CERTIFICATE OF ADOPTION

COUNTY COUNCIL OF TALBOT COUNTY, MARYLAND

Following a public hearing held on Tuesday, August 13, 2002, the County Council of Talbot County, at a meeting held on October 22, 2002 adopted and herewith submitted to the State of Maryland Department of the Environment the 2002 Report of the Review of the Comprehensive Water and Sewerage Plan for Talbot County as required by the Environmental Article, Title 9, Subtitle 5, of the Annotated Code of Maryland.

The Governing Body of each incorporated town in the County, the County Office of Environmental Health, the County Engineer, the Department of State Planning and the Maryland Department of the Environment have all contributed to this 2002 County Plan. Those comments, which are found to be acceptable and do promoted the public health, safety and welfare of Talbot County have been incorporated and made a part of the Plan.

Written comments forwarded as a result of the public hearing, from planning agencies and from towns, municipal corporations, private and public utilities and individual citizens are not included in this report, but are on file in the Department of Public Works.

11/26/02

Levin F. Harrison, IV, President — Date
Talbot County Council

11/26/02

Jessica Morris, Secretary — Date

CERTIFICATION

DIRECTOR OF PLANNING

I, Daniel R. Cowee, Planning Officer of the Talbot County Office of Planning & Zoning hereby certify that the 2002 Report of the Review of the Comprehensive Water & Sewerage Plan for Talbot County is consistent with the current Talbot County Land Use Plan, which is in effect in accordance with provisions of Volume 6, Article 66B, Provisions for Planning & Zoning.

Daniel R. Cowee 11/19/02

Daniel R. Cowee Date
County Planner

ENVIRONMENTAL HEALTH CERTIFICATION

This is to certify that sections of the 2002 Report of the Review of the Upgrade Comprehensive Water & Sewerage Plan for Talbot county pertaining to engineering and scientific aspects of groundwater, wells and on site disposal systems of water and sewerage facilities development have been prepared and/or reviewed for adequacy and compliance to meet the defined goals and objectives of the plan.

Anne Morse 11/19/02

Anne Morse Date

Director of Environmental Health

ENGINEER'S CERTIFICATION

This is to certify that sections of the 2002 Report of the Review of the Upgrade Comprehensive Water & Sewerage Plan for Talbot county pertaining to engineering and scientific aspects of groundwater, wells and on site disposal systems of water and sewerage facilities development have been prepared and/or reviewed for adequacy and compliance to meet the defined goals and objectives of the plan.

11/18/02

Raymond P. Clarke, P.E. Date
County Engineer

2002 REPORT OF THE REVIEW
INTRODUCTION

I. INTRODUCTION

As required by Paragraphs 387B and 387C of Article 43 of the Annotated Code of Maryland, the first Comprehensive Water and Sewerage Plan for Talbot County was prepared by Buchart-Horn and adopted in 1970 by the County Council. In the following years, the 1971, 1972, 1973, 1974, 1976 and 1981 amendments to the basic plan were prepared jointly by the County Departments of Planning and Public Works and duly adopted by the County Council.

The 1975 amendment was completed in October 1975 by Frederick Ward Associates and was adopted by the County Council in 1976. This plan incorporated substantial changes consistent with the most recent format required by the Maryland Department of the Environment (Known as the Health Department at that time). The 1983 Plan Update was also prepared by Frederick Ward Associates and subsequently adopted on August 23, 1983. The 1983 plan update was extended by passage of Resolution No. 42, effective from January 11, 1985, for a period of two years. The 1983 plan update was re-extended by passage of Resolution No. 49, effective from December 22, 1987. The latter extension with interim amendments, has served as the plan in effect through the date of adoption of the 1990 revision and update.

The 1990 Plan was prepared by McCrone, Inc. using the same general format as the 1983 plan with expanded Appendices and informational updates in accordance with revised objectives of the Plan. The 1992 Update provides a review or revision of goals, policies and background information and evaluates existing and proposed water and sewer conditions throughout Talbot County. Contained within the Appendices of the 1992 Update are the Groundwater Protection Plan, Sewer and Water Allocation Policies, Financial Management Plans, a Guide to Financial Assistance, Procedure for Amending the Plan and other Plans and Policies to provide a single source of reference for regulators, planners, consultants, and the general public regarding planning and use policies for public water and sewer facilities within the County.

Within the 1992 Update, an effort has been made to minimize costs and to avoid duplication of efforts by utilizing information developed by other consultants in contracts with the County and from other governmental sources. Therefore the reports listed in Appendix 1- General References have been freely utilized as a source of information. Where feasible, credit for source material is indicated in the text narrative or referenced Appendix 1.

The 1992 Update requested information from incorporated municipalities, owners of public and private utility companies, and operators of public and privately owned systems. In general, the 1992 Update is a compilation of most current information furnished by the various operating agencies and privately owned systems, though in some instances revisions were extrapolated from previous reports and data sources. The 1992 Update also featured procedures for orderly amendments and revisions. A record of hearing and administrative procedure to adopt the 1992

Update is available in Appendix 15 of the 1992 Update of the Talbot County Comprehensive Water and Sewerage Plan.

The Comprehensive Water and Sewer Plan for Talbot County has not been updated since 1992. The 2002 Report of the Review assesses the 1992 Update Plan and incorporates new information and data to support the 1992 Update Plan. In reviewing or researching historical data pertaining to regional water and sewer plans, the 1992 Update Plan should be referenced. A listing of the sections within the 1992 Update that remains as reference information or historical data has been provided in Table i. Reference Documents.

The 2002 Report of the Review examines the existing goals, policies, procedures, and water and sewerage systems presented in the 1992 Update Plan. For planning of water and wastewater services in Talbot County, geographical information system (GIS) resources produced by the Maryland Department of Planning (MDP) have been incorporated into the 2002 Report of the Review. The Priority Funding Areas, Land Use maps, Zoning, Development Restricted Lands and Sewer Service Area maps developed by MDP for Talbot County have been provided in Figures 1 through 6. Because some of the MDP data does not reflect the most current Talbot County maps, various revisions have been made and noted on the figures as presented in the 2002 Report of the Review.

The Priority Funding Areas as presented in Figure 1 are shown with two different colors identifying the County Priority Funding Areas. The orange color of the maps reflects the areas certified by the Talbot County Planning and Zoning Office, and the Maryland Department of Planning has determined that the areas conform to the statutory criteria for delineating Priority Funding Areas. The yellow colors of the map list the areas certified by the Talbot County Planning and Zoning Office but the Maryland Department of Planning has determined that the areas do not conform to the statutory criteria for delineating Priority Funding Areas.

The Talbot County Land Use map presented in Figure 2 shows the various land uses in Talbot County using the Maryland Department of Planning 2001 Land Use Maps. These uses include low-density, medium-density and high-density residential, Commercial, Institutional, Open urban land, Row and Garden Corps, Brush, Wetlands and other land uses found throughout the County. Figure 3 shows the General Zoning in the County that depicts the zoning as found in the Comprehensive Plan completed in 1997.

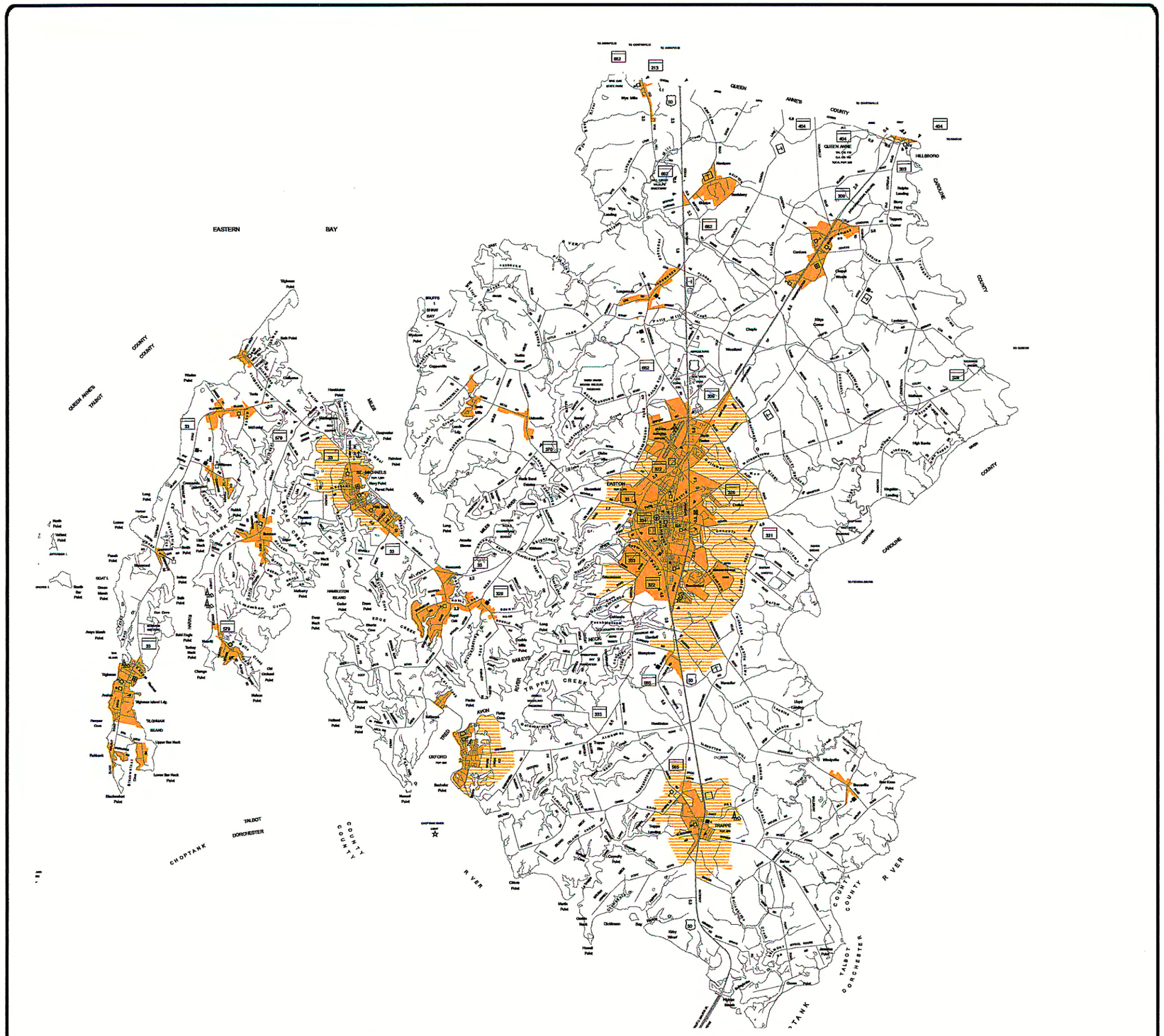
The Development Restricted Lands due to agriculture or programmed open space in Talbot County are listed in Figure 4 as depicted from the Comprehensive Plan completed in 1997. The Legend in Figure 4 shows Rural Legacy areas, Agricultural Land Preservation Districts (AGDIST), Agricultural Land Preservation Easements (AGEASE), County Owned Parks (COP), Department of Natural Resource Parks or Forests (DNR), Maryland Environmental Trusts (MET), Private Conservation Easement/Ownership (PRV) and Transfer Development Rights (TDR). Figures 5 and 6 list the sewer service and water service areas, respectively. Throughout the 2002 Report of the Review, maps and figures have been incorporated into the text. These documents have been provided to show various land uses and water and sewer service areas for planning purposes only. The maps and figures do not impose an obligation on Talbot County to provide water and/or sanitary sewer service to these areas.

The goals, organization and policies of the Comprehensive Water and Sewer Plan are provided in Chapter One. This Chapter provides a summary of the appendices included in the 1992 Update Plan. If information of data is needed from these appendices, the 1992 Plan Update should be reviewed.

The inventory of existing water and sewerage systems in Talbot County are presented in Chapter Two. The data for each of the existing water and sewerage systems was obtained through each local jurisdiction that owns and operates the facility. The 2002 Update also evaluates the safety and adequacy of water and sewer service for Talbot County and initiates a watershed-based approach outlined in Chapter Two. A Five Year Capital Improvement Program for both water and sewerage systems within the incorporated municipalities and Talbot County has been provided in Chapter Two. The Five Year Capital Improvement Program lists the proposed facility improvements needed to assure the safety and adequacy of the water and sewerage systems in Talbot County. The Water and Sewer Service maps were developed to be consistent with the Talbot County Comprehensive Plan.

This Update also reviews procedures for amending the Plan and all the plan amendments as presented in Chapter Three. The 2002 Report of the Review has incorporated a new procedural requirement that requires the Controlling Authority to submit the petition to amend the Talbot County Comprehensive Water and Sewer Plan. The Controlling Authority shall be the water and sewer service provider for the incorporated municipalities or within the private water and sewer system in the unincorporated areas of the County. The Controlling Authority in the unincorporated areas of Talbot County is the Talbot County Department Public Works. An amendment schedule is also provided in Chapter Three of this Plan listing the resolutions that have amended the Comprehensive Water and Sewer Plan.

While Figures 5 and 6 generally depict existing (S/W-1) and planned (S/W-2, 3) service, Chapter Two provides a discussion of the allocation protocol for State Funded Growth and CIP implementation as well as a more specific representation of the areas of existing and anticipated sewer and water services.



TALBOT COUNTY
PRIORITY FUNDING AREAS

Source: Maryland Department of Planning
May 2001

N

Legend

Priority Funding Area

- Meets Statutory Criteria
- County Certified

1 0 1 2 3 4 Miles

Produced by
Talbot County Public Works GIS
October 31, 2002

Figure 1

TALBOT COUNTY LANDUSE

Source: Maryland Department of Planning
May 2001

N

Talbot County Landuse 1997

Talbot County Landuse 1997

- Low-density residential
- Medium-density residential
- High-density residential
- Commercial
- Industrial
- Institutional
- Extractive
- Open urban land
- Cropland
- Pasture
- Orchards/vineyards/horticulture
- Row and garden crops
- Deciduous forest
- Evergreen forest
- Mixed forest
- Brush
- Water
- Wetlands
- Bare ground
- Feeding operations
- Agricultural facilities

1 0 1 2 3 4 Miles

Produced by
Talbot County Public Works GIS
October 31, 2002

Figure 2

TALBOT COUNTY ZONING

Source: Maryland Department of Planning
May 2001

N

Zoning

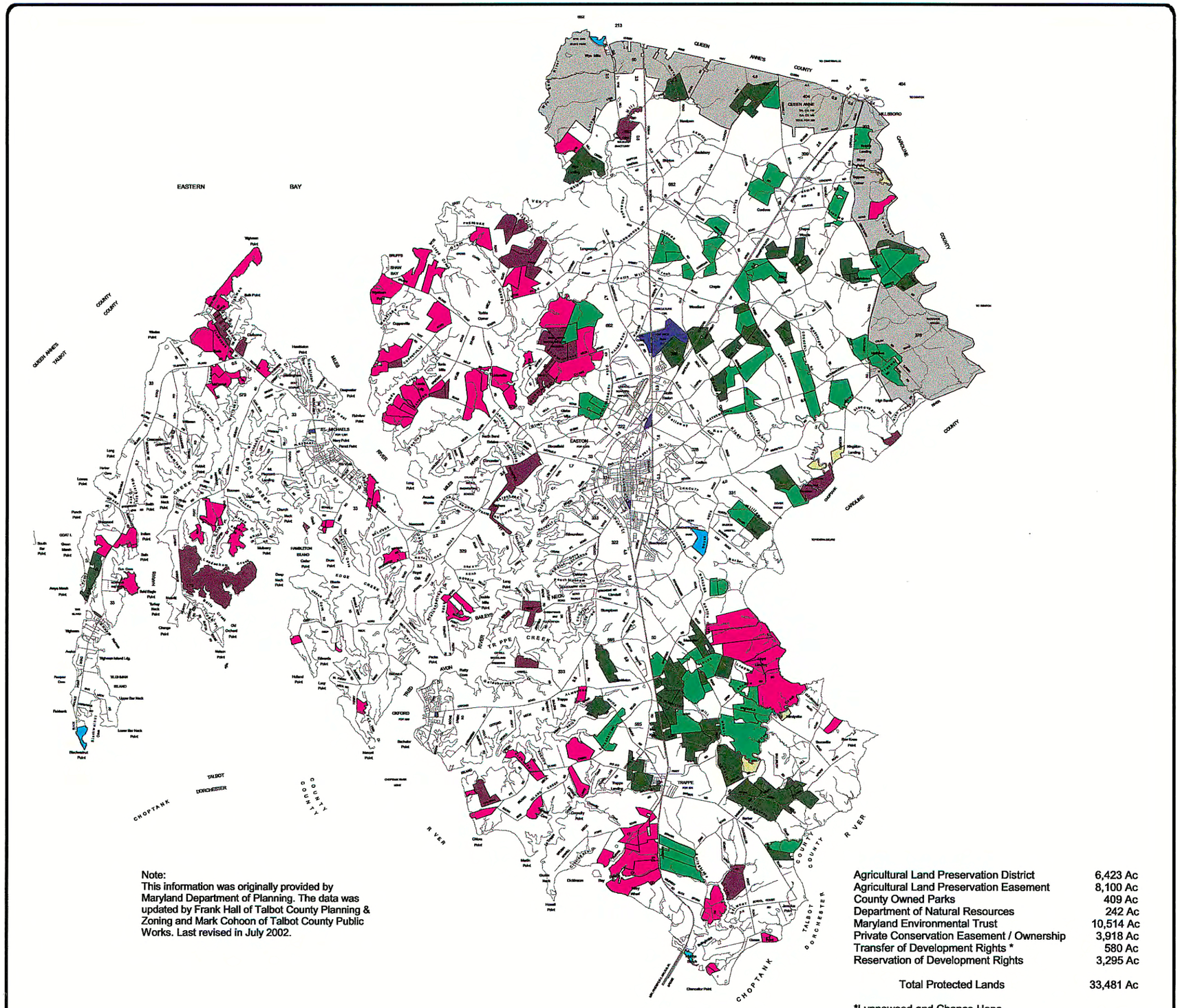
Zoning

- COMMERCIAL
- INDUSTRIAL
- MEDIUM DENSITY RES
- MODERATELY PROTECTIVE
- MOST PROTECTIVE
- MUNICIPALITY
- VERY LOW DENSITY RES

Produced by
Talbot County Public Works GIS
October 31, 2002

Figure 3

TALBOT COUNTY
DEVELOPMENT RESTRICTED LANDS
JULY 2002



Legend

- Rural Legacy

Protected Lands

- AGDIST
- AGEASE
- COP
- DNR
- MET
- PRV
- TDR

1 0 1 2 3 Miles

Note:
This information was originally provided by Maryland Department of Planning. The data was updated by Frank Hall of Talbot County Planning & Zoning and Mark Cohoon of Talbot County Public Works. Last revised in July 2002.

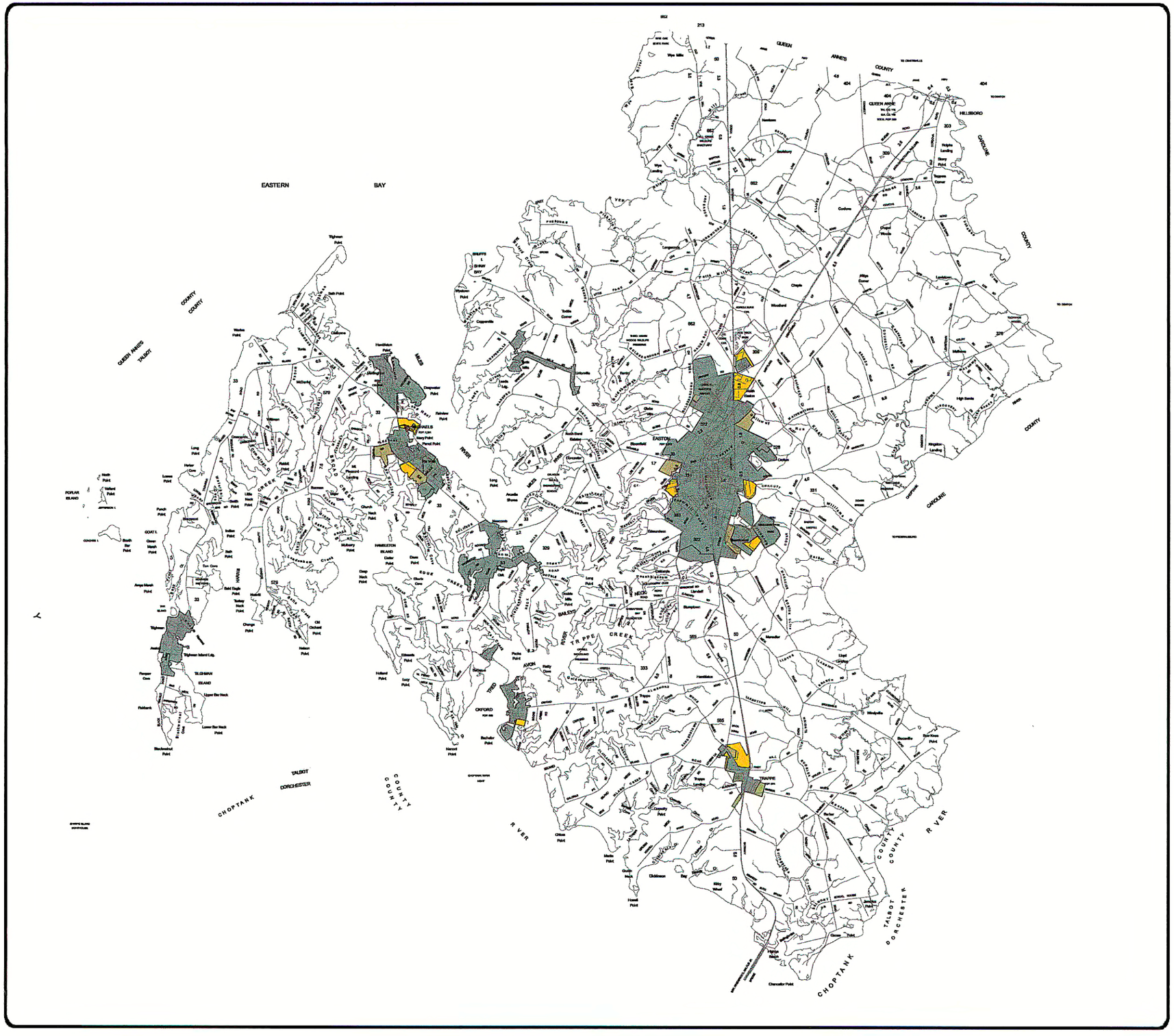
Agricultural Land Preservation District	6,423 Ac
Agricultural Land Preservation Easement	8,100 Ac
County Owned Parks	409 Ac
Department of Natural Resources	242 Ac
Maryland Environmental Trust	10,514 Ac
Private Conservation Easement / Ownership	3,918 Ac
Transfer of Development Rights *	580 Ac
Reservation of Development Rights	3,295 Ac
Total Protected Lands	33,481 Ac

*Lynnewood and Chance Hope

Produced by
Talbot County Public Works GIS
October 31, 2002

Figure 4

TALBOT COUNTY
SEWER SERVICE AREAS



N

Legend

Talbot Sewer Service

- S-1
- S-2
- S-3

1 0 1 2 3 Miles

Base Map Data Source: Maryland Department of Planning

Produced by
Talbot County Public Works GIS
October 31, 2002

Figure 5

TALBOT COUNTY
WATER SERVICE AREAS

N

Legend

Talbot Water Service

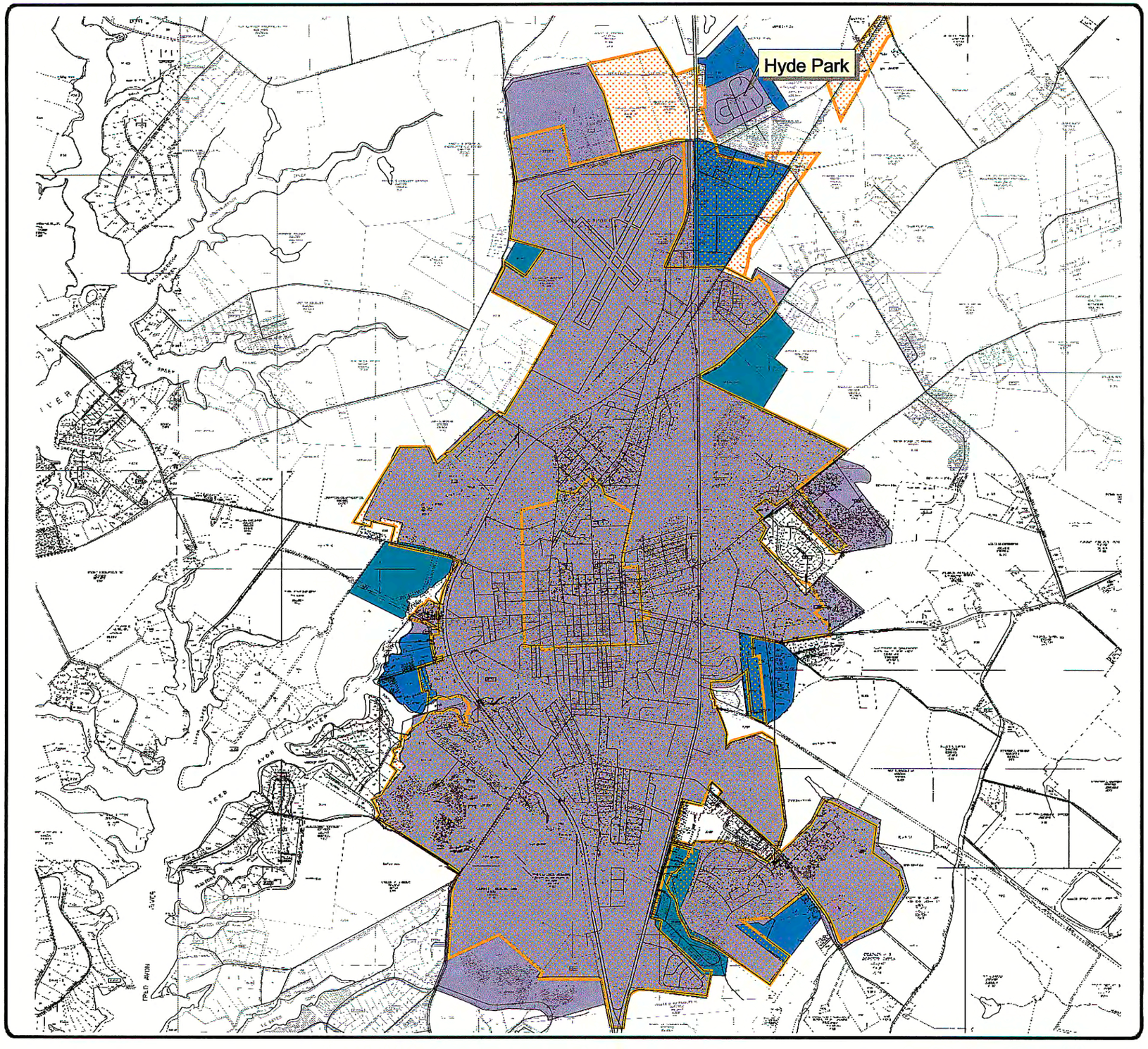
- W-1
- W-2
- W-3

1 0 1 2 3 Miles

Base Map Data Source: Maryland Department of Planning

Produced by
Talbot County Public Works GIS
October 31, 2002

Figure 6



TALBOT COUNTY
TOWN OF EASTON
WATER SERVICE AREA

N

Legend

Easton Water Service

- W-1
- W-2
- W-3

Priority Funding Area

- MEETS STATUTORY CRITERIA

2000 0 2000 4000 Feet

Base Map Data Source: Maryland Department of Planning

Produced by
Talbot County Public Works GIS
November 1, 2002

Figure 7

Talbe i. Reference Document

1992 Update of the Comprehensive Water and Sewerage plan	2002 Report of the Review
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Policies – Requirements	Revised - See Chapter 1 of Report of the Review
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Geology	No change
Drainage	No change
Soil Characteristics	No change
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CHAPTER ONE
GOALS, ORGANIZATION AND POLICIES

A. GOALS AND OBJECTIVES

It shall be the intention of this plan to identify, define, and implement the necessary policies, plans, regulations, procedures and provisions for enforcement needed to accomplish or suitably address the following goals and objectives:

1. Protect the health, safety and welfare of the people of Talbot County and neighboring jurisdictions by improving and/or maintaining sanitary conditions of water resources.
2. Encourage and direct growth of the County in concentrated centers around existing centers of population that presently have adequate or potentially adequate water and sewer services. Conversely, it is the intent to discourage strip ad scattered development.
3. Protect wetlands, waterfront, and critical areas of the Chesapeake Bay and promote development of portions of these areas for recreational and conservational purposes.
4. Promote self-supporting industrial development of the County in conformity with both the Talbot County Comprehensive Land Use and Water and Sewerage Plan.
5. Prepare and adopt such ordinances, rules, regulations, policies, procedures, and amendments as may be necessary to implement and maintain the Comprehensive Water and Sewerage Plan.
6. Assist the County Office of Environmental Health in approving all subdivision plats and building permits. Title 9, Subtitle 5 of the Annotated Code of Maryland requires that the County Office of Environmental Health's approval of plats and permits be in accordance with the Comprehensive Land Use and Water and Sewerage Plan.
7. Provide for orderly updating, revision, and amending the Talbot County Comprehensive Water and Sewerage Plan as directed by changes in needs during a review period.
8. Continue to provide qualified management of water resources in order to control and diminish water pollution and to preserve and maintain the necessary quality standard of streams, estuaries, wetlands, and groundwater for residential, industrial, commercial, recreational, and conservational use.
9. Identify and categorize sources of pollution from urban areas, agricultural areas, industrial wastes and soil erosion.
10. Develop and maintain a mapped database to assist in continued County planning efforts.
11. Administer all matters pertaining to water resources, waste disposal, stormwater management and sediment control.
12. Prepare a Policy Manual for water and sewerage projects planned by the County.
13. Prepare feasibility studies as needed for water and sewerage projects planned by the County.

