

Section 6

Project Financing

6.1 Introduction

The construction of the Cohas Brook Sewer Project will require a significant commitment of financial resources by the City. The purpose of this section is to provide a preliminary assessment of the potential financial funding sources available to the City. In addition, this section discusses some of the issues that need to be considered in the selection of the appropriate financing strategy.

6.2 Financing Sources

In order to implement the Cohas Brook Sewer Project, a varied funding approach may be necessary. This approach provides the opportunity to acquire available funding from the NHDES through the State Aid Grant (SAG) Program and the State Revolving Fund (SRF). Federal money may also be available for the Cohas Brook Sewer Project through the American Recovery and Reinvestment Act of 2009 and the State and Tribal Assistance Grant (STAG). A general discussion of these programs and their applicability to Manchester follows in Table 6-1.

6.2.1 New Hampshire Department of Environmental Services

NHDES provides assistance to communities that are building new wastewater infrastructure through the SRF and SAG programs. The SRF program provides low interest loans to assist communities with the design and construction of eligible wastewater projects. Loans are typically provided for the balance of a project that is not funded through grants at an interest rate that may vary between 0 percent and market rates over a period of 5 to 20 years. Currently, interest rates vary between 1.3 and 4.2 percent based on maturity of the issued debt.

In the past Manchester would have been eligible for a 20 percent SAG that would cover all eligible wastewater projects. However, the State has deferred any payments for fall 2008 under the SAG and it is currently not in the NHDES budget for Fiscal Years 2010 and 2011. NHDES has indicated that the City should still submit applications in hopes of back payment if the SAG program was available again in the future. Under this circumstance, the City could obtain a 20 percent grant for all eligible project costs and a SRF loan on the remaining balance of eligible project costs.

The eligibility criteria under the SRF and SAG programs are outlined on NHDES' website at http://des.nh.gov/organization/divisions/water/wweb/documents/eligib_2.pdf. The applicable eligibility criteria related to the construction of the proposed sewer piping for the Cohas Brook Sewer Project include:

- Interceptor with 50-year life

■ Insert Table 6-1

- Collector sewer if remediating a documented public health threat, groundwater contamination, or nuisance condition
- Service connection from eligible collector or interceptor to property line or easement line
- Pump station associated with eligible collection system
- Costs of restoring streets and right-of-ways to original condition

An interceptor can be defined as any sewer main that collects flow from two or more upstream collector sewers. Based on this, approximately 60 percent of proposed sewers would be eligible as they convey flow from two or more upstream collectors. The actual length of eligible interceptors would need to be determined during the final design of each contract based on the final sewer pipe layout.

However, the unsewered homes in the project area either fall in the Lake Massabesic or the Cohas Brook watersheds and elimination of existing onsite septic systems would further protect and enhance the water quality, including the drinking water source for Manchester and six surrounding communities. Further, many of the existing house lots in the project area are generally too small to support a septic system that would be compliant with current NHDES regulations. Also, more than 66 percent of the septic systems are over 15 years old, 13 percent of the properties have problems with their existing septic system, and the majority of the properties are located within 500 feet of a water body, stream or wetland. This situation represents a significant potential for contamination of Lake Massabesic, Cohas Brook, and Pine Island Pond resulting from septic systems that are overloaded, failing or at the end of their useful life.

Therefore, the implementation of this project is clearly remediating a documented health threat, eliminating the potential contamination to groundwater, Lake Massabesic, Cohas Brook and other receiving water bodies, and eliminating a nuisance condition for property owners that require frequent pumping, limiting water consumption, odors, and wet spots in yard above septic system. Thus, the entire project should qualify for SAG and SRF from NHDES. Further description of each contract is discussed below.

Contract 1

Contract 1 should entirely qualify for SAG and SRF from NHDES. Contract 1 will bring sewer service to just fewer than 200 existing homes that are all located in either the Lake Massabesic or Cohas Brook watersheds. Based on the questionnaire responses of the residents in the Contract 1 area, over 17 percent reported that they have problems with their septic systems, 66 percent replied that their septic system was greater than 15 years old, and 78 percent said that they wanted the City to extend gravity sewers to their homes. Also, many of the existing housing lots in the project

area are generally too small to support a septic system that would be compliant with NHDES regulations. This situation clearly represents a significant environmental health risk and potential for contamination of the City's drinking water supply and receiving waters that are used for recreational purposes resulting from septic systems that are overloaded, failing or at the end of their useful life.

In the City of Manchester's Sewer Use Ordinance, Section 52.116 "Sewer Improvement Area" requires a sewer improvement cost recovery fee for three areas of the City to be paid to the Manchester Highway Department. In the proposed Contract 1 area, Groveland Street is in the Youngsville Area which is required by the Sewer Use Ordinance to pay a fee of \$675 per unit.

