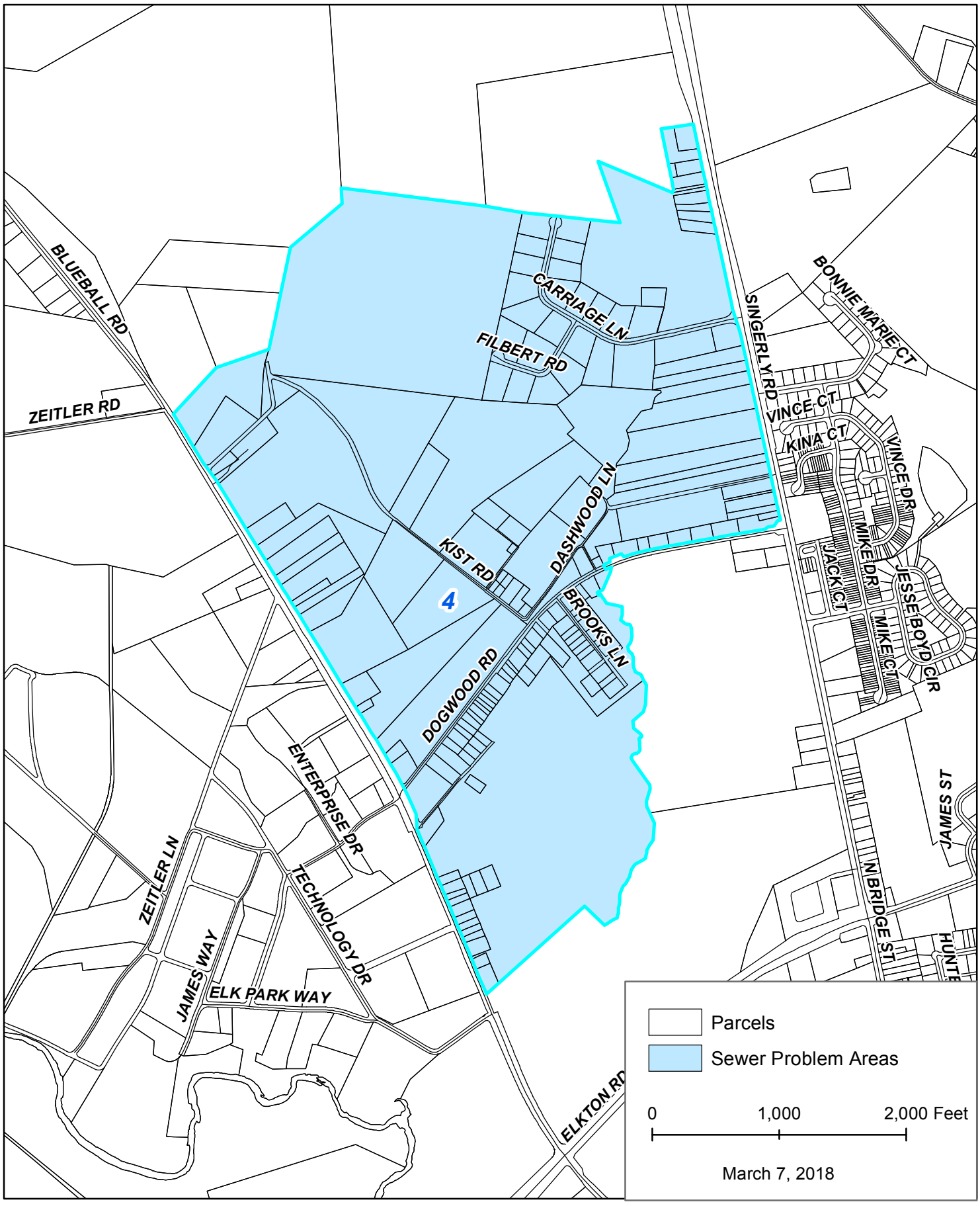
Cecil County 2018 Master Water & Sewer Plan
Table 11 - Inventory of Sewage Problem Areas
Area #1 - Boat Yard Rd, Chesapeake City, MD



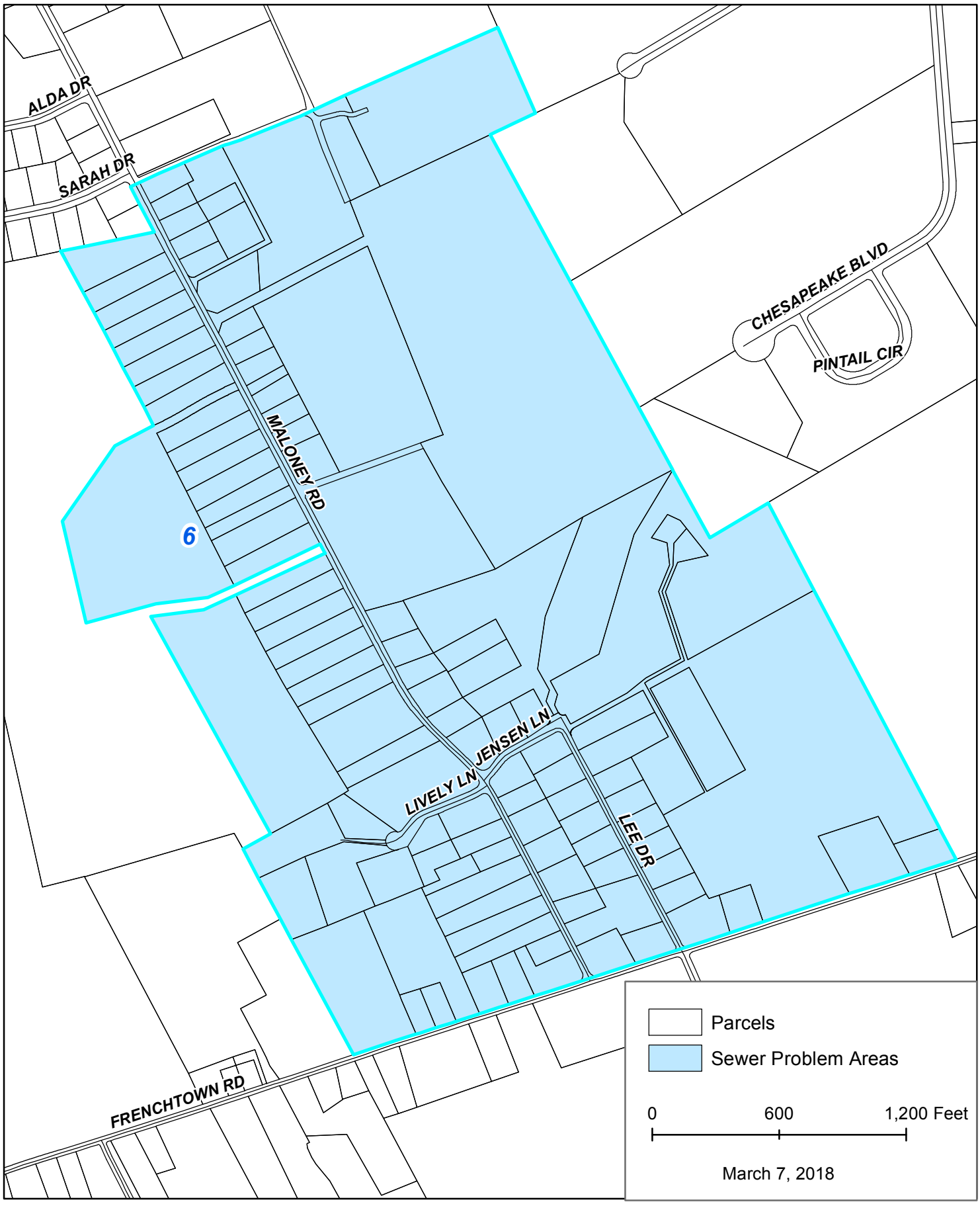
Cecil County 2018 Master Water & Sewer Plan
Table 11 - Inventory of Sewage Problem Areas
Area #2 - South of Chesapeake City, MD



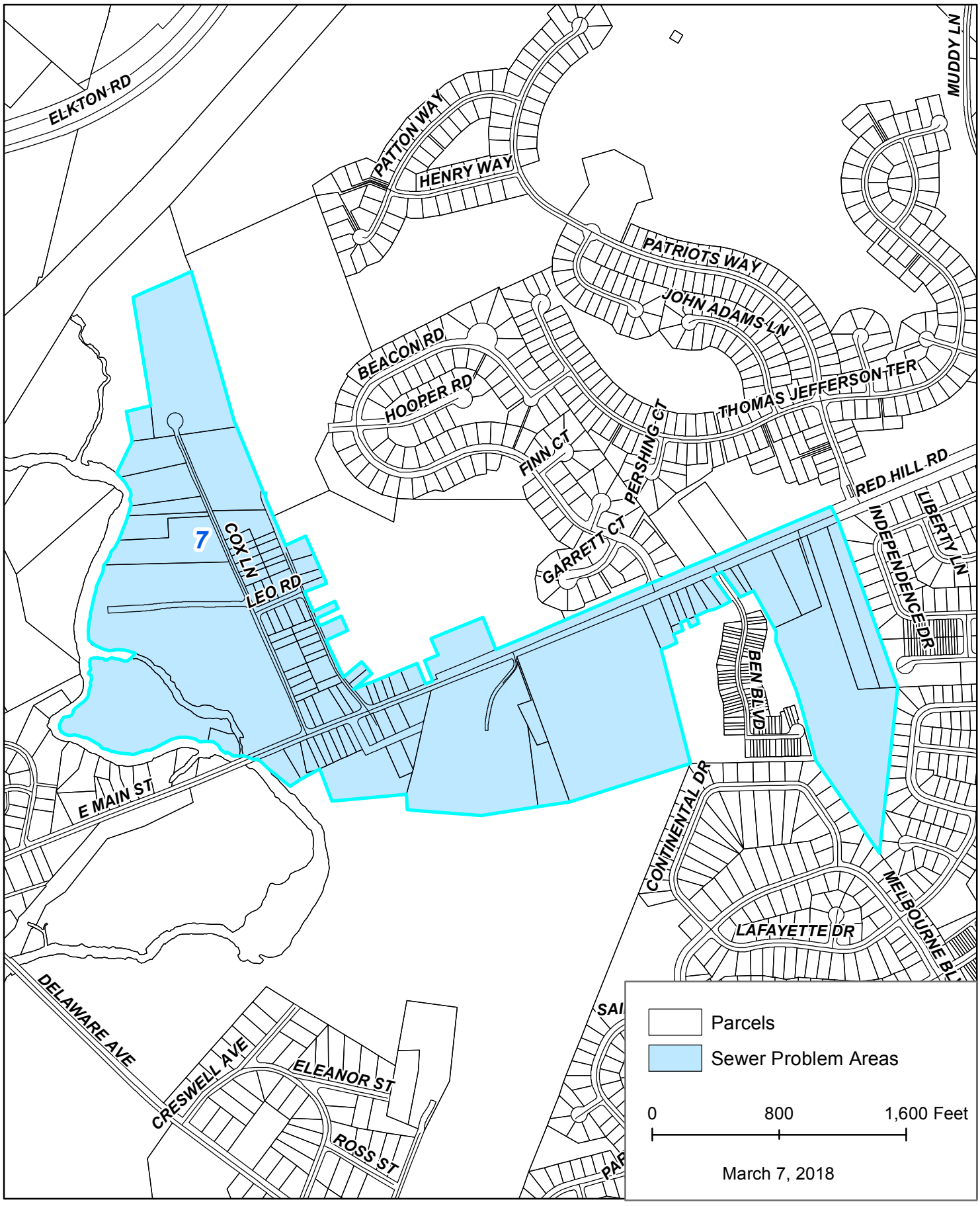
Cecil County 2018 Master Water & Sewer Plan
Table 11 - Inventory of Sewage Problem Areas
Area #4 - Dogwood Rd & Blueball Rd, Elkton, MD



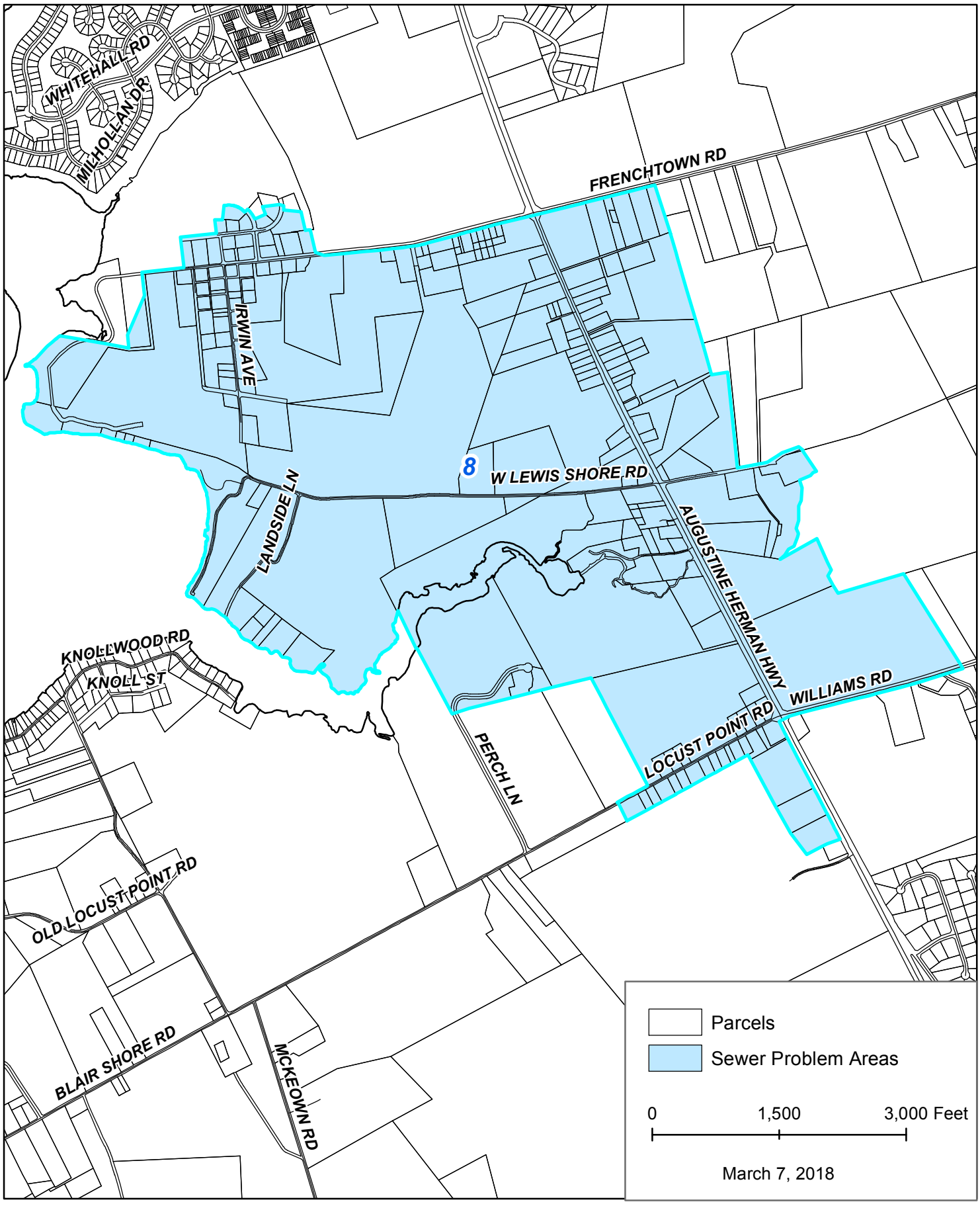
Cecil County 2018 Master Water & Sewer Plan
Table 11 - Inventory of Sewage Problem Areas
Area #6 - Eastwoods (Maloney Rd, Elkton, MD)



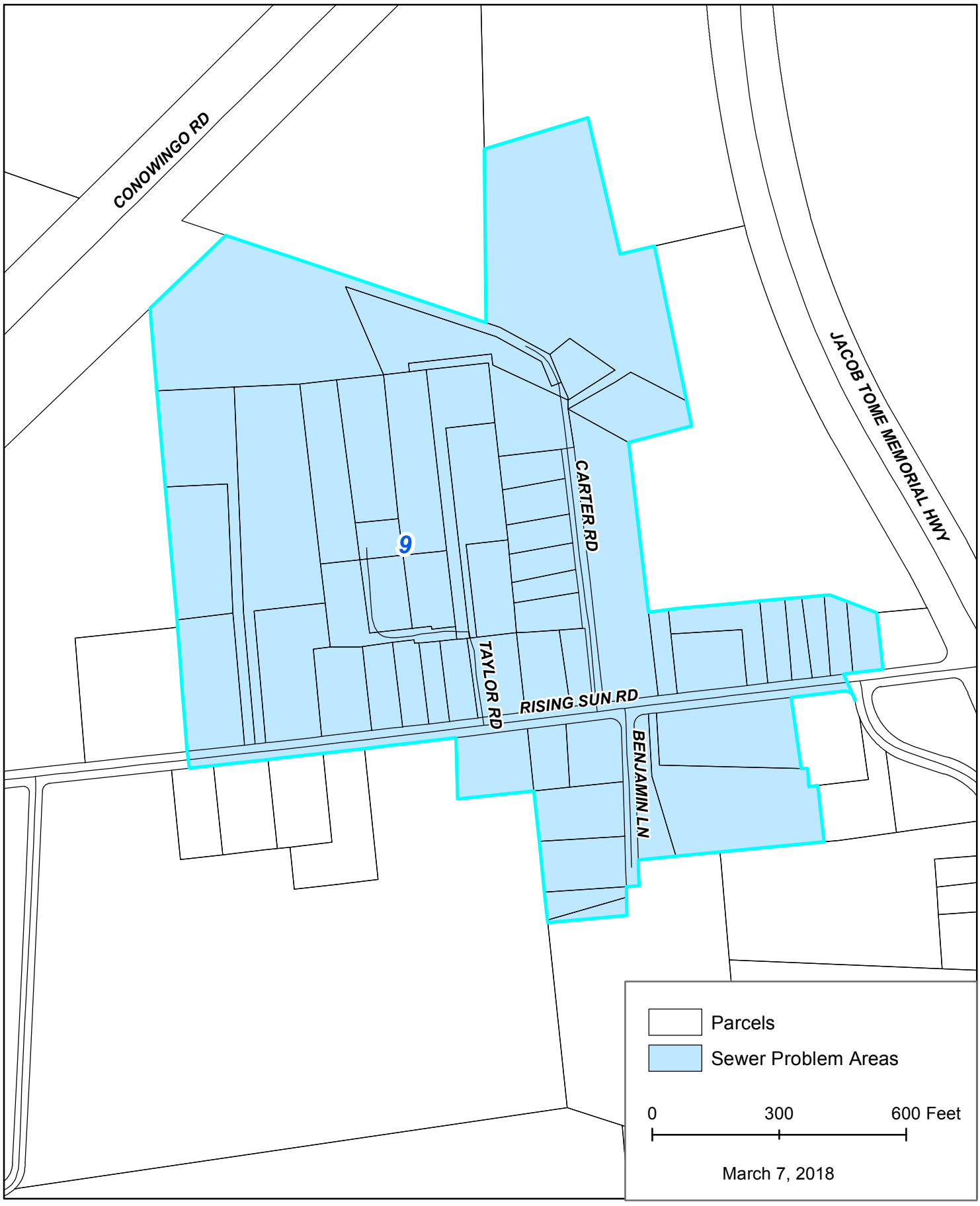
Cecil County 2018 Master Water & Sewer Plan
Table 11 - Inventory of Sewage Problem Areas
Area #7 - Farr Creek (Elkton, MD)



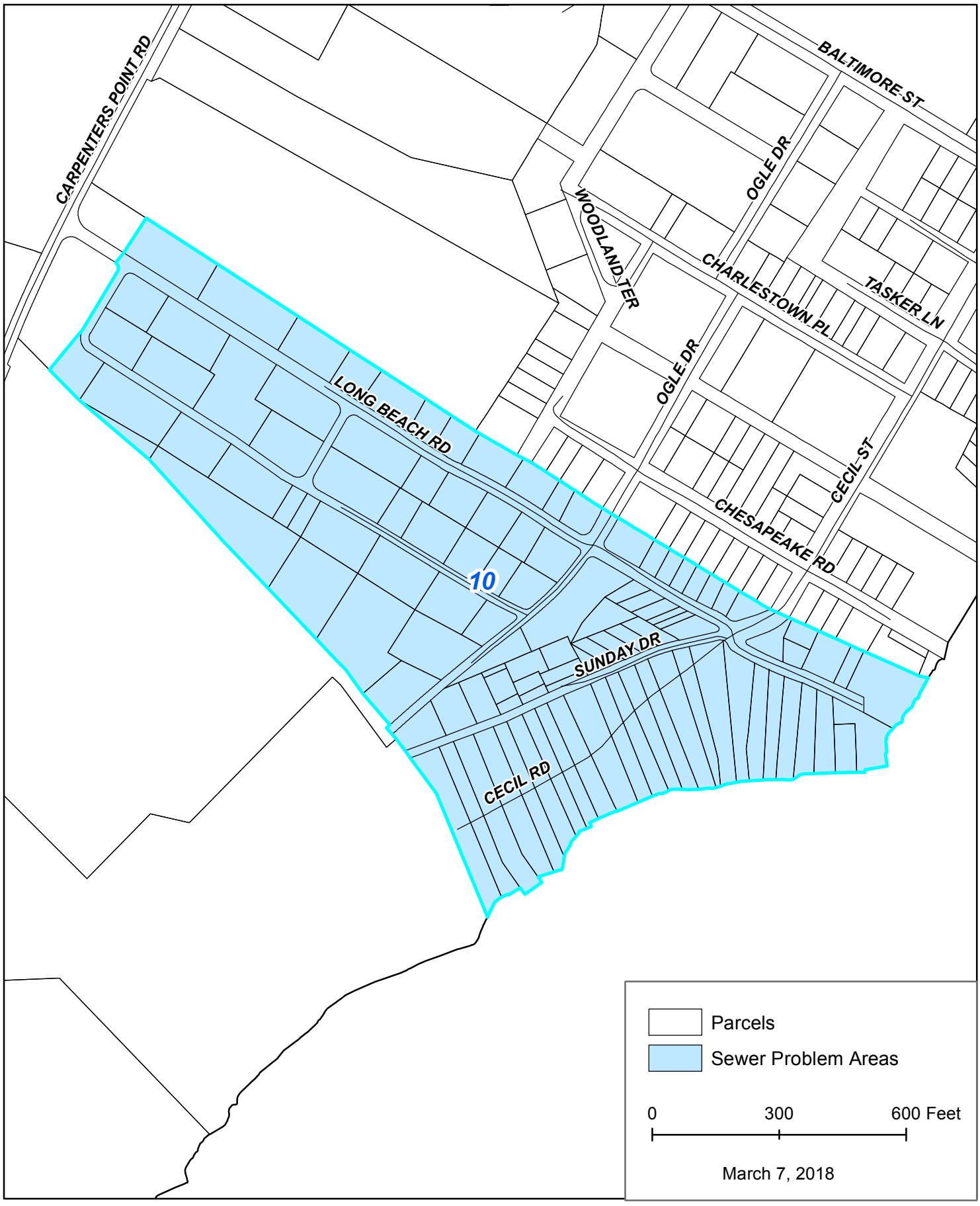
Cecil County 2018 Master Water & Sewer Plan
Table 11 - Inventory of Sewage Problem Areas
Area #8 - Frenchtown Rd & Lewis Shore Rd (Elkton, MD)



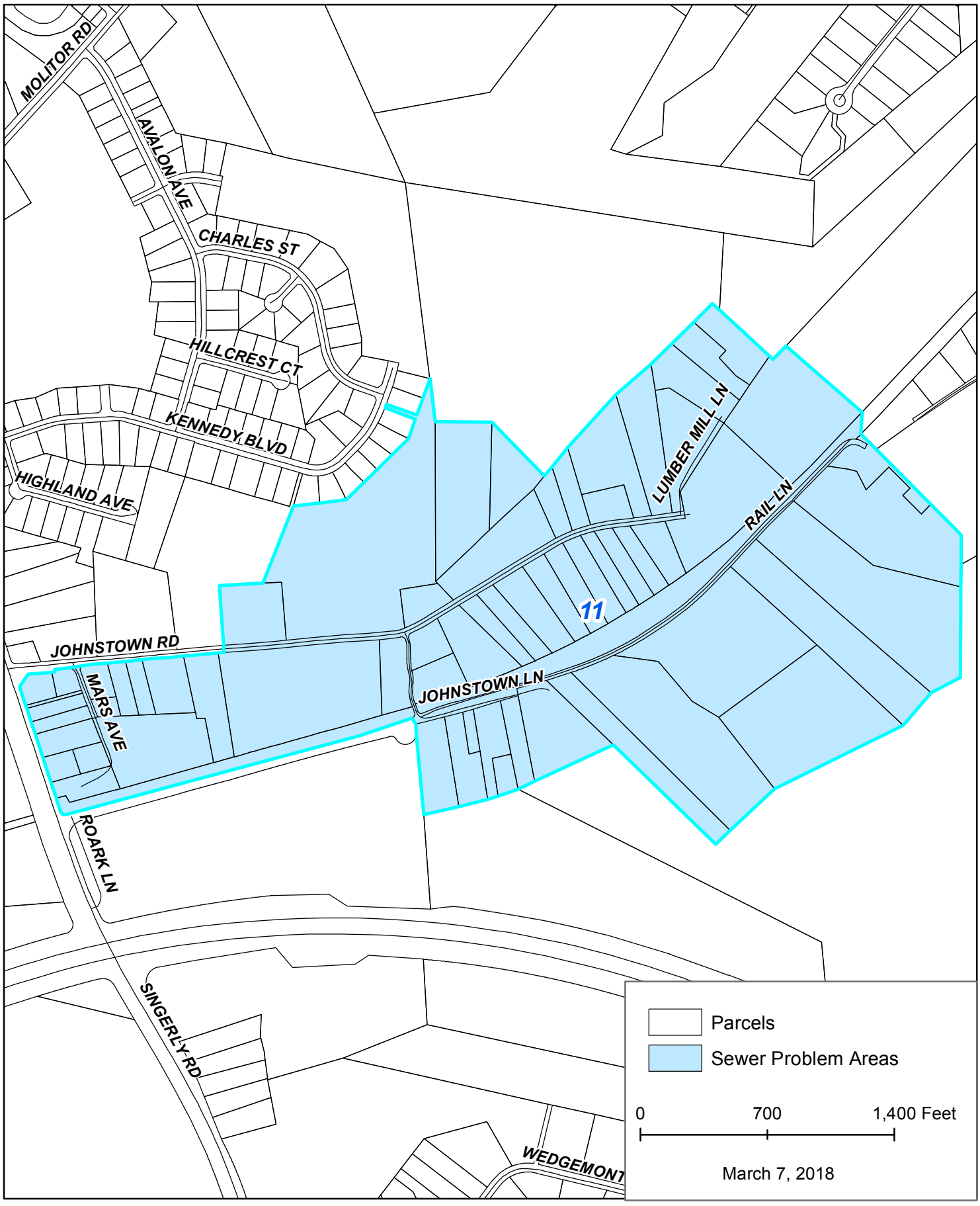
Cecil County 2018 Master Water & Sewer Plan
Table 11 - Inventory of Sewage Problem Areas
Area #9 - Harrisville, Rising Sun, MD



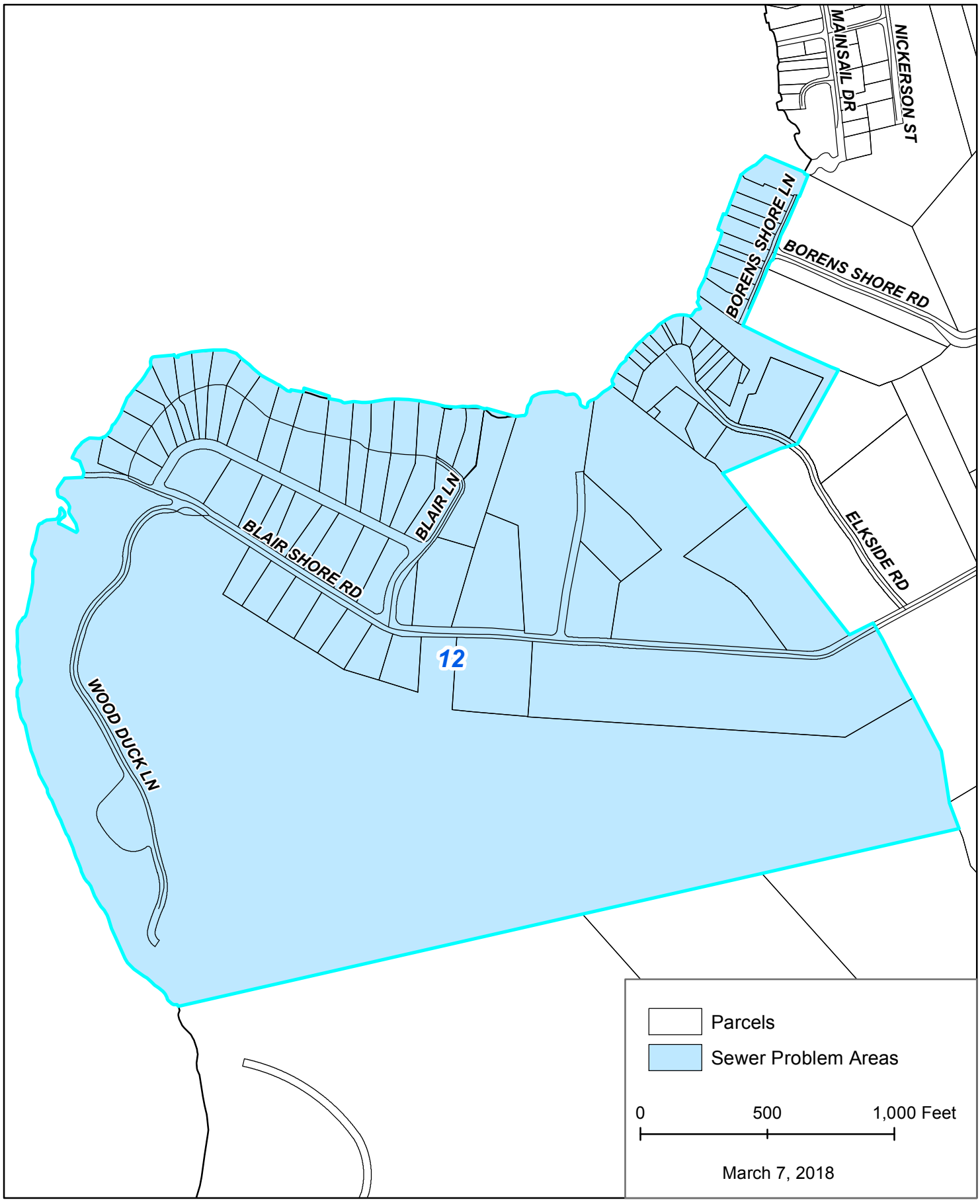
Cecil County 2018 Master Water & Sewer Plan
Table 11 - Inventory of Sewage Problem Areas
Area #10 - Holloway Beach, Charlestown, MD



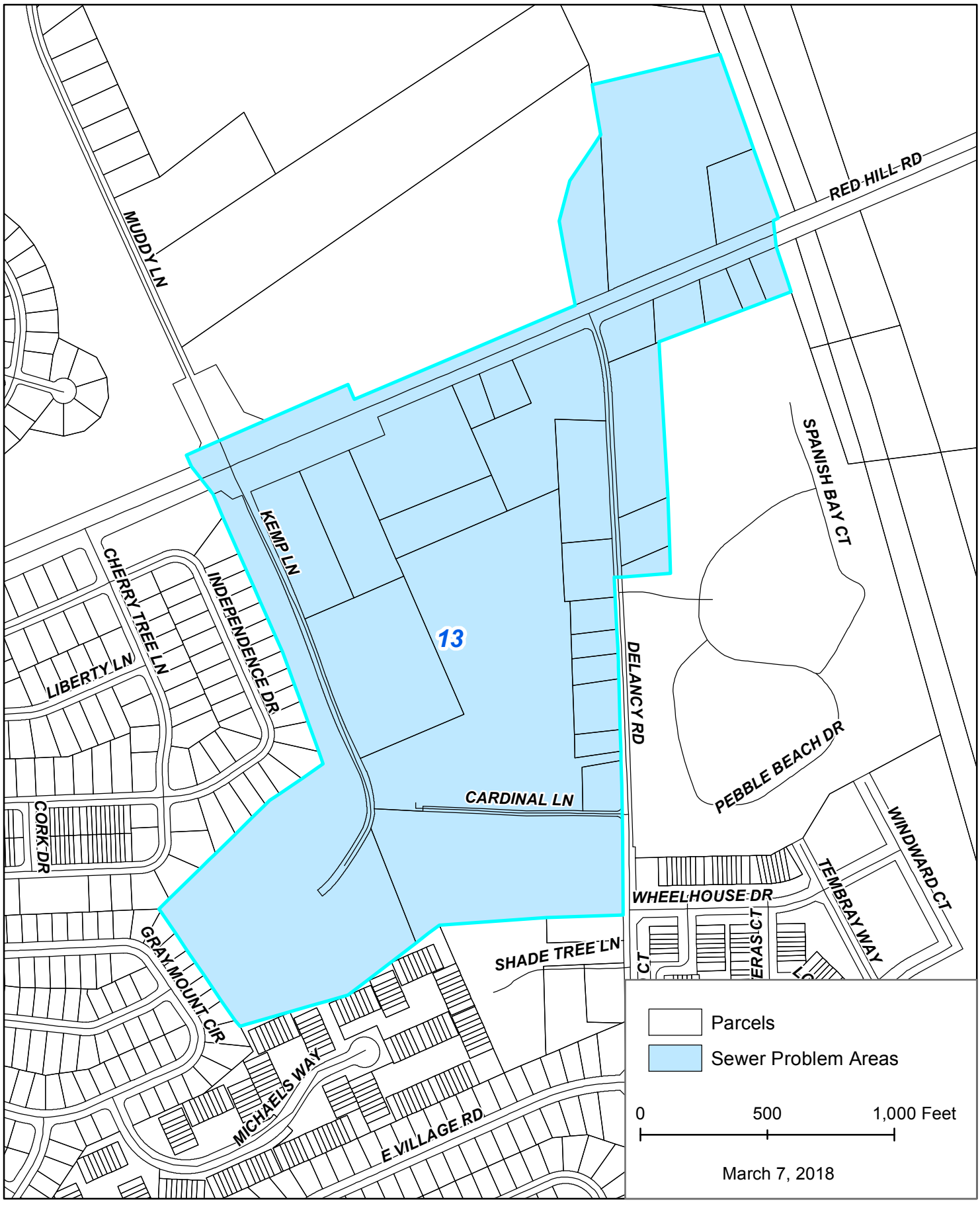
Cecil County 2018 Master Water & Sewer Plan
Table 11 - Inventory of Sewage Problem Areas
Area #11 - Johnstown Rd & vicinity, Elkton, MD



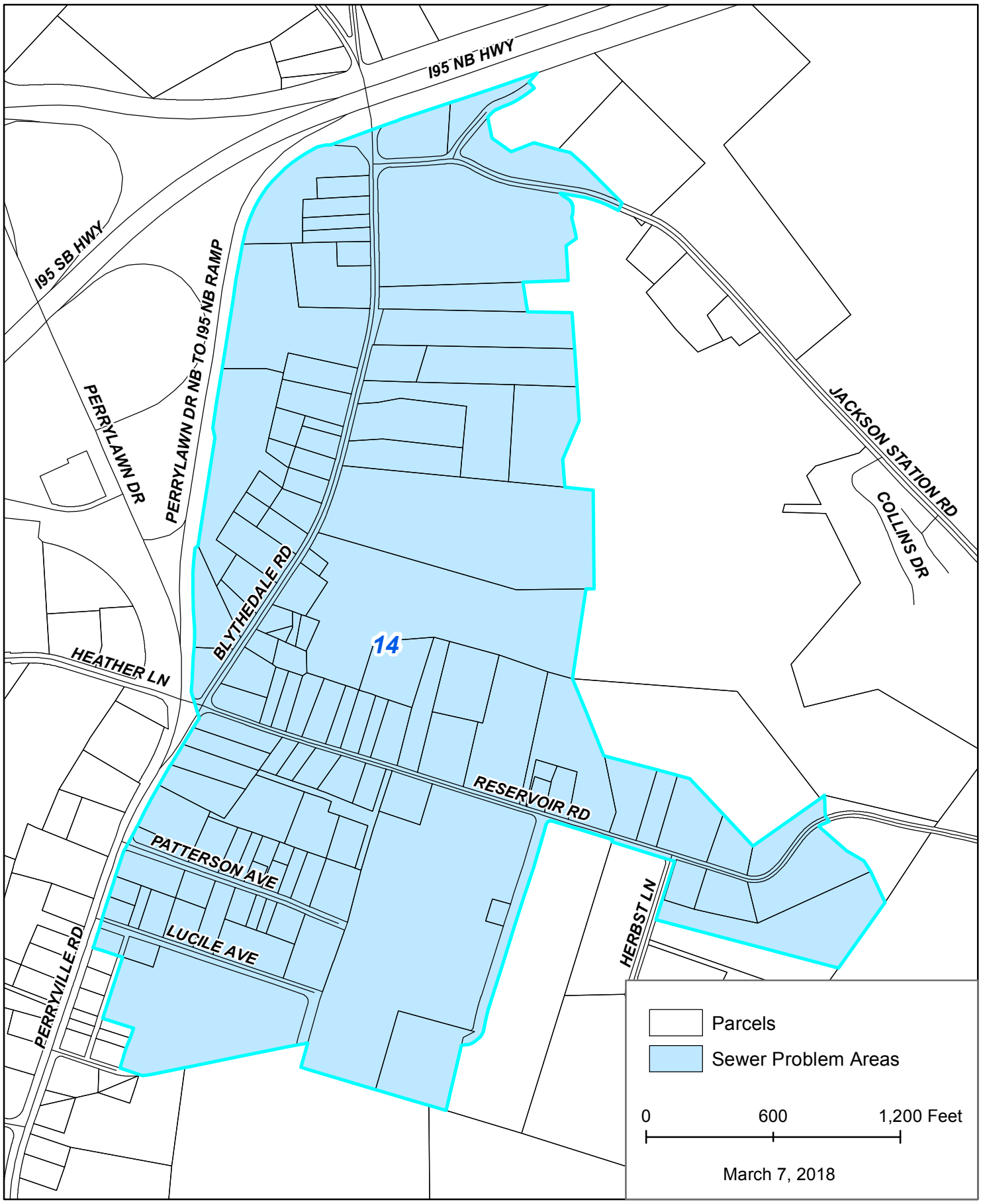
Cecil County 2018 Master Water & Sewer Plan
Table 11 - Inventory of Sewage Problem Areas
Area #12 - Locust Point, Elkton, MD



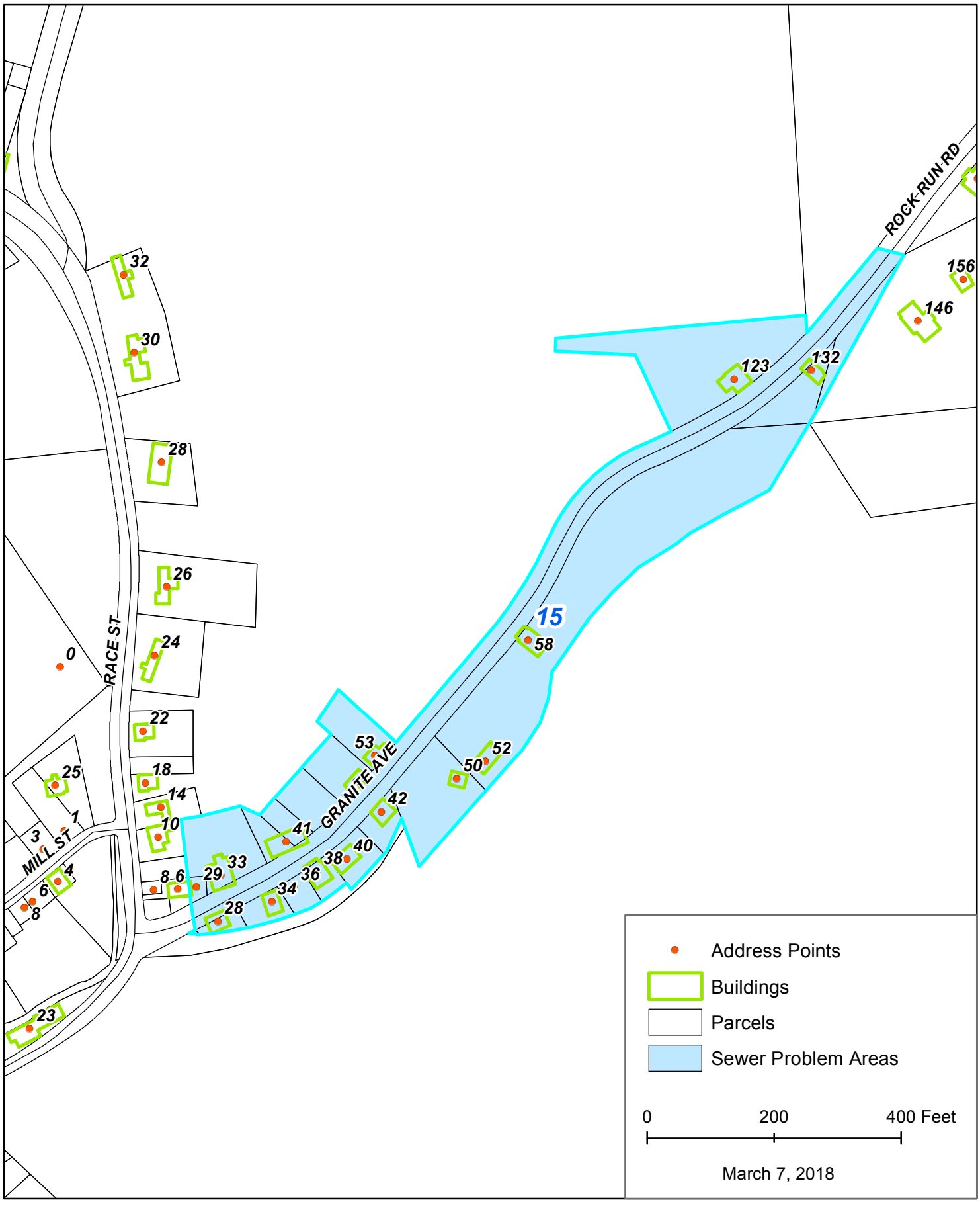
Cecil County 2018 Master Water & Sewer Plan
Table 11 - Inventory of Sewage Problem Areas
Area #13 - Red Hill Rd & Delancy Rd, Elkton, MD



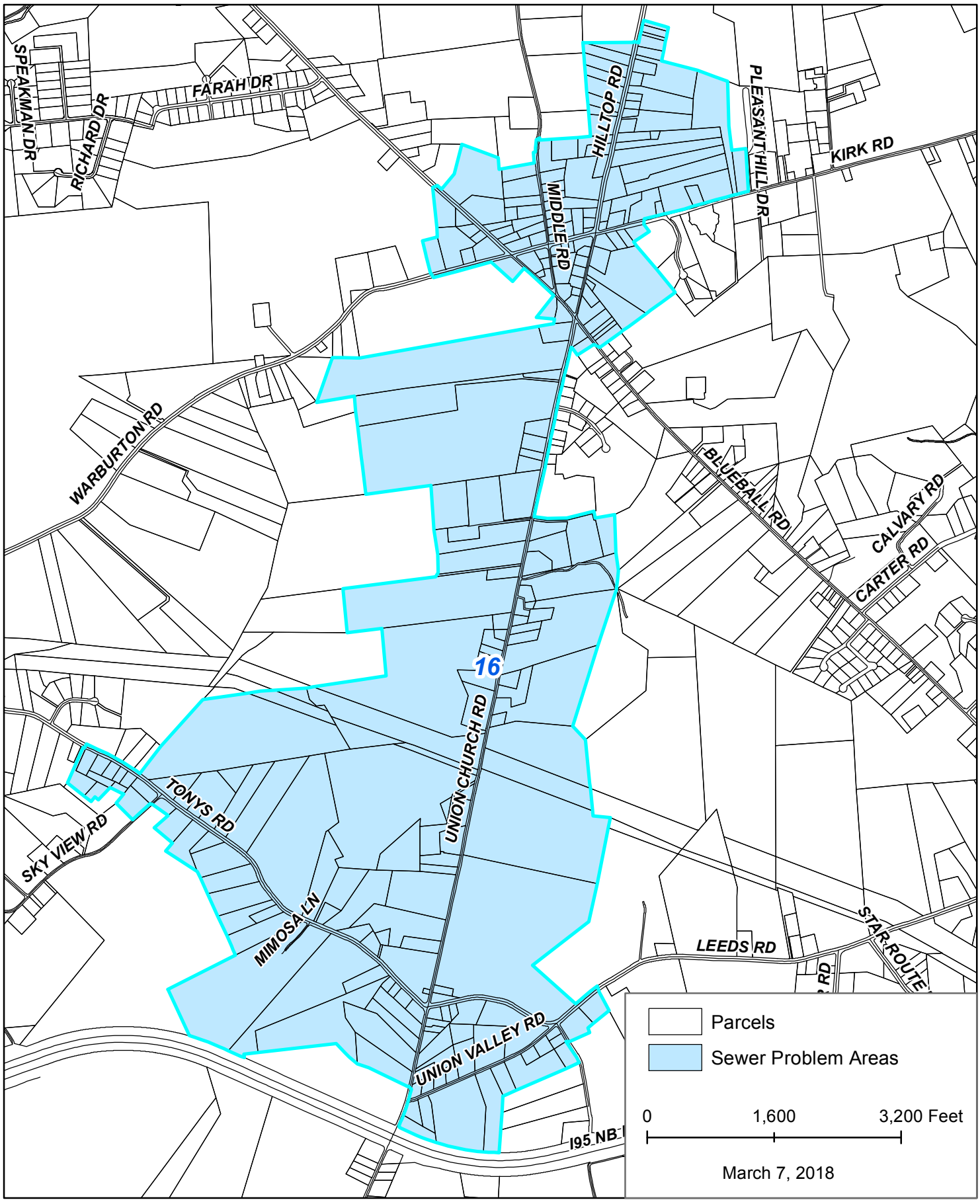
Cecil County 2018 Master Water & Sewer Plan
Table 11 - Inventory of Sewage Problem Areas
Area #14 - Blythedale Rd & vicinity, Perryville, MD



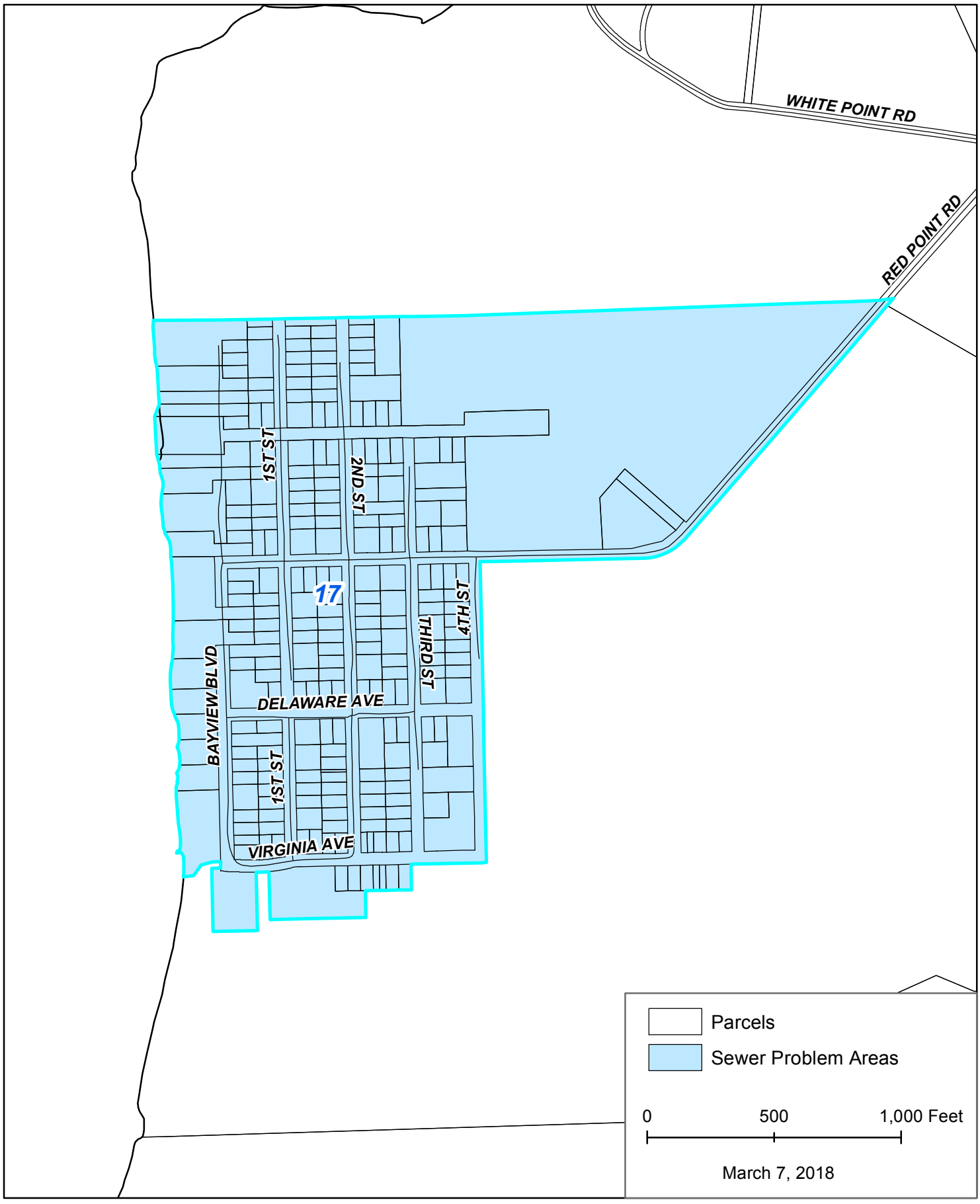
Cecil County 2018 Master Water & Sewer Plan
Table 11 - Inventory of Sewage Problem Areas
Area #15 - Rock Run Rd, Port Deposit, MD



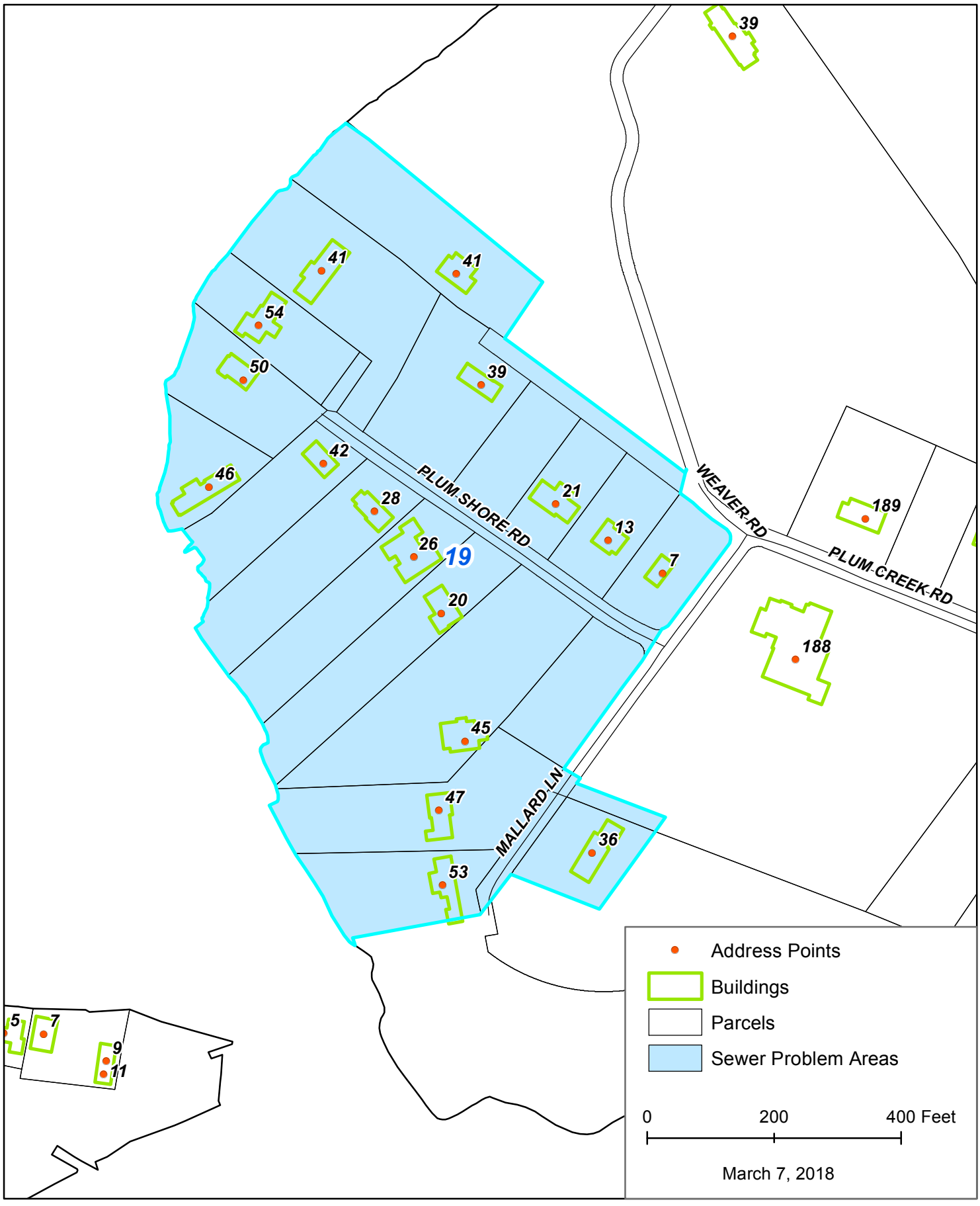
Cecil County 2018 Master Water & Sewer Plan
Table 11 - Inventory of Sewage Problem Areas
Area #16 - Union Church Rd & vicinity, Elkton, MD



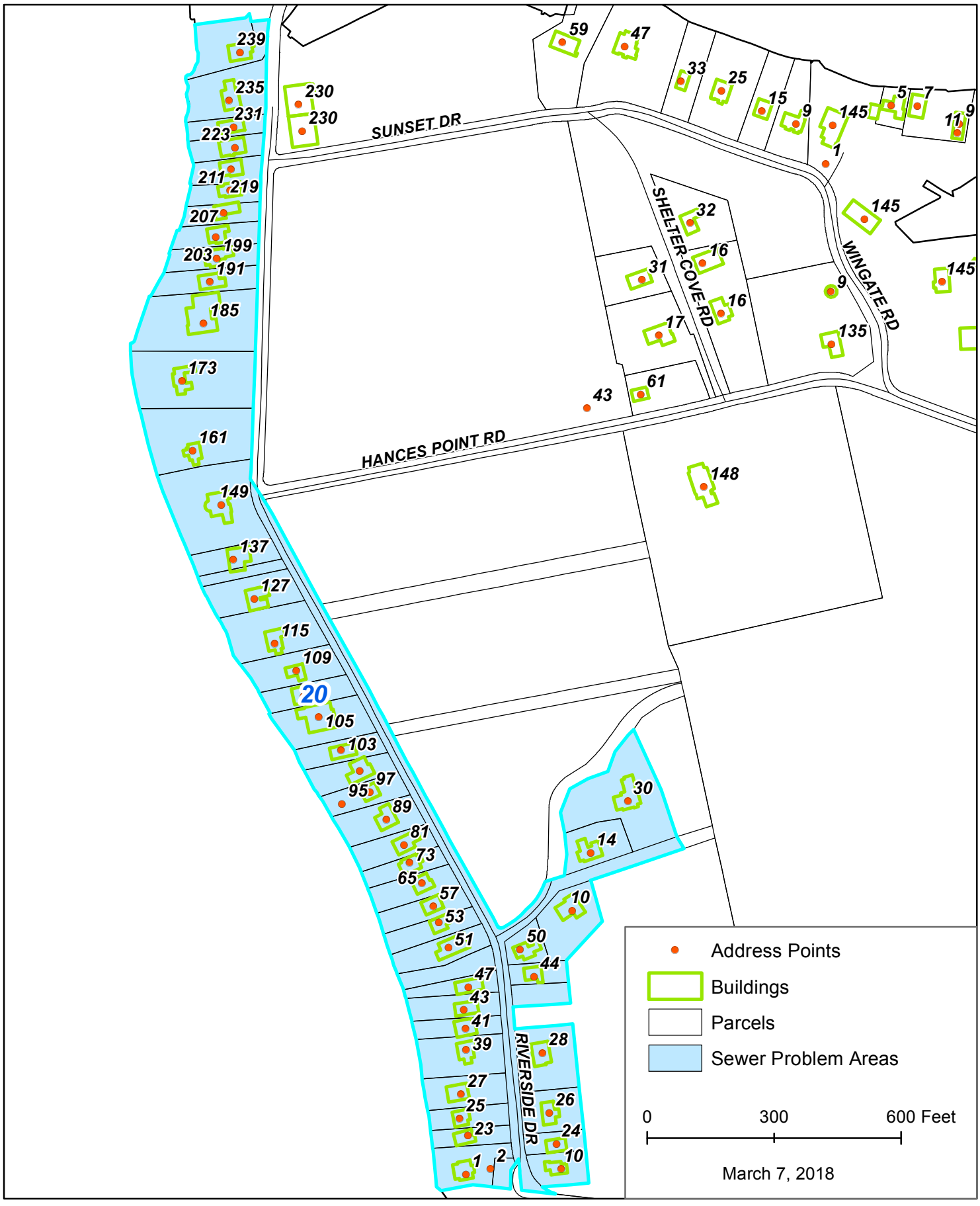
Cecil County 2018 Master Water & Sewer Plan
Table 11 - Inventory of Sewage Problem Areas
Area #17 - Red Point, North East, MD



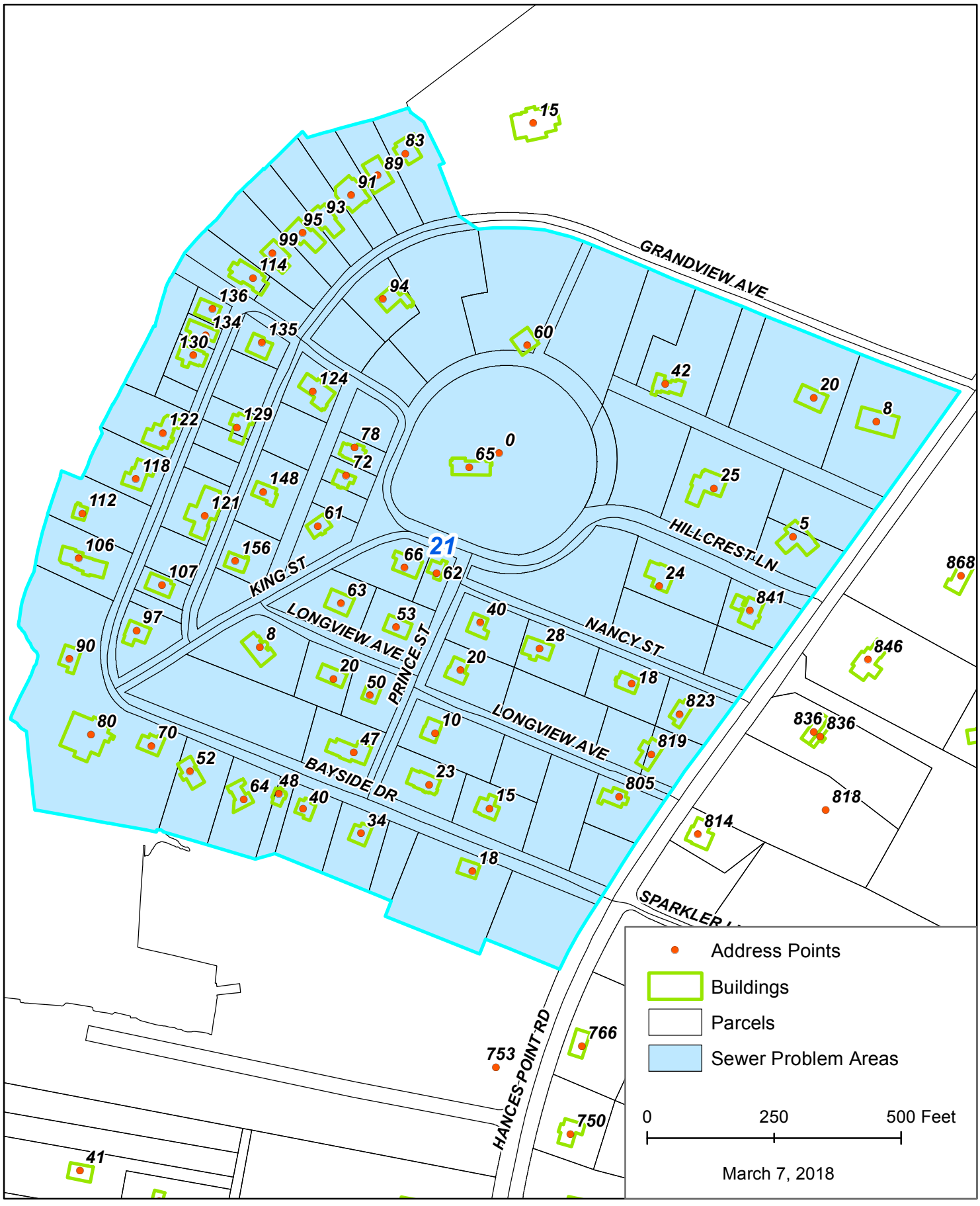
Cecil County 2018 Master Water & Sewer Plan
Table 11 - Inventory of Sewage Problem Areas
Area #19 - Plum Shore, North East, MD



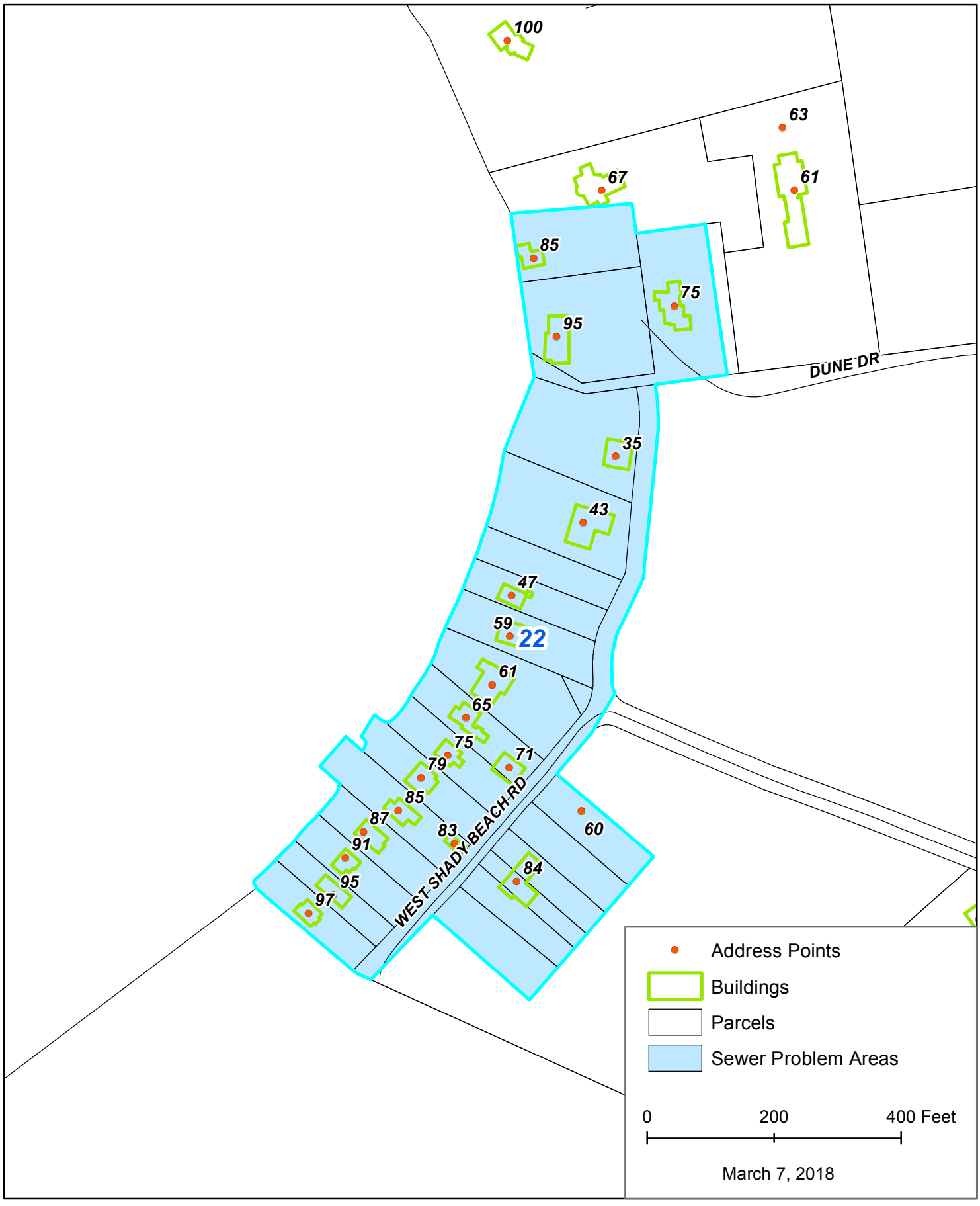
Cecil County 2018 Master Water & Sewer Plan
Table 11 - Inventory of Sewage Problem Areas
Area #20 - Hances Point, North East, MD



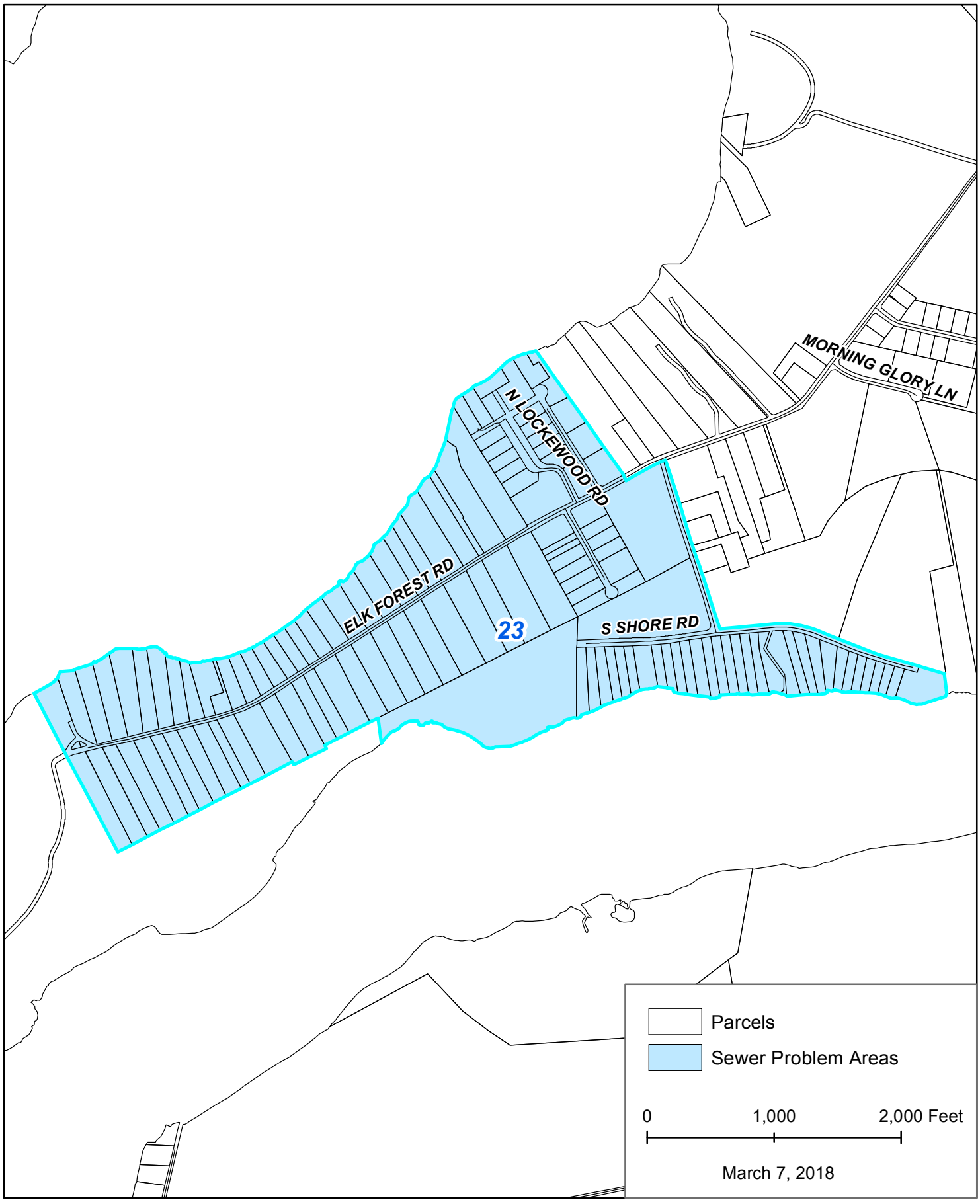
Cecil County 2018 Master Water & Sewer Plan
Table 11 - Inventory of Sewage Problem Areas
Area #21 - North East Heights, North East, MD



