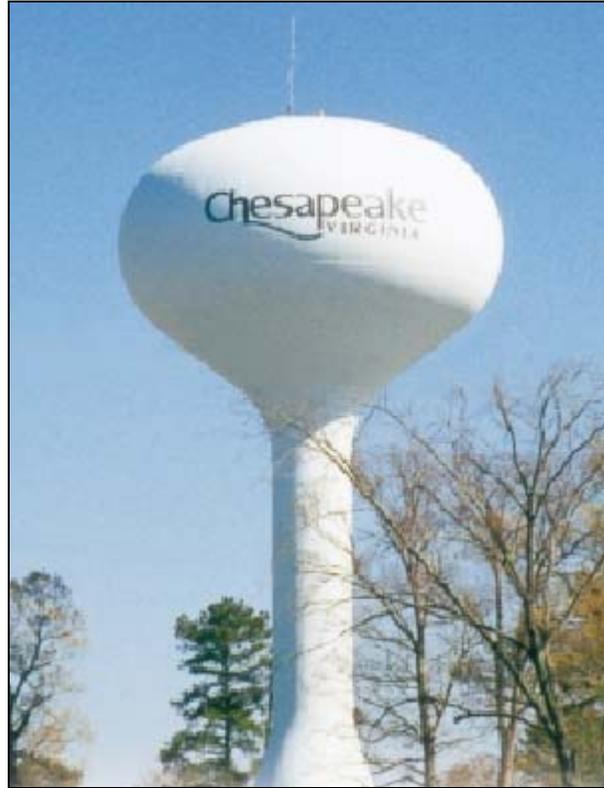


Water and Sewer

Goals

The City will:

- Provide adequate public facilities and services for all services which the City provides.
- Coordinate the location and design of all City public facilities with the goals and policies of the Comprehensive Plan.



Water

The City uses both surface and groundwater resources to supply its residents with drinking water. The City's drinking water is supplied from the City of Norfolk, the City of Portsmouth, City wells, private wells, the Northwest River, and in the future, Lake Gaston.

The City's Northwest River Water Treatment Plant, located on South Battlefield Boulevard, treats up to 10 million gallons per day (mgd) from the Northwest River. The plant also treats brackish groundwater from four wells located along South Battlefield Boulevard. The plant capabilities include both the conventional processes of coagulation, sedimentation, and filtration as well as reverse osmosis (RO) membrane treatment. This supply generally serves customers south of Military Highway.

The City purchases bulk treated water from two neighboring cities, Norfolk and Portsmouth. Customers in the Indian River and South Norfolk areas north of Military Highway receive water from the City of Norfolk. Water customers in Western

Branch and Deep Creek north of Military Highway receive water from the City of Portsmouth. All sources are of excellent quality and meet or exceed the SDWA standards.

2003 Water Supply Resources

Source	Amount
Northwest River Water Treatment Plant	10.0 m.g.d.
Bulk Water from City of Portsmouth	5.0 m.g.d.
Bulk Water from City of Norfolk	3.75 m.g.d.
Total	18.75 m.g.d.

The Western Branch Auxiliary Source is located near the Hampton Roads Airport. This source contains groundwater from the Western Branch Well #1 blended with Aquifer Storage and Recovery (ASR) water. This source is used to meet peak demand and serves roughly the Deep Creek area below Military Highway with a maximum reach to the Civic Center on Cedar Road.

A private water company, Aqua America of Virginia, has a franchise area in the Norfolk Highlands neighborhood, which serves approximately 450 customers.

The City is currently constructing a new water treatment plant in the Bowers Hill area that will use state-of-the-art membrane technology to provide approximately 13.6 million gallons of drinking water a day. The project began construction in August 2003 and will be completed in 2006. The plant will receive water from Lake Gaston between 2015 and 2020. The plant will compliment the other existing supplies.

