

## 8.1 SELECTED ALTERNATIVE(S)

### 8.1.1 Selected Sanitary Sewer Collection and Conveyance Alternative

As discussed throughout this Plan, there is adequate documentation available and reasoning to justify the provision of public to sewer within the Study Areas, specifically Matamoras Borough, Route 6/209 in Westfall Township, and Broad and Harford Street in Milford Borough. As detailed in Chapter No. 5, the most advantageous alternative for Matamoras Borough is Alternative No. 1B, Alternative No. 3B for Westfall Township, and Alternative No. 4B for Milford Borough.

Alternative No. 1B provides public sewer to the Matamoras Borough Planning Area along Pennsylvania Avenue as well as municipal roads that had been identified as needs areas in the Tier 2 Surveys. These areas are proposed to be collected through low-pressure sewer which is directly conveyed to the existing MATW force main near McDonald's, where the flows would be fed to the MATW Pump Station #1. MATW Pump Station #1 would then convey the wastewater flow into MATW WWTP. Alternatives 2A and 2B were considered but due to the high cost and grant money required to make it financially feasible, it is recommended that Matamoras focuses on the immediate needs. Alternatives 2A and 2B would be difficult to implement due to financial feasibility, and Alternative 1B provides a solution to the major needs areas in the Borough. Both the WWTP and MATW Conveyance System have the hydraulic capacity to handle projected flows from Alternatives No. 1B, No. 3B and No. 4B.

Alternative No. 3B provides sewer to Westfall Township Southwest along Route 6/209 using a low-pressure system. The low-pressure line would extend the existing MATW force main to the Milford Township/ Westfall Township border.

Alternative 4B provides sewer to Milford Borough along Route 6/209, Broad Street, and East and West Harford Street. The low-pressure sewer line is proposed to extend through Milford Township along Route 6/209 before connecting with the proposed sewer line in Alternative No. 3B. Milford Township is not a part of this Act 537 Plan, so no connections from the Township are projected. The force main that goes through Milford Township along Route 6/209 is only a projected transmission line, meaning that no connections are permitted as part of this Planning Effort. Future connections would only be considered through a separate formal planning submission such as an Act 537 Plan Special Study to PADEP.

Each selected institutional alternative is responsible for operation and maintenance of the sewer conveyance lines. MATW is responsible for the operation and maintenance of the WWTP. The homeowners are responsible for the operation and maintenance of the grinder pumps after construction. The estimated cost per EDU for each proposed structural alternative are presented in Tables 8-3 at the end of this Chapter.

The implementation of Alternatives No. 1B, No. 3B, and No. 4B has been chosen and is anticipated to be completed in accordance with the projected implementation schedule. The implementation schedule shall begin after DEP Plan Approval.

### **8.1.2 OLDS Sewage Management Program**

As previously stated, Milford Borough, Westfall Township, and Matamoras Borough have chosen to implement an official On-Lot Sewage Management Ordinance.

### **8.1.3 Milford Borough Groundwater Study**

Milford Borough shall hire a hydrogeologist to prepare a Shallow Groundwater Study to evaluate the shallow groundwater (0 to 80 feet deep) in Milford Borough, especially in the residential areas. Monitoring wells will be drilled in the residential areas that are not a part of the proposed sewer service area in this Plan. The groundwater will be analyzed for contaminants such as nitrate levels to identify if there are any subsurface issues that could be associated with failing OLDS that are not apparent at the surface. Once the Groundwater Study is complete, an Act 537 Special Study shall be submitted to DEP.

## **8.2 CAPITAL FINANCING PLAN FOR SELECTED STRUCTURAL ALTERNATIVE(S)**

The estimated project cost for the selected alternative for the Matamoras Borough Study Area (Alternative 1B) is approximately \$9,300,000.00. The estimated project cost for the selected alternative for the Westfall Township Southwest Study Area (Alternative 3B) is approximately \$3,900,000. The estimated project cost for the selected alternative for Milford Borough (Alternative 4B) is \$7,500,000.

For the financial analysis, a wholesale rate of \$25.00/EDU was assumed.

The estimated monthly cost per EDU for Alternative No. 1B would be approximately \$108/month in Matamoras Borough utilizing USDA financing rates with a targeted 45% grant. In Matamoras Borough, the Matamoras Municipal Authority will own and maintain Matamoras' Collection System and be responsible for any tasks related to the upkeep of the system.