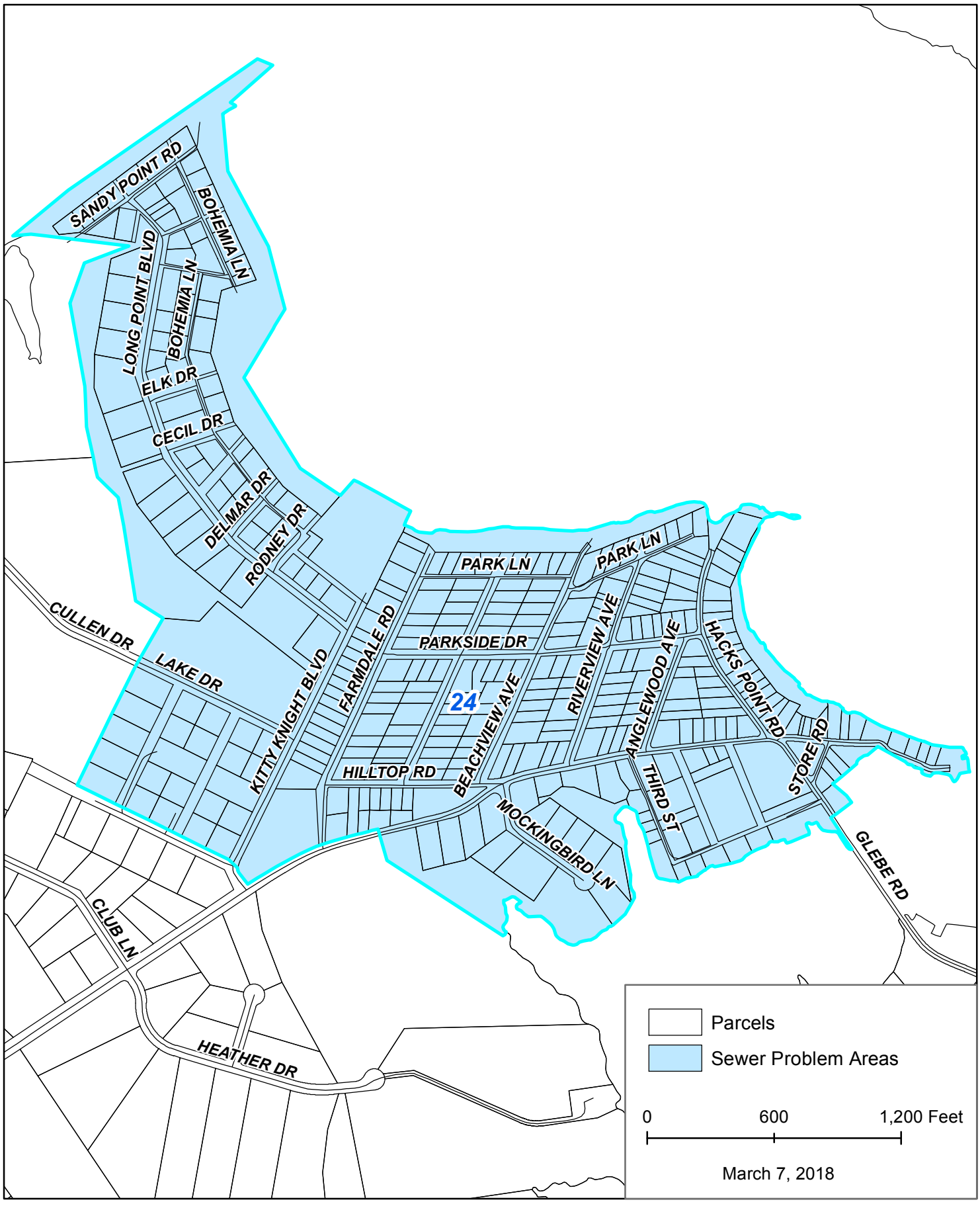
Cecil County 2018 Master Water & Sewer Plan
Table 11 - Inventory of Sewage Problem Areas
Area #22 - West Shady Beach Rd, North East, MD



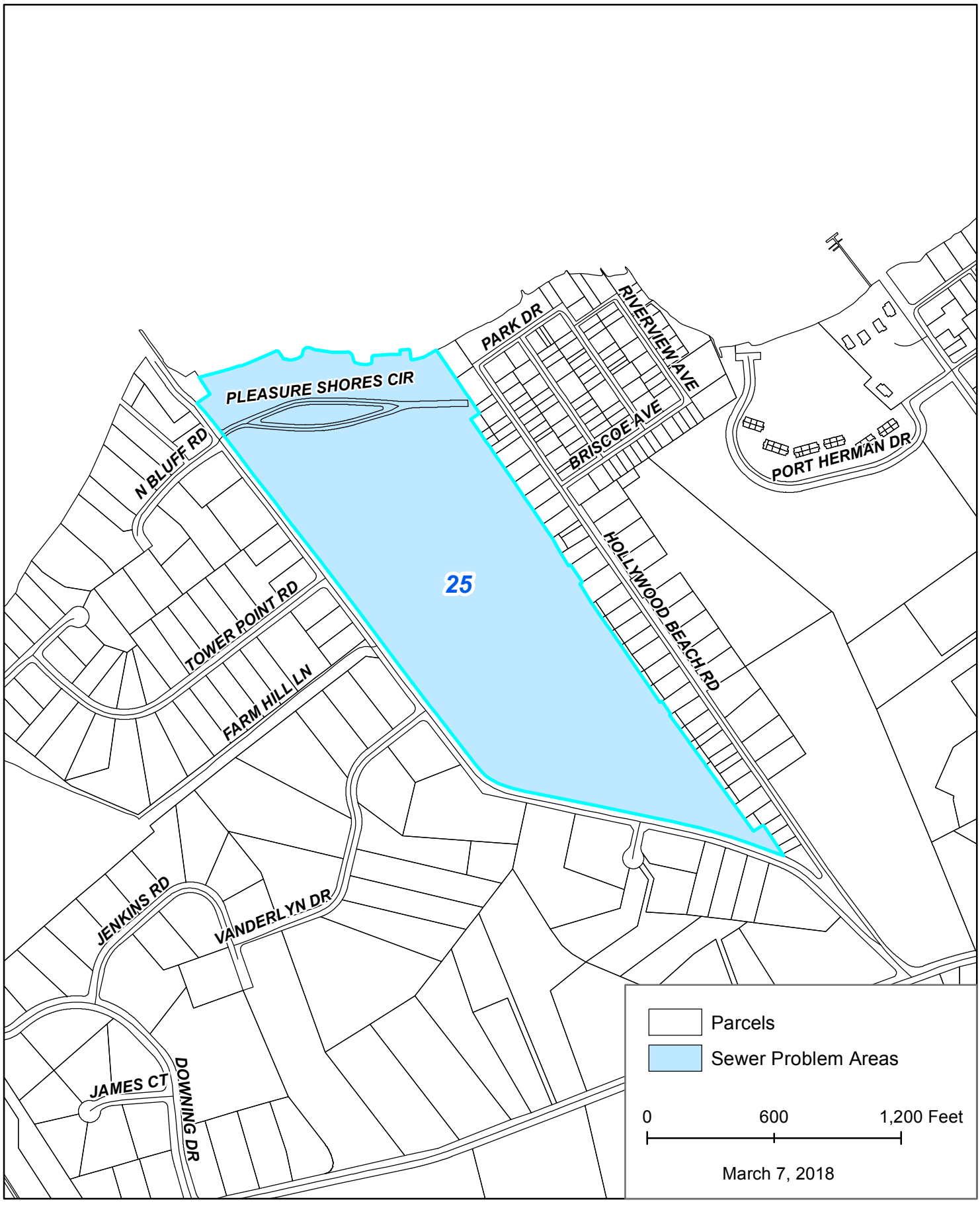
Cecil County 2018 Master Water & Sewer Plan
Table 11 - Inventory of Sewage Problem Areas
Area #23 - Elk Forest Rd, Elkton, MD



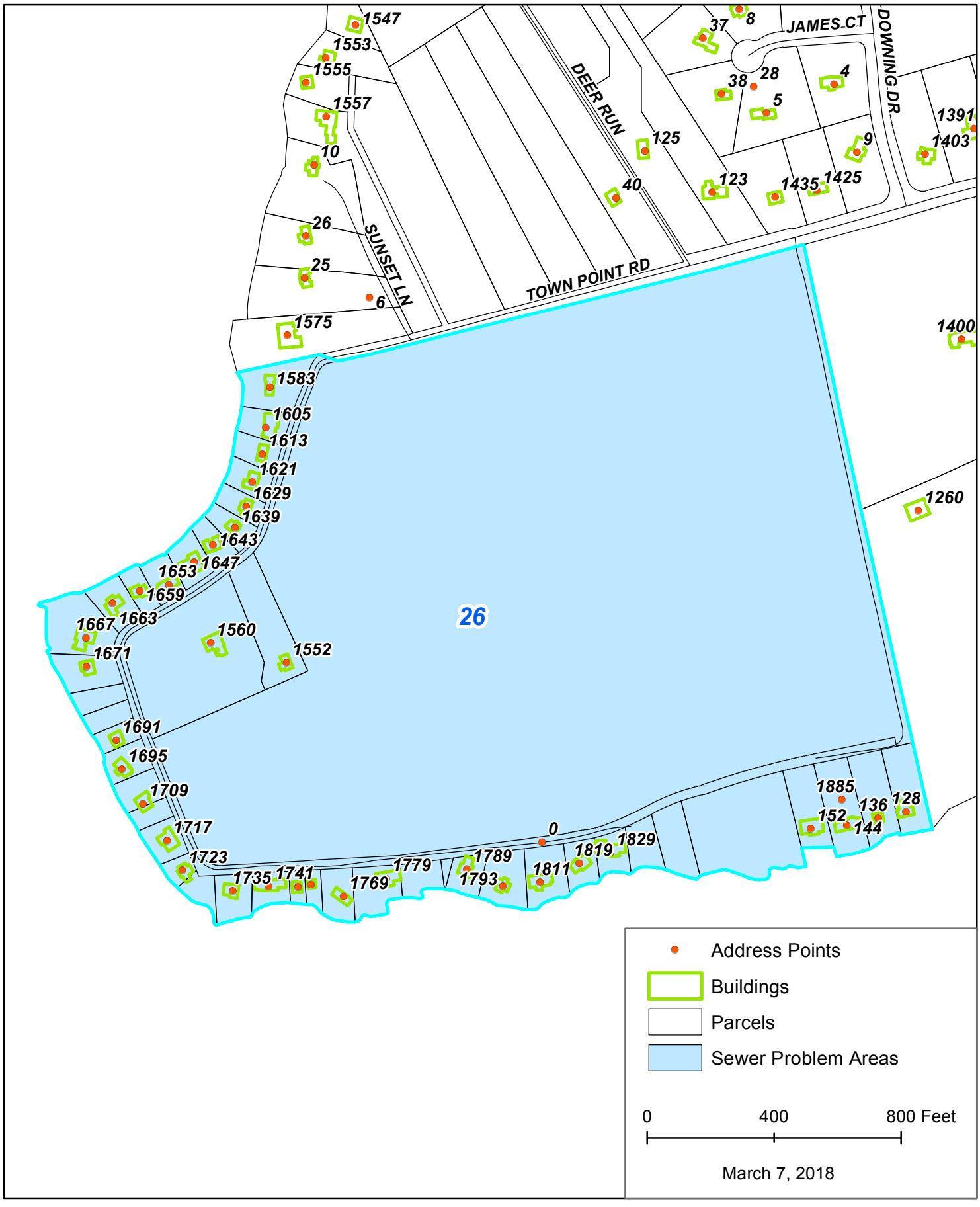
Cecil County 2018 Master Water & Sewer Plan
Table 11 - Inventory of Sewage Problem Areas
Area #24 - Hacks Point, Earleville, MD



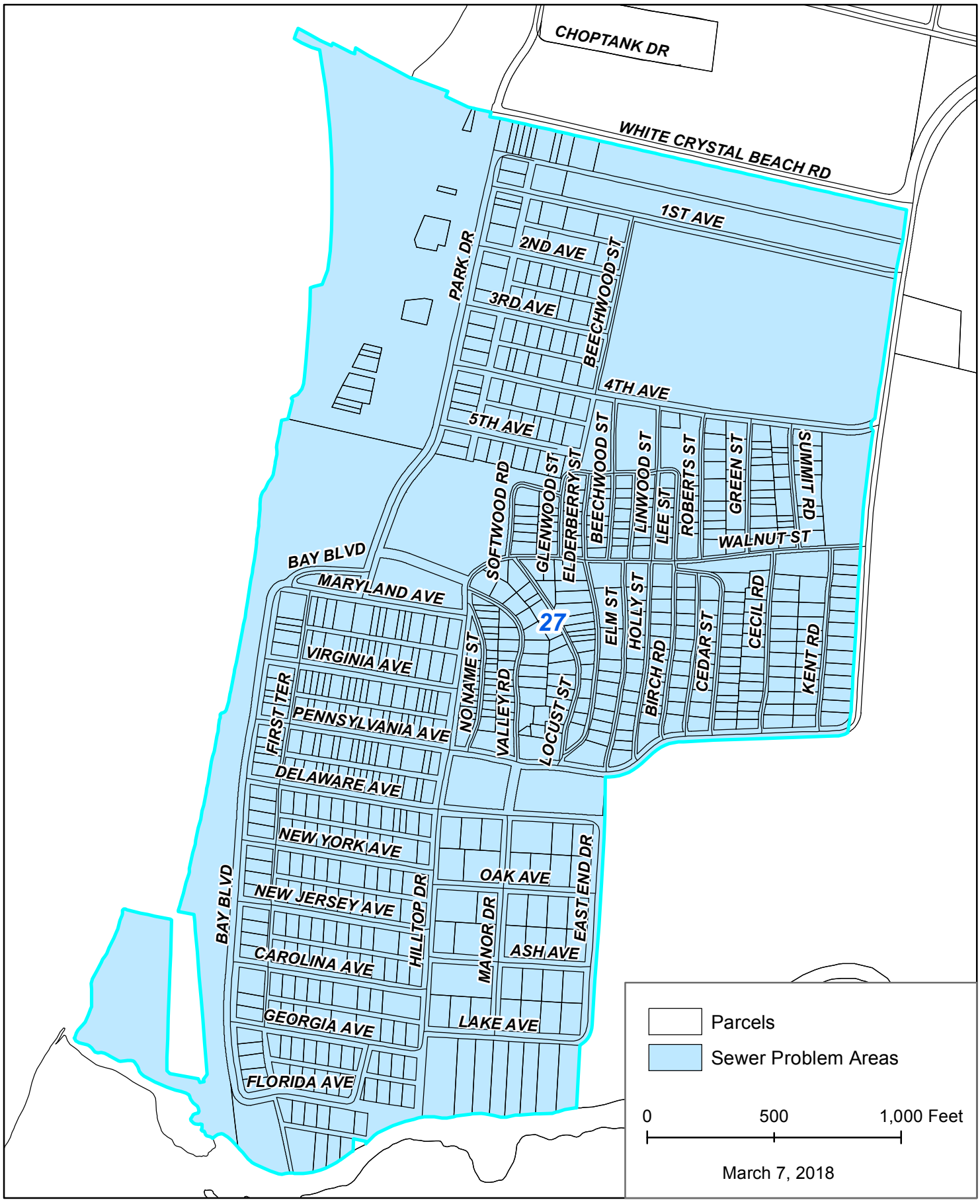
Cecil County 2018 Master Water & Sewer Plan
Table 11 - Inventory of Sewage Problem Areas
Area #25 - Pleasure Shores, Chesapeake City, MD



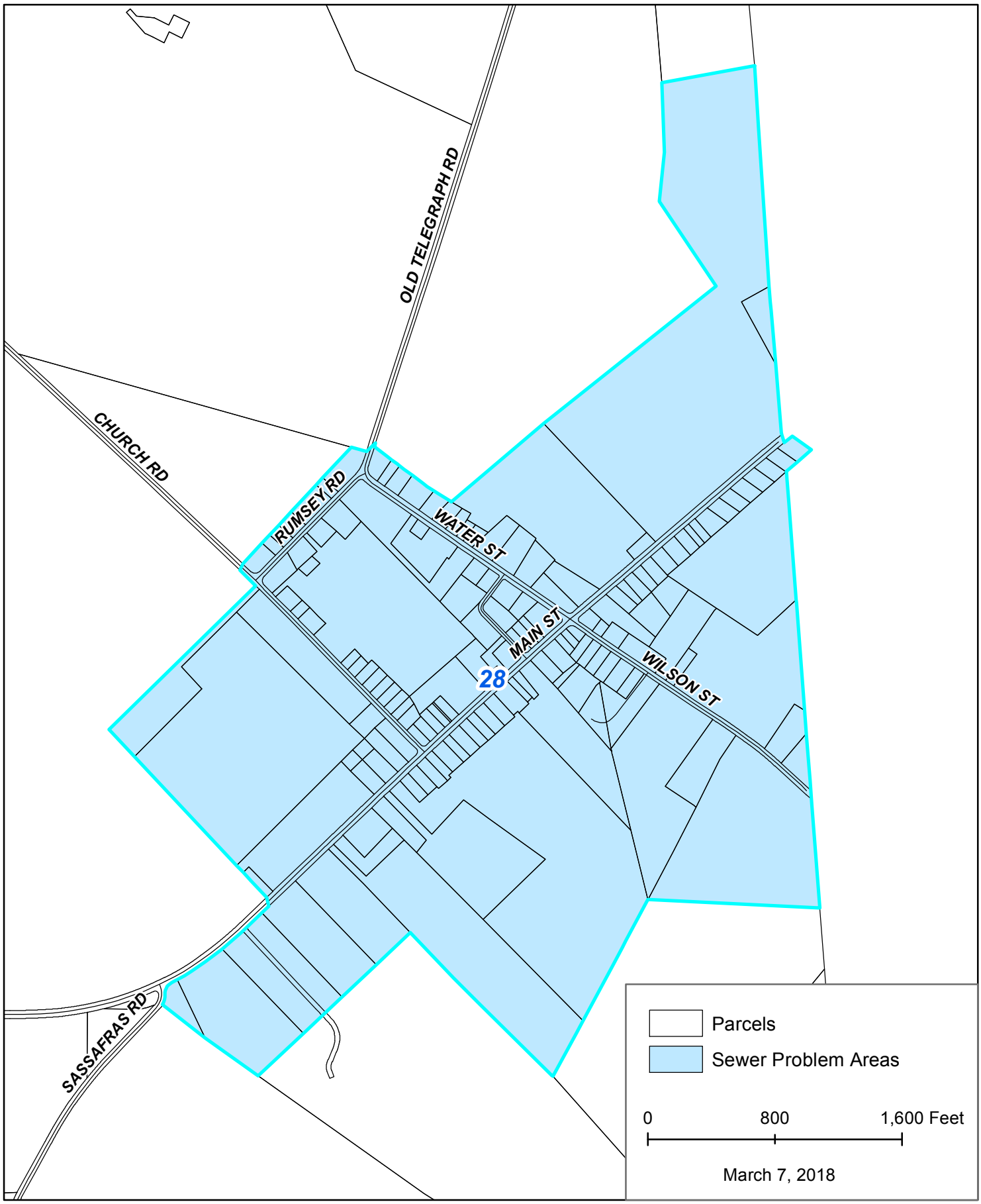
Cecil County 2018 Master Water & Sewer Plan
Table 11 - Inventory of Sewage Problem Areas
Area #26 - Town Point, Chesapeake City, MD



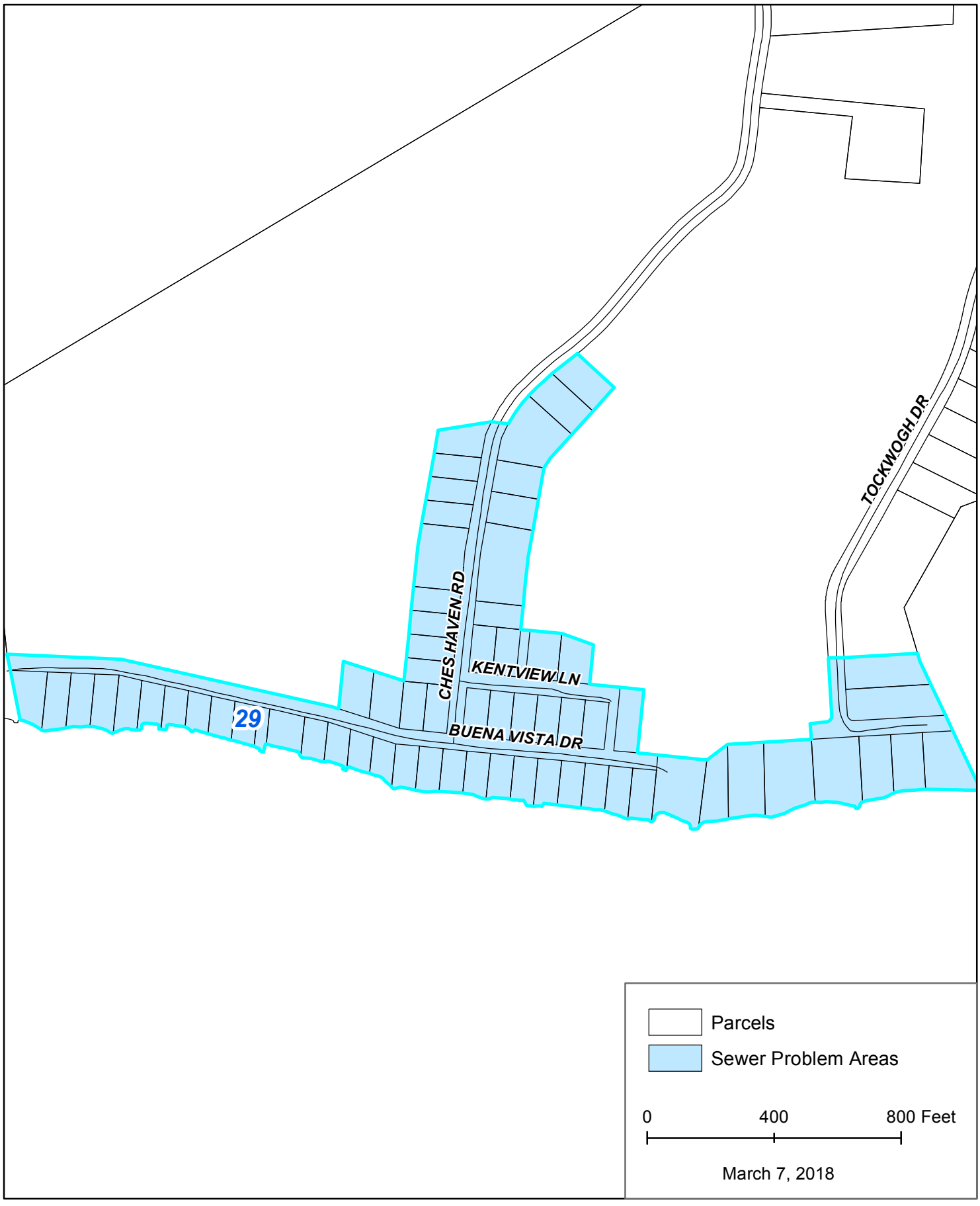
Cecil County 2018 Master Water & Sewer Plan
Table 11 - Inventory of Sewage Problem Areas
Area #27 - Crystal Beach, Earleville, MD



Cecil County 2018 Master Water & Sewer Plan
Table 11 - Inventory of Sewage Problem Areas
Area #28 - Village of Warwick, Warwick, MD



Cecil County 2018 Master Water & Sewer Plan
Table 11 - Inventory of Sewage Problem Areas
Area #29 - Cheshaven, Earleville, MD



Cecil County 2018 Master Water & Sewer Plan
Table 11 - Inventory of Sewage Problem Areas
Area #30 - Village of Zion, North East, MD

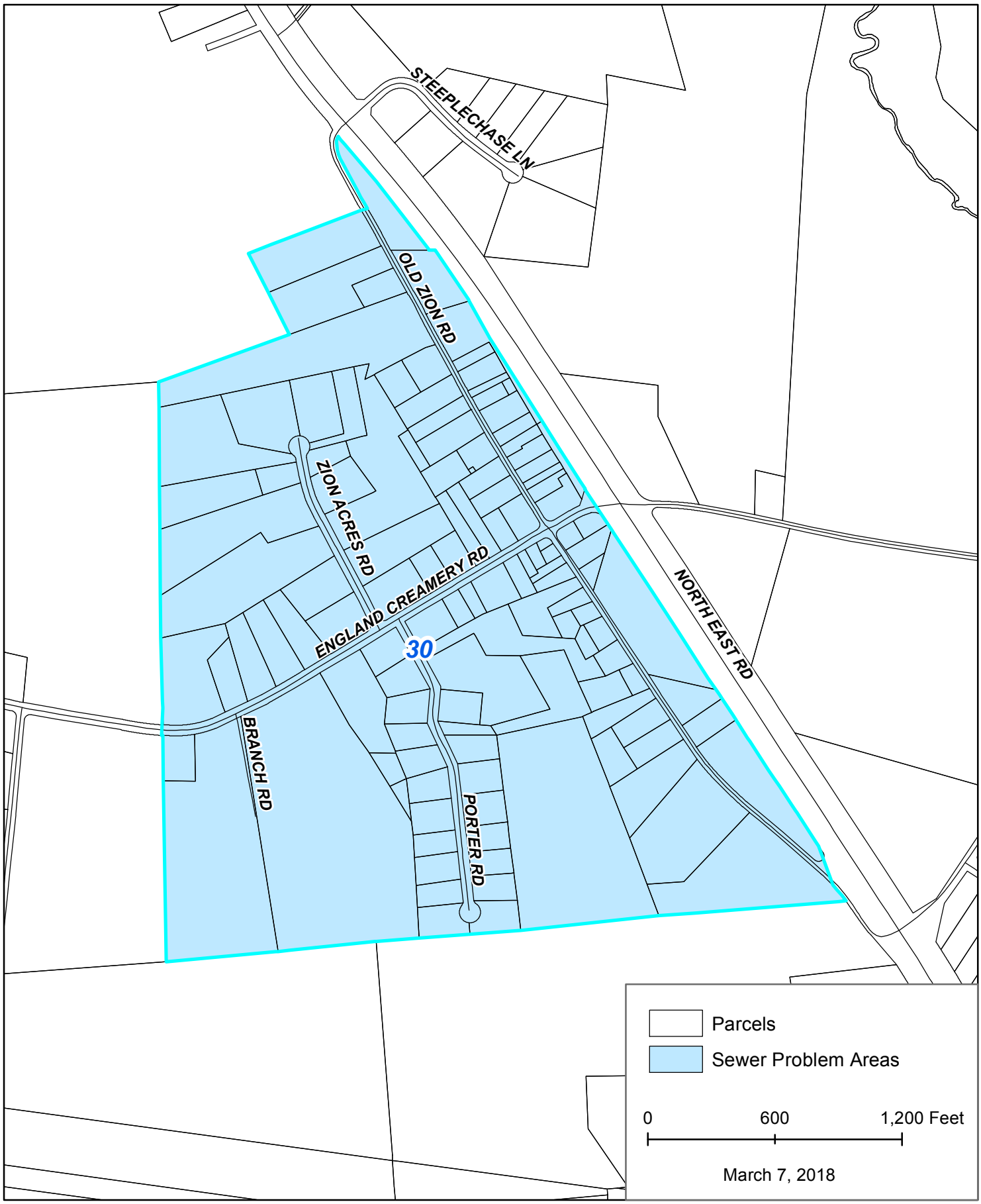


Table 12 - Water Quality Problems due to Storm Drainage Outfalls and Non-point Sources

Service Area	Location	Problem Description	Reach Affected

The Cecil County Department of Public Works conducts IDDE (Illicit Discharge Detection and Elimination) operations on the County's storm drain system on an annual basis. For purposes of this Master Water & Sewer Plan, the annual IDDE reports are hereby incorporated by reference.

Table 13 - Immediate, 5 and 10 Year Priorities for Sewerage Development

				Estimated Costs			Project Status Construction Start (Fiscal Year)	
Project Number	**County Priority Assigned**	**Coordinate Location**	**Description**	**Total**	**Federal and/or State**	**Local**	**Immediate Priority Projects**	**5 and 10 Year Period Projects**
Cecil County Department of Public Works								
55070	4	499,088.66; 220,967.38	***CECO Utilities*** - Connect to Cherry Hill WWTP and decommission current lagoon treatment facility.	$2.9 million	Unknown	Unknown	2019	
55067	17	498,077.43; 222,143.04	***Cherry Hill*** **-** Conversion of plant to a pump station; Convey sewage to expanded Meadowview WWTP for treatment.	Unknown	n/a	n/a		5-10 year project
55064	2	497,413.6; 215,885.74	***Elkton West*** **-** Construct sanitary sewer collection and conveyance System (includes existing connection of Northrup Grumman and connection of Triumph Industrial Park in the near future.)	$45 million	Unknown	Unknown	2019-2023	
55053	3	497,030.23; 205,500.7	***Harborview*** - Upgrade WWTP to ENR package plant having 0.1 mgd treatment capacity	$4.55 million	$1.5 million	$3.05 million	2019	
55041	6	487,313.1; 211,775.77	***Holloway Beach*** - Construct sanitary sewer collection and conveyance system	$2.85 million	$1.26 million	$1.59 million	2019-2023	
55069	1	477,315.78; 215,565.25	***Port Deposit*** - Construct a new ENR packaged WWTP. The new WWTP will be designed to readily expand to accommodate increased flows.	$10.7 million	$2.5 million	$5.7 million	2019	
55055	7	476,613.33; 214,759.85	***Port Deposit*** - Construct modifications to collections system to convey sewage to the new WWTP and a connection to convey treated effluent to the existing outfall.	$1.25 million	0	$1.25 million	2019	
55040	22	487,737.53; 206,630.41	***Red Point Beach*** - Construction of a sewer collection system and treatment plant to address failing septic systems.	$6.77 million	$6.27 million	500,000		5-10 year project

55057	8	475,504.16; 216,851.37	***Rock Run Rd Sanitary Sewer Extension*** - Construct sanitary sewer collection and conveyance system	$1.1 million	$1.1 million	0		5-10 year project

55031	5	488,971.33; 215,409.3	***Route 40 West Sanitary Subdistrict*** - Construct sanitary sewer collection and conveyance system	$5.83 million	0	$5.83 million	2020	

Incorporated Towns

n/a	n/a	501,613.75; 207,731.31	***Chesapeake City*** - Construction of 300,000 gpd SBR to serve both sides of town	Unknown	n/a	n/a	2019-2020	
n/a	n/a	Various	***Chesapeake City*** - Conduct inflow and infiltration repairs and improvements.	Unknown	n/a	n/a	2019	
n/a	n/a	503,387.12; 206,636.06	***Chesapeake City*** - Extend sewer service to the Chesapeake Estates manufactured home park	Unknown	n/a	n/a		5-10 year project
n/a	n/a	500,405.45; 216,425.99	***Elkton*** - Reduce rates of inflow and infiltration	Unknown	n/a	n/a	2019-2023	
n/a	n/a	480,409.43; 210,481.33	***Perryville*** - Upgrade WWTP with cloth disk filters and denitrification filters	Unknown	n/a	n/a	2019	
n/a	n/a	479,202.51; 211,466.673	***Perryville*** - Upgrades to existing collection and conveyance facilities	Unknown	n/a	n/a	2020	
n/a	n/a	480,397.03; 225,925.77	***Rising Sun*** - Replace undersized conveyance and collection lines.	Unknown	n/a	n/a		5-10 year project

Table 13A - Marinas

Name	*Address*	*Sewage Disposal*	*Known Problems*
Anchor Marina	36 Iroquois Drive, North East, MD	Connected to County sewer	None
Bay Boat Works	145 Hances Point Rd, North East, MD	Septic tanks	None
Bohemia Anchorage	1703 Glebe Rd, Earleville, MD	Septic tanks	None
Bohemia Bay Yacht Harbor	1026 Town Point Rd, Chesapeake City, MD	Septic tanks	None
Bohemia Vista Yacht Basin	140 Vista Marina Rd, Chesapeake City, MD	Septic tanks	None
Charlestown Marina	4 Water St, Charlestown, MD	Connected to County sewer	None
Chesapeake Inn & Marina	605 Second St, Chesapeake City, MD	Connected to Town sewer	None
Craft Haven	900 Carpenters Point Rd, Perryville, MD	Connected to County sewer	None
Duffy Creek Marina	20 Duffy Creek Rd, Fredericktown, MD	Septic tanks	None
Galahad Marine Sales	230 Riverside Dr, North East, MD	Septic tanks	None
Granary Marina	100 George St, Fredericktown, MD	Septic tanks	None
Hacks Point Marina	1645 Glebe Rd, Chesapeake City, MD	Septic tanks	None
Harbour North Marina	111 River Rd, Chesapeake City, MD	Connected to County sewer	None
Lee's Marina	726 Water St, Charlestown, MD	Connected to County sewer	None
Locust Point Marina	145 River Rd, Elkton, MD	Septic tanks	None
Long Point Marina	125 Kitty Knight Blvd, Earleville, MD	Septic tanks	None
Losten Marina	1645 Glebe Rd, Chesapeake City, MD	Septic tanks	None
McDaniel Yacht Basin	15 Grandview Ave, North East, MD	Septic tanks	None
North East River Marina	724 Water St, Charlestown, MD	Connected to County sewer	None
North East River Yacht Club	80 Bayside Dr, North East, MD	Septic tanks	None
North East Yacht Sales	753 Hances Point Rd, North East, MD	Septic tanks	None
Owens Marina	10 River Rd, Perryville, MD	Connected to Town sewer	None
Perryville Yacht Club	31 River Rd, Perryville, MD	Connected to Town sewer	None
Richmonds Marina	1500 Glebe Rd, Earleville, MD	Septic tanks	None
Sailing Associates, Inc.	78 George St, Fredericktown, MD	Septic tanks	None
Sassafras Harbor Marina	2 George St, Fredericktown, MD	Septic tanks	None
Scotchmans Creek Marina	34 Greenspring Rd, Earleville, MD	Septic tanks	None
Shelter Cove Yacht Basin	230 Riverside Dr, North East, MD	Septic tanks	None
Skipjack Cove	150 Skipjack Cove Rd, Fredericktown, MD	Septic tanks	None
Taylors Marina	46 River Rd, Elkton, MD	Septic tanks	None
The Cove Marina	11 Main Sail Dr, Elkton, MD	Septic tanks	None

Tomes Landing Marina	1000 Rowland Dr, Port Deposit, MD	Connected to Town sewer	None
Triton Marina	285 Plum Point Rd, Elkton, MD	Septic tanks	None
Two Rivers Yacht Basin	64 Two Rivers Ln, Chesapeake City, MD	Septic tanks	None
Wellwood Marina	523 Water St, Charlestown, MD	Connected to County sewer	None

Total number of marinas = 35
Total connected to sewer = 11
Total using septic tanks = 24

Table 14 - Water and Sewerage Map Symbols

Please see the maps contained in Appendices C and D to view the map legends and symbology used for exising and planned service areas, various types of water and sewer infrastructure, etc.

Table 15 - Flow Data - Wastewater Treatment Plants

Please see Tables 9 & 10 for this information.

Table 15A - Sewer Pump Stations and Force Mains

Pump Station Name	Location	Number of pumps	Pump Design Capacity (MGD)	Peak Flow (MGD)	Average daily flow (MGD)	Part of Conveyance system	Associated Force Main Diameter
Cecil County Department of Public Works							
Academy Hills Pump Station	35 Somerset Circle, Elkton	2	Unknown	0.024	0.006	Cherry Hill WWTP	4 inch
Avalon Pump Station	24 Louisa Lane, Charlestown	2	0.15	0.03	0.006	NERA WWTP	6 inch
Bay View Pump Station	425 Old Bayview Road, North East	2	0.12	0.01	0.002	NERA WWTP	4 inch
Belvidere Rd pump station	85 Belvidere Rd, Perryville	2	0.342	0.316	0.079	NERA WWTP	8 inch
Carpenters Point Pump Station	Oak Road and Dewberry Lane	2	0.95	0.06	0.016	NERA WWTP	6 inch
Cecil Community College Pump Station	1000 North East Road, North East	2	0.33	0.03	0.008	NERA WWTP	6 inch
Charlestown Crossing - Pump Station	W Old Philadelphia Rd, North East	2	0.66	0.83	0.049	NERA WWTP	8 inch
Charlestown Manor Pump Station	37 Edgewater Avenue, Charlestown	2	0.28	0.11	0.027	NERA WWTP	4 inch
Cherry Hill Pump Station	45 Cherry Hill Road, Elkton	2	0.144	0.083	0.021	Cherry Hill WWTP	4 inch
Chesapeake Club Pump Station	311 Tournament Circle, North East	2	0.36	0.024	0.006	NERA WWTP	6 inch
Church Point Pump Station	29 Church Point Road, North East	2	0.43	0.27	0.067	NERA WWTP	6 inch
Cool Springs at Charlestown Pump Station	Cool Springs Road, North East	2	0.252	0.233	0.058	NERA WWTP	4 inch
DelaPlaine Pump Station	966 Turkey Point Road, North East	2	0.25	0.14	0.036	NERA WWTP	12 inch
Greenbank Pump Station	Greenbank Road and Woodall Road	2	0.42	0.03	0.007	NERA WWTP	6 inch
Highlands Pump Station	Ballantrae Drive, Elkton	2	0.19	0.21	0.052	Meadowview WWTP	4 inch
Indian Springs Pump Station	Van Weaver Drive, North East	2	0.05	0.01	0.001	NERA WWTP	2 inch
Meadowview WWTP Influent Pump Station	246 Fletchwood Rd, Elkton, MD 21921	2	Unknown	Unknown	0.333	Meadowview WWTP	two 12 inch
Mechanic Valley Pump Station	666 Mechanic Valley Road, North East	2	0.12	0.02	0.005	NERA WWTP	6 inch
North East Isles Pump Station	North East Isles Dr, North East	2	0.19	0.03	0.007	NERA WWTP	3 inch
Persimmon Creek Pump Station	Persimmon Lane, Elkton	2	Unknown	0.13	0.033	Meadowview WWTP	6 inch
Port Deposit - S Main St Pump Station	across from 64 S Main St, Port Deposit	2	Unknown	0.13	0.032	Port Deposit WWTP	6 inch
Port Deposit - Vannort Pump Station	Vannort Drive, Port Deposit	2	Unknown	0.065	0.016	Port Deposit WWTP	6 inch

Price Marina (Veterans Park) Pump Station	524 Water Street, Charlestown	2	0.05	0.004	0.001	NERA WWTP	Unknown
Principio South pump station	Cecil Street, Charlestown	2	3.27	3.01	1.19	NERA WWTP	16 inch
Ridgely Forest - Corktree Lane Pump Station	34 Corktree Lane, Elkton	2	0.094	0.087	0.021	NERA WWTP	4 inch
Route 279 Pump Station	1585 Elkton Newark Road, Elkton	2	0.12	0.0208	0.0083	Meadowview WWTP	6 inch
Route 40 Pump Station	2408 Pulaski Hwy, North East	2	1.41	0.53	0.133	NERA WWTP	12 inch
Washington Street Pump Station	1 Washington Street, North East	4	4	2.37	1.005	NERA WWTP	20 & 24 inch
West Creek Village Pump Station	4775 West Creek Village Dr, Elkton	2	1.71	1.54	0.415	Meadowview WWTP	10 inch

Pump Station Name	Location	Number of pumps	Pump Design Capacity (MGD)	Peak Flow (MGD)	Average daily flow (MGD)	Part of Conveyance system	Associated Force Main Diameter
Incorporated Towns							
Cecilton - Wilson St Pump Station	Wilson St & Church St, Cecilton	No data provided	No data provided	No data provided	No data provided	Town of Cecilton	No data provided
Cecilton - WWTP Influent pump station	262 N Bohemia Ave, Cecilton	2	No data provided	No data provided	No data provided	Town of Cecilton	6 inch
Chesapeake City - Bohemia Manor HS/MS pump station	2799 Augustine Herman Hwy, Chesapeake City	2	0.0397	0.0345	0.0115	Town of Chesapeake City	3 inch
Chesapeake City - VFW pump station	2655 Augustine Herman Hwy, Chesapeake City	2	0.1357	0.1245	0.0415	Town of Chesapeake City	4 inch
Chesapeake City - Bank St pump station	105 Bank St, Chesapeake City	2	0.0648	0.1715	0.049	Town of Chesapeake City	N/A
Elkton - Kensington Courts pump station	534 Highland Dr, Elkton	2	0.3485	0.2369	0.0592	Town of Elkton	4 inch
Elkton - Whitehall Rd pump station	116 Whitehall Rd, Elkton	2	0.2016	0.0946	0.0237	Town of Elkton	4 inch
Elkton - Warner Road pump station	8 Warner Rd, Elkton	2	0.9504	0.3117	0.0779	Town of Elkton	10 inch
Elkton - Patriots Glen pump station	300 Patriots Way, Elkton	2	0.9014	0.1919	0.048	Town of Elkton	8 & 10 inch
Elkton - Little Elk Creek pump station	407 Cow Ln, Elkton	2	0.5544	0.276	0.069	Town of Elkton	8 inch
Elkton - Washington Woods pump station	250 Independence Dr, Elkton	2	0.3168	0.2572	0.0643	Town of Elkton	4 inch
Elkton - Colonial Ridge pump station	153 Park Towne Dr, Elkton	2	0.2952	0.1248	0.0312	Town of Elkton	6 inch

Elkton - Elk Ridge pump station	58 1/2 Jessie Boyd Cir, Elkton	2	0.54	0.1161	0.029	Town of Elkton	6 inch
Elkton - Walnut Lane pump station	100 Gina Marie Ln, Elkton	2	0.0331	0.0155	0.0039	Town of Elkton	2 inch
Elkton - Upper Chesapeake pump station	202 Chesapeake Blvd, Elkton	2	0.1728	0.0188	0.0047	Town of Elkton	4 inch
Elkton - Meadows pump station	501 Elkwood Rd, Elkton	2	0.7373	0.2713	0.0678	Town of Elkton	8 & 10 inch
Elkton - Courts of Southfield pump station	340 Buttonwoods Rd, Elkton	2	0.6048	0.0318	0.008	Town of Elkton	6 inch
Perryville - Chesapeake Landing pump station	River Landing Ct, Perryville	2	0.12	0.03	0.01	Town of Perryville	4 inch
Perryville - North Frenchtown Rd pump station	1408 Frenchtown Rd, Perryville	2	1.253	1.253	0.314	Town of Perryville	10 inch
Perryville - South Frenchtown Rd pump station	1100 block of Frenchtown Rd, Perryville	2	1.44	1.289	0.323	Town of Perryville	10 inch
Perryville - Fairgreen pump station	100 Greenway, Perryville	2	0.11	0.048	Unknown	Town of Perryville	4 inch
Perryville - IKEA pump station	100 IKEA Way, Perryville	2	0.202	0.002	0.002	Town of Perryville	4 inch
Perryville - Owens Landing pump station	Owens Landing Ct, Perryville	2	0.13	0.06	0.02	Town of Perryville	4 inch
Perryville - Perryville library pump station	500 Coudon Blvd, Perryville	2	0.202	0.002	0.002	Town of Perryville	4 inch
Perryville - Roundhouse Dr pump station	202 Roundhouse Dr, Perryville	3	2.074	2.066	0.514	Town of Perryville	12 inch
Perryville - Turnpike Dr pump station	15 Turnpike Dr, Perryville	2	0.05	0.01	0.001	Town of Perryville	4 inch

Table 16 - Artesian Water Maryland - Projected Water Supply Demands and Planned Capacity

Service Area	2020 Actual									
	Population			Demand				Planned Capacity (AVG GPD)		
	Total	Served	Unserved	Residential Average (GPD)	Industrial / Commercial Average (GPD)	Total Average (GPD)	Peak (GPD)	MD Sources	Out-of-State Sources	Total
Meadowview / Elkton West		3,566		798.976			1,198,464	300,000	3,966,575	4,266,575
Pine Hills		913		52,236			78,354	110,000		110,000
Harbor View		326		16,888			25,332	50,000		50,000
Mt. Hill / Carpenters Pt.		2,297		78,084	61,992	140,075	210,113	345,000		345,000
Port Deposit		660		58,779			88,169	1,100,000		1,100,000

Service Area	2025									
	Population			Demand				Planned Capacity (AVG GPD)		
	Total	Served	Unserved	Residential Average (GPD)	Industrial / Commercial Average (GPD)	Total Average (GPD)	Peak (GPD)	MD Sources	Out-of-State Sources	Total
Meadowview / Elkton West		3,587		803,681			1,205,522	300,000	3,966,575	4,266,575
Pine Hills		918		52,522			78,783	110,000		110,000
Harbor View		328		16,992			25,487	50,000		50,000
Mt. Hill / Carpenters Pt. (1)		2,145		106,054	129,690	235,744	353,616	498,000		498,000
Port Deposit (2)		4,000		377,953	3,000,000	3,377,953	4,391,339	5,000,000		5,000,000

Service Area	2030									
	Population			Demand				Planned Capacity (AVG GPD)		
	Total	Served	Unserved	Residential Average (GPD)	Industrial / Commercial Average (GPD)	Total Average (GPD)	Peak (GPD)	MD Sources	Out-of-State Sources	Total
Meadowview / Elkton West		3,626		1,020,883			1,531,324	300,000	3,966,575	4,266,575
Pine Hills		928		109,628			164,442	365,000		365,000
Harbor View		332		26,000			39,000	50,000		50,000
Mt. Hill / Carpenters Pt. (3)		2,168		134,054	197,389	331,443	497,165	1,000,000		1,000,000
Port Deposit		5,000		472,441	3,250,000	3,722,441	4,839,173	5,000,000		5,000,000

Service Area	2035									
	Population			Demand				Planned Capacity (AVG GPD)		
	Total	Served	Unserved	Residential Average (GPD)	Industrial / Commercial Average (GPD)	Total Average (GPD)	Peak (GPD)	MD Sources	Out-of-State Sources	Total
Meadowview / Elkton West		3,671		1,126,034			1,689,051	300,000	3,966,575	4,266,575
Pine Hills		940		130,000			195,000	365,000		365,000
Harbor View		336		26,000			39,000	50,000		50,000
Mt. Hill / Carpenters Pt.		2,195		162,054	265,088	427,142	640,713	1,000,000		1,000,000
Port Deposit		5,500		519,685	3,500,000	4,019,685	5,225,591	5,000,000		5,000,000

(1) Charlestown Crossing to be built out by 2033
(2) Port Deposit - first phase of industrial customer requirements
(3) When the well capacity is not sufficient, a pipeline will be constructed from Port Deposit to the Mt. Hill area for additional supply.

Service Area	2040									
	Population			Demand				Planned Capacity (AVG GPD)		
	Total	Served	Unserved	Residential Average (GPD)	Industrial / Commercial Average (GPD)	Total Average (GPD)	Peak (GPD)	MD Sources	Out-of-State Sources	Total
Meadowview / Elkton West		3,709		1,242,015			1,863,023	300,000	3,966,575	4,266,575
Pine Hills		949		143,000			214,500	365,000		365,000
Harbor View		339		27,000			40,500	50,000		50,000
Mt. Hill / Carpenters Pt.		2,218		190,054	332,787	522,841	748,262	1,000,000		1,000,000
Port Deposit		6,000		566,929	5,000,000	5,566,929	7,237,008	7,500,000		7,500,000

Service Area	2045									
	Population			Demand				Planned Capacity (AVG GPD)		
	Total	Served	Unserved	Residential Average (GPD)	Industrial / Commercial Average (GPD)	Total Average (GPD)	Peak (GPD)	MD Sources	Out-of-State Sources	Total
Meadowview / Elkton West		3,744		1,242,015			1,863,023	300,000	3,966,575	4,266,575
Pine Hills		958		143,000			214,500	365,000		365,000
Harbor View		342		27,000			40,500	50,000		50,000
Mt. Hill / Carpenters Pt.		2,239		190,054	332,787	522,841	784,262	1,000,000		1,000,000
Port Deposit		6,500		614,173	6,500,000	7,114,173	9,248,425	10,000,000		10,000,000

Service Area	2050									
	Population			Demand				Planned Capacity (AVG GPD)		
	Total	Served	Unserved	Residential Average (GPD)	Industrial / Commercial Average (GPD)	Total Average (GPD)	Peak (GPD)	MD Sources	Out-of-State Sources	Total
Meadowview / Elkton West		3,780		1,242,015			1,863,023	300,000	3,966,575	4,266,575
Pine Hills		967		143,000			214,500	365,000		365,000
Harbor View		346		27,000			40,500	50,000		50,000
Mt. Hill / Carpenters Pt.*		2,261		789,720	332,787	522,841	784,262	1,000,000		1,000,000
Port Deposit		7,000		661,417	7,000,000	7,661,417	9,959,842	10,000,000		10,000,000

APPENDIX C

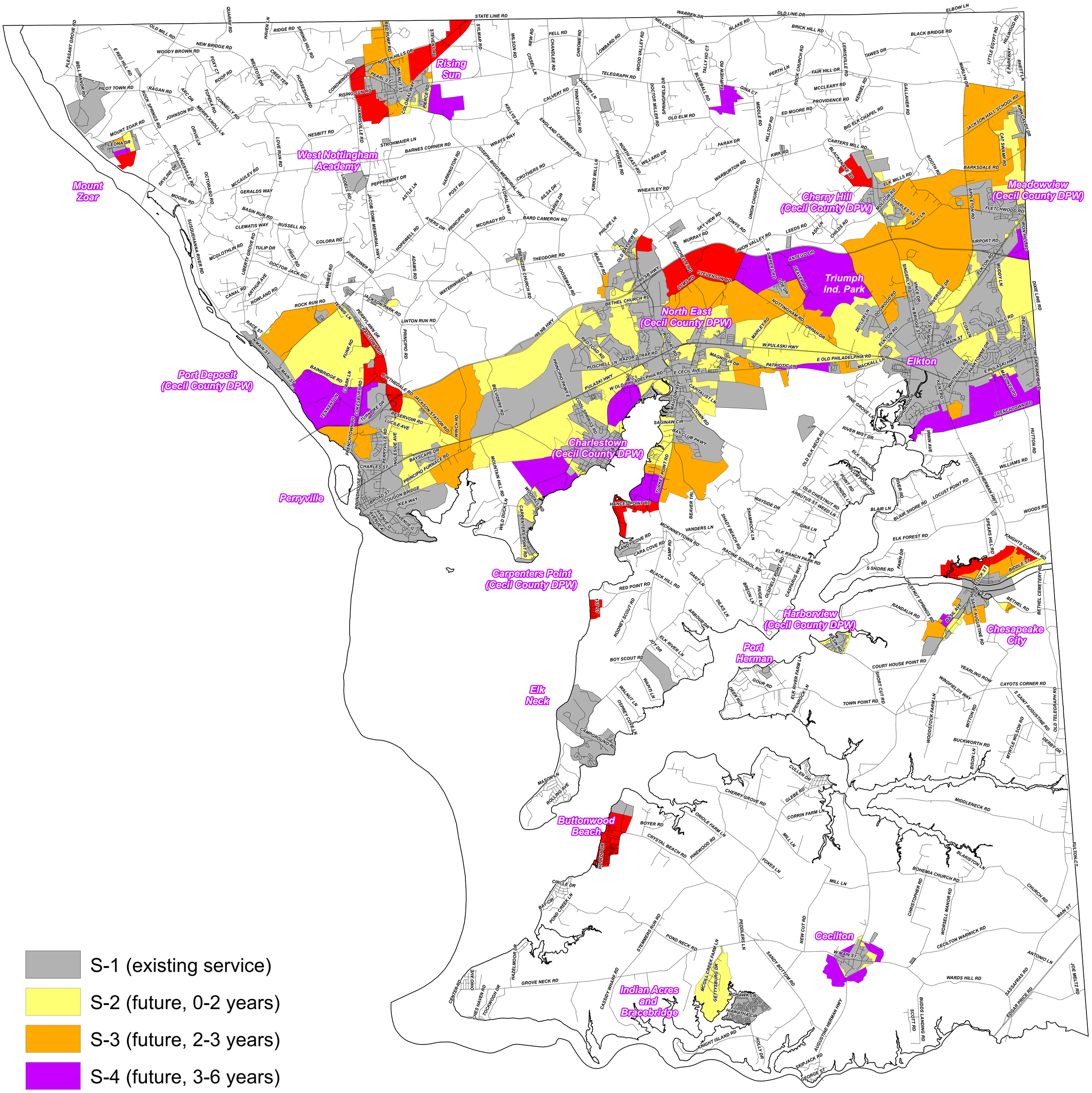
SANITARY SEWER SYSTEM MAPS

Cecil County 2018 Master Water & Sewer Plan
Appendix C – Sanitary Sewer Maps - Table of Contents

Page	System
1	County Wide Master Sewer Plan
2	Bracebridge and Indian Acres
3	Buttonwood Beach
4	Cecil County Department of Public Works (Carpenters Point)
5	Cecil County Department of Public Works (Charlestown)
6	Cecil County Department of Public Works (Cherry Hill)
7	Cecil County Department of Public Works (Harborview)
8	Cecil County Department of Public Works (Meadowview)
9	Cecil County Department of Public Works (North East)
10	Cecil County Department of Public Works (Port Deposit)
11	Cecilton
12	Chesapeake City
13	Elk Neck State Park
14	Elkton
15	Mount Zoar Area
16	Perryville
17	Port Herman
18	Rising Sun
19	Triumph Industrial Park
20	West Nottingham Academy
21	Woodlawn Area

Page	General Service Areas
22	Cherry Hill and Meadowview Wastewater Treatment Plants
23	North East River Advanced Wastewater Treatment Plant
24	Port Deposit Wastewater Treatment Plant

Cecil County
2018 Master Sewer Plan



S-1 (existing service)

S-2 (future, 0-2 years)

S-3 (future, 2-3 years)

S-4 (future, 3-6 years)

S-5 (future, 6-10 years)

0 2 4 Miles

November 9, 2018

Bracebridge and Indian Acres - Sewer Service Districts
2018 Cecil County Master Sewer Plan

N
W E
S

POND NECK RD
GROVE NECK RD
WOODLAWN LN
PEGGLERS LN
FRISBY'S PRIME CHOICE LN
CRYSTAL BEACH RD
MCGILL CREEK FARM LN
GEORGETOWN DR
UNION CIR
ANTIETAM WAY
BALD EAGLE PATCH
PRESIDENTS CIR
GETTYSBURG DR
POINT LOOKOUT CT
MOUNT HARMON RD
SANDY BOTTOM RD
NEW CUT RD
KNIGHT HOUSE LN
KNIGHT ISLAND RD
KOLN DR
TROLL LN

COOH LN
COLD FOOT LN
MOHAWK LN
INKA LN
LAUGHING WATER LN
HOOPAH LN
MOCAMBIA LN
NEMAHA LN
ZEOTA LN
CHINOOGE LN
MADELIA LN
PONCA LN
ACCOKEEK LN
COWEEA LN
RED HAWK LN
EAGLE CLAW LN
LITTLE TURTLE LN
HURON LN
LITTLE BEAVER LN
COMANCHE DR
OKAWAHA LN
NONNEGA LN
KAHMA LN
BLACKFEET LN
BALD EAGLE LN
TOLTEC LN
TETON LN
BACKUM LN
MICMAC LN
KAW LN
POTAWATAMI LN
BLACK FISH LN
WINOA LN
YUMA LN
WAMPANOAG LN
CHINOOK LN
IOWA LN
WABASH LN
OMAHA LN
RUNNING DEER LN
BOWTIE LN
PALUTE DR
PEACE PIPE LN
PUEBLO LN
BLACKHOOF LN
PECK SINAWAH LN
KENEU LN
KENEU CT
HAMO LN
TEE PEE LN
INDIAN CIR
MOHIKAN LN
WHITE FEATHER LN
EAGLE HEAD LN
FERESHTEH LN
WEYANOKE LN
YEKTA LN
TONTO LN
YUTAN LN
STORM LN
HIYA LN
HIAWATHA DR
APOPKA LN
ARAPAHO CIR
POMO LN
WIROK LN
HIAWATHA CIR
RISING MOON CIR
SETTING SUN CIR
NOKOMIS LN
RED HAWK LN
WAR CHIEF LN

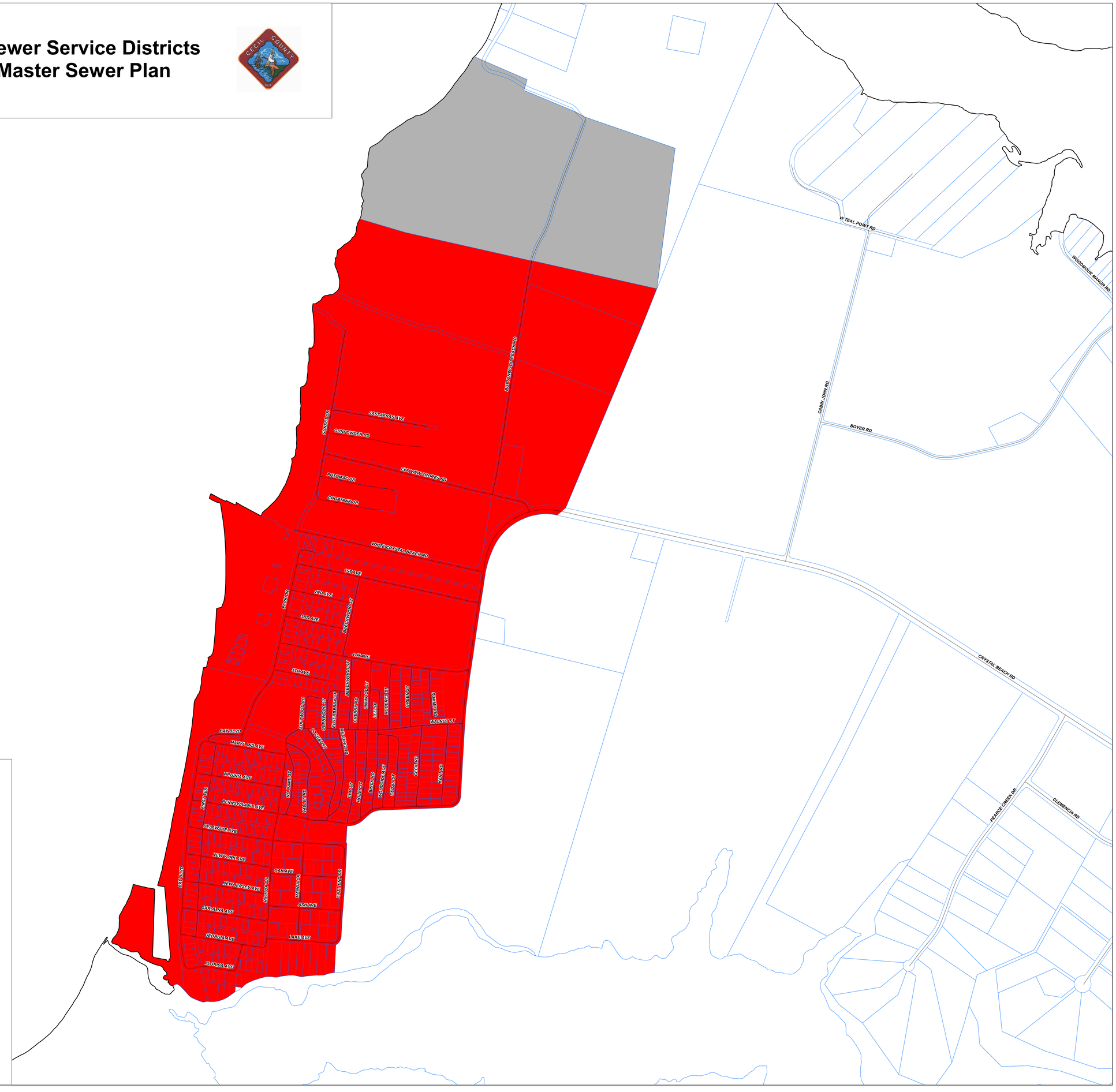
Parcels
S-1 (existing service)
S-2 (future, 0-2 years)
S-3 (future, 2-3 years)
S-4 (future, 3-6 years)
S-5 (future, 6-10 years)

0 800 1,600 Feet

June 15, 2018

Buttonwood Beach - Sewer Service Districts
2018 Cecil County Master Sewer Plan

N
W E
S



Parcels
S-1 (existing service)
S-2 (future, 0-2 years)
S-3 (future, 2-3 years)
S-4 (future, 3-6 years)
S-5 (future, 6-10 years)

0 600 1,200 Feet

June 15, 2018

Cecil County Department of Public Works
Carpenters Point - Sewer Service Districts
2018 Cecil County Master Sewer Plan

N
W E
S

CECIL COUNTY

MOUNTAIN HILL RD
CHAFFER HALL RD
BAKER COVE RD
POPLAR POINT RD
WILD RUSH LN
GREENBANK RD
CLARK RD
BRIGHTNER LN
WOODALL RD
LITTLE RIVER RD
GREENBANK CT
PIN OAK DR
WHITE OAK DR
CHESTNUT POINT RD
CARPENTERS POINT RD
KIRK RD
OAK RD
DERBERRY LN
GREENBRIAR RD
LAUREL RD
BARNES LN
CHERRY LN
WATER RD
CARPENTERS POINT LOOP
RIVERSIDE LN
MULLER THYME FARM LN
HIGH POINT RD

Parcels
S-1 (existing service)
S-2 (future, 0-2 years)
S-3 (future, 2-3 years)
S-4 (future, 3-6 years)
S-5 (future, 6-10 years)

0 600 1,200 Feet

June 15, 2018

Cecil County Department of Public Works
Charlestown - Sewer Service Districts
2018 Cecil County Master Sewer Plan

N
W E
S

Parcels
S-1 (existing service)
S-2 (future, 0-2 years)
S-3 (future, 2-3 years)
S-4 (future, 3-6 years)
S-5 (future, 6-10 years)

0 1,000 2,000 Feet

June 15, 2018

Cecil County Department of Public Works
Cherry Hill - Sewer Service Districts
2018 Cecil County Master Sewer Plan

N
W E
S

Parcels
S-1 (existing service)
S-2 (future, 0-2 years)
S-3 (future, 2-3 years)
S-4 (future, 3-6 years)
S-5 (future, 6-10 years)

0 800 1,600 Feet

June 15, 2018

Cecil County Department of Public Works
Harborview - Sewer Service Districts
2018 Cecil County Master Sewer Plan

N
W E
S

DARTMOUTH RD
HILLVIEW AVE
SHADY DR
FOREST LN
CANAL RD
BAYVIEW RD
RIVER RD
BASIN RD
ELK RD
NORTH RD
HARBOUR RD
SUNNYSIDE DR
WOODSIDE DR
COURT HOUSE POINT RD

Parcels
S-1 (existing service)
S-2 (future, 0-2 years)
S-3 (future, 2-3 years)
S-4 (future, 3-6 years)
S-5 (future, 6-10 years)

0 200 400 Feet

June 15, 2018

Cecil County Department of Public Works
Meadowview - Sewer Service Districts
2018 Cecil County Master Sewer Plan

N
W E
S

TELEGRAPH RD
SPRING VALLEY RD
LOCHARRON DR
MEGAN CIR
KIRKCALDY DR
BALLANTRAE DR
APPLEWOOD FARM LN
JACKSON HALL SCHOOL RD
VALLEY RD
CAT SWAMP RD
STARLING LN
BARKSDALE RD
BARNETT DR
BOOTH RD
BREWSTER BRIDGE RD
BARKSDALE CT
VIEVES WAY
APACHE PL
CHESTNUT DR
STIRRUP DR
N NAVAHO TRL
MAPLE CT
WEST CREEK VILLAGE DR
PETTINARO DR
S NAVAHO TRL
WILLOW CT
APPALOOSA TRL
WINCHESTER DR
PALOMINO PL
WILLOW DR
CIMARRON CIR
BEECH DR
MULE DEER CT
WHITE TAIL WAY
KARINA CT
AZALEA CIR
SPICEBUSH CIR
MARSH LN
BUTTONBUSH CT
PERSIMMON LN
FRAME ROW LN
SUNBURST DR
KNOB HILL RD
WRIGHT AVE
BALDWIN CHURCH RD
CREEK DR
OAKRIDGE CT
ELK MILLS RD
APPLETON RD
OAKMONT DR
RED ROSE CT
FLETCHWOOD RD
CHERRY LN
WALNUT DR
PEACH RD
APPLE LN
SYCAMORE RD
ELKTON RD
STONEGATE BLVD
PERFORMANCE CT
LOVETT DR
AIRPORT RD
IRON HILL RD
CHESTNUT HILL RD
DIXIE LINE RD
ELKTON RD SB TO I95 SB RAMP
I95 SB TO ELKTON RD NB RAMP
I95 NB TO ELKTON RD SB RAMP
ELKTON RD NB TO I95 NB RAMP
FEEDER RD
DIXON LN

Parcels
S-1 (existing service)
S-2 (future, 0-2 years)
S-3 (future, 2-3 years)
S-4 (future, 3-6 years)
S-5 (future, 6-10 years)

0 1,000 2,000 Feet

June 15, 2018

Cecil County Department of Public Works
North East - Sewer Service Districts
2018 Cecil County Master Sewer Plan

N
W E
S

Parcels
S-1 (existing service)
S-2 (future, 0-2 years)
S-3 (future, 2-3 years)
S-4 (future, 3-6 years)
S-5 (future, 6-10 years)

0 1,500 3,000 Feet

June 15, 2018

Cecil County Department of Public Works
Port Deposit - Sewer Service Districts
2018 Cecil County Master Sewer Plan

N
W E
S

HONORE LN
LIBERTY GROVE RD
OLD SCHOOLHOUSE DR
RACE ST
ROCK RUN RD
SUSQUEHANNA RIVER RD
MILL ST
ROCK RUN UNPD
GRANITE AVE
N MAIN ST
VANNORT DR
CENTER ST
ROWLAND DR
OYSTER SHELL ALY
CAMERONS ALY
HIGH ST
S MAIN ST
ANCHOR HOPE LN
JACOB TOME MEMORIAL HWY
BAINBRIDGE RD

Parcels
S-1 (existing service)
S-2 (future, 0-2 years)
S-3 (future, 2-3 years)
S-4 (future, 3-6 years)
S-5 (future, 6-10 years)

0 500 1,000 Feet

June 15, 2018

Cecilton - Sewer Service Districts
2018 Cecil County Master Sewer Plan

N
W E
S

CRYSTAL BEACH RD
INDIAN RANGE FARM LN
AUGUSTINE HERMAN HWY
N BOHEMIA AVE
W JACOBS WAY
JOEL AVE
E JACOBS WAY
N CENTER ST
PARKLANDS LOOP
ELIZABETH WAY
W MAIN ST
E MAIN ST
CECILTON/WARWICK RD
WATER ST
STUMP LN
RICHARDS ST
WILSON ST
CHURCH ST
CENTER ST
DOUGLAS LN
S BOHEMIA AVE
AUGUSTINE HERMAN HWY

Parcels
S-1 (existing service)
S-2 (future, 0-2 years)
S-3 (future, 2-3 years)
S-4 (future, 3-6 years)
S-5 (future, 6-10 years)

0 500 1,000 Feet

June 15, 2018

Town of Chesapeake City - Sewer Service Districts
2018 Cecil County Master Sewer Plan

N
W E
S

Parcels
S-1 (existing service)
S-2 (future, 0-2 years)
S-3 (future, 2-3 years)
S-4 (future, 3-6 years)
S-5 (future, 6-10 years)

0 900 1,800 Feet

June 12, 2018

Note: The Chesapeake Estates MHP located on Bethel Rd currently has its own community sewer system (S-1), but for purposes of this map, it is shown as S-3, representing a potential connection to the Town of Chesapeake City's sewer system.