14. Adopt and enforce legislation regulating pretreatment and discharge of industrial wastes into stream waters and estuaries or into private, community, and public wastewater facilities.
15. Study the waste disposal problems at marinas and apply measures for assuring public and private compliance with applicable regulatory provisions for proper installation and use of Marine Waste Disposal Facilities.
16. Review the status of Facilities Plans and identify changes needed to meet current regulations.
17. Provide a Groundwater Protection Plan for regulations of new on-site wastewater disposal systems and protection of potable groundwater resources.
18. Identify available funding sources for sewer and water projects.
19. Provide Financial Management Plans for each publicly-owned community sewerage system.
20. Develop a sludge management policy for disposal of wastewater generated solids.
21. Encourage water conservation.
22. Develop a plan for future service extensions in the Region II and Region V Sanitary Districts, including wastewater treatment capacity expansion.
23. Develop a plan for future water supply to Claiborne and Tilghman Villages.
24. Comply with Talbot County Critical Area Land Management Policies.
25. Provide sewer use and billing regulations consistently applied in each County Sanitary District.
26. Provide a regulatory policy and inventory for Shared Sanitary Facilities.
27. Establish inventories for National Pollution Discharge Elimination System (NPDES) permitted wastewater facilities in the jurisdiction of this plan, featuring use, flow allocation, expansion, and available capacity schedules.
28. Develop and implement a plan for septage treatment and disposal, serving active septic systems throughout the County.
29. Coordinate procedures or activities relating to the use of water resources such that wetlands are preserved and protected to the maximum extent possible.
30. Develop a Five Year Capital Improvement Program that identifies the needs for water and wastewater treatment facilities, water storage and distribution systems, wastewater collection systems and equipment for the proper operation and maintenance of these facilities to assure safe and adequate systems for both water and sewer.
31. Develop Watershed-Based approaches that inventories all point and non-point sources discharges and creates an active database on both point and non-point sources discharges.
32. Develop, maintain and integrate water quality and environmental data into a geographical information systems (GIS) program.
33. Protect the water quality of the Chesapeake Bay and its tributaries and establish objectives to assure no degradation of current water quality by upgrading existing wastewater treatment facilities with the best available biological nutrient removal technologies as the sewer service areas of these facilities are expanded.

34. All water and sewer services providers manage their allocations in a cost effective manner, consistent with the Maryland Economic Growth, Resource Protection and Planning Act of 1992 and the Smart Growth – Priority Funding Areas Act of 1997.
35. The Comprehensive Water and Sewerage Plan shall serve as a planning tool that is consistent with the County Comprehensive Plan and implements Smart Growth by encouraging and directing growth of the County in concentrated centers in and around existing centers of population that presently have adequate or potentially adequate water and sewer services as stipulated in the second goal of this Plan.
36. Develop and maintain a GIS overlay that establishes a priority for development within the Towns and County. The areas having the highest priority for development shall be those areas that are determined by the Maryland Department of Planning that conforms to the statutory criteria for delineating PFAs. These will typically be within the Towns and villages where adequate water and sewerage services exist or efforts by the either the County or the local government can improve water and/or sewer services.
37. Talbot County will develop policies that are acceptable to the Maryland Department of the Environment and the Maryland Department of Planning to extend water and/or sewer systems to areas having failing septic systems and not meeting the statutory criteria of a Priority Funding Area through restricted/denied access water and/or sewer system extensions.

Note: All maps and figures contained within this Plan showing service areas are for planning purposes only. These maps and figures do no impose an obligation on Talbot County to provide water and/or sanitary sewer service to these areas.

B. ORGANIZATION

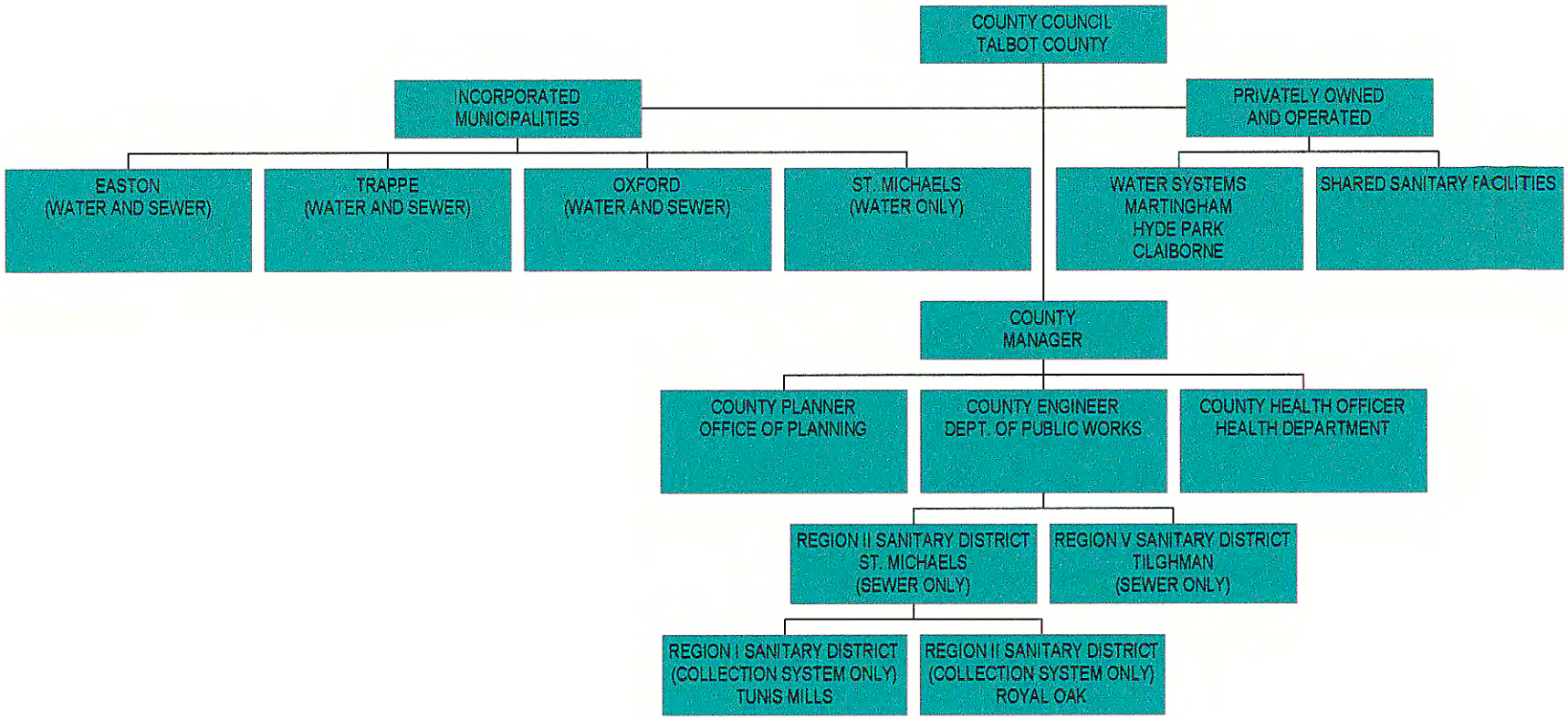
The County Council of Talbot County is the controlling authority for all aspects of water and sewerage facilities owned and/or operated by the County (see Figure No. 1). The Talbot County Department of Public Works is responsible to the County Council for the planning, design, construction, operation, maintenance and Financial Management of County owned or operated facilities. These include the Region I wastewater disposal facilities, Region II and Region V wastewater collection and treatment systems, and Claiborne Water System (proposed).

Incorporated municipalities have their own governing bodies and/or utility commissions which, are directly responsible for the management of their water and sewerage systems, except the Town of St. Michael, whose sewerage system is managed by the County (Region II Sanitary District).

Martingham is privately owned and operated by Martingham Utilities Cooperative. Claiborne currently is not incorporated, but has two separate water companies supplying the public. Jensen's Hyde Park is a privately owned park with privately owned and operated water and sewerage facilities.

ORGANIZATION FOR THE MANAGEMENT OF WATER AND SANITARY FACILITIES

TALBOT COUNT, MARYLAND



NOTES: 1. Health Department includes jurisdiction of the Maryland Department of the Environment
2, Region I Sanitary District includes the Villages of Tunis Mills, Unionville and Copperville
3. Region II Sanitary District Includes the Villages of Royal Oak, Newcomb and Bellevue

C. DEFINITIONS

The following technical words and phrases have been defined for this report.

1. "APPROVING AUTHORITY" means one or more officials, agents, or agencies of local government designated by the local governing body or specified by other provisions of Environmental Article, Title 9, Subtitle 5, of the Annotated Code of Maryland, to take certain actions as a part of implementing this plan.
2. "CAPITAL IMPROVEMENT PROGRAM" means any listing of all water and wastewater treatment facilities, water storage and distribution systems, wastewater collection systems and equipment requests for finding to assure the proper operation and maintenance of these facilities that provides for safe and adequate systems for both water and sewer.
3. "COMMUNITY SEWERAGE SYSTEM" means any system, whether publicly of privately owned, serving two or more individual lots for the collection and disposal of sewage or industrial wastes of a liquid nature, including various devices for the treatment of such sewage and industrial wastes.
4. "COMMUNITY WATER SUPPLY SYSTEM" means a source of potable water and a distribution system, including treatment and storage facilities, whether publicly or privately owned, serving two or more individual lots.
5. "CONTROLLING AUTHORITY" means a governmental body empowered by the county or municipality to provide for management, operation, and continuous preventive and corrective maintenance of a shared sanitary facility.
6. "COUNTY COMPREHENSIVE WATER AND SEWERAGE PLAN" or "Plan", means a comprehensive plan, and all amendments and revisions to it, for the protection of surface, ground, and tidal water resources and the provision of adequate water supply and sewerage systems, whether an individual or community system or publicly or privately owned, throughout the county, including incorporated municipalities.
7. "DEPARTMENT" means the Maryland Department of the Environment.
8. "EQUIVALENT DWELLING UNIT" means an estimated daily water supply or sewer capacity required to serve a detached single-family residence.
9. "FACILITY PLAN" means a planning document pertaining to the development and use of a specific sanitary facility or facilities.
10. "EXISTING SERVICE AREA" means that area which is currently served by a community water supply of sewerage system.
11. "FINAL PLANNING STAGES" means a work or works of community and multi-use water supply and sewerage facilities for which contract plans and specifications have been completed; sanitary, sewer. Or water construction permits have been issued; or public works agreements have been executed.
12. "IMMEDIATE PRIORITY" means a work or works of community, multi-use, or shared sanitary facilities for which final planning or design is completed or in progress and the beginning of construction is scheduled to start within two (2) years following the date of adoption of the Plan, and/or amendments and revisions thereto.
13. "INDIVIDUAL SEWERAGE SYSTEMS" means a system of sewers, piping treatment tanks, or other facilities serving a single undividable lot or one equivalent

Talbe i. Reference Document

1992 Update of the Comprehensive Water and Sewerage plan	2002 Report of the Review
TABLE OF CONTENTS	
INTRODUCTION	Revised
CHAPTER ONE – GOALS, ORGANIZATIONS AND POLICIES	Revised
Goals and Objectives	Revised - See Chapter 1 of Report of the Review
Organization	Revised - See Chapter 1 of Report of the Review
Definitions	Revised - See Chapter 1 of Report of the Review
Policies – Requirements	Revised - See Chapter 1 of Report of the Review
Amendment Procedure	Revised - See Chapter 1 of Report of the Review
Financial Assistance for Water and Sewer Projects	Reference 1992 Update
Water Conservation	Reference 1992 Update
CHAPTER TWO – GENERAL BACKGROUND INFORMATION	Reference 1992 Update
Section I – Physical Features	No change
Location	No change
Topography	No change
Geology	No change
Drainage	No change
Soil Characteristics	No change
Section II – Population	Revised – See Chapter Two of Report of the Review
General	Revised – See Chapter Two of Report of the Review
Population Density	Revised – See Chapter Two of Report of the Review
Population Growth	Revised – See Chapter Two of Report of the Review
Population Characteristics	Revised – See Chapter Two of Report of the Review
Population Projection	Revised – See Chapter Two of Report of the Review
Effect of Weekend and Seasonal Visitors	Revised – See Chapter Two of Report of the Review
Section III – Land Use	Revised – See Chapters One and Two
Existing Land Use Patterns	Revised – See Chapters One and Two
County Comprehensive Plan	Revised – See Chapters One and Two
Major Public Institutions	Revised – See Chapters One and Two
CHAPTER THREE – WATER SYSTEM	Revised – See Chapter Two of Report of the Review
Section I – Water Supply Sources	Revised – See Chapter Two of Report of the Review
Groundwater	Revised – See Chapter Two of Report of the Review
Surface Water	Revised – See Chapter Two of Report of the Review
Section II – Existing and Proposed Water Facilities	Revised – See Chapter Two of Report of the Review
General	Revised – See Chapter Two of Report of the Review
Inventories	Revised – See Chapter Two of Report of the Review
Existing Conditions and Proposed Facilities	Revised – See Chapter Two of Report of the Review
Section III – Comprehensive Water Plan	Reference 1992 Update
Preface	Reference 1992 Update
Cost Index	Reference 1992 Update
Schedule	Reference 1992 Update
CHAPTER FOUR – SEWERAGE SYSTEM	Revised – See Chapter Two of Report of the Review
Section I – Existing and Proposed Sewerage Facilities	Revised – See Chapter Two of Report of the Review
General	Revised – See Chapter Two of Report of the Review
Inventories	Revised – See Chapter Two of Report of the Review
Existing Conditions and Proposed Facilities	Revised – See Chapter Two of Report of the Review
Sludge Management Plan	Revised – See Chapter Two of Report of the Review
Financial Management Plan	Revised – See Chapter Two of Report of the Review
Section II – The Comprehensive Sewerage Plan	Revised – See Chapter Two of Report of the Review
Preface	Revised – See Chapter Two of Report of the Review
Cost Index	Revised – See Chapter Two of Report of the Review
Schedule	Revised – See Chapter Two of Report of the Review

dwelling unit and disposing of sewage or individual wastes of a liquid nature, in whole or in part, on or in the soil of the property, into any waters of this State, or by other methods.

14. "INDIVIDUAL WATER SUPPLY SYSTEM" means a system of piping, pumps, tanks, or other facilities utilizing a source of ground or surface water to supply potable water to a single undividable lot or one equivalent dwelling unit.
15. "MARINA" means a dock, wharf, or basin providing mooring for boats which contain on-board toilet facilities, operated under public or private ownership either free or on a fee basis for the convenience of the public or club membership.
16. "MULTI-USE SEWERAGE SYSTEMS" means a single system serving a single lot and more than one equivalent dwelling unit, whether owned or operated by an individual or group of individuals under private or collective ownership, for the collection and disposal of sewage or industrial wastes of a 'liquid nature, including various devices for the treatment of such sewage and industrial wastes having a capacity in excess of 5,000 gallon per day (GPD).
17. "MULTI-USE WATER SUPPLY SYSTEM" means a single system of piping, pumps, tanks, or other facilities utilizing a source of ground or surface water to supply a group of individuals or more than one equivalent dwelling unit on a single lot and having a capacity in excess of 5,000 GPD.
18. "NON-POINT SOURCE" means pollution originating from surface run-off, for which no specific outfall can be identified.
19. "PROGRAMMED" means plans for future water and/or sewer service areas are proposed with no commitment for public funding nor approval for extending water and/or sewer service has been granted by the controlling authority for immediate priority status.
20. "SANITARY FACILITIES OR SYSTEMS" means any sewerage system for the collection, handling, treatment, and disposal of liquid wastewater, septage, or sewage sludge; or water supply system for the distribution, treatment and storage of potable water; whether an individual, multi-use, or community system, or publicly or privately owned.
21. "SEPTAGE" is all solid and liquid contents of chemical toilets, septic tanks, seepage pits, privies, and watertight holding tanks.
22. "SEWAGE SLUDGE" means the accumulated semi-liquid suspension, settled solids, or dried residue of these solids that is separated from wastewater in a treatment plant, whether or not these solids have undergone further treatment.
23. "SEWER SERVICE AREA" is that area currently served by a community, multi-use, or shared sewer sanitary facility, or for which such service is allocated or reserved.
24. "SHARED SANITARY FACILITIES" means any sanitary facilities, owned in common by the users or the Controlling Authority, serving two (2) or more detached single family dwelling units, or commercial facilities, on separately recorded land lots or parcels in the unincorporated areas of Talbot County, Maryland.
25. "SIX TO TEN YEAR PERIOD" means that 6 to 10 years following the date of adoption of the Plan and/or amendments or revisions thereto.
26. "THREE TO FIVE YEAR PERIOD" means that period 3 to 5 years following the date of adoption of the Plan and/or amendments or revisions thereto.

27. "UNDER CONSTRUCTION" means a work or works of community, multi-use, or shared sanitary facilities where actual construction is progressing, or where a notice to proceed with a contract for such work has been issued as of the adoption date of this Plan and/or amendments or revisions thereto.
28. "WATER SERVICE AREA" means that area currently served by a community, multi-use, or shared water sanitary facility, or for which such service is allocated or reserved.
29. "W-1", "S-1" means areas served or to be served by community, multi-use, or shared sanitary facilities which are either existing, under construction, or have immediate priority status. "W" and "S" shall respectively denote water and sewer sanitary facilities (typical for all classifications).
30. "W-2". "S-2" means areas where improvements or extensions to existing, or construction of new community, multi-use, or shared sanitary facilities are programmed for progress to "W-1", "S-1" classification within a THREE TO FIVE YEAR PERIOD.
31. "W-3", "S-3" means areas where improvements or extensions to existing, or construction of new community, multi-use, or shared sanitary facilities are programmed for progress to "W-1", "S-1" classification within a SIX TO TEN YEAR PERIOD.

D. POLICIES – REQUIREMENTS

The 2002 Report of the Review examined the Policies as presented in the 1992 Plan. Within the text of the 1992 Plan and the Appendices, the Annotated Code of Maryland Regulations was recodified as Title 26 from Title 17. All discrepancies associated with COMAR recodification within the 1992 Plan shall reflect current codification for titles, subtitles and chapters. As for Federal and State Agencies, various activities that were conducted by the U. S. Department of Health pertaining to discharge of wastewater to a stream are enforced by the U. S. Environmental Protection Agency (EPA) and those activities dealing with the environment at the State level tha were enforced by the Maryland Department of the Environment. Any and all discrepancies related to past agencies shall reflect the existing enforcing Federal and/or State Agency.

D.1. Individual Water Supply and Sewerage System Installation Requirements

As presented in the 1992 Plan, the installation of individual water supply or individual sewerage systems shall be subject to the following requirements:

A. All individual sanitary systems in Talbot County must be issued a Sanitary Construction Permit from the Environmental Health Section of the Talbot County Health Department prior to installation, replacement, and/or major repair and upgrade, in accordance with the provision of Article 617 Paragraph 11.03.0 of the Talbot County Code,
B. An individual sanitary System may not be permitted to be installed on a lot or property parcel for which an adequate community sanitary system is available. Availability shall generally mean the lot or parcel is in the proper sewer or water service area.

C. If an existing community sanitary system is available but inadequate due to the lack of treatment capacity or the inability to meet the discharge limitations as defined within the National Pollution Discharge Elimination System (NPDES) permit, or if a Community sanitary system is not available, an interim individual water and sewerage system may be used provided that,
   1) Such interim systems are adjudged by the local health department to be adequate, safe, and in compliance with applicable State and local regulations, including COMAR 26.04.02 and the Talbot County Groundwater Protection Plan.
   2) Permits for such interim systems shall bear a notice regarding the interim nature of the Permit and stating that connection to a future community system shall be made within one (1) year or less after such system becomes available;
   3) If interim systems are used, provisions shall be made, whenever possible, to locate such systems so as to permit connection to the public facilities in a most economical and convenient manner.

D.2. Capped Water and Sewer Policy

As presented in the 1992 Plan, the Capped Water and Sewer Policy shall be referenced.

In order to prevent street and other damage encountered in providing public sanitary utility service to developed areas, and to provide for efficient and effective connection to public utility service, the following policy is presented for sewer and water line installation in areas where public sewerage and water service is not available at the time or street and residential construction but will be made available at some future time, as classified herein:

A. Requests for such advance installations will only be accepted by the approving authority where interim systems are permitted by the Water and Sewerage Plan in S-1, S-2, W-1, and W-2 use areas.
B. Each application for a sewer or water service construction permit must be accompanied by a letter from the County Health Officer requesting that such installation be permitted.
C. Building permits, subdivision plats, and septic tank approvals shall include a provision requiring the connection of the premises to community sewerage and water within twelve (12) months of announce availability.
D. Water and Sewer lines shall be designed and installed in accordance with applicable municipal or County specifications and in compliance with the State of Maryland Plumbing Regulations.
E. The connection of a "dry" system shall be plugged with a visible and readily inspectable plug at the point of connection to the existing system.

D.3. Requirements for Proposed Privately-Owned Community Water and Sewerage Systems (Shared Sanitary Facilities)

As presented in the 1992 Plan, the County Council enacted legislation regulating shared sanitary facility on February 12, 1991. This legislation defines requirements for ownership, permits, design, construction, operation, maintenance, replacement, modification, management, and financing of privately owned community water and sewerage systems. The Shared Sanitary Facilities Regulations (Bill 443) are included in Appendix.11 of the 1992 Plan.

D.4. Financial Requirements for Community and Multi-Use Sewerage Systems

As presented in the 1992 Plan, financial requirements for Privately-owned Community and Multi-Use Sewerage Systems and Public-Owned Community Sewerage Systems where outlined as follows:

D.4.1. Financial Requirements for Privately Owned Community and Multi-Use Sewerage Systems (Shared Sanitary Facilities)

New or proposed privately owned community or multi-use sewerage systems or extensions are required to provide Financial Management Plans as included in COMAR 26.03.02.021.2. An inventory of financial management plans for privately owned shared sanitary facilities are included in Appendix 7 of the 1992 Plan.

Before the Maryland Department of the Environment may issue a permit for the construction of an extension to an existing or planned, self-contained, privately-owned community or multi-use sewerage system:

A. The project must be described in the County Plan in the correct service area category designation and designated by the appropriate map symbol.
B. A Schedule FS, Financial Management Statistics, is no longer required by the Maryland Department of the Enviromment.
C. An agreement must be developed and executed between the Talbot County Department of Public Works and the owner of the proposed sewerage system which provides that the owner deposit into an escrow account funds to cover the repair or replacement of the highest cost treatment plant unit. (The Talbot County Department of Public Works may accept a binding financial arrangement, such as a letter of credit or other type of legal document in lieu of said escrow account.) In addition, the agreement may require that a separate account be established which provides sufficient funds for the initial operation and maintenance of the system. This latter requirement will remain in effect until operating costs are fully supported by revenue. Finally, the agreement must provide that the owner establish a fund for replacement of the system twenty years after initial construction. The Talbot County Department of Public works shall provide an informational copy of the executed agreement to the local (town) government. Since new sewerage systems have no historical financial data, the anticipated revenues and expenses for the first two years of operation shall be estimated.

D. The Financial Management Plan for privately owned, community or multi-use sewerage systems shall be compatible with state and local regulations pertaining to shared facilities.

D.4.2. Financial Requirements for Publicly Owned Community Sewerage System

All publicly owned community Sewerage systems are required to have a Financial Management Plan included within the Comprehensive Water and Sewerage Plan in accordance with COMAR 26.03.02.02.1. This regulation was prepared to comply wit the Chesapeake Bay initiative: water and sewerage planning, to allow the Maryland Department of the Environment to monitor the fiscal health of sewerage systems and assure the long term reliability of these systems. Each publicly owned community sewerage system is considered a separate entity for fiscal evaluation within the local operating agency. Appendix 7 of the 1992 plan contains the inventory of current financial management plans for all publicly owned sewerage systems in Talbot County.

D.5. Groundwater Protection Plan

As presented in the 1992 Plan, the Talbot County Groundwater Protection Plan (GPP) was developed in 1987 in accordance with COMAR 26.04.02 (adopted 1985). The purpose of the GPP is to identify areas where on-site sewerage disposal systems may be allowed using less than a four foot unsaturated treatment zone. A treatment zone of less than four feet is allowed only if the receiving aquifer is designated as Type III (Type III- means an aquifer having: a) A transmissivity less than 1,000 gallons/day/foot, a permeability less than 100 gallons/day/square foot and a total dissolved solids concentration greater than 6,000 mg/liter) pursuant to COMAR 26.08.01 or the aquifer has a limited potential to serve as a drinking water aquifer.

The Talbot County GPP establishes the density, design, criteria and construction requirements for all on-site sewage disposal Systems in Talbot County. The County is divided into two management areas:

Area A, which requires maximum protection of shallow drinking water aquifers; and

Area B, where the shallow aquifers used for sewage disposal are protected from deeper drinking water aquifers by more than five feet of confining materials.

The "Management Summary - Talbot County Groundwater Protection Plan", including delineation of Areas A and B as well as design criteria tables for each area, and the complete GPP, is contained in Appendix 5. The office of responsibility for the Groundwater Protection Plan is Environmental Health Unit of the Talbot County Health Department.

D.6 Sludge Disposal Requirements

As presented in the 1992 Plan, the Sludge Disposal Requirements shall comply with current regulations. The 1992 Plan and current ordinances should be referenced for historical information pertaining to the Sludge Disposal Requirements for Talbot County.

D.6.1. Current State Regulations

The state law governing sewerage sludge disposal is Section 9-230 to 9-249, Annotated Code of Maryland. The State's requirements are detailed in COMAR 26.04.06 administered by the Department of the Environment. This regulation applies only to sewage sludge (from wastewater treatment plants) and requires a Sewage Sludge Utilities Permit for each disposal site. A disposal site is usually either agricultural land (Class I Sewage Sludge only) or an approved sanitary landfill. Incineration is allowed but not practiced in Talbot County.

Land application areas must provide a two-foot buffer between the sludge and groundwater. Also, crops for direct human consumption cannot be grown on the area for three years subsequent to the sludge application. The sludge and application areas are subject to continued monitoring and laboratory analysis and must not exceed maximum concentrations for metals and other pollutants. All Sludge Utilities Permit Application received by the State are forwarded to the County who may request a public information meeting, and may consult with the State regarding issuance of the permit.

Collection and disposal of septage is regulated by the Maryland Department of the Environment under COMAR 26.04.02 and 26.04.06. These regulations establish new standards for Maryland's Septage Management Program. Under this program, septage is required to meet the same standards currently required for the utilization/disposal of sewage sludge. Specifically, septabe must be treated by a process to significantly reduce pathogens prior to land application. Land application of septage may continue until appropriate stabilization facilities are available. Septage application during this interim period must meet the previous requirements for discharge sites including setbacks and soil testing. The most difficult of these requirements to meet is the requirement that septage application take place at least 2,000 feet from any adjacent homesites.

