

WASTEWATER TREATMENT

Introduction

The Town of Williamsport does not have a sewer treatment at this time or the capability to handle and treat the wastewater. Pursuant to authority granted in its Charter, the Town owns and maintains infrastructure consisting of pipes, pumping stations and all other pertinent fixtures to collect the flow of sewage from the residents and businesses in the Town. Sewage is ultimately treated by the Washington County Water and Sewer Department. Up until sometime in the 1990's, the Town did have a wastewater treatment plant but approximately at that time they disposed of same and went entirely to having the Washington County Sewer Department process the sewage.

Within the boundary of the Urban Growth Area, the Washington County Water and Sewer Department provides sewer service to residents primarily to the west and south of the City of Hagerstown including the Town of Williamsport. Treatment is provided at the Conococheague Wastewater Treatment Plant located north of Williamsport near the Conococheague Creek.

Note: the Town had a written Agreement with the County for many years (1992 et. seq.) for the services in question.

The Town of Williamsport owns and operates their own wastewater collection system which includes four (4) wastewater pumping stations. This wastewater collection system transports the wastewater into the Washington County wastewater collection system which transports it to the Conococheague Wastewater Treatment Plant for treatment. The Conococheague WwTP is owned by Washington County and operated by the Washington County Division of Environmental Management.

The Conococheague WwTP is designed to treat 4.1 MGD of wastewater and in 2009 the average daily flow was 2.1 MGD. The plant is currently designed for biological nutrient removal which means it achieves a Total Nitrogen discharge level of 8 mg/L or less on a yearly average and 3 mg/L or less of Total Phosphorus on a yearly average. This WwTP is considered a major WwTP and is slated to be upgraded to an Enhanced Nutrient Removal (ENR) WwTP within the next few years. ENR WwTPs treat the wastewater to a level of 4 mg/L of Total Nitrogen or less on a yearly average and 0.3 mg/L of total Phosphorus on a yearly average. Upgrades of WwTP to ENR levels are part of the Maryland's Chesapeake Bay initiatives.

Capacity allocation is managed by the County through a Capacity Management Plan. It is the County policy that allocation is available on a first come first serve basis. Therefore, the Town of Williamsport does not

have any reserve capacity in this facility and must work with the County to provide wastewater capacity to any new or expanded services in the Town, although normal growth levels are programmed in the Plan.

The Town has had a written agreement with the County for many years (1992 et. seq.) for the services in question.

Washington County is required to have a County Water and Sewage Plan. Same has been updated and/or is in the process of being updated and will be a part of the Washington County Comprehensive Plan and/or approved by the Maryland Department of the Environment (same is required pursuant to Maryland Code, Environment Article, Section 9-503(d)(1)). The Washington County Water and Sewage Plant is incorporated herein by reference insofar as same is applicable to the Town of Williamsport, Maryland and pursuant to Article 66B of the Annotated Code is made a part of and incorporated in this Comprehensive Plan for reference purposes insofar as same is applicable to the Town of Williamsport.

CURRENT IMPROVEMENT PROJECTS

Introduction

Williamsport's historic beginnings have also brought with it an aged sanitary sewer conveyance system. The existing sanitary sewer conveyance system that is presently being replaced consisted mostly of brick manholes, a terra cotta gravity collection system, and four antiquated pumping stations.

All of the collected sewage flowed through the Town's main lift station before being pumped to the Washington County's Wastewater Treatment Plan.

During periods of rain, the Town experienced high volumes of inflow and infiltration into the sanitary sewer system. The high volumes caused the Town to consider ways to reduce the flows since they are charged basically per 1,000 gallons of treated wastewater.

After engineering studies were performed by Thrasher Engineering it was determined to upgrade the sewer system. An extensive sanitary sewer system rehabilitation project was initiated and is currently in the various phases of construction. Attached is a simplistic chart with a project breakdown.

PURPOSE AND NEED FOR THE PROJECT

Project Description

This proposed project will reduce I&I and in turn upgrade a portion of the antiquated sanitary sewers for the Town of Williamsport (Alternative One, Phase One). The method chosen to reduce I&I is by removing and replacing the existing sanitary sewers in the same trench. This alternative is the most effective in cost and in reduction of inflow and infiltration. The system upgrades will not add any additional customers.