Elk Neck State Park - Sewer Service Districts
2018 Cecil County Master Sewer Plan

N
W E
S

HORSESHOE POINT LN
TURKEY POINT RD
OSPREY COVE LN
WALNUT LN
HARRYS LN
NORTH EAST BEACH RD
MAULDIN MOUNTAIN RD
CAMPGROUND RD
BOHEMIA LOOP
RUSTIC CABIN RD
TREE ADON LOOP
CHESTER LOOP
NORTH EAST LOOP
SASSAFRAS LOOP
YOUTH GROUP LOOP
STONEY POINT RD
WYE LOOP
SUSQUEHANNA LOOP
CHOPTANK LOOP
ELK LOOP
MILES LOOP
ROGUES HARBOR RD

Parcels
S-1 (existing service)
S-2 (future, 0-2 years)
S-3 (future, 2-3 years)
S-4 (future, 3-6 years)
S-5 (future, 6-10 years)

0 700 1,400 Feet

June 15, 2018

Elkton - Sewer Service Districts
2018 Cecil County Master Sewer Plan

N
W E
S

Parcels
S-1 (existing service)
S-2 (future, 0-2 years)
S-3 (future, 2-3 years)
S-4 (future, 3-6 years)
S-5 (future, 6-10 years)

0 1,500 3,000 Feet

November 9, 2018

Mount Zoar Area - Sewer Service Districts
2018 Cecil County Master Sewer Plan

N
W E
S

MOUNT ZOAR RD
ALLSPICE DR
CINNAMON DR
PEPPER WAY
NUTMEG DR
CURRY AVE
BILL LIGHT RD
LINDSTE DR
BODDY LN
GRACE ANN DR
LEONA DR
PARK WAY
HILLCREST DR
NORTH VW
MEADOW WOOD
LAKE VW
SHADY VW
SUNSHINE
SPRINGWAY
WOODSIDE DR
SCHOOLHOUSE LN

Parcels
S-1 (existing service)
S-2 (future, 0-2 years)
S-3 (future, 2-3 years)
S-4 (future, 3-6 years)
S-5 (future, 6-10 years)

0 300 600 Feet

June 15, 2018

Perryville - Sewer Service Districts
2018 Cecil County Master Sewer Plan

N
W E
S

CECIL COUNTY

PRINCIPIO RD
HAWLEY RD
I95 SB HWY
I95 NB HWY
I95 SB TO PERRYLAWN DR RAMP
OLD HAWLEY RD
CLARK LN
BAINBRIDGE RD
HAPPY VALLEY RD
MOUNT ARARAT FARM RD
COVESBURY RD
TENNANT LN
FRANK BROWN LN
PERRYLAWN DR
PERRYLAWN DR NB TO I95 NB RAMP
BLYTHEDALE RD
GR DAWSON DR
TURNPIKE DR
HEATHER LN
JACKSON STATION RD
BROOKSIDE DR
COLLINS DR
RESERVOIR RD
PATTERSON AVE
LUCILE AVE
HERBST LN
PERRYVILLE RD
PENNY LN
HILLSIDE LN
CRESWELL LN
SIMMONS LN
HORNBERGER LN
ALLSTONE FARM LN
SAINT MARKS CHURCH RD
BEACON POINT DR
W CEDAR POINT DR
E CEDAR POINT DR
DRUM POINT CT
LIGHTHOUSE RD
COVE POINT WAY
THOMAS POINT WAY
CONCORD POINT DR
WATER PLANT DR
GREENSPRING AVE
INGLESIDE AVE
CEDAR CORNER RD
PULASKI HWY
BAY CIRCLE DR
OXFORD CT
STARBOARD CT
BAYSCAPE DR
RIVERVIEW DR
BROWN RD
GILLEY RD
CHESAPEAKE LANDING DR
SILVER KING CT
MILL CREEK RD
CHESAPEAKE VIEW RD
PRINCIPIO FURNACE RD
N WOODLANDS FARM LN
S WOODLANDS FARM LN
SUMPTER DR
MCGUIRE WAY
CLAYTON ST
JOHN ST
FRANKLIN ST
AIKEN AVE EXT
CHARLES ST
RICHMOND DR
NELL ST
CARTER CT
MANSION DR
RUSTIC CT
COUDON BLVD
RICHMOND ST
COLE ST
OWENS CT
KEESEY LN
FRENCHTOWN RD
HONAKER ST
MAYWOOD AVE
GREENWAY
AIKEN AVE
MILL CREEK AVE
CECIL AVE
MARYLAND AVE
ALETA LN
CONCORD DR
ROUNDHOUSE DR
SUSQUEHANNA AVE
LOCUST ST
CHERRY ST
ARCH ST
OTSEGO ST
EVANS ST
HAREFORD ST
MARTINO WAY
BROAD ST
ELLIS CT
MCLHINNEY ST
GERRY PERRY WAY
IKEA WAY
COUDON BRIDGE
RIVER RD
OWENS LANDING CT
SMITH LN
FRONT ST
ELM ST
AVENUE G
MARION N TAPP PKWY
SECOND ST
THIRD ST
FOURTH ST
FIFTH ST
SIXTH ST
SEVENTH ST
EIGHTH ST
NINTH ST
TENTH ST
AVENUE A
AVENUE B
AVENUE C
AVENUE D
AVENUE E
AVENUE F
BOILER HOUSE RD
SERVICE DR
LAUNDRY DR
WARD CIR
CHAPEL DR

Parcels
S-1 (existing service)
S-2 (future, 0-2 years)
S-3 (future, 2-3 years)
S-4 (future, 3-6 years)
S-5 (future, 6-10 years)

0 1,000 2,000 Feet

June 15, 2018

Port Herman - Sewer Service Districts
2018 Cecil County Master Sewer Plan

N
W E
S

PARK DR
GRIER AVE
RIVERVIEW AVE
MARYLAND AVE
DELAWARE AVE
BRISCOE AVE
HOLLYWOOD
FRONT ST
APPLE ST
PLUM ST
2ND ST
SHIPWATCH LN
CHERRY ST
PORT HERMAN DR
PORT HERMAN RD

Parcels
S-1 (existing service)
S-2 (future, 0-2 years)
S-3 (future, 2-3 years)
S-4 (future, 3-6 years)
S-5 (future, 6-10 years)

0 120 240 Feet

June 15, 2018

Rising Sun - Sewer Service Districts
2018 Cecil County Master Sewer Plan

N
W E
S

Parcels
S-1 (existing service)
S-2 (future, 0-2 years)
S-3 (future, 2-3 years)
S-4 (future, 3-6 years)
S-5 (future, 6-10 years)

0 900 1,800 Feet

June 15, 2018

Triumph Industrial Park - Sewer Service Districts
2018 Cecil County Master Sewer Plan

THIS MAP WAS DELETED BY PLAN AMENDMENTS DATED JULY 2022

HOPE LN
ZEITLER LN
ENTERPRISE DR
JAMES WAY
TRIUMPH PARK DR
TECHNOLOGY DR
ELK PARK WAY
BLUEBALL RD
DOGWOOD RD
DOGWOOD FARM LN
KIST RD
BROOMS LN
ELKTON RD

- Parcels
- S-1 (existing service)
- S-2 (future, 0-2 years)
- S-3 (future, 2-3 years)
- S-4 (future, 3-6 years)
- S-5 (future, 6-10 years)

0 300 600 Feet

June 15, 2018

West Nottingham Academy - Sewer Service Districts
2018 Cecil County Master Sewer Plan

N
W E
S

PICCADILLY CT
HARRISVILLE RD
JACOB TOME MEMORIAL HWY
COWAN RD
SALE BARN RD
NORMAN RD
MAGGIES LN
FIRETOWER RD

Parcels
S-1 (existing service)
S-2 (future, 0-2 years)
S-3 (future, 2-3 years)
S-4 (future, 3-6 years)
S-5 (future, 6-10 years)

0 200 400 Feet

June 15, 2018

Woodlawn Area - Sewer Service Districts
2018 Cecil County Master Sewer Plan

N
W E
S

Parcels
S-1 (existing service)
S-2 (future, 0-2 years)

0 600 1,200 Feet

June 15, 2018

FIRST RD
CANNICE DR
BRYANT LN
HERBIES CURV
DOCTOR JACK RD
ROSEMONT FARM LN
LINDA LN
TWIN DR
HOPEWELL RD
FIRETOWER RD
THEODORE RD
CAMP MEETING GROUND RD
MARIAN DR
CRAIGTOWN RD
HONEYSUCKLE DR
WAIBEL RD
WAIBELWOOD LN
BUTTONWOOD LN
LOCUST CT
MAPLE HILL DR
BIRCH CT
OAK CT
JACOB TOME MEMORIAL HWY
BILL AMOS WAY
ABRAHAMS RD
ORCHARD DR
STAYMAN DR
YORK DR
CEDAR DR
WILLOW DR
LOCUST LN
JACKSON PARK RD
ROCK RUN RD
TAYLOR BLUE CT
LEIGHTON GREEN CT
BLUE BELL CT
DAISY LN
WILD ORCHID WAY
MISTY MEADOWS DR
DOWNY LN
TENNIS LN
MEADOW WALK DR
MEADOW LARK DR
MISTY LN
HIGHLAND HILL DR
E CIRCLE DR
W CIRCLE DR
GARDEN DR
LARGO LN
SANDY BROOK DR
WILDWOOD LN
PERRYLAWN DR
MOCKINGBIRD LN
BLUE BIRD LN
SUNNYSIDE DR
LAGOON DR
CENTRAL DR
DENISE ST
BRENDA ST
FRONT ST
HOMESTEAD DR
PEARL DR
BENJAMIN PARK DR
BURL RD
BARTON RD
PLEASANTVIEW CHURCH RD
FUNK RD
PRINCIPIO RD

Cherry Hill & Meadowview WWTP Service Areas
2018 Cecil County Master Sewer Plan

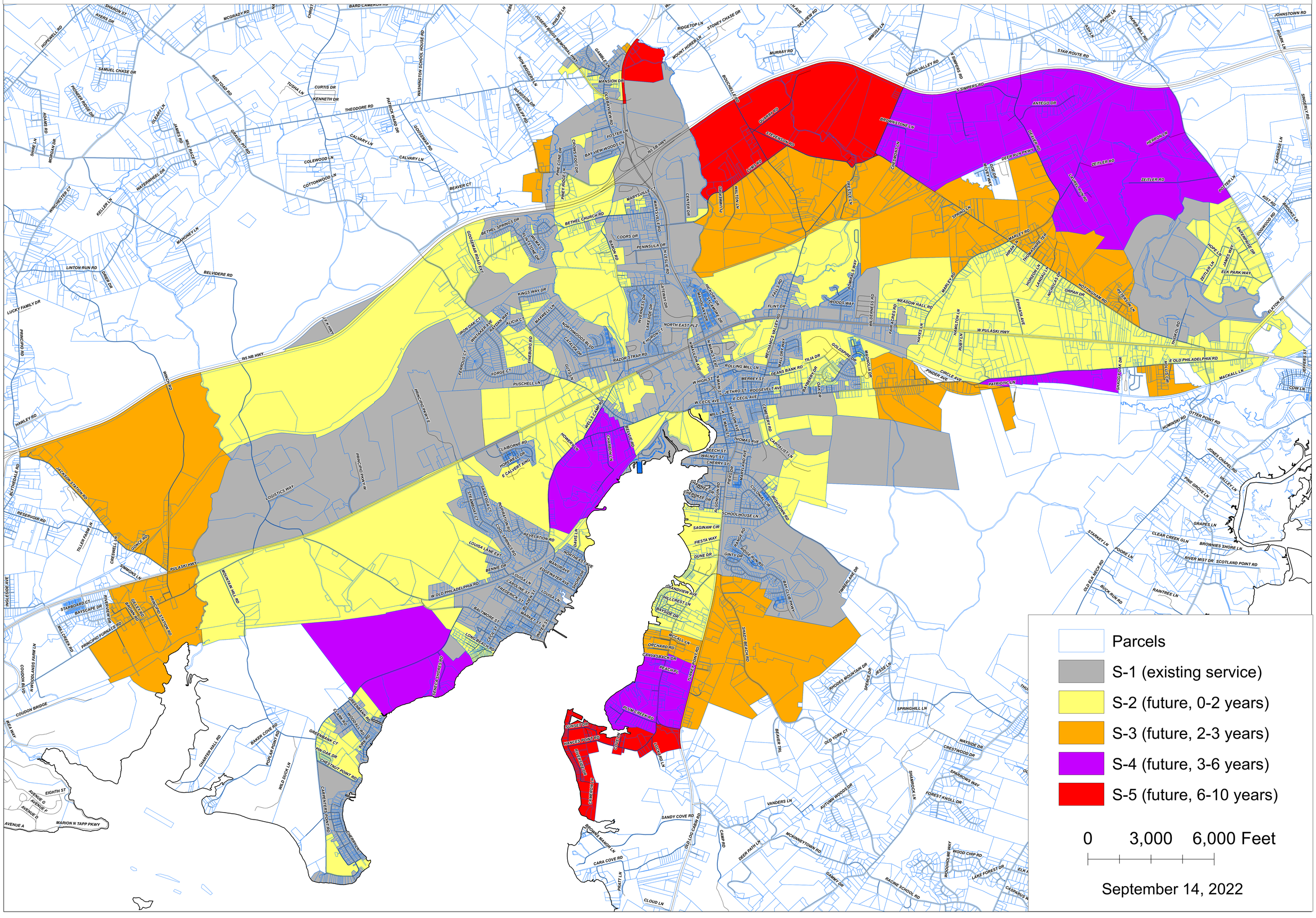
N
W E
S

Parcels
S-1 (existing service)
S-2 (future, 0-2 years)
S-3 (future, 2-3 years)
S-4 (future, 3-6 years)
S-5 (future, 6-10 years)

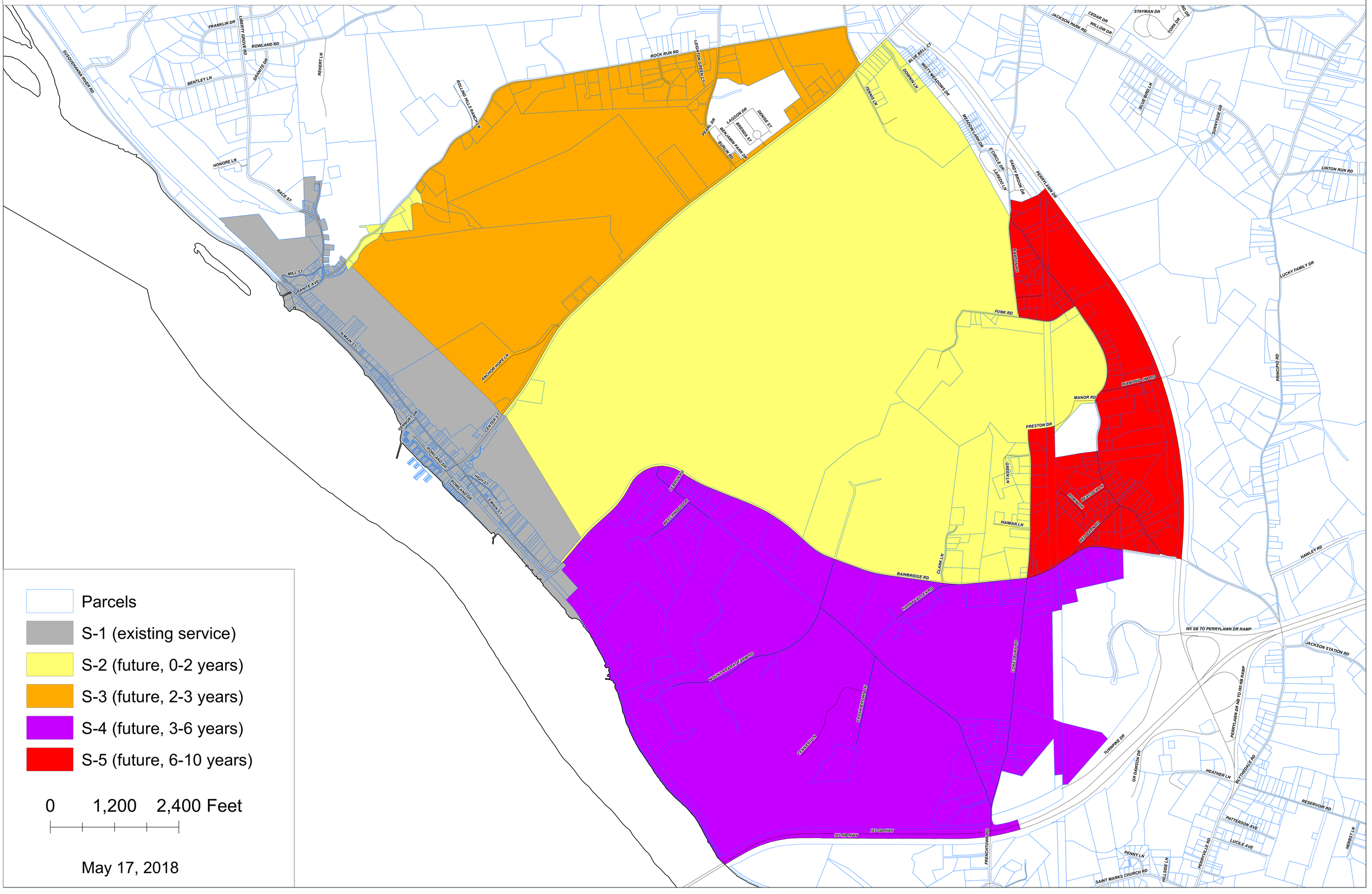
0 2,000 4,000 Feet

May 11, 2018

North East Advanced WWTP Service Area
2018 Cecil County Master Sewer Plan



Port Deposit WWTP Service Area
2018 Cecil County Master Sewer Plan



Parcels
S-1 (existing service)
S-2 (future, 0-2 years)
S-3 (future, 2-3 years)
S-4 (future, 3-6 years)
S-5 (future, 6-10 years)

0 1,200 2,400 Feet

May 17, 2018

APPENDIX D

WATER SYSTEM MAPS

Cecil County 2018 Master Water & Sewer Plan
Appendix D – Water System Maps - Table of Contents

Page	System
1	County Wide Master Water Plan
2	Artesian (Carpenters Point)
3	Artesian (Cherry Hill)
4	Artesian (Harborview)
5	Artesian (Highlands)
6	Artesian (Meadowview)
7	Artesian (Mountain Hill)
8	Artesian (Pine Hills)
9	Artesian (Port Deposit)
10	Bracebridge & Indian Acres
11	Cecil Woods and Town & Country MHP
12	Cecilton
13	Charlestown
14	Chesapeake City
15	Crystal Beach and Buttonwood Beach
16	Elk Neck State Park
17	Elkton
18	Mount Zoar area
19	North East
20	Perry Point
21	Perryville
22	Port Herman
23	Rising Sun
24	Woodlawn Area

Cecil County
2019 Master Water Plan

N
W E
S

Mount Zoar
Port Deposit (Artesian)
Perryville
Rising Sun
Mountain Hill (Artesian)
Perry Point
Carpenters Point (Artesian)
Charlestown
North East
Artesian
Fair Hill NRMA (MES)
Highlands (Artesian)
Cherry Hill (Artesian)
Meadowview (Artesian)
Elkton West (Artesian)
Elkton
Pine Hills (Artesian)
Harborview (Artesian)
Chesapeake City
Port Herman
Elk Neck
Crystal Beach
Indian Acres and Bracebridge
Cecilton

- W-1 (existing service)
- W-2 (future, 0-2 years)
- W-3 (future, 2-3 years)
- W-4 (future, 3-6 years)
- W-5 (future, 6-10 years)

0 2 4 Miles

December 4, 2019

Artesian (Carpenters Point) - Water Service Districts
2018 Cecil County Master Water Plan

N
W E
S

CARPENTERS POINT RD
SENECA SHORES RD
CHARLESTOWN PL
COLONIAL DR
YASHER LN
CONESTOGA ST
WATER ST
DALE DR
CECIL ST
LONG BEACH RD
GREENSPRING RD
CHESAPEAKE RD
SUNDAY DR
CECIL RD
GREENBANK RD
CLARK RD
LITTLE RIVER RD
BRIGHTNER LN
WOODALL RD
KIRK RD
GREENBANK CT
PIN OAK DR
WHITE OAK DR
CHESTNUT POINT RD
MOUNTAIN HILL RD
BAKER COVE RD
POPLAR POINT RD
CHAPTER HALL RD
WILD DUCK LN
MULLER THYME FARM LN
OAK RD
DEWBERRY LN
LAUREL RD
BARNES LN
CHERRY LN
WATER RD
CARPENTERS POINT LOOP
RIVERSIDE LN
HIGH POINT RD

Parcels
W-1 (existing service)
W-2 (future, 0-2 years)
W-3 (future, 2-3 years)

0 800 1,600 Feet

June 14, 2018

Artesian (Cherry Hill) - Water Service Districts
2018 Cecil County Master Water Plan

N
W E
S

CECIL COUNTY

CARTERS MILL RD
SMYRNA RD
GALLAHER RD
JACKSON HALL SCHOOL RD
BRADLEY CT
BRADLEY RUN RD
RUSSELL RD
BARNETT DR
BOOTH RD
BARKSDALE RD
BARKSDALE CT
BREWSTER BRIDGE RD
BLACKSNAKE RD
BREEZEWAY DR
BATHON LOOP
BATHON CIR
LONG DR
LEEDS RD
MARY JANE LN
DANIEL BATHON DR
MARY AMITA CT
MATTHEW BATHON CT
WALNUT CT
BEAUCHAMP RD
DORIS DR
BOOT HILL CT
CHASE CIR
SHANNON DR
BRITTANY CT
PAGE LOOP
CHERRY HILL RD
SOMERSET CT
STRATTON CIR
ACADEMY DR
MOULTON RD
AVALON AVE
CHARLES CT
CHARLES ST
HILLCREST CT
ROSATO LN
KENNEDY BLVD
HIGHLAND AVE
WOODY LN
HERON HILL RD
HERON CT
SUNBURST DR
FRAME TOWN LN
BLACKWELL RD
KNOB HILL RD
WRIGHT AVE
BALDORN CHURCH RD
CREEK DR
APPLETON RD
VIEVES WAY
LUMBER MILL LN
EARL LN
JOHNSTOWN RD
JOHNSTOWN LN
MARS AVE
ROSARIO LN
I95 NB HWY
I95 SB HWY

Parcels
W-1 (existing service)
W-2 (future, 0-2 years)
W-3 (future, 2-3 years)
W-4 (future, 3-6 years)
W-5 (future, 6-10 years)

0 800 1,600 Feet

June 14, 2018

Artesian (Harborview) - Water Service Districts
2018 Cecil County Master Water Plan

N
W E
S

DARTMOUTH RD
HILLVIEW AVE
SHADY DR
FOREST LN
CANAL RD
BAYVIEW RD
RIVER RD
BASIN RD
ELK RD
NORTH RD
SUNNYSIDE DR
WOODSIDE DR
HARBOUR RD
FOREST LN
COURT HOUSE POINT RD

Parcels
W-1 (existing service)
W-2 (future, 0-2 years)
W-3 (future, 2-3 years)
W-4 (future, 3-6 years)
W-5 (future, 6-10 years)

0 200 400 Feet

June 14, 2018

Artesian (Highlands) - Water Service Districts
2018 Cecil County Master Water Plan

N
W E
S

JACKSON HALL SCHOOL RD
LOCHARRON DR
MEGAN CIR
KIRKCALDY DR
JOHNSTON DR
BALLANTRAE CT
BALLANTRAE DR
VALLEY RD

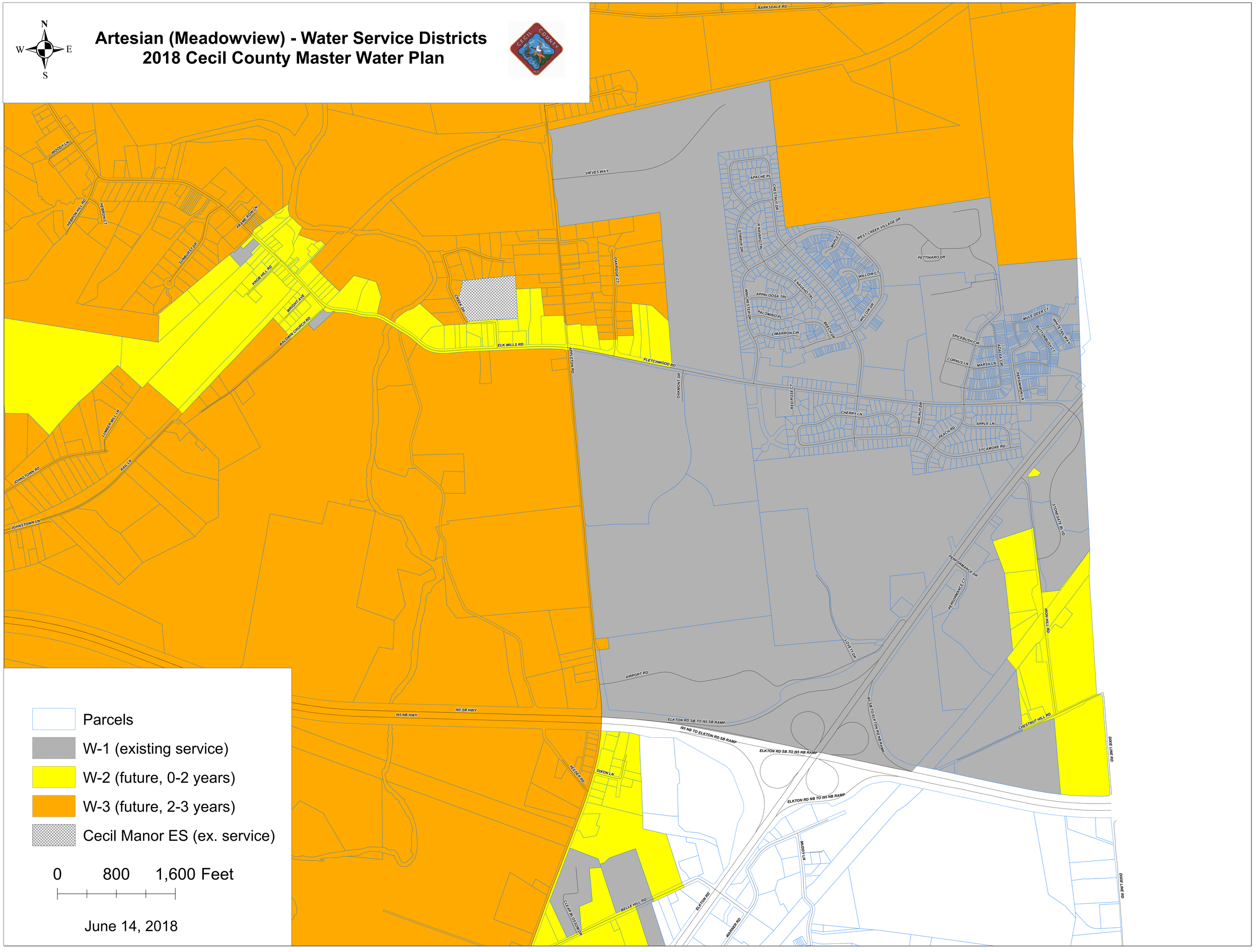
Parcels
W-1 (existing service)
W-2 (future, 0-2 years)
W-3 (future, 2-3 years)
W-4 (future, 3-6 years)
W-5 (future, 6-10 years)

0 300 600 Feet

June 14, 2018

Artesian (Meadowview) - Water Service Districts
2018 Cecil County Master Water Plan

N
W E
S



Parcels
W-1 (existing service)
W-2 (future, 0-2 years)
W-3 (future, 2-3 years)
Cecil Manor ES (ex. service)

0 800 1,600 Feet

June 14, 2018

Artesian (Mountain Hill) - Water Service Districts
2019 Cecil County Master Sewer Plan

N
W E
S

Parcels
W-1 (existing service)
W-2 (future, 0-2 years)
W-3 (future, 2-3 years)
W-4 (future, 3-6 years)
W-5 (future, 6-10 years)

0 1,600 3,200 Feet

May 17, 2019

Artesian (Pine Hills) - Water Service Districts
2018 Cecil County Master Water Plan

N
W E
S

Parcels
W-1 (existing service)
W-2 (future, 0-2 years)
W-3 (future, 2-3 years)
W-4 (future, 3-6 years)
W-5 (future, 6-10 years)

0 500 1,000 Feet

June 14, 2018

Artesian (Port Deposit) - Water Service Districts
2018 Cecil County Master Water Plan

N
W E
S

HONORE LN
SUSQUEHANNA RIVER RD
OLD SCHOOLHOUSE DR
ROCK RUN RD
RACE ST
MILL ST
ROCK RUN END
GRANITE AVE
N MAIN ST
ANCHOR HOPE LN
VANMORT DR
ROWLAND DR
OYSTER SHELL ALY
CAMERON ALY
HIGH ST
S MAIN ST
CENTER ST
PEARL DR
LAGOON DR
CENTRAL DR
DENISE ST
BRENDA ST
FRONT ST
BENJAMIN PARK DR
BURLIN RD
HOMESTEAD DR
JACOB TOME MEMORIAL HWY
LEMMING RD
FRENCHTOWN RD
BAINBRIDGE RD
BEECHWOOD DR
MOUNT HARMONY CHURCH RD

Parcels
W-1 (existing service)
W-2 (future, 0-2 years)
W-3 (future, 2-3 years)
W-4 (future, 3-6 years)
W-5 (future, 6-10 years)

0 600 1,200 Feet

June 14, 2018

Bracebridge and Indian Acres - Water Service Districts
2019 Cecil County Master Water Plan

N
W E
S

Parcels
W-1 (existing service)
W-2 (future, 0-2 years)
W-3 (future, 2-3 years)
W-4 (future, 3-6 years)
W-5 (future, 6-10 years)

0 700 1,400 Feet

June 12, 2019

Cecil Woods and Town & Country MHP - Water Service Districts
2018 Cecil County Master Water Plan

N
W E
S

HIMITZ CT
HALSEY CT
ADMIRALS WAY
SPRUANCE CT
WOODS WAY
TARRAGUT CT
RAVEN CT
TERN CT
MANASSAS DR
SEMINARY LN
MALVERN DR
MONTGOMERY LN
SUMPTER LN
CECIL WOODS RD
WILDERNESS RD
SHILOH DR
W PULASKI HWY

Parcels
W-1 (existing service)
W-2 (future, 0-2 years)
W-3 (future, 2-3 years)
W-4 (future, 3-6 years)
W-5 (future, 6-10 years)

0 210 420 Feet

June 14, 2018

Cecilton - Water Service Districts
2018 Cecil County Master Water Plan

N
W E
S

W-1 (existing service)
W-2 (future, 0-2 years)
W-4 (future, 3-6 years)

0 2,000 4,000 Feet

June 14, 2018

Charlestown - Water Service Districts
2018 Cecil County Master Water Plan

N
W E
S

Parcels
W-1 (existing service)
W-2 (future, 0-2 years)
W-3 (future, 2-3 years)
W-4 (future, 3-6 years)
W-5 (future, 6-10 years)

0 800 1,600 Feet

June 14, 2018

Town of Chesapeake City - Water Service Districts
2018 Cecil County Master Water Plan

N
W E
S

SPEARS HILL RD
KNIGHTS CORNER RD
BRIDGEVIEW DR
CANAL ESTATES DR
BIDDLE ST
FOARD LN
HEMPHILL ST
BLUEFIELD DR
BROWNFIELD LOOP
REDFIELD DR
PAWN DR
BROWNFIELD LOOP
CANAL DR
BOAT YARD RD
LOCK ST
MOSS ST
GRAYSON AVE
CECIL ST
LEWIS ST
UNION ST
BANK ST
BANK ST
HARRY JACKSON ST
SOLAR FARM LN
FERN LN
COUNTRY RD
WALNUT DR
LINDSEY AVE
THIRD ST
PINE ST
GEORGE ST
4TH ST
BOHEMIA AVE
2ND ST
1ST ST
FERRY SLIP RD
MOUNT NEBO RD
ILER LN
BETHEL CEMETERY RD
MALLARD DR
BUDDY BLVD
BETHEL RD
LUFE LN
NICHOLAS COOP
CHESTNUT SPRINGS RD
DIESEL AVE
HARKINS LN
AUGUSTINE HERMAN HWY
RANDALIA RD
HESSEY LN
N SAINT AUGUSTINE RD
MESICK DR
WILSON ST
FOX VALLEY RD

Parcels
W-1 (existing service)
W-2 (future, 0-2 years)
W-3 (future, 2-3 years)
W-4 (future, 3-6 years)
W-5 (future, 6-10 years)

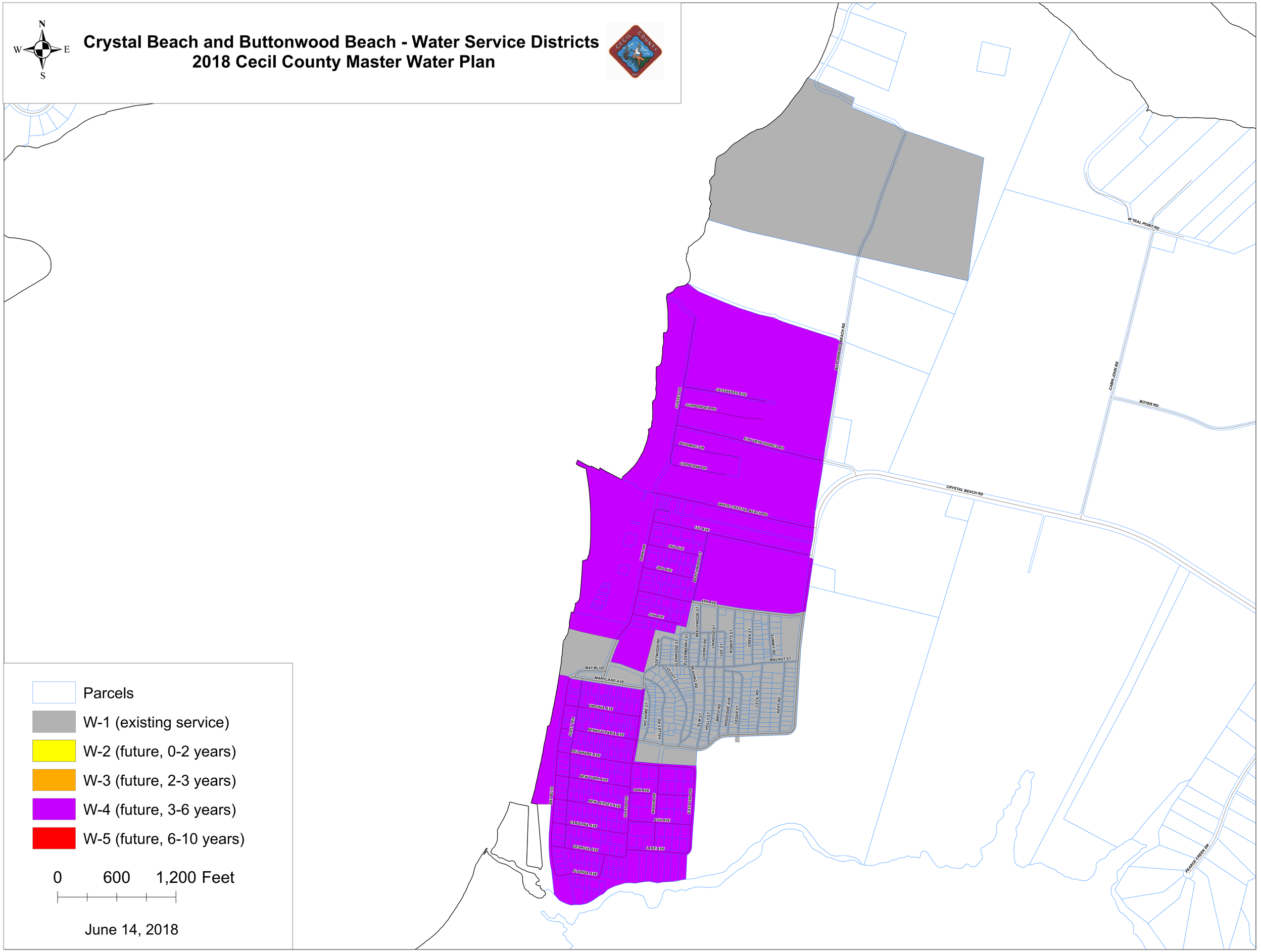
0 900 1,800 Feet

June 12, 2018

Note: The Chesapeake Estates MHP located on Bethel Rd currently has its own community water system (W-1), but for purposes of this map, it is shown as W-3, representing a potential connection to the Town of Chesapeake City's water system.

Crystal Beach and Buttonwood Beach - Water Service Districts
2018 Cecil County Master Water Plan

N
W E
S

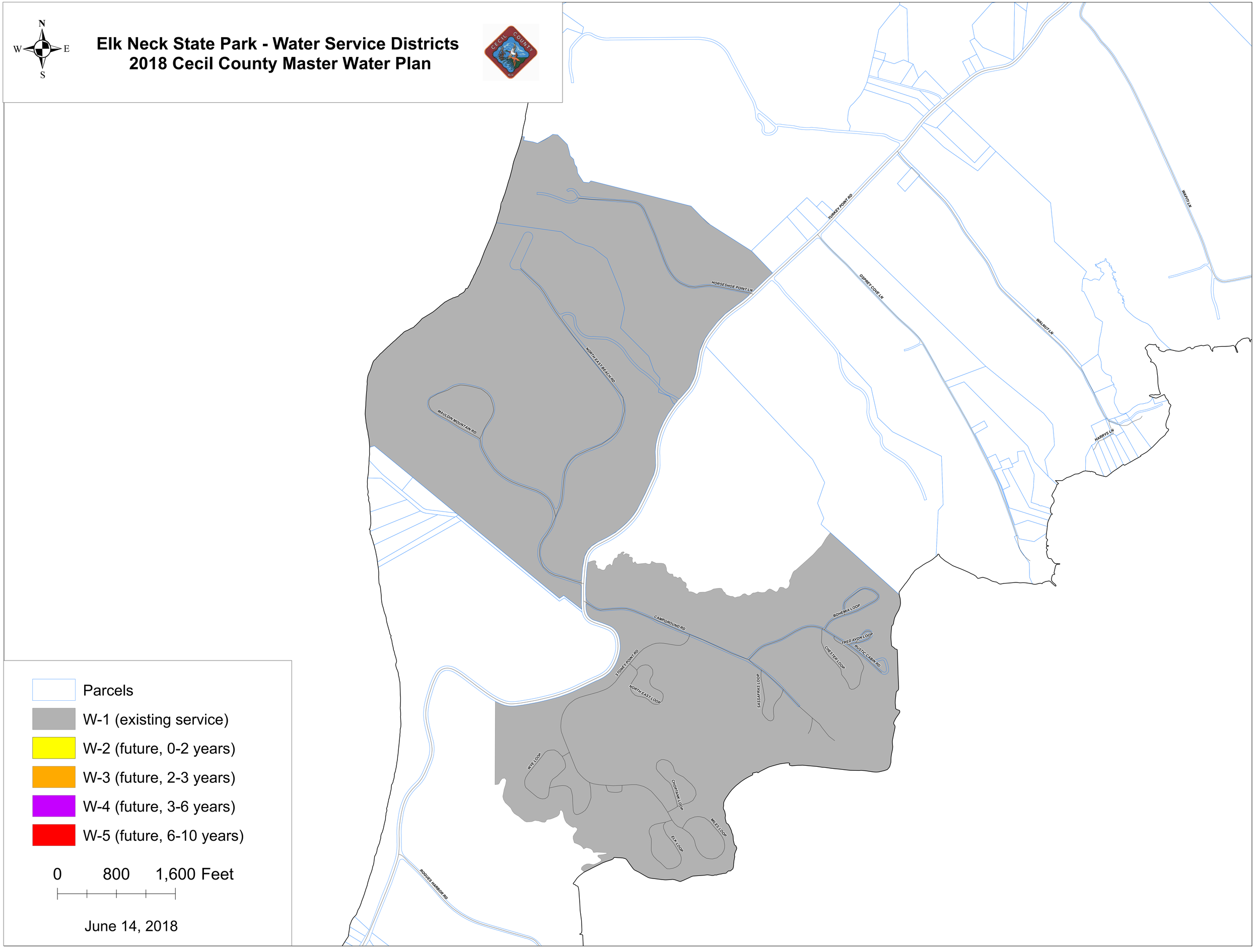


Parcels
W-1 (existing service)
W-2 (future, 0-2 years)
W-3 (future, 2-3 years)
W-4 (future, 3-6 years)
W-5 (future, 6-10 years)

0 600 1,200 Feet

June 14, 2018

Elk Neck State Park - Water Service Districts
2018 Cecil County Master Water Plan



Parcels

W-1 (existing service)

W-2 (future, 0-2 years)

W-3 (future, 2-3 years)

W-4 (future, 3-6 years)

W-5 (future, 6-10 years)

0 800 1,600 Feet

June 14, 2018

Elkton - Water Service Districts
2018 Cecil County Master Water Plan

N
W E
S

Parcels
W-1 (existing service)
W-2 (future, 0-2 years)
W-3 (future, 2-3 years)
W-4 (future, 3-6 years)

0 1,500 3,000 Feet

June 14, 2018

Mount Zoar Area - Water Service Districts
2018 Cecil County Master Water Plan

N
W E
S

MOUNT ZOAR RD
ALLSPICE DR
CINNAMON DR
PEPPER WAY
NUTMEG DR
CURRY AVE
BILL LEIGHT RD
LINDA STIER DR
BOODY LN
GRACE ANN DR
LEONA DR
PARK WAY
HILLCREST DR
NORTH VW
MEADOW WOOD
LAKE VW
SHADY LN
SUNSHINE
SPRINGWAY
WOODSIDE DR
SCHOOLHOUSE LN

Parcels
W-1 (existing service)
W-2 (future, 0-2 years)
W-3 (future, 2-3 years)
W-4 (future, 3-6 years)
W-5 (future, 6-10 years)

0 300 600 Feet

June 14, 2018

North East - Water Service Districts
2018 Cecil County Master Water Plan

N
W E
S

W-1 (existing service)
W-2 (future, 0-2 years)
W-3 (future, 2-3 years)
W-4 (future, 3-6 years)
W-5 (future, 6-10 years)

0 1,600 3,200 Feet

June 14, 2018

Perry Point - Water Service Districts
2018 Cecil County Master Water Plan

N
W E
S

SMITH LN
ELM ST
FRONT ST
BROAD ST
OWENS LANDING CT
HAWKINS CT
COUDON BRIDGE
AVNEUE G
IKEA WAY
MARION N TAPP PKWY
SECOND ST
THIRD ST
FOURTH ST
FIFTH ST
SIXTH ST
SEVENTH ST
EIGHTH ST
NINTH ST
TENTH ST
AVENUE A
AVENUE B
AVENUE C
AVENUE D
AVENUE E
AVENUE F
AVENUE G
SERVICE DR
LAUNDRY CIR
BOILER HOUSE RD
VETERANS HOSPITAL
WARD CIR
CHAPEL DR

Parcels

W-1 (existing service)

0 500 1,000 Feet

June 14, 2018

Perryville - Water Service Districts
2018 Cecil County Master Water Plan

N
W E
S

Parcels
W-1 (existing service)
W-2 (future, 0-2 years)
W-3 (future, 2-3 years)
W-4 (future, 3-6 years)
W-5 (future, 6-10 years)

0 1,000 2,000 Feet

June 14, 2018

BAINBRIDGE RD
MOUNT ARARAT FARM RD
HAPPY VALLEY RD
CLARK LN
COXESBURY RD
TENNANT LN
FRANK BROWN LN
PERRYLAWN DR
I95 SB TO PERRYLAWN DR RAMP
HAWLEY RD
OLD HAWLEY RD
PERRYLAWN DR NB TO I95 NB RAMP
GR DAWSON DR
TURNPIKE DR
BLYTHEDALE RD
HEATHER LN
JACKSON STATION RD
BROOKSIDE DR
COLLINS DR
RESERVOIR RD
PATTERSON AVE
LUCILE AVE
PERRYVILLE RD
HERBST LN
I95 NB HWY
PENNY LN
HILLSIDE LN
HORNBERGER LN
ALL'STONE FARM LN
SAINT MARKS CHURCH RD
BEACON POINT DR
W CEDAR POINT DR
E CEDAR POINT DR
DRUM POINT CT
LIGHTHOUSE RD
COVE POINT WAY
THOMAS POINT WAY
CONCORD POINT DR
WATER PLANT DR
GREENSPRING AVE
INGLESIDE AVE
CEDAR CORNER RD
CLAYTON ST
MCGUIRE WAY
SUMPTER DR
GEESWELL LN
GONCE RD
HOLLY TREE FARM RD
SIMMONS LN
PULASKI HWY
BAY CIRCLE DR
OXFORD CT
STARBOARD CT
BAYSCAPE DR
RIVERVIEW DR
CHESAPEAKE LANDING DR
SILVER KING CT
BROWN RD
GILLEY RD
COOK LN
JOHN ST
FRANKLIN ST
AIKEN AVE EXT
RICHMOND DR
CHARLES ST
NEILL ST
CARTER CT
MANSION DR
RUSTIC CT
MILL CREEK RD
PRINCIPIO FURNACE RD
CHESAPEAKE VIEW RD
COUDON BLVD
N WOODLANDS FARM LN
S WOODLANDS FARM LN
RICHMOND ST
COLE ST
OWENS CT
KEESEY LN
FRENCHTOWN RD
HONAKER ST
MAYWOOD AVE
GREENWAY
AIKEN AVE
CECIL AVE
MARYLAND AVE
MILL CREEK AVE
ALETA LN
CONCORD DR
FOUNDHOUSE DR
LOCUST ST
SUSQUEHANNA AVE
EVANS ST
CHERRY ST
ARCH ST
OTSEGO ST
HARFORD ST
MARTINO WAY
BROAD ST
ELLIS CT
MCHINNEY ST
GERRY PERRY WAY
IKEA WAY
RIVER RD
OWENS LANDING CT
SMITH LN
FRONT ST
ELM ST
COUDON BRIDGE
AVENUE G
MARION N TAPP PKWY
SECOND ST
THIRD ST
FOURTH ST
AVENUE A
AVENUE B
AVENUE C
AVENUE D
AVENUE E
FIFTH ST
SIXTH ST
SERVICE DR
BOILER HOUSE RD
LAUNDRY DR
SEVENTH ST
WARD DR
EIGHTH ST
NINTH ST
AVENUE F
CHAPEL DR
TENTH ST

Port Herman - Water Service Districts
2018 Cecil County Master Water Plan

N
W E
S

GRIER AVE
PARK DR
MARYLAND AVE
RIVERVIEW AVE
DELAWARE AVE
BRISCOE AVE
HOLLYWOOD BEACH DR
FRONT ST
PLUM ST
3RD ST
APPLE ST
SHIPWATCH LN
CHERRY ST
PORT HERMAN DR
PORT HERMAN RD

Parcels
W-1 (existing service)
W-2 (future, 0-2 years)
W-3 (future, 2-3 years)
W-4 (future, 3-6 years)
W-5 (future, 6-10 years)

0 150 300 Feet

June 14, 2018

Rising Sun - Water Service Districts
2019 Cecil County Master Water Plan

N
W E
S

Parcels
W-1 (existing service)
W-2 (future, 0-2 years)
W-3 (future, 2-3 years)
W-4 (future, 3-6 years)
W-5 (future, 6-10 years)

0 1,200 2,400 Feet

July 19, 2019

Southern States Cooperative, Inc.

Rising Sun Elementary School

West Nottingham Academy

STATE LINE RD
GREENMOUNT RD
ROLLING DR
MARSHALL LN
MOODY FARM LN
MINKS RD
RIDGE RD
BROMELL LN
FREEMONT RD
MASON CLIXON DR
HITCHING POST DR
BROMBY CT
HERBIES LN
RED PUMP RD
GOSS LN
STEVENSON RD
BOYLE CT
SYLMAR RD
NORTHLAND DR
FOXBORO DR
TOWNSEND CT
LITTLE NEW YORK RD
LOFTHOUSE RD
PALMER LN
BOYDS RD
SURREY LN
SUCERS MILL RD
NORTH HILLS DR
LAKEVIEW DR
MEL POND DR
HANNA LN
MCCOY LN
ST LOUIS ST
MANOR CT
WALNUT ST
BRINKER CT
POGUE AVE
HAINES AVE
LEGLE CIR
LOUISE CT
MAPLE LEAF DR
MAPLE HEIGHTS LN
STONE RUN DR
CONOWINGO RD
PEARL ST
TURTLEBACK CT
LITTLE BRICK CT
MASON RUN
REYNOLDS AVE
COOPER ST
BUCKLEAF AVE
HARRISON AVE
E MAIN ST
W MAIN ST
W CHERRY ST
WILSON AVE
KIRKS CT
REED CIR
S QUEEN ST
DARK ST
PRIMROSE LN
COLONIAL WAY
MCNAMME LN
SUNRISE CIR
CAMM DR
PENCE RD
KNUTSEN DR
TELEGRAPH RD
HALF MILE TURN
CESSEL LN
THANKLESS LN
SUMMERS LN
GALLIAC DR
CARTER RD
TAYLOR RD
RISING SUN RD
MOUNTAIN RD
MOUNT ROCKY LN
NESBITT RD
LOCOMOTIVE LN
HARRISVILLE RD
JACOB TOME MEMORIAL HWY
WYATT LN
THRUWAY DR
RUDOLPH RD
STUBB RD
MONTGOMERY RD
CASEY CT
WILSON RD
CALVERT RD
MIDDLETON LN
ENGLAND CREAMERY RD
SMITH RD
BERKLEY RD
VRAYS WAY
PEARL WYN LN
RANDO LN
STROHMAIER LN
LILLIAN CIR
LONGVIEW DR
GET AROUND DR
MACINTOSH DR
WREXAM CT
CORN CAKE ROW
PEAR TREE LN
COULSON DR
BARNES CORNER RD
LIBERTY GROVE RD
SWEET POTTO LN
HIGH ST
COLORA SCHOOL RD
CANTERBURY CT
LIDDELL RD
PICCADILLY CT
FRETOREY RD
CURTIS LN
SHADY BROOK DR
HOPEFIELD RD
COOKS LN
SUNRISE DR
COWAN RD
HAWTHORN DR
CLOVER RD
PEPPERMINT DR
SAGE CT
CHAOS WAY
SALE BARN RD
NORMAN RD
CONRAD RD
MARBLE ARCH
MAGGIES LN
ASTLE LN
HARRINGTON RD
TOWERS LN
POST RD
JOSEPH BIGGS MEMORIAL HWY
GREENHURST LN
GREENHURST CT
COLLINS LN
PRINCIPIO RD
GRANGER CHURCH RD
PETTYJOHN RD
CROTHERS RD
PEARL S WAY
ALSA CT
ALSA DR
SIMMERS RD

Woodlawn Area - Water Service Districts
2018 Cecil County Master Water Plan

N
W E
S

Parcels
W-1 (existing service)
W-2 (future, 0-2 years)

0 600 1,200 Feet

June 14, 2018

APPENDIX E

FINANCIAL STATEMENTS

Cecil County
Financial Statements

CECIL COUNTY, MARYLAND

STATEMENT OF NET POSITION
PROPRIETARY FUNDS
JUNE 30, 2017

	Business-Type Activities - Enterprise Funds				Governmental Activities -
	Wastewater	Landfill	Property Management	Total	Internal Service Funds
ASSETS					
Current Assets:					
Cash and Cash Equivalents (Note 3)	$ -	$ 1,500	$ 191,976	$ 193,476	$ 328,142
Investments (Note 3)	-	-	-	-	7,782,743
Receivables, Net: (Note 4)					
Accounts	1,763,329	643,068	-	2,406,397	6,084
Other	1,368	13,739	-	15,107	170,311
Due from Other Governments	950,632	-	-	950,632	154,650
Inventory	-	-	-	-	40,889
Other Assets	5,569	-	-	5,569	323,218
Restricted Assets					
Cash & Investments (Note 3)	5,565,851	9,065,552	-	14,631,403	1,069,048
Total Current Assets	8,286,749	9,723,859	191,976	18,202,584	9,875,085
Non-Current Assets:					
Accounts Receivable - Non-Current	1,876,562	-	-	1,876,562	-
Capital Assets, Net:					
Land	2,296,988	580,739	490,600	3,368,327	-
Construction in Progress	10,519,705	2,187,028	-	12,706,733	433,349
Vehicles	-	-	-	-	6,946,181
Landfill and Land Improvements	5,993,163	14,856,816	-	20,849,979	-
Wastewater Lines	21,910,791	-	-	21,910,791	-
Wastewater Systems	9,128,128	-	-	9,128,128	-
Buildings	12,747,734	3,150,041	6,570,925	22,468,700	209,289
Machinery & Equipment	24,848,545	1,461,381	-	26,309,926	5,432,494
Total Non-Current Assets	89,321,616	22,236,005	7,061,525	118,619,146	13,021,313
Total Assets	97,608,365	31,959,864	7,253,501	136,821,730	22,896,398
DEFERRED OUTFLOWS OF RESOURCES					
Deferred Charge of Refunding	461,255	50,666	-	511,921	-
Total Deferred Outflows of Resources	461,255	50,666	-	511,921	-
LIABILITIES					
Current Liabilities:					
Accounts Payable	660,519	69,695	21,228	751,442	753,464
Construction Retainage Payable	239,514	-	16,644	256,158	-
Salary & Benefits Payable	59,449	67,111	-	126,560	38,114
Accrued Expenses & Other Liabilities	409,141	239,470	124,964	773,575	5,307,412
Unearned Revenue	1,444,500	-	-	1,444,500	846,344
Capital Leases Payable	-	-	-	-	372,339
Bonds Payable	3,588,196	920,628	257,947	4,766,771	157,532
Compensated Absences	51,088	47,847	-	98,935	24,895
Total Current Liabilities	6,452,407	1,344,751	420,783	8,217,941	7,500,100
Non-Current Liabilities:					
Bonds Payable					
(Net of Unamortized Discounts)	51,136,265	12,124,538	6,793,282	70,054,085	3,915,643
Capital Leases Payable	-	-	-	-	1,503,971
Advances From Other Funds	3,282,676	2,313,813	-	5,596,489	4,121,172
Compensated Absences	25,544	23,924	-	49,468	12,448
Accrued Landfill Closure and Postclosure Costs	-	9,065,552	-	9,065,552	-
Total Non-Current Liabilities	54,444,485	23,527,827	6,793,282	84,765,594	9,553,234
Total Liabilities	60,896,892	24,872,578	7,214,065	92,983,535	17,053,334
NET POSITION					
Net Investment in Capital Assets	38,286,444	9,190,839	10,296	47,487,579	8,140,876
Unrestricted	(1,113,716)	(2,052,887)	29,140	(3,137,463)	(2,297,812)
Total Net Position	$ 37,172,728	$ 7,137,952	$ 39,436	$ 44,350,116	$ 5,843,064

The Notes to the Financial Statements are an integral part of this statement.

CECIL COUNTY, MARYLAND

STATEMENT OF REVENUES, EXPENSES, AND CHANGES IN FUND NET POSITION
PROPRIETARY FUNDS
FOR THE YEAR ENDED JUNE 30, 2017

	Business-Type Activities - Enterprise Funds				Governmental Activities -
	Wastewater	Landfill	Property Management	Total	Internal Service Funds
OPERATING REVENUES					
Charges for Services:					
Sales and User Fees	$ 5,991,052	$ 7,851,546	$ 782,635	$14,625,233	$21,197,513
Intergovernmental	-	12,600	-	12,600	73,848
Miscellaneous Revenue	8,769	13,419	-	22,188	-
Total Operating Revenues	5,999,821	7,877,565	782,635	14,660,021	21,271,361
OPERATING EXPENSES					
Salaries and Related	1,262,727	1,487,905	-	2,750,632	885,088
Materials, Supplies, and Services	2,031,416	2,382,500	140,390	4,554,306	4,950,804
Benefit Payments	-	-	-	-	11,072,050
Depreciation	3,879,663	736,862	168,186	4,784,711	3,085,736
Depletion	-	1,005,918	-	1,005,918	-
Landfill Closure and Postclosure	-	241,550	-	241,550	-
Total Operating Expenses	7,173,806	5,854,735	308,576	13,337,117	19,993,678
Operating Income (Loss)	(1,173,985)	2,022,830	474,059	1,322,904	1,277,683
NON-OPERATING REVENUES (EXPENSES)					
Investment Earnings	48,060	40,381	780	89,221	47,877
Interest Expense	(1,510,309)	(425,721)	(262,418)	(2,198,448)	(161,307)
Bond Issue Expense	(198,349)	(7,156)	-	(205,505)	(24,506)
Gain on Disposal of Capital Assets	-	-	-	-	224,530
Total Non-Operating Revenues (Expenses)	(1,660,598)	(392,496)	(261,638)	(2,314,732)	86,594
Income (Loss) before Contributions and Transfers	(2,834,583)	1,630,334	212,421	(991,828)	1,364,277
Capital Contributions and Transfers:					
Intergovernmental Capital Grant	610,177	-	-	610,177	207,339
Wastewater Connection Fees	512,704	-	-	512,704	-
Developers Capital Contributions	76,716	-	-	76,716	-
Transfers Out	-	-	(186,453)	(186,453)	-
Change in Net Position	(1,634,986)	1,630,334	25,968	21,316	1,571,616
Net Position - Beginning	38,807,714	5,507,618	13,468	44,328,800	4,271,448
Net Position - Ending	$ 37,172,728	$ 7,137,952	$ 39,436	$44,350,116	$ 5,843,064

The Notes to the Financial Statements are an integral part of this statement.

CECIL COUNTY, MARYLAND

STATEMENT OF CASH FLOWS
PROPRIETARY FUNDS
FOR THE YEAR ENDED JUNE 30, 2017

	Business-Type Activities - Enterprise Funds				Governmental Activities -
	Wastewater	Landfill	Property Management	Total	Internal Service Funds
Cash Flows From Operating Activities:					
Receipts from Customers and Users	$ 7,471,098	$ 7,773,852	$ 807,036	$ 15,244,950	$ 21,107,081
Payments to Suppliers	(4,216,693)	(2,451,967)	(105,460)	(6,668,660)	(15,784,843)
Payments to Employees	(1,248,651)	(1,477,073)	-	(2,725,724)	(884,112)
Net Cash from Operating Activities	2,005,754	3,844,812	701,576	5,850,566	4,438,126
Cash Flows From Non-Capital Financing Activities:					
Advances from Other Funds	3,282,676	(2,316,722)	(186,453)	965,954	(1,256,085)
Net Cash from Non-Capital Financing Activities	3,282,676	(2,316,722)	(186,453)	965,954	(1,256,085)
Cash Flows From Capital and Related Financing Activities:					
Proceeds from Bond Issues	-	-	-	-	1,897,134
Proceeds from Capital Grants Received	407,520	-	-	407,520	310,762
Proceeds from Sewage Connection Fees	512,704	-	-	512,704	-
Acquisition and Construction of Capital Assets	(8,763,569)	(15,317)	(194,015)	(8,778,886)	(2,904,066)
Principal Paid on Bond Maturities	(2,843,802)	(885,883)	(248,771)	(3,729,685)	(197,624)
Interest Paid on Bonds	(1,632,900)	(425,721)	(265,246)	(2,058,621)	(161,307)
Proceeds from Sale of Capital Assets	-	-	-	-	88,570
Net Cash from Capital and Related Financing Activities	(12,320,047)	(1,326,921)	(708,032)	(13,646,968)	(966,531)
Cash Flows From Investing Activities:					
Interest on Investments	48,060	40,381	780	88,441	47,877
Net Increase (Decrease) in Cash and Cash Equivalents	(6,983,557)	241,550	(192,129)	(6,742,007)	2,263,388
Cash and Cash Equivalents - June 30, 2016	12,549,408	8,825,502	384,105	21,374,910	6,916,545
(including $12,429,135, $8,824,002 and $264,304 respectively reported in restricted accounts)					
Cash and Cash Equivalents - June 30, 2017	$ 5,565,851	$ 9,067,052	$ 191,976	$ 14,632,903	$ 9,179,933
(including $5,565,851 and $9,065,552 respectively reported in restricted accounts)					

The Notes to the Financial Statements are an integral part of this statement.

CECIL COUNTY, MARYLAND

STATEMENT OF CASH FLOWS
PROPRIETARY FUNDS (Continued)
FOR THE YEAR ENDED JUNE 30, 2017

	Business-Type Activities - Enterprise Funds				Governmental Activities -
	Wastewater	Landfill	Property Management	Total	Internal Service Funds
Reconciliation of Operating Income to Net Cash from Operating Activities:					
Operating Income (Loss)	$(1,173,985)	$ 2,022,830	$ 474,059	$ 848,845	$ 1,277,683
Adjustments to Reconcile Operating Income (Loss) to Net Cash Provided from Operating Activities:					
Depreciation and Depletion	3,879,663	1,742,780	168,186	5,622,443	3,085,736
Increase in Closure/Postclosure Liability	-	241,550	-	241,550	-
Effect of Changes in Non-Cash Operating Assets and Liabilities:					
Accounts Receivable	26,777	(106,110)	24,401	(79,333)	501,250
Other Assets	424	-	-	424	183,798
Accounts Payable	(2,210,837)	(62,437)	34,930	(2,273,274)	(155,006)
Salaries & Benefits Payable	12,084	10,408	-	22,492	1,256
Compensated Absences	12,087	3,599	-	15,686	(281)
Accrued Expenses	15,041	(7,808)	-	7,233	209,220
Deferred Revenue	1,444,500	-	-	1,444,500	(665,530)
Net Cash Provided from Operating Activities	$ 2,005,754	$ 3,844,812	$ 701,576	$ 5,850,566	$ 4,438,126
Schedule of non-cash capital and related financing activites:					
Decrease in Non-current Special Assessment/Connection Fees receivable	$ 55,868	$ -	$ -	$ 55,868	$ -

The Notes to the Financial Statements are an integral part of this statement.

Town of Cecilton
Financial Statements

TOWN OF CECILTON
STATEMENT OF NET POSITION – PROPRIETARY FUNDS
JUNE 30, 2018

	Total
ASSETS	
Cash & Cash Equivalents	$ 496,879
Service Charges Receivable	149,244
Grant Funds Receivable	259,209
Noncurrent Assets:	
Capital Assets, Net of Accumulated Depreciation	17,726,996
Total Assets	18,632,328
LIABILITIES	
Accounts Payable and Accrued Expenses	309,321
Noncurrent Liabilities:	
Due Within One Year	59,881
Due in More Than One Year	2,209,265
Total Liabilities	2,578,467
NET POSITION	
Invested in Capital Assets, Net of Related Debt	15,457,850
Unrestricted	596,011
Total Net Position	$16,053,861

The accompanying notes are an integral part of the financial statements.

TOWN OF CECILTON
STATEMENT OF REVENUES, EXPENSES AND CHANGES IN NET POSITION – PROPRIETARY FUNDS
FOR THE FISCAL YEAR ENDED JUNE 30, 2018

OPERATING REVENUES		
Service Charges & Hydrant Fees	$ 385,248	
Total Operating Revenue		$ 385,248
OPERATING EXPENSES		
Administrative Expenses	382,232	
Contracted Services	136,645	
Depreciation	350,311	
Insurance	3,828	
Legal & Audit Fees	19,610	
Payroll Taxes and Fringe Benefits	12,275	
Repairs and Maintenance	103,541	
Salaries and Wages	102,621	
Sheriff Patrols	19,074	
Supplies, Materials & Other Expenses	30,630	
Utilities and Telephone	40,014	
Total Operating Expenses		1,200,781
Operating Income (Loss)		(815,533)
NON-OPERATING REVENUES (EXPENSES)		
Interest Income	14	
Hook Up, Connection & Hydrant Fees	916,249	
Interest Expense	(82,700)	
Total Non-Operating Revenues (Expenses)		833,563
Income (Loss) Before Capital Contributions		18,030
CAPITAL CONTRIBUTIONS		
Capital Grant Proceeds		3,989,479
Change in Net Position		4,007,509
NET POSITION - BEGINNING OF YEAR		12,046,352
Net Position - End of Year		$16,053,861

The accompanying notes are an integral part of the financial statements.

TOWN OF CECILTON
STATEMENT OF CASH FLOWS - PROPRIETARY FUNDS
FOR THE FISCAL YEAR ENDED JUNE 30, 2018

CASH FLOWS FROM OPERATING ACTIVITIES		
Cash Received From Customers	$ 381,463	
Cash Paid to Suppliers & Employees	(828,518)	
Net Cash From (Used By) Operating Activities		$ (447,055)
CASH FLOWS FROM INVESTING ACTIVITIES		
Acquisition of Property, Plant & Equipment	(3,891,952)	
Capital Grant Funds	4,046,136	
Hook Up & Connection Fees	916,249	
Interest Earned	14	
Net Cash From (Used By) Investing Activities		1,070,447
CASH FLOWS FROM FINANCING ACTIVITIES		
Short Term Borrowings – Net	(250,000)	
Repayment of Long-Term Debt	(58,629)	
Interest Paid on Long-Term Obligations	(83,127)	
Net Cash From (Used By) Financing Activities		(391,756)
Net Increase (Decrease) In Cash		231,636
CASH, July 1, 2017		265,243
Cash, June 30, 2018		$ 496,879

RECONCILIATION OF OPERATING INCOME TO NET CASH PROVIDED BY OPERATING ACTIVITIES:		
Operating Income (Loss)		$ (815,533)
Adjustments To Reconcile Operating Income To Net Cash Provided By Operating Activities		
Depreciation	350,311	
(Increase) Decrease In Accounts Receivable	(3,785)	
Increase (Decrease) In Accounts Payable	21,952	
Total Adjustments		368,478
Net Cash From (Used By) Operating Activities		$ (447,055)

The accompanying notes are an integral part of the financial statements.

NOTE 1 - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

The Town of Cecilton was incorporated in 1864. The Town operates under a Mayor - Council form of government and provides the following services: Public Works - Highways and Streets; Water, Sewer and Sanitation; Recreation - Parks; and General Administrative Services.

The financial statements of the Town have been prepared in conformity with accounting principles generally accepted in the United States of America as applicable to government units. The Government Accounting Standards Board (GASB) is the accepted standard-setting body for establishing governmental accounting and financial reporting principles. Proprietary funds apply Financial Accounting Standard Board (FASB) pronouncements and Accounting Principles Board (APB) opinions issued on or before November 30, 1989, unless those pronouncements conflict with or contradict GASB pronouncements, in which case, GASB prevails. The more significant of the government's accounting policies are described below.

GOVERNMENT-WIDE FINANCIAL STATEMENTS

The government-wide financial statements (the statement of net position and the statement of activities) report information on all non-fiduciary activities of the Town. For the most part, the effect of interfund activity has been removed from these statements.

The statement of activities demonstrates the degree to which the direct expenses of a given function or segment are offset by program revenues. Direct expenses are those that are clearly identifiable with a specific function or segment. Program revenues include 1) charges to customers or applicants who purchase, use, or directly benefit from goods, services or privileges provided by a given function or segment and 2) grants and contributions that are restricted to meeting the operational or capital requirements of a particular function or segment. Taxes and other revenues not properly included among program revenues are reported instead as general revenues.

Separate financial statements are provided for governmental, proprietary and fiduciary funds, even though the latter are excluded from the government-wide financial statements.

MEASUREMENT FOCUS, BASIS OF ACCOUNTING & FINANCIAL STATEMENT PRESENTATION

The government-wide financial statements are reported using the economic resources measurement focus and the accrual basis of accounting, as are the proprietary fund and fiduciary fund financial statements. Revenues are recorded when earned and expenses are recorded when a liability is incurred, regardless of the timing of the related cash flows. Property taxes are recognized as revenues in the year for which they are levied for. Grants and similar items are recognized as revenue as soon as all eligibility requirements imposed by the provider have been met.

Governmental fund financial statements are reported using the current financial resources measurement focus and the modified accrual basis of accounting. Revenues are recognized as soon as they become both measurable and available. Revenues are considered to be available when they are collectible within the current period or soon enough thereafter to pay liabilities of the current period. For this purpose, the town considers revenues to be available if they are collected within 60 days of the end of the current fiscal period. Expenditures generally are recorded as a liability when incurred, as under accrual accounting.

NOTE 1 - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES - CONTINUED

The Town maintains the following two funds:

Governmental Fund Type - General Fund

The General Fund is the general operating fund of the Town. It is used to account for all financial resources except those required to be accounted for in another fund.

Proprietary Fund Type - Water and Sewer Enterprise Fund

The Water and Sewer Enterprise Fund is used to account for operations (a) that are financed and operated in a manner similar to private business enterprises where the intent of the governing body is that the costs (expenses, including depreciation) of providing goods or services to the general public on a continuing basis be financed or recovered primarily through user charges, or (b) where the governing body has decided that periodic determination of revenues earned, expenses incurred and/or net income is appropriate for capital maintenance, or public policy, management control, accountability or other purposes.

BUDGETARY DATA

Formal budgetary accounting is employed as a management control for all funds of the Town. Annual operating budgets are adopted, after public hearings, by passing of an ordinance prior to the start of each fiscal year. Transfers of appropriations between functions require approval of the Town Council. The budget uses the same basis of accounting as used to reflect actual revenues and expenditures.

RECEIVABLES

All receivables are reported at gross values. No allowance for uncollectible accounts is deemed necessary.

CAPITAL ASSETS

Capital assets, which include property, plant, equipment, and infrastructure assets (e.g., roads, bridges, sidewalks, and similar items) are reported in the government-wide financial statements. Capital assets are defined by the government as assets with an initial cost of more than $2,500 and an estimated useful life in excess of two years. Such items are recorded at historical cost or estimated historical cost if purchased or constructed. Donated capital assets are recorded at estimated fair value at the date of donation.

The costs of normal maintenance and repairs that do not add to the value of the asset or materially extend the life of an asset are not capitalized. Major outlays for capital assets and improvements are capitalized as projects are constructed.

NOTE 1 - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES - CONTINUED

Property, plant, and equipment is depreciated using the straight-line method over the following estimated useful lives:

Machinery, equipment and vehicles	5 to 25 years
Buildings and improvements	20 to 50 years
Public domain infrastructure	15 to 50 years
Water & Sewer plants, lines and tanks	25 to 50 years
Water & Sewer improvements	10 to 50 years

COMPENSATED ABSENCES

Since accumulated unpaid vacation and sick leave are relatively immaterial, no accruals have been made with respect to them.

NET POSITION

In the government-wide financial statements, net position are classified in the following categories:

Invested in Capital Assets, Net of Related Debt

This category groups all capital assets, including infrastructure, into one component of net position. Accumulated depreciation and the outstanding balance of the debt that are attributable to the acquisition, construction or improvement of these assets reduces this category.

Unrestricted Net Position

This category represents the net assets of the Town which are not restricted for any project or other purpose by third parties.

NOTE 2 – CASH AND CASH EQUIVALENTS

Deposits are carried at cost plus accrued interest. The carrying amount of Deposits is separately displayed on the balance sheet as "Cash And Equivalents", and consists of demand deposits and certificates of deposit with short-term (less than six month) maturities.

Deposits, by level of risk, are:

	Carrying Amount	Bank Balance
Insured (FDIC)	$ 730,817	$ 824,504
MD Local Government Investment Pool	1,094	1,094
Total Deposits	$ 731,911	$ 825,598

NOTE 2 – CASH AND CASH EQUIVALENTS - CONTINUED

The Town has adopted a policy to be followed when investing public funds in accordance with the provisions of Article 95, Section 22F of the Annotated Code of Maryland which prescribes the type of investments permissible for Maryland Municipalities. This policy requires that Town funds be invested in obligations for which the United States has pledged its full faith and credit, obligations insured by a federal agency (such as the FDIC), obligations collateralized by federal obligations, and portfolios created under the Maryland Local Government Investment Pool. The Town has adhered to these policies when investing its funds throughout the fiscal year.

NOTE 3 – DEFERRED COMPENSATION PLAN

The Town offers its employees a deferred compensation plan created in accordance with Internal Revenue Code Section 457. The plan is administered by Nationwide Retirement Solutions. The plan, available to all full-time employees, permits them to defer a portion of their salary until future years. Participation in the plan is optional.

The Town contributes 3% of the annual salary of each participating employee to the plan. For the plan year ended June 30, 2018 covered salaries were $153,304 and the Town's 3% contribution on their behalf was $4,599.

NOTE 4 - RISK MANAGEMENT

The Town has commercial insurance which covers all significant losses. There have been no significant reductions in insurance coverage. Settlement amounts have not exceeded insurance coverage for the current year or for the three prior years.