D.6.2. Current County Regulations

The Talbot County Zoning Ordinance (Talbot County Bill 45D as amended by Bill 459) contains provisions for regulatory sludge application. The County Planning Office must be notified one day prior to sludge application. A manifest must accompany each load of sewage sludge. A monthly summary of sludge application must be filed with the County Planning Office and the Department of Environmental Health. Sludge storage facilities are allowed for sludge generated in Talbot County only.

D.6.3. Current Septage Policy

Due to a current shortage of approved application sites, the Talbot County Department of Public Works is investigating using the Region II (St. Michaels) wastewater treatment plant (with modifications) or a new facility to accept and treat septage. If such a facility proves feasible, the County is considering requiring all waste haulers to deposit at the plant, in lieu of land application sites through legislated regulations and a Revenue Ordinance.

D.6.4. Sludge Management Plan

Chapter Four (Section 1-b) of the 1992 plan includes the Sludge Management Plan for Talbot County which identifies the quantity and quality of sewage sludge produced at each sewage treatment plant, describes the current method to dispose of or use sewage sludge, tabulate permit data, discusses methods of disposal or use of sewage sludge, and identifies specific problems associated with sludge handling and processing at existing sewage treatment plants. The Sludge Management Plan also addresses septage treatment and disposal.

D.7. Allocation Policies and Administrative Policies for Sewerage Facilities

As presented in the 1992 Plan, sewerage extensions within the service areas of publicly owned sewer systems are governed by each individual Town or Sanitary District in accordance with their specific requirements. Within Talbot County, the only utilities that have written policies are Easton, and the Region II and Region V Sanitary Districts of the County.

These policies and regulations provide for allocating treatment plant capacity, and provide other requirements for extension of sewers.

Included in Appendix 3 of the 1992 Plan are Copies of the following:

- Easton Sewer Service Tariff, Latest Revision 7/28/89.
- Region II Sanitary District – Region II Allocation Plan (12/22/87),
- Region V Sanitary District
- Talbot County Bill No. 148, An act to create Talbot County Region No. 5 Sanitary District...and to Provide for construction of facilities for that District.
- Talbot County Wastewater Facilities Administration Policy

Other regulatory documents of use to developers and industries that pertain to sewer use in unincorporated Talbot County include:

Bill No. 61 – An act regulating the use of public and private sewers and drains, private wastewater disposal, the installation and connection of building sewers, and the discharge of waters and wastes in to the public sewer systems of the Talbot County Sanitary Commission.

Talbot County Code, Title 14, Primarily for Region II Sanitary District – Management and Construction Standards.

Bill No. 126 – Sewer service rates for Region II Sanitary District.

Bill No. 224 – Sewer service rates for Region II Sanitary District.

Copies of these may be obtained from the Talbot County Department of Public Works or the office of the County Council.

E. AMENDMENT PROCEDURE

The Amendment Procedure was presented in the 1992 Plan and is provided in Chapter 4 of the 2002 Report of the Review with revised forms and tables. The Maryland Department of the Environment will issue water/sewer construction permits only for properties designated as W-1, S-1 or W-2, S-2. Property owners wishing to change the priority status of their land for either water or sewer service, may request an amendment to the Comprehensive Water and Sewerage Plan in accordance with the procedure prescribed by Chapter 3, herein.

F. FINANCIAL ASSISTANCE FOR WATER AND SEWER PROJECTS

As presented in the 1992 Plan, financial assistance for sewer and water construction projects are available from several State and Federal sources. Assistance may be in the form of a loan, a bond pool, a grant or a combination of these.

G. WATER CONSERVATION

G.1. General

As outlined in the 1992 Plan, the Maryland Water Conservation Plumbing Fixtures Act of 1984 (MWCPFA) (Article 56A, Section 3-605 and 3-606) was enacted for the purpose of requiring the installation or water-conserving water closets, urinals, sinks and showerheads in buildings constructed or remodeled after February 15, 1980. The Act prohibits the sale of non-water-conserving fixtures in the State of Maryland. Enforcement of the Act is assigned to the local code inspectors.

All jurisdictions within Talbot County are actively implementing the MWCPFA or promoting water conservation other than through adoption/enforcement of the Maryland State Plumbing Code. Only approved fixtures are available at retail outlets thus meeting the water conserving standards of the State Plumbing Code. Licensed plumbers are complying with provisions of the code as regards installation.

The majority of rural counties, Talbot included, participate with the State in monitoring and implementing conservation measures when groundwater levels, surface water flows and precipitation accumulations place Talbot County in any of the drought classifications, watch, warning or emergency, as declared by the Governor of Maryland.

G.2. Benefits

There are several benefits of water conservation that could be realized now among the jurisdictions. Benefits occur on two levels to the community as a whole and to the individual consumer.

Benefits include:

1) The elimination or postponement of now capital expenditures related to storage tank construction or well development;
2) A reduction in Hydraulic loadings to centralized waste treatment facilities and hence more reserve capacity;
3) A reduction in hydraulic loading to septic tank systems and hence fewer failing septic tanks;
4) A lessening of the need for expansion of energy generating capacity, and
5) A reduction in water supply and sewerage facility operating cost

Community water conservation benefits are often significant but will vary from locality to locality. However, the direct benefits of in-home conservation to individual consumers are readily apparent. For example, by installing water conservation plumbing fixtures (low-flow shower heads, faucet aerators, flow restrictors, etc.) average homeowners in the Washington/Baltimore area can, at little expense, reduce their home water use by nearly 50,000 gallons per year without altering their life styles. The total savings on water/sewer bills in one year could amount to more than $100.00 based on 1992 dollars. Hot water saved in one year could amount to approximately 23,000 gallons, resulting in an annual savings of nearly $300.00 based on 1992 dollars for those with electric water heaters.

G.3. Water Conservation Policy

A. Each county water and sewer plan must contain documentation that compliance with the Maryland Water Conservation Plumbing Fixtures Act (MWCPFA), as codified in Article 56A Section 3-605 and 3-606 Annotated Code of Maryland, is being achieved.
B. The documentation shall include:
    1) Designation of the county agency responsible for the enforcement of MWCPFA;
    2) A summary of county programs to assure implementation of and compliance with MWCPFA, including a description of:
        (a) A procedure that assures compliance with MWCPFA before the issuance of a certificate of occupancy.
        (b) Local actions taken to assure compliance, including the prohibition of the sale of non-water conserving plumbing fixtures.
        (c) The local procedures used to ensure that agreements between a developer and a building to assure compliance with MWCPFA are made a part of the record plat process or a part of a county building, plumbing, or occupancy permit, or bill of sale.
    3) County is currently complying with the MWCPFA.

G.4. Current Situation

All the municipalities with Talbot County, and the County, have implemented the MWCPFA and are actively promoting water conservation. The policy of this plan shall be to promote and encourage water conservation in the municipalities and the unincorporated areas of the county

through specific code provisions of buildings, plumbing, and occupancy permit and inspection regulations, pertaining to the use and installation of water conserving fixtures.

H. CAPITAL IMPROVEMENT PROGRAM

Within the 2002 Report of the Review, a Five Year Capital Improvement Program will be created to identify the needs for water and wastewater treatment facilities, water storage and distribution systems, wastewater collection systems and equipment for the proper operation and maintenance of these facilities to assure safe and adequate systems for both water and sewer. Under this program, a procedure will be established to develop and obtain funding requests from local government to be incorporated into the Talbot County Comprehensive Water and Sewer Plan. As projects are approved for funding, Talbot County will develop approved funding project lists to be forwarded to the Maryland Department of the Environment for incorporation within the State's Infrastructure Inventory and Management Program.

I. COUNTY AND MUNCIPAL REVIEW

On an annual basis, the County will review with the incorporated municipalities their water and/or sewer service areas, the municipal facility plans, programs and policies to update the capital improvement project tables and review future water and/or sewer extension requiring the programming of future areas for water and/or sewer service designations. The County will complete the reviews prior to June 1 of a given year and submit a resolution outlining future changes to the water and/or sewer service areas, capital improvement program and any policy changes that have occurred since the last annual review.

CHAPTER TWO
EXISTING WATER AND SEWER SYSTEMS

A. PHYSICAL FEATURES

The location of Talbot County is on the west-central edge of the Delmarva Peninsula that extends between the Atlantic Ocean and the Chesapeake Bay. The County is located between the parallels of 38°34' and 38°57' north latitude and has an area of 462.51 square miles – 271.82 square miles of land and 190.69 square miles of water and more than 600 miles of tidal shoreline. The County is bounded on the north by Queen Anne's County, on the east and south by Tuckahoe Creek and the Choptank River, and on the west by the Chesapeake Bay.

The topography, geology, drainage and soil characteristics are detailed in the 1992 Plan. For information pertaining to the topography, geology, drainage and soil characteristics, the 1992 plan should be reviewed.

B. POPULATION

As presented in the 1992 Plan, population change is governed by three variables; birth, death and net migration, all of which are influenced by a number of factors. In Talbot County population trends are affected by household size, retired and semi-retired people attracted to the area, employment, interest rates (the economy in general), and zoning restrictions.

The 1992 Plan details various aspects of population forecasting using data from the U.S Bureau of Census and the Maryland Office of Planning. The 1992 Plan should be referenced for additional information pertaining to population density and growth projections. Within the 1992 Plan seven Tables were included to show various population trends within Talbot County. These Tables have been included in the 2002 Report of the Review to provide current census data.

Table 1. 1990 Population by Election District

District Number	Election District	Population	Growth Since 1990
1	Easton	17,631	13.0%
2	St. Michaels	5,636	6.4%
3	Trappe	4,459	9.5%
4	Chapel	4,138	10.2%
5	Bay Hundred	1,948	-0.4%
Total Population		33,812	
Source: U. S. Census (2000)			

Table 2. 2000 Population of Incorporated Municipalities

Municipality	1990 Census	2000 Census	Increase/(Decrease)	Percent (%)
Easton	9,372	11,708	2,336	24.9%
St. Michaels	1,301	1193	(108)	-8.3%
Oxford	699	771	72	1.7%
Trappe	974	1,146	172	17.6%
Queen Anne	110	79	(31)	-28.2%
Total for Towns	12,346	14,896	2,550	20.6%
Total for County	30,549	33,812	3,263	10.7%
Source: U. S. Census (2000)				

Table 3. Population Density by Election District: 1950 – 1990

Density (Persons per Square Mile)

District	1950	1960	1970	1980	1990	2000
Easton	113	132	153.4	167	212	241.6
St. Michaels	98	117	149.1	157	179	190.4
Trappe	42	43	55.1	57	66	72.3
Chapel	31	34	34.1	41	46	50.7
Bay Hundred	103	91	119.7	117	119	118.6
Total	70	77	90.7	94.2	112.4	124.4

Table 4. Maryland Department of Planning and U. S. Census Bureau

2000 Census

Municipalities	Population	% Change from 1970 to 2000
Easton	11,708	55.3%
St. Michaels	1,193	72%
Trappe	1,146	169%
Oxford	771	2.8%
Queen Anne	59	-48%
Talbot County	33,812	42.8%
Eastern Shore	395,903	53.3%
Maryland	5,296,486	35%

Table 5. Talbot County Population by Age Group

Age Group	2000	
	Number	Percent
Under 5	1,752	5.2
5 - 19	6,177	18.3
20 - 64	18,986	56.2
65 & over	6,897	20.4
Source: U. S. Census (2000)		

Table 6. Population Forecasts for Talbot County 1970 – 2030

	1970	1980	1990	1995	2000	2005	2010	2015	2020	2025	2030
Total	23,682	25,604	30,549	32,605	33,812	34,800	35,800	36,700	37,525	38,275	38,950
Average Annual	1970 – 1980		1980 – 1990		1990 – 2000		2000 – 2010		2010 – 2020		2020 - 2030
Growth	0.78%		1.78%		1.02%		0.58%		0.47%		0.38%
Source: Talbot County Planning Office											

C. LAND USE AND PRIORITY FUNDING AREAS

The land use maps developed by the Maryland Department of Planning and under revision by Talbot County can be found in Figure 2 within Chapter 1. The Priority Fund Areas map as depicted by the Maryland Department of Planning and under revision by Talbot County can be found in Figure 1 within Chapter I. The priority funding area boundaries have been incorporated into the existing and proposed water and sewer service areas to clearly define water and sewer service areas residing within the priority funding areas.

D. SAFETY AND ADEQUACY OF WATER AND SEWERAGE SYSTEMS

Water quality is dependent upon the end use. For potable water supplies, public water systems are regulated under the Safe Drinking Water Act and its amendments. The two principal purposes of the Safe Drinking Water Act is to ensure that the water that comes from the tap is fit to drink and to prevent the contamination of groundwater, which serves as the principle source of drinking water for 50% of the general population and 95% of the rural population.

The stated objective of the Clean Water Act is to restore and maintain the chemical, physical and biological integrity of the nation's waters. To achieve this objective, the national goals are as follows:

a. Achievement of a level of water quality which provides for the protection and propagation of fish, shellfish, and wildlife, and for recreation in and on the water; and
b. Elimination of the discharge of pollutants into surface waters; and
c. Discharge of toxic pollutants in toxic amounts shall be prohibited.

To achieve the goals and objectives of the Clean Water Act and Safe Drinking Water Act, regional and watershed-based approaches are needed to ensure the adequacy and safety of the waters within Talbot County. Because of the varying dynamics of natural waters, existing public water supply systems and centralized wastewater treatment plants must be properly operated and maintained, and upgraded and expanded as hydraulic and pollutant loading characteristics change over time. For areas lacking public water supply systems and centralized wastewater treatment facilities, planned water and wastewater services may be required to assure that the requirements of the Safe Drinking Water Act and the Clean Water Act are met.

Because the safety and adequacy of public water supply systems and centralized wastewater treatment plants in Talbot County must be ensured, Capital Improvement Plans for the next five years have been incorporated into the Comprehensive Water and Sewer Plan. The Five Year Capital Improvement Plan outlines the proposed measures to upgrade or expand as well as improve the operation and maintenance of these water and wastewater treatment facilities that are provided in the following sections of this Plan.

E. EXISTING AND PROPOSED WATER SYSTEMS

The water systems throughout Talbot County that consist of privately owned, individual well systems, community systems, and publicly owned water treatment and distribution systems. For details relating to geologic formations and specific information on the aquifers in Talbot County, the 1992 Plan should be referenced. This section of the 2002 Report of the Review, updates the inventory of existing and proposed water facilities.

D.1. GENERAL

There are 329 active Groundwater Appropriation Permits issued by the Maryland Department of Natural Resources to groundwater users in Talbot County. Groundwater Appropriation Permits (GWAP) are issued to all well water users except for farms and single family dwellings with individual wells. Appropriation permits for the County total 6.4 million gallons per day (MGD) yearly average daily flow, and 11.0 MGD average daily use in the highest usage month.

D.2. INVENTORIES

The following pages identify the existing water treatment and supply systems for the various incorporated and unincorporated areas in Talbot County. Included in the inventory of these public water supply systems are the water source, well depth, pump capacity, treatment, storage, distribution, and population within the service area. In addition to the description of the existing water supply system, the capital improvement projects programmed for these systems has been listed in a Table identifying the project, the proposed fiscal year the project will be completed and other relevant comments to assure the safety and adequacy of these water systems.

In addition to the detailed description of the water systems, water service area maps have been incorporated in Figures 7 through 14 for all incorporated and unincorporated areas in Talbot County. These water service area maps depict the areas having immediate priority status and programmed for progress to extend water service for the respective incorporated municipality or unincorporated area served by a public water supply system. The water service area maps were developed using Maryland Property View, a geographical information system software product developed by the Maryland Department of Planning. These maps and figures are for planning purposes only and do not impose an obligation on Talbot County or the incorporated municipalities to provide water service to the anticipated areas programmed for progress.

EASTON WATER SYSTEM

The Town of Easton presently draws water from the Aquia Greensand Aquifer (Well No. 9), the Magothy Aquifer (Well Numbers 6, 7, 8, 10) and the Patapsco Aquifer (Well No. 11). These wells provide 1,676,000 gallons per day to an estimated population of 12,000 and many industrial, commercial and institutional establishments. Existing Elevated Storage Capacity will be expanded to 2.0 million gallons. There is a need to increase the storage capacity to meet average demands and preliminary plans have begun for providing a new 1 million gallon tank. Service area expansions to surrounding areas are expected to continue to keep pace with the demands of development. The existing service and programmed areas for progress for the Town of Easton's Water System are presented in Figure 7.

Source – Wells – Aquia, Magothy, Patapsco Formations

Well No. 6 Permit No. TA71G005(03)
- a. 1045 feet deep - 550 gpm submersible pump
- b. Treatment - Chlorination

Well No. 7 Permit No. TA71G005(03)
- a. 1057 feet deep - 450 gpm submersible pump
- b. Treatment - Chlorination

Well No. 8 Permit No. TA71G005(03)
- a. 1092 feet deep - 600 gpm submersible pump
- b. Treatment - Chlorination

Well No. 9 Permit No. TA71G105(03)
- a. 665 feet deep - 600 gpm submersible pump
- b. Treatment - Chlorination

Well No. 10 Permit No. TA71G005(03)
- a. 1000 feet deep - 150 gpm submersible pump
- b. Treatment - Chlorination

Well No. 11 Permit No. TA71G205(03)
- a. 1225 feet deep - 1400 gpm submersible pump
- b. Treatment - Iron removal and Chlorination

Storage - 1 – 86,000 gallon standpipe (built 1989)
1 – 250,000 gallon elevated tank (built 1955)
1 – 1 million gallons (MG) elevated tank (built 1963)

Treatment Plant Hydraulic Capacities – 3.4 million gallons per day (MGD) total as defined in Appropriation Permit for wells 6, 7, 8, 9, 10 which use Chlorination only, and 2.0 MGD for well No. 11, which uses chlorination and treatment for iron removal.

Distribution – pipelines sizes 4" through 12"
Service Area – the service area is basically the town corporate limits. Present population served in approximately 11,708 persons.

TABLE 7. EASTON WATER SYSTEM CAPITAL IMPROVEMENT PROJECTS

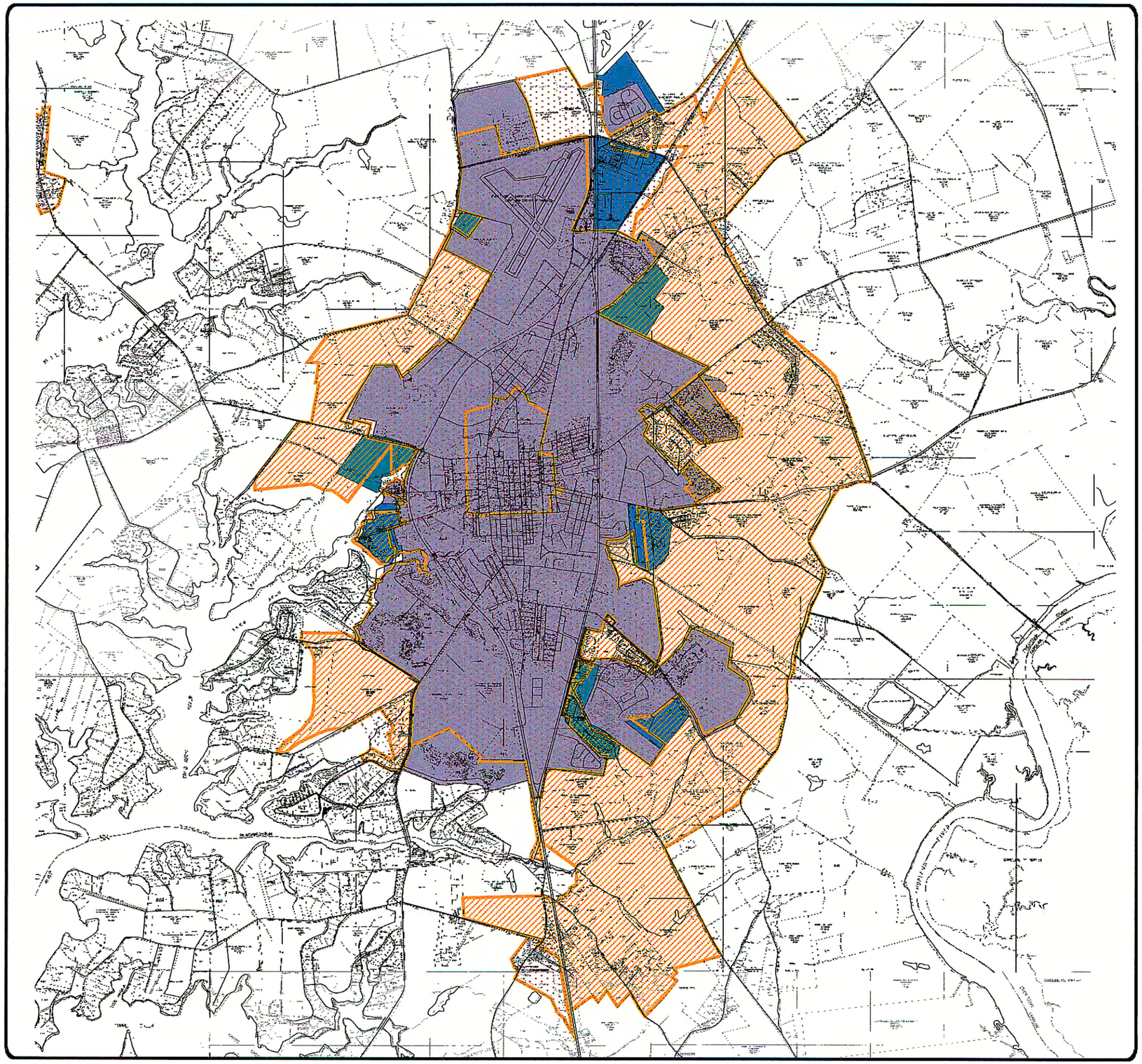
PROJECT DESCRIPTION	PROPOSED FISCAL YEAR	COMMENTS
10 inch water line		
Elevated Storage Tank – 1 MGD	FY2002	
Looping Water Mains	FY2002	
Looping Water Mains	FY2003	
Looping Water Mains	FY2004	

EASTON WATER SYSTEM – FUTURE PLANNING

As identified within the goals of Chapter One of this Plan, growth of the County is to be encouraged and directed in concentrated centers around existing centers of population that presently have adequate or potentially adequate water and sewer services. To plan water service to meet the needs of future growth, the water service provider, the Town of Easton, has delineated the development area around the Town of Easton as shown on Figure 8. The factors that influence the size of the development area for the Town of Easton includes the growth potential of the Town, the presence of natural growth constraints such as waterways, the Chesapeake Bay Critical Area, and the availability of water and sewer service.

From 1970 to 2000, the Town of Easton grew in population by 55.3% with the 2000 census recording 11,708 people residing in the Town. To accommodate future growth, the Town of Easton anticipates annexing land within the growth area in order to extend water service to new users and has identified the need to program all areas within the incorporated Town boundaries as W-1. The W-1 designation means areas served or to be served by the Town of Easton that are either existing, under construction, or have immediate priority status to be served with water service. Those areas just outside the boundaries of the Town of Easton but within the defined growth area would be designated as W-2 as shown on Figure 8. The designation of W-2 means areas where improvements or extensions of existing, or construction of new community services are programmed for progress within a three to five year period.

The information presented in Figure 8 is for planning purposes. This map does not impose an obligation on Talbot County or the Town of Easton to provide water and/or sanitary sewer service areas not presently being served. Prior to extending water service into the growth areas, the Town of Easton would assure that the existing water system has capacity to serve the growth areas and the safety and adequacy of its public water supply system in maintained for all its users.



TALBOT COUNTY
TOWN OF EASTON
LONG RANGE PLANNING
WATER SERVICE AREA

N

Legend

Easton Water Service
- W-1
- W-2
- W-3

Priority Funding Area
- Meets Statutory Criteria
- County Certified

2000 0 2000 4000 6000 Feet

Base Map Data Source: Maryland Department of Planning

Produced by
Talbot County Public Works GIS
November 4, 2002

Figure 8

OXFORD AREA WATER SYSTEM

Oxford currently utilizes two (2) wells each approximately 650 feet deep to draw water from the Aquia Greensand Aquifer. The wells presently supply 128,000 gallons per day to approximately 726 persons. Individual water meters were installed for all residential and commercial customers in 1983. Oxford currently serves water customers inside the limits of the town. Since the 1992 Update, the Town of Oxford has completed various water line upgrades and looping of water lines within the water system. The existing service and programmed areas for progress for the Town of Oxford's Water System are presented in Figure 9.

Source – Wells – Aquia Formation

Well No. 1 Permit No. TA70G002(04)
- a. 675 feet deep - 250 gpm vertical turbine pump – 6" diameter casing
- b. Treatment - Chlorination

Well No. 2 Permit No. TA70G002(04) (Drilled in 1984)
- a. 650 feet deep - 350 gpm submersible pump – 8" diameter casing
- b. Treatment - Chlorination

Storage - 1 – 100,000 gallon LEG (built 2000)
1 – 100,000 gallon elevated tank (built 1988)

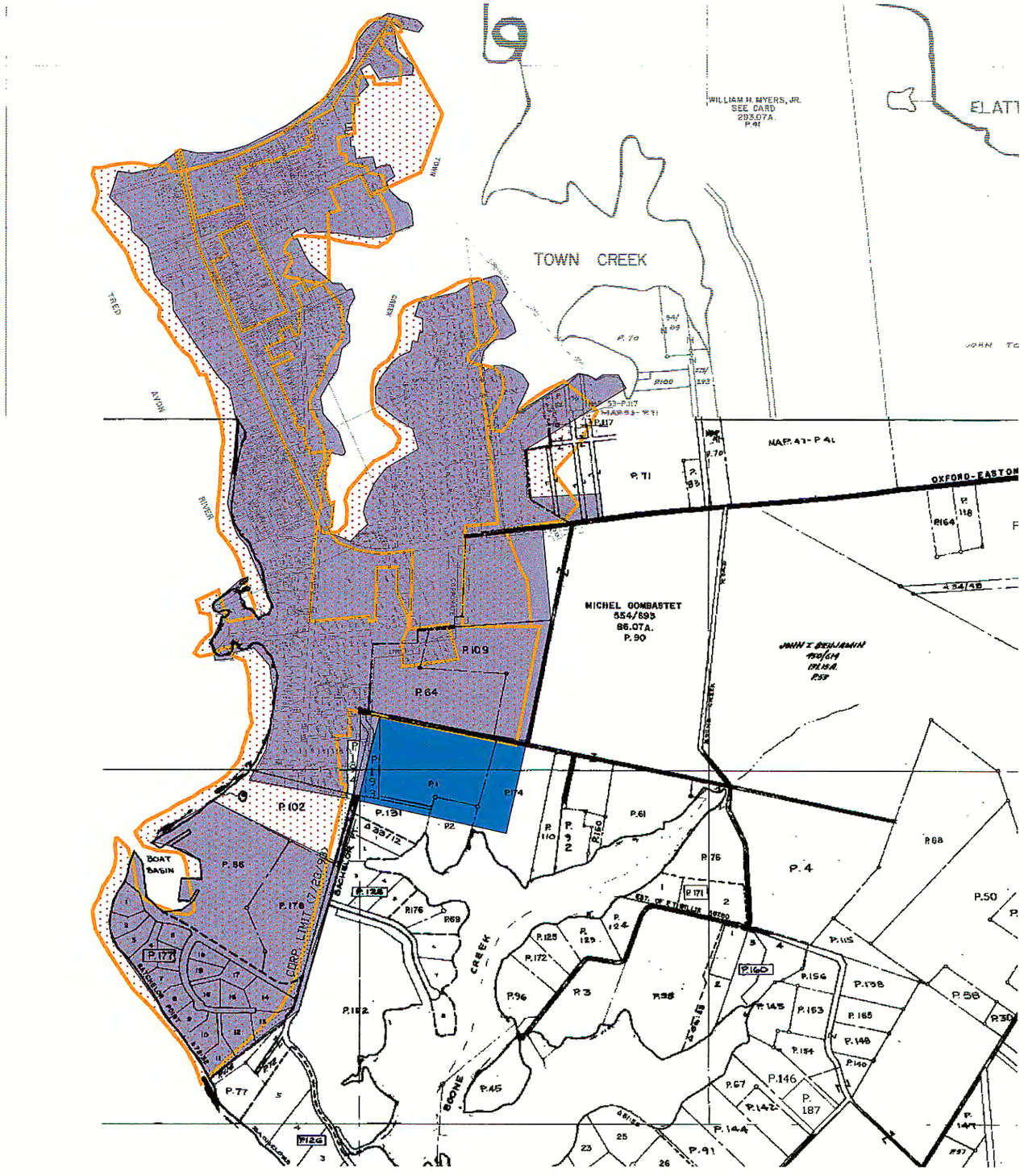
Capacity – 574,000 gallons per day

Distribution – distribution lines vary from 2" to 8" in diameter

Service Area – The Corporation limits of the Town – Serve 726 persons.