The estimated monthly cost per EDU for Alternative No. 3B utilizing USDA financing and no grants would be approximately \$64/month.

The estimated monthly cost per EDU for Alternative No. 4B in Milford Borough would be approximately \$99/month utilizing USDA financing rates with a targeted 45% grant.

The Milford Water Authority will own and maintain the Sewer Collection and Conveyance System in Milford Borough as well as the transmission line that runs through Milford Township and be responsible for any tasks related to the operation and maintenance of the system. The existing user rate for MATW customers is \$60/month. Milford Borough and Matamoras Borough shall pursue the funding opportunities and grants mentioned in Chapter 5 as well as outlined in Appendix P. MATW shall also continue to be the institution responsible for owning and maintaining the MATW WWTP and MATW system.

In order to implement these structural alternatives at an affordable user rate, a low interest loan (USDA as primary financing alternative with PENNVEST as the secondary option) shall be secured and grant opportunities shall be explored. A full list of grant opportunities has been researched, and a table of relevant grant programs such from CFA, PENNVEST, and LSA have been identified as targets in Appendix P. Prior to connections being made in Alternative No. 4B, Alternative No.

3B's conveyance lines must be completed. Prior to preliminary design and after plan approval, grant applications will be applied for in order to reduce the cost of the project that needs to be financed.

### 8.3 PROJECT IMPLEMENTATION SCHEDULE

In the immediate future, Milford Borough, Westfall Township, and Matamoras Borough should each begin with implementing their OLDS Sewage Management Ordinance period as shown in table 8-1 (Phase I). This project schedule for the proposed structural alternatives (Phase II) will occur simultaneously. The Implementation schedule is outlined in Table 8-2. The project schedule for the Special Study on the Shallow Groundwater Analysis is outlined in Table 8-3 for Milford Borough.

**Table 8-1 Implementation Schedule (OLDS Sewage Management Ordinance Phase I)**

Years after DEP Approval <sup>(1)</sup>	OLDS Sewage Management Ordinance Phase I
0	Develop Draft On-Lot Disposal System Management Ordinance
	Provide Public Education for On-Lot Disposal System Management Ordinance
1	Finalize and Adopt On-Lot Disposal System Management Ordinance
2	Implement On-lot Disposal System Management Ordinance, Begin Pumping Cycles

Note (1): The Timeline for the implementation schedule begins on the Approval of the Act 537 Plan.

**Table 8-2 Implementation Schedule (Sewer System Extensions)**

Years after DEP Approval <sup>(1)</sup>	Selected Alternatives Phase II
0	Finalize Inter-municipal Agreements with MATW
	Pursue Funding Opportunities for Construction of Alternative 1B, 3B, 4B Facilities
2	Design and Submit Part II WQM Permit for Alternative 1B, 3B, and 4B Facilities
3	Receive Part II WQM Permit Approval
3.5	Apply for and Obtain Project Financing
4	Bidding of Project
4.1	Finance Closing
4.5	Initiation of Construction
6.5	Substantial Completion
7	Construction Completion/ Final Restoration and connections

Note (1): The Timeline for the implementation schedule begins on the Approval of the Act 537 Plan.

**Table 8-3 Implementation Schedule (Milford Borough Shallow Groundwater Analysis)**

Years from DEP Approval <sup>(1)</sup>	Milford Borough Groundwater Study/ Special Study Phase III
0-1	Pursue Grant Opportunities for Groundwater Study
2	Perform Shallow Groundwater Study
3	Submit Results to PADEP as a Special Study

Note (1): The Timeline for the implementation schedule begins on the Approval of the Act 537 Plan.