PURPOSE AND NEED OF PROJECT

The Town of Williamsport's sanitary sewers become overloaded during wet weather conditions and convey the flows directly to Washington County Wastewater Treatment Plant (WWTP). The conditions are caused by the poor condition of Williamsport's existing sanitary sewer system. The televised and recorded inspection revealed that most of the original VCP sewers are still in place and experiencing infiltration through separated and offset joints, improperly installed service connections (brake-in connections) sags, roots, and was not true to grade or alignment. Also access for maintenance is inhibited due to the deterioration of the existing manhole steps in most manholes. The excess I&I results in unnecessary treatment and additional operating costs that get passed back to the users of Williamsport.

The poor condition of Williamsport's sanitary sewer system caused excess flows to be conveyed to the Conococheague Wastewater Treatment Plant (WWTP). The Conococheague WWTP is a 1.6 MGD facility that utilizes a trickling filter treatment process before discharge. I&I is also diluting the collected domestic sewage and thus weakening the strength and concentration of biochemical oxygen demand (BOD5) and total suspended solids (TSS).

This proposed project will not serve any additional customers, but will improve the existing infrastructure of Williamsport's sanitary sewers.

Therefore, the existing O&M, and system management will improve with these proposed sanitary sewer improvements. Williamsport has experienced negative growth over the last ten (10) years. No additional growth is projected.

PROJECT ALTERNATIVES

After consideration and study, it was determined that there were three possible alternatives to be considered in the rehabilitation of the sewage system. They consisted of replacing the existing sanitary sewer, rehabilitating the existing sewers or doing nothing.

Exhibit 50, labeled **Table 2-1 Alternative Analysis**, prepared by Thrasher Engineering, which follows analyzes the alternatives.

Exhibit 50

TABLE 2-1 ALTERNATIVE ANALYSIS

Description	Alternatives Considered		
	-Alternative One- Replace the Existing Sanitary Sewer	-Alternative Two- Rehabilitate the Existing Sewers	-Alternative Three- Do Nothing
Indirect Impact	Effectively reduces I&I	Effectively reduces I&I	The I&I would not be reduced and thus treatment costs would not be lowered. The antiquated sewers would not get replaced.
Environmental Impacts from Construction	Construction will take place within right-of-ways and consequently in the vicinity of multiple utility lines making construction more difficult and time consuming. Sediment and Erosion impacts from heavy machinery	Rehabilitation by sliplining has less construction impact due to the fewer number of open trenches. Sediment and Erosion impacts from heavy machinery	No Impact
Cost Effectiveness	Lowest Cost	Highest Cost	No Cost
Does this Alternative meet the Purpose and Need?	Yes, This alternative does meet the purpose and need by reducing the I&I	Yes, This alternative does meet the purpose and need by reducing the I&I	No
Is this the preferred method by the Town and Engineer?	Yes	No	No

It was determined that alternative one - replacing the existing sanitary sewers was the preferred alternative. This was the alternative that the Town pursued and endeavored to obtain financing and bonding as will be discussed in a later paragraph.

Description

This Alternative evaluates the construction of a new sanitary sewer system through conventional excavation and replacement in order to reduce as much I&I as possible. The new sanitary sewer system would utilize portions of Williamsport's existing sanitary sewers that are in satisfactory condition. The new gravity sewer lines would be constructed in a remove and replace fashion and therefore would utilize existing right-of-ways.

Environment Impacts

The new proposed sewer line installation will be constructed underground and be performed with minimal construction equipment as is necessary to excavate trenches, lay and cover pipes, and restore disturbed areas. All construction will conform to the Standards and Specifications required by the State of Maryland.

Land Requirements

Additional land will not need to be purchased for the construction of the proposed sanitary sewer. In most cases, the location of the proposed

sanitary sewer will be constructed in the same place as the existing sewer and with-in existing State and Town Right-of-way.

Construction Problems

The construction for the proposed sanitary sewer system will be within Town and Maryland State Highway Administration right-of-ways whenever possible. The construction will consequently take place within the vicinity of the existing water, gas, electric and telecommunication lines. This can make construction more difficult, time consuming, and thus expensive. All construction will conform to State of Maryland standards.