NOTE 5 – CAPITAL ASSETS

Capital asset activity for the year ended June 30, 2018 is as follows:

COST OF CAPITAL ASSETS:	06/30/17	Additions	Deletions	06/30/18
Governmental Activities				
Land & Improvements	$ 1,428,383	$ -	$ -	$ 1,428,383
Buildings & Improvements	348,900	-	-	348,900
Machinery, Equipment & Vehicles	207,784	-	-	207,784
Total Governmental Activities	1,985,067	-	-	1,985,067
Business-Type Activities				
Land	13,542	-	-	13,542
Plants, Tanks, Mains & Improvements	7,518,625	12,928,486	-	20,447,111
Construction In Process	9,126,243	(9,126,243)	-	-
Machinery, Equipment & Vehicles	91,847	-	-	91,847
Total Business-Type Activities	16,750,257	3,802,243	-	20,552,500
Total Cost	18,735,324	3,802,243	-	22,537,567
LESS: ACCUMULATED DEPRECIATION:				
Governmental Activities				
Land & Improvements	358,855	34,669	-	393,524
Buildings & Improvements	230,463	7,692	-	238,155
Machinery, Equipment & Vehicles	141,955	5,963	-	147,918
Total Governmental Activities	731,273	48,324	-	779,597
Business-Type Activities				
Land	-	-	-	-
Plants, Tanks, Mains & Improvements	2,397,437	346,425	-	2,743,862
Machinery, Equipment & Vehicles	77,756	3,886	-	81,642
Total Business-Type Activities	2,475,193	350,311	-	2,825,504
Total Accumulated Depreciation	3,206,466	398,635	-	3,605,101
NET CAPITAL ASSETS:				
Governmental Activities	1,253,794	(48,324)	-	1,205,470
Business-Type Activities	14,275,064	3,451,932	-	17,726,996
Total Net Capital Assets	$15,528,858	$3,403,608	$ -	$18,932,466

NOTE 6 – SHORT-TERM DEBT

Short-Term Debt at June 30, 2018 consists of:

Business-Type Activities:

Balance as of June 30, 2018 was $0.00. $250,000 Short-Term loan from PNC Bank dated April 20, 2017, was fully repaid in 10 Monthly principal payments of $25,000 plus interest at 4.25%.

Town of Charlestown
Financial Statements

TOWN OF CHARLESTOWN

Statement of Net Position - Proprietary Funds
June 30, 2017

	Major Enterprise Fund Utility Fund	
ASSETS		
CURRENT ASSETS		
Cash and cash equivalents	$ 928,414	
Service charges receivable	135,256	
Due from other funds	20,007	
Total Current Assets		$ 1,083,677
CAPITAL ASSETS		
Land, building and equipment	5,735,487	
Less: accumulated depreciation	(2,804,897)	
Total Capital Assets		2,930,590
OTHER ASSETS		
Advances to other funds	646,011	
		646,011
TOTAL ASSETS		4,660,278
LIABILITIES		
CURRENT LIABILITIES		
Accounts payable and accrued expenses	62,938	
Current portion - long term obligations	40,492	
Total Current Liabilities		103,430
NONCURRENT LIABILITIES		
Long term obligations	536,606	
Total Noncurrent Liabilities		536,606
TOTAL LIABILITIES		640,036
NET POSITION		
Invested in capital assets, net of related debt	2,357,816	
Unrestricted	1,662,426	
TOTAL NET POSITION		$ 4,020,242

See accompanying notes to financial statements

TOWN OF CHARLESTOWN

Statement of Revenues, Expenses and Changes in
Fund Net Position - Proprietary Funds
For the Year Ended June 30, 2017

	Major Enterprise Fund Utility Fund	
OPERATING REVENUES		
Service fees	$ 469,701	
Total Operating Revenue		$ 469,701
OPERATING EXPENSES		
Maintenance	51,215	
User fees - county	147,022	
Contracted service	44,568	
Utilities	15,329	
General and administrative	118,412	
Depreciation	139,218	
Total Operating Expenses		515,764
OPERATING LOSS		(46,063)
NONOPERATING REVENUES (EXPENSES)		
Connection fees	112,000	
Interest expense	(17,847)	
Investment income	1,864	
Total Nonoperating Revenue		96,017
		49,954
CHANGE IN FUND NET POSITION		3,970,288
TOTAL NET POSITION - BEGINNING		$ 4,020,242
TOTAL NET POSITION - ENDING		

See accompanying notes to financial statements

TOWN OF CHARLESTOWN

Statement of Cash Flows - Proprietary Funds
For the Year Ended June 30, 2017

	Major Enterprise Fund Utility Fund	
CASH FLOWS FROM OPERATING ACTIVITIES		
Cash received from customers	$ 458,864	
Cash payments to suppliers for goods and services	(370,184)	
Cash payments to general fund for salaries	558	
NET CASH FLOWS FROM OPERATING ACTIVITIES		$ 89,238
CASH FLOWS FROM NON-CAPITAL FINANCING ACTIVITIES		
Transfer from other funds	169,322	
NET CASH FLOWS FROM NON-CAPITAL FINANCING ACTIVITIES		169,322
CASH FLOWS FROM CAPITAL AND RELATED FINANCING ACTIVITIES		
Repayments of bonds	(39,791)	
Connection fees received	112,000	
Proceeds from sale of fixed assets		
Interest payments and administrative fees paid on bond	(17,847)	
NET CASH FLOWS FROM CAPITAL AND RELATED FINANCING ACTIVITIES		54,362
CASH FLOWS FROM INVESTING ACTIVITIES		
Receipt of interest	1,864	
NET CASH FLOWS FROM INVESTING ACTIVITIES		1,864
NET INCREASE IN CASH AND CASH EQUIVALENTS		314,786
CASH AND CASH EQUIVALENTS - BEGINNING		613,628
CASH AND CASH EQUIVALENTS - END		$ 928,414
Reconciliation of operating loss to net cash flows from operating activities:		
Operating loss		$ (46,063)
Add depreciation expense	$ 139,218	
Add accrued compensated absences	558	
Increase in current assets		
Accounts receivable	(10,837)	
Increase in current liabilities		
Accounts payable	6,362	
Total adjustments		135,301
Net cash provided by operating activities		$ 89,238

See accompanying notes to financial statements

1. Summary of Significant Accounting Policies

The Town of Charlestown, Maryland (the Town) was founded in 1742, under the provisions of the laws of the State of Maryland. The Town operates under the Commissioner form of government. The Town is located in Cecil County and provides the following services as authorized by its charter: General Government, Public Safety, Public Works, Parks and Recreation, and Water and Sewer Services. A substantial portion of the Town's revenue is received from the property and income taxes related to the residents and businesses of the Town and services provided by its water and sewer systems.

In evaluating how to define the Town for financial reporting purposes, management has considered all potential component units. The basis for determining component units is the governing body's ability to exercise oversight responsibility or the existence of special financing relationships, regardless of whether the Town is able to exercise oversight responsibilities. Based on this criteria, the Town has concluded that there are no component unit relationships that are required to be presented in these financial statements.

Measurement Focus, Basis of Accounting, and Financial Statement Presentation

The financial statements of the Town are prepared in accordance with accounting principles generally accepted in the United States of America (GAAP) as applicable to local governments. The Governmental Accounting Standards Board (GASB) is responsible for establishing GAAP for state and local governments through its pronouncements.

The accounts of the Town are organized on the basis of funds, each of which is considered a separate accounting entity. The operation of each fund is accounted for with a separate set of self-balancing accounts that comprise its assets, deferred outflows of resources, liabilities, deferred inflows of resources, fund equity, revenues and expenditures or expenses, as appropriate. Government resources are allocated to and accounted for in individual funds based upon the purposes for which they are to be spent and the means by which spending activities are controlled.

The government-wide financial statements are reported using the economic resources measurement focus and the accrual basis of accounting as are the proprietary fund financial statements. Revenues are recorded when earned and expenses are recorded when a liability is incurred, regardless of the timing of the related cash flow. Property taxes are recognized in the year for which they are levied, while grants and similar items are recognized as revenue as soon as all eligibility requirements imposed by the provider have been met.

Program revenues include: (1) charges for services which report fees and other charges to users of the Town's services and facilities; (2) operating grants and contributions which finance annual operating activities; and (3) capital grants and contributions which fund the acquisition, construction, or rehabilitation of capital assets, when applicable. These revenues are subject to externally imposed restrictions to these program uses. Taxes and other revenue sources not properly included with program revenues are reported as general revenues.

While government-wide and fund financial statements are presented separately, they are interrelated. The governmental activities column of the government-wide statements incorporates data from governmental funds, while business-type activities incorporate data from the Town's enterprise funds. Separate financial statements are provided for each major governmental and proprietary fund. There are no fiduciary funds held by the Town.

Governmental fund statements are presented using the current financial resources measurement focus and the modified accrual basis of accounting. Revenues are recognized as soon as they are both measurable and available. Available means collectible within the current period, or soon enough thereafter to pay current liabilities. The Town considers revenues to be available if they are collected within 60 days of the end of the fiscal year. Expenditures generally are recorded when a liability is incurred, as under accrual accounting. However, debt service expenditures, as well as expenditures related to compensated absences and claims and judgments, are recorded only when payment is due. General capital asset acquisitions are reported as expenditures in governmental funds. Issuance of long-term debt and acquisitions under capital leases are reported as other financing sources.

Major revenue sources susceptible to year-end accrual include: Income tax receipts, property taxes and capital grants. Expenditure-driven grants are recognized as revenue when the qualifying expenditures have been incurred and all eligibility requirements have been met, and the amount is received during the period or within the availability period for this revenue source (within 60 days of year-end). In general, all other revenues are considered to be measurable and available when cash is received.

1. Summary of Significant Accounting Policies (continued)

Proprietary funds distinguish operating revenues and expenses from non-operating items. Operating income reported in proprietary fund financial statements include revenues and expenses related to the primary, continuing operations of the fund. Principal operating revenues for proprietary funds are charges to customers for services provided. Principal operating expenses are the costs of providing services, including administrative expenses and depreciation of capital assets. Other revenues and expenses are classified as non-operating in the financial statements.

When both restricted and unrestricted resources are available for use, it is the Town's policy to use restricted resources first, then unrestricted resources as needed. Further, when the components of unrestricted fund balance can be used for the same purpose, committed fund balance is depleted first, followed by assigned fund balance. Unassigned fund balance is applied last.

During the course of operations, numerous transactions occur between individual funds for goods provided or services rendered. Short-term interfund loans are classified as "due to/from other funds." All short-term interfund receivables and payables at year-end are planned to be eliminated in the subsequent year. Any residual balances outstanding between governmental activities and business-type activities are reported in the government-wide financial statements as "internal balances." However, internal eliminations do not include water and sewage services provided to the Town Hall. Reimbursements are reported as reductions to expenses. Long-term interfund loans are classified as "advances to/from other funds." Any residual balances outstanding between governmental activities and business-type activities are reported as "advances to (from) other funds."

Fund Types and Major Funds

The accounts of the Town are organized on the basis of funds. A fund is an independent fiscal and accounting entity with a self-balancing set of accounts. Fund accounting segregates funds according to their intended purpose and is used to aid management in demonstrating compliance with finance-related legal and contractual provisions. The minimum number of funds are maintained consistent with legal and managerial requirements. There are no non-major funds in either fund category.

Beginning July 1, 2016, the Commissioners voted to merge the Special Revenue Fund with the General Fund.

The Town reports the following major governmental funds:

The General Fund – This is the primary operating fund of the Town. It accounts for all of the financial resources and the legally authorized activities of the Town except for those required to be accounted for in other specialized funds. The general fund accounts for the normal operating activities of the Town. These activities are financed primarily by taxes, grants from other governments and charges for services.

The Town reports the following major proprietary fund:

The Utility Fund – This fund is used to account for the operations of the Town's water and sewer system. Activities of the fund include administration, operation and maintenance of the water and sewer system and billing and collection activities. All costs are financed through charges made to utility customers with rates reviewed regularly and adjusted if necessary to ensure integrity of the Fund.

Budgetary Data

Formal budgetary accounting is employed as a management control for all funds of the Town. Annual operating budgets are adopted, after public hearings, by passing of a resolution prior to the start of each fiscal year. Transfers of appropriations between functions require approval of the Commissioners. The budget uses the same basis of accounting as used to reflect actual revenues and expenditures.

Cash and Cash Equivalents

Cash and Cash Equivalents include demand deposits, money market and savings accounts, and investments in the Maryland Local Government Investment Pool.

Town of Chesapeake City
Financial Statements

TOWN OF CHESAPEAKE CITY
STATEMENT OF CASH FLOWS - PROPRIETARY FUNDS
FOR THE FISCAL YEAR ENDED JUNE 30, 2017

CASH FLOWS FROM OPERATING ACTIVITIES		
Cash Received From Customers	$ 629,410	
Cash Paid To Suppliers & Employees	(661,346)	
Net Cash From (Used By) Operating Activities		$ (31,936)
CASH FLOWS FROM INVESTING ACTIVITIES		
Interest Earned	1,526	
Net Cash From (Used By) Investing Activities		1,526
CASH FLOWS FROM CAPITAL AND RELATED FINANCING ACTIVITIES		
Connection Fees Received	26,000	
Acquisition of Property, Plant & Equipment	-	
Interest Paid	(31,291)	
Principal Paid On Long-Term Obligations	(67,327)	
Net Cash From (Used By) Capital and Related Financing Activities		(72,618)
Net Change In Cash		(103,028)
CASH, JULY 1, 2016		369,561
Cash, June 30, 2017		$ 266,533

RECONCILIATION OF OPERATING INCOME TO NET CASH PROVIDED BY OPERATING ACTIVITIES:		
Operating Income (Loss)		$ (235,801)
Adjustments To Reconcile Operating Income To Net Cash Provided By Operating Activities		
Depreciation	215,683	
(Increase) Decrease In Accounts Receivable	89	
Increase (Decrease) In Accounts Payable	(11,907)	
Total Adjustments		203,865
Net Cash From (Used By) Operating Activities		$ (31,936)

The accompanying notes are an integral part of the financial statements.

TOWN OF CHESAPEAKE CITY
STATEMENT OF REVENUES, EXPENSES AND CHANGES IN NET POSITION – PROPRIETARY FUNDS
FOR THE FISCAL YEAR ENDED JUNE 30, 2017

OPERATING REVENUES		
Service Charges & Misc.		$ 629,321
OPERATING EXPENSES		
Contracted Services & Engineering	249,797	
Administrative Fees	168,209	
Depreciation	215,683	
Supplies, Repairs, Chemicals, Sludge Fee…	78,435	
Purchased Water	113,337	
Utilities and Telephone	39,661	
Total Operating Expenses		865,122
Operating Income (Loss)		(235,801)
NON-OPERATING REVENUES (EXPENSES)		
Connection Fees	26,000	
Interest Income	1,526	
Interest Expense	(30,893)	
Total Non-Operating Revenues (Expenses)		(3,367)
Change in Net Position		(239,168)
NET ASSETS AT BEGINNING OF YEAR		5,052,831
Net Position at End of Year		$4,813,663

The accompanying notes are an integral part of the financial statements.

TOWN OF CHESAPEAKE CITY
STATEMENT OF NET POSITION – PROPRIETARY FUNDS
JUNE 30, 2017

	Total
ASSETS	
Cash & Cash Equivalents	$ 266,533
Service Charges Receivable	146,633
Noncurrent Assets:	
Capital Assets, Net of Accumulated Depreciation	6,079,316
Total Assets	6,492,482
LIABILITIES	
Accounts Payable and Accrued Expenses	5,193
Accrued Interest Payable	7,455
Due to General Fund	366,880
Noncurrent Liabilities:	
Due Within One Year	71,768
Due in More Than One Year	1,227,523
Total Liabilities	1,678,819
NET POSITION	
Invested in Capital Assets, Net of Related Debt	4,780,025
Unrestricted	33,638
Total Net Position	$ 4,813,663

The accompanying notes are an integral part of the financial statements.

Town of Elkton
Financial Statements

TOWN OF ELKTON, MARYLAND
STATEMENT OF NET POSITION –
PROPRIETARY FUNDS
JUNE 30, 2017

	Business-type Activities - Enterprise Funds			
	Major Facility	Water	Sewer	Total
ASSETS				
Current Assets:				
Cash and Cash Equivalents	$ 3,391,833	$ 2,691,931	$ 7,224,320	$ 13,308,084
Receivables, Net	29,161	643,367	1,253,330	1,925,858
Prepaid Expenses	-	-	-	-
Due from Other Funds	1,382,698	711,902	-	2,094,600
Total Current Assets	4,803,692	4,047,200	8,477,650	17,328,542
Noncurrent Assets:				
Capital Assets, Net	-	9,611,933	48,688,062	58,299,995
Total Assets	4,803,692	13,659,133	57,165,712	75,628,537
LIABILITIES				
Current Liabilities:				
Accounts Payable	-	122,912	418,828	541,740
Accrued Expenses	-	9,503	43,250	52,753
Other Liabilities	-	-	71,471	71,471
Due to Other Funds	208,651	-	1,881,852	2,090,503
Due Within One Year	-	9,376	1,109,986	1,119,362
Total Current Liabilities	208,651	141,791	3,525,387	3,875,829
Noncurrent Liabilities:				
Due in More Than One Year	-	81,505	10,796,120	10,877,625
Total Liabilities	208,651	223,296	14,321,507	14,753,454
NET POSITION				
Net Investment in Capital Assets	-	9,611,933	36,891,079	46,503,012
Unrestricted	4,595,041	3,823,905	5,953,126	14,372,072
Total Net Position	$ 4,595,041	$ 13,435,838	$ 42,844,205	$ 60,875,084

See accompanying Notes to Financial Statements.

TOWN OF ELKTON, MARYLAND
STATEMENT OF REVENUES, EXPENSES AND CHANGES IN NET POSITION – PROPRIETARY FUNDS
YEAR ENDED JUNE 30, 2017

	Business-type Activities - Enterprise Funds			
	Major Facility	Water	Sewer	Total
OPERATING REVENUES				
Charges for Services	$ 250,929	$ 2,597,804	$ 5,279,863	$ 8,128,596
Other Operating Revenues	-	2,012	-	2,012
Miscellaneous	-	90,641	134,398	225,039
Total Operating Revenues	250,929	2,690,457	5,414,261	8,355,647
OPERATING EXPENSES				
Cost of Service	1,120	2,129,925	3,777,115	5,908,160
Depreciation	-	312,172	1,417,094	1,729,266
Total Operating Expenses	1,120	2,442,097	5,194,209	7,637,426
Operating Income	249,809	248,360	220,052	718,221
NON-OPERATING REVENUES (EXPENSES)				
Investment Earnings	11,581	5,444	15,521	32,546
Interest Expense	-	-	(124,084)	(124,084)
Total Non-Operating Revenues (Expenses)	11,581	5,444	(108,563)	(91,538)
Income Before Transfers and Capital Contributions	261,390	253,804	111,489	626,683
Capital Contributions - Grants	-	-	91,500	91,500
Transfers in	-	1,275,598	365,453	1,641,051
Transfers out	(1,641,051)	-	-	(1,641,051)
CHANGES IN FUND NET POSITION	(1,379,661)	1,529,402	568,442	718,183
Total Net Position - Beginning of Year	5,974,702	11,906,436	42,275,763	60,156,901
TOTAL NET POSITION - END OF YEAR	$ 4,595,041	$ 13,435,838	$ 42,844,205	$ 60,875,084

See accompanying Notes to Financial Statements.

TOWN OF ELKTON, MARYLAND
STATEMENT OF CASH FLOWS – PROPRIETARY FUNDS
YEAR ENDED JUNE 30, 2017

	Business-type Activities - Enterprise Funds			
	Major Facility	Water	Sewer	Totals
CASH FLOWS FROM OPERATING ACTIVITIES				
Receipts from Customers and Users	$ 275,379	$ 2,666,579	$ 5,393,084	$ 8,335,042
Payments to Suppliers	2,499	(1,597,058)	(3,259,679)	(4,854,238)
Payments to Employees	-	(518,240)	(575,909)	(1,094,149)
Net Cash Provided by Operating Activities	277,878	551,281	1,557,496	2,386,655
CASH FLOWS FROM CAPITAL AND RELATED FINANCING ACTIVITIES				
(Advances) Receipts from Other Funds	-	-	-	-
Proceeds from Grants	-	-	91,500	91,500
Interest Paid on Capital Debt	-	-	(124,084)	(124,084)
Acquisition and Construction of Capital Assets	-	(1,449,119)	(103,759)	(1,552,878)
Principal Payments of Loans	-	-	(1,090,961)	(1,090,961)
Net Cash Used by Capital and Related Financing Activities	-	(1,449,119)	(1,227,304)	(2,676,423)
CASH FLOWS FROM NONCAPITAL AND RELATED FINANCING ACTIVITIES				
(Advances) Receipts from Other Funds	(1,641,051)	-	-	(1,641,051)
CASH FLOWS FROM INVESTING ACTIVITIES				
Proceeds from Investment Earnings	11,581	5,444	15,521	32,546
NET INCREASE (DECREASE) IN CASH AND CASH EQUIVALENTS	(1,351,592)	(892,394)	345,713	(257,222)
Cash and Cash Equivalents - Beginning of Year	4,743,425	2,308,727	6,513,154	13,565,306
CASH AND CASH EQUIVALENTS - END OF YEAR	$ 3,391,833	$ 1,416,333	$ 6,858,867	$ 13,308,084

See accompanying Notes to Financial Statements.

TOWN OF ELKTON, MARYLAND
STATEMENT OF CASH FLOWS – PROPRIETARY FUNDS
YEAR ENDED JUNE 30, 2017

	Business-type Activities - Enterprise Funds			
	Major Facility	Water	Sewer	Totals
RECONCILIATION OF OPERATING INCOME TO NET CASH PROVIDED BY OPERATING ACTIVITIES				
Operating Income	$ 249,809	$ 248,360	$ 220,052	$ 718,221
Adjustments to Reconcile Operating Income to Net Cash Provided by Operating Activities:				
Depreciation	-	312,172	1,417,094	1,729,266
Other Adjustments	-	-	6,620	6,620
Effects of Changes in Operating Assets and Liabilities:				
Accounts Receivable	24,450	(23,878)	(21,177)	(20,605)
Prepaid Expenses	-	38,532	-	38,532
Accounts Payable	(186)	19,698	84,804	104,316
Accrued Expenses	-	61,939	(737)	61,202
Other Liabilities	-	-	10,191	10,191
Interfund Receivables	3,805	(114,872)	(170,037)	(281,104)
Compensated Absences Liability	-	2,220	2,364	4,584
Accrued Liability for OPEB Benefits	-	7,110	8,322	15,432
Net Cash Provided by Operating Activities	$ 277,878	$ 551,281	$ 1,557,496	$ 2,386,655

See accompanying Notes to Financial Statements.

Town of North East
Financial Statements

Town of North East

Statement of Net Position - Proprietary Fund
June 30, 2017

	Major Enterprise Fund Water Fund	
ASSETS		
CURRENT ASSETS		
Cash and cash equivalents	$ 1,330,623	
Restricted cash	1,075,300	
Service charges receivable	528,025	
Prepaid expenses	27,281	
Inventory	47,794	
Total Current Assets		$ 3,009,023
CAPITAL ASSETS		
Land - nondepreciable	960,450	
Building and equipment	37,128,751	
Less: accumulated depreciation	(12,022,922)	
Total Capital Assets		26,066,279
TOTAL ASSETS		29,075,302
LIABILITIES		
CURRENT LIABILITIES		
Accounts payable	109,425	
Accrued expenses	51,632	
Due to general fund	450,811	
Current portion, long term obligations	593,313	
Total Current Liabilities		1,205,181
NONCURRENT LIABILITIES		
Total OPEB liability	106,840	
Long term obligations	11,495,196	
Total Noncurrent Liabilities		11,602,036
TOTAL LIABILITIES		12,807,217
NET POSITION		
Net investment in capital assets	14,023,621	
Restricted for capital projects	1,075,300	
Unrestricted	1,169,164	
TOTAL NET POSITION		$ 16,268,085

See accompanying notes to financial statements

Town of North East

Statement of Revenues, Expenses and Changes in Fund Net Position - Proprietary Fund
For the Year Ended June 30, 2017

	Major Enterprise Fund Water Fund	
OPERATING REVENUES		
Service fees	$ 2,234,052	
Connection charges	15,000	
Miscellaneous revenue	21,458	
Service charge penalties	67,806	
Major facilities fees	21,000	
Total Operating Revenue		$ 2,359,316
OPERATING EXPENSES		
Salaries	500,784	
Employee benefits and payroll taxes	149,129	
Repairs and maintenance	306,152	
Supplies	242,988	
Utilities	207,533	
Insurance	43,569	
Professional fees	181,044	
Office expense	38,891	
Miscellaneous	10,491	
Depreciation and amortization	991,585	
Total Operating Expenses		2,672,166
OPERATING LOSS		(312,850)
NONOPERATING REVENUES (EXPENSES)		
Interest expense	(74,061)	
Interest earned	12,157	
Insurance proceeds	2,088	
Total Nonoperating Revenue (Expenses)		(59,816)
INCOME BEFORE CAPITAL CONTRIBUTION		(372,666)
Capital contributions		786,437
CHANGE IN NET POSITION		413,771
TOTAL NET POSITION - BEGINNING		
As previously reported		15,988,292
Adjustments affecting prior periods		(133,978)
TOTAL NET POSITION - BEGINNING - AS RESTATED		15,854,314
TOTAL NET POSITION - ENDING		$ 16,268,085

See accompanying notes to financial statements

Town of North East

Statement of Cash Flows - Proprietary Fund
For the Year Ended June 30, 2017

	Major Enterprise Fund Water Fund	
CASH FLOWS FROM OPERATING ACTIVITIES		
Cash received from customers	$ 2,401,361	
Cash payments to suppliers for goods and services	(1,184,270)	
Cash payments to employees for salaries	(550,903)	
NET CASH FLOWS FROM OPERATING ACTIVITIES		$ 666,188
CASH FLOWS FROM NON-CAPITAL FINANCING ACTIVITIES		
Transfer from other funds	99,039	
NET CASH FLOWS FROM NON-CAPITAL FINANCING ACTIVITIES		99,039
CASH FLOWS FROM CAPITAL AND RELATED FINANCING ACTIVITIES		
Repayments of bonds	(591,223)	
Capital expenditures	(51,350)	
Insurance proceeds	2,088	
Interest paid on bonds	(74,743)	
NET CASH FLOWS FROM CAPITAL AND RELATED FINANCING ACTIVITIES		(715,228)
CASH FLOWS FROM INVESTING ACTIVITIES		
Interest income received	12,157	
NET CASH FLOWS FROM INVESTING ACTIVITIES		12,157
NET DECREASE IN CASH AND CASH EQUIVALENTS		62,156
EQUITY IN POOLED CASH, CASH AND CASH EQUIVALENTS - BEGINNING		2,343,767
EQUITY IN POOLED CASH, CASH AND CASH EQUIVALENTS - END		$ 2,405,923
Reconciliation of operating loss to net cash flows from operating activities:		
Operating loss		$ (312,850)
Adjustments to reconcile operating loss to net cash flows from operating activities:		
Depreciation and amortization expense		991,585
(Increase) decrease in current assets:		
Service charges receivable		42,045
Prepaid expenses		6,914
Inventory		(3,450)
Increase (decrease) in current liabilities:		
Accounts payable		19,201
Accrued expensess		(50,119)
Decrease in total OPEB liability		(27,138)
Net cash flows from operating activities		$ 666,188
SUPPLEMENTAL DISCLOSURE OF NON-CASH CAPITAL AND RELATED FINANCING ACTIVITIES:		
Contributed capital		$ 786,437

See accompanying notes to financial statements

Town of Perryville
Financial Statements

TOWN OF PERRYVILLE, MARYLAND

STATEMENT OF NET POSITION - PROPRIETARY FUNDS

JUNE 30, 2017

	Water Fund	Sewer Fund	Total Proprietary Funds
ASSETS			
CURRENT ASSETS			
Pooled Cash and Cash Equivalents			
Unrestricted	$ 632,592	$ 15,632	$ 648,224
Non-Pooled Cash and Cash Equivalents			
Unrestricted	9,542	536,039	545,581
Restricted	-	58,468	58,468
Accounts Receivable	118,040	110,447	228,487
Local Impact Grant Receivable	27,676	39,709	67,385
Unbilled Services	217,571	247,133	464,704
Due from Other Funds	-	33,993	33,993
TOTAL CURRENT ASSETS	**1,005,421**	**1,041,421**	**2,046,842**
NON-CURRENT ASSETS			
Due from Other Funds	-	590,000	590,000
Property and Equipment			
Land and Land Rights	16,647	4,175	20,822
Buildings and Improvements	15,421,526	24,976,107	40,397,633
Equipment	629,933	1,339,600	1,969,533
Infrastructure	1,348,034	714,923	2,062,957
Vehicles	18,277	55,392	73,669
	17,434,417	27,090,197	44,524,614
Less: Accumulated Depreciation	4,004,249	9,606,736	13,610,985
Net Property and Equipment	13,430,168	17,483,461	30,913,629
TOTAL NON-CURRENT ASSETS	**13,430,168**	**18,073,461**	**31,503,629**
TOTAL ASSETS	**14,435,589**	**19,114,882**	**33,550,471**
DEFERRED OUTFLOWS OF RESOURCES	-	-	-

See Accompanying Notes

TOWN OF PERRYVILLE, MARYLAND

STATEMENT OF NET POSITION - PROPRIETARY FUNDS

JUNE 30, 2017

	Water Fund	Sewer Fund	Total Proprietary Funds
LIABILITIES			
CURRENT LIABILITIES			
Accounts Payable and Accrued Expenses	12,186	49,730	61,916
Accrued Payroll and Related Benefits	7,452	7,254	14,706
Accrued Interest Payable	34,431	40,879	75,310
Due to Other Funds	36,889	-	36,889
Current Portion of Bonds and Loans Payable	438,890	342,860	781,750
Payable from Restricted Assets			
Due to Other Governments	-	58,468	58,468
TOTAL CURRENT LIABILITIES	**529,848**	**499,191**	**1,029,039**
NON-CURRENT LIABILITIES			
Due to Other Funds	590,000	-	590,000
Accrued Compensated Absences	33,723	30,952	64,675
Accrued Other Postemployment Benefits	15,748	16,240	31,988
Bonds and Loans Payable	8,075,859	3,819,793	11,895,652
TOTAL NON-CURRENT LIABILITIES	**8,715,330**	**3,866,985**	**12,582,315**
TOTAL LIABILITIES	**9,245,178**	**4,366,176**	**13,611,354**
DEFERRED INFLOWS OF RESOURCES	-	-	-
NET POSITION			
Net Investment in Capital Assets	4,915,419	13,320,808	18,236,227
Unrestricted	274,992	1,427,898	1,702,890
TOTAL NET POSITION	**$ 5,190,411**	**$ 14,748,706**	**$ 19,939,117**

See Accompanying Notes

TOWN OF PERRYVILLE, MARYLAND

STATEMENT OF REVENUES, EXPENSES, AND CHANGES IN FUND NET POSITION - PROPRIETARY FUNDS

FOR THE YEAR ENDED JUNE 30, 2017

	Water Fund	Sewer Fund	Total Proprietary Funds
OPERATING REVENUES			
Charges for Services	$ 865,175	$ 1,006,080	$ 1,871,255
Reading and Related Fees	6,206	11,802	18,008
TOTAL OPERATING REVENUES	871,381	1,017,882	1,889,263
OPERATING EXPENSES			
Contracted Services	17,187	16,106	33,293
Depreciation	388,542	581,420	969,962
Insurance	21,629	31,205	52,834
Other Administrative Expenses	22,288	49,695	71,983
Payroll Taxes and Fringe Benefits	112,914	111,436	224,350
Repairs and Maintenance	83,488	193,268	276,756
Salaries and Wages	383,120	376,140	759,260
Supplies and Materials	34,927	74,264	109,191
Utilities	96,286	172,096	268,382
TOTAL OPERATING EXPENSES	1,160,381	1,605,630	2,766,011
OPERATING LOSS	(289,000)	(587,748)	(876,748)
NON-OPERATING REVENUES (EXPENSES)			
Connection Charges	5,000	6,000	11,000
Loss on Disposal of Assets	(2,467)	-	(2,467)
Interest Expense	(65,681)	(78,512)	(144,193)
Interest Income	734	4,698	5,432
Rental Income	109,313	-	109,313
TOTAL NON-OPERATING REVENUES (EXPENSES)	46,899	(67,814)	(20,915)
NET LOSS BEFORE CAPITAL CONTRIBUTIONS	(242,101)	(655,562)	(897,663)
Capital Contributions - Local Income Grant	305,328	438,080	743,408
Capital Contributions - Other	-	118,262	118,262
CHANGES IN NET POSITION	63,227	(99,220)	(35,993)
Net Position - Beginning of Year	5,127,184	14,847,926	19,975,110
NET POSITION - END OF YEAR	$ 5,190,411	$ 14,748,706	$ 19,939,117

See Accompanying Notes

TOWN OF PERRYVILLE, MARYLAND

STATEMENT OF CASH FLOWS - PROPRIETARY FUNDS

FOR THE YEAR ENDED JUNE 30, 2017

	Water Fund	Sewer Fund	Total Proprietary Funds
CASH FLOWS FROM OPERATING ACTIVITIES			
Inflows			
Cash Received From Customers	$ 825,723	$ 994,736	$ 1,820,459
Outflows			
Cash Paid to Suppliers	279,412	515,273	794,685
Cash Paid to Employees	487,787	479,090	966,877
	767,199	994,363	1,761,562
NET CASH PROVIDED BY OPERATING ACTIVITIES	**58,524**	**373**	**58,897**
CASH FLOWS FROM NON-CAPITAL FINANCING ACTIVITIES			
Inflows			
Net Cash Received from Other Funds	694,741	-	694,741
Other Revenues	109,313	-	109,313
	804,054	-	804,054
Outflows			
Net Cash Paid to Other Funds	-	604,916	604,916
NET CASH PROVIDED (USED) BY NON-CAPITAL FINANCING ACTIVITIES	**804,054**	**(604,916)**	**199,138**
CASH FLOWS FROM CAPITAL AND RELATED FINANCING ACTIVITIES			
Inflows			
Capital Contributions and Grants	326,394	597,494	923,888
Connection Fees	5,000	6,000	11,000
	331,394	603,494	934,888
Outflows			
Interest Paid	65,681	78,512	144,193
Purchase of Capital Assets	199,537	446,798	646,335
Payments on Long-Term Debt	435,459	337,666	773,125
	700,677	862,976	1,563,653
NET CASH USED BY CAPITAL AND RELATED FINANCING ACTIVITIES	**(369,283)**	**(259,482)**	**(628,765)**

See Accompanying Notes

TOWN OF PERRYVILLE, MARYLAND

STATEMENT OF CASH FLOWS - PROPRIETARY FUNDS

FOR THE YEAR ENDED JUNE 30, 2017

	Water Fund	Sewer Fund	Total Proprietary Funds
CASH FLOWS FROM INVESTING ACTIVITIES			
Inflows			
Interest Received	734	4,698	5,432
NET CASH PROVIDED BY INVESTING ACTIVITIES	**734**	**4,698**	**5,432**
NET INCREASE (DECREASE) IN CASH AND CASH EQUIVALENTS	**494,029**	**(859,327)**	**(365,298)**
Cash and Cash Equivalents - Beginning of Year	148,105	1,469,466	1,617,571
CASH AND CASH EQUIVALENTS - END OF YEAR	**$ 642,134**	**$ 610,139**	**$ 1,252,273**
RECONCILIATION OF CASH AND CASH EQUIVALENTS TO THE STATEMENT OF NET POSITION			
CURRENT ASSETS			
Pooled Cash and Cash Equivalents			
Unrestricted	$ 632,592	$ 15,632	$ 648,224
Non-Pooled Cash and Cash Equivalents			
Unrestricted	9,542	536,039	545,581
Restricted	-	58,468	58,468
CASH AND CASH EQUIVALENTS - END OF YEAR	**$ 642,134**	**$ 610,139**	**$ 1,252,273**

See Accompanying Notes

Town of Port Deposit
Financial Statements

Note: The Town of Port Deposit no longer owns or operates the water and sewer systems located within town limits.

Town of Rising Sun
Financial Statements



ANNUAL CASH FLOW (BUDGET)

FISCAL YEAR 2017

Travis Marion, Mayor

Members of the Board of Commissioners

David Warnick, Vice Mayor

Allen Authenreath

Brian Leishear

Joseph Shephard

V. PROPRIETARY FUNDS:

The Proprietary Funds are made up of water and sewer utility services. The revenues are collected from persons or properties utilizing the respective utilities. These revenues are set aside to pay for the delivery of such services and to provide for their maintenance, repair, and upgrades. The Town currently maintains all of the infrastructure related to the Town's water distribution system, including various well fields, a 500,000-gallon water tank, and public service mains supplying water to the residents. In addition, the Town also maintains all of the infrastructure related to the Town's sewage treatment system, including a 275,000-gallon-per-day sewage treatment plant and all public drains, manholes, and piping that conveys the sewage to the treatment facility. As documented in various recent studies, the Town does not have sufficient water for both current and future water demands. The Town is currently constructing a new 500,000-gallon-per-day sewage treatment facility to handle all current and projected future needs.

1. Revenue Summary:

The revenue for the Town Proprietary Funds is generated primarily from service charges associated with the water and sewer services.

For the fiscal year ending June 30, 2017, revenues projected for the Proprietary Fund are estimated to be $1,514,186.67, which is a 17.50% increase over the adopted FY 2016 budget.

2. Expenditure Summary:

For the fiscal year ending June 30, 2017, expenditures projected for the Proprietary Fund are estimated to be $2,229,646.66, which is a 31.98% increase from the adopted FY 2016 budget. However this includes 862,679.82 of depreciation

3. Items Proposed in This Year's Budget:

- The Town is focused on upgrading the Town's water infrastructure, with this being the linchpin to future economic development and community revitalization.
- The Sewer Fund will get an $839,000 grant from MDE to cover some past expenses of the sewer plant. These funds will be returned to the Town's reserve fund in order to replenishes the expenses that were paid out during the construction of the plant

4. Revenue versus Expenses:

The budget, as it currently stands, estimates an end-of-the-year surplus of $147,219.83[(a).]

Footnote:

(a) Calculation based upon revenue versus expense, with deprecation removed from the calculation

5. Revenue Action Items:

There are no required revenue action items proposed in this budget. It is important to note however, that although the Mayor and Commissioners have reduced the monthly utility bill by $32.03 as detailed on page 8, however there are still significant expenditures need to upgrade the Town's water infrastructure. This issue has plagued the Town for over a decade, and will result in rate increases that will likely take effect in late 2017

Overall, the Proprietary Fund Budget projects a surplus of $147,219.83[(a)].

Footnote:

(a) Calculation based upon revenue versus expense, with deprecation removed from the calculation

PROPRIETARY FUND CASH FLOW BUDGET

	A		B	C	D	E	F	G	H	I
WATER FUND	ACCOUNT #		ACCOUNT DESCRIPTION	CURRENT OPERATING BUDGET	10 MONTHS ACTUAL ENDED 4/30/16	10 MONTHS PRO-RATED BUDGET ENDED 4/30/16	VARIANCE	PROJECTED FINAL ACTUALS	PROPOSED BUDGET ALLOCATION	COMMENTS
			REVENUE			SET POINTS	10	2	1.00	
1	70-4001	R	WATER USAGE CHG	546,702.31	450,863.59	455,585.00	(4,721.41)	541,036.31	**589,639.66**	
2	70-4002	R	WATER SUR CHG	63,872.94	53,221.98	53,227.40	(5.42)	63,866.38	**63,866.38**	
3	70-4009	R	FOIA CHARGES	-	-	-	-	-	**100.00**	
4	70-4250	R	CELL TOWER RENT	19,044.00	15,870.00	15,870.00	-	19,044.00	**19,044.00**	
5	70-4251	R	FEES FOR LATE BILL	-	-	-	-	-	**9,398.47**	
6	70-4401	R	WATER IMPROVEMENTS	10.00	-	8.32	(8.32)	-	**-**	
7	70-4404	R	WATER MERCHANT FEE CHARGES	1,556.50	3,363.45	1,297.08	2,066.37	4,036.14	**4,036.14**	
8	70-4405	R	WATER METER SALES & MISCELLANEOUS	500.00	280.00	416.66	(136.66)	336.00	**336.00**	
9	70-4501	R	INTEREST INCOME	200.00	531.33	166.66	364.67	637.60	**637.60**	
10	70-4902	R	TRANSFER FROM RESERVE - FOR BUDGET ONLY	185,000.00	-	154,166.66	(154,166.66)	-	**-**	
11			**GENERAL SERVICES TOTAL REVENUE**	**816,885.75**	**524,130.35**	**680,737.78**	**(156,607.43)**	**628,956.42**	**687,058.24**	

	A		B	C	D	E	F	G	H	I
WATER FUND	ACCOUNT #		EXPENSES ACCOUNT DESCRIPTION	CURRENT OPERATING BUDGET	10 MONTHS ACTUAL ENDED 4/30/16	10 MONTHS PRO-RATED BUDGET ENDED 4/30/16	VARIANCE	PROJECTED FINAL ACTUALS	PROPOSED BUDGET ALLOCATION	COMMENTS
12	70-6011	E	ELECTION EXPENSE	1,056.00	780.83	880.00	(99.17)	937.00	**-**	
13	70-6034	E	CONSULTING EXPENSE MAYOR	-	-	-	-	-	**-**	
14	70-6050	E	W DUES, ETC-TRAINING/CONF	-	300.00	-	300.00	360.00	**324.00**	
15	70-6101	E	AUTO EXPENSE-FUEL	6,564.84	3,739.07	5,470.70	(1,731.63)	4,486.88	**3,200.00**	
16	70-6102	E	AUTO EXP-MAINTENANCE	1,201.27	-	1,001.07	(1,001.07)	-	**2,800.00**	
17	70-6106	E	AUTO EXPENSE-MISC	100.00	8.25	83.34	(75.09)	9.90	**60.00**	
18	70-6150	E	DEPRECIATION	132,365.20	103,669.85	110,304.34	(6,634.49)	124,403.82	**124,403.82**	
19	70-6180	E	ADVERTISING	-	-	-	-	-	**-**	
20	70-6201	E	INTEREST ON LOAN	-	5,241.22	-	5,241.22	6,289.46	**12,273.46**	
21	70-6202	E	LOAN ADMIN FEES	-	3,145.92	-	3,145.92	3,775.10	**3,397.59**	
22	70-6270	E	ACCOUNTING SERVICE	26,400.00	36,770.45	22,000.00	14,770.45	44,124.54	**40,000.00**	
23	70-6271	E	AUDITING SERVICE	7,260.00	14,640.31	6,050.00	8,590.31	17,568.37	**10,000.00**	
24	70-6275	E	LEGAL COUNCIL	35,000.00	78,657.50	29,166.68	49,490.82	94,389.00	**5,000.00**	
25	70-6284	E	HEALTH INSURANCE	31,179.09	24,851.77	25,982.59	(1,130.82)	29,822.12	**48,766.55**	
26	70-6288	E	W/C	13,782.66	8,685.01	11,485.56	(2,800.55)	10,422.01	**17,639.32**	
27	70-6300	E	PW BLDG MAINT-REPAIRS	-	62.66	-	62.66	75.19	**100.00**	
28	70-6301	E	EQUIP-MAINTENANCE & REPLACE	5,520.00	1,981.27	4,600.00	(2,618.73)	2,377.52	**2,500.00**	
29	70-6302	E	BLDG MAINT-UPGRADES	-	-	-	-	-	**340.00**	
30	70-6304	E	BLDG MAINT-REPAIRS	990.00	42.44	825.00	(782.56)	50.93	**255.00**	
31	70-6305	E	BLDG MAINT-UPGRADES (Duplicate account)	-	58.52	-	58.52	70.22	**-**	
32	70-6306	E	PIPING MAINT/REPAIRS/REPLACE	-	2,854.65	-	2,854.65	3,425.58	**3,000.00**	
33	70-6308	E	BLDG - WORK/SPACE UPGRADES-SH	-	373.84	-	373.84	448.61	**255.00**	
34	70-6309	E	MAINTENANCE-MISC	-	2,022.18	-	2,022.18	2,426.62	**500.00**	
35	70-6310	E	BLDG MAINT-PARKING LOT	2,640.00	489.07	2,200.00	(1,710.93)	586.88	**680.00**	
36	70-6311	E	CONTRACTED LAWN MAINTENANCE	165.00	-	137.50	(137.50)	-	**-**	
37	70-6312	E	LAWN MAINT EQUIP REPAIRS/REPLACE & UPGRADES	1,000.00	-	833.34	(833.34)	-	**-**	
38	70-6313	E	PW EQUIP-MISC							
39	70-6314	E	PW BLDG-UPGRADES							
40	70-6315	E	BLDG MAINT-SUPPLIES	100.00	-	83.34	(83.34)	-	**85.00**	
41	70-6316	E	EQUIP-REPAIRS	4,200.00	-	3,500.00	(3,500.00)	-	**5,000.00**	
42	70-6317	E	WATER FACILITY BLDG MAINT/REPAIRS & REPLACE	10,000.00	-	8,333.34	(8,333.34)	-	**10,000.00**	New roof on well house
43	70-6318	E	WATER FACILITY EQUIP MAINT/REPAIRS & REPLACE	4,000.00	-	3,333.34	(3,333.34)	-	**200.00**	
44	70-6319	E	WATER FACILITY-BLDG & EQUIP UPGRADES	1,000.00	-	833.34	(833.34)	-	**200.00**	
45	70-6324	E	WATER BLDG & FACIL-SUPPLIES	-	-	-	-	-	**200.00**	
46	70-6325	E	MAINTENANCE-MISC	-	-	-	-	-	**200.00**	
47	70-6333	E	GEN SAFETY EQUIP NEW REPAIRS & REPLACE	165.00	363.97	137.50	226.47	436.76	**85.00**	
48	70-6340	E	CONTRACTED LAWN MAINTENANCE	-	-	-	-	-	**165.00**	
49	70-6341	E	LAWN MAINT EQUIP REPAIRS/REPLACE & UPGRADES	-	-	-	-	-	**165.00**	
50	70-6342	E	PIPING MAINT/REPAIRS/REPLACE	-	-	-	-	-	**200.00**	
51	80-6350	E	PW BLDG MAINT & EQUIP REPAIRS & REPLACE	200.00	-	166.68	(166.68)	-	**100.00**	
52	80-6351	E	PW BLDG & EQUIP UPGRADES	200.00	-	166.68	(166.68)	-	**100.00**	
53	80-6352	E	PW BLDG-PARTS & SUPPLIES						**100.00**	
54	70-6353	E	PW BLDG-UPGRADES duplicate	-	-	-	-	-	**-**	
55	70-6354	E	PW EQUIP-MISC duplicate	-	-	-	-	-	**-**	
56	70-6363	E	WATER PIPING CONTRACTED SERVICES	10,000.00	-	8,333.34	(8,333.34)	-	**10,000.00**	
57	70-6365	E	STONE & FILL	5,917.43	-	4,931.21	(4,931.21)	-	**5,000.00**	
58	70-6370	E	PAVINGS REPAIRS & REPLACE	1,000.00	-	833.34	(833.34)	-	**1,000.00**	

	A		B	C	D	E	F	G	H	I
	WATER FUND ACCOUNT #		EXPENSES ACCOUNT DESCRIPTION	CURRENT OPERATING BUDGET	10 MONTHS ACTUAL ENDED 4/30/16	10 MONTHS PRO-RATED BUDGET ENDED 4/30/16	VARIANCE	PROJECTED FINAL ACTUALS	PROPOSED BUDGET ALLOCATION	COMMENTS
59	70-6400	E	MISS UTILITY	12,500.00	-	10,416.68	(10,416.68)	-	**250.00**	
60	70-6401	E	UTILITIES-ELECTRIC	40,549.99	42,415.01	33,791.67	8,623.34	50,898.01	**45,808.21**	
61	70-6402	E	UTILITIES-HEATING FUEL	581.73	133.73	484.79	(351.06)	160.48	**144.43**	
62	70-6406	E	UTILITIES-HEATING FUEL	-	117.08	-	117.08	140.50	**126.45**	
63	70-6481	E	COMMUNICATIONS-PHONES	1,888.89	1,541.37	1,574.09	(32.72)	1,849.64	**1,664.68**	
64	70-6482	E	COMMUNICATIONS-CELL PHONES	500.00	672.78	416.68	256.10	807.34	**3,670.44**	
65	70-6483	E	COMMUNICATIONS-INTERNET	606.76	436.02	505.64	(69.62)	523.22	**470.90**	
66	70-6501	E	SUPPLIES & MATERIALS-HARDWARE	2,300.00	17.55	1,916.68	(1,899.13)	21.06	**18.95**	
67	70-6502	E	GENERAL HAND & POWER EQUIP DUPLICATE	-	-	-	-	-	**-**	
68	70-6503	E	GEN SAFETY EQUIP REPAIRS & REPLACE DUPLICATE	-	-	-	-	-	**-**	
69	70-6504	E	SUPPLIES & MATERIALS-HARDWARE	-	-	-	-	-	**500.00**	
70	70-6509	E	GENERAL HAND & POWER TOOLS	200.00	-	166.68	(166.68)	-	**85.00**	
71	70-6510	E	UNI'S, SHOES, HATS & ID duplicate	-	-	-	-	-	**-**	
72	70-6600	E	MISCELLANEOUS	-	-	-	-	-	**500.00**	
73	70-6601	E	TRAINING/CONFERENCE	-	-	-	-	-	**500.00**	
74	70-6602	E	MISCELLANEOUS	687.06	492.45	572.56	(80.11)	590.94	**531.85**	
75	70-6609	E	W DUES, ETC-TRAINING/CONF	31.50	100.00	26.26	73.74	120.00	**108.00**	
76	70-6611	E	ADVERTISING	-	-	-	-	-	**200.00**	
77	70-6620	E	BANK CHARGES	651.26	601.00	542.72	58.28	721.20	**649.08**	
78	70-6621	E	MERCHANT CHARGES (CREDIT CARD FEES)	1,027.17	3,133.04	855.99	2,277.05	3,759.65	**1,800.00**	
79	70-6650	E	PERSONAL PROTECT EQUIP	100.00	-	83.34	(83.34)	-	**127.50**	
80	70-6651	E	UNI'S, SHOES, HATS & ID	200.00	-	166.68	(166.68)	-	**170.00**	
81	70-6701	E	CHEMICALS	19,000.00	18,690.66	15,833.34	2,857.32	22,428.79	**22,428.79**	
82	70-6702	E	WATER TESTING/SAMPLING	1,498.64	1,164.25	1,248.88	(84.63)	1,397.10	**1,257.39**	
83	70-6800	E	CONTRACT SERVICE	10,000.00	8,319.50	8,333.34	(13.84)	9,983.40	**10,000.00**	
84	70-6803	E	ENGINEERING	100,000.00	59,584.91	83,333.34	(23,748.43)	71,501.89	**10,000.00**	
85	70-6804	E	WEBSITE	1,650.00	1,298.55	1,375.00	(76.45)	1,558.26	**5,544.00**	
86	70-6805	E	RECORDATION OF MEETINGS	4,158.00	2,428.80	3,465.00	(1,036.20)	2,914.56	**900.00**	
87	70-6806	E	UTILITY TAX BILLING	2,068.87	3,541.20	1,724.07	1,817.13	4,249.44	**3,900.00**	
88	70-6807	E	VIRTUAL CLERK (change SENSUS METERING ??)	1,383.00	1,030.00	1,152.50	(122.50)	1,236.00	**8,190.00**	
89	70-6808	E	COMPUTER TECH SUPPORT	2,039.20	824.81	1,699.34	(874.53)	989.77	**1,350.00**	
90	70-6809	E	COPY MACHINE	1,650.00	1,564.80	1,375.00	189.80	1,877.76	**2,400.00**	
91	70-6811	E	W CONTRACT SERV-REPAIRS/WELLS ETC	5,000.00	-	4,166.68	(4,166.68)	-	**2,000.00**	
92	70-6812	E	W CONTRACT SERV-W TOWER INSP/MAINT	1,000.00	830.00	833.34	(3.34)	996.00	**896.40**	
93	70-6813	E	W CONTRACT SERV-MISC	50,000.00	-	41,666.68	(41,666.68)	-	**1,000.00**	Rate Study but will be capitalized and USDA reimbursable
94	70-6814	E	BACKUP SYSTEM	989.80	2,709.53	824.84	1,884.69	3,251.44	**1,684.44**	Cloud Based Sensus Storage and upgrades
95	70-6816	E	WATER PIPING CONTRACTED SERVICES	-	-	-	-	-	**5,000.00**	
96	70-6818	E	RECORDS RETENTION	1,562.40	1,259.25	1,302.00	(42.75)	1,511.10	**1,359.99**	
97	70-6820	E	EMAIL HOSTING ANNUAL LICENSE	1,843.38	-	1,536.16	(1,536.16)	-	**793.80**	
98	70-6822	E	GENERAL CODE UPDATE	3,500.00	-	2,916.68	(2,916.68)	-	**900.00**	
99	70-6826	E	FEES-MISC	-	-	-	-	-	**200.00**	
100	70-6827	E	EMP HEALTH DEDUCTIBLE ACCT (NEW ACCT)	-	-	-	-	-	**-**	
101	70-6828	E	FEES-MISC	-	-	-	-	-	**-**	
102	70-6901	E	SALARIES	164,172.00	124,984.78	136,810.00	(11,825.22)	149,981.74	**210,975.27**	
103	70-6902	E	PAYROLL TAX	12,791.72	9,847.07	10,659.78	(812.71)	11,816.48	**16,135.29**	
104	70-6903	E	RETIREMENT	7,908.30	4,586.94	6,590.26	(2,003.32)	5,504.33	**10,360.44**	
105	70-6958	E	RETIRE ADMIN FEES	891.00	962.19	742.50	219.69	1,154.63	**1,200.00**	
106	70-6959	E	HAS SHOULD DELETE AND MOVE EXP TO 6827	396.00	-	330.00	(330.00)	-	**800.00**	
107	70-????	E	WORK FLOW MANAGEMENT SOFTWARE						**750.00**	
108			**WATER FUND TOTAL EXPENSE**	**757,333.16**	**582,026.05**	**631,111.42**	**(49,085.37)**	**698,431.26**	**685,646.04**	

WATER FUND CASH FLOW ANALYSIS

		CURRENT OPERATING BUDGET	10 MONTHS ACTUAL ENDED 4/30/16	10 MONTHS PRO-RATED BUDGET ENDED 4/30/16	VARIANCE	PROJECTED FINAL ACTUALS	PROPOSED BUDGET ALLOCATION	COMMENTS
109	**INFLOW OF REVENUE ACCOUNT PROCEEDS**	631,885.75	524,130.35	680,737.78	(156,607.43)	628,956.42	687,058.24	
110	**RESERVE FUND TRANSFERS**	185,000.00	-	154,166.66	(154,166.66)	-	-	
	TOTAL OF INFLOW PROCEEDS (REVENUE)	816,885.75	524,130.35	834,904.44	(310,774.09)	628,956.42	**687,058.24**	
111	**TOTAL EXPENSES**	757,333.16	582,026.05	631,111.42	(49,085.37)	698,431.26	685,646.04	
112	**WATER FUND CASH FLOW WITH DEPRECIATION**	59,552.59	(57,895.70)	203,793.02	(261,688.72)	(69,474.84)	1,412.20	
113	**WATER FUND CASH FLOW IF DEPRECIATION IS SUBTRACTED FROM THE EXPENSE**	**191,917.79**	**45,774.15**	**314,097.36**	**(268,323.21)**	**54,928.98**	**125,816.02**	

PROPRIETARY FUND CASH FLOW BUDGET

	A		B	C	D	E	F	G	H	I
	SEWER FUND ACCOUNT #		ACCOUNT DESCRIPTION	CURRENT OPERATING BUDGET	10 MONTHS ACTUAL ENDED 4/30/16	10 MONTHS PRO-RATED BUDGET ENDED 4/30/16	VARIANCE	PROJECTED FINAL ACTUALS	PROPOSED BUDGET ALLOCATION	COMMENTS
			REVENUE			SET POINTS	10	2	1.00	
1	80-4001	R	SEWER USAGE CHG	560,180.00	459,297.96	466,816.66	(7,518.70)	551,157.55	**661,650.27**	
2	80-4002	R	SEWER SUR CHG	94,075.24	78,468.50	78,396.00	72.50	94,162.20	**94,162.20**	
3	80-4009	R	FOIA CHARGES	-	-	-	-	-	-	
4	80-????	R	FEES FOR LATE BILL (new account)	-	-	-	-	-	**11,635.84**	
5	80-4251	R	MISC SUBSIDIES	-	-	-	-	-	-	
6	80-4301	R	MDE GRANT	-	-	-	-	-	-	
7	80-????		MDE ENR ANNUAL OPERATORS GRANT (NEW ACCOUNT)						**5,000.00**	
8	80-4404	R	SEWER MERCHANT FEE CHARGES	1,058.30	-	881.90	(881.90)	-	**2,000.00**	
9	80-4501	R	INTEREST INCOME	1,451.87	2,233.43	1,209.89	1,023.54	2,680.12	**2,680.12**	
10	80-4902	R	TRANSFER FROM RESERVE - FOR BUDGET ONLY	85,590.13	-	71,325.08	(71,325.08)	-	**50,000.00**	
11			**SEWER FUND TOTAL REVENUE**	**742,355.54**	**539,999.89**	**618,629.53**	**(78,629.64)**	**647,999.87**	**827,128.43**	

	A		B	C	D	E	F	G	H	I
	SEWER FUND ACCOUNT #		EXPENSES ACCOUNT DESCRIPTION	CURRENT OPERATING BUDGET	10 MONTHS ACTUAL ENDED 4/30/16	10 MONTHS PRO-RATED BUDGET ENDED 4/30/16	VARIANCE	PROJECTED FINAL ACTUALS	PROPOSED BUDGET ALLOCATION	COMMENTS
12	80-6011	E	ELECTION EXPENSES	1,056.00	780.83	880.00	(99.17)	937.00	-	
13	80-6034	E	CONSULTING EXPENSE MAYOR	-	-	-	-	-	-	
14	80-6051	E	WW DUES, ETC-MRWA	-	-	-	-	-	**350.00**	
15	80-6052	E	WW DUES, ETC-MRW CONF COMM	-	-	-	-	-	**350.00**	
16	80-6101	E	AUTO EXPENSE-FUEL	6,072.18	3,493.80	5,060.16	(1,566.36)	4,192.56	**3,200.00**	
17	80-6102	E	AUTO EXP-MAINTENANCE	1,386.87	710.00	1,155.73	(445.73)	852.00	**2,800.00**	
18	80-6106	E	AUTO EXPENSE-MISC	-	8.25	-	8.25	9.90	**60.00**	
19	80-6150	E	DEPRECIATION	242,100.00	397,358.35	201,750.00	195,608.35	397,358.35	**738,276.00**	
20	80-6180	E	ADVERTISING	-	-	-	-	-	-	
21	80-6200	E	USDA LOAN INTEREST	-	7,904.36	-	7,904.36	9,485.23	**292,000.00**	
22	80-6201	E	WW MDE LOAN-INTEREST This should be USDA	192,339.38	-	160,282.84	(160,282.84)	-	-	
23	80-6202	E	LOAN ADMIN FEES	-	-	-	-	-	-	
24	80-6203	E	LOAN ADMIN FEES	-	-	-	-	-	-	
25	80-6270	E	ACCOUNTING SERVICE	26,400.00	36,770.45	22,000.00	14,770.45	44,124.54	**26,000.00**	
26	80-6271	E	AUDITING SERVICE	7,260.00	10,395.21	6,050.00	4,345.21	12,474.25	**6,500.00**	
27	80-6275	E	LEGAL COUNCIL	5,350.00	8,182.51	4,458.34	3,724.17	9,819.01	**2,000.00**	
28	80-6284	E	HEALTH INSURANCE	29,196.10	23,726.17	24,330.10	(603.93)	28,471.40	**32,316.90**	
29	80-6288	E	W/C	12,798.94	9,162.35	10,665.80	(1,503.45)	10,994.82	**11,024.90**	
30	80-6300	E	PW BLDG MAINT-REPAIRS DISCONTINUE	-					-	
31	80-6301	E	BLDG MAINT-REPAIRS	5,520.00	348.20	4,600.00	(4,251.80)	417.84	**255.00**	
32	80-6302	E	BLDG MAINT-UPGRADES	990.00	-	825.00	(825.00)	-	**340.00**	
33	80-6303	E	BLDG MAINT-PARKING LOT	2,640.00	-	2,200.00	(2,200.00)	-	**680.00**	
34	80-6304	E	CONTRACTED LAWN MAINTENANCE	170.00	15.96	141.68	(125.72)	19.15	-	
35	80-6305	E	LAWN MAINT EQUIP REPAIRS/REPLACE & UPGRADES	7,500.00	58.52	6,250.00	(6,191.48)	70.22	-	
36	80-6306	E	PW EQUIP-MISC	200.00	-	166.68	(166.68)	-	**100.00**	
37	80-6307	E	PW BLDG-UPGRADES	200.00	-	166.68	(166.68)	-	**100.00**	
38	80-6308	E	BLDG - WORK/SPACE UPGRADES-SH	-	373.83	-	373.83	448.60	**255.00**	
39	80-6309	E	BLDG MAINT-SUPPLIES	100.00	1,055.00	83.34	971.66	1,266.00	**85.00**	
40	80-6310	E	SEWER FACILITY0BLDG MAINT/REPAIRS & REPLACE	500.00	-	416.68	(416.68)	-	-	
41	80-6311	E	SEWER FACILITY-BLDG MAINT/REPAIRS & REPLACE	3,000.00	-	2,500.00	(2,500.00)	-	-	
42	80-6312	E	SEWER FACILITY-BLDG & EQUIP UPGRADES	5,000.00	-	4,166.68	(4,166.68)	-	-	
43	80-6313	E	SEWER FACILITY BLDG-PARTS & SUPPLIES-SH	1,000.00	-	833.34	(833.34)	-	-	
44	80-6314	E	PIPING MAINT/REPAIRS/REPLACE	500.00	-	416.68	(416.68)	-	-	
45	80-6315	E	SEWER SYSTEM PIPING UPGRADES	500.00	-	416.68	(416.68)	-	-	
46	80-6316	E	EQUIP-MAINTENANCE & REPLACE	200.00	-	166.68	(166.68)	-	-	
47	80-6318	E	PAVING/PATCHING/REPAIRS/REPLACE	500.00	-	416.68	(416.68)	-	-	
48	80-6320	E	SEWER FACILITY-BLDG MAINT/REPAIRS & REPLACE	-	-	-	-	-	**300.00**	
49	80-6321	E	SEWER FACILITY0BLDG MAINT/REPAIRS & REPLACE	-	-	-	-	-	**300.00**	
50	80-6322	E	SEWER FACILITY-BLDG & EQUIP UPGRADES	-	-	-	-	-	**300.00**	
51	80-6323	E	SEWER FACILITY BLDG-PARTS & SUPPLIES-SH	-	-	-	-	-	**300.00**	
52	80-6333	E	GEN SAFETY EQUIP NEW REPAIRS & REPLACE	165.00	-	137.50	(137.50)	-	**85.00**	
53	80-6340	E	CONTRACTED LAWN MAINTENANCE	-	-	-	-	-	**165.00**	
54	80-6341	E	LAWN MAINT EQUIP REPAIRS/REPLACE & UPGRADES	-	-	-	-	-	**165.00**	
55	80-6342	E	PIPING MAINT/REPAIRS/REPLACE	-	-	-	-	-	**1,000.00**	
56	80-6343	E	PAVING/PATCHING/REPAIRS/REPLACE	-	-	-	-	-	**500.00**	
57	80-6350	E	PW BLDG MAINT & EQUIP REPAIRS & REPLACE	-	62.66	-	62.66	75.19	**100.00**	
58	80-6351	E	PW BLDG & EQUIP UPGRADES	-					**100.00**	
59	80-6352	E	PW BLDG-PARTS & SUPPLIES	-					**100.00**	
60	80-6353	E	PW BLDG-UPGRADES duplicate	-	-	-	-	-	-	
61	80-6354	E	PW EQUIP-MISC duplicate	-	-	-	-	-	-	
62	80-6365	E	STONE & FILL	500.00	-	416.68	(416.68)	-	**250.00**	
63	80-6400	E	MISS UTILITY	12,500.00	-	-	-	-	**250.00**	

	A		B	C	D	E	F	G	H	I
	SEWER FUND ACCOUNT #		EXPENSES ACCOUNT DESCRIPTION	CURRENT OPERATING BUDGET	10 MONTHS ACTUAL ENDED 4/30/16	10 MONTHS PRO-RATED BUDGET ENDED 4/30/16	VARIANCE	PROJECTED FINAL ACTUALS	PROPOSED BUDGET ALLOCATION	COMMENTS
64	80-6401	E	UTILITIES-ELECTRIC	20,000.00	81,406.12	10,416.68	70,989.44	97,687.34	**100,000.00**	
65	80-6402	E	UTILITIES-HEATING FUEL	671.26	152.85	559.40	(406.55)	183.42	**165.08**	
66	80-6406	E	UTILITIES-HEATING FUEL	-	133.80	-	133.80	160.56	**144.50**	
67	80-6481	E	COMMUNICATIONS-PHONES	2,013.68	1,599.55	1,678.08	(78.53)	1,919.46	**1,727.51**	
68	80-6482	E	COMMUNICATIONS-CELL PHONES	2,500.00	2,225.88	2,083.34	142.54	2,671.06	**2,399.83**	
69	80-6483	E	COMMUNICATIONS-INTERNET	594.42	436.02	495.36	(59.34)	523.22	**470.90**	
70	80-6500	E	SUPPLIES & MATERIALS	200.00	-	166.68	(166.68)	-	**500.00**	
71	80-6501	E	SUPPLIES & MATERIALS-HARDWARE	1,800.00	17.55	1,500.00	(1,482.45)	21.06	**500.00**	
72	80-6502	E	GENERAL HAND & POWER EQUIP DUPLICATE	-	-	-	-	-	-	
73	80-6503	E	GEN SAFETY EQUIP REPAIRS & REPLACE DUPLICATE	-	-	-	-	-	-	
74	80-6504	E	PERSONAL PROTECT EQUIP	-	-	-	-	-	-	
75	80-6505	E	UNI'S, SHOES, HATS & ID duplicate	-	-	-	-	-	-	
76	80-6509	E	GENERAL HAND & POWER TOOLS	200.00	-	166.68	(166.68)	-	**85.00**	
77	80-6600	E	MISCELLANEOUS	-	-	-	-	-	-	
78	80-6601	E	TRAINING/CONFERENCE	900.00	-	750.00	(750.00)	-	-	
79	80-6602	E	MISCELLANEOUS	1,500.00	557.43	1,250.00	(692.57)	668.92	**750.00**	
80	80-6608	E	WW MDE FINES	8,000.00	-	6,666.68	(6,666.68)	-	-	
81	80-6620	E	BANK CHARGES	420.00	41.75	350.00	(308.25)	50.10	**45.09**	
82	80-6621	E	MERCHANT CHARGES (CREDIT CARD FEES)	1,058.30	-	881.92	(881.92)	-	**1,200.00**	
83	80-6622	E	WW DUES, ETC-MRWA	400.00	-	333.34	(333.34)	-	-	
84	80-6623	E	WW DUES, ETC-MRW CONF COMM	400.00	100.00	333.34	(233.34)	120.00	**108.00**	
85	80-6631	E	ADVERTISING	-	-	-	-	-	**200.00**	
86	80-6650	E	PERSONAL PROTECT EQUIP	100.00	-	83.34	(83.34)	-	**127.50**	
87	80-6651	E	UNI'S, SHOES, HATS & ID	200.00	-	166.68	(166.68)	-	**170.00**	
88	80-6701	E	CHEMICALS	25,000.00	40,184.56	20,833.34	19,351.22	48,221.47	**50,000.00**	
89	80-6800	E	CONTRACT SERVICE	-	-	-	-	-	-	
90	80-6801	E	3RD PARTY PLANT OPERATOR	95,000.00	21,507.42	79,166.68	(57,659.26)	25,808.90	**91,202.40**	1st couple of months service were covered by USDA Loan - now need to show 12 months
91	80-6802	E	PIPING CONTRACTED SERVICES	5,000.00	-	4,166.68	(4,166.68)	-	-	
92	80-6803	E	ENGINEERING	5,000.00	315.00	4,166.68	(3,851.68)	500.00	**450.00**	
93	80-6804	E	WEBSITE	1,650.00	1,298.55	1,375.00	(76.45)	1,558.26	**3,850.00**	
94	80-6805	E	RECORDATION OF MEETINGS	4,158.00	2,428.80	3,465.00	(1,036.20)	2,914.56	**900.00**	
95	80-6806	E	UTILITY TAX BILLING	2,131.57	3,945.94	1,776.31	2,169.63	4,735.13	**2,600.00**	
96	80-6807	E	SENSUS MONITORING	1,383.00	1,030.00	1,152.50	(122.50)	1,236.00	**5,460.00**	
97	80-6808	E	COMPUTER TECH SUPPORT	2,039.20	659.85	1,699.34	(1,039.49)	791.82	**1,260.00**	
98	80-6809	E	COPY MACHINE	1,650.00	1,564.80	1,375.00	189.80	1,877.76	**1,560.00**	
99	80-6811	E	WW CONTRACT SERVICE-INFRAS REPAIRS	-	-	-	-	-	-	
100	80-6812	E	SEWER WASTE REMOVAL FEE	-	300.00	-	300.00	360.00	**324.00**	
101	80-6813	E	WW CONTRACT SERVICE-MISC	1,000.00	-	833.34	(833.34)	-	**1,000.00**	
102	80-6814	E	BACKUP SYSTEM	1,989.80	2,213.89	1,658.18	555.71	2,656.67	**1,169.75**	
103	80-6818	E	RECORDS RETENTION	652.61	863.25	543.85	319.40	1,035.90	**932.31**	
104	80-6820	E	EMAIL HOSTING ANNUAL LICENSE	1,843.38	-	1,536.16	(1,536.16)	-	**740.88**	
105	80-6822	E	GENERAL CODE UPDATE	3,500.00	-	2,916.68	(2,916.68)	-	**900.00**	
106	80-6826	E	FEES-MISC	-	-	-	-	-	-	
107	80-6827	E	EMP HEALTH DEDUCTIBLE ACCT	-	-	-	-	-	-	
108	80-6828	E	FEES-MISC	-	-	-	-	-	-	
109	80-6901	E	SALARIES	152,864.80	116,459.19	127,387.34	(10,928.15)	139,751.03	**133,668.25**	
110	80-6902	E	PAYROLL TAX	11,912.95	9,164.73	9,927.47	(762.74)	10,997.68	**10,222.77**	
111	80-6903	E	RETIREMENT	7,342.94	4,140.92	6,119.12	(1,978.20)	4,969.10	**6,559.05**	
112	80-6958	E	RETIRE ADMIN FEES	891.00	962.19	742.50	219.69	1,154.63	**780.00**	
113	80-6959	E	HAS SHOULD BE MOVED TO ACT 6827 -MATCH GEN F	396.00	-	330.00	(330.00)	-	**520.00**	
114	80-????	E	WORK FLOW MANAGEMENT SOFTWARE						**700.00**	
115			**SEWER FUND TOTAL EXPENSE**	**932,007.38**	**794,116.49**	**760,006.64**	**34,109.85**	**873,590.12**	**1,544,000.62**	

SEWER FUND CASH FLOW ANALYSIS

		CURRENT OPERATING BUDGET	10 MONTHS ACTUAL ENDED 4/30/16	10 MONTHS PRO-RATED BUDGET ENDED 4/30/16	VARIANCE	PROJECTED FINAL ACTUALS	PROPOSED BUDGET ALLOCATION	COMMENTS
116	**INFLOW OF REVENUE ACCOUNT PROCEEDS**	656,765.41	539,999.89	618,629.53	(78,629.64)	647,999.87	827,128.43	
117	**RESERVE FUND TRANSFERS**	85,590.13	-	71,325.08	(71,325.08)	-	-	
118	**TOTAL OF INFLOW PROCEEDS (REVENUE)**	742,355.54	539,999.89	689,954.61	(149,954.72)	647,999.87	**827,128.43**	
119	**TOTAL EXPENSES**	932,007.38	794,116.49	760,006.64	34,109.85	873,590.12	1,544,000.62	
120	**SEWER FUND CASH FLOW WITH DEPRECIATION**	(189,651.84)	(254,116.60)	(70,052.03)	(184,064.57)	(225,590.25)	(716,872.19)	
121	**CASH FLOW /DEPRECIATION ADDED BACK**	**52,448.16**	**143,241.75**	**131,697.97**	**11,543.78**	**171,768.10**	**21,403.81**	

APPENDIX F

AGREEMENTS INCORPORATED BY REFERENCE

Agreements Incorporated by Reference

The following agreements are hereby incorporated into, and made an integral part of, the Cecil County 2018 Master Water & Sewer Plan:

- Artesian Resources – Delaware Public Service Commission, Delaware Water Supply Self Sufficiency Report, dated June 30, 2009, 138 pages.