TABLE 8. OXFORD WATER SYSTEM CAPITAL IMPROVEMENT PROJECTS

PROJECT DESCRIPTION	PROPOSED FISCAL YEAR	COMMENTS
10 inch water line		
Elevated Storage Tank – 1 MGD	FY2002	
Looping Water Mains	FY2002	
Looping Water Mains	FY2003	
Looping Water Mains	FY2004	



TALBOT COUNTY
TOWN OF OXFORD
WATER SERVICE AREA

N

Legend

Water Service Area

- W-1
- W-2

Priority Funding Area

- MEETS STATUTORY CRITERIA

400 0 400 800 1200 Feet

Base Map Data Source: Maryland Department of Planning

Produced by
Talbot County Public Works GIS
November 4, 2002

Figure 9

ST. MICHAELS WATER SYSTEM

St. Michaels draws water from the Aquia Greensand Aquifer through two (2) wells each approximately 450 feet deep. These wells provide an average 260,000 gallons per day to an estimated population of 2500 persons within the corporate limits and outside to Bentley Hey-Rio Vista. Total storage capacity is 500,000 gallons. Storage is adequate to meet water and fire needs during the tourist season. The existing service and programmed areas for progress for the Town of St. Michaels' Water System are presented in Figure 10.

Source – Wells – Aquia Formation

Well No. 2 Permit No. TA79G004(02)
a. 458 feet deep - 480 gpm electric turbine pump – 10" diameter casing
b. Treatment - Chlorination

Well No. 3 Permit No. TA79G004(02)
a. 450 feet deep - 500 gpm electric turbine pump – 16" diameter casing
b. Treatment - Chlorination

Storage - 1 – 200,000 gallon elevated tank
1 – 300,000 gallon elevated tank

Distribution – distribution lines vary from 4" to 10" in diameter

Service Area – About one half of the service area is inside Town limits and about one-half is outside including the Rio Vista, Bentley Hey Area. System has not been expanded since the 1992 Update.

TABLE 9. ST. MICHAELS WATER SYSTEM CAPITAL IMPROVEMENT PROJECTS

PROJECT DESCRIPTION	PROPOSED FISCAL YEAR	COMMENTS
Rehabilitation of South Tank	FY2002/2003	Joint Project
Rehabilitation of North Tank	FY2002/2003	
Drill and develop new well	FY2003	
Evaluate Arsenic Issue	FY2002	Complete study to evaluate treatment options

TALBOT COUNTY
WATER SERVICE AREA
ST. MICHAELS

N

Legend

Water Service Area

- W-1
- W-2
- W-3

Priority Funding Area

- MEETS STATUTORY CRITERIA

500 0 500 1000 1500 Feet

Base Map Data Source: Maryland Department of Planning

Produced by
Talbot County Public Works GIS
November 4, 2002

Figure 10

TRAPPE AREA WATER SYSTEM

Trappe draws water from the Piney Point Aquifer through two wells, each approximately 400 feet deep. The system supplies an average of 135,000 gallons per day for 1,160 persons. A 250,000-gallon, elevated storage tank provides water storage for the system. Prior to the 1992 Update of the Comprehensive Water and Sewer Plant, a Chlorinator building has been constructed at well No. 4. Preliminary plans are being made to improve flows in some sections of town (Route 50, South Main Street, La Trappe Heights, and Howell Point Road). In 2001, the Town completed replacement of about 80% of its water distribution system. All immediate expansion plans are related to proposed growth. The existing service and programmed areas for progress for the Town of Trappe's Water System are presented in Figure 11.

Source – Wells – Piney Point Formation

Well No. 4 Permit No. TA79G006(2)

a. 410 feet deep - 180 gpm – 6" diameter casing
b. Treatment - Chlorination

Well No. 5 Permit No. TA79G006(2)

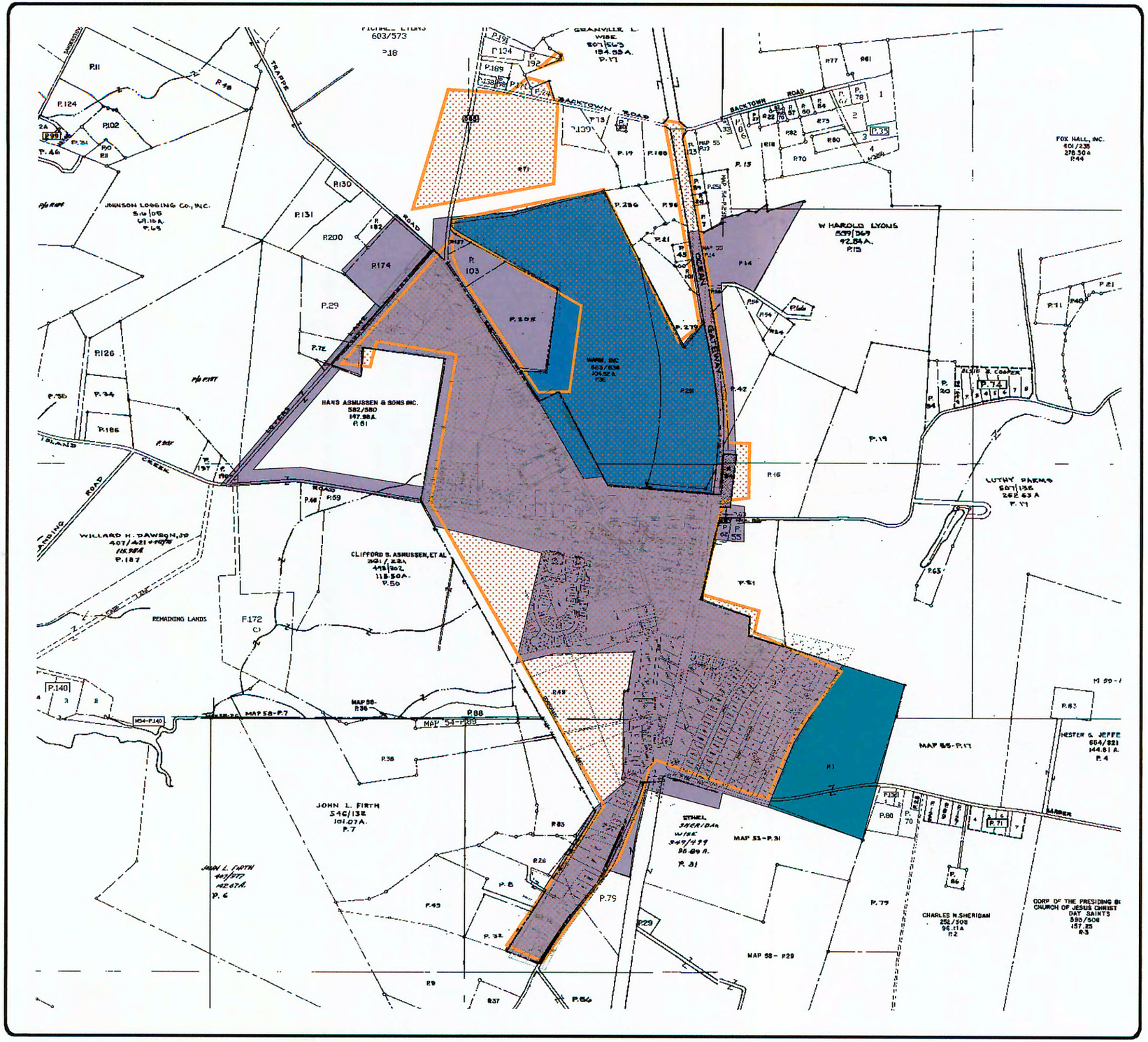
a. 421 feet deep - 180 gpm – 8" diameter casing
b. Treatment - Chlorination

Storage - Storage provided by 70,000 gallon elevated (124' high) storage tank

Service Area – the service area is the corporate limits of the town plus about 9 out of town accounts. Present population served is 1,160 persons.

TABLE 10. TRAPPE WATER SYSTEM CAPITAL IMPROVEMENT PROJECTS

PROJECT DESCRIPTION	PROPOSED FISCAL YEAR	COMMENTS
Add Distribution System to Trappe East District	2003	
Add Distribution System to Whitemarsh District	2004	
Distribution System will be added to Trappe East District	2006	



TALBOT COUNTY
TOWN OF TRAPPE
WATER SERVICE AREA

N

Legend

Trappe Water Service

- W-1
- W-2
- W-3

Priority Funding Area

- Meets Statutory Criteria

1000 0 1000 Feet

Base Map Data Source: Maryland Department of Planning

Produced by
Talbot County Public Works GIS
November 4, 2002

Figure 11

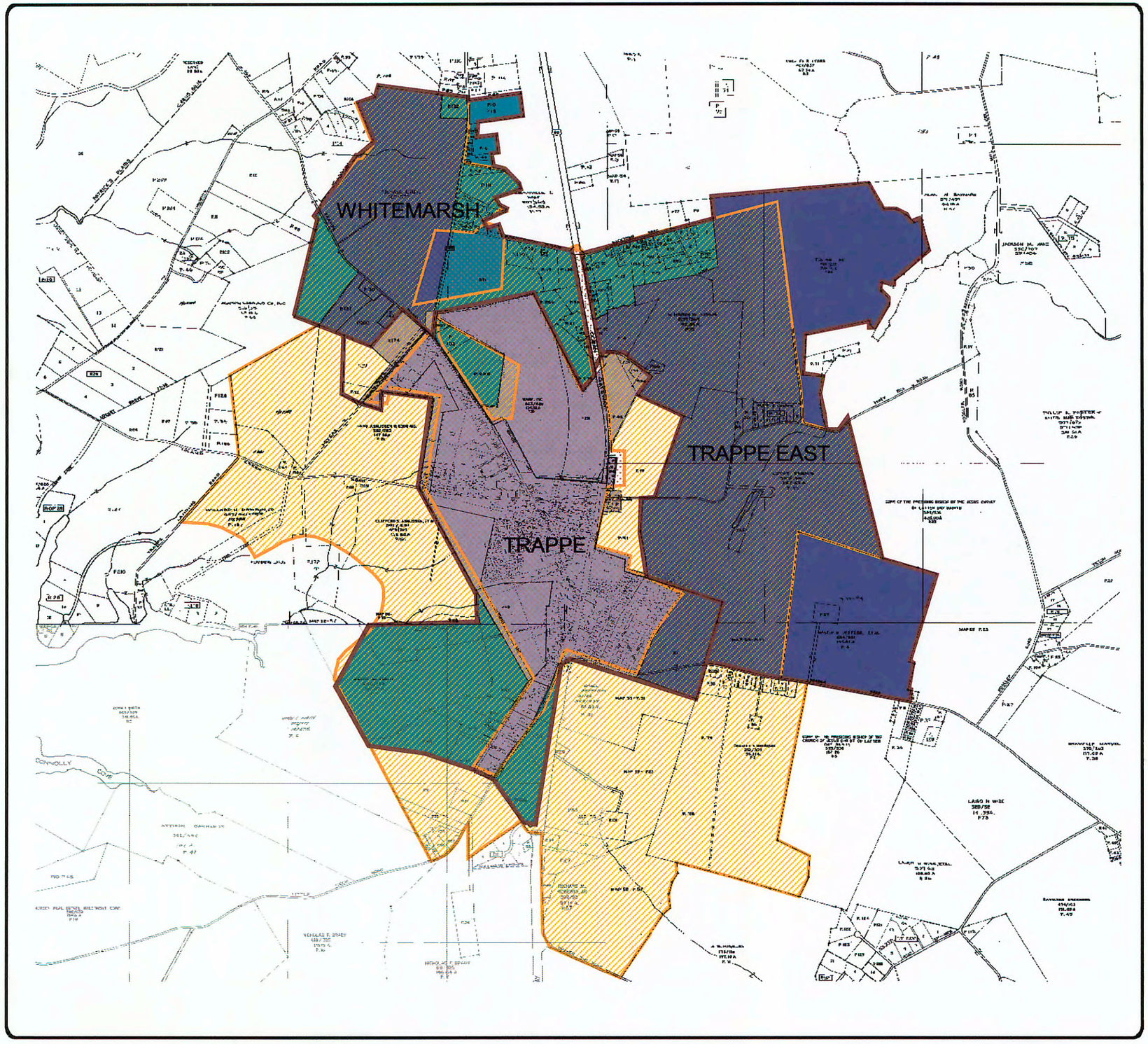
TRAPPE AREA WATER SYSTEM – FUTURE PLANNING

As identified within the goals of Chapter One of this Plan, growth of the County is to be encouraged and directed in concentrated centers around existing centers of population that presently have adequate or potentially adequate water and sewer services. To plan water service to meet the needs of future growth, the water service provider, the Town of Trappe, is proposing to create three water service districts. The water service presently being provided in the Town of Trappe would be referred to as the Trappe Water District. To address the water needs in the growth area around the Town of Trappe, two new water service districts are being proposed.

The proposed Trappe East Water District would serve existing parcels located in the Town boundary and land annexed by the Town on the east side of Maryland Route 50. On the northern end of Town, a second water service district, White Marsh Water District, is being proposed to serve parcels annexed into the Town of Trappe.

The delineated the development area around the Town of Trappe is shown on Figure 12. The factors that influence the size of the development areas for the Town of Trappe includes the growth potential of the Town, the presence of natural growth constraints such as waterways, the Chesapeake Bay Critical Area, and the availability of water and sewer service. As land is annexed into the Town of Trappe, these areas would be designated as W-1 (means areas served or to be served by the Town of Trappe that are either existing, under construction, or have immediate priority status to be served with water service) after amending the Talbot County Comprehensive Water and Sewer Plan.

The information presented in Figure 12 is for planning purposes. The Water Districts have been defined using a blue line with various colors, shading and hatches defining the areas of existing water service and future water service areas and the Priority Funding Areas as defined by the Town of Trappe and the County and those Priority Funding Areas approved by the State. This map does not impose an obligation on Talbot County or the Town of Trappe to provide water and/or sanitary sewer service areas not presently being served. Prior to extending water service into the growth areas, the Town of Trappe would assure that the existing water system has capacity to serve the growth areas and the safety and adequacy of its public water supply system in maintained for all its users.



TALBOT COUNTY
TOWN OF TRAPPE
LONG RANGE PLANNING
WATER SERVICE AREA

N

Legend

Trappe Districts

Trappe Water Service

- W-1
- W-2
- W-3

Priority Funding Area

- Meets Statutory Criteria
- County PFA

1000 0 1000 2000 Feet

Produced by
Talbot County Public Works GIS
November 4, 2002

Figure 12

CLAIBORNE WATER SYSTEM

Claiborne is served by two private water systems, one serving eighteen (18) homes and the other serving twenty-eight (28) homes. The two systems are adjacent and each has a well penetrating the Aquia Greensand Aquifer providing 13,000 gallons per day. The Bay View Water Company well and pump has limited capacity for expanded service. The Claiborne Water Company's main distribution lines are too small and frequently leak. Both systems have a very limited amount of storage. To provide a reliable system that will supply the basic potable water needs of Claiborne, it is recommended that the two systems be unified and storage increased. The Maryland Department of the Environment has pledged partial funding for the project. The two existing service areas for the Water Systems are presented in Figure 13.

Bay View Company, Inc. (Claiborne)

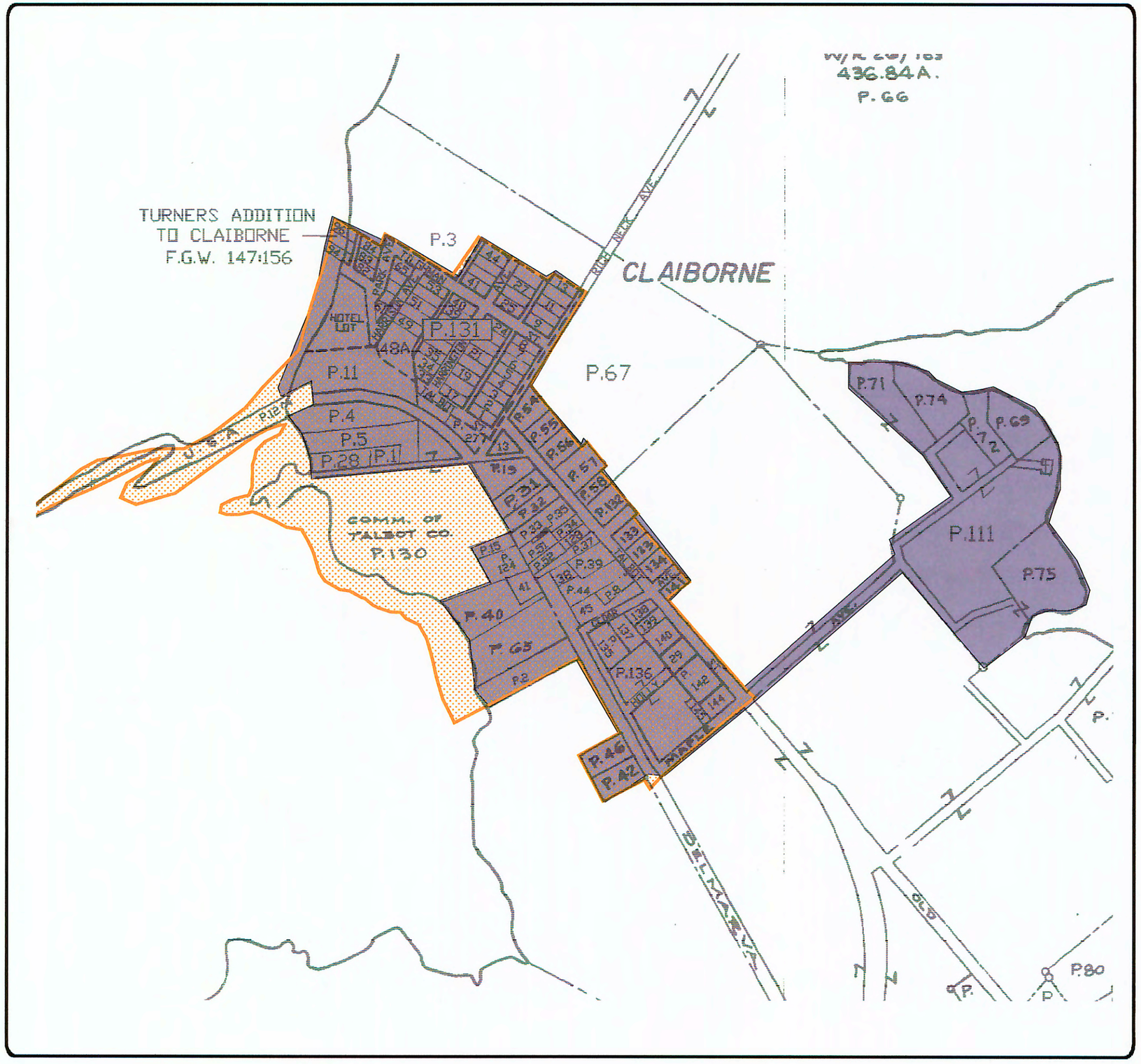
Source – Wells –
Well No. 1 Permit No. TA65G005
a. 364 feet deep - 25 gpm submersible pump (drilled in 1987)– 4" diameter casing
b. Treatment - Disinfection with sodium hypochlorite
Storage - 1 – 350 gallon tank (1966)
Distribution - 4" diameter asbestos cemented pipes installed in 1966.
Service Area – 18 Homes

TABLE 11. BAY VIEW COMPANY, INC. (Claiborne) WATER SYSTEM CAPITAL IMPROVEMENT PROJECTS		
PROJECT DESCRIPTION	PROPOSED FISCAL YEAR	COMMENTS

Claiborne Water Company, Inc.

Source – Wells –
Well No. 1 Permit No. TA83GAP015 (Drilled in 1983 with old well kept as a backup)
a. 350 feet deep - 50 gpm submersible pump (drilled in 1983)– 4" diameter casing
b. Treatment - Disinfection with sodium hypochlorite
Storage - 1 – 1000 gallon tank pressure tank with 250 gallons liquid capacity
Distribution - Small diameter (3/4" and 1") galvanized steel pipes (possibly built in 1940's)
Service Area – 28 Homes

TABLE 12. CLAIBORNE WATER COMPANY, INC. CAPITAL IMPROVEMENT PROJECTS		
PROJECT DESCRIPTION	PROPOSED FISCAL YEAR	COMMENTS



TALBOT COUNTY
CLAIBORNE
WATER SERVICE AREA

N

Legend

Water Service
W-1

Priority Funding Area
Meets Statutory Criteria

200 0 200 400 600 Feet

Produced by
Talbot County Public Works GIS
November 4, 2002

Figure 13

MARTINGHAM WATER SYSTEM

Draws water from two wells, each approximately 400 feet deep. These wells provide 43,000 gallons per day to a population of 421 persons. A 75,000- gallon storage facility is available and will be adequate beyond 2000. The resort was to be completed by 1995. The existing service and programmed areas for progress for the Martingham Community's Water System are presented in Figure 14.

Source – Wells –

Well No. 1 Permit No. TA85G013(01)

a. 405 feet deep - 330 gpm submersible pump (new pump in 1984)– 6" diameter casing
b. Treatment - Chlorination

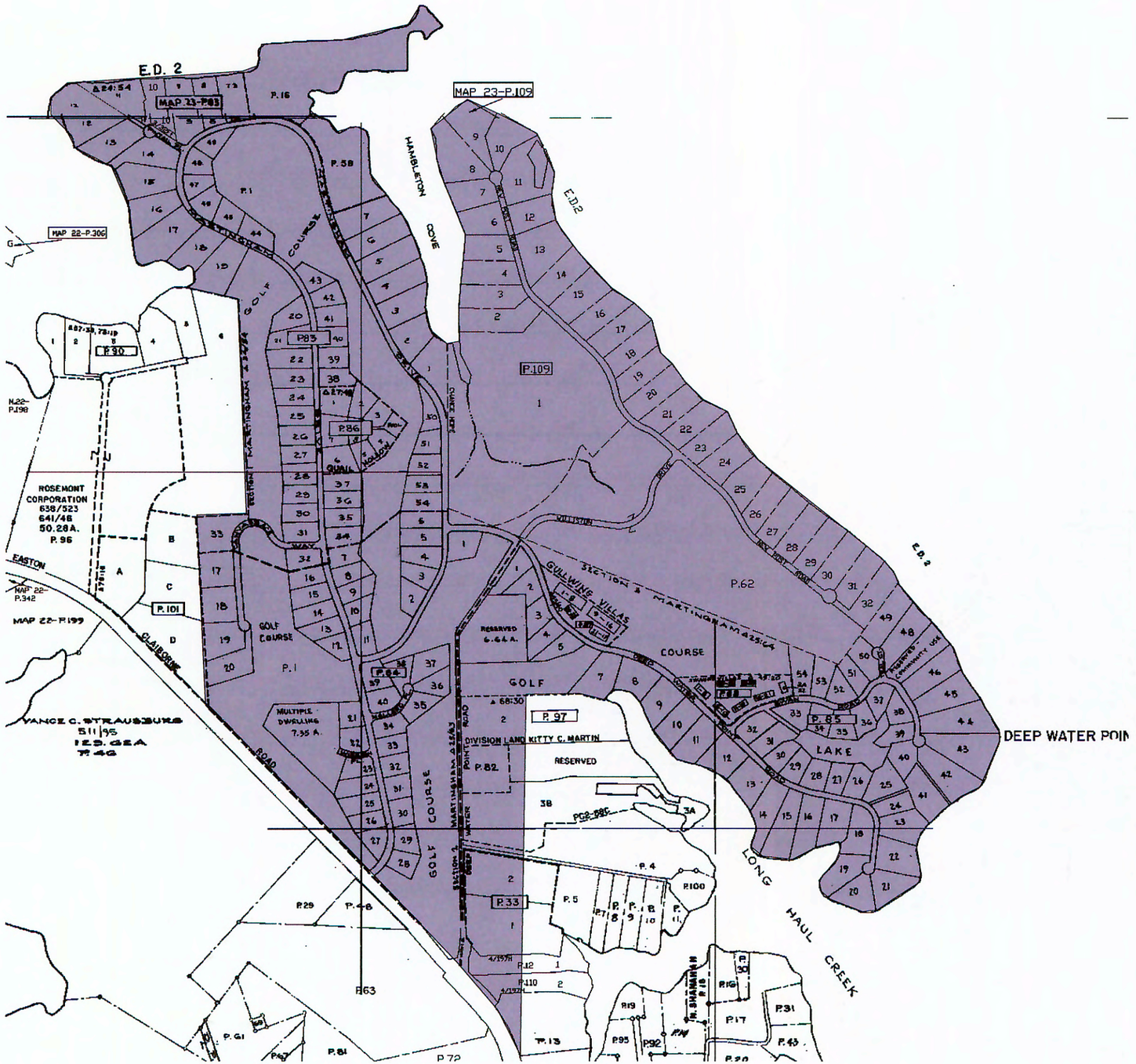
Well No. 1 Permit No. TA85G013(01)

a. 395 feet deep - 300 gpm submersible pump - 6" diameter casing
b. Treatment - Chlorination

Storage - 1 – 75000 gallon tank at ground level with booster pump

TABLE 13. MARTINGHAM WATER SYSTEM CAPITAL IMPROVEMENT PROJECTS

PROJECT DESCRIPTION	PROPOSED FISCAL YEAR	COMMENTS



TALBOT COUNTY
MARTINGHAM
WATER SERVICE AREA

N

Legend

Water Service

W-1

400 0 400 800 1200 Feet

Produced by
Talbot County Public Works GIS
November 4, 2002

Figure 14

HYDE PARK WATER SYSTEM

Currently serves 168 mobile home lots. Average daily demand is 19,300 gallons to serve 261 people. An evaluation of the water system is currently being performed to determine capacity of the existing system and the extent of future upgrades. The existing service and programmed areas for progress for the Community of Hyde Park's Water System are presented in Figure 15.

Source – Wells –

Well No. 1 Permit No. TA73G001
- a. 140 feet deep - 50 gpm – 6" diameter casing
- b. Treatment - Chlorination

Well No. 1 Permit No. TA73G001
- a. 666 feet deep - 70 gpm - 6" diameter casing
- b. Treatment - Chlorination

Storage - 1 – 5000 gallon tank (1972)

Service Area – Jensen Hype Park Mobile Home Park

TABLE 14. HYDE PARK WATER SYSTEM CAPITAL IMPROVEMENT PROJECTS

PROJECT DESCRIPTION	PROPOSED FISCAL YEAR	COMMENTS

TALBOT COUNTY
HYDE PARK
WATER SERVICE AREA

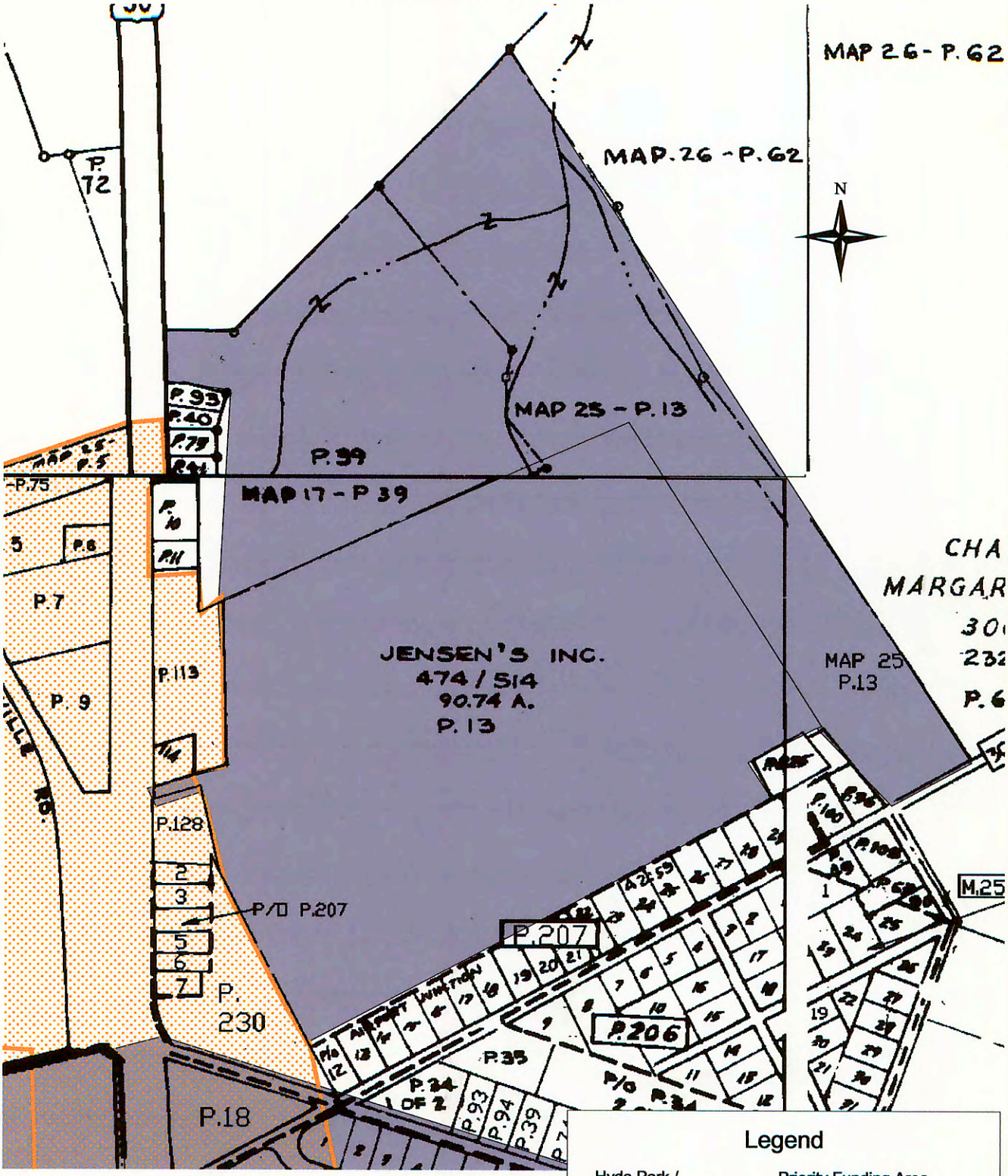


Figure 15

CALHOON M.E.B.A. ENGINEER SCHOOL WATER SYSTEM

Draws water through three wells. Well No. 3 services the school and living quarters only and is chlorinated. A 10,000-gallon storage tank is provided. The other wells service the manor house and adjacent structures only at an average demand of less than 1000 gallons per day. These wells are chlorinated. The school can potentially serve 350 to 400 people but due to currently low industry demands for marine personnel the service population is about 150 people. The existing service and programmed areas for progress for the Calhoon M.E.B.A. Engineer School's Water System are presented in Figure 16.