Contract 2

Contract 2 should entirely qualify for SAG and SRF from NHDES. Implementation of this contract will bring sewer service to 180 homes that are all located in either the Lake Massabesic or Cohas Brook watersheds. Based on the questionnaire responses of the residents in the Contract 2 area, over 13 percent reported that they have problems with their septic systems, 71 percent replied that their septic system was greater than 15 years old, and 70 percent said that they wanted the City to extend gravity sewer to their homes. Additionally, the flow from Eastwind Estates is currently pumped into the City's combined sewer system. Elimination of the Aladdin Street pump station will remove the flow from the combined sewer which overflows to the Merrimack River during heavy rain events. Also, many of the existing housing lots in the project area are generally too small to support a septic system that would be compliant with NHDES regulations. This situation clearly represents a significant environmental health risk and potential for contamination of the City's drinking water supply and receiving waters that are used for recreational purposes resulting from septic systems that are overloaded, failing or at the end of their useful life.

In the City of Manchester's Sewer Use Ordinance, Section 52.116 "Sewer Improvement Area" requires a sewer improvement cost recovery fee for three areas of the City to be paid to the Manchester Highway Department. The majority of the proposed Contract 2 sewer area is in the Wellington Road Area which is required by the Sewer Use Ordinance to pay a fee of \$600 per unit.

Contract 3

Contract 3 should entirely qualify for SAG and SRF from NHDES. The Contract 3 sewer system is in close proximity to wetlands, Cohas Brook, and small streams that feed into Cohas Brook. Implementation will bring sewer service to 230 existing homes that are all located in the Cohas Brook watershed. Based on the questionnaire responses of the residents in the Contract 3 area, over 6 percent reported that they have problems with their septic systems, 60 percent replied that their septic system was greater than 15 years old, and 70 percent said that they wanted the City to extend gravity sewers to their homes. Also, many of the existing housing lots in the project area are generally too small to support a septic system that would be compliant with

NHDES regulations. This situation clearly represents a significant environmental health risk and potential for contamination of the City's receiving waters that are used for recreational purposes resulting from septic systems that are overloaded, failing or at the end of their useful life.

Contract 4

Contract 4 should entirely qualify for SAG and SRF from NHDES. The majority of Contract 4 is the interceptor providing service to Londonderry and Auburn and the residents on Pheasant Lane and Quail Court have aging septic systems and septic problems.

6.3 Customer Fees and Charges

This section presents a discussion of available alternatives by which the City can recover the capital cost of the sewer extension. These range from cost sharing by the users of the system, connection fees and assessment of betterments. A brief description of the most commonly used revenue sources follows and is summarized in Table 6-2.

6.3.1 User Fees

As the name implies, user fees are charges levied for the use of the system. They are most commonly used to recover the variable or operating costs associated with the facilities, but may also be used to recover part or all of the debt associated with construction of the wastewater facilities. Charges are usually based on water use, which is a reasonable estimate of sewage generation.

6.3.2 Connection Fees

The purpose of a connection or tie-in fee is to recover capacity related costs from customers that are tying into the sewer system. Connection fees are charged to residents at the time they decide to connect to the sewer system, or the point at which they are starting to claim their share of capacity in the system. In the past, the City has had a set tie-in fee for homeowners regardless of the amount of time the homeowner has been adjacent to the sewer. In some other communities, utilities have adopted connection fee schedules that escalate over time. Conceptually, an escalating tie-in fee would provide a financial incentive for homeowners to tie-in within a shorter time period. The benefit to the city is more users and wastewater generation and therefore more revenue in the form of user fees. Because of these long term benefits, it is reasonable to forego some of the higher connection fee revenues if customers waited until a later time to tie in.

Customer Fees and Charges	Issues to be Considered	Risks
User Fees	<p>Cost recovered from actual users of system.</p> <p>Cost recovery dependent on consumption.</p>	<p>High financial impact may influence and change consumption patterns.</p> <p>Rate increase may be required.</p> <p>Timing of connections will influence rate revenue collected.</p>
Connection Fees	<p>Revenue only collected when customers connect to system</p> <p>Incentive may be given to attract new users to system.</p>	<p>City may have to pre-fund expenditures until connections are made.</p> <p>Fewer connections also mean less user fee revenue.</p>
Betterments	<p>Betterments assign costs only to beneficiaries.</p> <p>Betterments are calculated after completion of projects.</p> <p>Full Cost Recovery secured by lien on property.</p> <p>Alternatively, City can supplement funding by subsidizing from general fund.</p>	<p>Customers connecting to the main sewer lines first may share in the initial capital investment and therefore pay a higher cost burden.</p> <p>Equity and fairness of costs are critical issues when designing betterments.</p>
Ad Valorem Taxes	<p>Stable revenue source.</p> <p>Everyone in City pays for capital improvements.</p>	<p>Funding subject to competing interests within City's budget.</p>

Table 6-2
User Fee and Charges Alternatives

6.3.3 Betterment Assessments

New Hampshire law allows communities to charge a one-time “betterment” fee for the construction of a sewer system. These fees can be paid by the owner of the bettered property as either a one-time payment, or may be amortized over 20 years, typically at the same borrowing rate that the town uses to finance the construction. All property owners who benefit from the construction and operation of the new facilities, whether they connect to the sewer system or not, are responsible for paying

betterments. While a betterment policy can vary from community to community, all owners of existing homes, condominiums and existing buildable lots are typically assessed betterments.