Issue One: Water Supply

Through combined water sources, Chesapeake anticipates having an adequate water supply, at current growth rates, to handle water demands until approximately 2040. The need for water will always be a reality, and there is always the need to identify new water resources for the future. Securing and developing water supplies often requires a considerable amount of lead time prior to being able to actually use the new water source, and as such, it is never too early to begin looking for more resources. It has taken several decades to secure the Lake Gaston water, and it is reasonable to expect the development of other resources will be equally time consuming.

New water resources have been identified for Chesapeake's maximum daily needs until approximately 2040. Current contracts with Norfolk and Portsmouth allow for the purchase of finished water. In addition, the contract with Norfolk allows for the purchase of raw water that will be treated at the new treatment plant.

Another element in the City's water reserves is the Lake Gaston Project of which Chesapeake is a 1/6 partner with the City of Virginia Beach. This project is currently rated at 60 million gallons per day. This water will also be treated at the new plant following future upgrades to expand its capacity as needed to meet projected water demands.

The City of Chesapeake should become more self-sufficient in its ability to supply fresh, potable water to its residents, business and industry.

Strategies:

- The City will maintain a proactive approach to identifying future water sources and continue to update its strategy to provide for future needs.
- A program of water conservation has been established and is implemented to varying degrees as circumstances require, beginning with standard practices suggested by good stewardship to more substantial practices required during times of stress, and in a manner that minimizes adverse impacts on economic activity and existing residences.
- Continued study should be given to all feasible long-term supply alternatives until the most cost- effective system or combination of systems for Chesapeake is determined.
- Water resources should be diversified in order to reduce the reliance on any particular source.

Issue Two: Safe Drinking Water

The provision of safe drinking water has a direct relationship to the protection of the health and safety of Chesapeake residents.

The City will continue to maintain a strong position against the potential contamination of its water supply.

Strategies:

- An adequate buffer should be established around all drinking water supplies in which no development should occur. The magnitude of this buffer will be impacted in part by the proposed adjacent development.
- The creation of additional impervious surfaces on lands directly draining into the water supply should be carefully considered and protections to prevent contamination implemented. Part of the consideration will include the type of water source impacted.
- Development proposals for activities that have traditionally affected hydrology, such as borrow pits or drainage facilities, should be carefully considered for their potential impact on the water supply.
- The City will continue to meet or exceed all water quality standards.



- The City Planning Department will coordinate the development of a water supply watershed management program, such as that found in the Hampton Roads Planning District’s report titled “Water Supply Watershed Management in Hampton Roads.”

Issue Three: Water Supply Infrastructure

The water supply infrastructure located throughout the City is of varying age and construction. This infrastructure includes pipes, pumps, storage tanks, and treatment facilities. As these facilities age or become outdated, they require replacement. This issue is critical and must be managed to prevent future fiscal impacts.

Additionally, many existing developed areas within the City’s Utility Franchise Area are not served by public water service.

As a general guide, developers will continue to be responsible for constructing the necessary water infrastructure to support their developments. The City will continue to identify funding for the maintenance and operation of existing facilities.



The provision and maintenance of water service distribution facilities to existing development within the City’s Utility Franchise Area should be considered prior to the construction of new facilities.

Strategies:

- As part of the capital improvement program Public Utilities has identified areas where upgrades or replacements are needed within the water system. These improvements take into account improved fire and domestic service for the areas identified.
- When planning for water supply infrastructure, consideration to water storage and distribution facilities must be included.
- It is recommended that the City’s Department of Utilities consider undertaking an engineering review of both the Year 2026 Plan and supporting data to determine its impacts on the existing water and wastewater infrastructure, in addition to new public infrastructure required to support the Plan’s recommendations. Engineering cost estimates and construction schedules are logical outcomes of these studies. They will serve to support an updated capital improvements program and to refine the planning estimates that resulted from the development of the Plan.