Source – Wells –

Well No. 1 Permit No. TA

a. Unknown deep in feet; unknown Flow Rate (gpm) – diameter casing – unknown

b. Treatment - Chlorination

Well No. 2 Permit No. TA

a. 666 feet deep - 70 gpm - 6" diameter casing

b. Treatment - Chlorination

Storage - 1 – 10000 gallon tank (Date)

Service Area – Calhoon M.E.B.A. Engineer School Campus

TABLE 15. CALHOON M.E.B.A. ENGINEER SCHOOL WATER SYSTEM CAPITAL IMPROVEMENT PROJECTS

PROJECT DESCRIPTION	PROPOSED FISCAL YEAR	COMMENTS

LESSER DEVELOPED AREAS

For the small unincorporated areas of Copperville, Tunis Mills, Unionville, Royal Oak, Newcomb Bellevue, Bozman, Wittman, Neavitt, Tilghman, Avalon, Fairbanks, Matthews, Bruceville and Cordova it is concluded that, due to sparse population and/or adequate supplies from wells, these areas do not currently warrant consideration of community water system unless they experience future nitrate problems and unless federal and/or state funds become available for water development.

TALBOT COUNTY
CALHOON MEBA ENGINEER SCHOOL
WATER SERVICE AREA

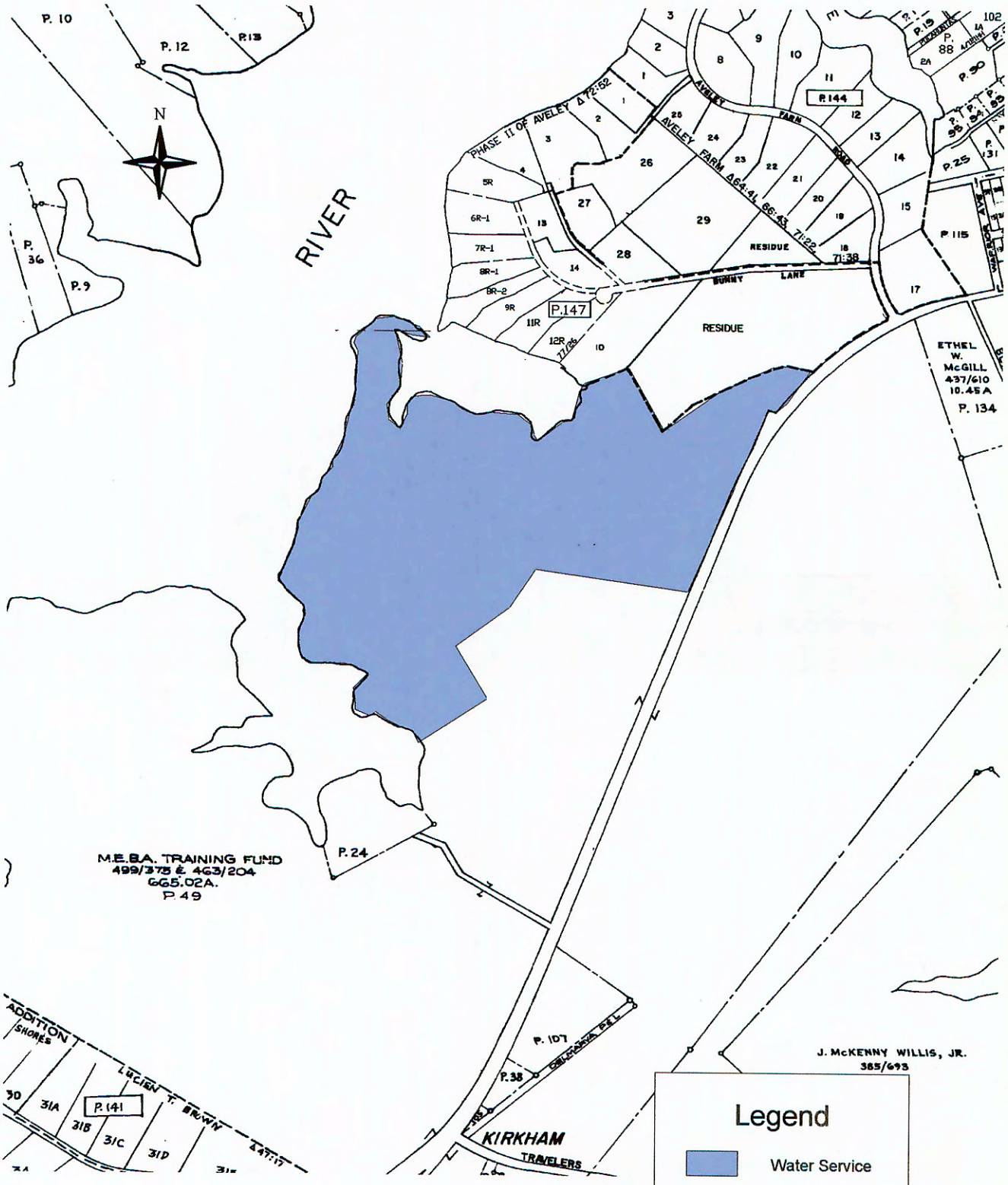


Figure 16

E.1. DETAILED INFORMATION ON EXISTING SEWERAGE SYSTEMS

Within the unincorporated areas of Talbot County and some areas within the boundaries of the incorporated municipalities privately owned, on-site disposal systems are used. For details relating to the Soil Characteristics and the Groundwater Protection Plan, the 1992 Plan should be referenced. This section updates various existing and proposed sewer service area maps and figures for planning community and publicly owned sewerage systems in the future.

E.2. GENERAL

Wastewater systems in Talbot County are quite varied, ranging from individual systems with sub-surface disposal to municipal systems utilizing mechanical equipment. To properly accommodate a system using sub-surface disposal, appropriate soil types must be available. The sands, sandy loams and silt loams located generally east of U.S. 50 are, in general, good for sub-surface discharge except in areas of high groundwater. The silty and clayey soils, located generally west of U.S. 50, have low permeabilities for sub-surface discharge. However, this area also contains the greatest population concentration outside the municipalities due to the attraction of waterfront properties. The unsuitability of the silty and clayey soils, coupled with a high water table and low elevations render the western portion of the County susceptible to system failures.

Land application treatment/disposal is used in some wastewater systems in Talbot County and prevents the concentration of pollutants in a body of water and allows recharge of the sub-surface aquifers. This Other means of disposal include treatment with discharge to surface waters or groundwater (infiltration ponds).

E.3. INVENTORIES

The following sewerage system descriptions identify the existing wastewater treatment and sewer collection systems for the various incorporated and unincorporated areas in Talbot County. Included in the inventory of these wastewater treatment and sewer collection systems are the receiving stream, pump station(s), pumping flow rate(s), method of wastewater treatment. In addition to the description of the existing wastewater treatment and sewer collection system, the capital improvement projects programmed for these systems has been listed in a Table identifying the project, the proposed fiscal year the project will be completed and other relevant comments to assure the safety and adequacy of the wastewater treatment and sewer collection systems.

The sewer service area maps have been incorporated in Figures 16 through 24 for all incorporated and unincorporated areas in Talbot County. These water service area maps depict the areas having immediate priority status and programmed for progress to extend sewer service. The sewer service area maps were developed using Maryland Property View, a geographical information system software product developed by the Maryland Department of Planning. These maps and figures are for planning purposes only and do

not impose an obligation on Talbot County or the incorporated municipalities to provide sewer service to the anticipated areas programmed for progress.

E.5. ADDITIONAL INFORMATION

For additional information concerning the following topics please refer to the 1992 Comprehensive Water and Sewer Plan for Talbot County.

SLUDGE MANAGEMENT PLAN

FINANCIAL MANAGEMENT PLANS

SECTIONS II - THE COMPREHENSIVE SEWERAGE PLAN

SECTION III - ALTERNATIVES TO THE SEWERAGE PLAN

EASTON-HYDE PARK AREA SEWERAGE SYSTEM

The Town of Easton, Hyde Park, and North Easton Unincorporated Sewer System Plan and Sewer System Layout are presented in Figure 16. The Town of Easton is presently served by a secondary and tertiary treatment facility that handles 1.78 mgd of which 0.36 mgd is estimated to be infiltration and inflow. The lagoons and overland flow provide a permitted capacity of 2.35 mgd that will be sufficient until about year 2006. Preliminary plans are now being made to increase plant capacity in the next 10 years to a design flow of 4.0 MGD as presented in the Town of Easton Wastewater Treatment Facility Plan dated June 2002. The Easton Wastewater Treatment Facility Plan should be referenced for further information concerning the sizing and proposed level of treatment for the future upgrade and expansion of the Easton Wastewater Treatment Facility. Sewer extensions and expansion of service areas are scheduled through 2002.

North Easton Unincorporated is an area adjacent to the North limit of the Town of Easton. The current problems in this area include failing septic systems of the Clearview Subdivision and adjacent properties within the A-1 zoning. Corrections of these problems may ultimately be by connection of the area to the Town of Easton's sanitary facilities. This can only be done following annexation of the area. Although grant funds might be available for the sanitary facilities, excessive costs would be associated with other facilities required by the town. A sewer study and preliminary design was performed in this area for a small community sewerage system to service Talbot Trailer Park, Clearview Subdivision and commercial properties along Kennedy Street. However, due to the stringent effluent requirements for discharge by a treatment facility into Galloway Run, a tributary of the Choptank River, and the in acceptance of a bermed infiltration pond by the Department of the Environment, this approach is not economically feasible. The Town of Easton has identified this area within their immediate, 5 and 10 year planning areas.

Hyde Park's system currently serves 168 mobile home lots. The two-stage stabilization lagoon system with a design capacity of 58,000 gpd currently processes an average of 17,000 gpd. The treated effluent is disposed of in a 1.0-acre infiltration pond. Sewer extensions along Westminister Road and west of Park Lane were recently made. Also, additional expansion is underway east of Knightsbridge Road. An evaluation is underway to determine the extent of improvements required to implement a permanent spray irrigation system so that service can be provided for a proposed expansions of Hyde Park.

A pump station and force main have been constructed at the infiltration pond to convey treated effluent to the Hog Neck Golf Course for disposal 9 months of the year via an existing spray irrigation system. Also, floating aerators have been installed on the lagoons to enhance treatment. The existing service and programmed areas for progress for the Town of Easton's Sewer Water System are presented in Figure 17.

Easton

Point of discharge - Councell Creek, then into the Choptank River.
Pumping Stations:

No. 1 - North Pump Station - with a macerator; three (3) pumps - 1096 gpm for each centrifugal pump; 16" diameter force main.
No. 2 - South Pump Station - a macerator with bypass bar screen; two pumps - 1,000 and 1,000 gpm; - 2, 10" diameter force mains.
No. 3 - Windmill Pump Station – macerators with bypass bar screen; two pumps – 1,050 centrifugal pumps; 12" diameter force main.
No. 4 - Clifton Pump Station - a macerator with bypass bar screen; two centrifugal pumps with a flow rating of 972 gpm; 8" diameter force main.
No. 5 - Calvert Pump Station - a macerator with bypass bar screen; two centrifugal pumps with a flow rating of 1040 gpm; 16" force main.

Force main connect to a 20" diameter force main which extends from the Humane Society to the wastewater treatment plant.

The entire Easton Utilities Commission power system is backed up by Conectiv Power thus no emergency on-site generators are provided on-site.

Treatment Plant Permit capacity - 2.35 mgd

Two stabilization lagoons - One 50 acre, primary treatment lagoon. One 13 acre, lagoon is used for flow management.

Tertiary Treatment - overland flow on 63 acres.

Disinfection – gas chlorination

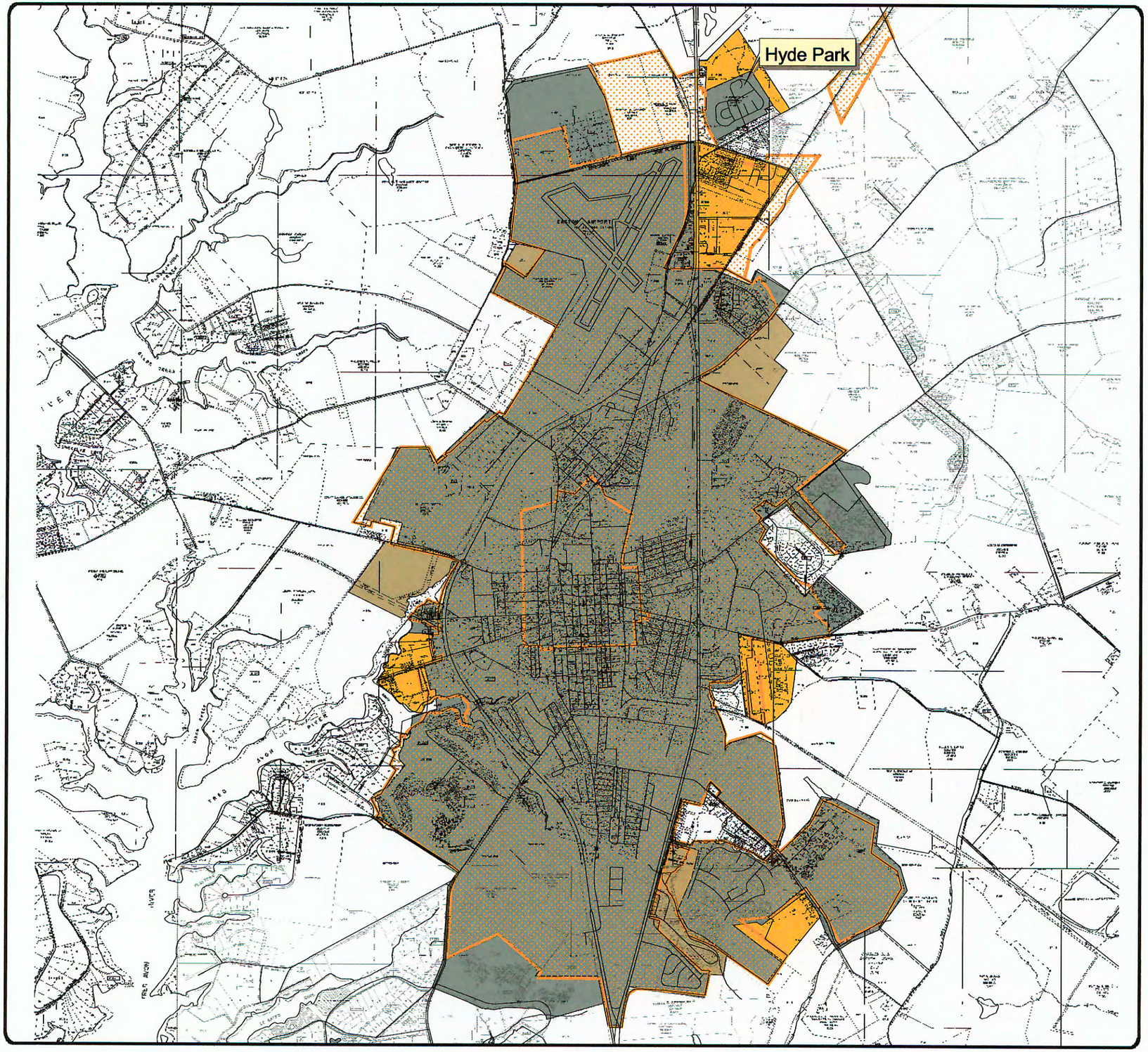
Dechlorination - gascous sulfur dioxide.

Post Aeration - three submersible 15 hp aerator

Recycle Pumps – three 30 HP pumps are used on the overland flow terraces for recycling treated water.

TABLE 16. EASTON SEWERAGE SYSTEM CAPITAL IMPROVEMENT PROJECTS

PROJECT DESCRIPTION	PROPOSED FISCAL YEAR	COMMENTS
Feasibility Study to Upgrade WWTP	FY2002	$50,000.00 – Operating Budget
Engineering WWTP Upgrade	FY2004	$3,000,000.00 – Grant/Capital Budget
Upgrade WWTP	FY2006	$20 to 30 Million – Grant/SRF/Cap. Bud.
Sewer Collection System Study	FY2003	$150,000 – Grant/Capital Budget
Sewer Collection System Improvements	FY2004	$2M+ Grant/Capital Budget



TALBOT COUNTY
TOWN OF EASTON
SEWER SERVICE AREA

N

Legend

Easton Sewer Service

- S-1
- S-2
- S-3

Priority Funding Area

- Meets Statutory Criteria

2000 0 2000 4000 Feet

Base Map Data Source: Maryland Department of Planning

Produced by
Talbot County Public Works GIS
November 1, 2002

Figure 17

EASTON-HYDE PARK AREA SEWERAGE SYSTEM – FUTURE PLANNING

The delineation of the development area around the Town of Easton was based on consultation with representatives of the Town. The factors that influence the size of the development area for the Town of Easton includes the growth potential of the Town, the presence of natural growth constraints such as waterways, the Chesapeake Bay Critical Area, and the availability of water and sewer service.

From 1970 to 2000, the Town of Easton grew in population by 55.3% with the 2000 census recording 11,708 people residing in the Town. To accommodate future growth, the Town of Easton anticipates annexing land within the growth area in order to extend wastewater service to new users and has identified the need to program all areas within the incorporated Town boundaries as S-1. The S-1 designation means areas served or to be served by the Town of Easton that are either existing, under construction, or have immediate priority status to be served with sewer service. Those areas just outside the boundaries of the Town of Easton but within the defined growth area would be designated as S-2 as shown in Figure 18. The designation of S-2 means areas where improvements or extensions of existing, or construction of new community services are programmed for progress within a three to five year period.

Because of concern with the nutrient cap strategy established for the Easton Wastewater Treatment by the Maryland Department of the Environment, the Town of Easton is pursuing planning and design activities to improve the nutrient reduction of the existing wastewater treatment facility through advanced biological nutrient removal technologies. The total nitrogen and phosphorus caps published in the Maryland Interim Nutrient Management Cap Strategy report are 44,346 pounds and 11,087 pounds per year, respectively. The Town of Easton anticipates that the Easton Wastewater Treatment Facility will be upgraded with the latest BNR technologies by December 2005 thus reducing the nitrogen and phosphorus loading to the Choptank River based on calendar year 2000 flows of 2.05 million gallons per year to 28,099 and 3,122 pounds per year, respectively. The Town of Easton will be upgrading and expanding the Easton Wastewater Treatment Facility to 4.0 million gallons per day (MGD) with year-round concentrations of total nitrogen and total phosphorus being 4.5 mg/l and 0.5 mg/l, respectively. Additional information can been obtained from the Town of Easton Wastewater Treatment Facility Plan dated June 2002. Through various means of effluent disposal, land application (the Town has nearly 200 acres of land) and point-source discharge to the Upper Choptank River, the Town of Easton will operate the Wastewater Treatment Plant under the total nitrogen cap loading of 49,840 pounds per year with the total phosphorus loading being reduced to 6,091 pounds per year based on the full capacity of the proposed expansion of the plant to 4.0 MGD.

The information presented in Figure 18 is for planning purposes. This map does not impose an obligation on Talbot County or the Town of Easton to provide water and/or sanitary sewer service areas not presently being served. Prior to extending sewer service into the growth areas, the Town of Easton would assure that the existing sewer system has capacity to serve the growth areas and the safety and adequacy of its public sewer supply system is maintained for all its users.

A report, prepared by Easton Utilities, evaluated the wastewater disposal requirements for the Town of Easton, Maryland, over the time period of 2002 to 2025. The report reviews the current wastewater facilities including the collection system, pumping stations, force mains, and wastewater treatment system. This review is summarized as follows:

- The current demand for wastewater service is 1.53 MGD (million gallons per day). There are five (5) wastewater service areas, each of which can accommodate additional loads in the interceptor sewers. The pumping facilities have been renovated within the past three years, and the pumps are sized to the build-out potential of the service area.

- Infiltration and inflow into the collection system averages 0.403 MGD. During prolonged wet periods, the annual rate may increase to as much as 0.688 MGD (annual average), and the peak daily amount is 3.644 MGD.

- The wastewater treatment facility was last upgraded in 1988 and is adequately sized to treat 2.35 MGD. The existing facility is performing better than the original design contemplated and there have been no violations of permit conditions since 1989.

The growth of the community was projected in accordance with the Town's Comprehensive Development Plan of 1997. Following the forecast, a master plan was developed for extensions of the collection system to serve the future growth areas. The projection of future conditions is summarized as follows:

- The census population is estimated to increase to 22,395 people in the year 2030.

- Wastewater service demand is estimated to increase to 3.15 MGD

- Wastewater flows, including infiltration & inflow, may be as high as 4.01 MGD

- Upgrades to the treatment system should be designed to meet best available technology standards (3 mg/l total nitrogen, 0.5 mg/l total phosphorous)

Six alternative systems were described to increase the capacity of the facility to 4 MGD, and the optimum approach was chosen by evaluation of the annual cost, constructability, complexity of operation, public acceptability, and environmental impact. The optimum plan is as follows:

- Convert the existing secondary pond into an extended aeration system with "Biolac" (a proprietary process manufactured by Parkson Corporation)

- Add a coagulating agent to the mixed liquor suspended solids as it enters the clarification stage for phosphorous removal

- Construct a denitrifying filter (with carbon supplement) to assure nearly complete removal of nitrogen and polish the effluent

- Utilize ultra-violet radiation for disinfection

- Provide equipment for production of Class "A" sludge

- Maintain the current system for management of wet weather flows

It is proposed to begin the process by selecting a consulting engineer to verify the conclusions of this plan, and to proceed on the detailed design and specifications. While the Biolac system has been recommended in this plan, it is good engineering practice to remain flexible at this stage, and allow the design engineer to analyze other methods. Another method may be utilized provided that the design engineer has adequately compared that system to the Biolac proposal of this report, and demonstrates the cost-effectiveness of the alternative solution. The engineer should have experience with a broad range of biological nutrient removal systems, and have adequate staffing to complete the design of the project before December 31, 2003.

TALBOT COUNTY
TOWN OF EASTON
LONG RANGE PLANNING
SEWER SERVICE AREA

N

Legend

Easton Sewer Service

- S-1
- S-2
- S-3

Priority Funding Area

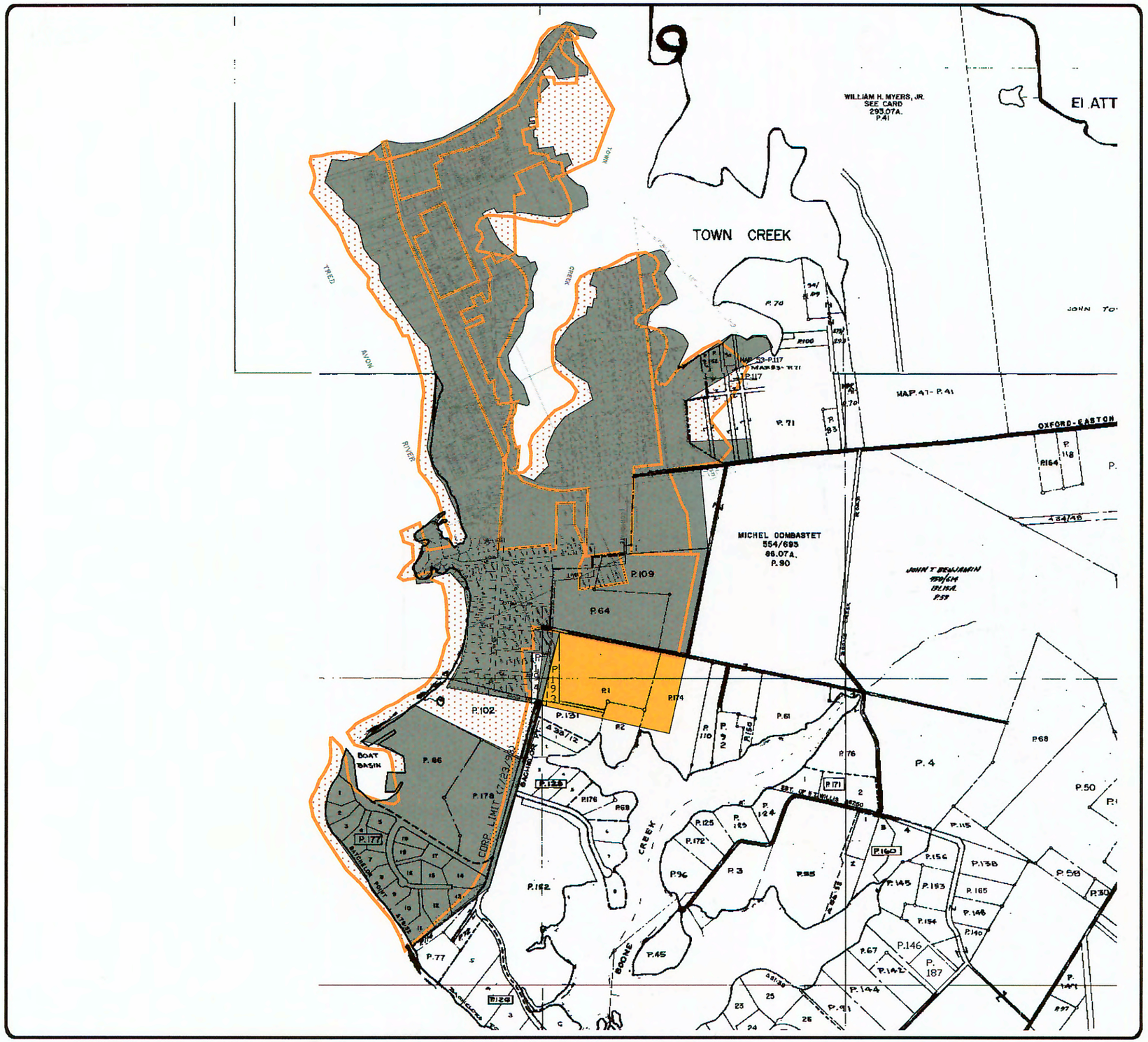
- Meets Statutory Criteria
- County Certified

2000 0 2000 4000 6000 Feet

Base Map Data Source: Maryland Department of Planning

Produced by
Talbot County Public Works GIS
November 4, 2002

Figure 18



TALBOT COUNTY
TOWN OF OXFORD
SEWER SERVICE AREA

N

Legend

Oxford Sewer Service

- S-1
- S-2

Priority Funding Area

- Meets Statutory Criteria

500 0 500 1000 Feet

Base Map Data Source: Maryland Department of Planning

Produced by
Talbot County Public Works GIS
November 6, 2002

Figure 20

CALHOON MEBA ENGINEER SCHOOL SEWERAGE SYSTEM

Refer to Figure No. 21, Calhoon MEBA Engineer School Campus's Sewerage System Plan for existing and planned sewer service areas. Currently spray irrigates lagoon treated wastewater as necessary. They recently converted from a single spray gun to smaller, evenly spaced spray heads. If the marine industry should improve in the future, the student population could increase. There are no current indicators that this will happen.