- Artesian Water Company, Inc. – Artesian Water Maryland, Inc., Interconnection Agreement, dated November 23, 2009, 11 pages.

- Artesian Water Maryland, Inc. – Board of County Commissioners of Cecil County, Asset Purchase Agreement, dated October 7, 2008, as amended on December 15, 2009 and November 16, 2010, 114 pages.

- Artesian Water Maryland/Town of North East Interconnection Agreement dated June 26, 2019.

- Chester Water Authority - Artesian Water Company, Inc., Interconnection Agreement, dated June 6, 1990, as amended on August 1, 1997, 33 pages.

- Chester Water Authority – Town of Rising Sun, Bulk Water Supply and Connection Agreement, dated September 28, 2016, 75 pages.

- Cecil County, Maryland - Artesian Water Maryland, Inc., Franchise for Water Services and Water Service Agreement, dated August 19, 2008, 67 pages. *(original and all amendments)*

- Mayor and Town Commissioners of the Town of Charlestown - Artesian Water Company, Inc., Emergency Interconnection Agreement, dated March 9, 2010.

- Mayor and Commissioners of the Town of North East – Board of County Commissioners for Cecil County, Water Service Agreement, dated March 5, 2002, eight pages, recorded in WLB 1136/734 *(original and all amendments).*

- Mayor and Town Commissioners of Perryville – Board of County Commissioners of Cecil County, Operating Agreement, dated July 25, 1995, eight pages.

- Town of Elkton, Maryland - Artesian Water Company, Inc., Interconnection Agreement, dated March 17, 2006, as amended on October 8, 2007 and June 1, 2009, 21 pages.

- Wilmington Suburban Water Company - Board of County Commissioners of Cecil County, Interconnection Agreement, dated February 3, 1993, six pages.

APPENDIX G

TOWN OF NORTH EAST WATER SERVICE AREA AND ARTESIAN WATER MARYLAND, INC. WATER SERVICE AREAS

Appendix G- Cecil County Master Water & Sewer Plan
Town of North East Water Service Area and
Artesian Water Maryland, Inc. Water Service Areas

N
W E
S

Legend

- Town of North East Exclusive Service Area
- Artesian Water MD Franchise Area
- Elkton West Franchise Area
- Mountain Hill Artesian Service Territory
- Parcels

0 0.5 1 Miles

December 4, 2019

SECOND AMENDMENT TO

FRANCHISE FOR WATER SERVICES

AND

WATER SERVICE AGREEMENT

FOR FIRST EXPANSION OF THE ELKTON WEST AREA

BY AND BETWEEN

CECIL COUNTY, MARYLAND

AND

ARTESIAN WATER MARYLAND, INC.

Dated

Aug 5, 2014

Table of Contents

1. DEFINITIONS; USAGE; EXHIBITS. 2

2. GRANT OF FRANCHISE; LIMITS AND RESERVATIONS. 2

3. FEES; COSTS; GUARANTY 2

4. INSURANCE AND INDEMNIFICATION 3

FIRST EXPANSION OF ELKTON WEST FRANCHISE AREA

FOR WATER SERVICES

AND

WATER SERVICE AGREEMENT

THIS SECOND AMENDMENT to the Franchise for Water Services and Water Service Agreement dated August 19, 2008, as amended by the First Amendment thereto dated October 7, 2008 ("Agreement") is made as of this 5th day of August, 2014, by and between **CECIL COUNTY, MARYLAND**, a body corporate and politic under the laws of the State of Maryland, as represented by the County Executive of Cecil County (the "County"), and **ARTESIAN WATER MARYLAND, INC.**, a Delaware corporation (the "Franchisee") (hereinafter the "Second Amendment").

Explanatory Statement

A. The County and Franchisee are parties to that certain Franchise for Water Services and Water Services Agreement dated August 19, 2008, as amended by a First Amendment thereto dated October 7, 2008.

B. Franchisee, under Section 5.2. of the Agreement, is granted the option to request an expansion of its Franchise Area and Service Area for the provision of Water Service, to be predicated upon the terms and conditions as further set forth in 5.2(c), which option to expand, in part, is amended by the First Amendment to Franchise for Water Services and Water Service Agreement.

C. Franchisee, further, under Section 5.2 of the Agreement, requests that the County, predicated upon the terms and conditions set forth in 5.2(c), grant a expansion to the Franchise Area and Service Area for the provision of Water Service.

D. The County and Franchisee agree to amend the Agreement as hereinafter set forth.

Amendment

NOW, THEREFORE, the County and Franchisee agree that the Agreement shall be amended by this Second Amendment as follows:

1. DEFINITIONS; USAGE; EXHIBITS.

1.1. **Definitions**. The definition of "Service Area" as set forth in 1.1 of the Agreement, as amended by the First Amendment, is deleted in its entirety and the following provision is substituted.

Service Area: As of the date of this Second Amendment to the Agreement, the current Franchise Area and Service Area for the provision of Water Service as described on Exhibit A, Part I and Part II and depicted on Exhibit B, Part I and Part II shall be expanded to include, all that property in Cecil County, Maryland as described on Exhibit A, Part III and Part IV and depicted on Exhibit B, Part III and Part IV of this Second Amendment.

2. GRANT OF FRANCHISE; LIMITS AND RESERVATIONS.

3.1 Generally. Section 3.1 of the Agreement is amended by adding the following sections 3.1(f) to 3.1(i).

> (f) Subject to the terms and conditions of the Agreement, as amended, and Applicable Laws, the County grants Franchisee the right and franchise to expand its current Franchise Area and its Service Area (shown on Exhibit A, Parts I and II and depicted on Exhibit B, Parts I and II), to provide Water Service to the expanded Franchise Area, which shall include all that property described on Exhibit A, Part III and depicted on Exhibit B, Part III and on Exhibit A, Part IV and depicted on Exhibit B, Part IV of this Second Amendment for the Term of the Franchise. (g) The grant of Franchise pursuant to this Agreement specifically includes the consent of the County for the installation and operation of the Water System connecting the Franchise Area to the balance of Franchisee's Franchise Areas located within the County by utilizing efficiently the Public Rights-of-Way owned or controlled by the County. (h) The County's consent as set forth in this section 3.1 specifically excludes the right of Franchisee to provide Water Service in the Town of North East's service area, as set forth on Exhibit C. (i) The County and Franchisee shall, upon request of either of them, execute such confirmatory instruments reflecting the expansion of the Service Area and Franchise Area as either of them shall request.

3. FEES; COSTS; GUARANTY.

Section 9 of the Agreement is amended by adding the following section 9.4.

9.4 Expense Reimbursement. Franchisee shall reimburse the County for third party expenses incurred related to the adoption and execution of this Second Amendment, with the total amount for all such services not to exceed Fifteen Thousand Dollars ($15,000.00). The Franchisee shall have the right to review amounts billed in advance of payment.

4. INSURANCE AND INDEMNIFICATION.

Section 10.2 (a) is deleted in its entirety and the following is substituted in lieu thereof:

(a) Subject to the provisions below, for so long as this Agreement and the Franchise remain in effect, Franchisee shall, at its sole cost and expense, indemnify and hold harmless the County and its elected and appointed officials, officers, boards, commissions, commissioners, agents, and employees, against any and all claims asserted or liability imposed upon the County, except from the County's gross negligence or willful misconduct, including suits, causes of action, proceedings, and judgments, whether for damages or otherwise arising out of (i) the execution and delivery of this Second Amendment by the County, and the granting of the additional Franchise to Franchisee by the County, authorizing the provision of Water Services by Franchisee within all or any part of the Service Area, or (ii) the Franchisee's installation, construction, operation, or maintenance of the Water System anywhere within the Service Area, including but not limited to any claim against the County and the Franchisee, or either of them, for invasion of the right of privacy, defamation of any Person, firm or corporation, or the violation or infringement of any contract, copyright, trade mark, trade name, service mark, or patent, or of any other intellectual property or other contractual right of any Person, firm, or corporation.

Section 10.2 (g) is deleted in its entirety and the following is substituted in lieu thereof:

(g) As provided in Section 10.2(a), the Franchisee's obligations to defend the County extends to suits, causes of action, proceedings, and judgments, whether for damages or otherwise arising out of the execution and delivery of this Agreement by the County, and the granting of the Franchise to Franchisee by the County, authorizing the provision of Water Services by Franchisee within all or any part of the Service Area.

Section 10.2 (h) is deleted in its entirety and the following is substituted in lieu thereof:

(h) In the event of any action or proceeding brought against the County by reason of any matter for which the County is indemnified under this Agreement: (i) Franchisee shall not admit any liability in any such matter on behalf of the County without the prior written consent of the County, and the County shall not admit any liability for any claim for which they are indemnified under this Agreement without the prior written consent of the Franchisee, and (ii) upon request by the Franchisee, the County shall reasonably cooperate with and assist the Franchisee in the defense of such action or proceeding. In order to settle any such action or proceeding, notwithstanding Section 5.2 herein above, reasonable cooperation shall include the County's acceptance of Franchisee's request to contract the boundaries of Franchise Area and Service Area, as described on Exhibit A, Part III and Part IV and depicted on Exhibit B, Part III and Part IV of this Second Amendment, as follows:

(i) If water service is not being provided and the Franchisee is not under contract with any third party for the provision of water within the area subject to the request to contract the boundaries at the time of the request; or,

(ii) If, at the time of the request, however, water service is being provided by Franchisee or the Franchisee is under contract with a third party for the provision of water within the area subject to the request to contract the boundaries, then the County's acceptance of Franchisee's request shall be subject to:

(1) The Franchisee's continued provision of water to existing customers;

(2) Where Franchisee is under contract to provide future water service, subject to the Franchisee making suitable arrangement for the future provision of water to the contracted party.

(iii) Franchisee's request for contraction shall in all instances be further subject to approval by the Maryland Public Service Commission.

(iv) Failure by the County to provide reasonable cooperation with and assistance to the Franchisee shall relieve the Franchisee of any obligation to indemnify the County set forth in this Section 10.2.

5. AGREEMENT OTHERWISE IN FORCE AND EFFECT.

Except as set forth in the First Amendment and this Second Amendment, the Agreement remains in full force and effect.

6. CONTINGENCY.

This Second Amendment is contingent upon approval by the County Council of any necessary amendment to the Cecil County, Maryland Master Water and Sewer Plan, Maryland Department of the Environment, and the Maryland Public Service Commission. In the event that the County Council, MDE, or the PSC denies such approval, then this Second Amendment shall be void, and the First Amendment shall continue in full force and effect.

[SIGNATURES ON FOLLOWING PAGE]

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ATTEST:

Alfred C. Wein, Jr.
Director of Administration

THE COUNTY:

CECIL COUNTY, MARYLAND, a body corporate and politic under the laws of the State of Maryland, as represented by THE COUNTY EXECUTIVE OF CECIL COUNTY

By: _____
Tari Moore, County Executive

ATTEST:

_____
Secretary

FRANCHISEE:

ARTESIAN WATER MARYLAND, INC., a Delaware corporation

By: _____
Dian C. Taylor, President and
Chief Executive Officer

Exhibit A

Description of Elkton West Franchise Area

I. Description of Elkton West Franchise Area as of the Franchise Agreement Effective Date.

Beginning at a point where the limits of the Town of Elkton meet I-95, then along the northerly and westerly limits of the Town of Elkton to a point where said limits meet the North East Corridor Rail line, then in a westerly direction with said rail line to a point south of Hayes Lane, then in a northerly direction to Hayes Lane, then in a northerly direction along Hayes Lane to U.S. Route 40, then across U.S. Route 40 to Marley Road, then in a northerly direction along Marley Road to its intersection with Nottingham Road, then in a westerly direction along Nottingham Road to its intersection with Union Church Road, then in a northerly direction along Union Church Road to until it meets I-95, then in an easterly direction along I-95 to the place of beginning. Also included in this area are the Cherry Hill Sanitary Subdistrict and the Manchester Park subdivision.

II. Description of Additional Elkton West Franchise Area as of the Franchise Agreement Effective Date.

Beginning at a point where Maryland Route 213 meets I-95, then in a northerly direction along Maryland Route 213 to the southerly edge of the Cherry Hill Sanitary Subdistrict and the Manchester Park Subdivision, then along the southerly and easterly boundary of the Cherry Hill Sanitary Subdistrict and Manchester Park Subdivision to Elk Mills Road, then in an easterly direction along Elk Mills Road to its intersection with Brewster Bridge Road, then in an easterly direction along Brewster Bridge Road to its intersection with Appleton Road, then in a northerly direction along Appleton Road to its intersection with Maryland Route 273, then in an easterly direction with Maryland Route 273 to the Maryland/Delaware Stateline, then in a southerly direction with said Stateline to I-95, then in a westerly direction with I-95 to the place of beginning. Also included in this area are the Pine Hills Water Service Area and the Harbour View Water Service Area.

III. Expanded Elkton West Franchise Area Effective Upon Execution of Second Amendment to the Agreement.

Beginning at a point on the southerly side of I-95 (JFK Highway) where it intersects the centerline of Bouchelle Road, thence easterly along the southerly side of I-95 to an intersection with the centerline of Union Church Road, thence southwesterly along the centerline of Union Church Road to an intersection with the centerline of Stevenson Road, thence turning northeast along the centerline of Stevenson Road to an intersection with the centerline

of Nottingham Road, and following the centerline of Nottingham Road southeasterly to an intersection with the centerline of Marley Road, thence southwesterly along the centerline of Marley Road to the northerly side of U.S. Route 40 (Pulaski Highway), thence westerly along the northerly side of U.S. Route 40 to an intersection with the centerline of Mechanics Valley Road, thence northeasterly along the centerline of Mechanics Valley Road to an intersection with Bouchelle Road, thence leaving Mechanics Valley Road and following the centerline of Bouchelle Road northwesterly to the southerly side of I-95 and the place of beginning.

IV. Expanded Elkton West Franchise Area Effective Upon Execution of Second Amendment to the Agreement.

Beginning for the same at a point on the southerly side of I-95 (JFK Highway) where it intersects with the westerly side of Red Toad Road, thence easterly along the southerly side of I-95 to the intersection of the centerline of Baron Road extended, thence in a southerly direction along the centerline of Baron Road where it intersects with the centerline of the CSX railroad track, thence westerly along the centerline of the CSX railroad track to a creek; thence in a southerly direction along the centerline of the creek to the intersection of the southeasterly boundary line of Meadow Run subdivision at the northwest corner of lands N/F of Raymond Weed Jr. et. ux.; thence following the southeasterly boundary line of Meadow Run subdivision to the centerline of Northwood Blvd; thence following the northerly and westerly boundary of the Northwoods subdivision to the intersection of the centerline of Razor Strap Road, thence in a southwesterly direction along the centerline of Razor Strap Road to the intersection of the centerline of Red Toad Road; thence in a southeasterly direction along the centerline of Red Toad Road to the northerly side of Pulaski Highway (US Route 40); thence along the northerly side of Pulaski Highway west to the southeasterly corner of lands N/F of Ritchie Bros. Properties, Inc. (Parcel #0030-0012-0130), thence north, continuing along the boundary line of Ritchie Bros. land to Puschell Lane; thence west along the centerline of Puschell Lane to the intersection at the southeast corner of land N/F known as Whitaker Woods subdivision; thence north following the boundary line of Whitaker Woods subdivision to the westerly side of Red Toad Road and, following the courses and distances of the boundary line of said Whitaker Woods in a northwesterly direction to the intersection where the northeast corner of the lands of Whitaker Woods subdivision meets the westerly side of Red Toad Road; thence west along the Whitaker Woods boundary line to its northwest corner of Whitaker Woods at a point on the easterly property line of lands N/F of Principio Iron Company; thence following the Principio boundary in a northwesterly direction along the lands N/F of Beverly A. and Oikemus Russell and the CSX railroad track to the northeast corner of the lands of Principio Iron Company and the southeast corner of lands N/F of York Building Products, Inc.; thence following the boundary of York and Russell lands in a northwesterly direction to the

Northwest corner of Russell lands, thence northeast, along the northerly boundary of Russell and lands N/F of Red Toad Business Center, LLC to the westerly side of Red Toad Road; thence in a northwesterly direction along the westerly side of Red Toad Road to the place of beginning; ***including*** all that piece or parcel of land, being Tax Parcel No. 0030-0006-0061, located West of Red Toad Road on the southerly side of and binding upon Puschell Lane, N/F of Jerry A. and Esther A. Hokuf, containing 45 acres ±; AND, ***excepting therefrom*** the following three (3) parcels: (i) the subdivision N/F known as "Candlelight Ridge" located on the east side of and binding upon Red Toad Road, containing individual tax parcels of land and open spaces, (ii) all that piece or parcel of land, being Tax Parcel No. 0024-0018-0064, located on the East side of and binding upon Red Toad Road, N/F of North East Business Center, LLC, containing 72.13 acres ± of land, and (iii) Phase 3 of the Bedrock subdivision.

Exhibit B

Pictorial Representations of

Elkton West Franchise Area as of the Franchise Agreement Effective Date (Parts I and II), and

Expanded Elkton West Franchise Area as of the Second Amendment to the Agreement Effective Date (Parts III and IV)

(See attached maps).

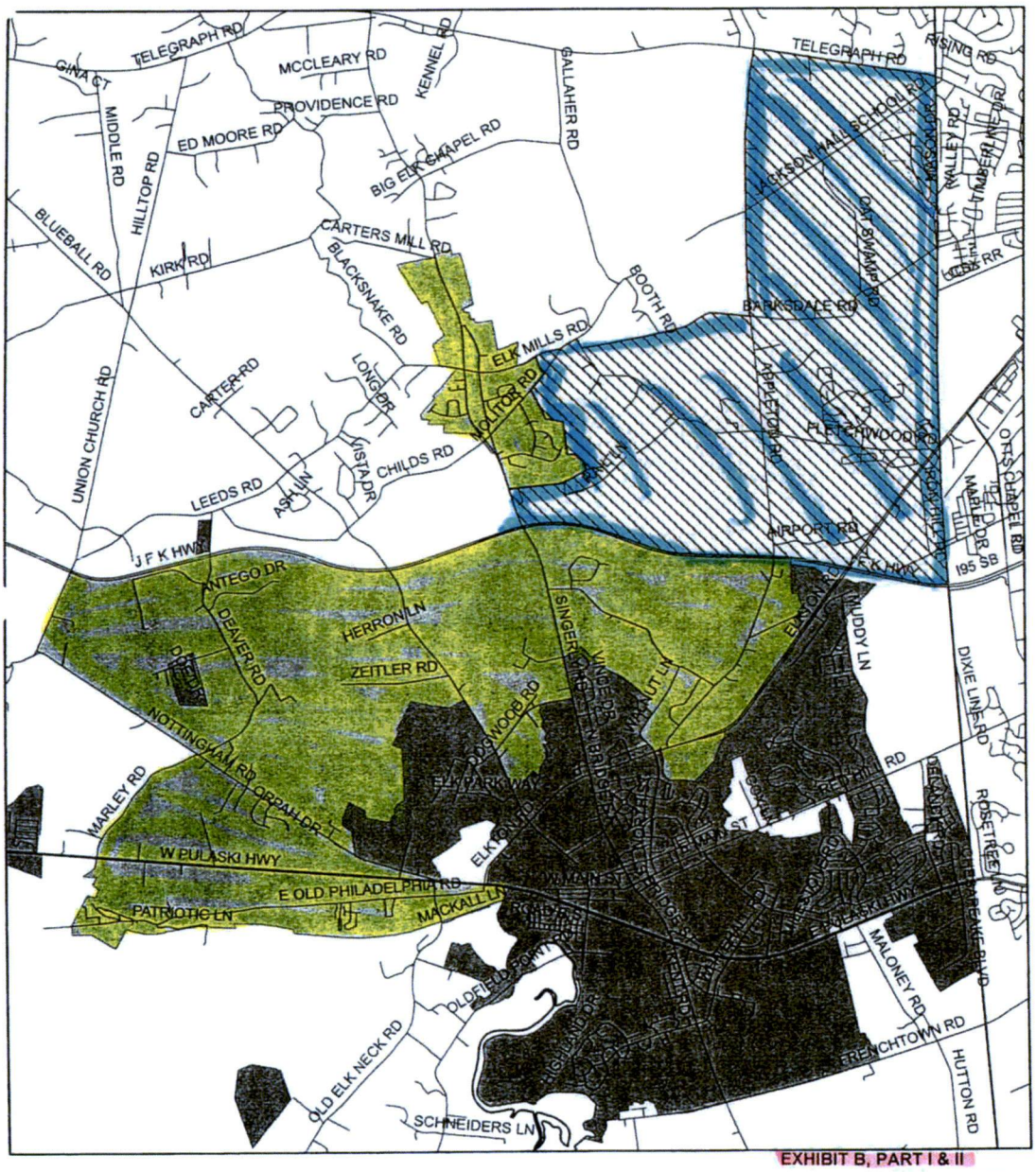
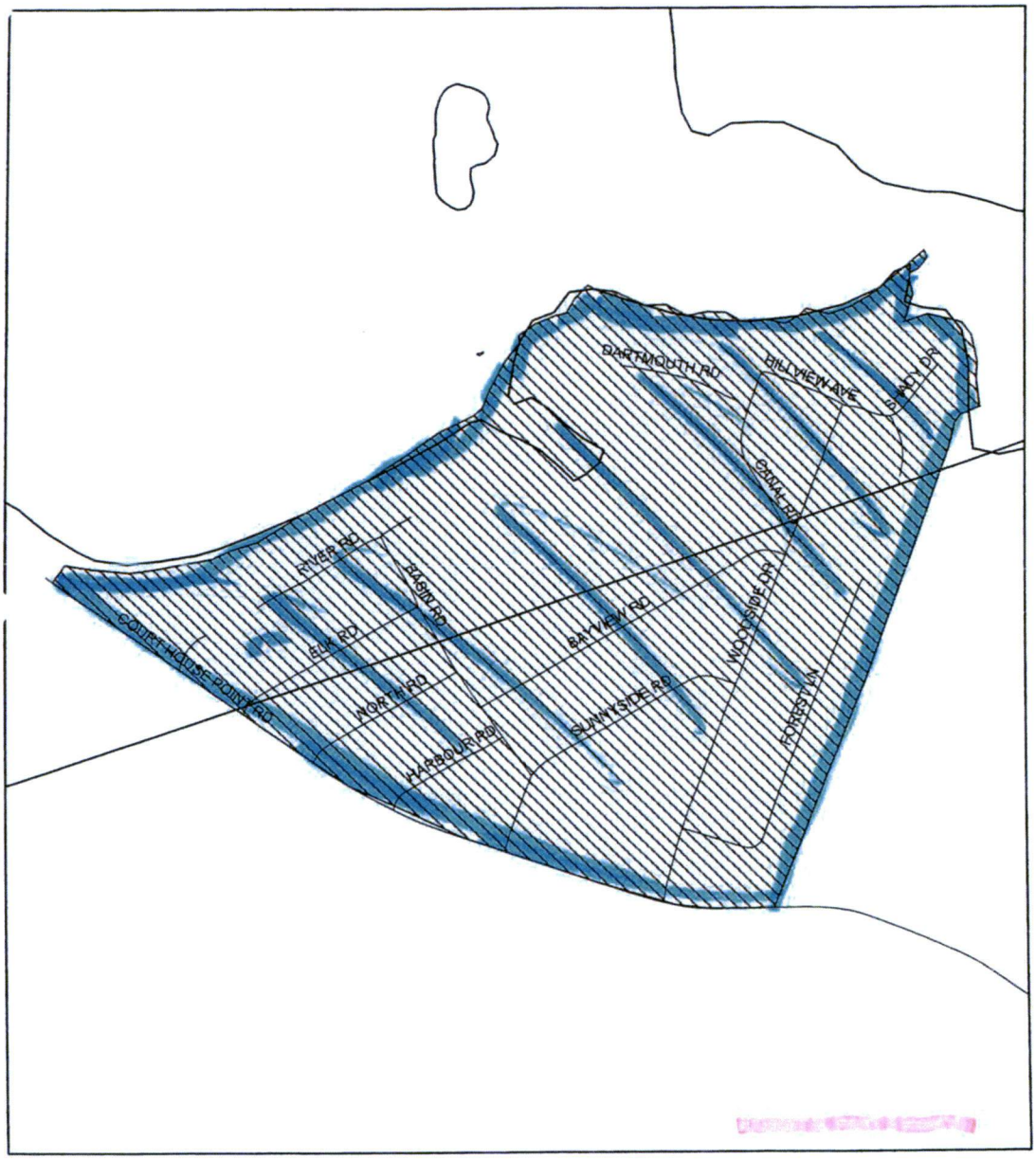


Exhibit B, Part I & II



Lege

Exhibit B, Part II

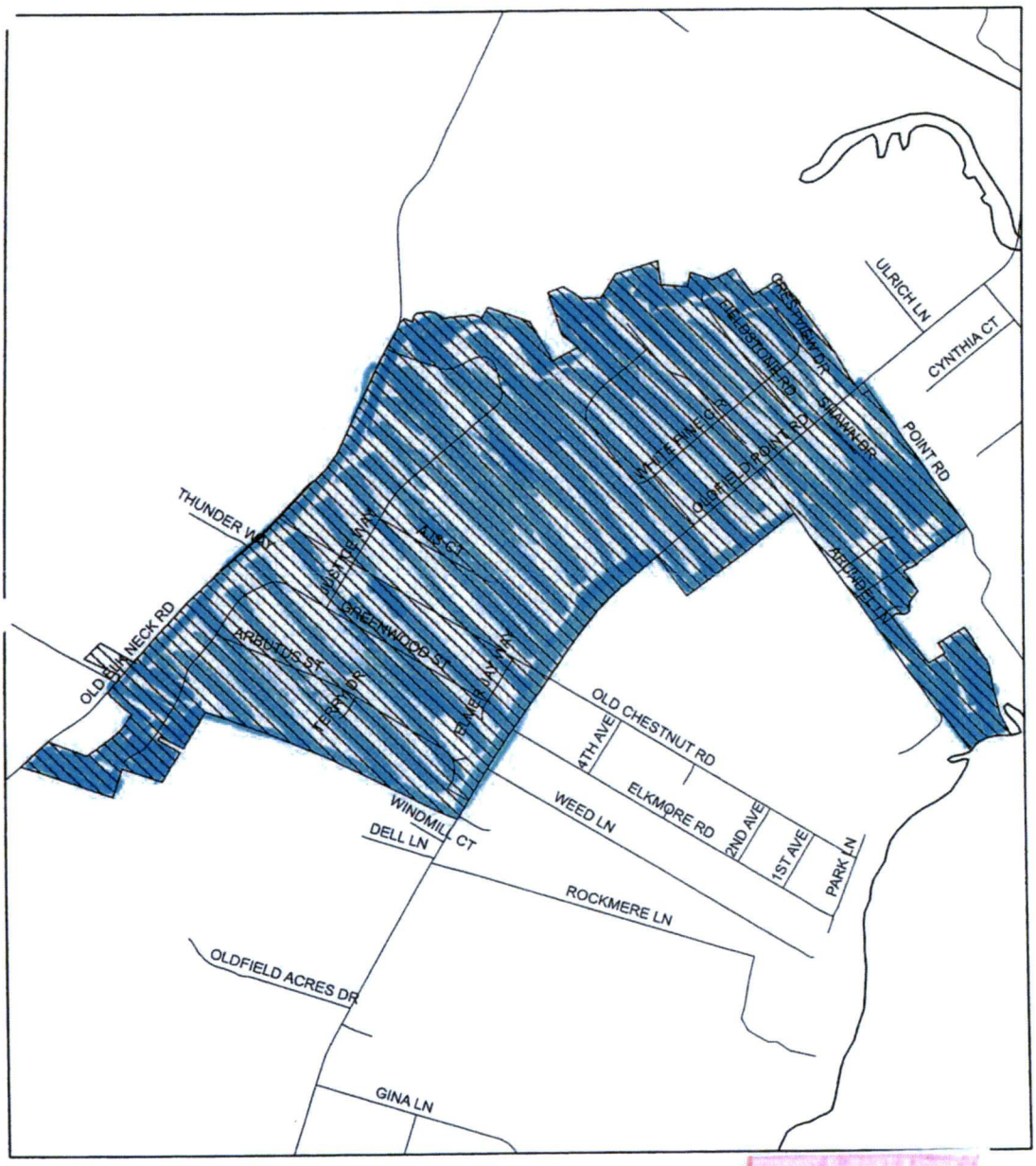


Exhibit B, Part II

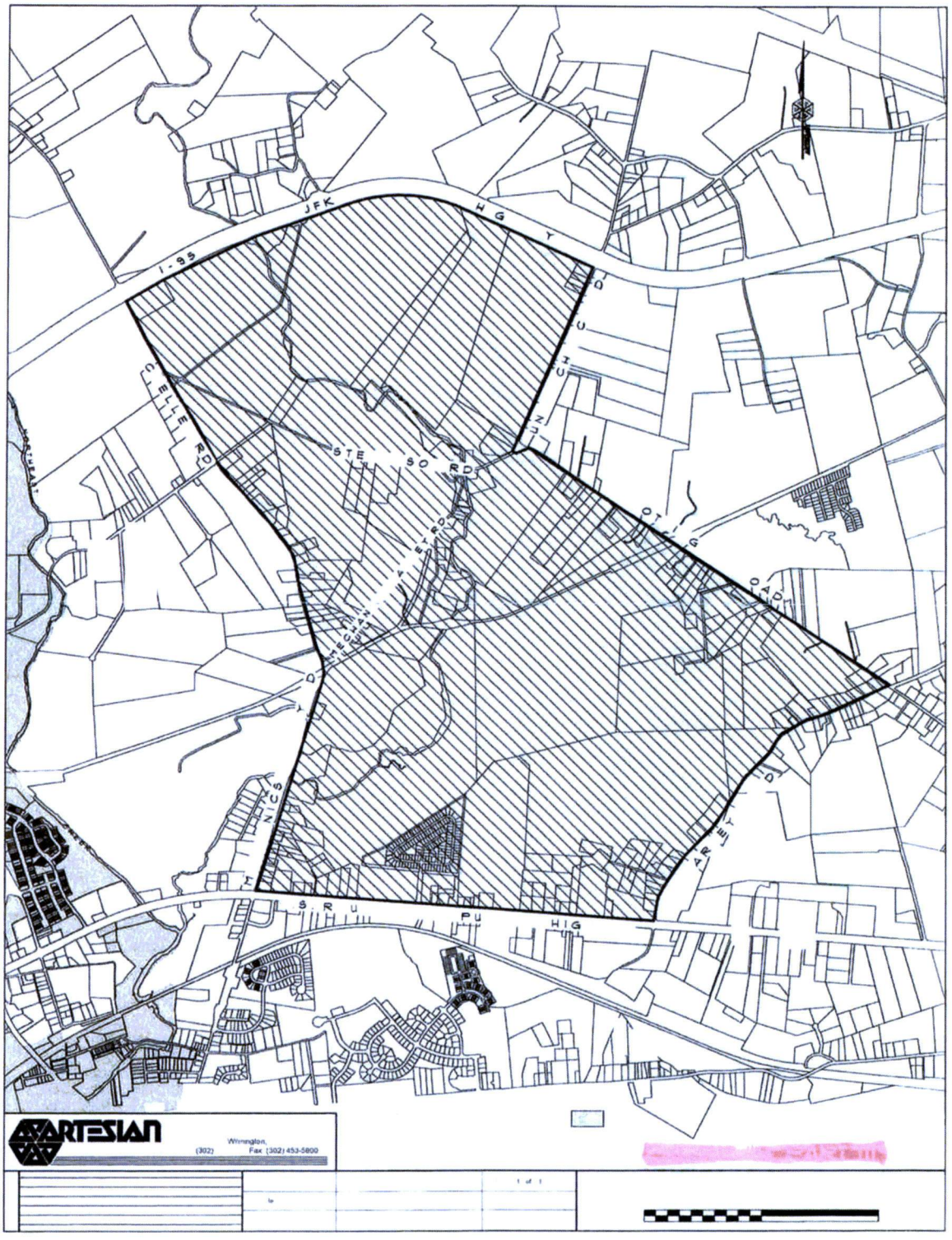


Exhibit B, Part III

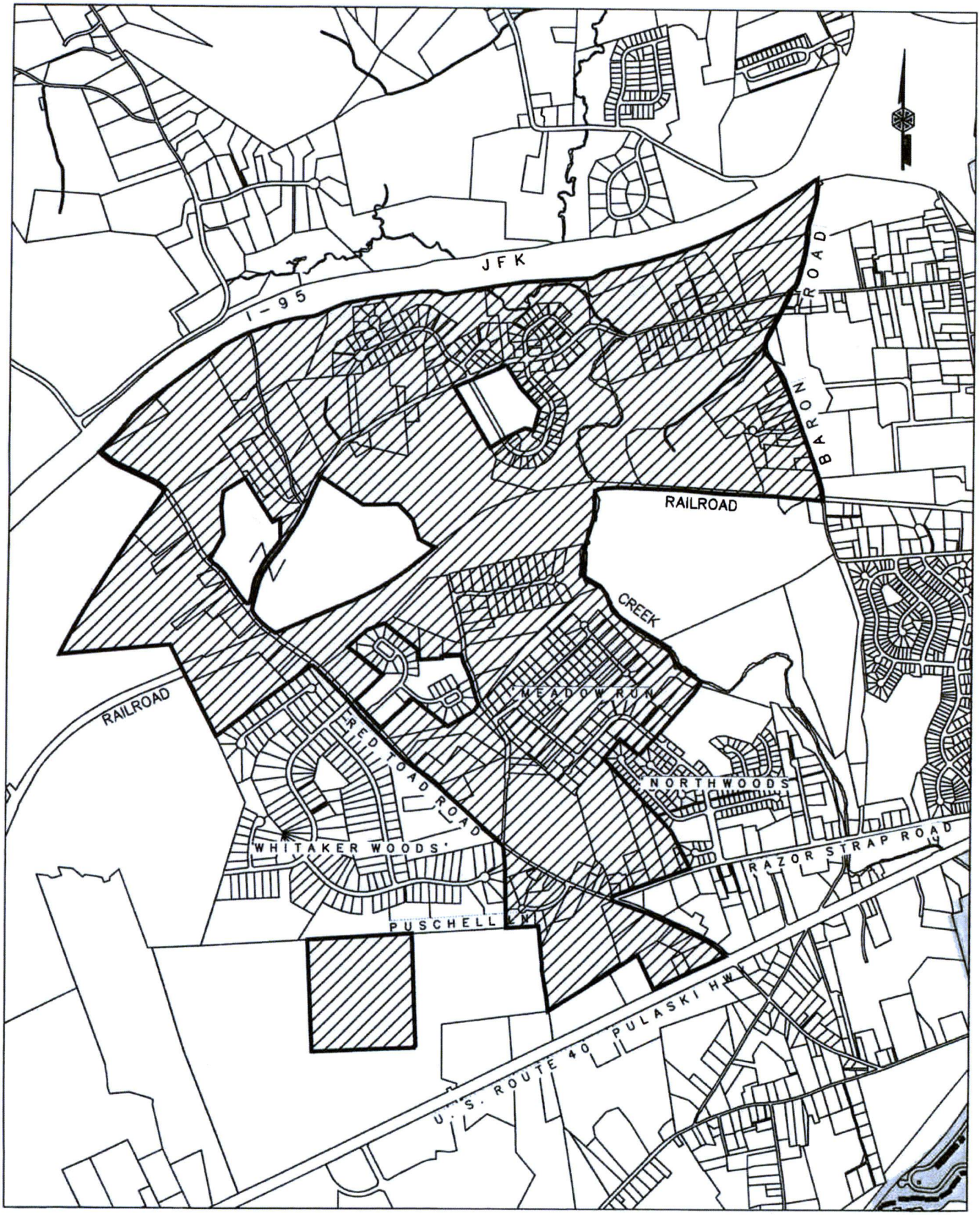


EXHIBIT B, Part IV

APPENDIX H

ARTESIAN RESOURCES' MASTER INFRASTRUCTURE PLAN

PENNSYLVANIA

DELAWARE

NEW CASTLE COUNTY, DE

HARFORD COUNTY, MD

SUSQUEHANNA RIVER

NORTH EAST RIVER

BIG ELK RIVER

UPPER CHESAPEAKE BAY

Rising Sun

Port Deposit

PORT DEPOSIT

Perryville

Charlestown

North East

MOUNTAIN HILL

CHESTNUT POINT

CARPENTERS POINT

HIGHLANDS

CHERRY HILL

MEADOWVIEW

BELLE HILL

Elkton

ROUTE 7

PINE HILLS

HARBOUR VIEW

Chesapeake City

Legend

- F — F
- I — Intercon_TMP
- w — PROPOSED WELL SITE
- F — EXISTING TREATMENT PLANT
- T — EXISTING STORAGE TANK
- B — EXISTING BOOSTER STATION
- I — EXISTING INTERCONNECTION
- F — PROPOSED TREATMENT PLANT
- T — PROPOSED STORAGE TANK
- B — PROPOSED BOOSTER STATION
- I — PROPOSED INTERCONNECTION
- EXISTING DISTRIBUTION MAIN
- PROPOSED WATER MAIN
- AWCMD FRANCHISE AREAS
- MUNICIPAL BOUNDARIES

0 0.475 0.95 1.9 Miles

ARTESIAN RESOURCES

Information displayed on this map is for illustrative purposes only. The actual boundaries of proposed and existing infrastructure, service areas and franchise areas can only be determined by appropriate survey and or legal agreements.

ARTESIAN WATER MARYLAND, INC.
MASTER INFRASTRUCTURE PLAN - 2018
CECIL COUNTY, MARYLAND

Created By: WFT	Revised By: HRH
Original Date: 07.27.2012	Revision Date: 02.27.2018
File Name: CC_MasterInfrastructurePlan_2018_UD.mxd	
Print Date: 03.08.2018	Sheet No. 1 of 1

APPENDIX I

ARTESIAN WATER MAP – REGIONAL SUPPLY ROUTE TO CECIL COUNTY

Octoraro Reservoir

To Chester

Oxford Borough

West Grove Borough

Pennsylvania

Maryland

Delaware

Wilmington

Elsmere

Newport

Rising Sun

Newark

New Castle

Port Deposit

Perryville

North East

Elkton

896

10

41

472

273

213

7

16" 42" Twin 12"

20" 48" Twin 42"

0 1 2 4 Miles

ARTESIAN RESOURCES

Octoraro_Elkton.mxd

ARTESIAN WATER

Regional Water Supply Route to Cecil County, Maryland

Information displayed on this map is for illustrative purposes only. The actual alignment of proposed infrastructure can only be determined by appropriate survey.

APPENDIX J

ARTESIAN WATER SYSTEM MAP
NEW CASTLE COUNTY

Pressure Zone

Mains

- Under 12"
- 12"
- 16"
- 20"
- PZ_LINES
- 1A, Maryland Connection
- 1E, Route 40
- 1W, Route 40
- 2, Kirkwood Highway
- 2A, Brookhaven
- 3A, Pike Creek
- 3B, Sherwood Park
- 3C, Lancaster Pike
- 4, Hockessin
- 5A, Penn Manor
- 5B, Old Wilmington Road
- 10, Canal South
- Municipality

Ardentown
Arden
Ardentown
Ardencroft
Bellefonte
Elsmere
Wilmington
Newport
Newark
New Castle
Delaware City
Odessa
Middletown
Townsend
Smyrna
Clayton

BOOSTER PUMPING STATION

Label	Location
1	Stenning Woods Tank
2	Stenning Woods
3	Old Wilmington Rd
4	Penn Manor
5	Pike Creek
6	Tybrook
7	Carousel Farm
8	Tuxedo Park
9	Newport Heights
10	Roseville Park
11	Churchmans Road
12	School Lane

DISTRIBUTION STORAGE

Label	Location
0	Glasgow
1	Red Lion
2	Fairwinds ASR
3	Bear
4	Llangollen ASR
5	School Lane
6	Clearview Manor
7	Tuxedo Park
8	Cooper Farms
9	Tybrook
10	Willow Run
11	Crow Hill
12	Pike Creek Valley
13	North Star
14	Old Wilmington Road
15	Stenning Woods
16	DCC
17	Hyett's Corner
18	Industrial Drive

PRE-PUMPED GROUND STORAGE

Label	Location
1	Hockessin
2	Collins Park
3	Castle Hills
4	Jefferson Farms
5	Airbase
6	Midvale
7	Llangollen Estates
8	Fairwinds
9	Artisan's Village
10	Glendale
11	Eastern States
12	Old County Road
13	Chesapeake City Road

PRESSURE REDUCING VALVE

Label	Location
0	Yorklyn Road
1	Whitebriar
2	Stenning Woods
3	Valley Road
4	Lancaster Pike
5	Westminister
6	Duncan Road
7	Tybrook #1
8	Ocheltree Lane
9	Pike Creek Road
10	Polly Drummond Hill Rd
11	Limestone Road
12	McKennans Church Rd
13	Roseville Park
14	Old Harmony Rd / Brookhaven
15	Carousel Farms
16	Tybrook #2
17	Cooper Farms

SOURCE OF SUPPLY

Label	Location
0	Hockessin
1	Middle Run
2	Collins Park
3	Castle Hills
4	Airbase
5	Jefferson Farms
6	Wilmington Manor Gardens
7	Airbase
8	Midvale
9	Fairwinds
10	Llangollen Estates
11	Artisan's Village
12	Glendale
13	Caravel Farms
14	Eastern States
15	Old County Road
16	Chesapeake City Road
17	Levels Road
18	Bayview
19	Bethel Church
20	Townsend 1 & 2
21	Willow Grove
22	Choptank
23	Thomas Cove
24	Odessa Woods
25	Chestnut Grove
26	Hyett's Corner
27	Commodore Estates
28	Augustine Creek
29	DCC
30	Stonefield

INTERCONNECTION

- 1 Way
- 2 Way

Label	Location
0	Red Lion Road*
1	Rosetree Hunt
2	Pleasant Valley Rd*
3	School Lane
4	Lukens Drive*
5	Moorehouse Lane*
6	Churchmans Road
7	Polly Drummond Hill Rd*
8	First State Blvd*
9	Newport Heights*
10	South Heald Street*
11	Maryland Ave
12	Taft & Cleveland
13	Limestone Road
14	Route 299
15	Industrial Drive
16	Chesapeake City

*For Emergency Use Only

ARTESIAN RESOURCES

NCC_MASTER_050713.mxd

0 1 2 4 Miles

N W E S

ARTESIAN WATER

Artesian Water System
New Castle County

**Information displayed on this map is for illustrative purposes only.
The actual alignment of proposed infrastructure can only be determined by appropriate survey.**

APPENDIX K

GENERAL REFERENCE MAPS AND CHARTS

Cecil County 2018 Master Water & Sewer Plan
Appendix K – General Reference Maps and Charts - Table of Contents

Page	System
1	Land Use Map from 2010 Cecil County Comprehensive Plan
2	Zoning Overview Map
3	Cecil County Government Organizational Chart
4	Generalized Geologic Map of Maryland *(courtesy of the Maryland Geological Survey)*
6	Cecil County Population Density Map
7	Existing Major Public Institutions
11	Brownfield and Superfund Sites Map
15	Locations of Major Wastewater Treatment Plants

CECIL COUNTY LAND USE MAP
2010 COMPREHENSIVE PLAN

Ü

Legend

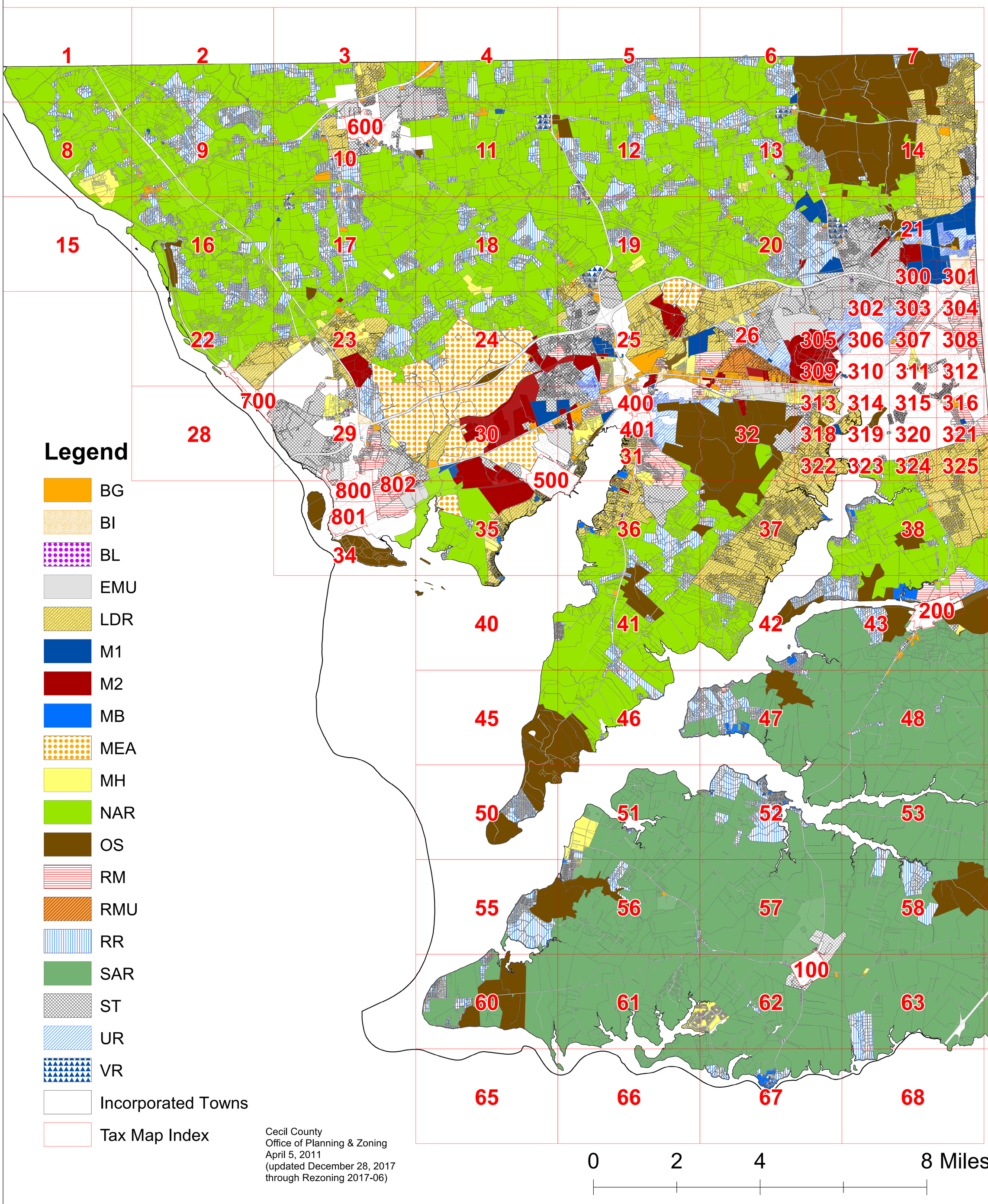
- Villages
- Streams
- Major Roads
- Railroads
- Employment Mixed Use
- Residential Mixed Use
- Low Density Growth Area
- Medium Density Growth Area
- Medium High Density Growth Area
- High Density Growth Area
- Employment
- Mineral Extraction District
- Rural Conservation District
- Resource Preservation District
- Incorporated Towns

Cecil County
Office of Planning & Zoning
April 13, 2010

0 2.5 5 10 Miles

Cecil County 2011 Zoning Districts
(adopted April 19, 2011, effective May 1, 2011)

N



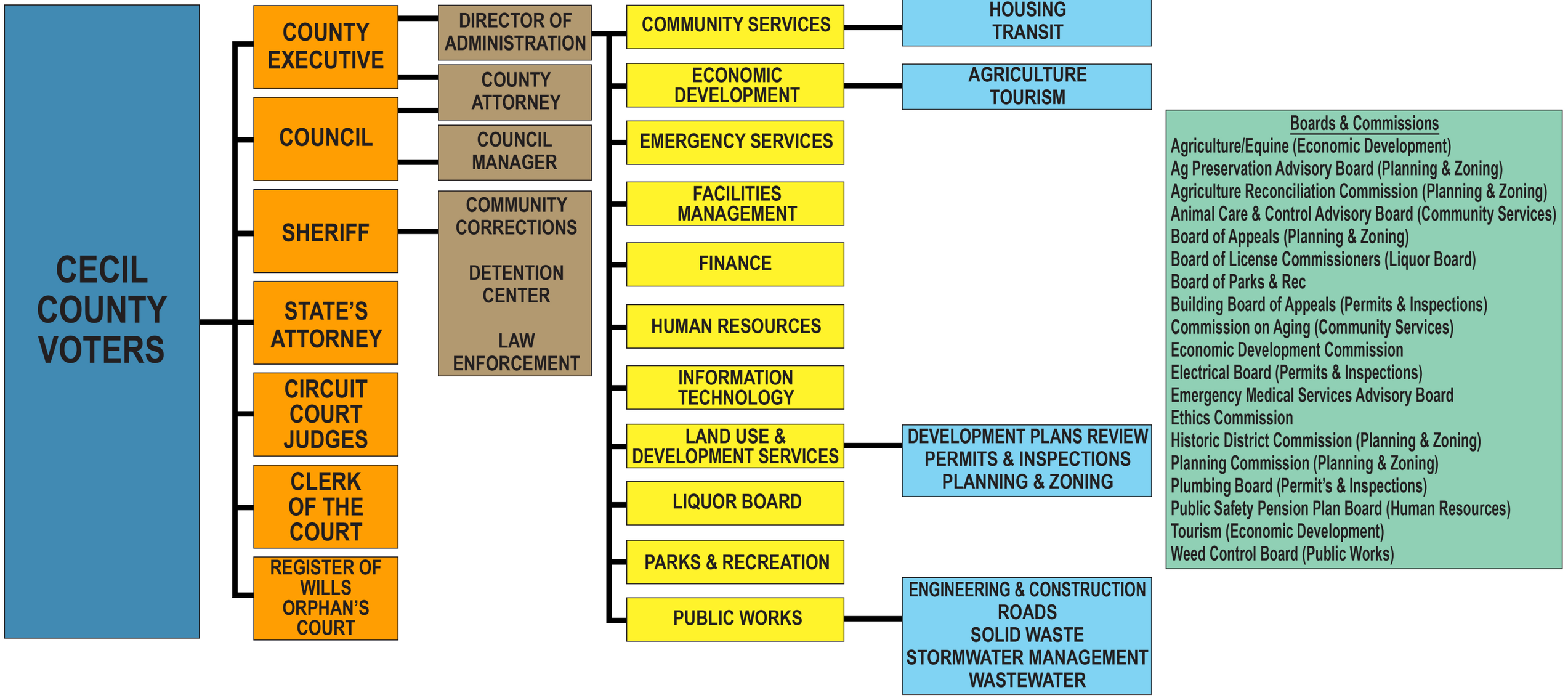
Legend

- BG
- BI
- BL
- EMU
- LDR
- M1
- M2
- MB
- MEA
- MH
- NAR
- OS
- RM
- RMU
- RR
- SAR
- ST
- UR
- VR
- Incorporated Towns
- Tax Map Index

Cecil County
Office of Planning & Zoning
April 5, 2011
(updated December 28, 2017
through Rezoning 2017-06)

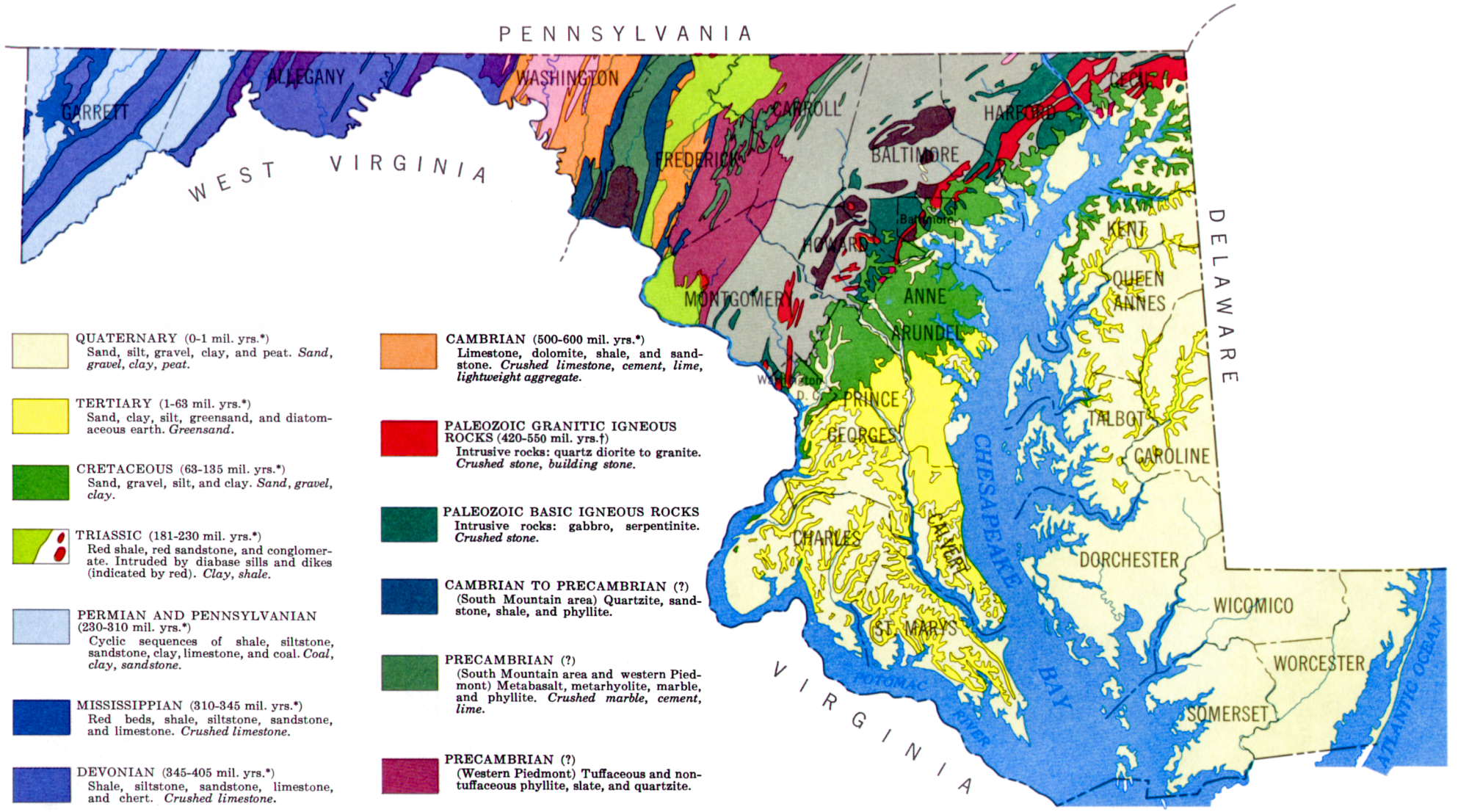
0 2 4 8 Miles

Cecil County Government Organizational Chart



Boards & Commissions

Agriculture/Equine (Economic Development)
Ag Preservation Advisory Board (Planning & Zoning)
Agriculture Reconciliation Commission (Planning & Zoning)
Animal Care & Control Advisory Board (Community Services)
Board of Appeals (Planning & Zoning)
Board of License Commissioners (Liquor Board)
Board of Parks & Rec
Building Board of Appeals (Permits & Inspections)
Commission on Aging (Community Services)
Economic Development Commission
Electrical Board (Permits & Inspections)
Emergency Medical Services Advisory Board
Ethics Commission
Historic District Commission (Planning & Zoning)
Planning Commission (Planning & Zoning)
Plumbing Board (Permit's & Inspections)
Public Safety Pension Plan Board (Human Resources)
Tourism (Economic Development)
Weed Control Board (Public Works)



QUATERNARY (0-1 mil. yrs.*)
Sand, silt, gravel, clay, and peat. *Sand, gravel, clay, peat.*

TERTIARY (1-63 mil. yrs.*)
Sand, clay, silt, greensand, and diatomaceous earth. *Greensand.*

CRETACEOUS (63-135 mil. yrs.*)
Sand, gravel, silt, and clay. *Sand, gravel, clay.*

TRIASSIC (181-230 mil. yrs.*)
Red shale, red sandstone, and conglomerate. Intruded by diabase sills and dikes (indicated by red). *Clay, shale.*

PERMIAN AND PENNSYLVANIAN (230-310 mil. yrs.*)
Cyclic sequences of shale, siltstone, sandstone, clay, limestone, and coal. *Coal, clay, sandstone.*

MISSISSIPPIAN (310-345 mil. yrs.*)
Red beds, shale, siltstone, sandstone, and limestone. *Crushed limestone.*

DEVONIAN (345-405 mil. yrs.*)
Shale, siltstone, sandstone, limestone, and chert. *Crushed limestone.*

SILURIAN (405-425 mil. yrs.*)
Shale, mudstone, sandstone, and limestone. *Glass sand, crushed limestone.*

ORDOVICIAN (425-500 mil. yrs.*)
Limestone, dolomite, shale, siltstone, and red beds. Slate and conglomerate in northern Harford County. *Crushed limestone, cement, clay, lime.*

CAMBRIAN (500-600 mil. yrs.*)
Limestone, dolomite, shale, and sandstone. *Crushed limestone, cement, lime, lightweight aggregate.*

PALEOZOIC GRANITIC IGNEOUS ROCKS (420-550 mil. yrs.†)
Intrusive rocks: quartz diorite to granite. *Crushed stone, building stone.*

PALEOZOIC BASIC IGNEOUS ROCKS
Intrusive rocks: gabbro, serpentinite. *Crushed stone.*

CAMBRIAN TO PRECAMBRIAN (?)
(South Mountain area) Quartzite, sandstone, shale, and phyllite.

PRECAMBRIAN (?)
(South Mountain area and western Piedmont) Metabasalt, metarhyolite, marble, and phyllite. *Crushed marble, cement, lime.*

PRECAMBRIAN (?)
(Western Piedmont) Tuffaceous and nontuffaceous phyllite, slate, and quartzite.

PRECAMBRIAN (?)
(Eastern Piedmont) Schist, metagraywacke, quartzite, marble, and metavolcanic rocks. *Crushed stone, crushed marble, building stone.*

PRECAMBRIAN BASEMENT COMPLEX (1100 mil yrs.†)
Gneiss, migmatite, and augen gneiss.

MARYLAND GEOLOGICAL SURVEY
Kenneth N. Weaver, Director

GENERALIZED GEOLOGIC MAP OF MARYLAND‡

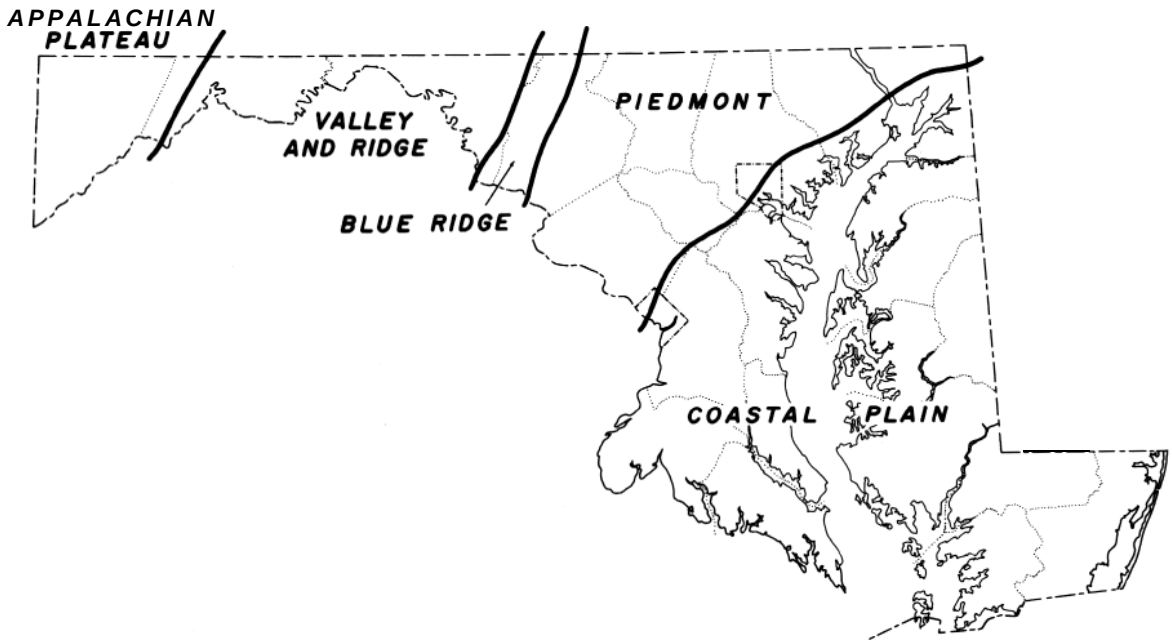
1967

10 0 10 20 30 40
1 inch equals 25 miles

Most important mineral products in italics.
* Age ranges from Kulp, J. L., 1961, Geologic time scale: Science, v. 133, no. 3459, p. 1105-1114.
† Radiometric dates made on Maryland rocks.

‡ A detailed Geologic Map of Maryland, 1968 at a scale of 1 inch equals 4 miles, is also available.

A BRIEF DESCRIPTION OF THE GEOLOGY OF MARYLAND



Maryland is part of three distinct physiographic regions: (1) the Coastal Plain Province, (2) the Piedmont Province, and (3) the Blue Ridge, Valley and Ridge, and Appalachian Plateau Provinces. These extend in belts of varying width along the eastern edge of the North American continent from Newfoundland to the Gulf of Mexico.

The Coastal Plain Province is underlain by a wedge of unconsolidated sediments including gravel, sand, silt, and clay, which overlaps the rocks of the eastern Piedmont along an irregular line of contact known as the Fall Zone. Eastward, this wedge of sediments thickens to more than 8,000 feet at the Atlantic coast line. Beyond this line is the Continental Shelf, the submerged continuation of the Coastal Plain, which extends eastward for at least another 75 miles where the sediments attain a maximum thickness of about 40,000 feet.

The sediments of the Coastal Plain dip eastward at a low angle, generally less than one degree, and range in age from Triassic to Quaternary. The younger formations crop out successively to the southeast across Southern Maryland and the Eastern Shore. A thin layer of Quaternary gravel and sand covers the older formations throughout much of the area.

Mineral resources of the Coastal Plain are chiefly sand and gravel, and are used as aggregate materials by the construction industry. Clay for brick and other ceramic uses is also important. Small deposits of iron ore are of historical interest. Plentiful supplies of ground water are available from a number of aquifers throughout much of the region.

The Piedmont Province is composed of hard, crystalline igneous and metamorphic rocks and extends from the inner edge of the Coastal Plain westward to Catoctin Mountain, the eastern boundary of the Blue Ridge Province. Bedrock in the eastern part of the Piedmont consists of schist, gneiss, gabbro, and other highly metamorphosed sedimentary and igneous rocks of probable volcanic origin. In several places these rocks have been intruded by granitic plutons and pegmatites. Deep drilling has revealed that similar metamorphic and igneous rocks underlie the sedimentary rocks of the Coastal Plain. Several domal uplifts of Precambrian gneiss mantled with quartzite, marble, and schist are present in Baltimore County and in parts of adjacent counties. Differential erosion of these contrasting rock types has produced a distinctive topography in this part of the Piedmont.

The rocks of the western part of the Piedmont are diverse and include phyllite, slate, marble, and moderately to slightly metamorphosed volcanic rocks. In central Frederick County the relatively flat Frederick Valley is developed on Cambrian and Ordovician limestone and dolomite. Gently undulating plains underlain by unmetamorphosed bedrock of Triassic red shale, siltstone, and sandstone occur in three areas in the western Piedmont.

The Piedmont Province contains a variety of mineral resources. Formerly, building stone, slate, and small deposits of non-metallic minerals, base-metal sulfides, gold, chromite, and iron ore were mined. Currently, crushed stone is important for aggregate, cement, and lime. Small to moderate supplies of ground water are available throughout the region, but favorable geological conditions locally may provide larger amounts.

Unlike the Coastal Plain and Piedmont Provinces, the Blue Ridge, Valley and Ridge, and Appalachian Plateau Provinces are underlain mainly by folded and faulted sedimentary rocks. The rocks of the Blue Ridge Province in western Frederick County are exposed in a large anticlinal fold whose limbs are represented by Catoctin Mountain and South Mountain. These two ridges are formed by Lower Cambrian quartzite, a rock which is very resistant to the attack of weathering and erosion. A broad valley floored by Precambrian gneiss and volcanic rock lies in the core of the anticline between the two ridges.

The Valley and Ridge Province between South Mountain in Washington County and Dans Mountain in western Allegany County contains strongly folded and faulted sedimentary rocks. In the eastern part of the region, a wide, open valley called the Great Valley, or in Maryland, the Hagerstown Valley, is formed on Cambrian and Ordovician limestone and dolomite. West of Powell Mountain, a more rugged terrain has developed upon shale and sandstone bedrock which ranges in age from Silurian to Mississippian. Some of the valleys in this region are underlain by Silurian and Devonian limestones.

For many years the limestone formations have been used as local sources of agricultural lime and building stone. Modern uses include crushed stone for aggregate and cement. A pure, white sandstone in the western region of the province is suitable for glass manufacturing.

The Appalachian Plateau Province includes that part of Allegany County west of Dans Mountain and all of Garrett County, the westernmost county in Maryland. The bedrock of this region consists principally of gently folded shale, siltstone, and sandstone. Folding has produced elongated arches across the region which expose Devonian rocks at the surface. Most of the natural gas fields in Maryland are associated with these anticlinal folds in the Appalachian Plateau. In the intervening synclinal basins, coal-bearing strata of Pennsylvanian and Permian ages are preserved.

The sedimentary rocks of the Blue Ridge, Valley and Ridge, and Appalachian Plateau Provinces yield small to moderate supplies of ground water. Under favorable conditions large amounts may occur.