Issue Four: The Provision of Public Water Service

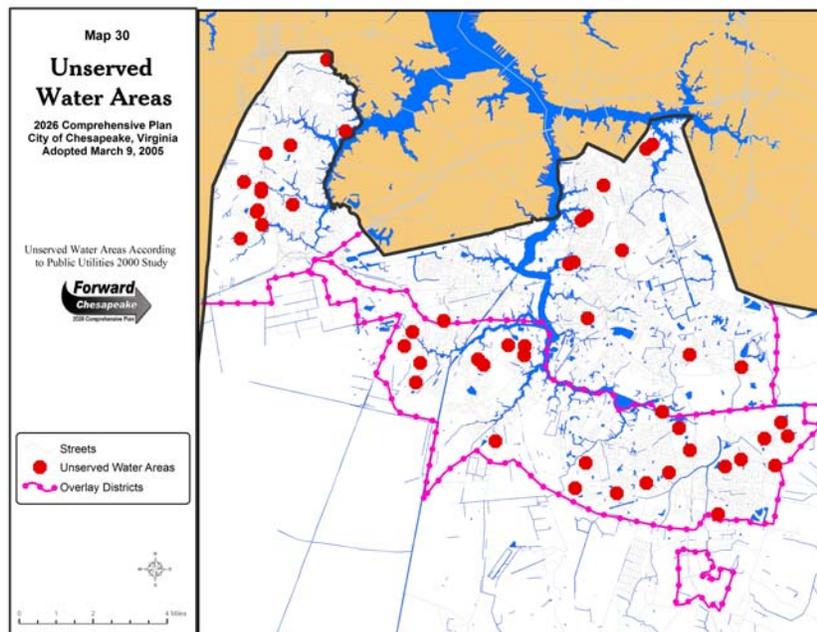
[As amended 06/19/07-- CP-07-03]

The Public Utilities service area, referred to as the Public Utilities Franchise Area, is established as that area which it shall be the policy of the City of Chesapeake to provide public water and sewer service. Expansions to this area should only be made when the expansion would be consistent with the City's overall growth management strategy.

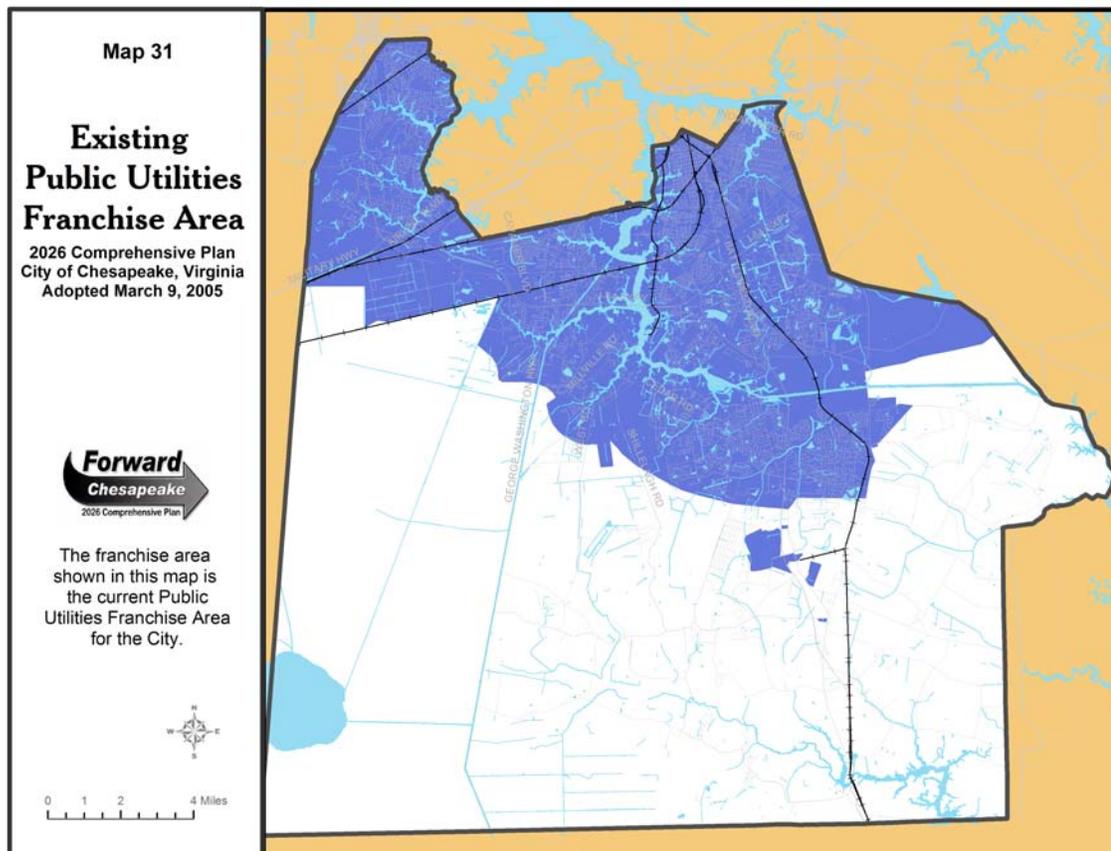
Public water service may be provided to those areas within the Public Utility Franchise Area or to the 2026 Public Utility Franchise Area, at a time that is consistent with the City's overall growth management strategy.