Treatment Plant:

Three (3) cell stabilization lagoon with Rock Filter and Chlorination emptying into holding pond for spray irrigation.

Disposal - Spray Irrigation on approximately 15 acres.

Disinfection - effluent is chlorinated.

TABLE 19. CALHOON M.E.B.A. ENGINEER SCHOOL SEWERAGE SYSTEM CAPITAL IMPROVEMENT PROJECTS

PROJECT DESCRIPTION	PROPOSED FISCAL YEAR	COMMENTS

TALBOT COUNTY
CALHOON MEBA ENGINEER SCHOOL
SEWER SERVICE AREA

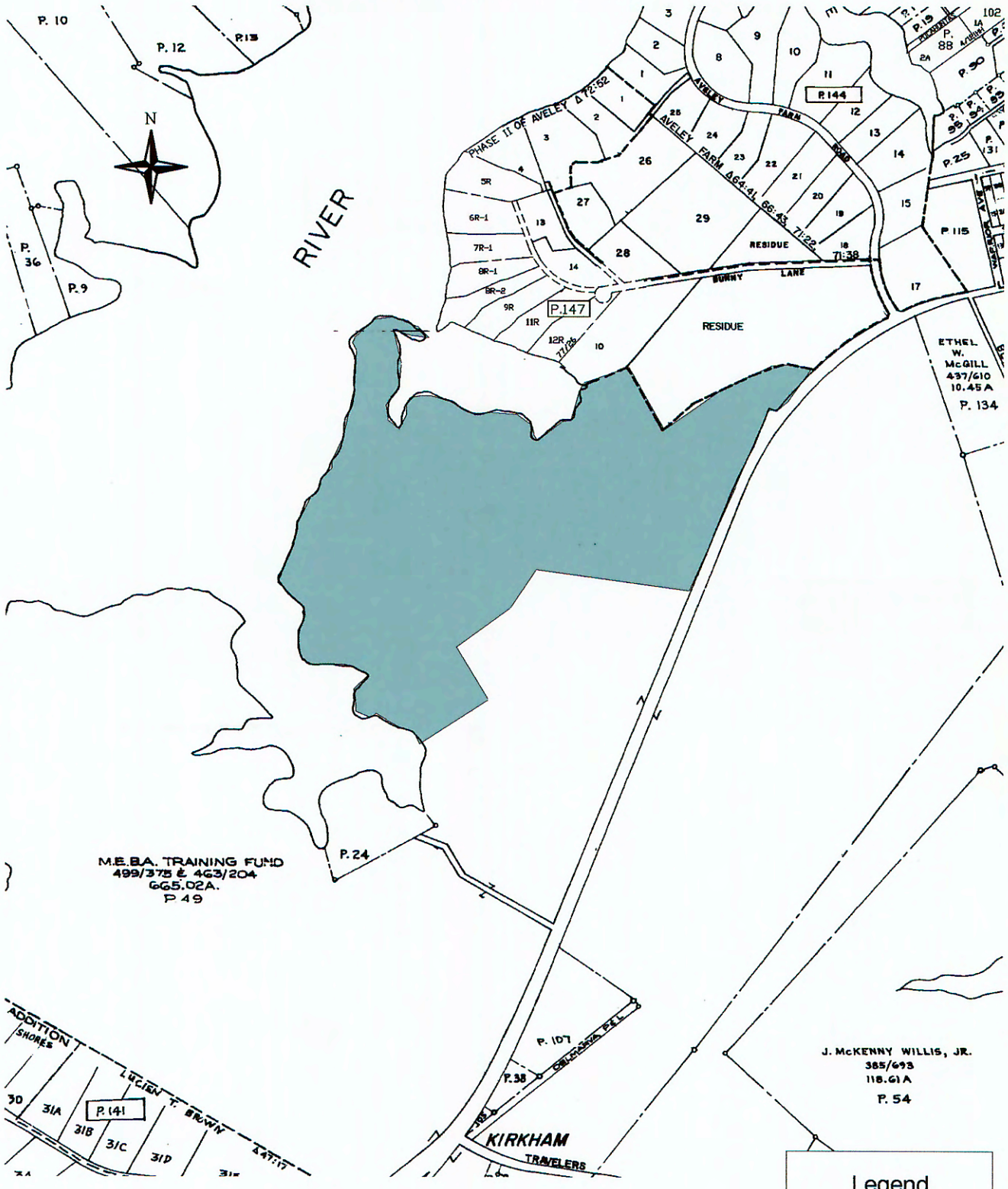


Figure 21

MARTINGHAM SEWERAGE SYSTEM

Refer to Figure No. 22 for the Sewerage System Plan for existing and planned sewer service areas in the Martingham Community. This community is served by one of the first vacuum collection systems to be installed in the country. Wastewater is treated by a stabilization lagoon system. Treated effluent is chlorinated prior to spray irrigation onto the golf course. The design capacity of the treatment system is 75,000 gallons per day while the capacity of the spray system is 42,800 gpd. It is anticipated that build out of available lots will be complete by 2005. Routine lateral extensions are anticipated to accompany this growth, and preliminary plans are underway to build a new lagoon. Space is available for a third holding pond/lagoon. Both the stabilization lagoon system and the spray system capacities were to be increased before the planned total build out in 2005. Overall system capacity should meet or exceed this planned build out capacity of 68,000 gallons per day. A study will be needed to identify additional spray irrigation areas required.

Lagoons for treatment and holding during inclement weather and spray irrigation on Golf Course.

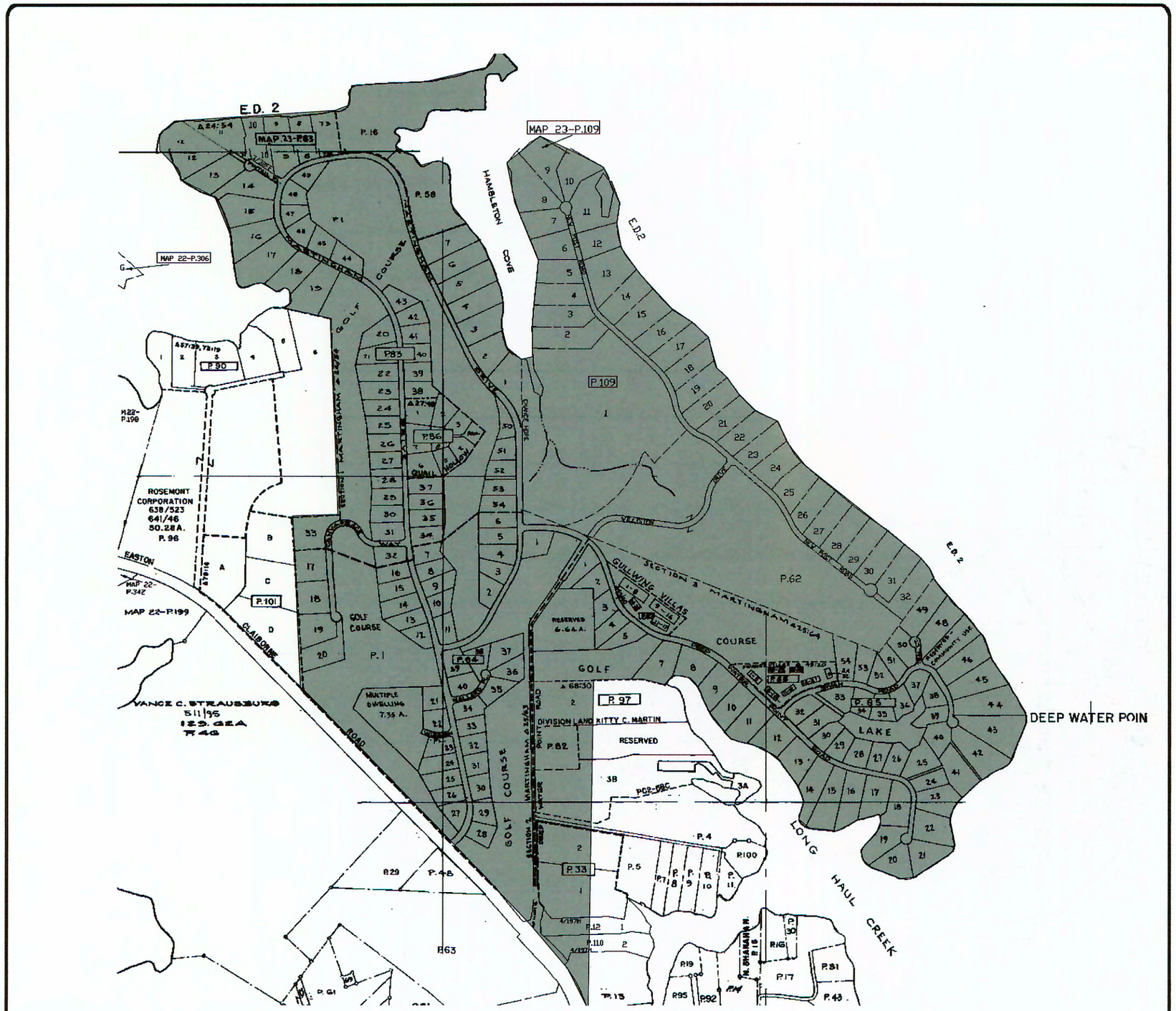
Two - 0.9 acre stabilization lagoon - water depth varies from 3' to 5'

Disinfection - effluent is chlorinated prior to entering holding pond and again prior to spraying.

Design Capacity - Treatment capacity is 75,000 gpd but spray disposal areas have a permit limit of 42,800 gpd average.

TABLE 20. MARTINGHAM SEWERAGE SYSTEM CAPITAL IMPROVEMENT PROJECTS

PROJECT DESCRIPTION	PROPOSED FISCAL YEAR	COMMENTS



TALBOT COUNTY
MARTINGHAM
SEWER SERVICE AREA

N

Legend

Sewer Service

S-1

500 0 500 1000 Feet

Base Map Data Source: Maryland Department of Planning

Produced by
Talbot County Public Works GIS
November 6, 2002

Figure 22

TRAPPE AREA SEWERAGE SYSTEM

The Sewerage System Plan for existing and planned sewer service areas for the Town of Trappe is presented in Figure 23. In 2002, the treatment system was upgraded to include Biological Nutrient Removal using a Biolac, Wave Oxidation Process with chlorination/dechlorination and sand filtration prior to discharging the effluent into a tributary of La Trappe Creek. The wastewater treatment system has a design and permit limitation of 220,000 gallons per day. The citizens of Trappe have a $3.5 million debt associated with the upgrade of the existing systems. Sludge was removed from the primary pond in 2002.

Point of discharge - a tributary of LaTrappe Creek.

Pumping Stations:

Lakeview - two pumps each 1.5 hp and a 3" force main.
Main - two pumps 335 and 335 gpm and a 6" force main (has emergency generator).
Route 50 - two pumps each 3 hp and a 4" force main.
Rumsey Drive - two pumps, one I hp and one 3/4 hp with a 1 1/2" force main.
Marvel Drive - two pump stations, each with two grinder pumps.
White Marsh School - two pumps, each 2 hp and a 4" force main.

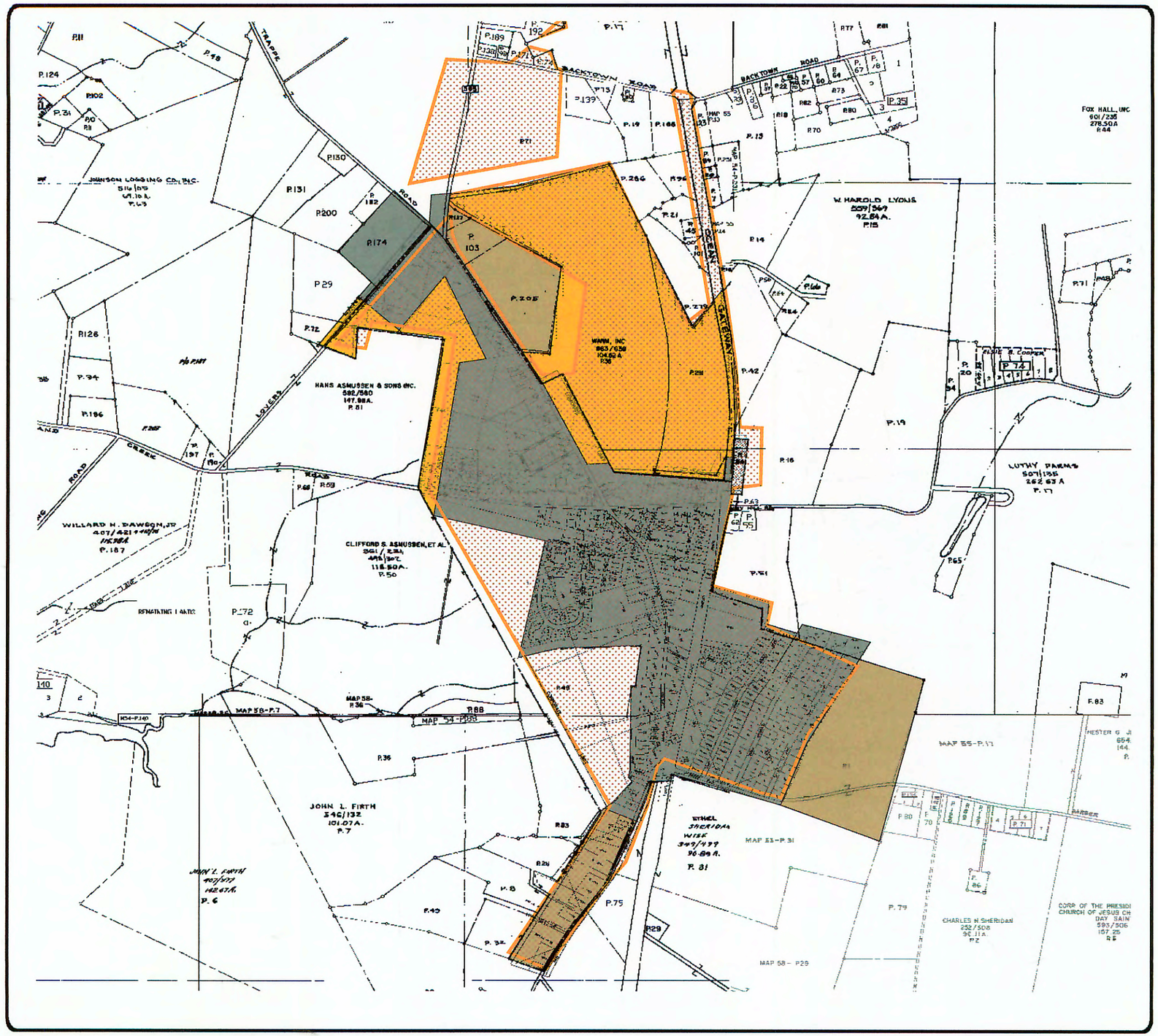
Treatment Plant:

Biolac, Wave Oxidation Process for Biological Nutrient Removal – 200,000 gpd

Disinfection – Chlorination/Dechlorination

TABLE 21. TRAPPE SEWERAGE SYSTEM CAPITAL IMPROVEMENT PROJECTS

PROJECT DESCRIPTION	PROPOSED FISCAL YEAR	COMMENTS
New 0.6 MGD+ WWTP for Trappe East District	2003	Effluent disposal is being proposed through spray irrigation
Construct sewer collection system for Trappe East District	2003	
Extend sewer collection system to Whitemarsh Village District	2004	
Extend sewer collection system along Howell Point Road	2005	



TALBOT COUNTY
TOWN OF TRAPPE
SEWER SERVICE AREA

N

Legend

Trappe Sewer Service

- S-1
- S-2
- S-3

Priority Funding Area

- Meets Statutory Criteria

1000 0 1000 Feet

Base Map Data Source: Maryland Department of Planning

Produced by
Talbot County Public Works GIS
November 6, 2002

Figure 23

TRAPPE AREA SEWERAGE SYSTEM- FUTURE PLANNING

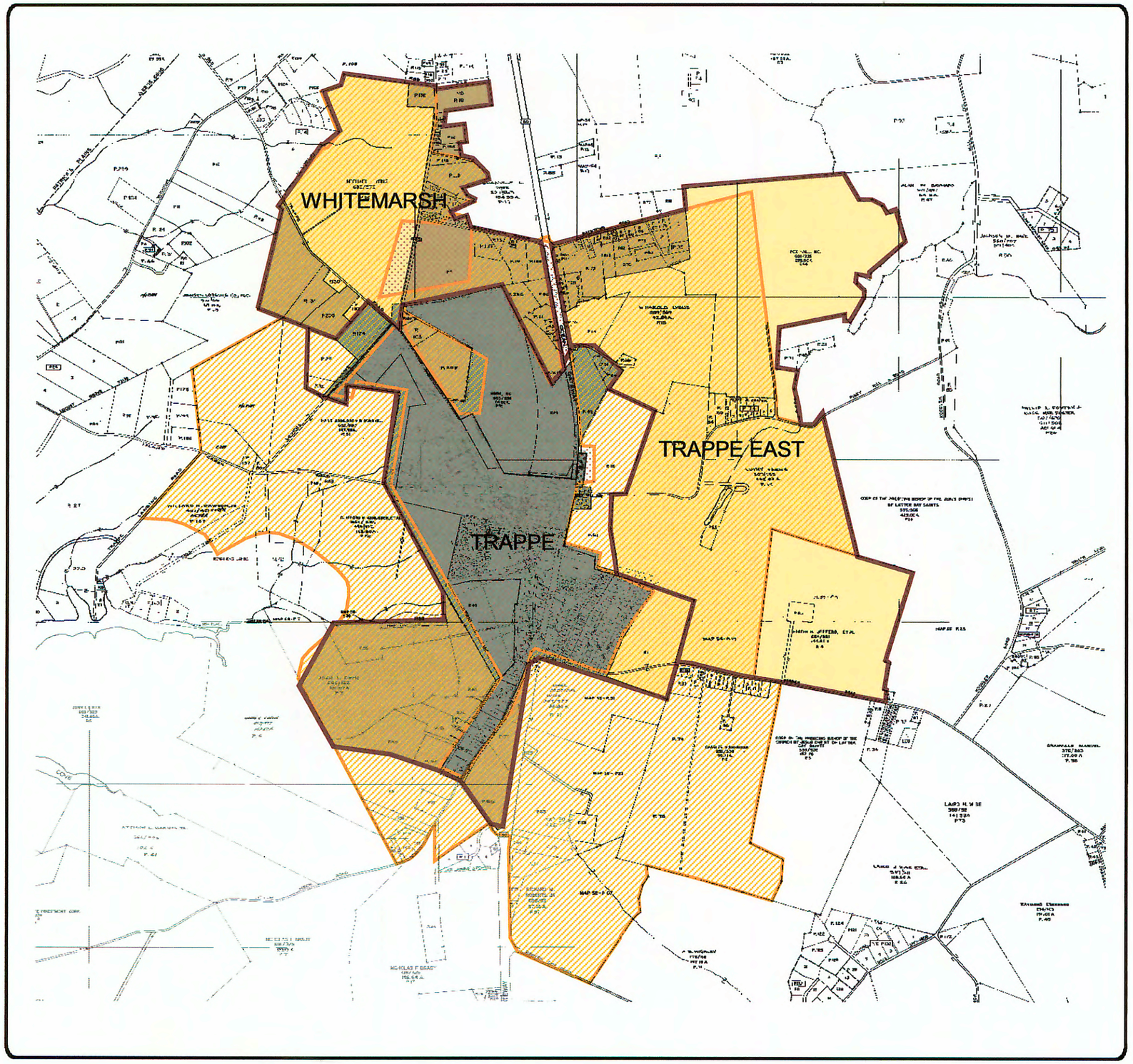
As identified within the goals of Chapter One of this Plan, growth of the County is to be encouraged and directed in concentrated centers around existing centers of population that presently have adequate or potentially adequate water and sewer services. To plan sewer service to meet the needs of future growth, the sewer service provider, the Town of Trappe, is proposing to create three water service districts. The sewer service presently being provided in the Town of Trappe would be referred to as the Trappe Sewer District. To address the water needs in the growth area around the Town of Trappe, two sewer service districts are being proposed.

The proposed Trappe East Sewer District would serve existing parcels located in the Town boundary and land annexed by the Town on the east side of Maryland Route 50. On the northern end of Town, a second sewer service district, White Marsh Sewer District, is being proposed to serve parcels annexed into the Town of Trappe.

The delineated the development area around the Town of Trappe is shown on Figure 24. The factors that influence the size of the development areas for the Town of Trappe includes the growth potential of the Town, the presence of natural growth constraints such as waterways, the Chesapeake Bay Critical Area, and the availability of water and sewer service. As land is annexed into the Town of Trappe, these areas would be designated as S-1 (means areas served or to be served by the Town of Trappe that are either existing, under construction, or have immediate priority status to be served with sewer service) after amending the Talbot County Comprehensive Water and Sewer Plan.

The proposed method of wastewater treatment is through a wave oxidation process that is utilized in the Biolac Biological Nutrient Removal Treatment Process. The effluent from this process has a nitrogen concentration of 3.0 mg/l during summer months and 7.0 m/l during winter months. The phosphorus concentration will range from 0.3 to 0.5 mg/l. The proposed method of effluent disposal for the proposed sewer districts is spray irrigation, an alternative to direct discharge to a receiving stream.

The information presented in Figure 24 is for planning purposes. The Sewer Districts have been defined using a blue line with various colors, shading and hatches defining the areas of existing sewer service and future sewer service areas and the Priority Funding Areas as defined by the Town of Trappe and the County and those Priority Funding Areas approved by the State. This map does not impose an obligation on Talbot County or the Town of Trappe to provide sewer and/or sanitary sewer service areas not presently being served. Prior to extending sewer service into the growth areas, the Town of Trappe would assure that the existing sewer system has capacity to serve the growth areas and the safety and adequacy of its public sewer supply system in maintained for all its users.



TALBOT COUNTY
TOWN OF TRAPPE
LONG RANGE PLANNING
SEWER SERVICE AREA

N

Legend

Trappe Districts

Trappe Sewer Service

- S-1
- S-2
- S-3

Priority Funding Area

- Meets Statutory Criteria
- County PFA

1000 0 1000 2000 Feet

Base Map Data Source: Maryland Department of Planning

Produced by
Talbot County Public Works GIS
November 6, 2002

Figure 24

TALBOT COUNTY REGION II - SANITARY DISTRICT ALLOCATION PROGRAM

In accordance with the 1992 Update of the Talbot County Comprehensive Water and Sewer (CWS) Plan, the treatment capacity of the Region II Wastewater Treatment Plant will be expanded from 0.5 million gallons per day (MGD) to 1.0 MGD to serve the thirty-year projected growth within the Priority Funding Areas by the of the calendar year in 2004. In addition to increasing the hydraulic capacity of the plant, the treatment will be upgraded to use Biological Nutrient Removal technologies.

The August 2000 Region II Wastewater Collection System Study completed by Hyder Consulting, Inc. estimated the treatment capacity to be 1 MGD for the priority funding areas established by the County that consists of land within the corporate limits of and around (outside the corporate limits) the Town of St. Michaels. The Maryland Department of the Environment raised concerns as to the amount of treatment capacity being allocated beyond the Maryland Department of Planning's (MDP) defined priority funding area. To address the concerns raised by MDE, an evaluation of all the areas served by the Region II Wastewater Treatment Plant in St. Michaels was completed to clarify the intent of the County in pursuing the expansion of the treatment capacity from 0.5 MGD to 1.0 MGD and established the Region II Sanitary District Allocation Program. Please review Table 22 for the estimated flow rates for each sewer service area.

The original design of the Region II Wastewater Treatment Plant was approved by Talbot County in 1976 with construction of all components being completed in 1983. The Region II Wastewater Treatment Plant was designed to serve the Town of St. Michaels with a design treatment capacity of 500,000 gallons per day (gpd). Some modifications have been made to the treatment facility; however, many of the original treatment components remained in service with discharge permit limitations being 30 mg/L for Biological Oxygen Demand (BOD_5) and Total Suspended Solids (TSS).

In reviewing the priority funding area for the Town of St. Michaels as defined by MDP, the estimated flow from the incorporated limits of the Town and the Rio Vista Subdivision is 544,000 gpd that consists of both existing and future sewerage flows. To avoid confusion with the August 2000 Region II Wastewater Collection System Study completed by Hyder Consulting, the estimated flow rate for growth and high priority areas within the corporate limits of the Town was reported as 176,000 gpd and has been incorporated into the total estimated sewerage flow of 544,000 gpd.

The original design of the Region II Wastewater Treatment Plant was to serve primarily the Town of St. Michaels. The estimated flow associated with the unincorporated areas around St. Michaels and within the MDP defined priority funding area is approximately 52,500 gpd. This includes Chester Park and the proposed expansion at the Inn at Perry Cabin. The estimated sewage flow from the priority funding areas as defined by the MDP that includes both the incorporated limits of the Town and the unincorporated areas of the County is 596,500 gpd.

Because of a long-standing, severe public health problem resulting from failing septic systems in the villages of Tunis Mills, Unionville and Copperville, the County extended sewer services to

these areas and established a policy to provide sewer service to lots of record in 1993. In accordance with the County Resolution dated November 1993, an estimated 223 lots were to be served with some lots being granted 2 and 3 additional sewer allocations. In reviewing 2002 records, 168 sewer service connections have been made with an estimated flow from these connections being 33,600 gpd. Approximately 55 sewer service connections have not been connected to the sewer collection system with an estimated flow from these future connections being 11,000 gpd. The total estimated flow from the villages of Tunis Mills, Unionville and Copperville is 44,600 gpd.

Because of similar water quality issues that were addressed in the villages of Tunis Mills, Unionville and Copperville, Talbot County extended the sewer to the villages of Royal Oak, Newcomb and Bellevue. In accordance with the County Resolution dated February 1993, the County limited the density of development within the priority funding areas for these village centers to 2-acre lots due to capacity issues at the Region II Wastewater Treatment Plant. Approximately 505 lots were identified in the Royal Oak, Newcomb and Bellevue area as having the ability to connect to the Region II Wastewater Treatment Facility. Approximately 343 sewer service connections are presently connected to the collection system with an estimated flow of 68,600 gpd. Approximately 162 lots are not connected to the sewer collection system and are within the priority fund areas for these villages. Based on an estimated sewer flow rate for single-family residential units of 200 gpd, 162 lots would generate 51,000 gpd with a lot density of 2-acres. Because of a potential to develop at a density greater that 2-acre lots within the village centers served by a public sewer system, the County Council is reviewing various options that would best serve this region of the County. In assuming that a density of 1-acre lots was created, an estimated 340 lots could be created with a projected sewerage flow from these new lots being approximately 68,000 gpd. The total estimated flow from the villages of Royal Oak, Newcomb and Bellevue could range between 119,600 gpd to 155,200 gpd. For purposes of estimating the total flows from the priority funding areas as defined by MDP, the estimated flow from these village centers shall be 155,200 gpd.

The total flows, both existing and future, for the priority funding areas as defined by the State is 796,300 gpd using the upper limit for the Royal Oak, Newcomb and Bellevue Sewer Service Area. The estimated flow from the Bentley Hay subdivision that was platted in 1947 and has been incorporated into the County's priority funding area consists of 149 lots base on the Maryland Property View 2001. The estimated sewerage flow rate is 29,800 gpd using 200 gpd-per single-family residential unit. This area was omitted from the priority funding area as defined by the State. Because this area was platted in 1947 with a majority of the lots having been built-out prior to the 1992 Update of the Comprehensive Water and Sewer Plan, the County requests that MDP and MDE acknowledge this area as being within the priority funding area for St. Michaels. The Bentley Hay and Rio Vista Subdivisions are served by the County's sewer system and the Town of St. Michaels water system, yet neither subdivision has been annexed by the Town of St. Michaels.