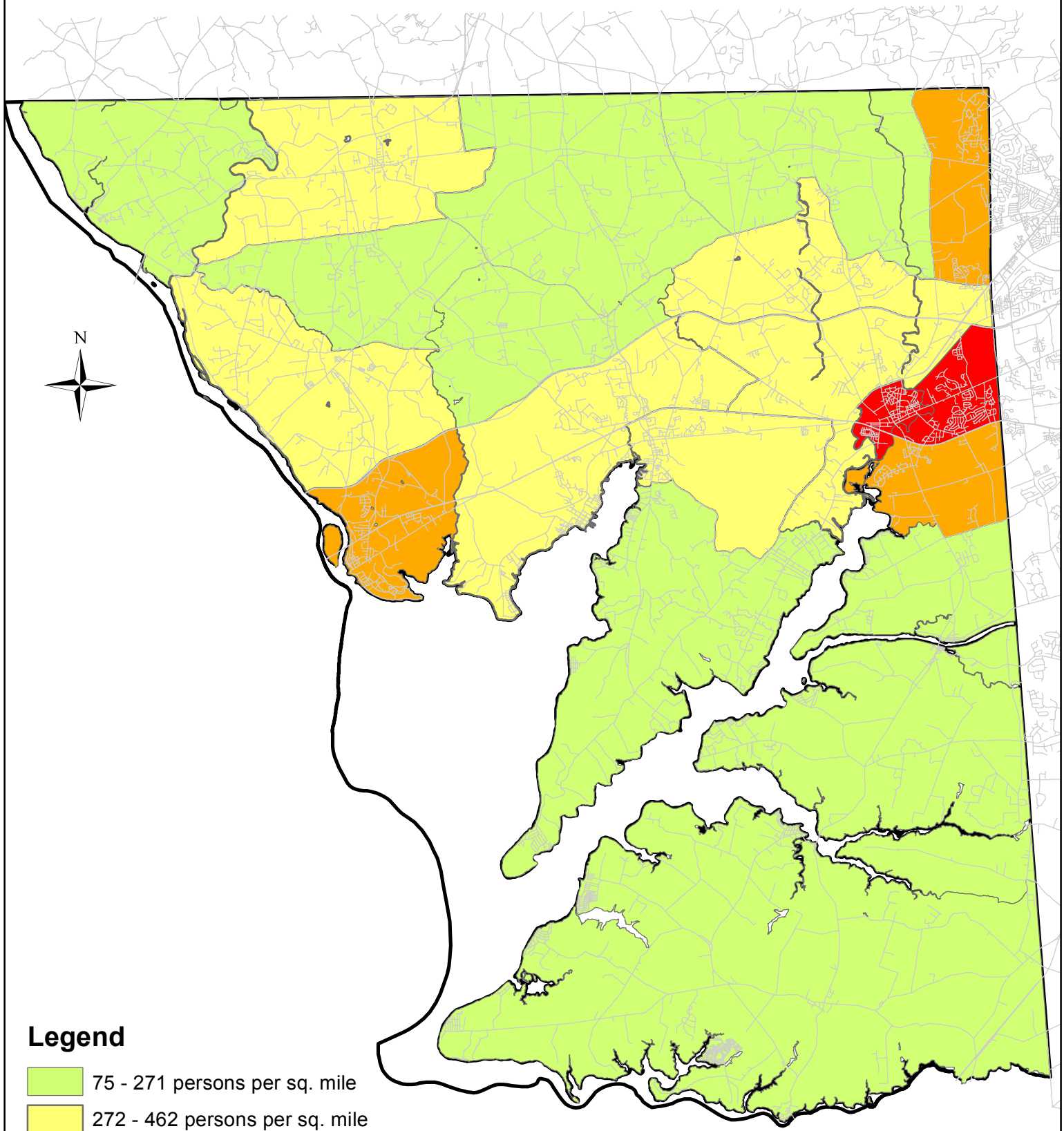
Jonathan Edwards, Jr. 1981
Geologist

STATE OF MARYLAND
DEPARTMENT OF NATURAL RESOURCES

Prepared by the
MARYLAND GEOLOGICAL SURVEY

Baltimore, Maryland 21218

Cecil County Population Density
Total Persons per Square Mile



Data Source: 2010 US Census
July 13, 2012

Cecil County, Maryland
Existing Major Public Institutions

Legend

- Libraries
- Schools
- Colleges and Government Locations
- Law Enforcement Locations
- Fire and Paramedic Stations
- Incorporated Towns

0 — 4 — 8 Miles

Map printed: June 5, 2018

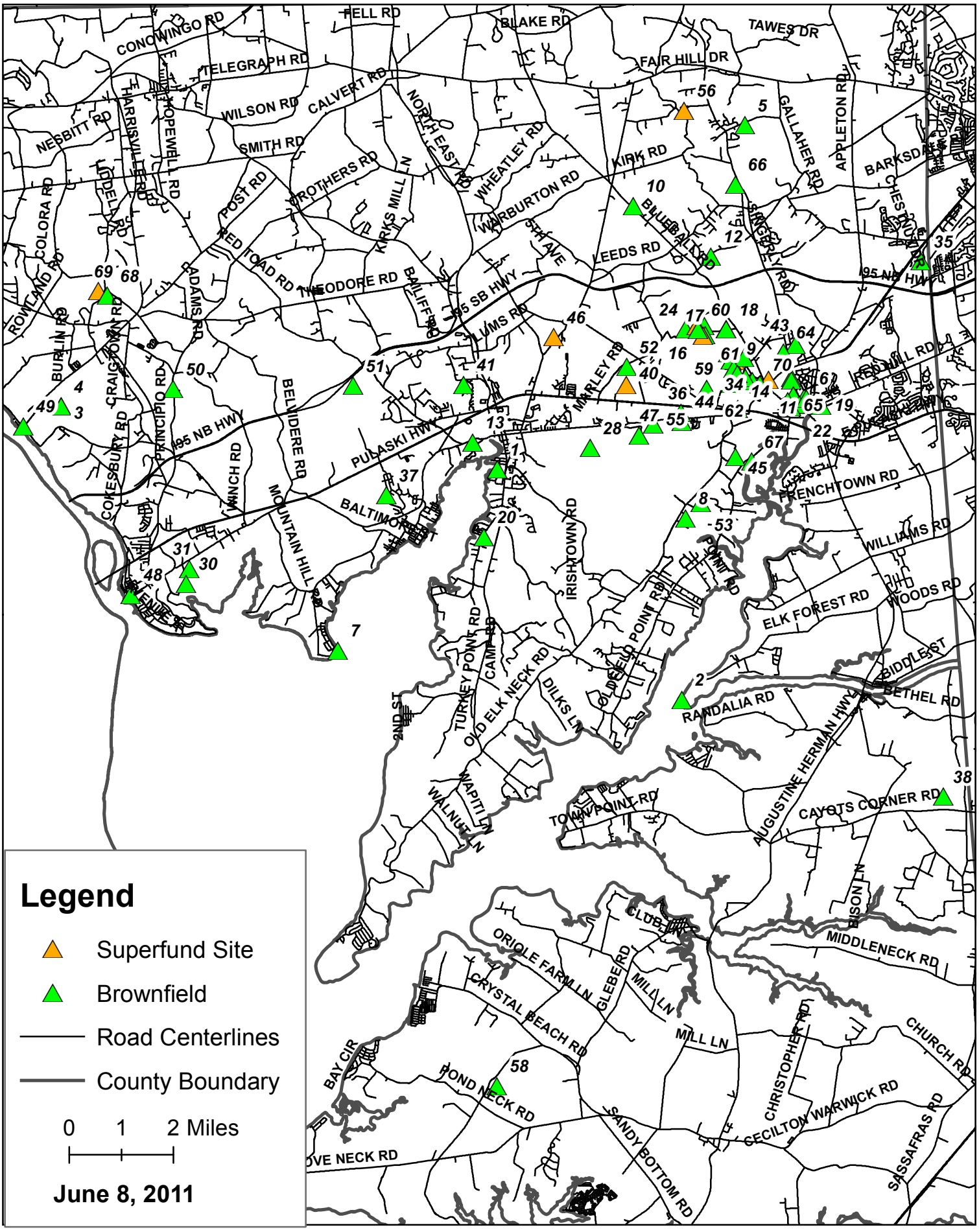
Map key - Existing Major Public Instutions, Cecil County, Maryland

ID	Name	Address	City	Type
1	CECILTON VOL. FIRE DEPARTMENT	110 E MAIN ST	Cecilton	Fire and Paramedic Stations
2	CHESAPEAKE CITY VOL. FIRE DEPARTMENT	215 LOCK ST	Chesapeake City	Fire and Paramedic Stations
3	SINGERLY VOL. FIRE DEPARTMENT	399 E PULASKI HWY	Elkton	Fire and Paramedic Stations
4	NORTH EAST VOL. FIRE DEPARTMENT	210 S MAULDIN AVE	North East	Fire and Paramedic Stations
5	CHARLESTOWN VOL. FIRE DEPARTMENT	307 MARKET ST	Charlestown	Fire and Paramedic Stations
6	PERRYILLE VOL. FIRE DEPARTMENT	920 PRINCIPIO FURNACE RD	Perryville	Fire and Paramedic Stations
7	WATER WITCH VOL. FIRE DEPARTMENT	15 N MAIN ST	Port Deposit	Fire and Paramedic Stations
8	Community Fire Co of Rising Sun	300 Joseph Biggs Memorial Hwy	Rising Sun	Fire and Paramedic Stations
9	HACKS POINT VOL. FIRE DEPARTMENT	1185 GLEBE RD	Earleville	Fire and Paramedic Stations
12	CHESAPEAKE CITY VOL. FIRE DEPARTMENT	2859 AUGUSTINE HERMAN HWY	Chesapeake City	Fire and Paramedic Stations
13	SINGERLY VOL. FIRE DEPARTMENT	300 NEWARK AVE	Elkton	Fire and Paramedic Stations
14	SINGERLY VOL. FIRE DEPARTMENT	3074 SINGERLY RD	Elkton	Fire and Paramedic Stations
16	PERRYILLE VOL. FIRE DEPARTMENT	16 GR DAWSON DR	Perryville	Fire and Paramedic Stations
18	Community Fire Co of Rising Sun	2846 NORTH EAST RD	North East	Fire and Paramedic Stations
20	Cecil County Detention Center	500 LANDING LANE	Elkton	Law Enforcement
21	ELKTON POLICE DEPARTMENT	100 RAILROAD AVENUE	Elkton	Law Enforcement
22	MARYLAND STATE POLICE - BARRACK F	2433 PULASKI HWY	North East	Law Enforcement
23	NORTH EAST POLICE DEPARTMENT	104 W CECIL AVENUE	North East	Law Enforcement
24	RISING SUN POLICE DEPARTMENT	1 E MAIN STREET	Rising Sun	Law Enforcement
25	Cecil County Sheriff's Office	107 Chesapeake Boulevard	Elkton	Law Enforcement
26	JFK BARRACK STATE POLICE	15 Turnpike Drive	Perryville	Law Enforcement
27	Perryville Police Department	2 Perryville Town Center Drive	Perryville	Law Enforcement
28	Community Fire Co of Rising Sun	32 BRER RABBIT RD	Rising Sun	Fire and Paramedic Stations
30	Cecil College (main campus)	1 Seahawk Dr	North East	Colleges and Government Facilities
31	Cecil College (Elkton Station)	107 Railroad Ave	Elkton	Colleges and Government Facilities
32	Perry Point VAMC	1200 block Avenue D	Perry Point	Colleges and Government Facilities
33	Elkton Veterans Center	103 Chesapeake Blvd, Suite A	Elkton	Colleges and Government Facilities
34	Health Department	401 Bow St	Elkton	Colleges and Government Facilities
35	Cecil County Parks & Recreation (admin offices)	200 Chesapeake Blvd, Suite 1200	Elkton	Colleges and Government Facilities
36	Cecil County Parks & Recreation (Cecil Community	17 Wilson Rd	Rising Sun	Colleges and Government Facilities
37	Cecil County Parks & Recreation (Cecil Arena)	2706 North East Rd	North East	Colleges and Government Facilities
38	Elkton Parks and Recreation	219 North St	Elkton	Colleges and Government Facilities

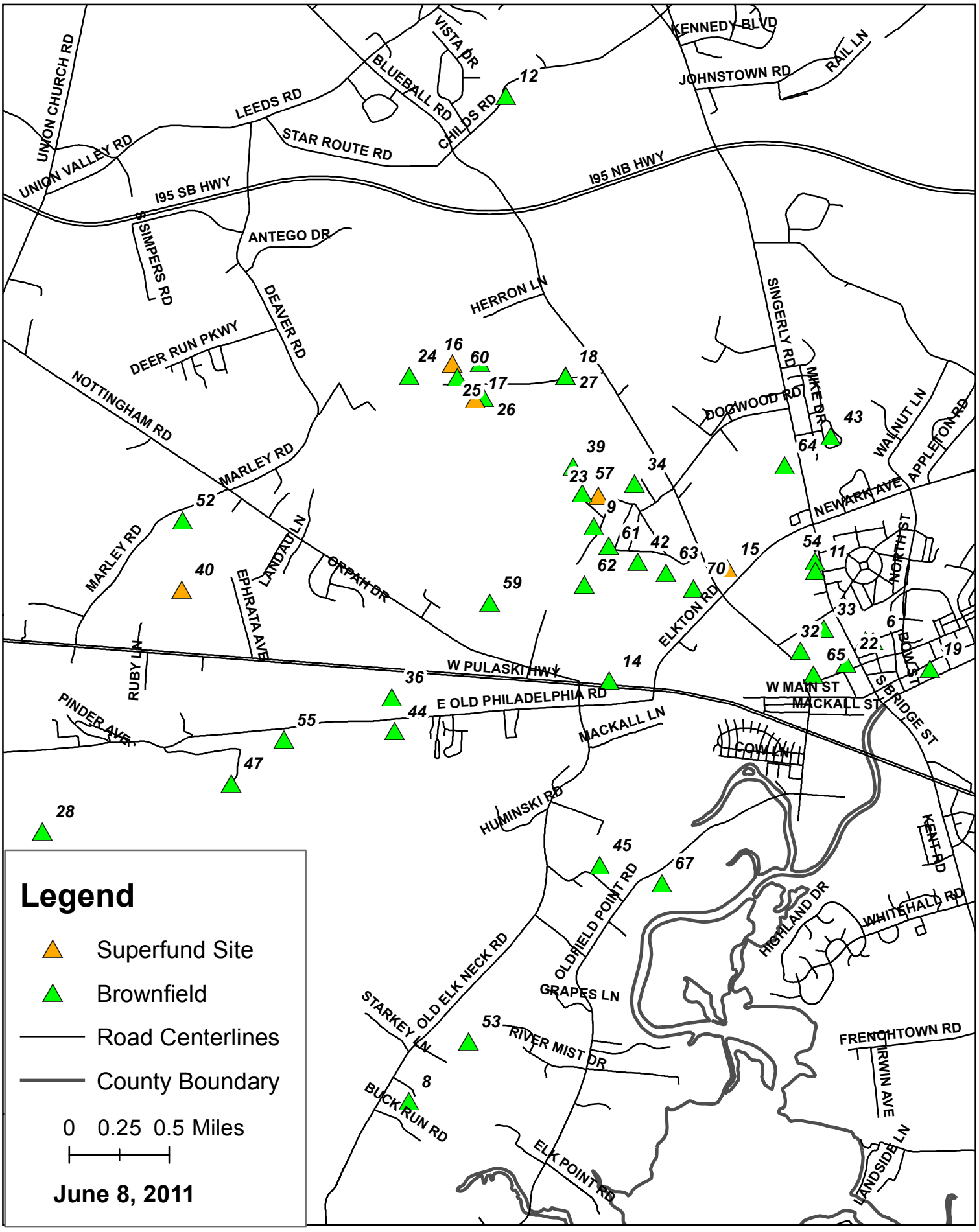
40	Elkton Central Branch Library	301 Newark Ave	Elkton	Library
41	Cecilton Library	215 E Main St	Cecilton	Library
42	Chesapeake City Library	2527 Augustine Herman Hwy	Chesapeake City	Library
43	North East Library	106 W Cecil Ave	North East	Library
44	NORTH EAST VOL. FIRE DEPARTMENT	2993 TURKEY POINT RD	North East	Fire and Paramedic Stations
45	Perryville Library	500 Coudon Blvd	Perryville	Library
46	Port Deposit Library	13 S Main St	Port Deposit	Library
47	Rising Sun Library	111 Colonial Way	Rising Sun	Library
50	Bainbridge Elementary School	41 Preston Dr	Port Deposit	School
51	Bay View Elementary School	1000 N East Road	North East	School
52	Bohemia Manor High School	2755 Augustine Herman Hwy	Chesapeake City	School
53	Bohemia Manor Middle School	2755 Augustine Herman Hwy	Chesapeake City	School
54	Calvert Elementary School	79 Brick Meetinghouse Rd	Rising Sun	School
55	Cecil Manor Middle School	971 Elk Mills Road	Elkton	School
56	Cecilton Elementary School	251 W Main Street	Cecilton	School
57	Charlestown Elementary	550 Baltimore Street	North East	School
58	Cherry Hill Middle School	2535 Singerly Road	Elkton	School
59	Chesapeake City Elementary	214 3rd Street	Chesapeake City	School
60	Conowingo Elementary School	471 Rowlandsville Road	Conowingo	School
61	Elk Neck Elementary School	41 Racine School Road	Elkton	School
62	Elkton High School	110 James Street	Elkton	School
63	Elkton Middle School	615 North Street	Elkton	School
64	Gilpin Manor Elementary School	203 Newark Avenue	Elkton	School
65	Good Shepherd School	810 Aiken Avenue	Perryville	School
66	Holly Hall Elementary School	233 Whitehall Road	Elkton	School
67	Immaculate Conception	452 Bow Street	Elkton	School
68	Kenmore Elementary School	2475 Singerly Road	Elkton	School
69	Leeds Elementary School	615 Deaver Road	Elkton	School
70	Mount Aviat Academy	399 Childs Avenue	Childs	School
72	WATER WITCH VOL. FIRE DEPARTMENT	1 BILL AMOSS WAY	Port Deposit	Fire and Paramedic Stations
73	WATER WITCH VOL. FIRE DEPARTMENT	409 ROCK SPRINGS RD	Conowingo	Fire and Paramedic Stations
80	North East Elementary School	301 E Thomas Avenue	North East	School
81	North East High School	300 Irishtown Road	North East	School
82	North East Middle School	200 E Cecil Ave	North East	School
83	Perryville Elementary School	901 Maywood Avenue	Perryville	School

84	Perryville High School	1696 Perryville Road	Perryville	School
85	Perryville Middle School	850 Aiken Avenue	Perryville	School
86	Providence/ Cecil Co. High School	3035 Singerly Road	Elkton	School
87	Rising Sun Elementary School	500 Hopewell Road	Rising Sun	School
88	Rising Sun High School	100 Tiger Road	North East	School
89	Rising Sun Middle School	289 Pearl Street	Rising Sun	School
90	Shorehaven	1040 Singerly Rd	Elkton	School
91	Technical High School	912 Appleton Rd	Elkton	School
92	The Jacob Tome Institute	581 S Maryland Avenue	North East	School
93	Thomson Estates Elementary School	203 E Thomson Drive	Elkton	School
94	Tri-State Christian Academy	146 Appleton Rd	Elkton	School
95	West Nottingham Academy	1079 Firetower Road	Colora	School
DES	DEPARTMENT OF EMERGENCY SERVICES	107 CHESAPEAKE BLVD	Elkton	Fire and Paramedic Stations
P1	PARAMEDIC STATION 1	191 HARRISVILLE RD	Colora	Fire and Paramedic Stations
P2	PARAMEDIC STATION 2	34 FAIR ACRES RD	Elkton	Fire and Paramedic Stations
P3	PARAMEDIC STATION 3	2865 AUGUSTINE HERMAN HWY	Chesapeake City	Fire and Paramedic Stations

Brownfields & Superfund Sites in Cecil County



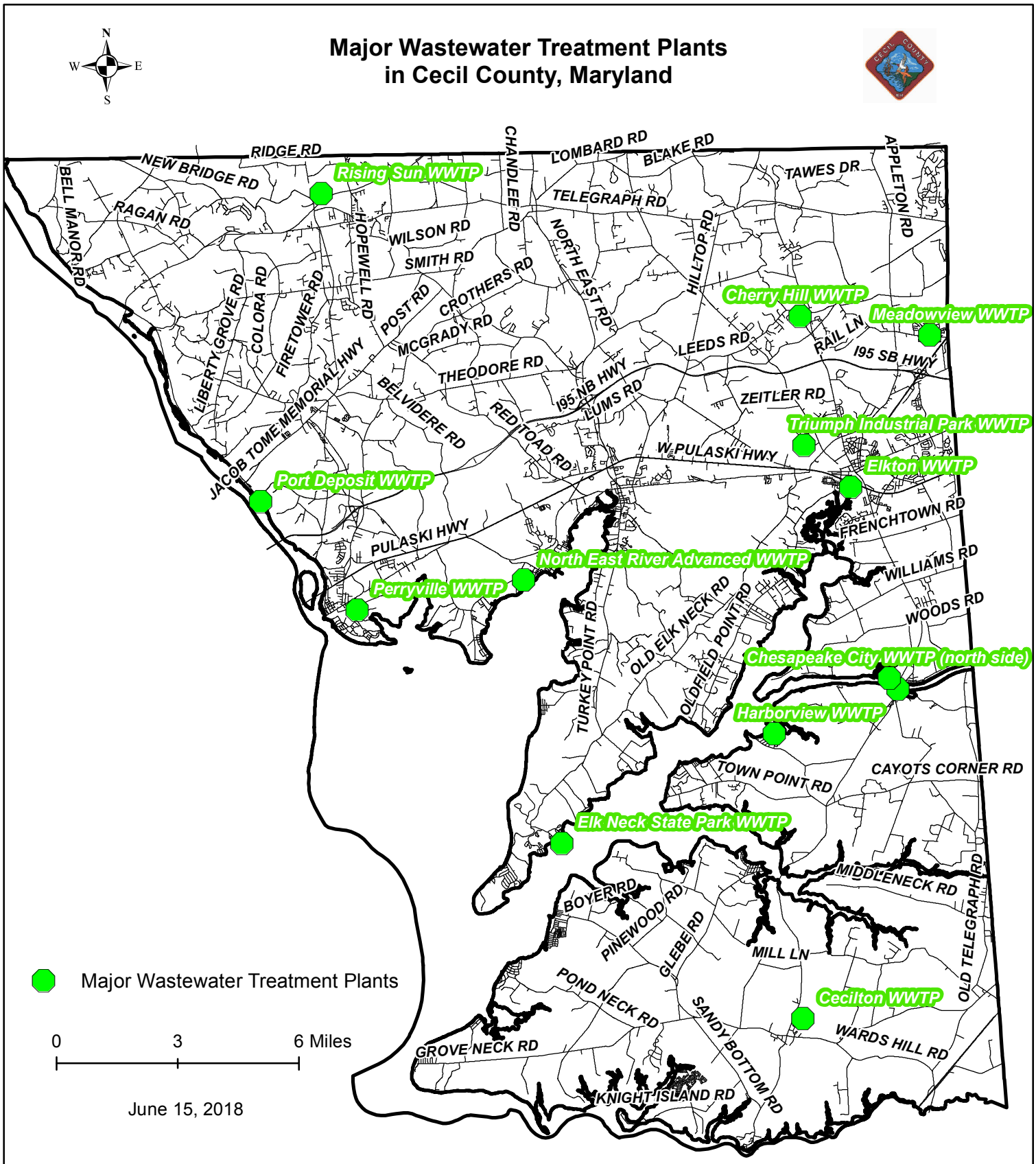
Brownfields & Superfund Sites in Cecil County (Elkton Vicinity)



List of Brownfields and Superfund Sites in Cecil County – as of June 7, 2011

Id #	Site Name
1	Anchor Marina Assessment - Rt 272 & Iroquois Dr
2	Back Creek Rear Range Structure
3	Bainbridge Naval Training Center
4	Bainbridge Naval Training Center, Phase 1A
5	Big Elk Chapel Road Landfill
6	Blue Chip - 301 Singerly Ave, Elkton
7	Carpernters Point Proof Range
8	Cecil City Landfill/Cecil County Landfill
9	Central Chemical - Triumph Industrial Park
10	Charles Baker Property
11	Chesapeake Publishing Company
12	Childs Property - 180 Childs Rd
13	Cowentown Dump
14	Crouse Bros. Excavating - Route 7 & Route 40
15	Dwyer Property - Route 279 & Route 545
16	Elkton Farm - 183 Zeitler Rd
17	Elkton Farm Firehole
18	Elkton Farm, Area 4
19	Elkton Gas Light Co. - Water St, Elkton
20	Elkton Sparkler Co.
21	Former Jim's Care Care - 119 Railroad Ave, Elkton
22	Former Peco Elkton Service Building
23	GE Railcar Repair Services - Triumph Ind. Park
24	Herron Area 1
25	Herron Area 2
26	Herron Area 3
27	Herron Area 4
28	Hog Hill Landfill
29	Hopkins Quarry
30	Ikea Industrial Park (aka Occidental Chemical)
31	Ikea Industrial Park (fka Woodland-Coudon, Inc.)
32	Ioncis/Pirelli Cable (off-site plume)
33	Ionics, Incorporated - 801 Elkton Blvd
34	IP Inc. - Triumph Industrial Park
35	Iron Hill Road Drum Site - 117 Iron Hill Rd
36	Keystyone Fireworks
37	Louisa Lane Dump Site
38	Malmo Farms - 1435 Cayots Corner Rd, Ches City
39	Maryland Cork
40	MD Sand, Gravel, & Stone

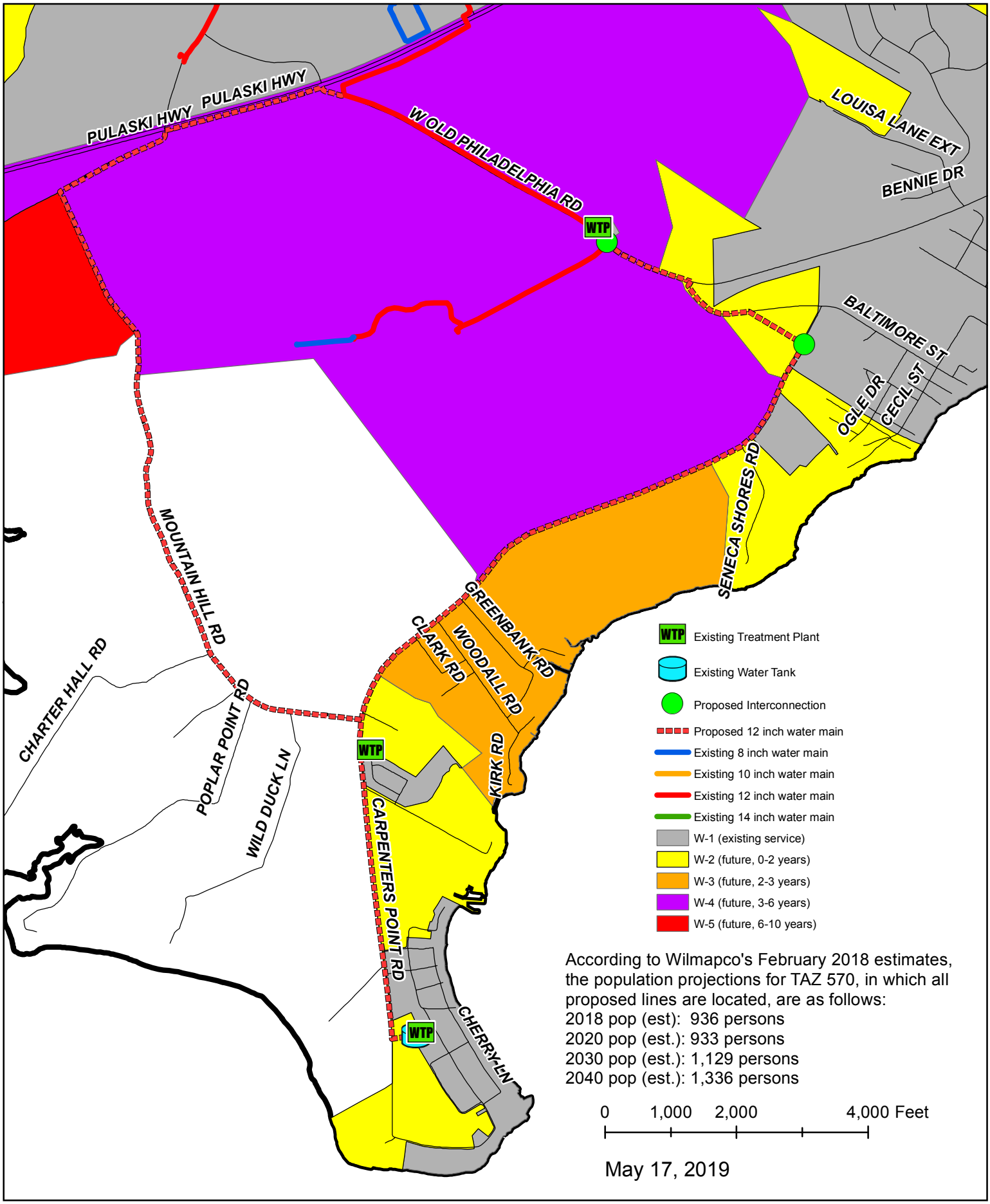
41 Montgomery Brothers Dump - Lakeside Park
42 Morton Thiokol Ammunition Plant
43 National Fireworks - Fairhill Rd
44 New Jersey Fireworks/Route 7 Dump
45 Old Elkton Dump - Jones Chapel Rd
46 Ordnance Products - Mechanics Valley Rd
47 Patriotic Fireworks
48 Perryville Rail Yard
49 Port Deposit MGP - Main St, Port Deposit
50 Principio Road - 551 Principio Rd
51 Red Toad Road Disposal Site
52 Reeves Site - 400 Marley Rd, Elkton
53 Reginald Thompson Property
54 RMR/JMR Corporation - 655 N Bridge St, Elkton
55 Route 7 Chem Dump Site
56 Spectron - 111 Providence Rd
57 Stauffer Chemical - Triumph Industrial Park
58 Stemmers Run Landfill
59 Thiokol Corp., - Elkton
60 Thiokol Motor Recovery Area
61 Trinco Industrial Park - 18 Lots
62 Triumph Explosives Burn Pit
63 Triumph Insustrial Park/WL Gore
64 Vicon Property - Rt 213 & Dogwood Rd
65 Victory Sparkler
66 W.L. Gore, Cherry Hill - 2401 Singerly Rd
67 Whittaker Trojan Yacht - Oldfield Point Rd
68 Woodlawn II - East of Waibel Rd
69 Woodlawn Landfill - Firetower Rd & Waibel Rd
70 W.L. Gore /IMS - Blue Ball Rd & Elkton Rd


Major Wastewater Treatment Plants
in Cecil County, Maryland
N
W
E
S
Rising Sun WWTP
Cherry Hill WWTP
Meadowview WWTP
Triumph Industrial Park WWTP
Elkton WWTP
Port Deposit WWTP
North East River Advanced WWTP
Perryville WWTP
Chesapeake City WWTP (north side)
Harborview WWTP
Elk Neck State Park WWTP
Cecilton WWTP
RIDGE RD
NEW BRIDGE RD
BELL MANOR RD
RAGAN RD
LIBERTY GROVE RD
COLORA RD
FIRETOWER RD
HOPEWELL RD
WILSON RD
SMITH RD
POST RD
CROTHERS RD
MCGRADY RD
THEODORE RD
BELVIDERE RD
JACOB TOME MEMORIAL HWY
CHANDLEE RD
LOMBARD RD
BLAKE RD
TELEGRAPH RD
NORTH EAST RD
HILLTOP RD
TAWES DR
APPLETON RD
LEEDS RD
RAIL LN
I95 SB HWY
I95 NB HWY
LUMS RD
ZEITLER RD
RED TOAD RD
W PULASKI HWY
PULASKI HWY
FRENCHTOWN RD
WILLIAMS RD
WOODS RD
TURKEY POINT RD
OLD ELK NECK RD
OLDFIELD POINT RD
TOWN POINT RD
CAYOTS CORNER RD
MIDDLENECK RD
OLD TELEGRAPH RD
BOYER RD
PINEWOOD RD
GLEBE RD
MILL LN
POND NECK RD
SANDY BOTTOM RD
WARDS HILL RD
GROVE NECK RD
KNIGHT ISLAND RD
Major Wastewater Treatment Plants
0
3
6 Miles
June 15, 2018

APPENDIX L

MOUNTAIN HILL – CARPENTERS POINT INTERCONNECTION

Cecil County Master Water Plan
Mountain Hill - Carpenters Point interconnection



According to Wilmapco's February 2018 estimates, the population projections for TAZ 570, in which all proposed lines are located, are as follows:
2018 pop (est): 936 persons
2020 pop (est.): 933 persons
2030 pop (est.): 1,129 persons
2040 pop (est.): 1,336 persons

0 1,000 2,000 4,000 Feet

May 17, 2019

APPENDIX M

PSC APPROVAL OF ELKTON WEST WATER AND WASTEWATER FRANCHISE

33905

STATE OF MARYLAND
PUBLIC SERVICE COMMISSION

#45, 8/10/11 AM; ML#115849, S-974

ORDER NO. 84305

IN THE MATTER OF A JOINT APPLICATION FROM ARTESIAN WATER MARYLAND, INC. FOR APPROVAL TO EXERCISE A WATER FRANCHISE AND A WASTEWATER FRANCHISE, RESPECTIVELY, IN THE AREA KNOWN AS ELKTON WEST, CECIL COUNTY, MARYLAND, AND	*	BEFORE THE PUBLIC SERVICE COMMISSION OF MARYLAND
THE JOINT APPLICATION OF ARTESIAN WATER MARYLAND, INC. AND ARTESIAN WASTEWATER MARYLAND, INC. FOR AUTHORITY TO FINANCE FACILITIES AND TO ESTABLISH NEW RATES	*	CASE NO. 9163, Phase I CASE NO. 9163, Phase II

Issue Date: August 31, 2011

To: The Parties of Record and Interested Persons

On September 30, 2008, Artesian Water Maryland, Inc. ("Artesian Water") and Artesian Wastewater, Inc. ("Artesian Wastewater") collectively ("the Applicants") filed a joint application with the Commission to: (1) approve the exercise of a water franchise agreement and a wastewater franchise agreement both dated August 19, 2008 granted to the Applicants, respectively, by Cecil County, Maryland; (2) approve the Applicants to operate the water and wastewater facilities acquired from Cecil County; and (3) grant any and all other regulatory approvals necessary to authorize the actions proposed. For the reasons, and on the conditions, set forth below, the Commission grants the applications.

Description of the Applicants

Artesian Water was incorporated in Delaware, originally as Carpenter's Point Water Company on September 4, 1981. It is duly incorporated, validly existing, and in good standing under laws of the State of Delaware and has the corporate power and authority to engage in any lawful act or activity for which corporations may be organized under Delaware law.

Artesian Wastewater was incorporated in Delaware on June 3, 2007. It is duly incorporated, validly existing, and in good standing under laws of the State of Delaware and has the corporate power and authority to engage in any lawful act or activity for which corporations may be organized under Delaware law.

The Applicants are each subsidiaries of Artesian Resources Corporation ("ARC"), which was formed in 1905 and incorporated in Delaware on February 10, 1927. Artesian Water Maryland, Inc. is currently an authorized public service company providing water services in Maryland.[1]

***

Pursuant to notice and opportunity to comment, the Commission considered the Joint Application for approval to exercise water and wastewater franchise agreements granted by Cecil County, dated August 19, 2008 pertaining to the Elkton West service area, other associated regulatory approvals necessary to authorize the actions therein, and recommendations of the Commission's Staff ("Staff"), at its November 5, 2008 Administrative Meeting. In Order No. 82323, dated November 18, 2008, the Commission found that allowing the Applicants the opportunity to exercise the water and wastewater franchises granted by Cecil County would be consistent with the public convenience and necessity, and granted the Applicants the authority to exercise the franchise agreements dated August 10, 2008 granted to Artesian Water and Artesian

[1] Joint Application for Approval of Exercise of Franchises at 3.

Wastewater, respectively, by Cecil County. (Order No. 82323 docketed this matter as Case No. 9163).

Case No. 9163, Phase I
Petition for Reopening/Rehearing and Intervention

On December 16, 2008, the Appleton Regional Alliance, the Cecil County Land Use Alliance, and several County residents collectively ("Residents")[2] filed a Petition for Reopening/Rehearing and to Intervene ("Petition") in Case No. 9163, Phase I. The Petition noted that a civil action had been filed in the Circuit Court for Cecil County seeking judicial review of the Cecil County resolutions involving the sale and transfer of the County's water and wastewater facilities under the two franchise agreements. The Applicants filed an Opposition to Residents' Petition on January 8, 2009. On January 21, 2009, the Board of County Commissioners of Cecil County filed for intervention in Case No. 9163, Phase I. Various supplemental and other responsive pleadings were filed by the Applicants, the Residents and by the Board of County Commissioners throughout 2009 relating to Residents' Petition.

On July 5, 2011, the Applicants asked the Commission to deny the Residents' December 17, 2008 Petition for Reopening/Rehearing and Intervention. In that filing, the Applicants also provided an update of the Joint Application based on the decision of the Maryland Court of Appeals in Docket No. 137, September Term, 2009, and renewed their request that the Commission approve the second Joint Application (for authority to

[2] Steve and Carol Wohmer, James and Eva Walker, Eugene and Mims Hidabrant, Edward and Sally Cairns, Sue Fuhrmann and Ron Hamlen, Lindsie L. Carter, and Darren and Kristen Magas.

exercise the franchises for Elkton West Extended, for authority to finance facilities, and to establish new rates).

The Commission considered the Applicants' request that the Commission deny Residents' Petition, along with its renewed request for approval of the second Joint Application, Residents' July 20, 2011 response, including Residents' request for postponement of the proceedings[3] and their request for an evidentiary hearing and comments of individual Residents, the Office of People's Counsel's ("OPC") comments, and Staff's comments, at its August 10, 2011 Administrative Meeting. The Commission designates this matter to be docketed as Case No. 9163, Phase II.

In reasserting its opposition to Residents' Petition, the Applicants maintain that "[a]s a result of the decision of the Maryland Court of Appeals, which rejected the Residents' challenge to the legal validity of the sale and transfer of [its water and wastewater facilities], [Applicants] respectfully submit that there is no further reason for the Commission to postpone an Order denying Residents' Petition in Case No. 9163, [Phase I],"[4] and insist that Residents' arguments for reopening, rehearing, and intervention are without merit and beyond the scope of the Commission's jurisdiction.

[3] *See* letter dated August 9, 2011, from Delegate Michael D. Smigiel, Sr. on behalf of "several of the Cecil County Commissioners" asking that Delegate Smigiel request postponement of the Commission's August 10, 2011 hearing on this matter.

[4] Applicant's July 5, 2011 Filing at 4. *See Appleton Reg'l Community Alliance v. Bd. Of County Comm'rs*, No. 137, September Term 2009 (June 21, 2011).

Case No. 9163, Phase II
Application for Authority to Exercise
Franchises in Elkton West Extended

On March 31, 2009, the Applicants filed a second Joint Application,[5] this time seeking approval to exercise a second franchise granted by Cecil County on August 19, 2008 for service that extended the Elkton West area to other areas of the County ("Elkton West Extended").[6] This time, the Applicants also asked the Commission to approve Applicants' proposal to assume the outstanding debt in the amount of approximately $6.8 million in principal balance due on a tax-exempt Cecil County Sanitary District Bond, Series 2004B, payable under a loan agreement by and between the County and the Maryland Water Quality Financing Authority, and to approve rates that were currently being charged by the County to County water and wastewater customers (customers who would become the Applicants' customers after the sale).[7]

The Applicants have filed copies of the franchise agreements, articles of incorporation, affidavits of its directors and maps of the franchise area in accordance with the Public Utilities Article and the Code of Maryland Regulations. Staff provided its comments regarding the Joint Application on August 3, 2011. In its comments, Staff concludes that the application is in compliance with Public Utilities Article § 5-201, *Annotated Code of Maryland*, and COMAR 20.07.04.03.

Staff notes that the Board of Commissioners of Cecil County found that granting water and wastewater franchises to the Applicants will: (i) assure delivery of adequate,

[5] MailLog No. 115848.
[6] Exhibits A and B- areas adjacent to the Elkton West service area approved in Order No. 82323.
[7] Consideration of the second Joint Application was suspended pending the resolution of the Applicants and Residents' appellate actions and pending consideration of the Residents' Petition in Case No. 9163.

economical, and efficient water and wastewater services to customers; (ii) provide for the health and safety of County citizens; (iii) control disease; (iv) prevent blight and other environmental degradation; (v) promote the efficient utilization of the rights-of-way located in the franchise area(s); (vi) protect limited natural resources; and (vii) promote the general health and welfare by providing adequate water and wastewater services to customers.[8] Staff recommends that the Commission find that the exercise of the franchises is consistent with the public convenience and necessity, and authorize the exercise of the franchise agreements granted to the Applicants.

With regard to the Applicants' rate request, proposing to adopt the existing rates and charges in the Elkton West Extended service area, the Applicants clarified that the County has not taken action on a previously recognized resolution that would have increased service connection charges in the Elkton West Extended area. Thus, the Applicants intend to charge only the same rates and charges that are being charged to customers by Cecil County at the time the transaction closes. Staff therefore recommends that the Applicants' proposed water and wastewater tariffs be accepted for filing.

On May 12, 2009, the Residents[9] sought to intervene in the matter of Applicants' second Joint Application. The Residents assert that approval of the Joint Application is contrary to the public interest, and they raise factual issues regarding whether the Applicants' reliance on out-of-state water sources increases the risk of water supply loss

[8] Staff Comments at 5.
[9] Appleton Regional Community Alliance, Cecil Land Use Alliance and individually named residents: Steve and Carol Wohmer, James and Eva Walker, Eugene and Mims Hildabrant, Edward and Sally Cairns, Sue Furhmanm, Ron Hamlen, Lindsie L. Carter, and Darren and Kristen Magas.

to Cecil County residents during severe droughts and whether the sale and transfer of the County's facilities to Applicants risks the loss of nutrient credits needed to meet the County residents' wastewater needs. Those issues are more fully discussed in the Commission's decision in Case No. 9163, Phase I, which addresses the Residents' Petition for Reopening/Rehearing and Intervention. Cecil County Commissioners Robert Hodge and Diana Boomell individually appeared at the Commission's August 10, 2011 Administrative Meeting regarding this matter.[10]

The Residents responded to Applicants' renewed request regarding Elkton West Extended on July 20, 2011. The Residents argued that certain statements contained in the Applicants' filings were misrepresentations and that, notwithstanding the majority opinion of the Court of Appeals, the issue concerning the legality of the County's sale and transfer of its water and wastewater facilities to the Applicants is still a public interest issue for this Commission to decide.

OPC acknowledges that under Public Utilities Article § 5-201, a utility that has been granted a franchise must be authorized by the Commission to exercise that franchise, subject to a factual showing that the exercise of the franchise is required or consistent with public convenience and necessity.[11] However, OPC submits that the Residents' Petition raises factual issues that bear on whether the Applicants can establish

[10] Ms. Boomell stated that she has been seeking to intervene in this matter (initial Application / second Joint Application- or both) since she was elected. Tr. at 8-9. Mr. Hodge did not explicitly state whether or not he was seeking to intervene either as to Case No. 9163 or as to the second Joint Application only. However, both Ms. Boomell and Mr. Hodge acknowledged that they were not representing the position of the Cecil County Board of Commissioners as a whole. Indeed, on August 17, 2011, Board President James T. Mullin submitted a letter on behalf of the Board of County Commissioners supporting Applicants' request for approval. ML# 133570.

[11] OPC Comments at 2.

by clear and satisfactory evidence that granting the Application in Case No. 9163, Phase I, is in the public interest. Those issues are: (1) whether the Applicants out-of-state water sources increase the risk of water supply loss to Cecil County residents during severe drought shortages; and (2) whether the sale and transfer of the County's facilities to Applicants risks the loss of nutrient credits needed to meet the County residents' wastewater needs. OPC supports the Residents' Petition and requests that a hearing be held in the matter of the Application and applications, which are the subject of Case No. 9163, Phase I.[12]

With regard to the risk of loss of water resources issue, the Applicants respond that their resources are more than adequate to meet the water and wastewater needs of Cecil County residents. The Applicants note that they have permits and facilities in place to withdraw water from the Susquehanna River, permits the County does not have, as well as water resources in Delaware and Pennsylvania, providing more options than currently exist through the County.[13] In a Supplemental Filing on August 19, 2011, Applicants provided additional information describing plans to expand and improve Cecil County's water systems, including a detailed analysis examined by the Maryland Department of the Environment ("MDE") demonstrating the adequacy and reliability of water supply for the Elkton West franchise area.[14]

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[12] Id. at 3.
[13] Tr. at 111.
[14] Applicants' August 19, 2011 Supplemental Filing at 2. Applicants note that in addition to available excess capacity, Applicants anticipate the future integration of its other water systems in Cecil County, including integration of the Mountain Hill, Carpenters Point and Port Deposit water systems- with the Elkton West system Id. at 4.

Similarly, with regard to nutrient credits, the Applicants respond to the Residents' concerns by noting that under the asset purchase agreement, "the credits become available to the County for whatever needs they may have" after Applicants have utilized the credits they need for the benefit of consumers within the Applicants' franchise area.[15] In their Supplemental Filing, the Applicants also note that pursuant to the asset purchase agreement "[Applicants] are required to coordinate its plans and schedules with the County and [MDE], to maximize the use of nutrient credits by the County and [the Applicants]."[16]

Decision

The Commission has reviewed and considered the Residents' Petition for Reopening/Rehearing and Intervention, the responses of the Applicants, additional comments of the Residents, comments filed by OPC and Staff at the scheduled August 10, 2011 Administrative Meeting. Representatives of Artesian, the Residents, OPC and Staff were present and provided additional information regarding perceived factual issues, both as to the request for reopening and rehearing in Case No. 9163, Phase I, and the second Joint Application in Case No. 9163, Phase II. Based upon this review, and upon consideration of the supplemental information filed by the Applicants on August 19, 2011, the Commission finds that the Applicants possess the financial, technical, and managerial resources and qualifications to operate and maintain the water system in Elkton West and in the Elkton West Extended area in Cecil County, Maryland.

[15] Id. at 102.
[16] Applicants August 19, 2011 Supplemental Filing at 6. Applicants note that "[m]ost importantly, all available nutrient credits are appropriately limited to use for the benefit of Cecil County's citizens." Id.

The Commission grants the intervention of Appleton Regional Community Alliance, Cecil County Land Use Alliance and the individually named residents listed in their October 2008 and May 2011 intervention requests. However, the Commission denies the Residents' request to reopen and rehear Case No. 9163, Phase I.

The Commission observes that no party questioned the financial, technical, or managerial qualifications of the Applicants to exercise the franchises granted by Cecil County, and no party recommended that any restrictions be placed upon the exercise of the franchises.[17] In addition to its financial, technical and managerial fitness, the Applicants have demonstrated the ability to assure the availability of adequate and reliable water supplies for the foreseeable future from a variety of sources, including Susquehanna River sources that are currently unavailable to the County. The Applicants have also provided adequate assurances that their acquisition of the County's wastewater facilities will not jeopardize the availability of Chesapeake Bay nutrient credits to the County's detriment. Indeed, the Applicants have obligated themselves to release any excess nutrient credits associated with facilities acquired from Cecil County back to the County for the County's use at other facilities.

Based on the record in this matter, that Applicants have demonstrated the existence of adequate and reliable water supply resources for the foreseeable future, and have demonstrated the existence of a balanced and conscientious plan for the management and use of nutrient credits, for the benefit of franchise customers and Cecil County as a whole. Therefore, the Commission affirms its prior decision to authorize the

[17] Tr. at 84-85; 96-97.

Applicants to exercise the franchise granted by the County for the Elkton West service territory, as approved in Case No. 9163, Phase I, and now finds that the Applicants' request to exercise the franchise granted by the County in the Elkton West Extended area, as described in Applicants' second Joint Application, satisfies the public convenience and necessity requirement of Public Utilities Article § 5-201. The Applicants will be directed to file tariffs setting forth rates identical to those currently charged by the County; their request to impose rates approved by the County prior to closing is denied, although they are free to file any amended rates for approval separately.

Further, the Commission finds that the Applicants' assumption of debt of approximately $6.8 million associated with the acquisition of the County's Meadowview Wastewater Facility is consistent with the public convenience and necessity and will be used for one or more purposes listed in PUC Article § 6-102(b).

IT IS, THEREFORE, this 31st day of August, in the year Two Thousand Eleven, by the Public Service Commission of Maryland,

ORDERED: (1) That Artesian Water Maryland, Inc. and Artesian Wastewater Maryland, Inc. are authorized to exercise the franchises granted by Cecil County, Maryland, as described in their Joint Applications;

(2) That Artesian Water Maryland, Inc. and Artesian Wastewater Maryland, Inc. are reauthorized to finance the purchase of the Elkton West water and wastewater systems, and authorized to assume the County's outstanding indebtedness relating to the County's Series 2004B Cecil County Sanitary District bonds;

(3) That Artesian Water Maryland, Inc. and Artesian Wastewater Maryland, Inc. shall file reports as necessary to comply with COMAR 20.07.04.02C;

(4) That Artesian Water Maryland, Inc. and Artesian Wastwater Maryland, Inc. shall upon consummation of the purchase file rates for water and wastewater service identical to the rates currently charged by Cecil County, Maryland, consistent with their Joint Applications; and

(5) That the Petition for Reopening/Rehearing submitted on December 16, 2008, by the Appleton Regional Alliance, the Cecil County Land Use Alliance and several County residents is hereby denied.

By Direction of the Commission,

Terry J. Romine
Executive Secretary

APPENDIX N

TOWN OF RISING SUN WATER INTERCONNECTION WITH CHESTER WATER AUTHORITY

BULK WATER SUPPLY AND CONNECTION AGREEMENT

THIS AGREEMENT, made as of the _____ day of _____, 2016, is by and between the CHESTER WATER AUTHORITY, a municipal authority organized and existing under the laws of the Commonwealth of Pennsylvania with its principal office at 415 Welsh Street, P.O. Box 467, Chester, Pennsylvania 19016-0467 ("Authority"), and the TOWN OF RISING SUN, organized and existing under the laws of the State of Maryland with its principal office at 1 East Main Street, P.O. Box 456, Rising Sun, MD 21911 ("Town").

WHEREAS, the Authority is a public water system and owns and operates a waterworks and furnishes water service to the public and other public water systems in Pennsylvania, and Delaware; and

WHEREAS, the Town owns and operates a public water system for the supply and distribution of water; and

WHEREAS, the Town desires to purchase bulk water supplies ("Supplies") from the Authority for resale to the Town's customers, and the Authority is willing to sell such Supplies to the Town under the terms and conditions hereinafter set forth; and

WHEREAS, in order for the Supplies to be delivered to the Town, the water distribution systems of the parties must be connected by the construction, within Pennsylvania, of a connection (the "Connection"), including associated improvements as described in Section 1.1 hereof (together the "Facility"), by the Authority; and

WHEREAS, the Town intends to permanently finance the connection charge set forth in this Agreement ("Connection Charge") through loan and grant funds from the Rural Utilities Service, ("RUS") an agency of the United States Department of Agriculture, through the Water and Waste Disposal Loan and Grant Program, see, 7 CFR part 1780, subparts A and B, and in particular 7 CFR 1780.9 (d) and 7 CFR 1780.62; and

WHEREAS, the provisions here pertaining to the undertakings of the Town are conditioned upon the concurrence, in writing, of the State Director of Rural Development; and

WHEREAS, prior to closing on the loan and grant from RUS, the Town with the approval of RUS, intends to obtain interim financing from commercial sources for the construction period of the Facility necessary for the connection of the parties' water distribution systems pursuant to 7 CFR 1780.39 (d); and

WHEREAS, the Town and the Authority will obtain those regulatory approvals that are required for the delivery and sale by the Authority, and the receipt and purchase by the Town, of the Supplies as more fully set forth in Schedule A hereto (collectively, the "Supply Permits"); and

WHEREAS, the parties wish to set forth their agreement for the construction and financing of the Facility for which the Town will pay the Connection Charge to the Authority, and by which the Authority will deliver the Supplies to the Town and their agreement as to delivery, receipt and payment for the Supplies;

NOW THEREFORE, in consideration of these premises and of the mutual promises and undertakings hereinafter set forth, the parties hereto, intending to be legally bound hereby, agree as follows:

ARTICLE I
The Facility

1.1 Description Of The Facility. The Facility, which is to be constructed entirely within Pennsylvania, is shown and described in Authority Drawing No. 3983, dated October 19, 2012, which appears as Exhibit 1.1 hereto and is incorporated herein by reference ("Plan"). The Facility shall be connected to the Town's distribution system at the boundary line between Pennsylvania and Maryland (the "Boundary Line") as shown in the Plan.

1.2 Undertaking To Build. Subject to the terms and conditions set forth in this Agreement, the Authority shall design, construct, build and install the Facility and make the Connection. The Authority shall supply or arrange for the provision and/or performance of all required services, goods, materials, engineering and construction for the work in Pennsylvania (collectively, the "Work") needed to complete the Facility in a sound and workmanlike fashion. For purposes of this Article I, the "Work" shall be deemed to include and comprise the completed design, engineering and construction required by this Agreement and the Project Documents (as hereinafter defined).

1.3 The Project Documents. The Project Documents include all drawings, specifications, contracts, subcontracts, blueprints, supplier and materialman agreements, schedules, progress schedules, change orders, budgets, requests for proposals, bid solicitations, proposals, payment and performance bonds, other similar documents or agreements, and all amendments, addenda and supplements thereto, whether now existing or hereafter issued, which relate to, reflect or memorialize the Work. Copies of the Project Documents shall be provided by the Authority to the Town for review and concurrence prior to their use..

1.4 Selection Of Contractors And Materialmen. The Authority shall provide the Town with copies of all written documentation pertaining or relating to the selection and hiring of contractors and materialmen for the various portions of the Work including, but not limited to,

requests for proposals, bid solicitations, bid addendums, bids, responses to bid solicitations and all other proposals or offers received by the Authority for any portion of the Work. The contract documents, engineer's recommendation for award and bid tabulation sheets shall be forwarded by the Authority to the Town for concurrence prior to awarding the construction contracts. No construction contracts shall be awarded until the Authority and the Town provide adequate evidence to the other that they have the financial ability to pay their share of the cost of the Work and the Facility as set forth in Sections 1.11.6, 1.14 and 1.17 of this Agreement. Adequate evidence includes among other things a commitment letter to finance from a reputable lender, and evidence of action by the governing body of a party to allocate funds to pay the cost of the Work and/or the Facility. The Town shall also provide adequate evidence to the Authority that it has the financial ability to pay for the cost of the Maryland Improvements, as defined in Section 1.12.1 hereof. If such adequate evidence of financial ability is not provided by either or both parties by October 1, 2016, this Agreement shall terminate. The bid solicitation shall require all bidders to hold their bids open for at least 60 days after the opening of the bids. The Town shall be given reasonable opportunity to consult with the Authority in the review of such bids, responses, proposals and offers, and shall be advised of, and allowed to attend all bid openings and other meetings at which any portion of the Work will be awarded. Where the Work (or any portion thereof) is let for bid or is the subject of a request for proposals, such shall be awarded on the basis of the lowest responsible and responsive bid or proposal. Notwithstanding the foregoing, the Town understands, acknowledges and agrees that the Authority shall have final authority over the selection of contractors and materialmen for the Work, and the right, to reject any one or more bids for the Work, or any portion thereof. The rights reserved to the Authority under this Section 1.4 shall be exercised in good faith and on a reasonable basis, and the exercise of such rights shall not excuse the Authority's obligation to proceed with, and complete the

design, construction and operation of the Facility in accordance with the terms herein (except as set forth in Section 1.14).

1.5 Designs And Specifications. Copies of all designs, specifications, drawings, materials, schedules, budgets, blueprints, and engineering for the Work shall be supplied to the Town for review and comment prior to finalization. All materials specified shall meet all applicable current American Society for Testing Materials ("ASTM") and American Water Works Association ("AWWA") standards. The schedule for the Work is subject to approval by both parties hereto.

1.6 Supervision Of The Work. Except as otherwise provided herein, the Authority shall have the right and obligation to oversee the Work including, but not limited to, the determination of construction sequences; monitoring and enforcement of compliance with the Project Documents; approval and acceptance of the Work; and the review, approval and processing of applications for payment to contractors and materialmen engaged on the Work. The Authority undertakes to perform these functions in a sound and prudent fashion in order to assure completion of the Work in accordance with the Project Documents at a reasonable cost.

1.7 Maintenance Of Records. The Authority shall maintain full and complete records with respect to the Work and the Town shall be provided with copies of said records, on a weekly basis, as the records are generated.

1.8 Access To The Work And Construction Progress Meetings. The Town shall at all times be allowed reasonable access to, and opportunity to observe the Work, and attend any construction progress meetings. Construction progress meetings shall be held at least weekly during the work construction phase and the first weekly meeting of each month shall also serve as a monthly coordination meeting with the Authority and the Town. RUS, at its discretion, may attend any construction progress meetings.

1.9 Enforcement Of The Project Documents. The Authority shall use reasonable care under the circumstances to assure compliance with, and due performance under the Project Documents by all contractors and materialmen hired for the Work. The Authority shall promptly advise the Town and RUS of all instances of noncompliance and/or defective performance and the measures proposed by the Authority in respect of actions to cure, enforcement of the Project Documents and available remedies against the responsible party.

1.10 Payments To Contractors And Materialmen. The Authority shall be responsible for, and shall have authority to process and make payments to contractors and materialmen in respect of the Work. The Authority shall process and make such payments only in accordance with the Project Documents. The Town shall be promptly advised in writing of any proposed change order or other amendment to the Project Documents when and as such are approved or accepted by the Authority. Said change orders or other amendments to the Project Documents shall be provided to the Town on a weekly basis, as they are generated, and before they are approved or accepted by the Authority.

1.11 Town Payments To The Authority And Authority Payments To Town.

1.11.1 The Town shall pay to the Authority its portion of the Connection Charge (as hereinafter further defined in Sections 1.11.2 and 1.11.3 of this Agreement) in accordance with this Section 1.11 herein and as set forth in Exhibit 1.11 hereto and incorporated by reference. .

1.11.2 The Connection Charge shall consist of the charges of contractors and materialmen under the Project Documents (as approved and accepted by the Authority in accordance with the terms hereof and of the Project Documents) as set forth in Exhibit 1.11 for: (a) the connection to the Authority's existing distribution system main; (b) an estimated 12,000 feet of 16 inch

transmission main and 24,000 feet of 12 inch transmission main to the point of Connection with the Town's distribution system; (c) the metering vault at such point of Connection; (d) the railroad crossings and the Rt. 1 directional drill; (e) the engineering fee of $72,600 (already paid), plus 3% of the main extension cost described in subparagraphs (a) - (d) of this Section 1.11.2 in excess of One Million ($1,000,000) Dollars; (f) the 8 inch service installation; (g) the 8 inch meter charge; (h) a one-time capacity charge of $57,205; and (i) one-half of the cost of the application fee for water allocation approval by the Susquehanna River Basin Commission.

1.11.3 The Connection Charge for purposes of this Section 1.11 shall not include any direct or indirect charge, cost, expense or other allocation, however described or denominated, for any of the following: (a) the Authority staff, resources and overhead; (b) acquisition of required rights of way, easements, fee interests or other real estate acquisition costs (including costs incurred for condemnation and takings by eminent domain, as applicable); (c) costs and fees associated with obtaining any permit or license required for the Work under federal, state or local law, statute, ordinance, regulation or other similar authority, except as described in Section 1.11.2(i) of this Agreement; (d) the Maryland Improvements, as defined in Section 1.12.1 hereof; or (e) the costs of any change orders.

1.11.4 Within 14 days after the end of each calendar month during which the Work is in process, the Authority shall bill the Town in arrears for its portion of the Connection Charge (less any applicable retainage) actually incurred and paid by the Authority during the prior month, exclusive of change orders; and

unit costs described in Section 1.11.6(i) and (ii). The Authority's invoice to the Town shall be accompanied and supported by documented proof of the invoiced amounts, including a certificate of the Authority's engineer for the Project as to the satisfactory performance of the invoiced Work, and the prior payment of such amounts by the Authority in accordance with the Project Documents. The Town's payment of the invoiced charges shall be remitted to the Authority within 30 days following receipt. Provided however, prior to the initial payment of any portion of the Connection Charge by the Town, the Authority must provide the Town with documentation that the Authority has complied with guidance provided by the United States Fish and Wildlife Service in its letter dated July 29, 2015 (Exhibit 1.11.4(a)) and guidance provided by the Pennsylvania Fish and Boat Commission in its letter dated June 22, 2015 (Exhibit 1.11.4(b)).

1.11.5 The Authority's records of costs incurred in connection with, and payments made on account of the Work shall be available to the Town for review and audit at all times, upon reasonable request.

1.11.6 The Authority shall absorb and shall be solely responsible for the payment of any costs for change orders. The Authority shall absorb and shall be solely responsible for the payment of any costs for any unit pricing (i) based on units in excess of the number of units of measure set forth on Exhibit 1.14 hereto in excess of the variance amount of $88,768 shown on Exhibit 1.14 hereto; and (ii) any unit pricing for items not set forth on Exhibit 1.14. No charge on account thereof shall be made to the Town.

1.12 Maryland Improvements.

1.12.1 The Town shall be solely responsible for the distribution system improvements to be designed and constructed by the Town within the State of Maryland ("Maryland Improvements") for interconnection with the Facility. The cost of connecting the Facility to the Maryland Improvements is included in the Costs for purposes of Section 1.11. If requested by the Town, the Authority shall make a representative available for attendance or participation in any hearings, meetings etc. regarding water permitting and regulatory approvals and shall provide any pertinent data and documents to that cause and purpose.

1.12.2 Copies of the schedule for the Maryland Improvements and any updates thereto shall be provided by the Town to the Authority. The schedule for the Maryland Improvements is subject to approval by both parties hereto, it being the intention of the parties that the Work and the Maryland Improvements shall be substantially complete at approximately the same time.

1.12.3 The Authority at all times shall be allowed reasonable access to and an opportunity to observe the Maryland Improvements and to attend any construction progress meetings. Construction progress meetings shall be held at least weekly during the Maryland Improvements Construction Phase.

1.13 Permits And Licenses. At its sole cost and expense, the Authority shall obtain any permits, licenses or other authorizations required under any federal, state or local law, statute, rule, regulation, ordinance or other authority for the Work. Provided, however, the Authority and the Town shall share equally the cost of the application fee for water allocation approval by the Susquehanna River Basin Commission. If requested by the Authority, the Town shall make a representative available for attendance or participation in any hearings, meetings

etc. regarding water permitting and regulatory approvals and shall provide any pertinent data and documents to that cause and purpose. Throughout the term of this Agreement the Town shall be notified by the Authority of any hearings, meetings or discussions involving any regulatory issues involving the Facility that might involve or impact the Town. The Town reserves the right to attend those hearings, meetings or discussions. At its sole cost and expense, the Town shall obtain any permits, licenses or other authorizations required under any federal, state, or local law, statute, rule, regulation, ordinance or other authority for the Maryland Improvements. Provided, however, the Town and the Authority shall share equally the cost of the application fee for water allocation approval by the Susquehanna River Basin Commission.

1.14 Project Budget And Schedule. The parties recognize that the total costs of the Work and Connection Charge are not presently determinable, and have proceeded on the assumption that such costs, including Work bid by unit cost pricing, shall total approximately Five Million Five Hundred Twenty-Eight Thousand Seven Hundred Sixty-Eight ($5,528,768) Dollars ("Estimated Cost"), as set forth in Exhibit 1.14, exclusive of the following costs: (a) engineering base fee of Seventy-Two Thousand Six Hundred ($72,600) Dollars, which has already been paid by the Town to the Authority; (b) an engineering fee of 3% of the main extension cost in excess of One Million ($1,000,000) Dollars; (c) an Eight (8") Inch service connection of Five Thousand ($5,000) Dollars; (d) an Eight (8") Inch meter of Five Thousand Eight Hundred ($5,800) Dollars; and (e) a capacity charge of Fifty-Seven Thousand Two Hundred Five ($57,205) Dollars. The parties mutually agree and undertake to use their best efforts to minimize the costs of the Work and Connection Charge consistent with their commitment to secure completion of the Facility on a timely basis in accordance with the Project Documents. To this end, the Authority shall regularly prepare and submit to the Town a Project Budget and schedule for completion of the Work, in form reasonably acceptable to the Town and

in accord with accepted construction management practices for similar projects. The Project Budget and schedule shall be updated for any material change encountered in the course of the Work, and in any event shall issue on not less than a monthly basis. If at the time of bid opening for the Work needed to complete the Facility, the cost, including all unit cost pricing, to complete the Facility exclusive of the costs identified in Section 1.14 (a)-(e), exceeds Six Million Eighty-One Thousand Six Hundred Forty-Five $6,081,645) Dollars, either party shall have the right, within thirty (30) days of the bid opening, to terminate this Agreement by written notice to the other party and in such event this Agreement shall become null and void and neither party hereto shall have any further obligation and liability hereunder to the other. Provided however, the Authority shall reimburse the Town, within Ten (10) days of the termination of this Agreement for any unexpended funds remaining from the $72,600 paid by the Town to the Authority in February 2012 for engineering design of the Facility.

1.15 Ownership Of The Facility. Notwithstanding the Town's payments to the Authority, in the form of the Connection Charge, for construction of the Facility as provided herein, the Authority shall own the Facility and shall have all right, title and interest thereto. No liens or security interests on any Project documents or Facility shall be placed or filed by the Town or anyone claiming rights under the Town, including lenders.

1.16 Maintenance Of The Facility. Following completion of the Facility, it shall be the Authority's responsibility to maintain and repair the Facility in good working order in accordance with standard practices in the water utility industry.

1.17 Payments To Town. Within thirty (30) days after the Town commences its purchases of the Supplies pursuant to Article II hereof, the Authority shall make the following non-refundable payments to the Town, as set forth in Exhibit 1.17: (a) the reimbursement of Twenty-five (25%) of the installed cost paid by the Town of the approximately 12,000 feet of the

16 inch main (to be determined when the 16" main final costs paid by the Town become available, currently estimated to be Five Hundred Twenty-Five Thousand ($525,000) Dollars); and (b) the rebate, as described in Exhibit 1.17, of One Million Two Hundred Seventy-Seven Thousand Five Hundred Seventy-Four ($1,277,574) Dollars.

ARTICLE II
Connection Deliveries

2.1 Sale And Purchase Of Supplies. In accordance with this Article II, the Authority shall deliver and sell, and the Town shall receive and purchase the Supplies through the Facility at the Connection meter "Connection Meter". Title to the Supplies shall transfer from the Authority to the Town at the Boundary Line, as shown on the Plan, after passage through the Connection Meter. The Authority shall be the Town's exclusive source of water supply, except when a curtailment occurs under Section 2.5 hereof or an event occurs under Section 2.5, 2.6 or 2.9.3 hereof.

2.2 Commencement. The Authority's deliveries and the Town's purchases of the Supplies (as described at Section 2.3 hereof) shall commence for an initial thirty (30) year term ("Initial Term") on the date on which the Facility is completed, connected with the Maryland Improvements and placed into commercial operation. The Authority's deliveries and the Town's purchases of the Supplies shall thereafter continue for successive five-year renewal terms ("Renewal Terms") each after the Initial Term hereof, unless terminated at the expiration of the Initial Term or at the expiration of any renewed term by either party giving written notice to the other of intention to terminate at least thirty-six (36) months prior to the expected termination date. Each successive Renewal Term shall automatically commence upon the expiration of the preceding Initial or Renewal Term, as applicable.

2.3 Daily/Monthly Supply/Purchase Obligations. Subject to the terms and conditions of this Article II, the Authority shall deliver and the Town shall purchase Supplies in the following described quantities for the Initial Term and the Renewal Terms indicated below:

> During the first five (5) years of the Initial Term the Authority shall make available and the Town shall take or pay for a minimum of 170,000 gallons of water per day calculated on a calendar month average based upon the number of days applicable in a given month, (the "Take or Pay Amount"). The Authority agrees that during the same time period the Town may use as much water as needed to meet the needs of the Town and its customers up to a quantity not to exceed 200% of the Take or Pay Amount calculated on a calendar month average based upon the number of days applicable in a given month, (the "Maximum Amount"). Normal daily demand rates shall not exceed 250 gpm unless delivered during night time hours of 11:00 p.m. to 5:00 a.m. during which time period a maximum rate of 500 gpm is acceptable. At no time shall the delivery exceed 800 gallons per minute, which is allowable for use in emergency situations only.
>
> For each subsequent five (5) year period: the Take or Pay amount shall be equal to the greater of the (A) average daily amount used during the preceding 5 year period, or (B) the Take or Pay Amount for the preceding 5 year period. The Maximum Amount shall be equal to 200% of the Take or Pay Amount calculated on a calendar month average. Except as otherwise provided herein, at no time shall the delivery exceed 800 gallons per minute, which is allowable for use in emergency situations only. For each subsequent five (5) year period the normal permissible daily demand rates shall be increased over the previous permissible demand rates by the amount of the percentage increase, if any, in the Take or Pay Amount. At no time shall the delivery exceed 800 gallons per minute.
>
> Without either the written consent of the Authority; or without providing at least a two year written notice to the Authority the Town may not provide water service to any new, single customer who is estimated to use more than an average of One Hundred Thousand (100,000) gallons per day of water calculated on a calendar month average based on the number of days applicable in a given month.

For example purposes only, the monthly dollar amount attributable to the Take or Pay Amount, when applicable, during the first five (5) years of the Initial Term would be calculated as follows: 170 x (number of days in applicable month) x (applicable tariff rate per 1000 gallons, see Exhibit 2.10 for current rate). Using a thirty (30) day month as an example, the calculation would be: 170 x 30 x $3.11= $15,861. In addition, there would be a monthly charge of 1,587.60 for the eight (8) inch meter. The rates used in the illustration are subject to change pursuant to Section 2.10 hereof.

2.4 Regulatory Permits. The parties' respective obligations to deliver and purchase the Supplies under this Article II are subject to and conditioned upon continued regulatory approval of those governmental agencies having jurisdiction. It is expressly understood, acknowledged and agreed that the continued delivery and purchase of the Supplies is conditioned upon and subject to the Supply Permits. Should any of the Supply Permits be modified, terminated, rescinded or otherwise materially changed so as to reduce, prohibit or condition (in a manner reasonably unacceptable to either of the parties) the continued delivery and purchase of the Supplies, then the Authority's obligation to deliver and the Town's obligation to purchase under this Article II shall be excused or, if volumes under the Supply Permits are reduced, such obligations shall likewise be reduced.

2.5 Delivery Curtailments. If at any time the Authority finds that it is necessary to temporarily curtail deliveries to its other water customers, the Supplies to be delivered to the Town may likewise be curtailed, but only in the same proportion and to the same extent and in common with all other water customers purchasing water from the Authority, see 7 CFR 1780.62 (a). The Authority's minimum delivery obligation and the Town's minimum purchase obligation shall be ratably adjusted on an equitable basis as necessary to reflect the impact of curtailments under this Section 2.5.