Strategies:

- Water distribution systems and new hookups should be provided only in areas that can be served cost-effectively by a complete range of urban services, or in those cases where private groundwater supplies to existing residents are a threat to public health.
- Water service may be provided to individual lots outside an existing or future Public Utility Franchise Area under the following conditions:
 - 1) The public water line must have been installed and activated by the City prior to the date of the original City of Chesapeake Public Utility Franchise Area Expansion Policy, adopted and effective September 18, 2001.
 - 2) The lot to be served must border a City right-of-way where a public water line is installed.
 - 3) The lot must have been lawfully created, as determined by the City Attorney's Office, as of the date of the original City of Chesapeake Public Utilities Franchise Area Expansion Policy, adopted and effective on September 18, 2001. No service will be provided to any lot created by subdivision or other lawful division after September 18, 2001.
 - 4) The water service will only be provided if the current or proposed use of the property is lawfully permitted under state and local laws, ordinances and regulations.
 - 5) The connection to the water line must not only conform with all Public Utility policies, but the use of the property and the extension of any utility facilities must conform with all applicable state and local laws, ordinances, regulations and policies.
- The provision of public water service to areas of existing development within the Public Utility Franchise Area will take precedence over the extension of public water service into new undeveloped areas.
- The Public Utilities Department will prepare a strategy to provide public water service to existing neighborhoods not served within the Public Utility Franchise Area.



- Water supply infrastructure constructed by developers must be installed consistent with the provisions of the Comprehensive Plan.
- Water supply infrastructure includes facilities beyond the actual distribution lines, such as necessary storage facilities and transmission lines.
- The installation of new water distribution facilities should be sequenced in such a way as to provide a logical progression from existing service areas to new service areas.
- Private water treatment and distribution systems should be discouraged, except for individual residences in rural areas where groundwater supplies meet health standards.
- Expansions to the Public Utility Franchise Area will require approval by the Chesapeake City Council. This process is outlined in the Growth Management element.
- Funding to extend water service to serve new development areas will be borne by land owners / developers.



Sewer

Chesapeake owns and operates the wastewater collection system and transports the wastewater to Hampton Roads Sanitation District's (HRSD) interceptor facilities. Wastewater treatment is provided by HRSD. Sewer service is critical to development in Chesapeake due to the limitations on the installation of private septic systems. The proper placement and timing of the sewer facilities are necessary to insure the most efficient use of City resources.