In addition, 15,000 gpd of sewerage flow that exists outside the priority funding area for St. Michaels as defined by the State is scheduled for development due to agreements with the County in early 1980s. Adding the sewerage flows from Bentley Hay and the flows from lots outside the priority funding areas increases the needed capacity to 841,100 gpd. A safety factor

of 10% was used since it was assumed that each resident would produce 200 gpd of sewerage flow. The MDE Design Manual estimates that a person will generate 100 gallons of sewage per day. Adding the 10% safety factor, the total hydraulic capacity needed at the Region II Wastewater Treatment Plant is 925,200 gpd.

Table 22. Region II Wastewater Treatment Plant Flows

Region or Subdivision	Estimated Existing Flow (gpd)	Estimated Future Sewerage Flow (gpd)	Total Estimated Sewerage Flow (gpd)
Town of St. Michaels and Rio Vista	228,000	316,000	544,000
Chester Park		2,500	2,500
Inn at Perry Cabin Expansion		8,000	8,000
Tunis Mills, Unionville and Copperville	33,600	11,000	44,600
Royal Oak, Newcomb and Bellevue	68,600	86,600	155,200
Bentley Hay Subdivision	29,800		29,800
Unincorporated areas within MDP's PFA		42,000	42,000
Flows from areas outside Priority Funding Areas		15,000	15,000
Estimated Subtotals	360,000	481,100	841,100
Safety Factor – 10%			84,100
Revised Estimated Totals			925,200

In reviewing the costs to construct a 925,000 gpd verses a 1.0 MGD wastewater treatment plant, the County would not recognized any financial benefit in pursuing the construction of a wastewater treatment plant with a treatment capacity less than 1.0 MGD. The Preliminary Engineering Report completed by George Miles and Buhr proposed a 3-train wastewater treatment plant with 2 trains being constructed. This provided a treatment capacity of 660,000 gallons per day. The proposed 1.0 MGD facility will be a 2-train system with each train having a treatment capacity of 0.5 MGD. This will allow the County to operate the system within the stringent permit requirements that presently experiences a high volume of inflow and infiltration associated with stormwater and groundwater entering the gravity sewer collection system in the Town of St. Michaels.

By reducing the plant capacity to 925,000 gpd, the flow rate for the proposed 2-train system would be 462,500 gpd per train verses 500,000 gpd. This reduction of flow rate equates to 7.5%, and limits the County's ability to treat peak flow during periods of heavy rains that presently exceeds 1.5 MGD. This 7.5% reduction in the overall wastewater treatment plant capacity would not result in similar construction cost savings to the County.

The County requested from the Maryland Department of the Environment Biological Nutrient Removal Grant Funding to complete the upgrade of the original capacity of the Region II Wastewater Treatment Plant at a flow rate 500,000 gpd. The County also requested State Revolving Funds as a low interest loan to assist the County with the overall construction costs. To meet the water quality objectives set out by the State over the long-term, the construction of a 1.0 MGD Wastewater Treatment Facility should be completed. With the proposed Total

these areas and established a policy to provide sewer service to lots of record in 1993. In accordance with the County Resolution dated November 1993, an estimated 223 lots were to be served with some lots being granted 2 and 3 additional sewer allocations. In reviewing 2002 records, 168 sewer service connections have been made with an estimated flow from these connections being 33,600 gpd. Approximately 55 sewer service connections have not been connected to the sewer collection system with an estimated flow from these future connections being 11,000 gpd. The total estimated flow from the villages of Tunis Mills, Unionville and Copperville is 44,600 gpd.

Because of similar water quality issues that were addressed in the villages of Tunis Mills, Unionville and Copperville, Talbot County extended the sewer to the villages of Royal Oak, Newcomb and Bellevue. In accordance with the County Resolution dated February 1993, the County limited the density of development within the priority funding areas for these village centers to 2-acre lots due to capacity issues at the Region II Wastewater Treatment Plant. Approximately 505 lots were identified in the Royal Oak, Newcomb and Bellevue area as having the ability to connect to the Region II Wastewater Treatment Facility. Approximately 343 sewer service connections are presently connected to the collection system with an estimated flow of 68,600 gpd. Approximately 162 lots are not connected to the sewer collection system and are within the priority fund areas for these villages. Based on an estimated sewer flow rate for single-family residential units of 200 gpd, 162 lots would generate 51,000 gpd with a lot density of 2-acres. Because of a potential to develop at a density greater that 2-acre lots within the village centers served by a public sewer system, the County Council is reviewing various options that would best serve this region of the County. In assuming that a density of 1-acre lots was created, an estimated 340 lots could be created with a projected sewerage flow from these new lots being approximately 68,000 gpd. The total estimated flow from the villages of Royal Oak, Newcomb and Bellevue could range between 119,600 gpd to 155,200 gpd. For purposes of estimating the total flows from the priority funding areas as defined by MDP, the estimated flow from these village centers shall be 155,200 gpd.

The total flows, both existing and future, for the priority funding areas as defined by the State is 796,300 gpd using the upper limit for the Royal Oak, Newcomb and Bellevue Sewer Service Area. The estimated flow from the Bentley Hay subdivision that was platted in 1947 and has been incorporated into the County's priority funding area consists of 149 lots base on the Maryland Property View 2001. The estimated sewerage flow rate is 29,800 gpd using 200 gpd-per single-family residential unit. This area was omitted from the priority funding area as defined by the State. Because this area was platted in 1947 with a majority of the lots having been built-out prior to the 1992 Update of the Comprehensive Water and Sewer Plan, the County requests that MDP and MDE acknowledge this area as being within the priority funding area for St. Michaels. The Bentley Hay and Rio Vista Subdivisions are served by the County's sewer system and the Town of St. Michaels water system, yet neither subdivision has been annexed by the Town of St. Michaels.

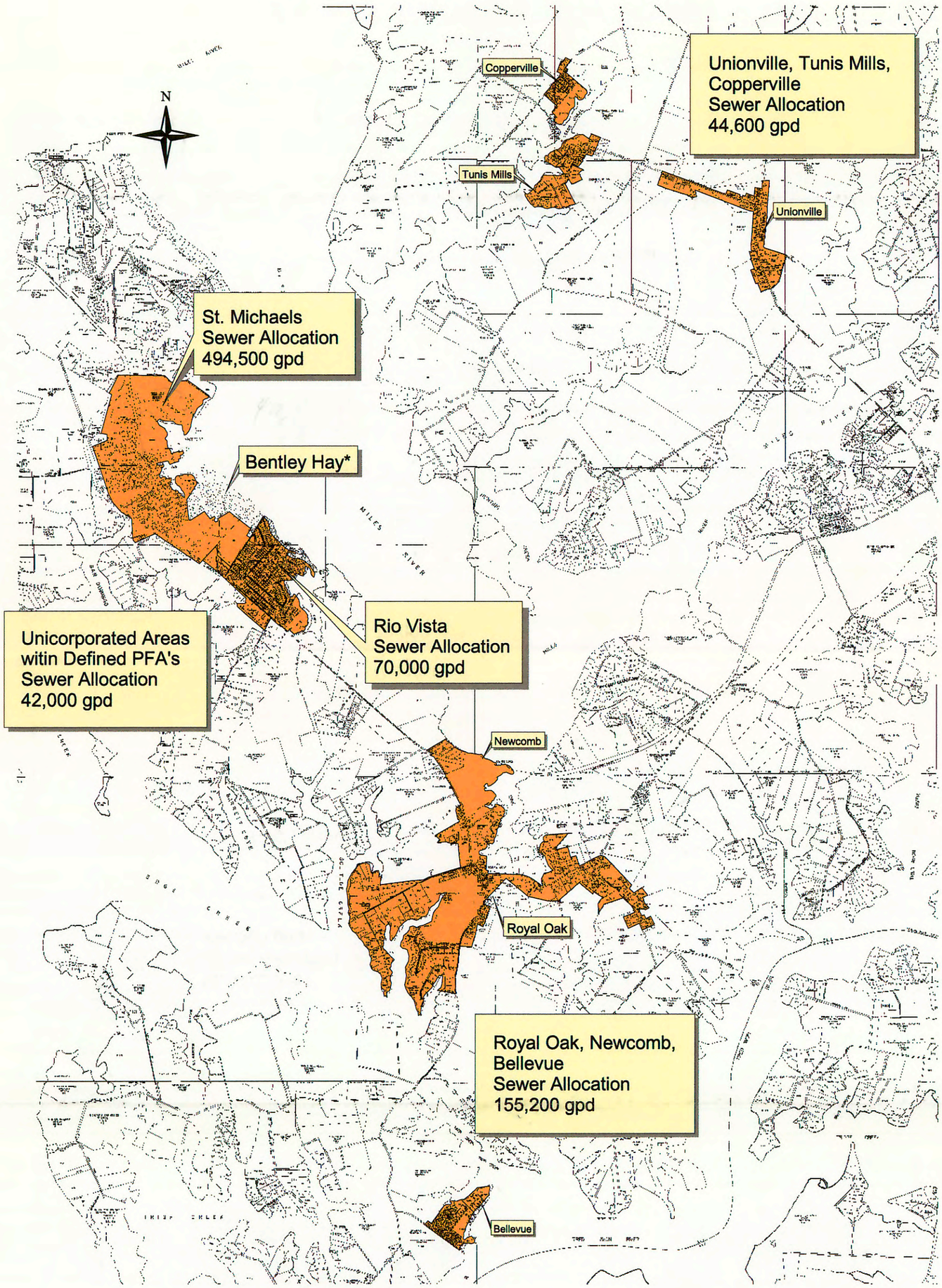
In addition, 15,000 gpd of sewerage flow that exists outside the priority funding area for St. Michaels as defined by the State is scheduled for development due to agreements with the County in early 1980s. Adding the sewerage flows from Bentley Hay and the flows from lots outside the priority funding areas increases the needed capacity to 841,100 gpd. A safety factor

Maximum Daily Load rules, MDE could impose future requirements on Talbot County to serve areas with failing septic systems by connecting these lots to the Region II Wastewater Treatment Plant and establishing restricted sewer service policies as was completed in the villages of Tunis Mills, Unionville, Copperville, Newcomb, Royal Oak and Bellevue.

In working with MDE and MDP, the County proposed measures to reduce the National Pollutant Discharge Elimination System Permit from 1.0 MGD a flow rate of 0.8 MGD that are presently under review by the State. To comply with Smart Growth Initiatives and Water Quality Objectives, the County would seek MDE's and MDP's approval prior to extending sewer service to areas outside the priority funding areas defined by MDP. The County would also limit the sewer allocation to various regions as shown in Figure 25.

TALBOT COUNTY
MDP DEFINED PRIORITY FUNDING AREAS
SERVED BY REGION II WWTP

Data Source: Maryland Department of Planning (MDP)



Note: *1. Bentley Hay subdivision platted in 1947, built-out in 1970's; Sewer Allocation 29,800 gpd.

2. A 10% safety factor should be used on the total estimated sewer allocations from all the Priority Funding Areas which equates to 84,000 gpd.

Produced By
Talbot County Public Works GIS
November 8, 2002

Figure 25

TALBOT COUNTY REGION I - SANITARY DISTRICT (UNIONVILLE, TUNIS MILLS, COPPERVILLE) SEWERAGE SYSTEM

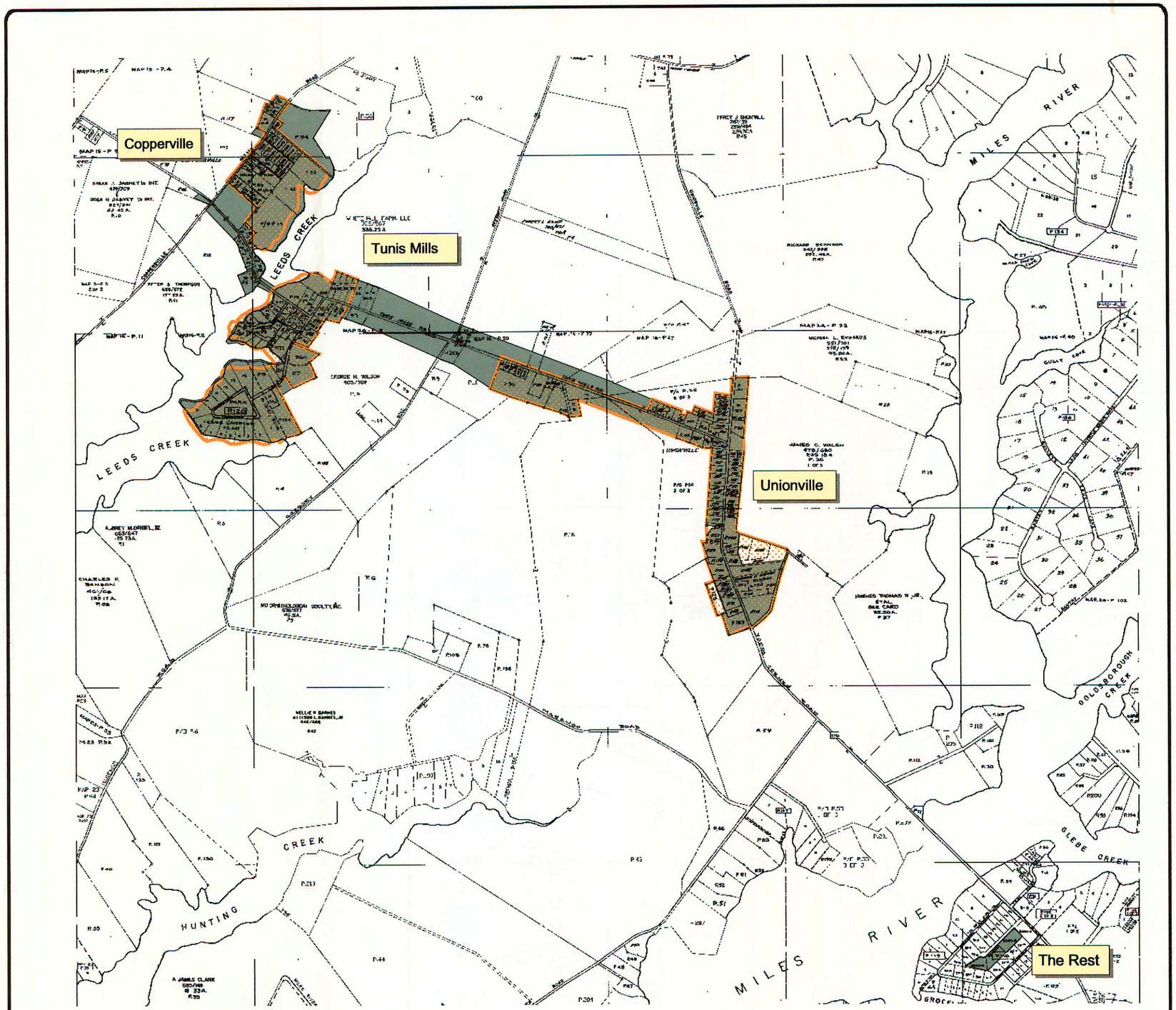
Refer to Figure No. 26, Talbot County Region I - Sewerage System Plan, for the limits of this Sanitary District. High water table, poor soils and restrictive lot sizes are factors affecting septic systems and a subsequent history of failures led the Talbot County Health Officer to identify this area as a "Failing Septic Area". Talbot County completed a Step I Facility Plan recommending a solution to the failing septic systems problems within the villages of Unionville, Tunis Mills and Copperville. The three villages are separated by expanses of undeveloped A-2 and A-5 property. Due to EPA's emphasis away from Regional Wastewater Facilities and Talbot County's desire not to encourage growth in areas not currently planned for high density development the County explored the feasibility of constructing "innovative/alternative" treatment and disposal systems. The Facility Plan recommended, as the most cost effective solution to the problems of this area, the use of County owned, operated and maintained collection systems and sand mound treatment and disposal. A prototype mound system was installed and operated with unsatisfactory results. A redesigned mound system was developed but could not economically be constructed. A facility plan amendment was developed that identified a grinder pump collection system and a small treatment plant with a point discharge. The facility plan was amended again by eliminating the small treatment plant and pumping the sewerage to the Region II Wastewater Treatment Facility. This system was completed in 1994.

Sewer Collection System: Individual Grinder Pumps – 168 grinder pumps
Small diameter force main – 3+ miles
Unionville (Region I) Pump Station – 2 pumps
Unionville force main (7" dia) – 6.62 miles

Treatment: Region II Wastewater Treatment Plant

TABLE 23. TALBOT COUNTY REGION I SANITARY DISTRICT (UNIONVILLE, TUNIS MILLS, COPPERVILLE) CAPITAL IMPROVEMENT PROJECTS

PROJECT DESCRIPTION	PROPOSED FISCAL YEAR	COMMENTS
Database Development	FY2002	
Integration of Pump Station Locations within GIS	FY2003	
Procure 2 additional grinder pumps for standby	FY2003	Maintain supply of pumps
Upgrade of emergency generator for primary pump station	FY2004	
Procure 2 additional grinder pumps for standby	FY2004	Maintain supply of pumps
Procure 2 additional grinder pumps for standby	FY2005	Maintain supply of pumps



TALBOT COUNTY
REGION 1 - SEWER SERVICE AREA
UNIONVILLE / TUNIS MILLS /
COPPERVILLE

N

Legend

Sewer Service

S-1

Priority Funding Area

Meets Statutory Criteria

1000 0 1000 2000 Feet

Base Map Data Source: Maryland Department of Planning

Produced by
Talbot County Public Works GIS
November 6, 2002

Figure 26

TALBOT COUNTY REGION II - SANITARY DISTRICT (ST. MICHAELS) SEWERAGE SYSTEM

Refer to Figure No. 27, Talbot County Region II - Sewerage System Plan, for the limits of this Sanitary District. The boundaries of Sanitary District No. 2 include the Town of St. Michaels, Rio Vista and Bentley Hey, and extends to and includes Newcomb, Cedar Grove, Royal Oak, Royal Acres and Bellevue to the Southeast.

The Wastewater Treatment Facility for Region II is owned by Talbot County. The plant is located on a 30-acre parcel of land. The treatment facility includes primary, secondary and tertiary treatment. Prior to discharge the effluent is chlorinated, dechlorinated (SO_2) and post aerated. The sludge is aerobically digested and dried using a belt filter press and ultimately disposed at the Midshore Regional Landfill. The design capacity of the plant is 500,000 gpd. In-ground facilities such as pump valves, pipes, etc. were provided to accommodate expansion of the plant up to 1.0 mgd. Current plans are to expand the capacity to 1.0 mgd by 2004.

Point of Discharge - Miles River.

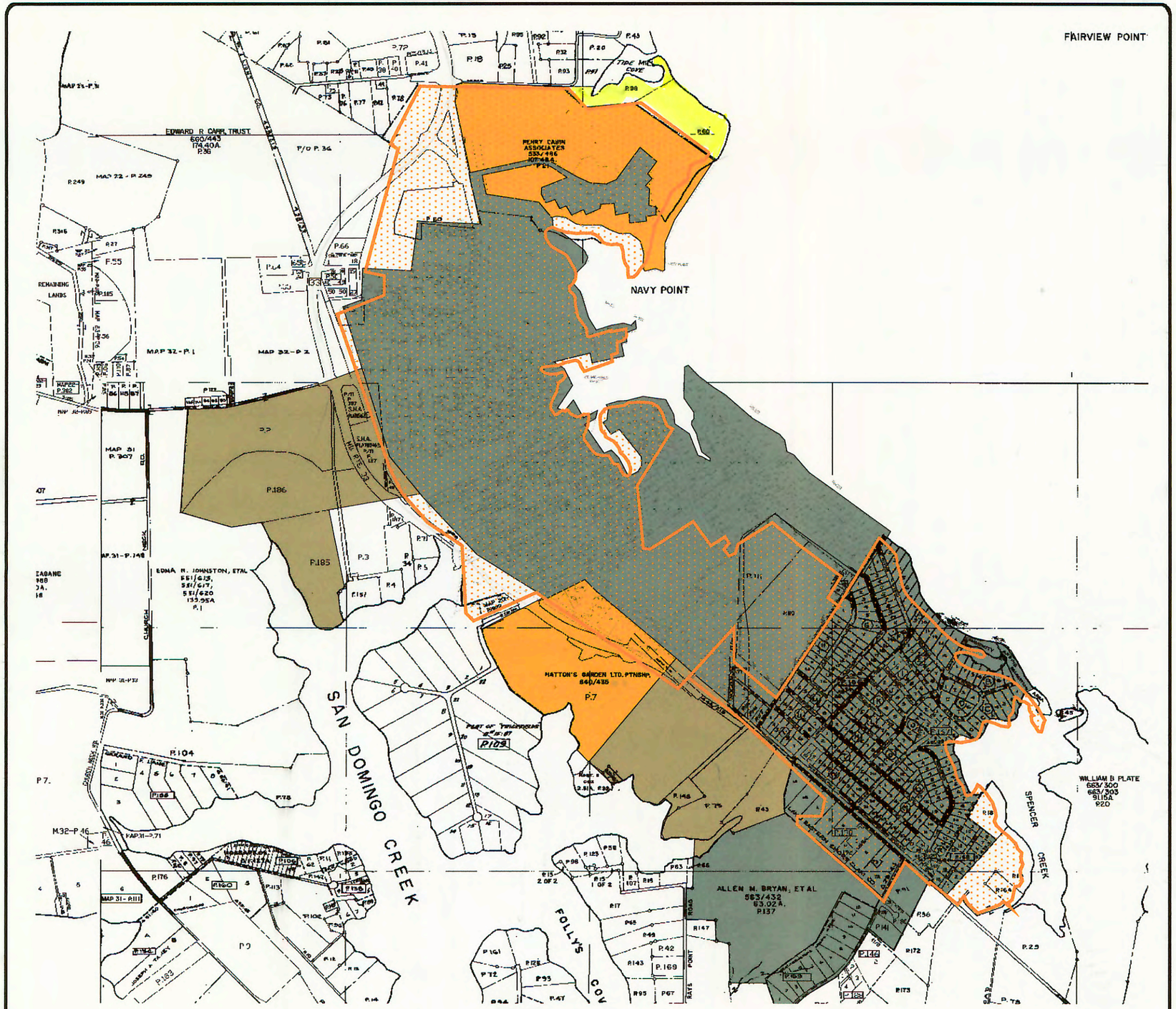
Collection System - 8" - 12" diameter (Clay and PVC): 6 miles of gravity sewer

Pumping Stations:
No. 1 (Green Street) - 1- bypass bar screen manually cleaned - two 500 gpm Camden dry pit submersible pumps, 6" diameter discharge. Emergency power.
No. 2 (Mill Street) - two 280 gpm – Allis Chalmers centrifugal sewage pumps with 4" diameter discharge. Station has a bar screen and emergency generator for backup power.
No. 3 (Grace Street) - two 125 gpm Gorman Rupps centrifugal sewage pumps with 4" discharge. Station has a manual cleaned bucker screen.
No. 5 (Madison Avenue) - two 100 gpm Hydromatic self-priming pumps with 4" discharge. Station has a manual cleaned bucker screen.

Perry Cabin - nine duplex 15 gpm Environment - One Grinder Pump Stations. Force main size from 1 1/4" to 3".

Treatment Plant:
The wastewater treatment plant is equipped with a Wiess bar screen (flow filter screen), influent pump station (1050 gpm) with one pump being an Allis Chalmers centrifugal sewage pump and the other pump being a Camden dry pit submersible, 2-30 foot, diameter primary clarifiers, three rotating biological contractors, 2-30, diameter final clarifiers, automatic backwash filter (with re-rated capacity of 0.5 mgd), chlorination, dechlorination, and post aeration. There are four sludge drying beds 25 feet x 95 feet each, and a lagoon for temporary storage of wastewater during maintenance of a unit process, and the lagoon is also used for wet weather flow equalization (capacity equals 1.35 MG or 2.7 days of design flow).

TABLE 24. TALBOT COUNTY REGION II SANITARY DISTRICT (ST. MICHAELS) CAPITAL IMPROVEMENT PROJECTS		
PROJECT DESCRIPTION	**PROPOSED FISCAL YEAR**	**COMMENTS**
Design of 1 MGD BNR WWTP	FY2002	
Sewer Collection System Evaluation and Study	FY2002	Develop detailed sewer utility map in GIS
Outfall Pipe Inspections	FY2002	
Construction of 1 MGD BNR WWTP	FY2003	
Sewer Collection System Repairs	FY2003	
Pump Station No. 2 Upgrade	FY2004	
Pump Station No. 1 Upgrade	FY2004	
Bellevue Generator Upgrade	FY2004	
Sewer Collection System Repairs	FY2004	
Watershed Analysis and Study	FY2005	
Sewer Collection System Repairs	FY2005	



TALBOT COUNTY
REGION 2 - SEWER SERVICE AREA
ST. MICHAELS

N

Legend

Sewer Service Area

- S-1
- S-2
- S-3

Priority Funding Area

- MEETS STATUTORY CRITERIA

500 0 500 1000 1500 Feet

Base Map Data Source: Maryland Department of Planning

Produced by
Talbot County Public Works GIS
November 6, 2002

Figure 27

TALBOT COUNTY REGION II – SANITARY DISTRICT (ROYAL OAK, NEWCOMB, BELLEVUE) SEWERAGE SYSTEM

An EPA Facility Plan was developed for the Royal Oak and Newcomb, and the plan recommended a small diameter septic tank effluent pump (STEP) system for pretreating and conveying the waste to a pump station that will then convey the wastewater to the Region II Plant for treatment. During the design phase, the Bellevue Village was incorporated into the STEP system thus creating the Region II – Sanitary District Service Area of Royal Oak, Newcomb, Bellevue. Construction of the septic tank effluent pump system was completed in May 1993. A sewerage system plan has been provided for this sewer service area in Figure 28. A copy of the service policy is in Appendix 3 of the 1992 Plan.

Sewer Collection System: Individual STEP (Septic Tank Effluent Pump) Systems – 340

Pump Station 1 (MD 33) – 2 pumps
PS-1 Force Main – 1.8 miles
PS-1 Low Pressure Small Diameter Main – 0.8 miles

Pump Station 2 (MD 329 – Royal Oak) – 2 pumps
PS-2 Force Main – 1.4 miles
PS-2 Low Pressure Small Diameter Main – 1.9 miles

Pump Station 3 (Bellevue Road) – 2 pumps
PS-3 Force Main – 2.7 miles
PS-3 Low Pressure Small Diameter Main – 3.5 miles

Treatment: Region II Wastewater Treatment Plant

TABLE 25. TALBOT COUNTY REGION II SANITARY DISTRICT (ROYAL OAK, NEWCOMB, BELLEVUE) CAPITAL IMPROVEMENT PROJECTS

PROJECT DESCRIPTION	PROPOSED FISCAL YEAR	COMMENTS
Database Development	FY2002	
Integration of Pump Station Locations within GIS	FY2003	
Procure 2 additional grinder pumps for standby	FY2003	Maintain supply of pumps
Bellevue Generator Upgrade	FY2004	
Procure 2 additional grinder pumps for standby	FY2004	Maintain supply of pumps
Procure 2 additional grinder pumps for standby	FY2005	Maintain supply of pumps

TALBOT COUNTY
REGION 2 - SEWER SERVICE AREA
ROYAL OAK / NEWCOMB / BELLEVUE

N

Legend

Sewer Service

S-1

Priority Funding Area

Meets Statutory Criteria

Newcomb

Royal Oak

Bellevue

Basemap Source: Maryland Department of Planning

Produced by
Talbot County Public Works GIS
November 7, 2002

Figure 28

TALBOT COUNTY REGION V - SANITARY DISTRICT (TILGHMAN VILLAGE) ALLOCATION PROGRAM

The Region V Wastewater Treatment Plant located on Tilghman Island has a design capacity of 150,000 gallons per day. The wastewater treatment plant was designed in 1982 and construction was completed in November 1987. The original area to be served by the wastewater treatment plant consisted of the current sewer service area established in 1987 and the community in Paw Paw Cove, Tilghman Island Beach and the parcels along Harris Creek along Rude Avenue. The estimated flows and allocations for the Region V Wastewater Treatment Plant are presented in Table 29.

TABLE 26. Region V Watewater Treatment Plant Allocations

AREAS	PROJECTED NUMBER OF EQUIVALENT DWELLING UNITS	ESTIMATED SEWERAGE FLOW (gpd)
Current Lots Served		73,000
Infill Lots		32,500
Tilghman Island Beach	40	8,000
Avalon Phases 4 and 5	59	12,000
Paw Paw Cove (unprogrammed)	11	2,200
Rude Avenue (unprogrammed)	18	3,600
Unallocated Capacity		18,700
TOTALS		150,000

TALBOT COUNTY REGION V - SANITARY DISTRICT (TILGHMAN VILLAGE) SEWERAGE SYSTEM

Prior to 1985 the Tilghman-Avalon-Fairbanks areas had a history of overflowing failing septic tanks that discharged directly into the surrounding water. Pollution of these areas led to a restriction on shellfish harvesting surrounding the island and created a detriment to the public health in the Tilghman-Avalon Area. The design of a sewer collection system and treatment plant was undertaken and began operating by 1985. All waters around Tilghman Village are now open for shellfish harvesting except for Knapps Narrows to the northwest of Tilghman, a zone at the wastewater treatment plant outfall to the west of Tilghman, and Dogwood Harbor to the east, as a result of the new plant. The plant has a design capacity of 150,000 gpd with no room for future expansion. Approximately fifty percent of the capacity is currently being utilized. A Sewerage System Plan has been provided for this sewer service area in Figure 28.