Advantages/Disadvantages

The advantage of proceeding with Alternative One is this is the most effective way to reduce the I&I that is prevalent in the sanitary sewer system. This is also the most inexpensive solution for Williamsport.

In the course of studies and in the course of construction certain environmental matters that may be affected or environmental consequences were considered by the Town and the engineers.

A Mitigation Summary by the Engineers is attached and indicates the minimal adverse affect upon land use and the environment during the course of construction and after the project is completed.

SUMMARY OF MITIGATION

Mitigation measures necessary to avoid or minimize any adverse effects caused by the project are summarized in Table 4-1. Mitigation measures will be developed with applicable agencies.

Table 4-1 Mitigation Summary

Affected Environment	Mitigation
Land Use	<ul style="list-style-type: none"> • Minimize the portion of the site disturbance. • Define the actual construction area to minimize impacts on wildlife and vegetation. • Share an established right-of-way with other utilities whenever possible.
Flood Plains	<ul style="list-style-type: none"> • Engineered flood control measures will be taken for the areas of sanitary sewer replacement that fall within the flood plain as necessary. • Watertight manhole frame and covers will be installed in areas impacted by flooding.
Wetlands	<ul style="list-style-type: none"> • Wetlands will be avoided therefore no mitigation is necessary.
Cultural Resources	<ul style="list-style-type: none"> • Halt work if archeological resources are uncovered and immediately contact SHPO and RD/RUS. Do not resume work in the affected area until clearance has been received from SHPO and RD/RUS.

Exhibit 51 (continued)

<p>Biological Resources</p>	<ul style="list-style-type: none">• Vegetation planting, sediment erosion control.• Temporary and permanent controls will be installed.• Regulatory permits for construction activities will be obtained from necessary agencies.
<p>Water Quality Issues</p>	<ul style="list-style-type: none">• Temporary erosion controls will be implemented.• Heavy Equipment should be fueled in a designated area.• Oils and grease for equipment should be stored and located in one designated area.• Regulatory permits for activities will be obtained from necessary agencies.
<p>Socio-Economic/Environmental Justice Issues</p>	<ul style="list-style-type: none">• No impact anticipated, therefore mitigation is not needed.

SOURCES OF FUNDING FOR PROJECTS

On December 18, 2009 the Town of Williamsport issued to the Maryland Water Quality Financing Administration (MWQFA) its \$899,245.00 Town of Williamsport Water Quality Bond Series 2009 (ARRA) (The 2009 Bond). This Bond evidenced a loan from MWQFA to the Town to finance, reimburse, or refinance all or a portion of the cost of various activities relating to the upgrading of the Town's sewer system including without limitation various inflow and infiltration improvements. This was structured as a drawn down bond with 0% interest. It ultimately was reduced to the amount of \$500,000 and the funds are being used for the Inflow and Infiltration Reduction Project No. 2 (Sewer Rehab). This is designated as contract No. 3 with Thrasher. It is shown on the flow chart of projects being performed. It involves the rehabilitation of several portions of the Town wastewater collection system and replacement of defective sewer lines and manholes.

Dedicated revenues from water and sewer user charges including any and all fees for the use of public water and sewer system or connection to its, and the general fund, including any and all taxes for real and tangible personal property within its boundaries subject to assessments for unlimited taxation. Specifications of a dedicated source of revenues according to the loan documents is not intended to constitute an undertaking by the Town to

pledge, segregate or otherwise set aside any specific funds with the expectation that such funds would be used to pay the debt service on the loan. On January 12, 2009, the Town passed an Ordinance authorizing it to borrow not in excess of \$1.5 million from USDA, Rural Development, for the purpose of financing the project to upgrade the sewer system including without limitation various inflow and infiltration improvements, rehabilitating or replacing sewer lines and manholes and upgrading pump stations, together with the acquisition of necessary property rights and equipment and appurtenances that might be needed for the project. USDF, Rural Development, at that time actually obligated funds to the extent of \$3,633,000 but at that time the Council only authorized \$1,500,000.

SUMMARY AND GOALS

The Town of Williamsport is actively engaged in attempting to improve its water distribution system, the quality of the water and the wastewater disposal system in order to comply with all environmental acts and regulations and better service the community and more economically process the products.