2.6 Force Majeure.

2.6.1 Construction Period Force Majeure. If a Force Majeure Event occurs, during the financing, permitting or construction phases, the party that is prevented by that Force Majeure Event from performing any one or more obligations under this Agreement (the "**Nonperforming Party**") will be excused from performing those obligations, on condition that it complies with its obligations under section 2.6.1(b).

(a) For purposes of this Agreement, "**Force Majeure Event**" means, with respect to a party, any event or circumstance, regardless of whether it was foreseeable, that was not caused by that party and that prevents a party from complying with any of its obligations under this Agreement (other than an obligation to pay money), on condition that that party then uses reasonable efforts to do so, except that a Force Majeure Event will not include any a strike or other labor unrest against either the Town or Authority but not their agents or contractors that affects only one party, an increase in prices, or a change of law.

(b) Upon occurrence of a Force Majeure Event, the Nonperforming Party shall promptly notify RUS and the other party of occurrence of that Force Majeure Event, its effect on performance, and how long that party expects it to last. Thereafter the Nonperforming Party shall update that information as reasonably necessary. During a Force Majeure Event, the Nonperforming Party shall use reasonable efforts

to limit damages to the Performing Party and to resume its performance under this Agreement.

2.6.2 Post-Financing, Permitting and Construction Phase Force Majeure. If either the Authority's ability to deliver or the Town's ability to receive the Supplies is interrupted or impaired, in whole or in part, due to failure of equipment or facilities, leaks, required repairs to facilities, strikes, Acts of God, or other extraordinary circumstances, occurrences or conditions beyond the parties' control, including failure of the Supplies to meet the water quality standards set forth in Section 2.9.3 hereof, then during the period of such interruption or impairment, the minimum delivery and purchase obligations described herein shall be suspended proportionately. The Town specifically acknowledges, understands and agrees that the Authority's obligation to deliver the Supplies requires only the exercise of ordinary and reasonable care under the circumstances to maintain the Supplies and have such available for delivery hereunder, and that the Authority shall not be liable to the Town for any interruption of, or curtailment in the Supplies caused by circumstances beyond its control. During the term of this Agreement, the Authority shall, however, notify RUS and the Town immediately by telephone and email when any interruption or curtailment in delivery of the Supplies, or failure of the Supplies to meet the water quality standards set forth in Section 2.9.3 is experienced or anticipated. The Force Majeure telephone numbers and email addresses of the Town and RUS are:

Town Telephone: 443-206-3669 and 410-658-6475

Town email: tabonenberger@risingsunmd.org

RUS Telephone: Terry Fearins-302-857-3631

RUS email: terry.fearins@de.usda.gov

2.7 Water Pressure At Interconnection. Water pressure at the interconnection is anticipated to be approximately at a range of 75-85 pounds per square inch (psi), at U.S.G.S. elevation 460 feet, but the Authority offers no guarantee other than to provide reasonable pressure under the circumstances.

2.8 Meter, Meter Readings and Tests. The Connection Meter, when installed, shall be tied into the Town's automatic reading system so that the Town may remotely and automatically read the meter at all times. The Authority, at its expense, shall test the Connection Meter at least annually with the results thereof provided to the Town. Upon request, a representative of the Town may witness the meter test. The cost of any meter tests performed at the request of the Town, other than the annual test, shall be paid by the Town. If the meter is found to register inaccurately fast or slow beyond a range of tolerance of four percent (4%), an adjustment in the form of a credit, or additional charge, whichever is applicable, shall be made to the bills rendered for service through the Connection for the period equal to one-half (1/2) of the time elapsed since the last previous meter test. The adjustment shall be based upon what the meter would have registered to the extent it had not been fast or slow beyond the 4% range of tolerance.

2.9 Charges And Billing Procedures.

2.9.1 For billing purposes, the Connection Meter shall be read monthly by the Authority, and the Authority shall bill the Town in arrears based on the greater of (i) volumes delivered, or (ii) the agreed minimum purchases for the period as determined under Section 2.3 hereof. Payment of the invoiced amount, less any applicable discount for prompt payment that may be adopted in the future by the Authority, shall be remitted by the Town, as due, in accordance with The Authority's then current tariff, rules and regulations for all customers in the "Water

Utilities" rate class, or any successor to said rate class in the Village Green West Service Area. A copy of the Authority's current tariff rates is attached hereto as Exhibit 2.10.

2.9.2 The Authority's bill to the Town under Section 2.9.1 for any month in which the Town has purchased volumes in excess of the applicable minimum purchase commitment shown at Section 2.3 hereof ("Excess Purchases") shall reflect a credit equal in amount to the Minimum Purchase Charges, if any, billed to the Town for service during the prior monthly billing period; provided, however, that the credit shall not exceed the amount which otherwise would be currently payable by the Town for the Excess Purchases. For purposes of this Section 2.9.2, the term "Minimum Purchase Charges" shall mean amounts billed to the Town for any shortage in volumes taken during the prior monthly billing period as compared with the applicable minimum purchase obligation for that period under Section 2.3.

2.9.3 Water Quality.

(a) The Authority warrants that the Supplies furnished hereunder shall be potable and in compliance with all applicable federal and Commonwealth of Pennsylvania legislation and regulations in effect at the time the Supplies are delivered to the Town and any Maryland Standards (hereinafter defined) with which the Authority agrees to comply in accordance with the procedures set forth in Section 2.9.3(c) (the "Water Quality Laws") at the Boundary Line, as measured at the meter pit, as shown on the Plan (the "Meter Pit"). The Town assumes all responsibility and costs for ensuring that compliant water that has

passed the Boundary Line remains compliant with the Water Quality Laws and the Maryland Standards. For purposes of this Section 2.9.3, the "Maryland Standards" shall mean all legislation and regulations of the State of Maryland, or any governmental agencies thereof, pertaining to water quality which are in effect at the time the Supplies are delivered to the Town at the Boundary Line, as measured at the Meter Pit.

(b) Currently, the applicable federal and Commonwealth of Pennsylvania legislation and regulations meet or exceed the Maryland Standards. The Town shall provide written notice to the Authority during any of the applicable times specified below if the Maryland Standards become or, are about to become, more stringent than or materially different from, the Water Quality Laws:

(i) prior to the execution of this Agreement

(ii) prior to the financing of the Work

(iii) prior to any bid solicitations

(iv) prior to the award of any bids

(v) prior to the commencement of construction

(vi) prior to the completion of construction; and

(vii) from time to time, after deliveries of the Supplies have commenced pursuant to Section 2.2 of this Agreement.

(c) If a notice is given to the Authority by the Town pursuant to Section 2.9.3(b), the Town and the Authority shall take reasonable steps to enable the water to be supplied by the Authority to the Town, under this Agreement, to meet the Maryland Standards so that the water can be legally provided by the Town to its customers in Maryland. Reasonable steps include but are not limited to the following:

(i) the Authority taking necessary steps to comply with the Maryland Standards if those steps do not result in material additional cost to the Authority; or

(ii) the Authority taking necessary steps to comply with the Maryland Standards if those steps result in material additional cost, and the Authority and the Town enter into a written agreement on the allocation and sharing of those additional costs; or

(iii) the Town applying to the Maryland Department of the Environment ("MDE") for a variance or waiver from any revised legislation or regulations that would result if the Maryland Standards become or are about to become more stringent than or materially different from the Water Quality Laws.

Provided that the Town has previously provided the Authority with written notice that the Supplies are not in compliance with the Maryland Standards, nothing in this Agreement shall obligate the Town to take or pay for any Supplies that fail to meet the Maryland Standards, unless an applicable variance or waiver has been approved by MDE.

If despite the steps discussed in (i), (ii) and (iii) above, the Authority cannot meet the Maryland Standards or the parties cannot agree on the allocation of costs then either party may terminate this Agreement upon five (5) days written notice to the other party. Notwithstanding anything in this Section 2.9.3 to the contrary, the Authority's obligation to the Town as set forth under this Section 2.9.3 in respect of matters involving the Maryland Standards shall apply only if, and to the extent that the Town previously provided the Authority with written copies of such Maryland Standards.

(d)

(i) if the termination notice is given prior to the completion of construction of the Facility, and there is any Facility that is used by the Authority then or at any subsequent time, the Authority shall reimburse the Town for the monies paid by the Town for said Facility ("Reimbursement"). The Reimbursement shall be paid quarterly during the ten (10) years immediately following the notice of termination from fifty (50%) percent of the gross revenues derived each quarter by the Authority from the sale of water using the Facility, up to the total Reimbursement. If the Town has not been paid in full at the end of said ten (10) years, then the balance owed to the

Town shall be paid by the Authority within thirty (30) days following the end of said ten (10) years.

(ii) if the termination notice is given after deliveries of the Supplies have commenced, the Authority shall pay to the Town any outstanding payment owed pursuant to Section 1.17 of this Agreement. Upon receipt of the payment owed to it under Section 1.17, the Town shall have no other payment rights pursuant to this Section 2.9.3 for any amounts it may have paid for the Facility.

(e) The Town shall have the right to terminate this Agreement, by written notice to the Authority, in the event that the Authority is unable to supply water to the Town, at the Boundary Line, as measured at the Meter Pit, meeting the Water Quality Laws and/or the Maryland Standards for more than any period in excess of three (3) consecutive days after receiving written notice from the Town of the Supplies not meeting the Water Quality Laws and/or the Maryland Standards.

(f) The Authority shall provide the Town with copies of any water quality reports at the same time that it submits them to any regulatory agency which evidences that the Authority is not in compliance with any standard set forth in the report. The Authority shall immediately notify the Town of any experienced or anticipated change in the condition or characteristics of the Supplies which, at the point of

delivery to the Town, would: (i) cause the Supplies to deviate from, or otherwise fail to comply with the Water Quality Laws and/or the Maryland Standards; (ii) require disclosure to regulatory agencies having jurisdiction, the Town's customers and/or the public in general pursuant to the Water Quality Laws and/or the Maryland Standards; and/or (iii) result in a material difference in the odor, taste or other quality of the Supplies that would cause the Supplies to be non-potable.

(g) Except as limited by Section 2.6 Force Majeure and Sections 3.12, 3.13, 3.14, 3.15 and 3.20 the Authority shall reimburse the Town for any fines, penalties, or other costs, including attorneys' fees and court costs that it incurs as a result of the Authority's failure to comply with this Section 2.9.3. If requested by the Town, the Authority (at the Town's expense) shall make a representative available for attendance or participation in any hearings, meetings etc. regarding water quality issues and shall provide any pertinent data and documents to that cause and purpose.

2.10 Rate Changes. During the term hereof, the Authority shall provide the Town with at least six (6) months prior written notice of any proposed change in the Authority's then current tariff rates, including, if applicable, the Susquehanna River Basin Commission charge, rate structure and/or rules, regulations or other standards for service which would increase the amount to be paid by the Town to the Authority for water delivered to it hereunder. A copy of the Authority's current tariff rates is attached hereto as Exhibit 2.10. Provided, however, that

this six (6) month prior written notice shall not apply to any new, or changed fees, taxes, or other charges, imposed on the Authority by any governmental entity ("Government Fee"). An example of the Government Fee is the consumptive use charge that may be imposed; under certain circumstances, by the Susquehanna River Basin Commission. The Authority will provide written notice to the Town within Fifteen (15) days after the Authority is informed of any such Government Fee and the Town shall be responsible for its proportionate share of any such Government Fee beginning Fifteen (15) days after receipt of said written notice.

2.11 Restrictions on Water Sales in Cecil County, Maryland by the Authority.

2.11.1 The Authority shall not use the Facility to provide public water supplies to any other customer, for consumption in Cecil County, Maryland without the written consent of the Town.

2.11.2 The Authority shall not use any other facilities to provide public water supplies to any customer, for consumption in Cecil County, Maryland without the written consent of the Town, in the following circumstances: (a) within twelve (12) miles of the location of the Town Hall of the Town, as it exists as of the date of this Agreement, during the ten (10) year period immediately following the date of this Agreement; and (b) within five (5) miles of the Town Hall, beginning at the end of the ten (10) year period immediately following the date of this Agreement.

2.12 Indemnification. The Authority agrees to release, hold harmless, indemnify and defend the Town and its Commissioners, managers, employees, and agents from and against any and all damages, claims, losses, expenses, costs, obligations, fines, civil penalties and liabilities (including, without limitation, reasonable attorneys' fees), suffered directly or indirectly by reason of, or arising out of the Authority's

breach of its obligations under this Agreement, including the design, construction or operation of the Facility and the delivery of water supplied hereunder. The Authority shall have no liability for and shall not indemnify the Town against, any damages, claims, losses, expenses, costs, obligations, fines, civil penalties or other liabilities that may occur on account of changes that may occur in the water after it passes through the Connection Meter and the Boundary Line.

2.12.2 The Town agrees to release, hold harmless, indemnify and defend the Authority and its directors, managers, employees, agents from any and all damages, claims, losses, expenses, costs, obligations, fines, civil penalties and liabilities (including, without limitation, reasonable attorneys' fees), suffered directly or indirectly by reason of, or arising out of the Town's breach of its obligations under this Agreement, including the design, construction, or operation of the Maryland Improvements, the Town's water storage tank, the Town's distribution system, or any other changes that may occur in the water after it passes through the Connection Meter and the Boundary line.

2.12.3 Authority and Town will each defend and indemnify the other and the other's commissioners, managers, employees, officers, directors and agents against all damages for bodily injury, including death, or damage to real or tangible personal property to the extent proximately caused by the indemnifying party in the course of performing their obligations under this Agreement.

2.12.4 Authority and Town each have a duty to mitigate any losses in which they seek indemnification (i.e., release, hold harmless, indemnification or defense) under this Section 2.12. Any claims or demands brought under this indemnification Section 2.12 for the construction of the Facility or the Maryland

Improvements must be brought within six (6) years from the completion of either the construction of the Facility or the completion of the Maryland Improvements, as the case may be. It is the express intent of the Authority and the Town that Sections 3.12, 3.13, 3.14, 3.15 and 3.20 of this Agreement limit their obligations under this Section 2.12, to the extent set forth in said Sections. Any indemnity obligation of either party to the other is limited so that duplicate recovery does not occur; if recovery is available under this Section 2.12 it can be obtained as provided but not separately against the indemnifying party as well as from the indemnifying parties' insurance coverage(s).

2.13 Remedies. The parties agree and understand that the remedy at law for any breach by the other party of this Agreement will be inadequate and that damages flowing from such breach are not readily susceptible to being measured in monetary terms. Accordingly, it is acknowledged that upon adequate proof of such breach, the non-breaching party shall be entitled to immediate injunctive relief and may obtain a temporary order for specific performance, or restraining any threatened or further breach. The rights and remedies available to a party at law and in equity under the terms and conditions of this Agreement are cumulative and not exclusive rights and remedies available to that party.

ARTICLE III
Miscellaneous

3.1 Condition Subsequent.

3.1.1 The parties' respective rights and obligations hereunder are conditioned upon and subject to the receipt by the Authority of: (a) all necessary rights-of-way, easements, fee interests or other real estate for the construction and operation of the Facility; (b) all necessary, final and unappealable zoning, subdivision and land development approvals; and (c) all necessary, final and

unappealable permits and licenses required by federal, state and local governments or agencies thereof to permit the construction and operation of the Facility. The Authority shall use its best efforts to apply for and obtain all necessary rights-of-way, easements and fee interests, and all required approvals, permits and licenses at the earliest time practicable under the circumstances. If all of the aforesaid are not obtained by the Authority by July 1, 2017, the Town and/or the Authority shall have the option of terminating this Agreement. If the Facility cannot be completed or operated due to the Authority's inability to secure any of the items described in this Section 3.1, by July 1, 2017, the Authority shall refund to the Town those payments, if any, previously made by the Town under Section 1.11 hereof.

3.1.2 The parties respective rights and obligations hereunder are conditioned upon and subject to the receipt by the Town of: (a) all necessary interim financing and permanent financing, including grants, discussed in the introductory paragraphs of this Agreement and (b) any and all permits licenses and approvals required by federal, state and local governments thereof to permit the construction and operation of the Maryland Improvements. The Town shall use its best efforts to apply for and obtain all necessary financing, grants, permits, licenses and approvals at the earliest time practicable under the circumstances. If all of the aforesaid are not obtained by the Town by July 1, 2017, the Authority and/or the Town shall have the option of terminating this Agreement.

3.2 Records. The Town, RUS, the Comptroller General of the United States, or any of their duly authorized representatives, shall have access to any books, documents, papers, and records of the Authority or any of its contractors, which are directly pertinent to a specific Federal loan or grant program for the purposes of making audits, examinations, excerpts, and

transcriptions. The Authority and its contractors shall maintain all required records for at least 3 years after final payment has been made and all other pending matters are closed. *See*, 7 CFR 1780.75(f).

3.3 Agency Concurrence. This Agreement shall not be effective unless and until the RUS State program official or designee concurs in writing. *See* 7 CFR 1780.75(i).

3.4 Successors And Assigns. This Agreement shall be binding upon and shall inure to the benefit of the parties' respective successors and permitted assigns.

3.5 Authority And Binding Effect. The Authority and The Town each represent, warrant and affirm to the other: (a) their authority and power to enter into this Agreement and to make, perform and carry into effect their respective commitments, obligations and undertakings as set forth herein; (b) their authority to enter into and perform each of the transactions contemplated hereby; (c) that all consents and authorizations requisite to their execution of this Agreement and performance hereunder have been obtained, except for those that are to be obtained at a later date as otherwise provided herein; (d) that this Agreement, the transactions contemplated hereby and the parties' performance hereunder will not violate any federal, state or local law, statute, regulation, rule, ordinance, tariff term or other similar authority applicable to either of them; and (e) when executed, the Agreement shall constitute a valid and binding obligation, enforceable by each party against the other in accordance with its terms.

3.6 Consent To Assignment. Except for the assignment and/or delegation of the rights and obligations of the Town to RUS, at the request of RUS, or to a RUS assignee or delegee, the parties' respective rights and obligations hereunder shall not be assignable or delegable, without the prior written consent of the other.

3.7 Amendment. This Agreement may be amended only by written instrument, signed on behalf of both parties.

3.8 Entire Agreement. This Agreement embodies the entire agreement between the parties with reference to the subject matter hereof, and there are no agreements, understandings, conditions, warranties or representations, oral or written, expressed or implied, with reference to the subject matter hereof that are not merged in this Agreement or superseded hereby.

3.9 Terms Severable. Should any term of this Agreement be held invalid or unenforceable, such determination shall not render the remaining terms of this Agreement invalid or unenforceable unless to do so would cause the Agreement to fail of an essential purpose.

3.10 Notices. Except as otherwise provided in Section 2.6 and Section 2.9.3 hereof, during the term of this Agreement, any notices required or permitted to be given hereunder shall be in writing, shall be effective upon receipt (unless otherwise provided herein), and shall be delivered by facsimile transmission or by United States mail, first-class postage prepaid, addressed to the parties and to RUS as follows:

If to the Town:

Town Administrator
Town of Rising Sun
1 East Main Street
P.O. Box 456
Rising Sun, MD 21911
FAX (410) 658-5244

If to the Authority:

Executive Manager
The Chester Water Authority
P.O. Box 467
Chester, PA 19016
FAX (610) 876-2501

If to RUS:

USDA RUS
Community Program Director

Delaware and Maryland Rural Development
United States Department of Agriculture
1221 College Park Drive, Suite 200
Dover, DE 19904
FAX: (855) 389-2243

3.11 Titles. The titles appearing herein have been inserted for convenience of reference only and shall not be deemed a part hereof or considered in construing the parties' rights and obligations hereunder.

3.12 Independent Contractor. The relationship of the Town and the Authority is and shall continue to be that of independent contractors and neither the Town nor any of the Town's agents, employees, contractors or subcontractors shall in any way or for any purpose whatsoever be deemed an agent or employee of the Authority and neither the Authority nor any of the Authority's agents, employees, contractors or subcontractors shall in any way or for any purpose whatsoever be deemed an agent or employee of the Town.

3.13 Statutory Immunity Reserved. Any other provision of this Agreement to the contrary notwithstanding, the Authority, its officers, employees, agents and the members of the Board of Directors of the Authority, retain their statutory governmental, official and any other immunity provided pursuant to the laws of the Commonwealth of Pennsylvania, and do not waive the defenses of governmental and official immunity derived from such laws. The Authority does not waive for itself or for its officers, employees, agents and the members of the Board of Directors of the Authority any other defenses or immunities available to it or any of them. Any other provision of this Agreement to the contrary notwithstanding, the Town, its officers, employees, agents and the members of the Board of Commissioners of the Town, retain their statutory governmental, official and any other immunity provided pursuant to the laws of the State of Maryland, and do not waive the defenses of governmental and official immunity derived from such laws. The Town does not waive for itself or for its officers, employees, agents

and the members of the Board of Commissioners any other defenses or immunities available to it or any of them.

3.14 No Partnership Intended. Anything in this Agreement to the contrary notwithstanding, the Authority and the Town do not intend to create, and nothing contained in this Agreement shall be construed as creating, a joint venture or partnership between the Authority and the Town with respect to the Work. Neither the Town nor the Authority shall have any power to bind the other party in any manner whatsoever.

3.15 No Third Party Beneficiaries. Nothing contained in this Agreement, or any other document or writing, shall be deemed to create any contractual relationship with, or to give a cause of action in favor of, any third party against either the Authority or the Town. Nothing contained in this Agreement, or any other document or writing, is intended to benefit any third party.

3.16 Dispute Resolution.

3.16.1 Level 1 - Resolution by the Town and the Authority. Any Dispute regarding this Agreement shall in the first instance be the subject of informal negotiations between the parties. The parties shall meet to resolve a dispute within ten (10) days of the receipt of written notifications of a dispute, including any factual data, analysis, or opinion supporting the party's position and any supporting documentation relied upon by the party.

3.16.2 Level 2 - Non-Binding Mediation. In the event Level 1 efforts prove unsuccessful, or if the governing bodies of the parties fail to ratify the resolution reached, the parties may, but are not required to, agree to refer any unresolved disputes to non-binding mediation before a mediator agreed upon by the parties. The election of non-binding mediation is without waiver of any rights

either party may have pursuant to this Agreement, at law or in equity (to the extent applicable to either party as a governmental entity) which rights are all expressly reserved by the parties. In the event the parties cannot agree on the selection of a mediator then these Level 2 provisions shall become null and void.

3.16.3 Level 3 - Resolution by the Judicial System. If Level 1 and Level 2 dispute resolution prove unsuccessful, then the parties may proceed to court as provided in Section 3.17.

3.17 Governing Law. This Agreement shall be governed by and construed in accordance with the laws of the Commonwealth of Pennsylvania, except for portions dealing with the Maryland Improvements, which portions shall be governed and construed in accordance with the laws of the State of Maryland, exclusive of the conflicts of law rules of Pennsylvania and Maryland. The parties agree that any action at law or, to the extent applicable to either party as a governmental entity, in equity arising out of this Agreement shall be filed and adjudicated only in the federal courts located in Pennsylvania, and consent to the exclusive jurisdiction and venue of such courts over any action, or proceeding arising out of this Agreement.

3.18 Effect of Termination. Upon expiration or termination of this Agreement any obligations that by their sense and context, are intended to survive expiration or termination of this Agreement, shall survive the expiration or termination of this Agreement for any reason.

3.19 Warranty Regarding Compliance with other Contracts. The parties warrant to each other that they will comply with the terms of all contracts, including those with lenders, related to the Facility and the Maryland Improvements.

3.20 Limitation of Liability. NEITHER THE TOWN NOR THE AUTHORITY NOR THEIR RESPECTIVE OFFICERS, DIRECTORS, COMMISSIONERS, AGENTS, EMPLOYEES, SUCCESSORS, OR

ASSIGNS WILL BE LIABLE TO THE OTHER PARTY OR ITS, OFFICERS, DIRECTORS, COMMISSIONERS, AGENTS, EMPLOYEES, SUCCESSORS, OR ASSIGNS, WHETHER IN TORT, CONTRACT, OR OTHERWISE, FOR ANY SPECIAL, INDIRECT, PUNITIVE, EXEMPLARY, OR CONSEQUENTIAL DAMAGES, INCLUDING ATTORNEYS' FEES AND OTHER LITIGATION COSTS, OR CLAIMS FOR LOST PROFITS OR REVENUES ARISING UNDER OR IN CONNECTION WITH OR RESULTING FROM ACTION OR INACTION UNDER THIS AGREEMENT, INCLUDING, WITHOUT LIMITATION, ANY SUCH CONSEQUENTIAL DAMAGES WHICH ARE BASED UPON CAUSES OF ACTION FOR BREACH OF CONTRACT, OR TORT (INCLUDING NEGLIGENCE AND MISREPRESENTATION, BREACH OF WARRANTY, STRICT LIABILITY, STATUTE, OPERATION OF LAW, OR ANY OTHER THEORY OF RECOVERY). THE PROVISIONS OF THIS SECTION 3.20 SHALL SURVIVE THE TERMINATION OR EXPIRATION OF THIS AGREEMENT.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed and delivered, and their respective corporate seals to be hereunto affixed by their duly authorized officers, as of the day and year first written above.

(Seal)

Attest: _____
Secretary

CHESTER WATER AUTHORITY

By: _____
Executive Manager

(Seal)

Attest: _____
Secretary

TOWN OF RISING SUN

By: _____
MAYOR

This Agreement is concurred in by Rural Development this 28th day of September, 2016.

By: _____

Title: Community Program Director

COMMONWEALTH OF PENNSYLVANIA)

) ss:

DELAWARE COUNTY)

On this, the 18th day of August, A. D. 2016, before me, the undersigned Officer, a Notary Public in and for the State and County aforesaid, personally appeared Robert A. Judge, who acknowledged himself to be Executive Manager of CHESTER WATER AUTHORITY, a municipal authority organized and existing under laws of the Commonwealth of Pennsylvania, and that he, as such officer, being authorized to do so, executed the foregoing instrument, for the purposes therein contained, by signing the name of such municipal authority, by himself as such officer.

IN WITNESS WHEREOF, I have hereunto set my hand and official seal.

Notary Public

COMMONWEALTH OF PENNSYLVANIA
Notarial Seal
Denise M. Latch, Notary Public
Media Boro, Delaware County
My Commission Expires Oct. 28, 2016
MEMBER, PENNSYLVANIA ASSOCIATION OF NOTARIES

STATE OF MARYLAND)

) ss:

CECIL COUNTY)

On this, the 8th day of September, A.D. 2016, before me, a Notary Public in and for the State and County aforesaid, personally appeared TRAVIS MARIOTT who acknowledged himself to be MAYOR of the Town of Rising Sun, Maryland, organized and existing under laws of the State of Maryland, and that he, as such officer, being authorized to do so, executed the foregoing instrument, for the purposes therein contained, by signing the name of such Town, by himself as such officer.

IN WITNESS WHEREOF, I have hereunto set my hand and official seal.

N. Ellen McKnight
Notary Public

SCHEDULE A

List of Supply Permits

SCHEDULE OF PERMITS/APPROVALS NEEDED BY THE AUTHORITY:

a. Chester County Planning Department

b. East Nottingham Township

c. West Nottingham Township

d. Pennsylvania Department of Transportation

e. Pennsylvania Department of Environmental Protection

f. East Penn Railroad

g. Any approvals needed for the meter pit

h. Any other rights-of-way needed

i. Susquehanna River Basin Commission

SCHEDULE OF PERMITS/APPROVALS NEEDED BY THE TOWN:

a. Maryland Department of the Environment

b. USDA - Rural Utilities Service

c. Susquehanna River Basin Commission

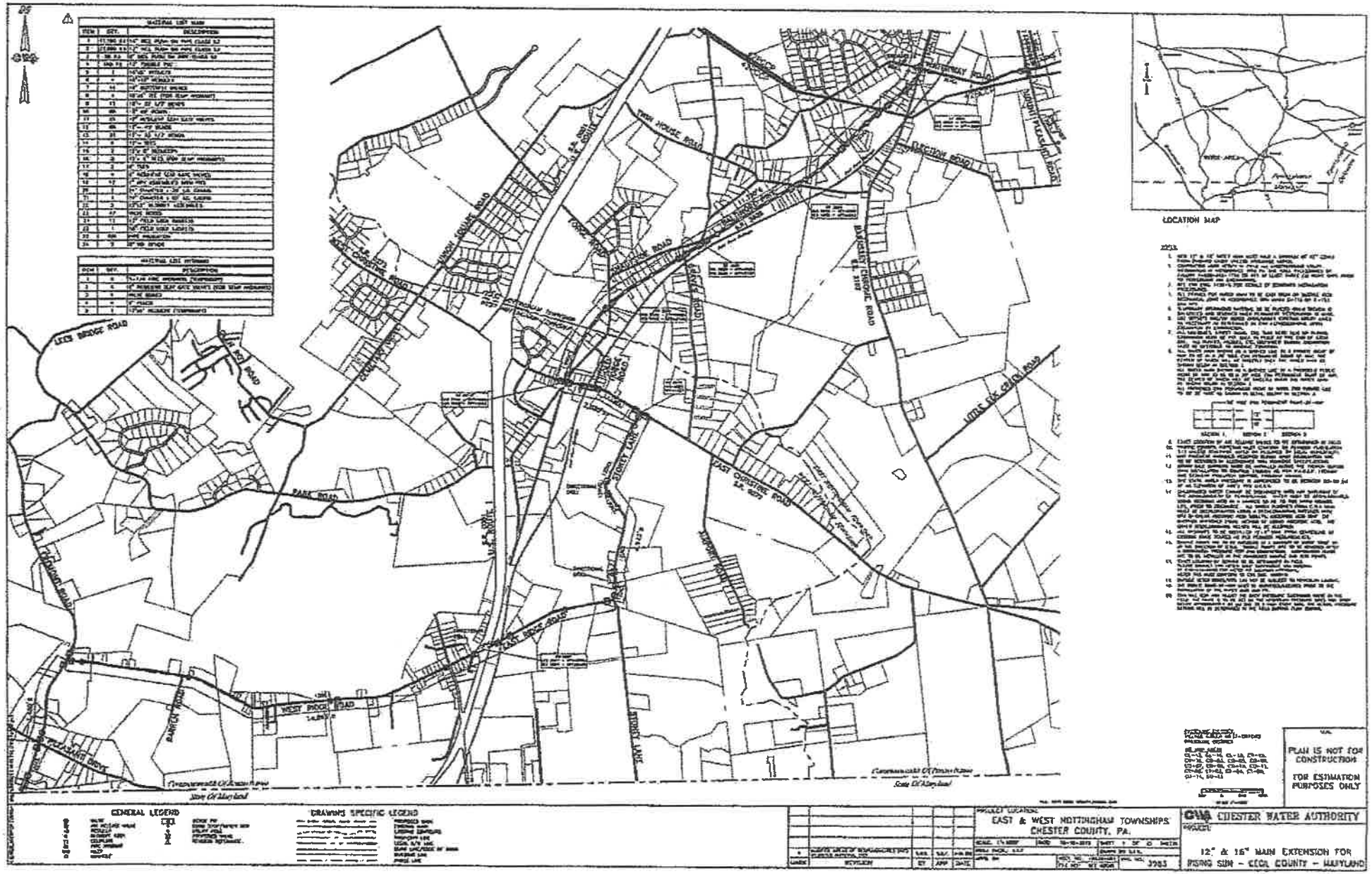
d. Cecil County

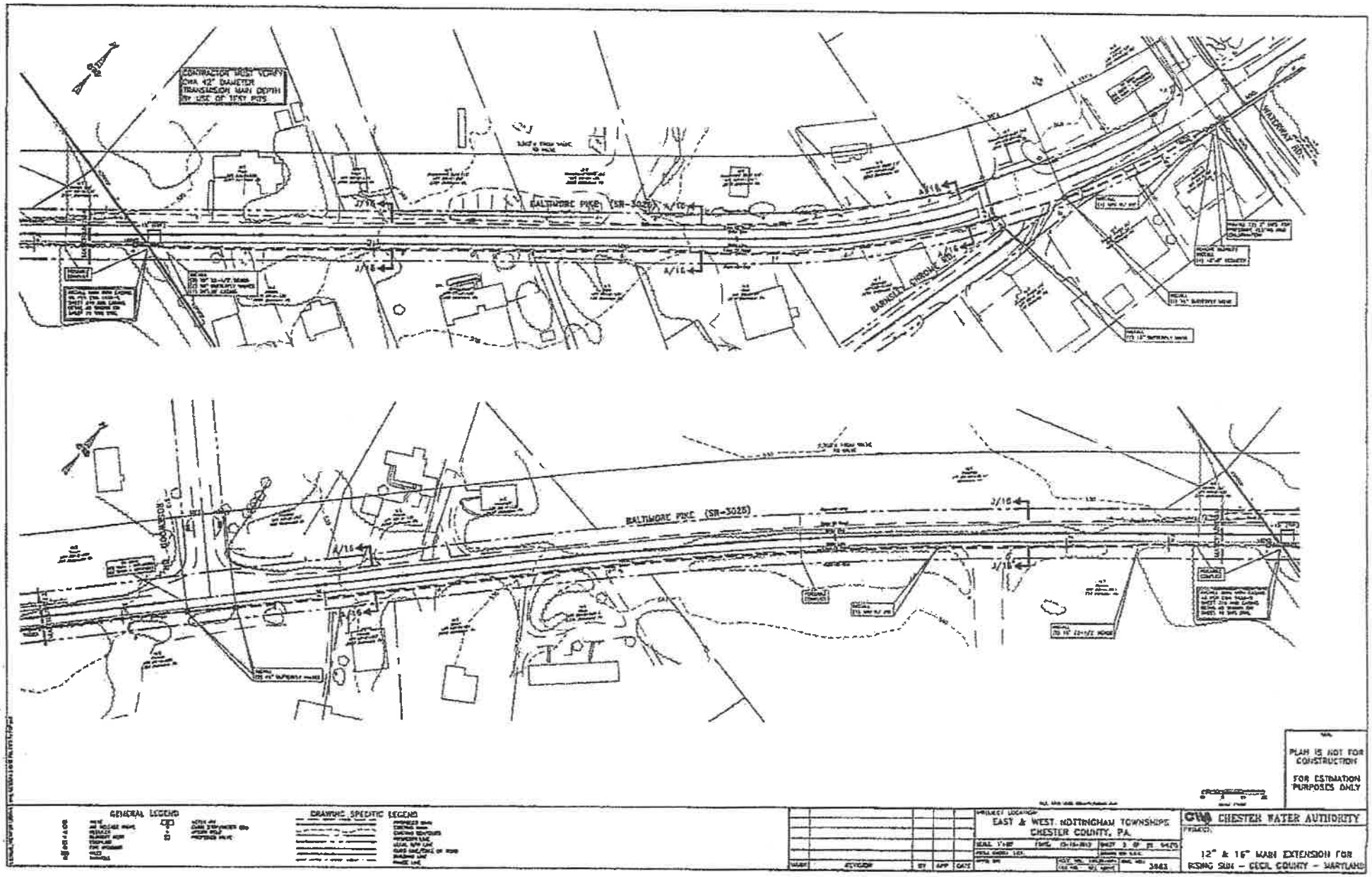
e. Maryland State Highway Administration

EXHIBIT 1.1

The Plan

Exhibit 1.1


LOCATION MAP
PLAN IS NOT FOR CONSTRUCTION
FOR ESTIMATION PURPOSES ONLY
GENERAL LEGEND
DRAWING SPECIFIC LEGEND
PROJECT LOCATION:
EAST & WEST NOTTINGHAM TOWNSHIPS
CHESTER COUNTY, PA.
CWA CHESTER WATER AUTHORITY
PROJECT:
12" & 16" MAIN EXTENSION FOR
RISING SUN - CECIL COUNTY - MARYLAND
3983



PLAN IS NOT FOR CONSTRUCTION

FOR ESTIMATION PURPOSES ONLY

GENERAL LEGEND

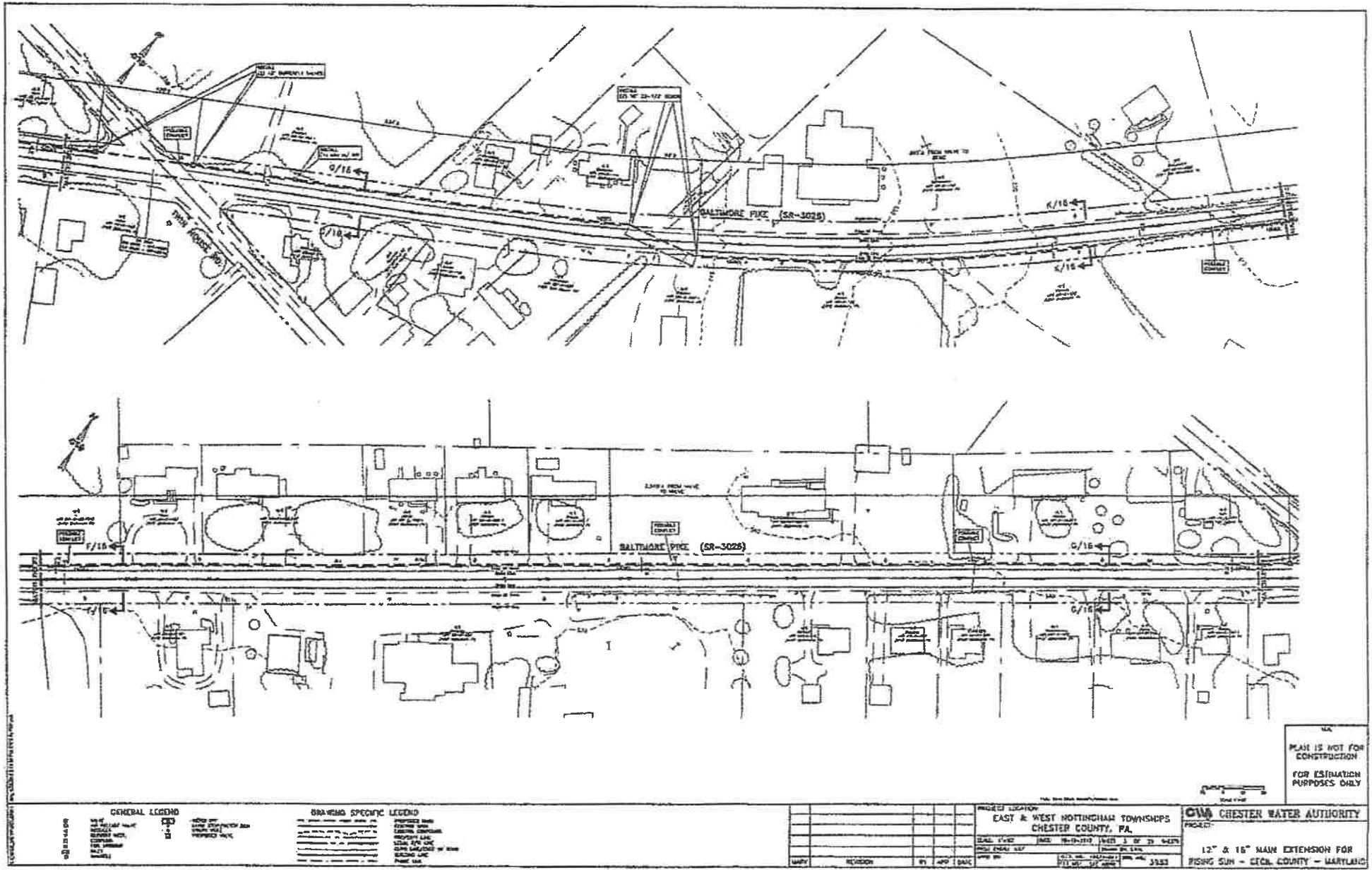
DRAWING SPECIFIC LEGEND

PROJECT LOCATION
EAST & WEST NOTTINGHAM TOWNSHIPS
CHESTER COUNTY, PA.

CWA CHESTER WATER AUTHORITY

PROJECT:
12" & 16" MAIN EXTENSION FOR
RISING SUN - CECIL COUNTY - MARYLAND

3983



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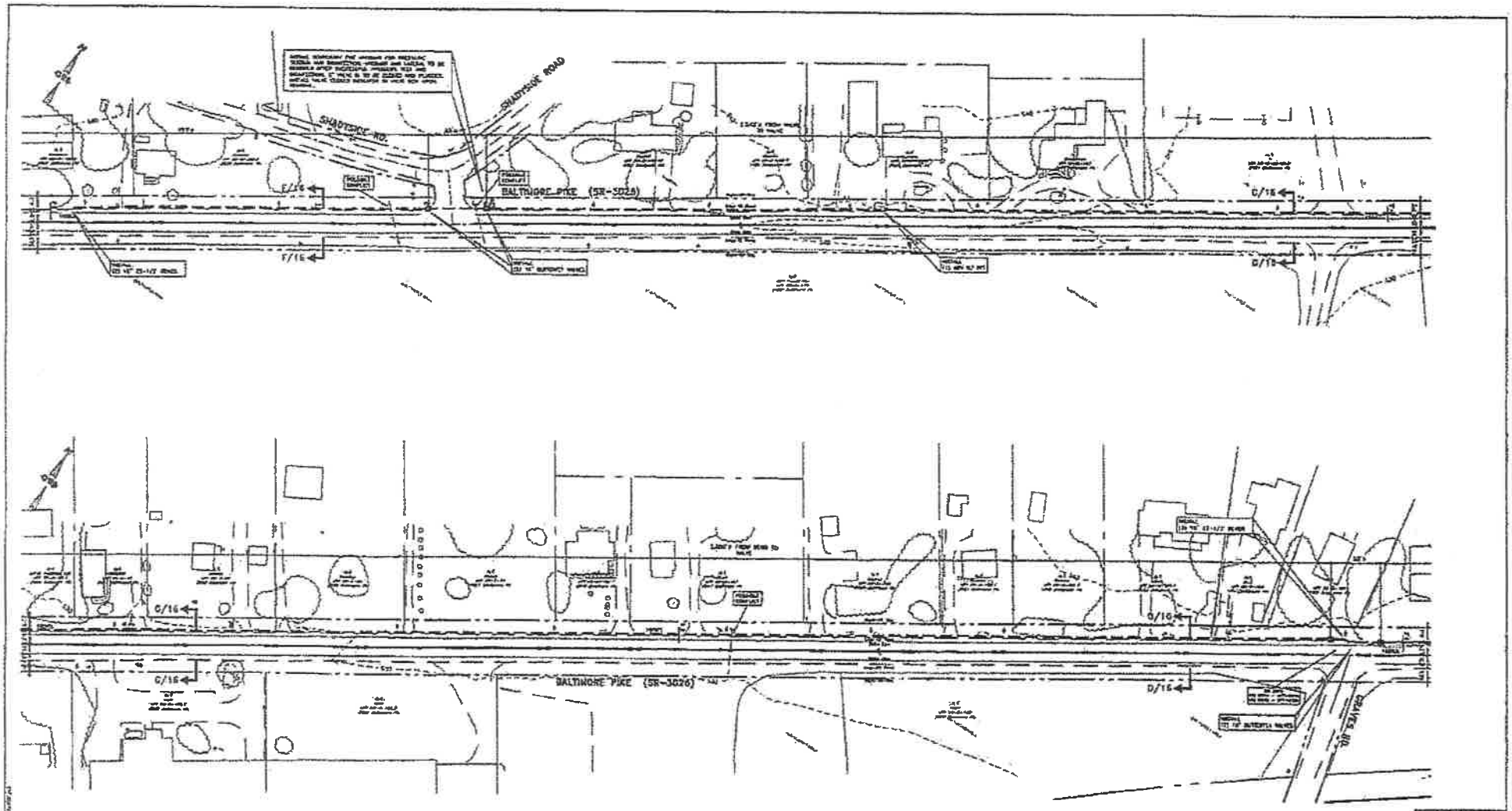
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EAST & WEST NOTTINGHAM TOWNSHIPS
CHESTER COUNTY, PA.

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RISING SUN - CECIL COUNTY - MARYLAND

3583



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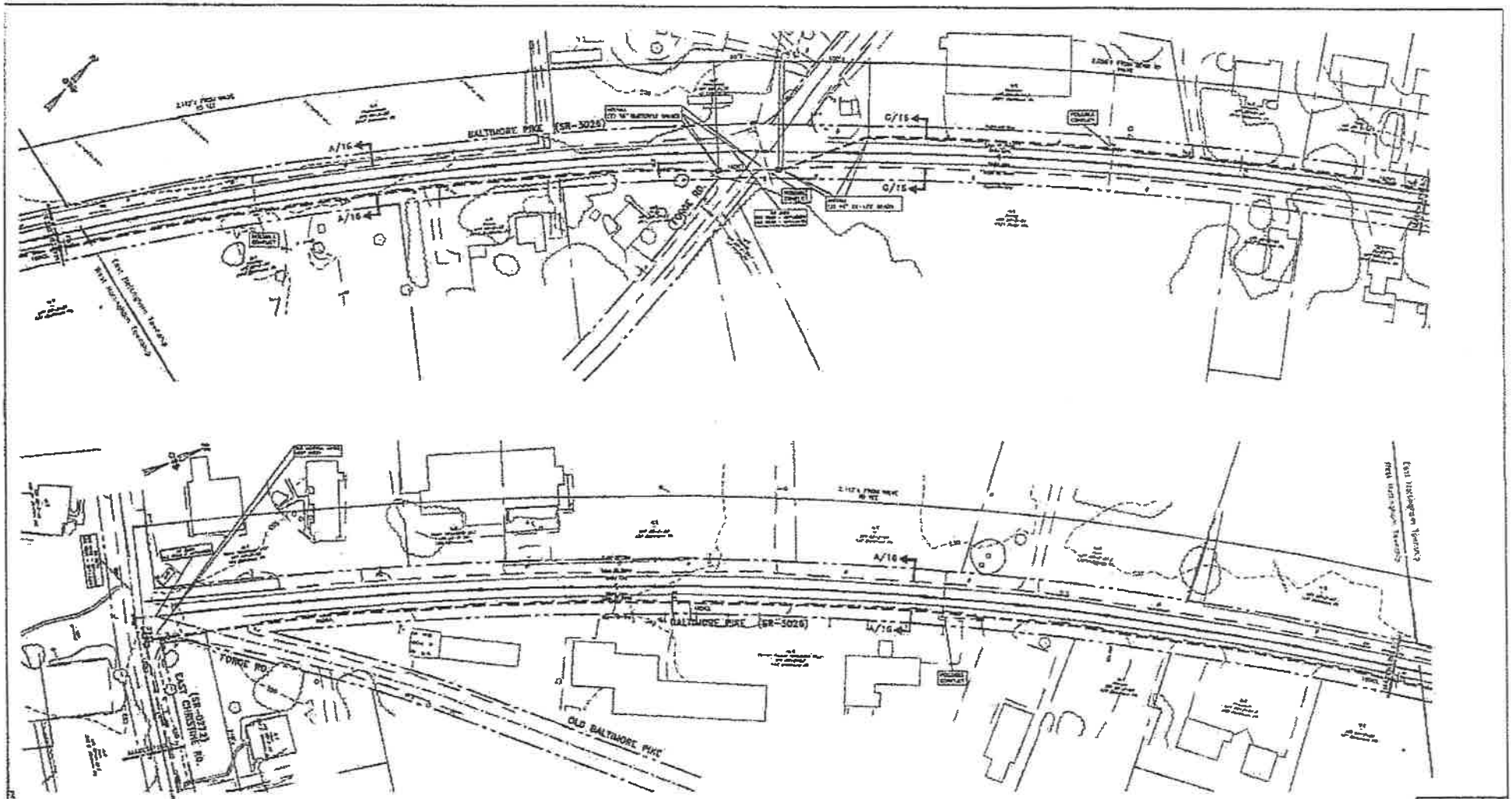
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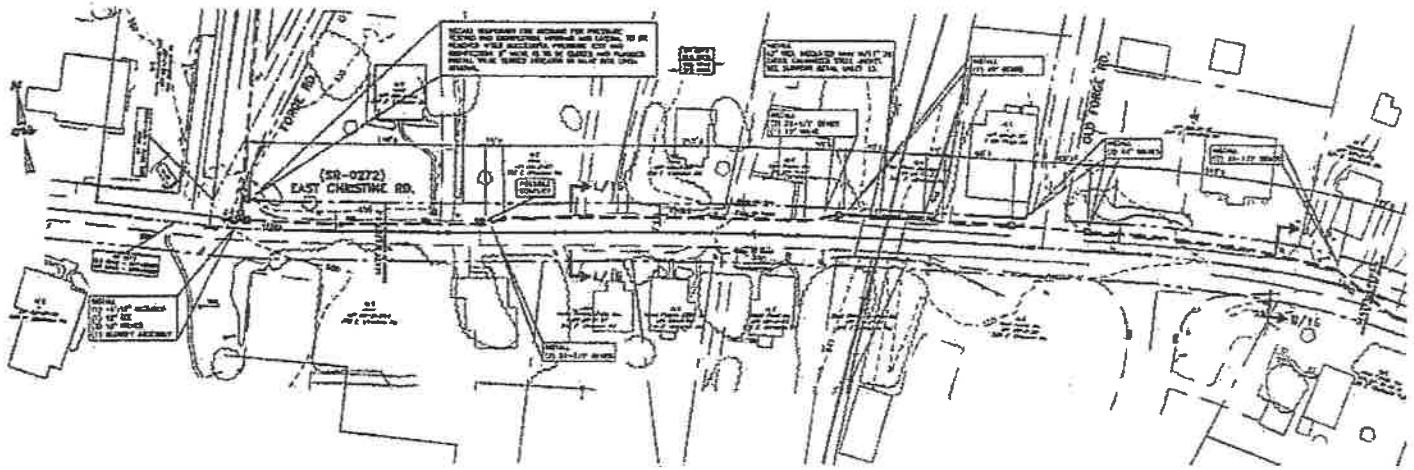
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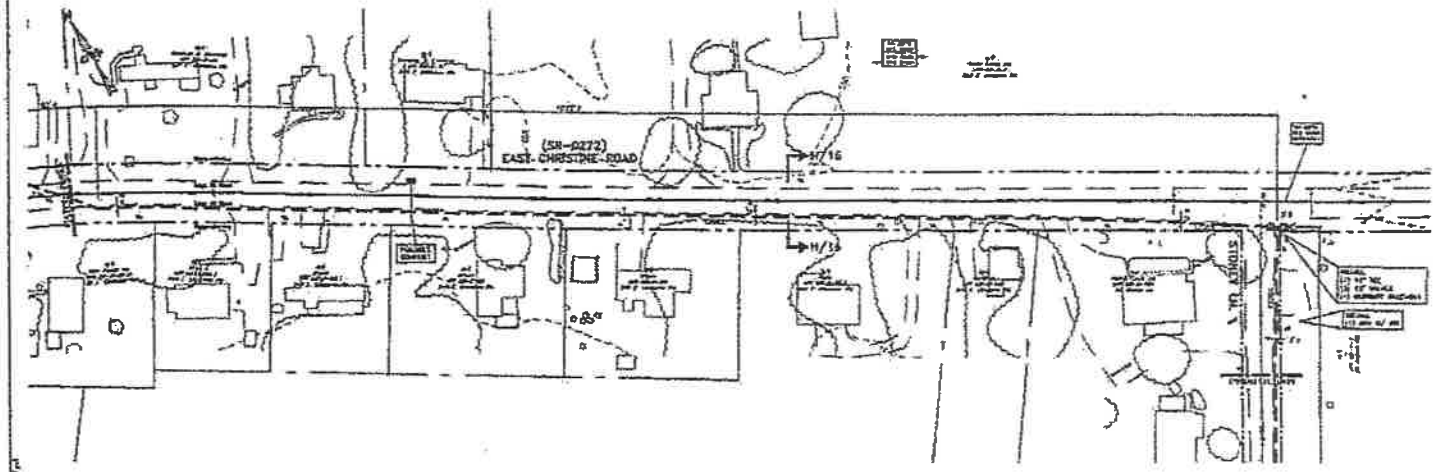
PROJECT LOCATION:
EAST & WEST NOTTINGHAM TOWNSHIPS
CHESTER COUNTY, PA.

CWA CHESTER WATER AUTHORITY

PROJECT:
12" & 16" MAIN EXTENSION FOR
RISING SUN – CECIL COUNTY – MARYLAND


BALTIMORE PIKE (SR-3026)
FORGE RD.
EAST CHRISTINE RD. (SR-0372)
OLD BALTIMORE PIKE
PLAN IS NOT FOR CONSTRUCTION
FOR ESTIMATION PURPOSES ONLY
GENERAL LEGEND
DRAWING SPECIFIC LEGEND
EAST & WEST NOTTINGHAM TOWNSHIPS
CHESTER COUNTY, PA.
CHESTER WATER AUTHORITY
12" & 16" MAIN EXTENSION FOR
ROUTE 896 - CECIL COUNTY - MARYLAND





PLAN IS NOT FOR CONSTRUCTION

FOR ESTIMATION PURPOSES ONLY

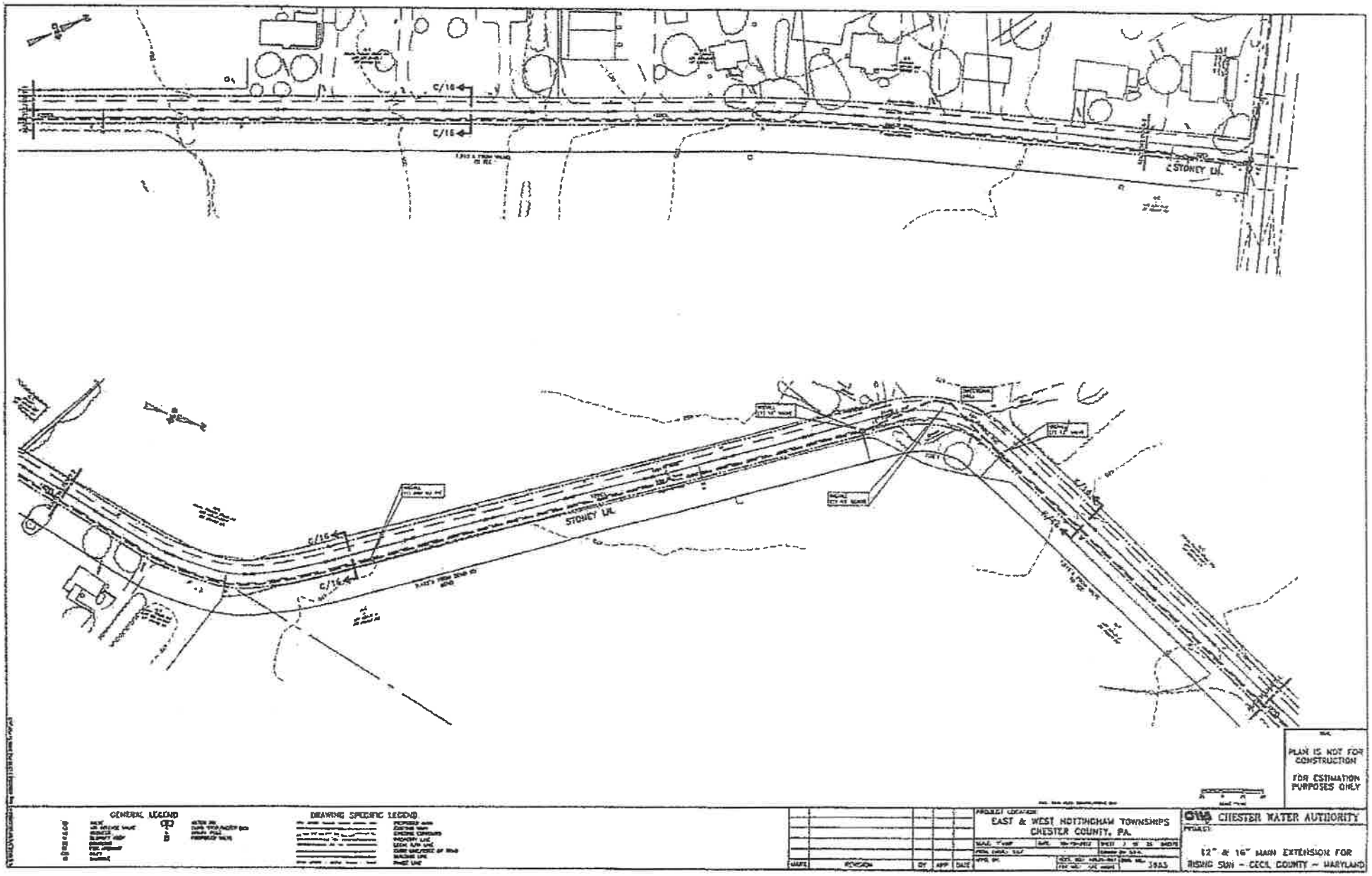
GENERAL LEGEND

DRAWING SPECIFIC LEGEND

PROJECT LOCATION:
EAST & WEST NOTTINGHAM TOWNSHIPS
CHESTER COUNTY, PA.

CWA CHESTER WATER AUTHORITY

PROJECT:
12" & 16" MAIN EXTENSION FOR
RSMD SUM - CECIL COUNTY - MARYLAND



PLAN IS NOT FOR CONSTRUCTION

FOR ESTIMATION PURPOSES ONLY

GENERAL LEGEND

DRAWING SPECIFIC LEGEND

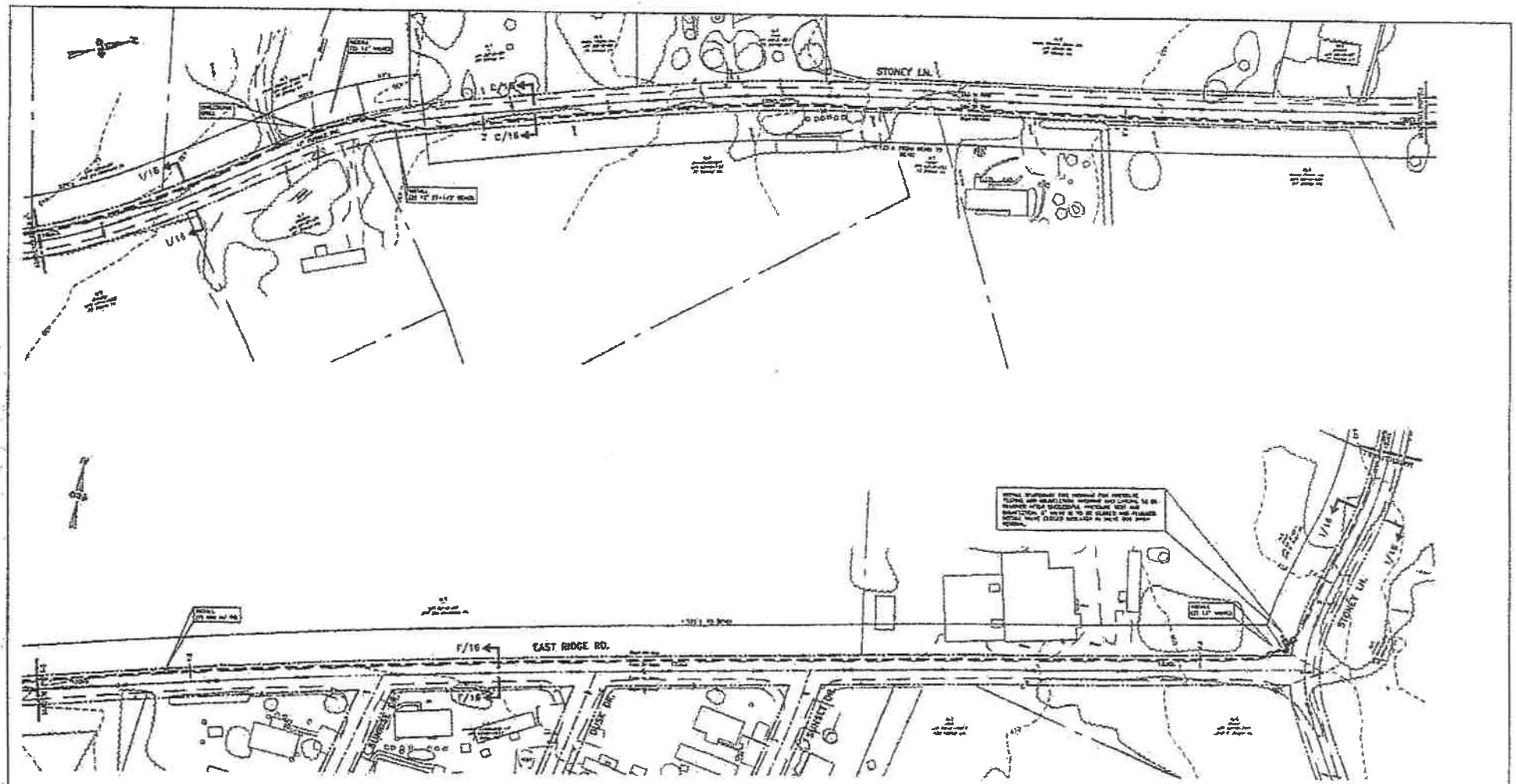
MARK	REVISION	BY	APP	DATE

PROJECT LOCATION
EAST & WEST NOTTINGHAM TOWNSHIPS
CHESTER COUNTY, PA.

CHESTER WATER AUTHORITY

PROJECT:
12" & 16" MAIN EXTENSION FOR
RISING SUN - CECIL COUNTY - MARYLAND

SCALE: 1"=50'
DATE: 10/19/2012
SHEET 1 OF 25 SHEETS
JOB NO. 3985



PLAN IS NOT FOR CONSTRUCTION

FOR ESTIMATION PURPOSES ONLY

GENERAL LEGEND

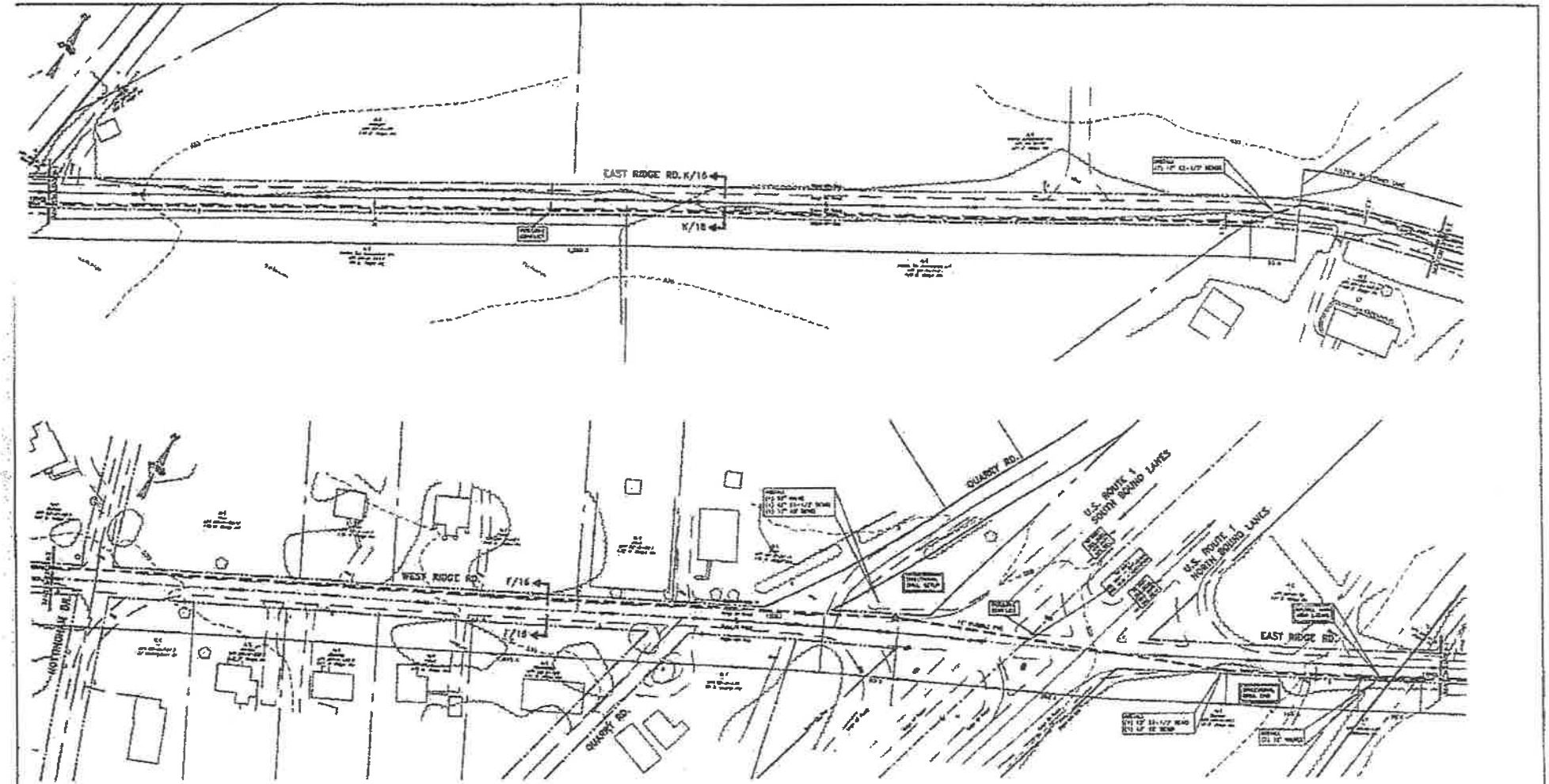
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EAST & WEST NOTTINGHAM TOWNSHIPS
CHESTER COUNTY, PA.

CWA CHESTER WATER AUTHORITY

PROJECT:
12" & 16" MAIN EXTENSION FOR
RISING SUN - CECIL COUNTY - MARYLAND

5993



PLAN IS NOT FOR CONSTRUCTION

FOR ESTIMATION PURPOSES ONLY

GENERAL LEGEND

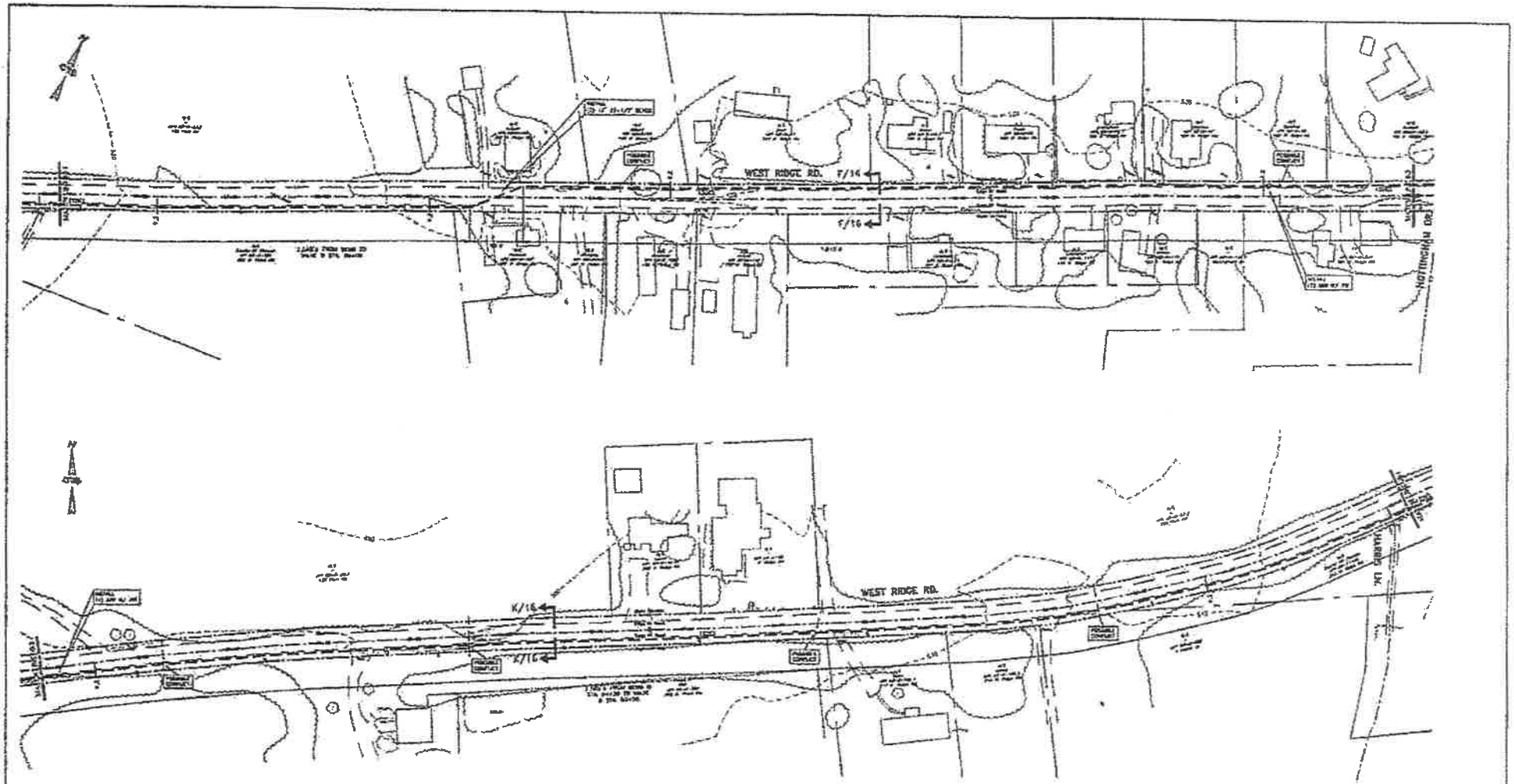
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EAST & WEST NOTTINGHAM TOWNSHIPS
CHESTER COUNTY, PA.