Fairbanks failing septic problems needs to be addressed. The proposed solution is to repair existing systems or provide new innovative onsite systems. However, additional studies will be completed by the Department of Public Works to evaluate the use of STEP systems and convey the wastewater generated in this area to the wastewater treatment plant. This study should be completed by 2005.

Point of Discharge - Chesapeake Bay

Collection System - 8" and 12" PVC gravity sewers: 5.5 miles
Force Main: 0.50 miles of 2 – 3 inch diameter force mains

Pumping Stations:

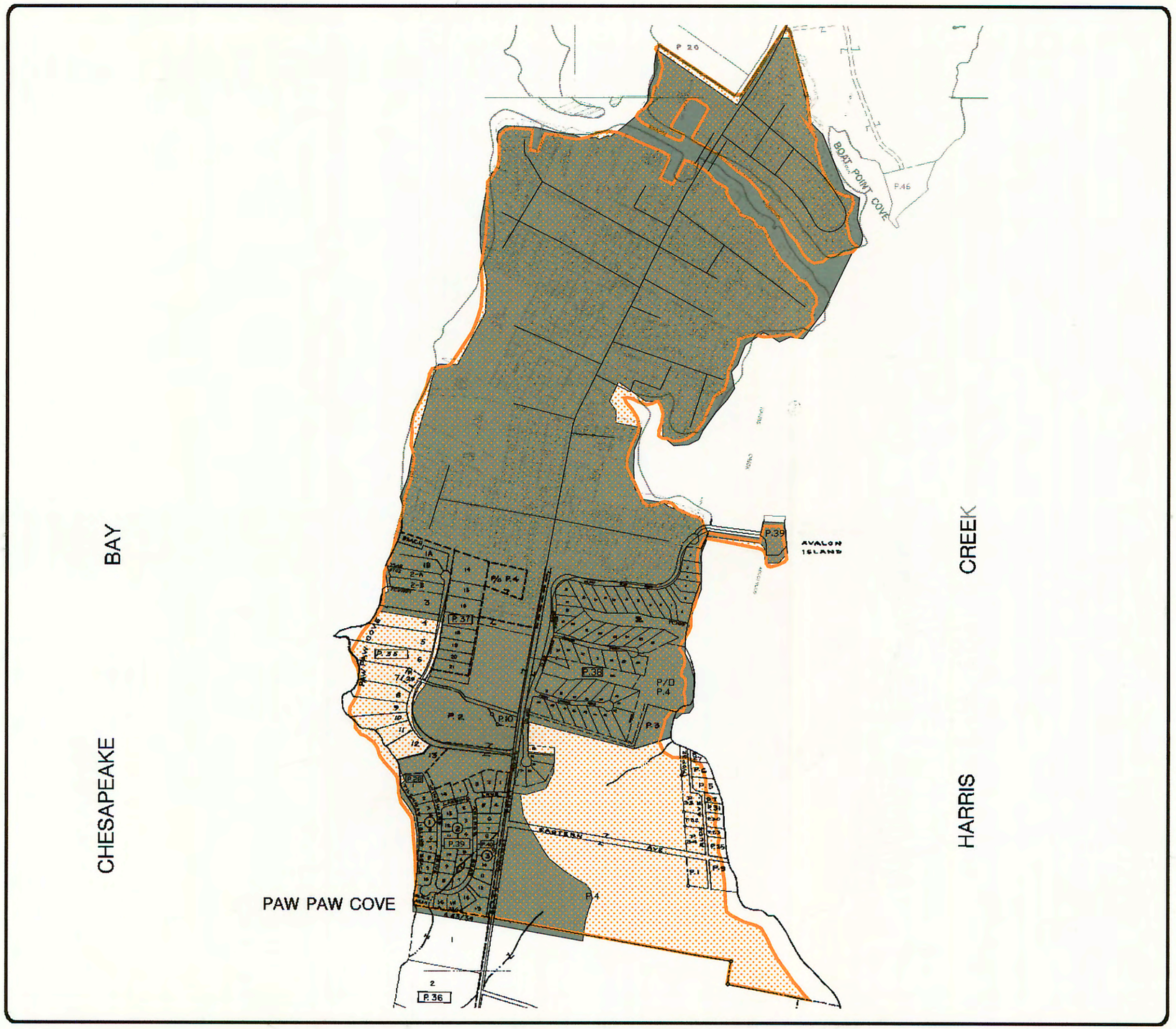
East (Chicken Point Road) - two 34 gpm grinder pumps with 3" force main.
West (Coopertown Road Offset) - two 37 gpm grinder pumps with 3" force main and emergency power.
North (Summit Street) - two 50 gpm grinder pumps with 3" force main and emergency power.
Avalon Court - two 40 gpm pumps with 2" force main
Simplex Stations - there are four simplex grinder pump stations with 1 1/4" force main, each serving a single building. Two of these are located on Foster Avenue, one is located west of Route 33 and one is located north of Coopertown Road.

Treatment Plant:

Basket screen and comminutor; raw sewage pumps (two @ 400 gpm each); two-cell aerated lagoon; disinfection, dechlorination, and post aeration.

TABLE 27. TALBOT COUNTY REGION V SANITARY DISTRICT (TILGHMAN VILLAGE) CAPITAL IMPROVEMENT PROJECTS

PROJECT DESCRIPTION	PROPOSED FISCAL YEAR	COMMENTS
Sewer Collection System Evaluation and Study	FY2003	
Conduct field testing of treatment enhancements to improve nutrient reduction	FY2003	Improve treatment and increase hydraulic capacity
Prepare request to MDE for BNR Grant Funding	FY2003	Pending action by County Council
Complete Sewer System Expansion Study	FY2005	
Construct BNR Wastewater Treatment Plant Upgrades	FY2006	The BNR Upgrade will be limited to the existing design capacity of 0.15 MGD
Pump Station Upgrade – North Station	FY2006	
Pump Station Upgrade – East Station	FY2006	
Pump Station Upgrade – South Station	FY2006	
Outfall Pipe Inspection	FY2006	
Lagoon Dredging	FY2026	



TALBOT COUNTY
REGION 5 - SEWER SERVICE AREA
TILGHMAN

N

Legend

Tilghman Sewer Service
S-1

Priority Funding Area
Meets Statutory Criteria

500 0 500 1000 Feet

Base Map Data Source: Maryland Department of Planning

Produced by
Talbot County Public Works GIS
November 12, 2002

Figure 29

TALBOT COUNTY SHARED SANITARY FACILITIES

In 1991, the Talbot County Council passed Bill No. 443, Shared Facilities Ordinance, based on the Talbot County Council's findings that it is necessary for the existing and future health, safety, and welfare of the general public that shared sanitary facilities be permitted to be constructed and operated under private ownership and under the regulatory supervision of the Talbot County Department of Public Works. The provisions of the Share Sanitary Facilities Ordinance apply throughout Talbot County, including areas of sanitary facilities owned by Talbot County, but shall not apply within the corporate limits of any municipality located in Talbot County, or as specifically prohibited by the policy or regulation of the approving authority, the Talbot County Health Department. The provisions of the Shared Sanitary Facilities Ordinance shall not apply to a shared sanitary facility owned by political subdivisions or governmental bodies or agencies; nor to the extension, expansion, or continuance thereof under provisions of separate agreement as authorized by the Controlling Authority, the Talbot County Department of Public Works.

Establishing a shared sanitary facility in Talbot County requires the Developer or owner(s) of a property desiring to construct or create a shared sanitary facility must file a written petition with the Controlling Authority requesting amendment of the Talbot County Comprehensive Water and Sewer Plan for priority service classification to establish a shared sanitary facility. The Plan amendment shall be processed in accordance with the applicable procedures outlined within this Plan and regulations pertaining to planning water supply and sewerage systems. The contents of the petitioners shall provide, at their own expense all mapping, plans, data tabulations, hydro-geological evaluations, schedules, audits, cost estimates, and other documentation relating to the sewer service area delineation, service capacity, growth and expansion considerations for installation of the proposed facility.

The approved shared sanitary facilities shall be referenced according to the election district in which the shared sanitary facility is located. The approved shared sanitary facilities have been designated as S-1. No shared sanitary facilities have been approved for private water systems thus creating W-1 service designations. The following table, Table 28, lists the election district and the approved shared sanitary facility subdivision name, and the tax map and parcel reference at the time the resolution was submitted and approved by the Talbot County Council.

TABLE 28. Shared Sanitary Facilities in Talbot County

1st ELECTION DISTRICT – Easton					
SUBDIVISION NAME	RESOLUTION NO. AND DATE	TAX MAP	PARCEL NO.	NUMBER OF LOTS	PROPOSED FLOW
No shared sanitary facilities					
2nd ELECTION DISTRICT – St. Michaels					
SUBDIVISION NAME	RESOLUTION NO. AND DATE	TAX MAP	PARCEL NO.	NUMBER OF LOTS	PROPOSED FLOW
No shared sanitary facilities					
3RD ELECTION DISTRICT – Trappe					
SUBDIVISION NAME	RESOLUTION NO. AND DATE	TAX MAP	PARCEL NO.	NUMBER OF LOTS	PROPOSED FLOW
Northside Woods	79 – 2/11/2000	54	141	4	2,400 gpd
4th ELECTION DISTRICT – Chapel					
SUBDIVISION NAME	RESOLUTION NO. AND DATE	TAX MAP	PARCEL NO.	NUMBER OF LOTS	PROPOSED FLOW
Preserve at Wye Mills	94 – 1/22/2002	1	23	59	40,200 gpd
5th ELECTION DISTRICT – BAY HUNDRED					
SUBDIVISION NAME	RESOLUTION NO. AND DATE	TAX MAP	PARCEL NO.	NUMBER OF LOTS	PROPOSED FLOW
No shared sanitary facilities					

Shared Sanitary Facility

Tax Map 1 Parcel 23

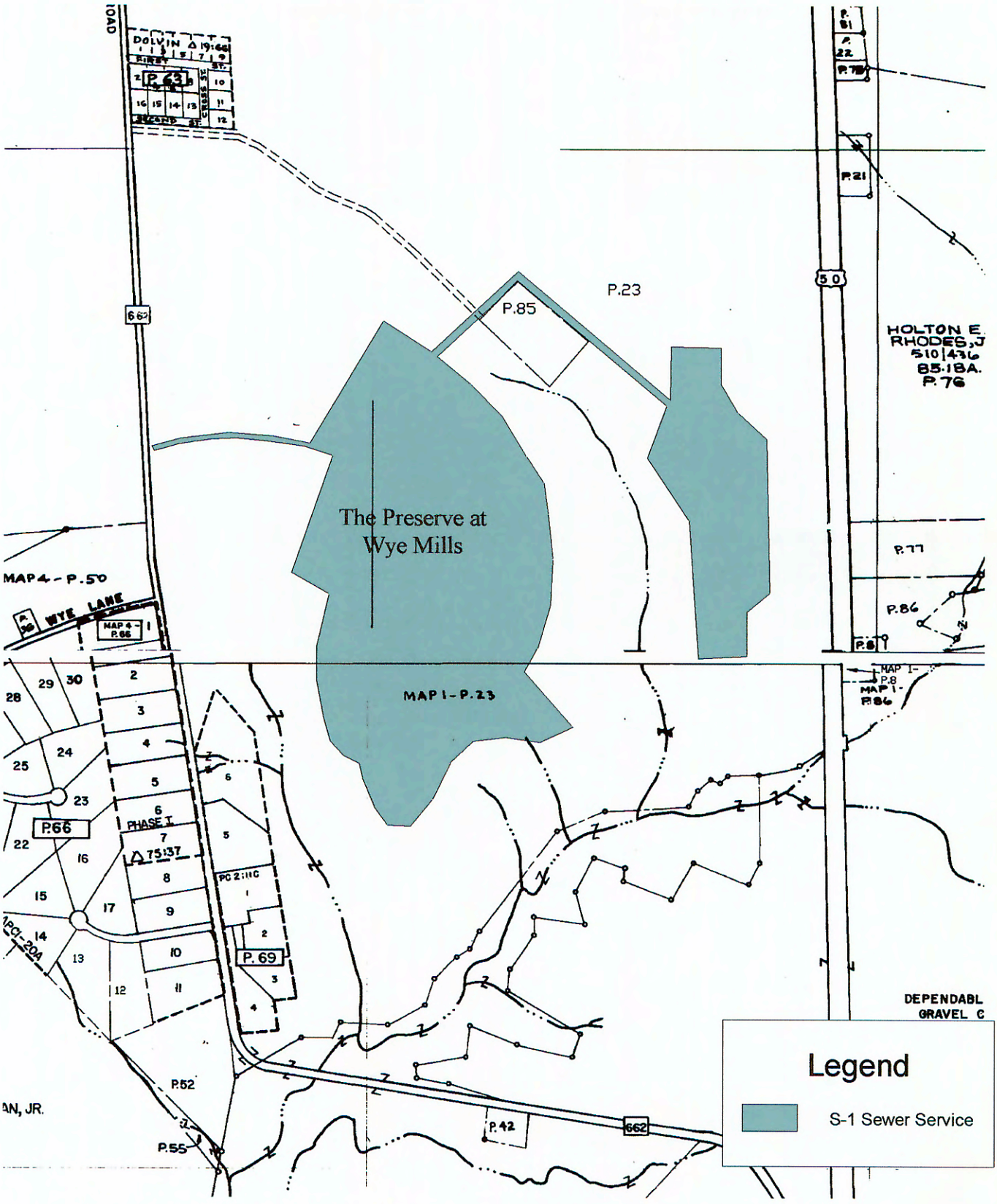


Figure 30

Shared Sanitary Facility

Tax Map 54 Parcel 141

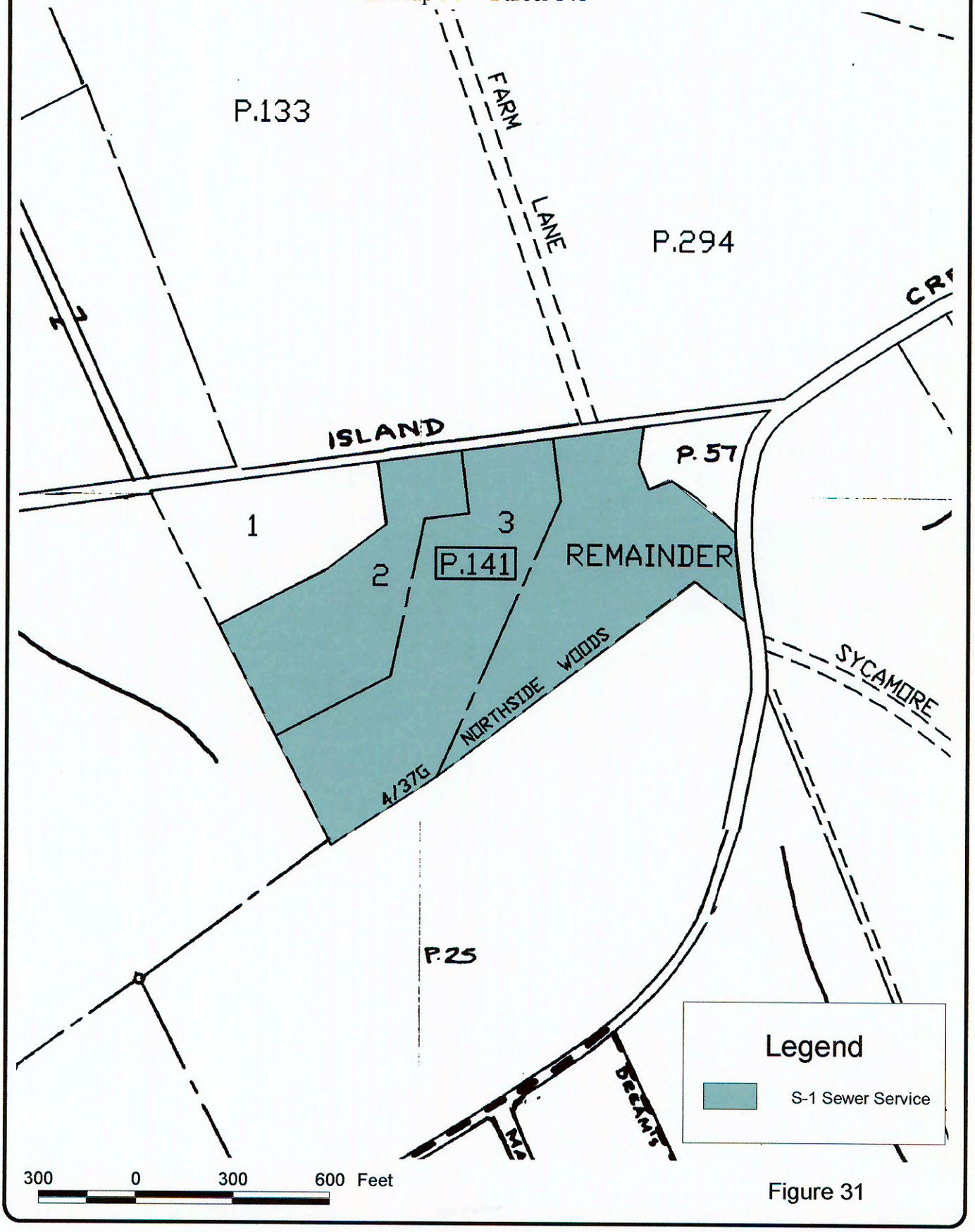


Figure 31

MARINAS

Refer Figure 28 of the 1992 Update - As of June 30, 1989 the Department of the Environment has developed guidelines to assist applicants when preparing plans for marina expansion or construction. These guidelines allow 401 water quality certification (WQC) staff members to evaluate the impact of marinas on water quality. A copy of the Marina Assessment Guidelines is provided in Appendix 14 of the 1992 Update of the Comprehensive Water and Sewer Plan.

CHAPTER THREE
AMENDMENT PROCEDURES

I. PROCEDURE

In the unincorporated areas of Talbot County, applications for amendment of the priority classifications of sewer service and planning areas, for extension or installation of sewer utilities, shall be submitted to the Controlling Authority, the Talbot County Department of Public Works, for processing prior to being received for introduction by resolution of the County Council on the last convening legislative day of December, March, June, and September. In the incorporated municipalities of Easton, Oxford, St. Michaels and Trappe, applications for amendment of the priority classifications of water and sewer service and planning areas, for extension or installation of water and sewer utilities, shall be submitted to the Controlling Authority, either the Town Office or the Department of Public Works for the incorporated Town, for processing prior to being received for introduction by resolution of the County Council on the last convening legislative day of December, March, June, and September. All applications shall be received by Talbot County at least twenty-one (21) calendar days prior to the date of introduction, to avoid deferment to the next amendment period. Applications shall include completion of the Request for Amendment schedules and forms, included herein, under transmittal cover of a letter request with available additional or clarifying information pertinent to the project. Amendment applications will be reviewed by the local Planning and Zoning, Public Works, and Health Departments, and the Maryland Department of the Environment, for compatibility with use and planning policies and facility permit restrictions in effect. Sanitary construction permits and public works agreements for facility extension and/or installations will not be issued or executed without an enacted Comprehensive Water and Sewer Plan amendment process for the requested scope of new service.

A schedule of effective amendments to the Comprehensive Water and Sewer Plan is maintained herein. All changes shall be forwarded to the Maryland Department of the Environment for updating of their copies of the Talbot County Comprehensive Water and Sewer Plan.

II. APPLICATION AND FORMS

1. Request for an Amendment to the Talbot County Comprehensive Water and Sewer Plan for Change of Priority Status
2. Additions Proposed to Table No. 17 Form
3. Additions Proposed to Table No. 27 Form
4. Unit Schedule

III. SCHEDULE OF AMENDMENTS

RESOLUTION	DESCRIPTION	DATE ENACTED
42	Extend 1983 CWSP	11/12/85
45	NPDES Inventory	10/14/86
46	Trappe W/S Extension	4/21/87
47	Oxford W/S Extension	5/12/87
48	Easton W/S Extension	8/4/87
49	Extend 1983 CWSP	12/22/87
52	Easton W/S Extension	4/12/88
53	Tilghman Island Sewer Service Extension	6/14/90
54	Easton W/S Extension	10/11/88
55	Easton W/S Extension	1/10/89
58	Easton W/S Extension	7/11/89
59	Tilghman Island Sewer Service Extension	9/26/89
61	Easton W/S Extension	8/6/91
67	CWSP 1992 Update	6/1/93
68	Septage Management Plan	1/11/94
71	Easton Water/Sewer Extension - Easton Technology Center - Matthewstown Run Phases III & IV Unionville/Tunis Mills/Copperville Sewer Extension - Wryht's Rest	1/27/98
72	St. Michaels Sewer Extension - Chester Park	8/25/98
77	Re-application for amendments to the plan shall be prohibited for a period of two (2) years following a denial of a proposed amendment	12/21/99
79	Northside Woods – Trappe – Shared Sanitary Facility	3/7/00
82	Unionville/Tunis Mills/Copperville Sewer Extension - Peiken Sewer connection – failing septic system	8/22/00
86	Include Nutrient Removal at the Region II Wastewater Treatment Plant as a Priority Project	2/13/01
90	St. Michaels Sewer Extension - Bryan's Hunt Subdivision – 41 sewer connections	8/14/01

SCHEDULE OF AMENDMENTS CONTINUED

RESOLUTION	DESCRIPTION	DATE ENACTED

REQUEST FOR AN AMENDEMNT TO THE TALBOT COUNTY COMPREHENSIVE WATER AND SEWER PLAN FOR CHANGE OF PRIORITY STATUS

SEND TO: Talbot County Department of Public Works, 605 Port Street, Easton, Maryland 2160; Telephone 410.770.8171

PROPERTY OWNER: LAST	FIRST & INITIAL
MAILING ADDRESS	
TELEPHONE NUMBER:	
APPLICANT (If other than Owner): LAST	FIRST & INITIAL
MAILING ADDRESS	
TELEPHONE NUMBER:	Relation to Owner:

PROPERTY INFORMATION

PROJECT NAME:				
PROJECT LOCATION:				
NATURE OF PROJECT:				
ZONING:	ACREAGE:	ELECTION DISTRICT:		
TAX MAP:	GRID:	PARCEL:	LOT:	SECTION:
REQUEST CHANGE FROM: W-	TO: W-			
REQUEST CHANGE FROM: S-	TO: S-			
NAME OF SEWERAGE SYSTEM TO SERVE PROJECT:				
NAME OF WATER SYSTEM TO SERVE PROJECT:				

PROCEDURAL REQUIREMENTS

Applications for amendment of the priority classifications of water and sewer service and planning areas, for extension or installation of water and sewerage utilities, shall be received for the introduction by resolution of the County Council on the last convening legislative day of each calendar year (December) and fiscal year (June). Applications must be received at least twenty-one (21) calendar days prior to the date of introduction, to avoid deferment to the next amendment period.

Sanitary construction permits and public works agreements for facility extension and/or installations will not be issued or executed without an enacted Comprehensive Water and Sewer Plan amendment process for the requested scope of new service.

DOCUMENTS TO BE COMPLETED AND SUBMITTED WITH THIS REQUEST

(THIS LIST OF DOCUMENTS SHALL INCLUDE BUT NOT BE LIMITED TO THE FOLLOWING)

	FOR ALL APPLICATIONS (including shared sanitary facilities)		SHARED SANITARY FACILITIES
☐	Cover letter requesting amendment and transmitting documentation	☐	Completed Additions Proposed to Table No. 19
☐	Completion of Request for Amendment Schedules	☐	Environmental impact analyses and/or studies
☐	Completed Additions Proposed to Table No. 17	☐	Hydrogeological evaluations
☐	Completed Additions Proposed to Table No. 27	☐	Completed engineering plans with data tabulations
☐	Site plan	☐	Service area delineation

FOR DEPARTMENT USE ONLY

DEPARTMENT OF PUBLIC WORKS APPROVAL:	DATE:
To be entered as Resolution No.:	
Date Received:	Date Enacted:

ADDITIONS PROPOSED TO TABLE NO. 17

OWNER	LOCATION	ESTIMATED COSTS			PROJECT STATUS		
PROJECT NAME DESCRIPTION	Coordinates	Total	Federal	Local	Estimated Construction State Date for Assigned Planning Priority		
					W1	W2	W3

ADDITIONS PROPOSED TO TABLE NO. 27

FISCAL YEAR AND PROJECT NO.	DESCRIPTION	TOTAL COST	FEDERAL AND/OR STATE	LOCAL	FINAL PLANS	START CONSTR.	COMPLETE CONSTR..

PROJECT DESCRIPTION

Type and Number of Housing/Building Units to be Served:

Estimated Population of Population Equivalent:

Total Projected Sewage Flow: _____ (gpd)

Total Projected Water Flow: _____ (gpd)

Attach the Following:

1. A 2000 feet to the inch map showing the outline of the property to be served.
2. A letter of certification of authorization for extension of utilities from the owner of the water and/or sewerage facilities and statement that capacity is available.

_____ _____
Applicant's Signature Date

TALBOT COUNTY
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMITS

COUNTY	PERMIT NO.	NPDES	PERMIT DESCRIPTION	FACILITY NAME	FACILITY CITY	OWNER	OWNER ADDRESS	OWNER CITY
02/25/2002	Federal Number	State Number						
TALBOT	97DP0104	MD0020486	NPDES/MUNICIPAL/RENEWAL	TRAPPE WWTP	TRAPPE	TOWN OF TRAPPE, INC.	BOX 162, 4011 POWELL AVE.	TRAPPE
TALBOT	00DP1981	MD0059463	FOR RENEWAL, 75,000 GALLONS PER DAY AVERAGE PROJECTED DISCHARGE	TALBOT COUNTY REGION V WWTP	TILGHMAN	TALBOT COUNTY DEPT. OF PUBLIC WORKS	605 PORT STREET	EASTON
TALBOT	96DP0644	MD0022543		OXFORD WASTEWATER TREATMENT PLANT	OXFORD	TOWN OF OXFORD	100 NORTH MORRIS STREET	OXFORD
TALBOT	94DP0623	MD0023604		TALBOT COUNTY REGION II WWTP	ST. MICHAELS	TALBOT COUNTY DEPT. OF PUBLIC WORKS	605 PORT STREET	EASTON
TALBOT	96DP0579	MD0020273	RENEWAL - MAJOR FACILITY	EASTON WWTP	EASTON	EASTON UTILITIES COMMISSION	P.O.BOX 1189	EASTON
TALBOT	96DP2713		RENEWAL	HOG NECK GOLF COURSE	EASTON	TALBOT COUNTY PARKS BOARD	10025 OCEAN GATEWAY	EASTON
TALBOT	00DP3130		FOR RENEWAL, 7000 GPD AVERAGE TO BIP	TALBOT TRAILER PARK	EASTON	NORRIS E. TAYLOR CONTRACTORS, INC.	8480 OCEAN GATEWAY	EASTON
TALBOT	97DP1474		FOR RENEWAL, FROM TRAILER PARK	JENSEN'S HYDE PARK WWTP	EASTON	JENSEN'S INC.	246 REDSTONE STREET	SOUTHINGTON
TALBOT	00DP1448		FOR RENEWAL, 15,000 GALLONS PER DAY BY LAND APPLICATION	MEBA ENGINEERING SCHOOL	EASTON	MEBA TRAINING PLAN	1007 EASTERN AVENUE	BALTIMORE
TALBOT	99DP2038		FOR RENEWAL, FOR LAND APPLICATION OF TREATED SEWAGE EFFLUENT AT 60,400 GPD AVERAGE	MARTINGHAM UTILITIES WWTP	ST. MICHAELS	MARTINGHAM UTILITIES COOPERATIVE / MES	24490 DEEP WATER POINT DRIVE	ST. MICHAELS
TALBOT	00HT9554	MDG679554	FOR RENEWAL, FROM WATER SUPPLY SYSTEM	EASTON UTILITIES - WASHINGTON ST.	EASTON	EASTON UTILITIES COMMISSION	P.O. BOX 1189	EASTON