HRSD maintains a master plan for sewer force mains; however, it is up to the City to determine the timing of such facilities. Under Section 15.5-2232 of the Code of Virginia, all capital improvements must be found to be consistent with the Comprehensive Plan. It has been Chesapeake's policy to grant such approval only to those lines that will serve current needs as opposed to future needs, thereby reducing the demand for untimely development. This plan provides for an overall growth management strategy and all sewer extensions should be regulated by that strategy.

Issue Five: The Provision of Public Waste Water Treatment

Chesapeake's soils are not well-suited for septic tank systems, and as such, sewer placement has become a critical element to new development. The location of sewer improvements has historically created powerful catalysts for development activity. Given this, public sewer service should only be allowed to those areas of the City that are planned for growth and development. The Public Utility Franchise Area and the 2026 Public Utility Franchise Area corresponds to these areas.

Public sewer service will only be provided to those areas within the Public Utility Franchise Area or to the 2026 Public Utility Franchise Area, and only at a time that is consistent with the City's overall growth management strategy.

Strategies:

- The decision to extend new public sewer service to new development areas must consider the timeliness of the new development and the City's ability to provide other required City services to the new area.
- The extension of new sewer interceptor facilities will be subject to review under the provisions of Title 15.2, Section 2232 of the Code of Virginia for consistency with all provisions of Chesapeake's Comprehensive Plan.



Issue Six: Funding Public Sewer Service

The construction of sewer infrastructure is very expensive; and funding is very limited for such improvements. Replacement costs for inadequate, deteriorating, or obsolete sewer lines may be borne by the City or HRSD depending upon who owns the line. City costs for such projects have typically come from the Capital Improvement Budget. To

further explore methods of providing service to these areas, other funding methods and sources should be examined for future improvements.

The cost associated with constructing new sewer lines to service new development areas is impractical for the City to bear. The cost associated with the construction of new sewer lines and related facilities, such as pumping stations and force mains, should be borne by the developer. Methods for possibly recouping portions of this investment, such as pro-rata agreements, are available and may be used by the developer who funds sewer improvements. When pro-rata is used, it must be done in a manner consistent with all City codes and policies. All lines, regardless of funding source, must be consistent with utility master plans.

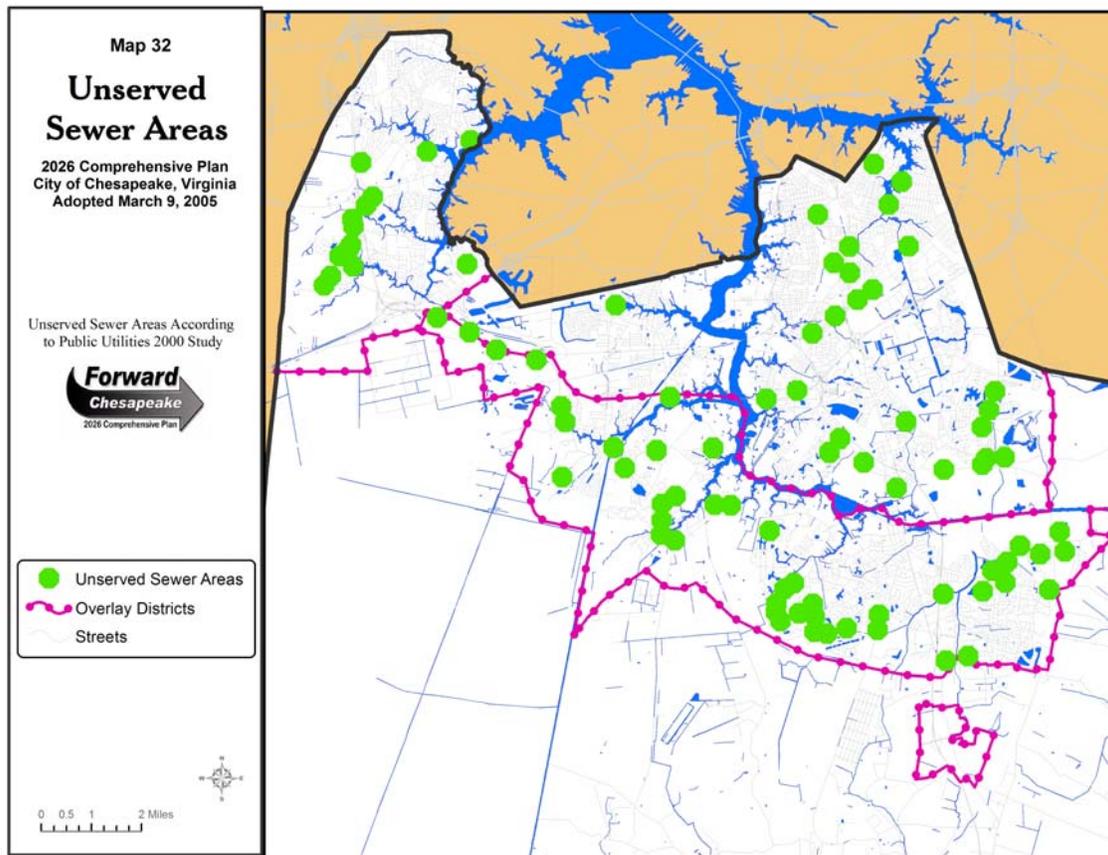
An additional financial impact associated with the provision of sewer service comes from the impacts associated with changing regulations and mandates. An example is the impending CMOM (Capacity, Management, Operation, and Maintenance) Regulation. CMOM is a federally mandated asset management program for sewer service requiring the locality to have an adequate flow of revenue for renewal (both system and operation). CMOM will create a mandated need for additional sewer funds. Guidelines are currently under development for this program. This will impact the entire sewer system.