**Table 8-3 Summary of Financing Options for Selected Alternatives (Applying Separately)**

<b>Milford - Selected Alternative 4B</b>							Project Cost: \$ 7,500,000	Annual O&M Cost: \$ 102,200	No. of EDUs 284	
Option	Description	Tapping Fee Towards Pjt	Grant	Loan	Interest Rate	Term (Yrs)	Annual DS Cost	Resulting Annual User Rate/EDU*	Resulting Monthly User Rate/EDU*	Total Interest over Term of Loan
4B - 1a	PENNVEST - w/ no grant	\$ -	\$ -	\$ 7,500,000	1.743%	20	\$447,379	\$ 2,277	\$ 190	\$1,447,572
4B - 1b	PENNVEST - w/ Targeted 45% Grant	\$ -	\$ 3,375,000	\$ 4,125,000	1.743%	20	\$246,058	\$ 1,443	\$ 120	\$796,164
4B - 2	USDA - w/ Targeted 45% Grant	\$ -	\$ 3,375,000	\$ 4,125,000	3.250%	40	\$185,740	\$ 1,193	\$ 99	\$3,304,610
4B - 3	Bank Loan	\$ -	\$ -	\$ 7,500,000	6.000%	20	\$653,884	\$ 3,132	\$ 261	\$5,577,684
4B - 4	Bond Issue	\$ -	\$ -	\$ 7,500,000	5.000%	30	\$487,886	\$ 2,444	\$ 204	\$7,136,573

  

<b>Matamoras - Selected Alternative 1B</b>							Project Cost: \$ 9,100,000	Annual O&M Cost: \$ 113,400	No. of EDUs 308	
Option	Description	Tapping Fee Towards Pjt	Grant	Loan	Interest Rate	Term (Yrs)	Annual DS Cost	Resulting Annual User Rate/EDU*	Resulting Monthly User Rate/EDU*	Total Interest over Term of Loan
1B - 1a	PENNVEST - w/ no grant	\$ -	\$ -	\$ 9,100,000	1.743%	20	\$542,819	\$ 2,507	\$ 209	\$1,756,387
1B - 1b	PENNVEST - w/ Targeted 45% Grant	\$ -	\$ 4,095,000	\$ 5,005,000	1.743%	20	\$298,551	\$ 1,574	\$ 131	\$966,013
1B - 2	USDA - w/ Targeted 45% Grant	\$ -	\$ 4,095,000	\$ 5,005,000	3.250%	40	\$225,365	\$ 1,294	\$ 108	\$4,009,594
1B - 3	Bank Loan	\$ -	\$ -	\$ 9,100,000	6.000%	20	\$793,379	\$ 3,464	\$ 289	\$6,767,589
1B - 4	Bond Issue	\$ -	\$ -	\$ 9,100,000	5.000%	30	\$591,968	\$ 2,694	\$ 225	\$8,659,042

  

<b>Westfall - Selected Alternative 3B</b>							Project Cost: \$ 3,900,000	Annual O&M Cost: \$ 718,200	No. of Total EDUs 1197	No. of New EDUs 204
Option	Description	Reserve Funds & Tapping Fee Towards Pjt	Grant	Loan	Interest Rate	Term (Yrs)	Annual DS Cost	Resulting Annual User Rate/EDU*	Resulting Monthly User Rate/EDU*	Total Interest over Term of Loan
3B - 1a	PENNVEST - W/ No Grant Funding	\$ 1,018,880	\$ -	\$ 2,881,120	1.743%	20	\$171,860	\$ 804	\$ 67	\$556,084
3B - 1b	PENNVEST - w/ Max Grant	\$ 1,018,880	\$ -	\$ 2,881,120	1.743%	20	\$171,860	\$ 804	\$ 67	\$556,084
3B - 2	USDA	\$ 1,018,880	\$ -	\$ 2,881,120	3.250%	40	\$129,731	\$ 766	\$ 64	\$2,308,116
3B - 3	Bank Loan	\$ 1,018,880	\$ -	\$ 2,881,120	6.000%	20	\$251,189	\$ 876	\$ 73	\$2,142,663
3B - 4	Bond Issue	\$ 1,018,880	\$ -	\$ 2,881,120	5.000%	30	\$187,421	\$ 818	\$ 68	\$2,741,510

Notes:

1. Rate projections assumes 7.25% delinquency rate for retail customers and 15% for wholesale.
2. Assumes existing Westfall Authority reserve funds put towards capital project costs and used to lower amount financed by debt.
3. Assumes tapping fee revenue received by Westfall from new connections will be set aside in a reserve account for future capital improvement needs
4. Assumes annual retail and wholesale user charges from Westfall Authority are reduced by \$20/month and \$10/month respectively to eliminate budgeted depreciation expense for the initial years of service.
5. Assumes initial wholesale rate of \$25/EDU/month.