CWA CHESTER WATER AUTHORITY

12" & 16" MAIN EXTENSION FOR
RISING SUN – CECIL COUNTY – MARYLAND

MARK	REVISION	BY	APP	DATE



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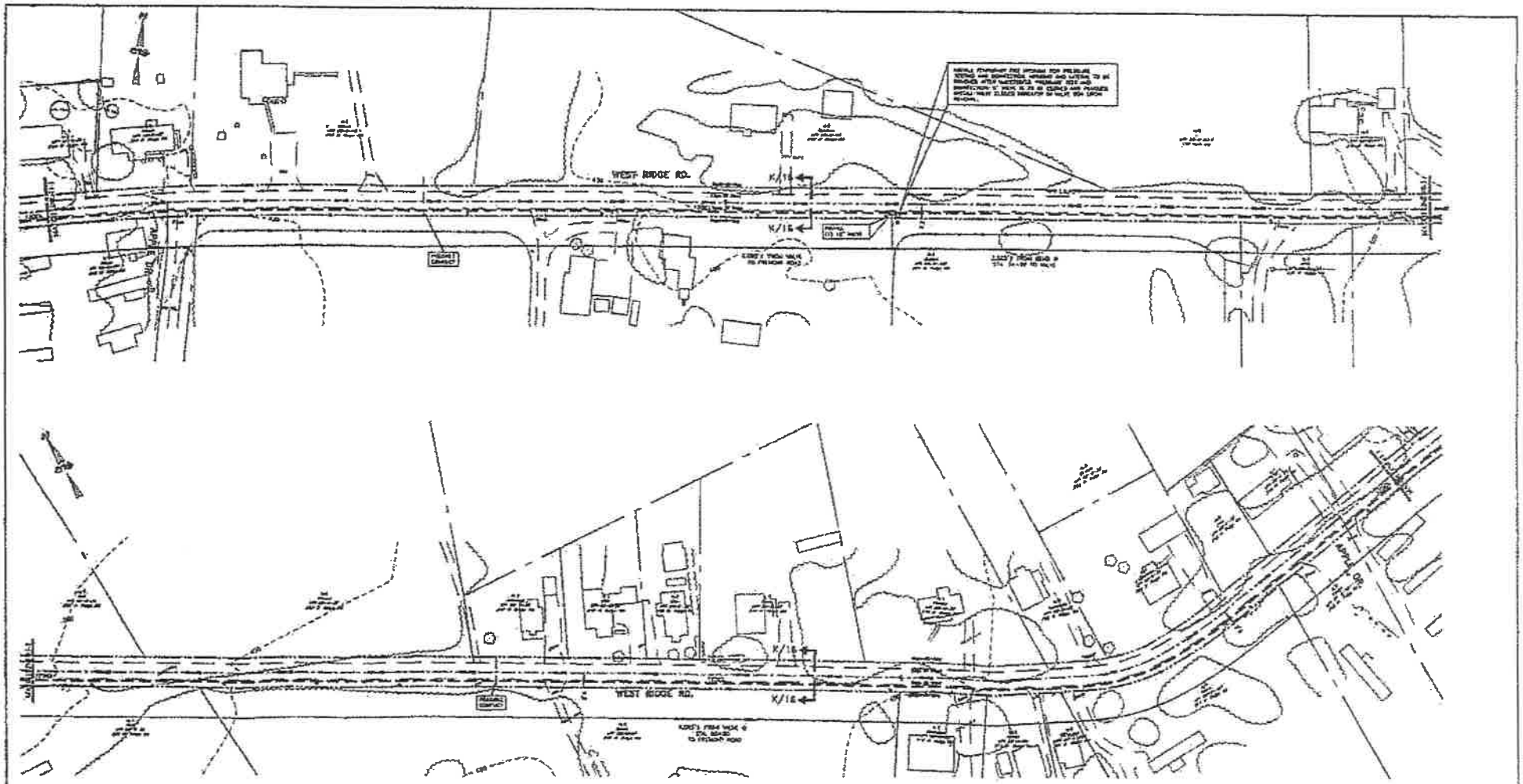
DRAWING SPECIFIC LEGEND

MARK	REVISION	BY	APP	DATE

PROJECT LOCATION:
EAST & WEST NOTTINGHAM TOWNSHIPS
CHESTER COUNTY, PA.

CWA CHESTER WATER AUTHORITY

PROJECT:
12" & 18" MAIN EXTENSION FOR
RISING SUN - CECIL COUNTY - MARYLAND



PLAN IS NOT FOR CONSTRUCTION

FOR ESTIMATION PURPOSES ONLY

GENERAL LEGEND

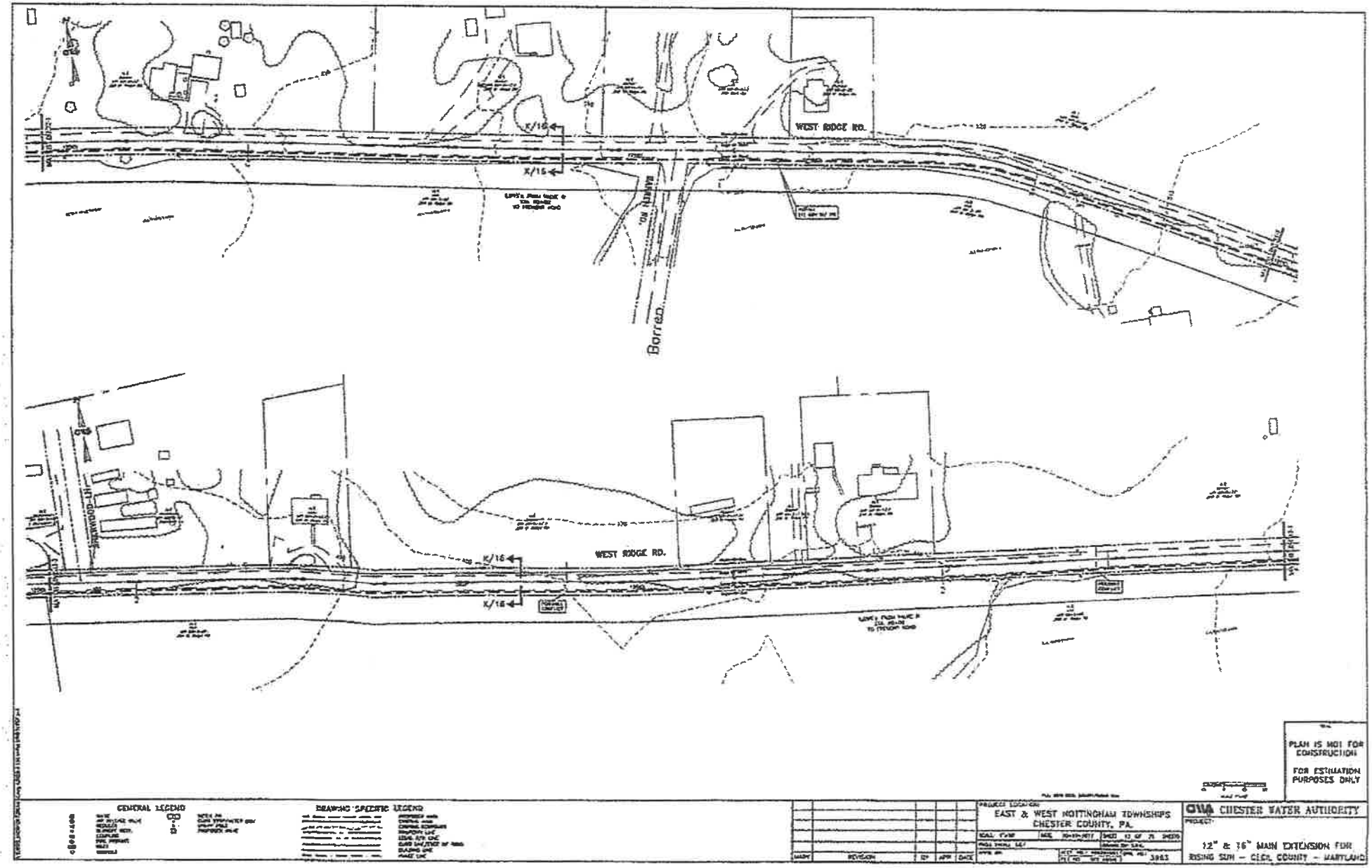
DRAWING SPECIFIC LEGEND

MARK	REVISION	BY	APP'D	DATE

PROJECT LOCATION:
EAST & WEST NOTTINGHAM TOWNSHIPS
CHESTER COUNTY, PA.

CWA CHESTER WATER AUTHORITY

PROJECT:
12" & 16" MAIN EXTENSION FOR
RISING SUN – CECIL COUNTY – MARYLAND



PLAN IS NOT FOR CONSTRUCTION

FOR ESTIMATION PURPOSES ONLY

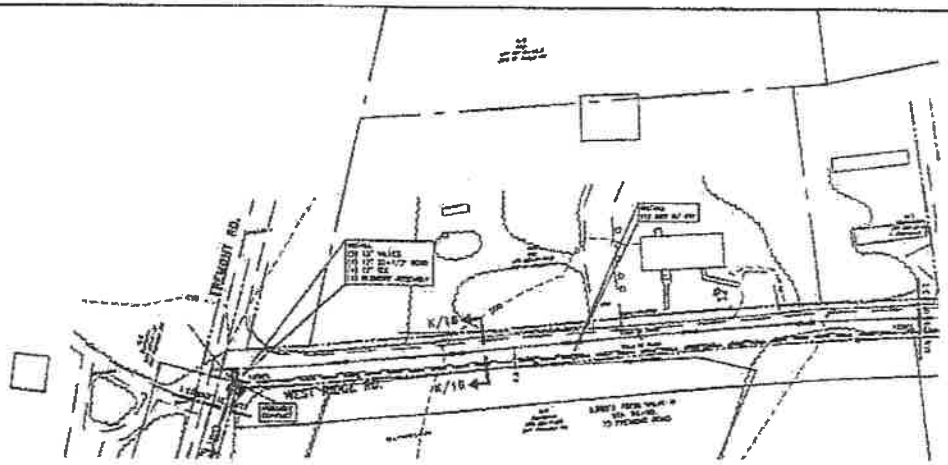
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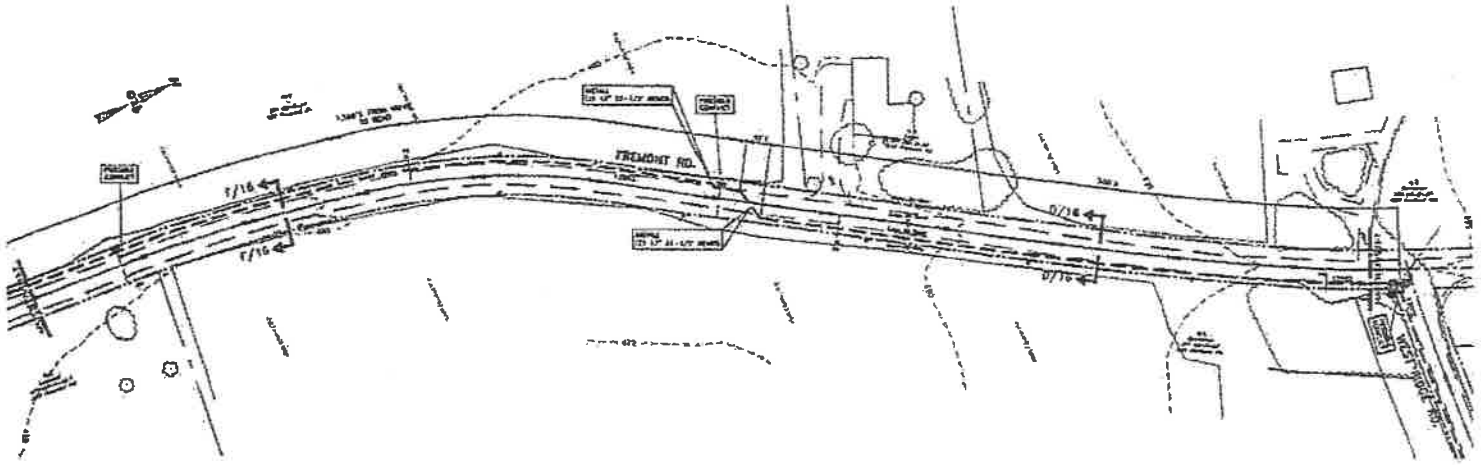
DRAWING SPECIFIC LEGEND

EAST & WEST NOTTINGHAM TOWNSHIPS
CHESTER COUNTY, PA.

CHESTER WATER AUTHORITY

12" & 16" MAIN EXTENSION FOR
RISING SUN – CECIL COUNTY – MARYLAND





PLAN IS NOT FOR CONSTRUCTION

FOR ESTIMATION PURPOSES ONLY

GENERAL LEGEND

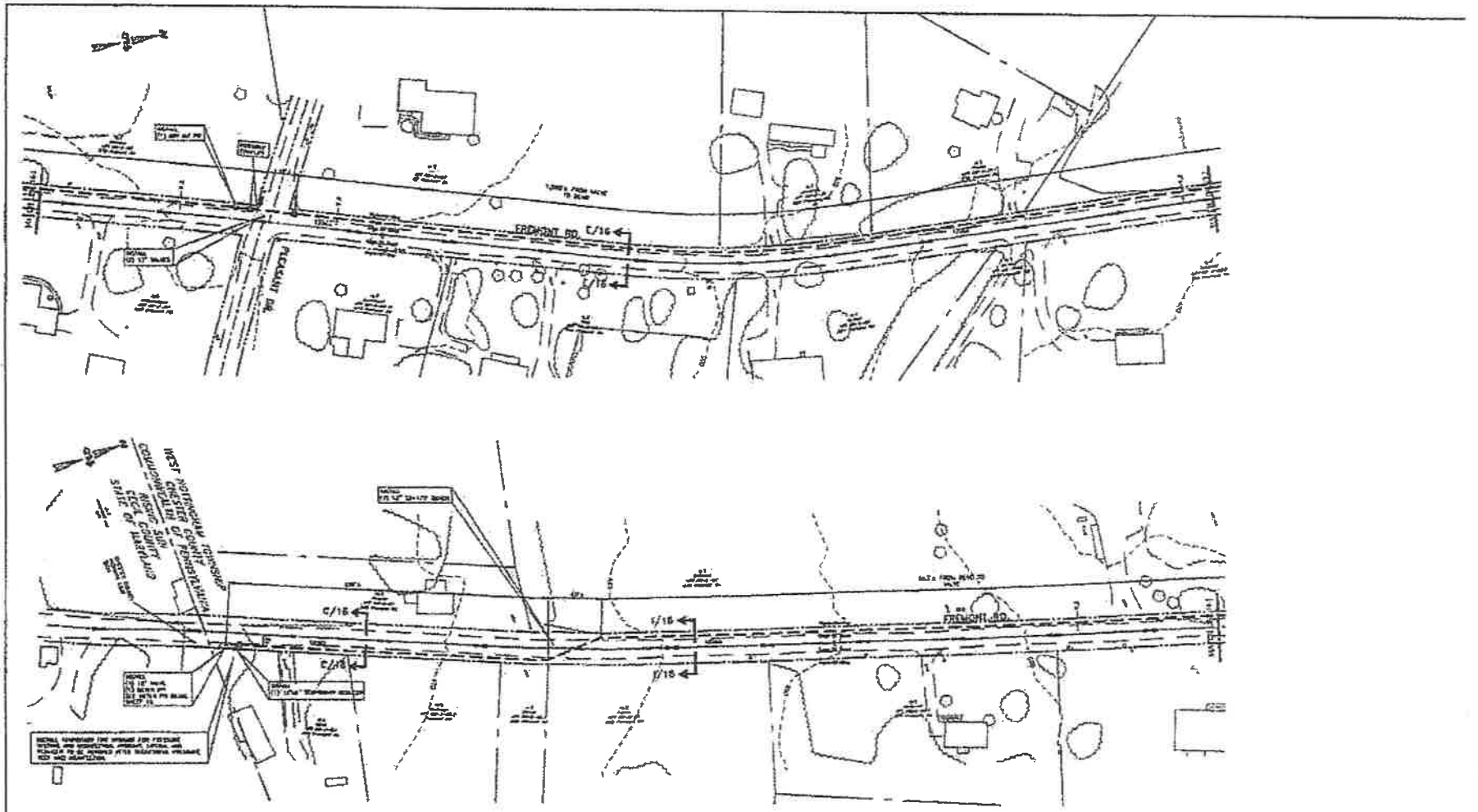
DRAWING SPECIFIC LEGEND

PROJECT LOCATION
EAST & WEST NOTTINGHAM TOWNSHIPS
CHESTER COUNTY, PA.

CWA CHESTER WATER AUTHORITY

PROJECT:
12" & 16" MAIN EXTENSION FOR
RISING SUN – CECIL COUNTY – MARYLAND

3585



PLAN IS NOT FOR CONSTRUCTION

FOR ESTIMATION PURPOSES ONLY

GENERAL LEGEND

DRAWING SPECIFIC LEGEND

MARK	REVISION	BY	APP'D	DATE

PLACE OF LOCATION:
EAST & WEST NOTTINGHAM TOWNSHIPS
CHESTER COUNTY, PA.

SCALE: 1"=50' | DATE: 10-19-2012 | SHEET 11 OF 34 SHEETS

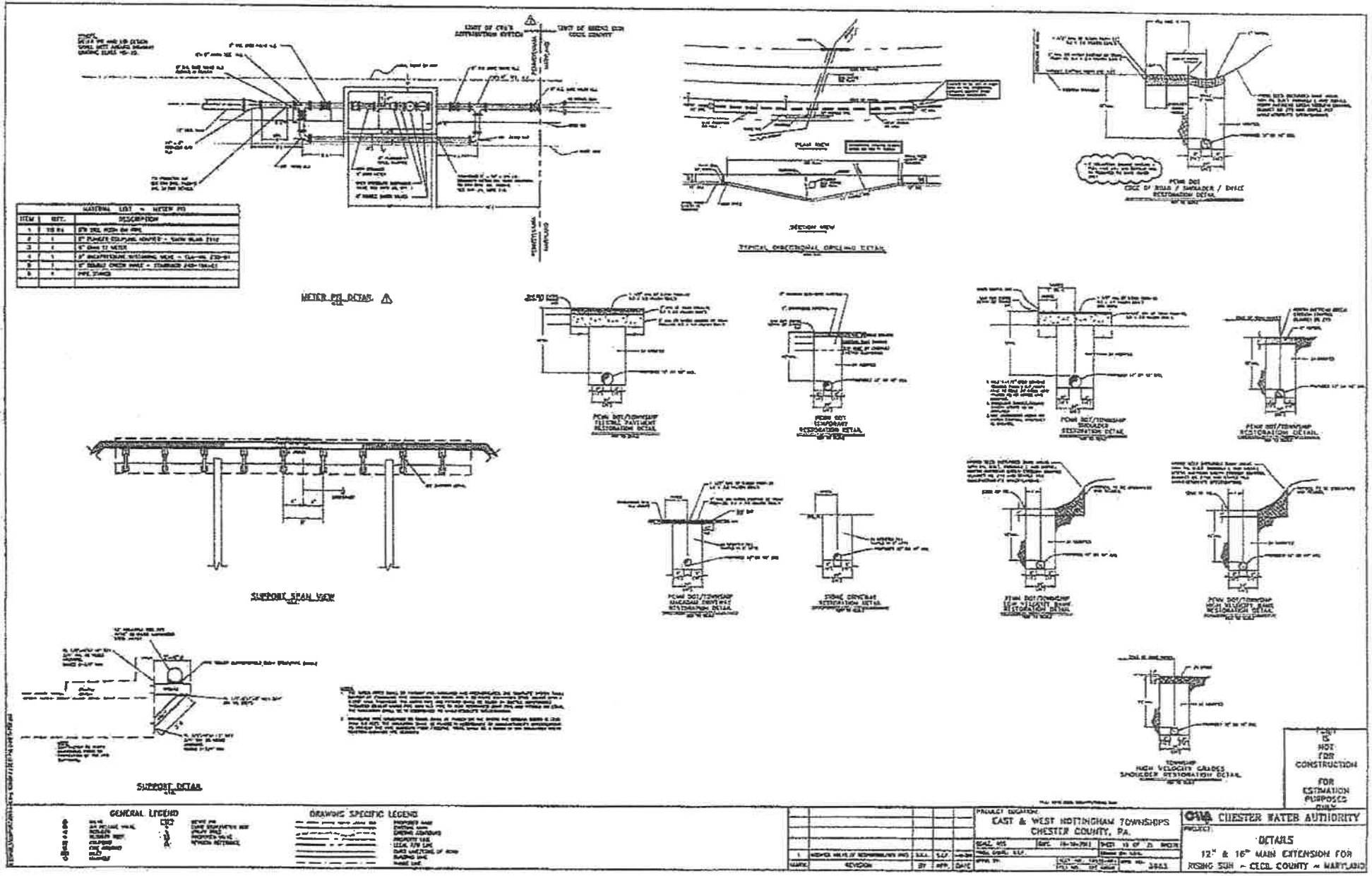
PLAN MODEL: 11x17 | DRAWN BY: S.S.K.

APPD BY: | FILE NO.: 3853

CWA CHESTER WATER AUTHORITY

PROJECT:

12" & 16" MAIN EXTENSION FOR
RISING SUN – CECIL COUNTY – MARYLAND



ITEM	QTY.	DESCRIPTION
1	110 FT	8"W DIP, MJ/PE, CL 350
2	1	8" FLANGED COUPLING ADAPTER - SWIVEL FLG
3	1	8" 22½° FF MJ ELBOW
4	1	8" RESILIENT WEDGE GATE VALVE - MJ, AWWA C509-94
5	1	8" DOUBLE DISC GATE VALVE - FLANGED, AWWA C500-93
6	1	VALVE BOX
7	1	PIPE STANDS

METER PIT DETAIL

SUSPENDED SPAN VIEW

SUPPORT DETAIL

TYPICAL DIRECTIONAL DRILLING DETAIL

PENN DOT/TOWNSHIP SHOULDER RESTORATION DETAIL

PENN DOT/TOWNSHIP SHOULDER RESTORATION DETAIL

PENN DOT/TOWNSHIP SHOULDER RESTORATION DETAIL

PENN DOT/TOWNSHIP SHOULDER RESTORATION DETAIL

PENN DOT/TOWNSHIP SHOULDER RESTORATION DETAIL

PENN DOT/TOWNSHIP SHOULDER RESTORATION DETAIL

PENN DOT/TOWNSHIP SHOULDER RESTORATION DETAIL

PENN DOT/TOWNSHIP SHOULDER RESTORATION DETAIL

PENN DOT/TOWNSHIP SHOULDER RESTORATION DETAIL

TOWNSHIP HIGH VELOCITY CAUSES SHOULDER RESTORATION DETAIL

PLOT IS NOT FOR CONSTRUCTION

FOR ESTIMATION PURPOSES ONLY

GENERAL LEGEND

DRAWING SPECIFIC LEGEND

MARK	REVISION	BY	APP.	DATE
1	ADDED VALVE AT INTERSECTION (WO)	S.K.L.	S.L.F.	10-26-04

PROJECT LOCATION: EAST & WEST NOTTINGHAM TOWNSHIPS CHESTER COUNTY, PA.

SCALE: N/S | DATE: 10-26-04 | SHEET 13 OF 21 SHEETS

FINAL SIGNAL S.L.F.

APPR. BY: | FILE NO. | APPR. NO.

CHESTER WATER AUTHORITY

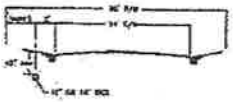
PROJECT: DETAILS

12" & 16" MAIN EXTENSION FOR RISING SUN - CECIL COUNTY - MARYLAND

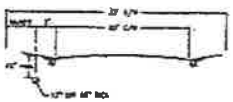
3843



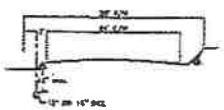
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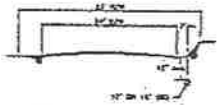
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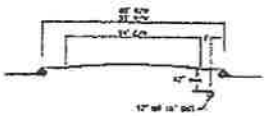
SECTION C/16 – C/16



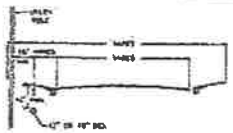
SECTION D/16 – D/16



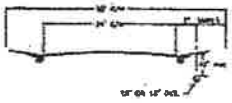
SECTION E/16 – E/16



SECTION F/16 – F/16



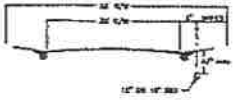
OFFSET FROM POLE DETAIL



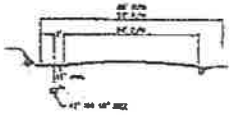
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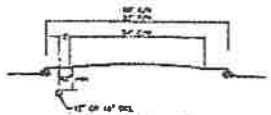
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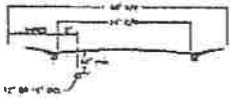
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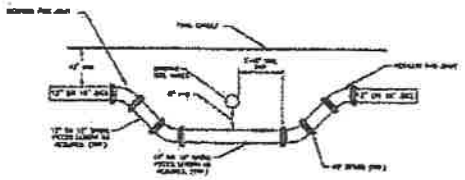
SECTION J/16 – J/16



SECTION K/16 – K/16



SECTION L/16 – L/16



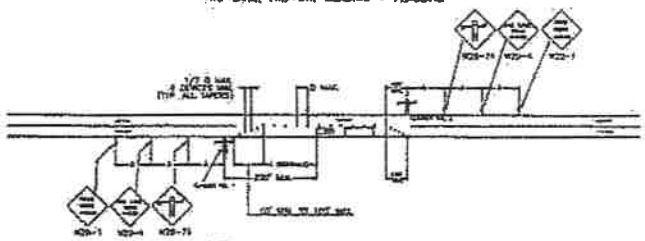
DETAIL 3-2

PIPE DATA

	CASINGS PIPE	CASING PIPE

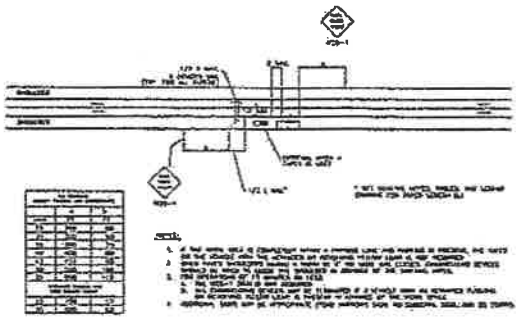
PUBLICATION 213 FIG 10a

SHORT – 1CRM STATIONARY OPERATION
TWO-LANE, TWO-WAY ROADWAY – FLAGGING



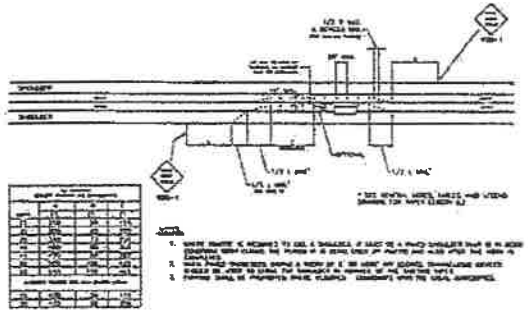
PUBLICATION 213 FIG 7

SHORT – 1CRM STATIONARY OPERATION
TWO-LANE, TWO-WAY ROADWAY – LANE ENCROACHMENT



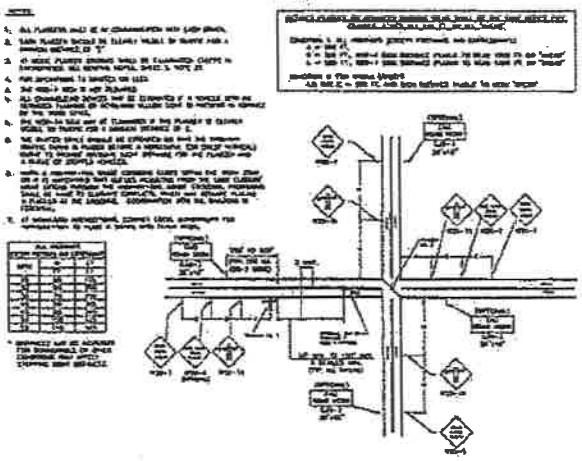
PUBLICATION 213 FIG 8

SHORT – 1CRM STATIONARY OPERATION
TWO-LANE, TWO-WAY ROADWAY – LANE ENCROACHMENT



PUBLICATION 213 FIG. 10b

SHORT – 1CRM STATIONARY OPERATION
TWO-LANE, TWO-WAY ROADWAY – INTERSECTION FLAGGING
(SH-2510)



PLAN IS NOT FOR CONSTRUCTION

FOR ESTIMATION PURPOSES ONLY

GENERAL LEGEND

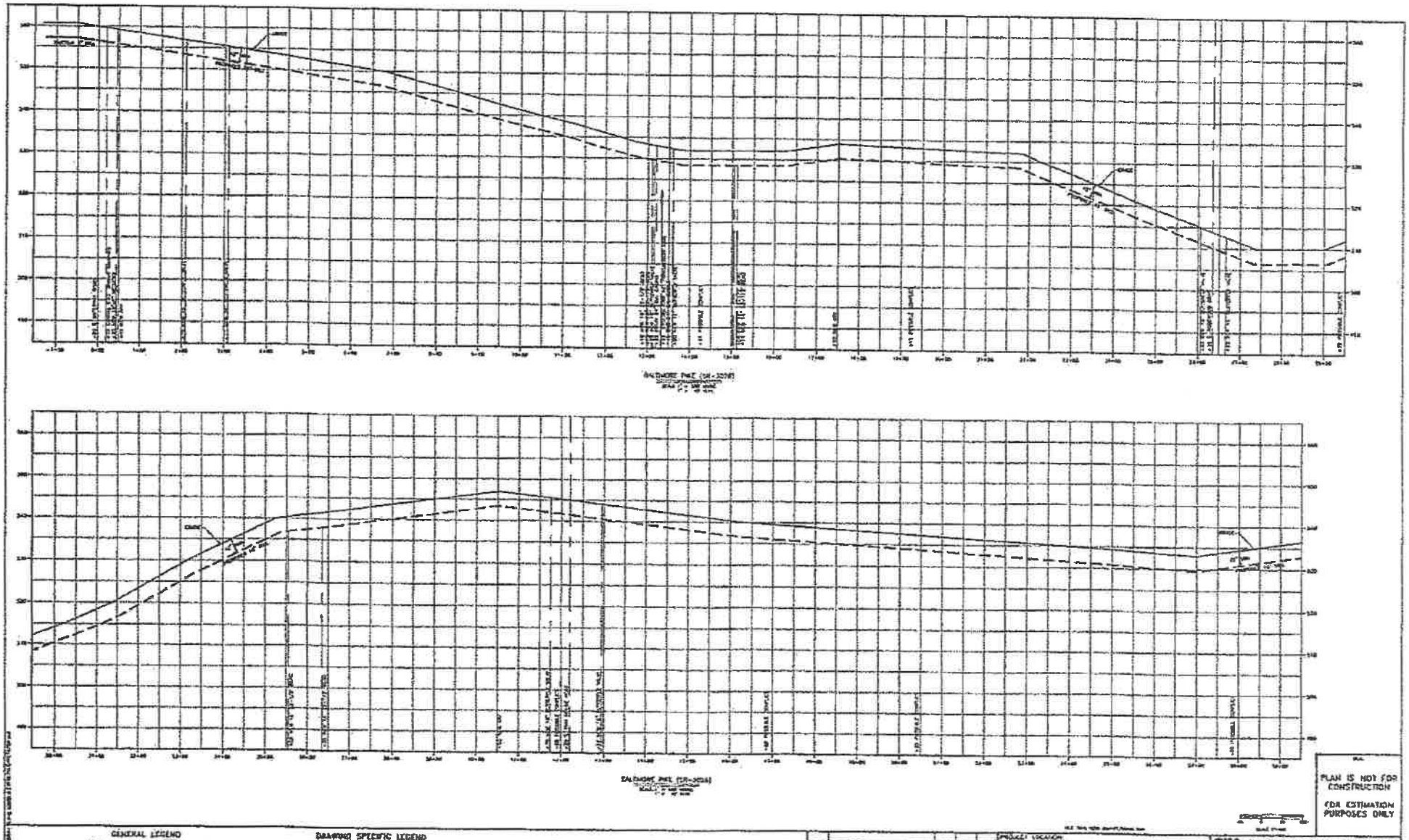
DRAWING SPECIFIC LEGEND

MARK	REVISION	BY	APP'D	DATE

PROJECT LOCATION:
EAST & WEST NOTTINGHAM TOWNSHIPS
CHESTER COUNTY, PA.

CHESTER WATER AUTHORITY

TITLE:
FLAGGING DETAILS
12" & 16" MAIN EXTENSION FOR
RISING SUN – CECIL COUNTY – MARYLAND



PLAN IS NOT FOR CONSTRUCTION

FOR ESTIMATION PURPOSES ONLY

GENERAL LEGEND

DRAWING SPECIFIC LEGEND

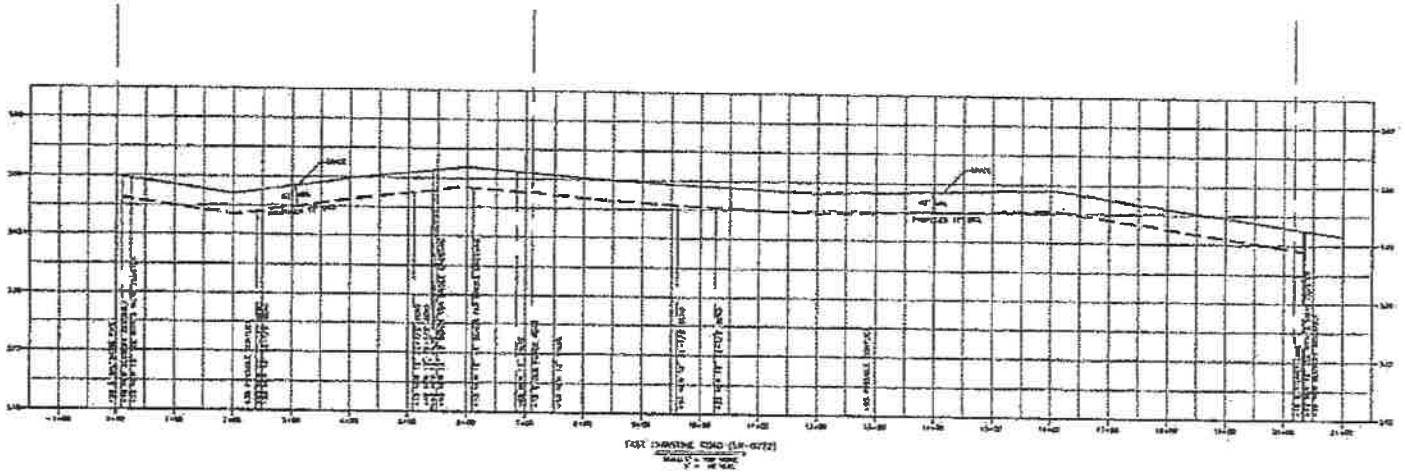
MARK	REVISION	BY	APP	DATE

PROJECT LOCATION
EAST & WEST NOTTINGHAM TOWNSHIPS
CHESTER COUNTY, PA.

CHESTER WATER AUTHORITY

PROJECT
PROFILES
12" & 16" MAIN EXTENSION FOR
ROUTE 896 - CECIL COUNTY - MARYLAND

PROFILES
12" & 16" MAIN EXTENSION FOR
ROUTE 926 - CECIL COUNTY - MARYLAND
CHESTER WATER AUTHORITY
PROJECT
EAST & WEST NOTTINGHAM TOWNSHIPS
CHESTER COUNTY, PA.
PLAN IS NOT FOR CONSTRUCTION
FOR ESTIMATION PURPOSES ONLY
GENERAL NOTES
DRAWING SPECIFIC NOTES



PLAN IS NOT FOR CONSTRUCTION

FOR ESTIMATION PURPOSES ONLY

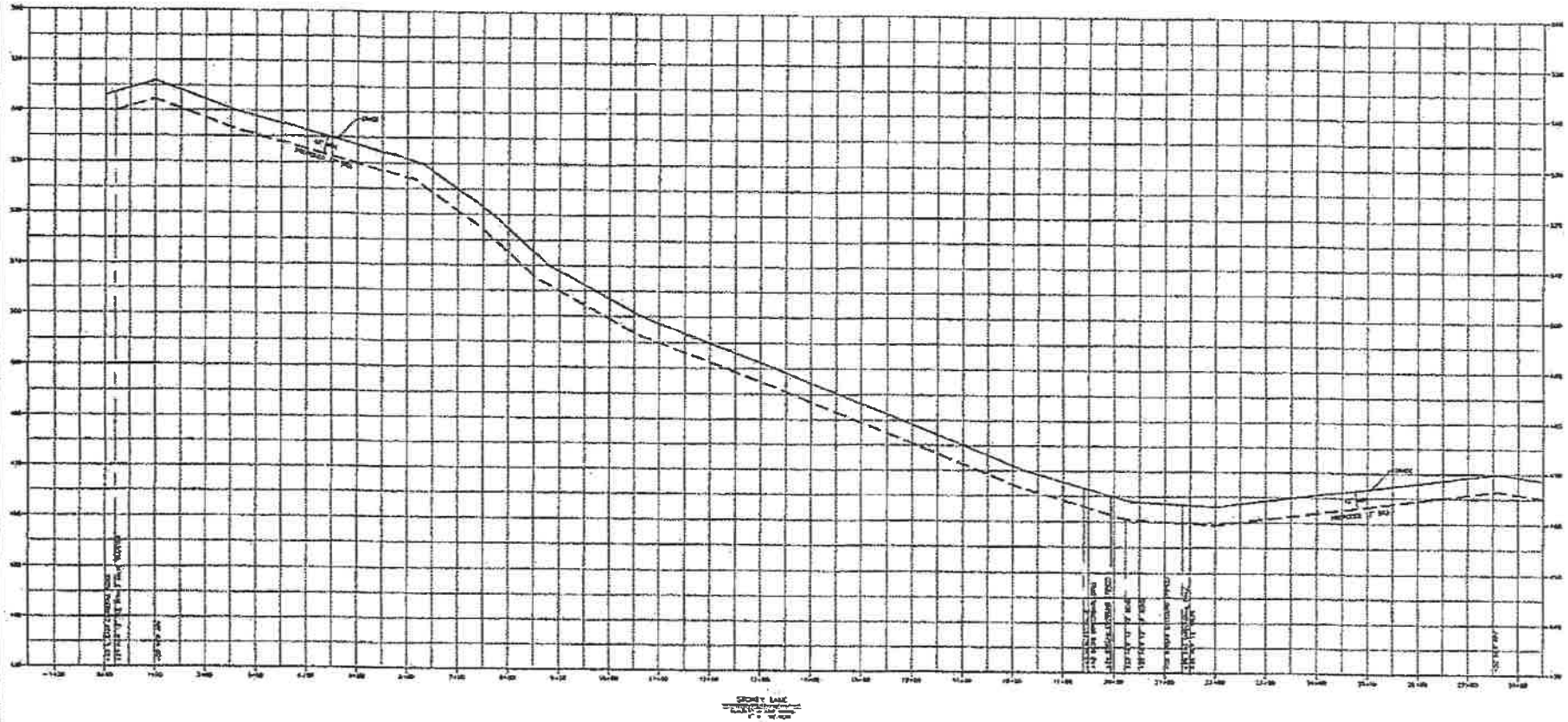
GENERAL LEGEND

DRAWING SPECIFIC LEGEND

EAST & WEST NOTTINGHAM TOWNSHIPS
CHESTER COUNTY, PA.

CHESTER WATER AUTHORITY

PROFILES
12" & 16" MAIN EXTENSION FOR
RISING SUN - CECIL COUNTY - MARYLAND



PLAN IS NOT FOR CONSTRUCTION

FOR ESTIMATION PURPOSES ONLY

GENERAL LEGEND

DRAWING SPECIFIC LEGEND

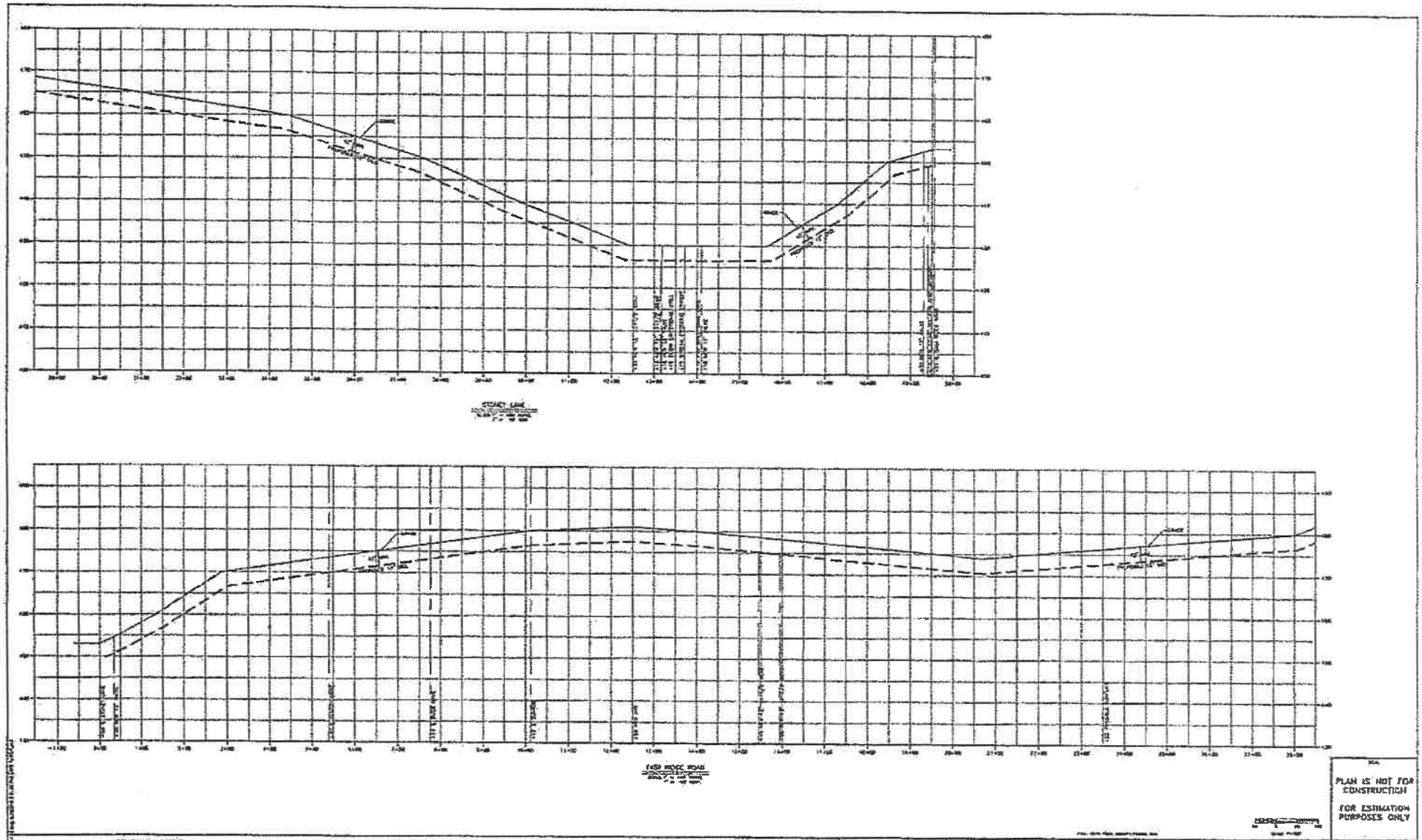
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EAST & WEST NOTTINGHAM TOWNSHIPS
CHESTER COUNTY, PA.

MARK	REVISION	BY	APP.	DATE

CWA CHESTER WATER AUTHORITY

PROJECT:
PROFILES
12" & 16" MAIN EXTENSION FOR
RISING SUN – CECIL COUNTY – MARYLAND

3883



PLAN IS NOT FOR CONSTRUCTION

FOR ESTIMATION PURPOSES ONLY

GENERAL LEGEND

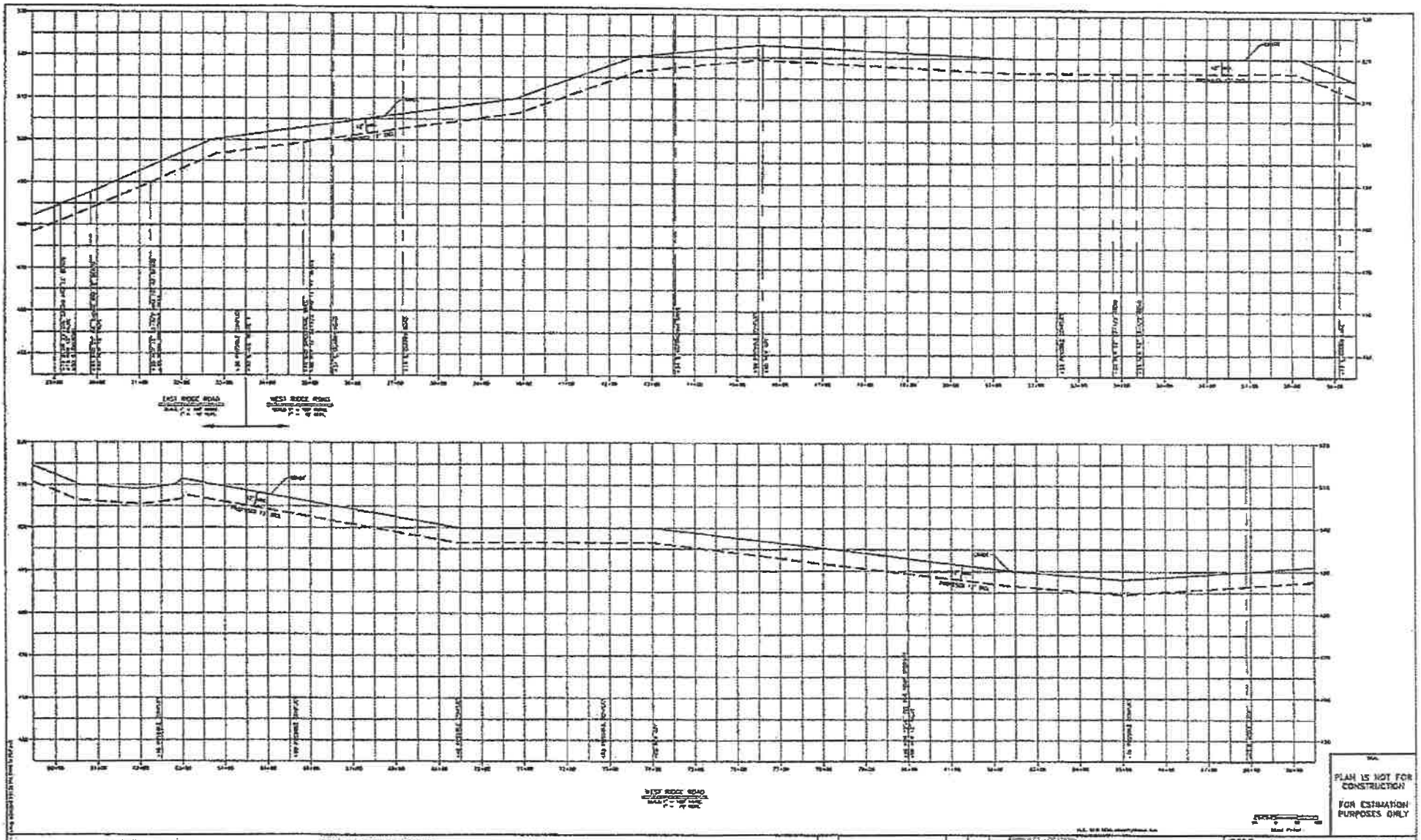
DRAWING SPECIFIC LEGEND

EAST & WEST NOTTINGHAM TOWNSHIPS
CHESTER COUNTY, PA.

CHESTER WATER AUTHORITY

PROJECT:

PROFILES
12" & 16" MAIN EXTENSION FOR
RISING SUN - CECIL COUNTY - MARYLAND



PLAN IS NOT FOR CONSTRUCTION

FOR ESTIMATION PURPOSES ONLY

GENERAL LEGEND

DRAWING SPECIFIC LEGEND

EAST & WEST NOTTINGHAM TOWNSHIPS
CHESTER COUNTY, PA.

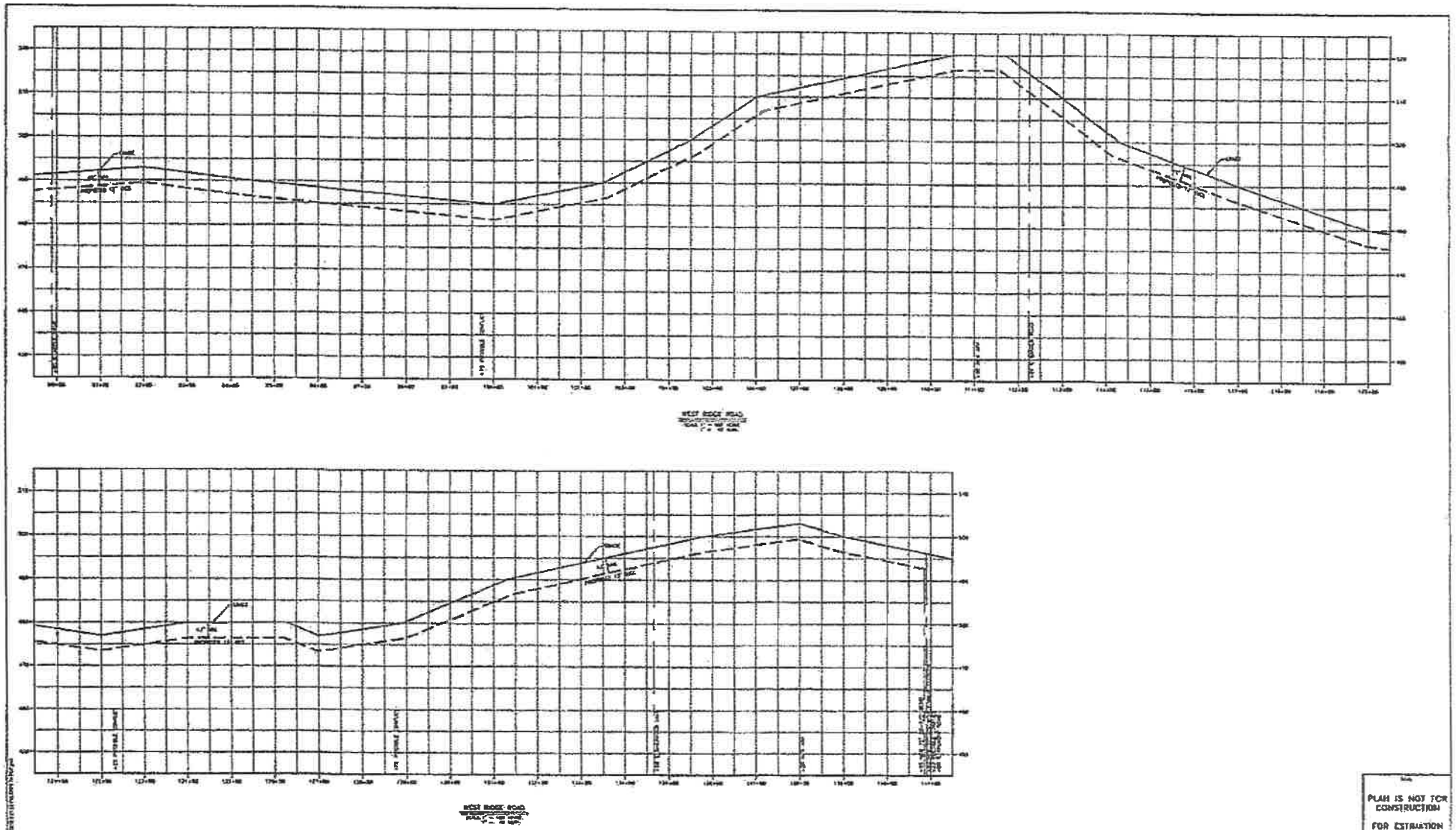
CWA CHESTER WATER AUTHORITY

PROFILES

12" & 16" MAIN EXTENSION FOR

RISING SUN - CECIL COUNTY - MARYLAND

3933



PLAN IS NOT FOR CONSTRUCTION

FOR ESTIMATION PURPOSES ONLY

GENERAL LEGEND

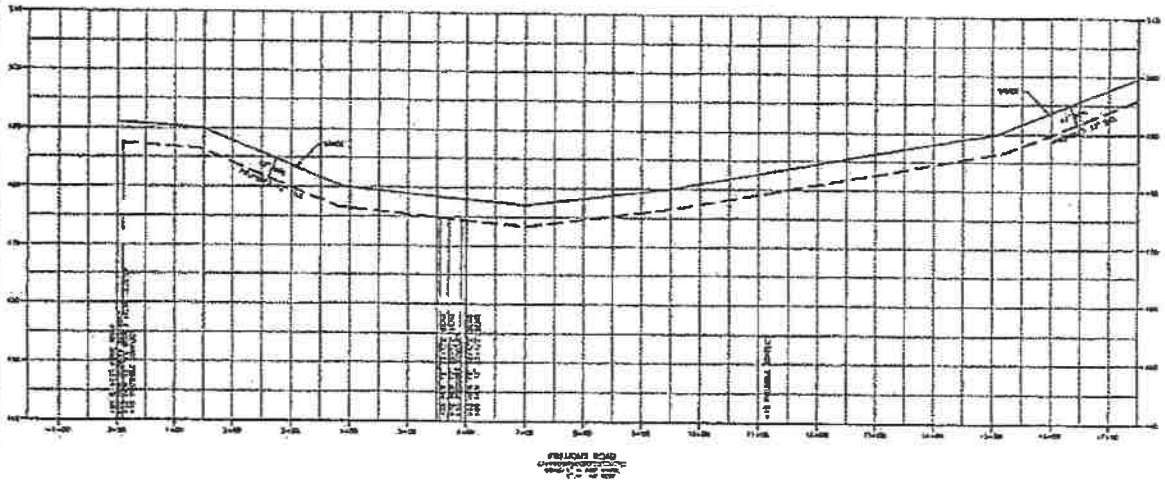
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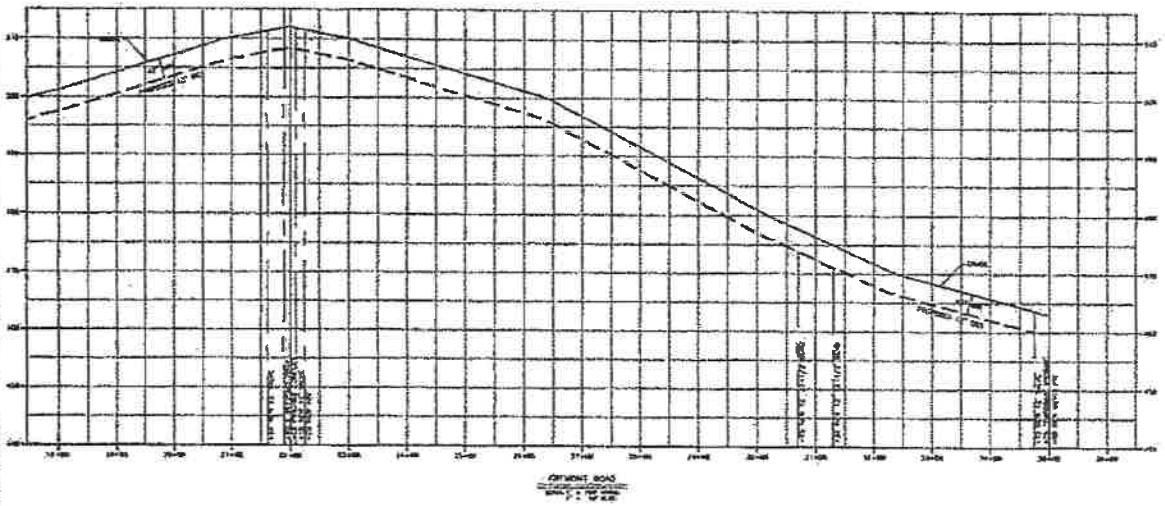
PROJECT LOCATION:
EAST & WEST NOTTINGHAM TOWNSHIPS
CHESTER COUNTY, PA.

CWA CHESTER WATER AUTHORITY

PROJECT:
PROFILES
12" & 16" MAIN EXTENSION FOR
RISING SUN – CECIL COUNTY – MARYLAND

3933





PLAN IS NOT FOR CONSTRUCTION

FOR ESTIMATION PURPOSES ONLY

GENERAL LEGEND

DRAWING SPECIFIC LEGEND

MARK	REVISION	BY	APP	DATE

PROJECT LOCATION:
EAST & WEST NOTTINGHAM TOWNSHIPS
CHESTER COUNTY, PA.

CWA CHESTER WATER AUTHORITY

PROJECT:
PROFILES
12" & 16" MAIN EXTENSION FOR
RISING SUN - CECIL COUNTY - MARYLAND

EXHIBIT 1.11

Description	Town's Cost or Town's Portion of Costs
Approximately 12,000 LF 16" Pipe	75%*
Approximately 24,000 LF 12" Pipe	100%*
Rt. 1 D.D. and RR Xing Boring and Casing	100%
Engineering Fee	$72,600 + 3% of main extension cost > $1 M
8" Service Installation	100%
Meter Pit	100%
8" Meter (Connection Meter)	100%
Capacity Charge	$57,205

*Subject to the Payments to the Town set forth in Section 1.17.

EXHIBIT 1.11.4 (a)

USFWS Letter of July 29, 2015

Exhibit 1.11.4(a)

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Pennsylvania Field Office
110 Radnor Road, Suite 101
State College, Pennsylvania 16801-4850

RECEIVED
GHD, Inc.
JUL 31 2015

July 29, 2015

Crystal Clark
GHD, Inc.
16701 Melford Boulevard
Suite 330
Bowie, MD 20715

RE: USFWS Project #2015-0700
PNDI Receipt #20150518512711

Dear Ms. Clark:

This responds to your letter of June 2, 2015, requesting information about federally listed and proposed endangered and threatened species within the area affected by the proposed water system supply improvements project routed from the CWA water distribution system connection at the intersection of Waterway Road and Old Baltimore Pike in Oxford, Chester County, Pennsylvania, to the Rising Sun elevated water storage tank near the intersection of Colonial Way and Biggs Highway in Rising Sun, Maryland. The following comments are provided pursuant to the Endangered Species Act of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*) to ensure the protection of endangered and threatened species.

The project is within the known range of the bog turtle (*Clemmys muhlenbergii*), a species that is federally listed as threatened. Bog turtles inhabit shallow, spring-fed fens, sphagnum bogs, swamps, marshy meadows, and pastures characterized by soft, muddy bottoms; clear, cool, slow-flowing water, often forming a network of rivulets; high humidity; and an open canopy. Bog turtles usually occur in small, discrete populations occupying suitable wetland habitat dispersed along a watershed. The occupied "intermediate successional stage" wetland habitat is usually a mosaic of micro-habitats ranging from dry pockets, to areas that are saturated with water, to areas that are periodically flooded. Some wetlands occupied by bog turtles are located in agricultural areas and are subject to grazing by livestock.

To determine the potential effects of the proposed project on bog turtles and their habitat, begin by identifying all wetlands in, and within 300 feet of, the project area. The project area includes all areas that will be permanently or temporarily affected by any and all project features, including building, roads, staging areas, utility lines, outfall and intake structures, wells, stormwater retention or detention basins, parking lots, driveways, lawns, etc. The area of investigation should be expanded when project effects might extend more than 300 feet from the project footprint. For example, the hydrological effects of some projects (*e.g.*, large residential or commercial developments; golf courses; community water supply wells) might extend well beyond the project footprint due to the effects that impervious surfaces or groundwater pumping

may have on the hydrology of nearby groundwater-dependent wetlands. Wetlands should be included on a map showing existing as well as proposed project features.

If someone qualified to identify and delineate wetlands has, through a field investigation, determined that no wetlands are located in or within 300 feet of the project area (or within the expanded investigation area, as described above), it is not likely that your project will adversely affect the bog turtle. If this is the case, no further consultation with the Fish and Wildlife Service is necessary, although we would appreciate receiving a courtesy copy of the wetland investigator's findings for our files.

If wetlands have been identified in or within 300 feet of the project area (or in an expanded investigation area, as described above), assess their potential suitability as bog turtle habitat, as described under "*Bog Turtle Habitat Survey*" (Phase 1 survey) of the *Guidelines for Bog Turtle Surveys* (revised April 2006). Survey results should be submitted to the Service for review and concurrence. The survey guidelines, as well as a Phase 1 field form and report template, are available from the Service upon request.

Due to the skill required to correctly identify potential bog turtle habitat, we recommend that the Phase 1 survey be done by a qualified surveyor (see enclosed list). If the Phase 1 survey is done by someone who is not on this list, it is likely that a site visit by a Fish and Wildlife Service biologist will be necessary to verify their findings. *Due to the limited availability of staff from this office, such a visit may not be possible for some time. Use of a qualified surveyor will expedite our review of the survey results.*

If potential bog turtle habitat is found in or near the project area, efforts should be made to avoid any direct or indirect impacts to those wetlands (see enclosed *Bog Turtle Conservation Zones*). Avoidance of direct and indirect effects means no disturbance to or encroachment into the wetlands (*e.g.*, filling, ditching or draining) for any project-associated features or activities. Adverse effects may also be anticipated to occur when lot lines include portions of the wetland; when an adequate upland buffer is not retained around the wetland (see *Bog Turtle Conservation Zones*); or when roads, stormwater/sedimentation basins, impervious surfaces, or wells affect the hydrology of the wetland.

If potential habitat is found, submit (along with your Phase 1 survey results) a detailed project description and detailed project plans documenting how direct and indirect impacts to the wetlands will be avoided. If adverse effects to these wetlands cannot be avoided, a more detailed and thorough survey should be done, as described under "*Bog Turtle Survey*" (Phase 2 survey) of the *Guidelines*. The Phase 2 survey should be conducted by a qualified biologist with bog turtle field survey experience (see enclosed list of qualified surveyors). Submit survey results to the Service for review and concurrence.

In cases where adverse effects to federally listed species cannot be avoided, further consultation with the Service would be necessary to avoid potential violations of section 9 (prohibiting "take" of listed species) and/or section 7 (requiring federal agencies to consult) of the Endangered Species Act. Information about the section 7 and section 10 consultation processes (for federal and non-federal actions, respectively) can be obtained by contacting this office or accessing the Service's Endangered Species Home Page (http://endangered.fws.gov).

This response relates only to endangered and threatened species under our jurisdiction, based on an office review of the proposed project's location. No field inspection of the project area has been conducted by this office. Consequently, this letter is not to be construed as addressing potential Service concerns under the Fish and Wildlife Coordination Act or other authorities. A compilation of certain federal status species in Pennsylvania is enclosed for your information.

To avoid potential delays in reviewing your project, please use the above-referenced USFWS project tracking number in any future correspondence regarding this project.

Please contact Kayla Easler of my staff at 814-234-4090 if you have any questions or require further assistance regarding this matter.

Sincerely,

Lora L. Zimmerman
Field Office Supervisor

Enclosures

EXHIBIT 1.11.4(b)

PFBC Letter of June 22, 2015

Exhibit 1.11.4(b)

Pennsylvania Fish & Boat Commission

established 1866

Division of Environmental Services
Natural Diversity Section
450 Robinson Lane
Bellefonte, PA 16823
814-359-5237

June 22, 2015

IN REPLY REFER TO
SIR# 44463

GHD Inc.
Crystal Clark
16701 Melford Blvd.
Bowie, Maryland 20715

RE: Species Impact Review (SIR) – Rare, Candidate, Threatened and Endangered Species
PNDI Search No. 20150518512711
Rising Sun Water Supply Improvements.
CHESTER County: East Nottingham Township, West Nottingham Township

Dear Ms. Clark:

This responds to your inquiry about a Pennsylvania Natural Diversity Inventory (PNDI) Internet Database search "potential conflict" or a threatened and endangered species impact review. These projects are screened for potential conflicts with rare, candidate, threatened or endangered species under Pennsylvania Fish & Boat Commission jurisdiction (fish, reptiles, amphibians, aquatic invertebrates only) using the Pennsylvania Natural Diversity Inventory (PNDI) database and our own files. These species of special concern are listed under the Endangered Species Act of 1973, the Wild Resource Conservation Act, and the Pennsylvania Fish & Boat Code (Chapter 75), or the Wildlife Code.

Rough Green Snake (*Opheodrys aestivus*, PA Endangered)

The rough green snake is one of the two green snake species that occur in Pennsylvania. Although both snakes occupy similar habitats, the smooth green snake (*Opheodrys vernalis*) is a fairly common, smaller green snake (up to 26 inches) and has a larger distribution within the Commonwealth. The state endangered rough green snake is a rare, long and slender green snake (up to 46 inches). The rough green snake is an inhabitant of marshes, and moist areas near streams, lakes and marshes. This species also inhabits upland areas near these habitats such as bluffs, and forested edges that are thick with greenbriar. This is an arboreal (tree/shrub climber) snake species that feeds mainly on insects.

Based on the review of this information and the proximity of the project to known element occurrences of the species of concern listed above, potential habitat could be present within the proposed disturbance area. Therefore, additional evaluations are necessary to confirm whether or not the project site contains habitat and to determine the potential for adverse impacts to this species.

We request completion of a **habitat assessment** to characterize and determine if potential habitat exists within the vicinity of the proposed project area.

A qualified biologist, who possesses the necessary Scientific Collector's Permit and Threatened and Endangered Species Permit issued by the Pennsylvania Fish and Boat Commission, must conduct this habitat assessment. A list of biologists recognized as qualified by the Pennsylvania Fish and Boat Commission to perform this assessment is enclosed. If our staff are available, we may be able to conduct the habitat assessment. However, please be aware that because of the time demands on our staff, it is likely that we will not be able to visit your site for several months. If this is unsatisfactory, we suggest that you contact one of the surveyors on the enclosed list.

This response represents the most up-to-date summary of the PNDI data and our files and is valid for two (2) years from the date of this letter. An absence of recorded species information does not necessarily imply species absence. Our data files and the PNDI system are continuously being updated with species occurrence information. Should project plans change or additional information on listed or proposed species become available, this determination may be reconsidered, and consultation shall be re-initiated.

If you have any questions regarding this review, please contact Christopher A. Urban at 814-359-5113 or curban@pa.gov and refer to the SIR # 44463. Thank you for your cooperation and attention to this important matter of species conservation and habitat protection.

Sincerely,

Christopher A. Urban, Chief
Natural Diversity Section

CAU/dn

Enclosure

EXHIBIT 1.14

Estimated Cost

RISING SUN ESTIMATED COSTS-CWA Supply of 170,000 GPD 170,000 GPD Usage over 5 years	Unit Costs	Estimate
12,000 LF 16"@ $175/LF	$ 175.00	$ 2,100,000
24,000 LF 12"@ $125LF	$ 125.00	$ 3,000,000
Rt. 1 0.0. and RR Xing Boring & Casing		$ 300,000
Meter Pit, Pipe, & Valves		$ 40,000
Variance in any of the above		$ 88,768
Subtotal Main Extension Costs		**$ 5,528,768**
Estimated Engr'g Fee ($72,600+ 3% of main extension cost > $1 M)		$ 205,800
8" Service Installation *(Excludes Meter Pit Costs)		$ 5,000
8" Meter Charge		$ 5,800
Capacity Charge		$ 57,205
Total Estimated Cost to Rising Sun		**$ 5,802,574**

EXHIBIT 1.17

PAYMENTS TO TOWN	
Description	Amount
Rebate: • Approach Main Potential Customers • Initial 5 years of water service fees payable to Authority based on a Take or Pay of 170,000 gpd.[1]	$1,277,574
Reimbursement of 25% of the installed cost of the 16" main	[TBD]

[1] NOTE: The rebate shall be calculated based on the water rate for this class of service in effect when the Town commences its purchases of the Supplies pursuant to Article 11 hereof. Should the rate for this class of service increase during the initial five (5) years of service there shall be a true-up at the end of the initial five (5) years to account for any rate increase. Within fifteen (15) days of the end of the initial five (5) year term the Authority shall pay to the Town the difference between the initial rebate and the true-up amount.

EXHIBIT 2.10

Tariff Rates

Exhibit 2.10

CHESTER WATER AUTHORITY
COMPARATIVE RATE SCHEDULE
NEW RATES EFFECTIVE JULY 1, 2015

CONSUMPTION CHARGES -GENERAL SERVICE – Includes Residential, Commercial, Industrial, and Municipal Customers			
		Village Green East	Village Green West
Gallons Per Month		*Rate Effective 7/1/10 Per 1,000 Gallons*	*Rate Effective 7/1/10 Per 1,000 Gallons*
For the First	25,000	$ 4.61	$ 5.92
For the Next	225,000	2.96	4.15
For all Over	250,000	2.31	2.95

CONSUMPTION CHARGES - WATER UTILITIES		
	Village Green East	Village Green West
Consumption Charges	*Rate Effective 7/1/15*	*Rate Effective 7/1/15*
Rate per 1,000 Gallons	2.87	$ 3.11
Rate per 1,000 Gallons for Customers subject to SRBC charge of $0.325 per 1,000 gallons	3.195	3.435

BASE CHARGES – Village Green East and West Service Areas – All Customers		
Size of Meter		*Rate Effective 7/1/10 Per Month*
5/8	Inch	$ 12.10
3/4 *	Inch (Combined General & Fire)	14.26
3/4	Inch	18.36
1 *	Inch (Combined General & Fire)	14.26
1	Inch	27.54
1-1/2	Inch	61.56
2	Inch	104.87
3	Inch	222.59
4	Inch	365.90
6	Inch	663.01
8	Inch	1,587.60
10	Inch	2,395.44
12	Inch	2,691.36

* Residential General Service and Fire Service Combined.

BASE CHARGES – PRIVATE FIRE PROTECTION SERVICE – All Customers			
		Village Green East Service Area	Village Green West Service Area
Size of Meter or Service Size, If Unmetered		*Rate Effective 7/1/10 Per Month*	*Rate Effective 7/1/10 Per Month*
5/8	Inch	$ 9.40	$ 11.55
3/4	Inch	14.26	17.16
1	Inch	22.14	25.74
1-1/2	Inch	38.82	57.20
2	Inch	78.73	92.73
3	Inch	134.46	158.29
4	Inch	241.06	281.49
6	Inch	482.11	563.20
8	Inch	872.86	1,020.58
10	Inch	1,442.99	1,689.42
12	Inch	2,078.57	2,429.92

FIRE PROTECTION SERVICE – PUBLIC FIRE HYDRANTS		
	Village Green East	Village Green West
	Rate Effective 7/1/10 Per Month	*Rate Effective 7/1/10 Per Month*
Rate per Hydrant	$ 32.30	$ 36.30

02/12/10