As a general guide, developers will continue to be responsible for constructing the necessary sewer infrastructure to support their developments. The City will continue to identify funding for the maintenance and operation of existing facilities.

The use of public funds for sewer facilities and infrastructure will be prioritized and distributed according to substantiated need. A variety of funding options will be considered when funding these improvements.

Strategies:

- Existing areas will take priority over service for new areas for the use of public funds.
- The Public Utilities Department will prepare a strategy to provide public sewer services to existing neighborhoods located within the Public Utility Franchise Area but not currently served with public sewer.
- All options should be considered when identifying funding for sewer improvements. Some sources for funding could include: Community Development Block Grants, Economic Development funds if business development is benefited, or special taxing districts.
- Special consideration will be given to planning for the potential impact of new legislation or regulation which will influence the cost of providing public sewer service.
- Funding to extend sewer service to serve new development areas will be borne by land owners / developers.



Issue Seven: The Provision of Private Wastewater Treatment

Private wastewater treatment facilities provide risk for the City in that a failed system may ultimately require City intervention. While a private solution may appear to be a convenient and expedient means of providing wastewater treatment for development outside of utility service areas, these solutions should be seen only as temporary. The ultimate cost of providing public service should be considered as a part of the decision for allowing such systems.

It shall be the policy of Chesapeake to discourage private wastewater treatment facilities.

Strategies:

- Private wastewater collection and treatment systems should be discouraged, except on individual lots in rural areas where soil and groundwater conditions are suitable.
- Private wastewater collection and treatment facilities designed to serve more than a single residence will require a review under Section 15.2-2232 of the Code of Virginia for consistency with the Comprehensive Plan.

- The City of Chesapeake Health Department and Department of Planning should review existing on-site standards with the U.S. Soil and Water Conservation Service, Virginia Department of Environmental Quality, Virginia Department of Health and the U.S. Environmental Protection Agency to determine whether or not such standards and procedures should be amended in the future.
- Sewer collection systems should be maintained and provided to all existing developed, developing, or underutilized urban/suburban areas for which on-site septic systems are unsuitable; however, extension of such systems to presently undeveloped areas should be limited only to those areas which meet comprehensive planning criteria, and can be served cost-effectively.