Betterments are typically calculated on a front footage basis, or on an equivalent residential unit (ERU) basis. Under the front footage method, the total costs to be bettered are spread equally over the total front footage of the project. The betterment to each lot will then vary in direct proportion to the front footage of the lot. Under the ERU basis, each single-family property abutting the new sewer pays the same amount. Commercial or other properties are converted to “equivalent” resident units based on the amount of wastewater flow they are expected to generate.

6.3.4 Specific Sewer Improvement Area Fees

The City’s Sewer Use Ordinance includes an ordinance that requires certain areas of the City connecting to an off-site sewer improvement to be charged with a recovery fee (reference 52.116 Sewer Improvement Area of the City’s Sewer Use Ordinance). Two of the areas, Wellington Hill Area and Youngsville Area, overlap with the proposed extension of sewer improvements for the Cohas Brook Sewer Project. Groveland Street is proposed to be sewerred in Contract 1 and is located in the Youngsville Area. The entire area proposed to be sewerred in Contract 2 north of Route 101 is in the Wellington Hill Area. The off-site sewer improvement cost recovery fee for these two areas are:

1. Wellington Hill Area - \$600 per unit
2. Youngsville Area - \$675 per unit

There are 19 existing homes on Groveland Avenue that would be provided a sewer service during the implementation of Contract 1. There are 122 existing homes in the Wellington Hill Area that would be provided a sewer service during the implementation of Contract 2. The City should confirm with the Board of Mayor and Alderman if these fees are to be charged to these two specific sewer improvement areas in the Cohas Brook Sewer Project.

6.4 Financial Impacts

Given that there are a number of possible financing scenarios, for the purpose of this report, it has been assumed that a portion of the project will be funded with money that has been set aside for improvements and the remainder of the project financed at 4.2 percent interest over 20 years. It is likely that loans will be a part of all cost recovery plans with costs being spread out over thousands of property owners through user fees. As discussed, user fees are assessed based on water usage.

6.4.1 Assumptions

The following assumptions are incorporated into the funding scenario:

- All costs are midpoint of construction with a June 2009 start date.
- All costs include a 45 percent engineering services and project contingency.
- No land taking costs are included.

6.4.2 User Fees

As discussed, in a City the size of Manchester the best way to help finance sewer system improvements and expansion is through the NHDES SAG Program and SRF loans. The SRF loans will be paid over a 20 year period and the city will need to pass these costs on to the users through user fees. Assuming an average capital investment of approximately \$6 million per contract, the annual debt service on a bond issued over 20 years and at an interest rate of 4.2 percent would equal roughly \$450,000. Recovering the debt service from all users would increase the rate per Hundred Cubic Foot (HCF) by \$0.10, or \$12.20 per year assuming 120 HCF of annual consumption. This amount would have to be recovered by user rate revenues, if no subsidy from the general fund is used and the City decides not to adopt any connection or betterment fees.

If betterments of connection fees are used to finance the infrastructure projects in addition to user fees then it may be possible to minimize the financial impact on current customers. As long as betterments and connection fees are collected so that the initial construction is financed and debt service paid for by new customers exclusively, the existing service area will likely not be affected in a financial sense. However, much depends on the timing of the implementation of these charges and the way in which the City chooses to collect them.

6.4.3 Cohas Brook Sewer Assessment

The costs for the proposed four contracts of the project are shown in Table 6-3. Additional detail regarding the mechanics of the grant funding process will be provided as discussions between the City and the funding agencies progress.

As shown on Table 6-3, the construction cost for Contracts 1 through 4 users averages roughly \$9,000 per unit. Assuming a 4.2 percent loan with a 20-year payback period, a monthly payment of approximately \$55 per residential unit is expected to amortize the debt. This calculation assumes that the entire capital cost is paid for by the beneficiaries of the project. This payment would only cover the cost of construction and not include operation costs. This payment could be lowered if a higher level of funding assistance is contributed by the funding agencies or if the City funds a portion of the project using tax rates, user fees, tie-in fees or betterment fee as discussed above. The choice of funding options should be driven by the benefit received of the infrastructure. If the benefit of the project can reasonably be assigned

to all users of the system, due to the reduction of environmental impacts and the overall beneficial consequences of a sewer system, then user fees might be appropriate. However, in most cases, new customers will require or reassign capacity at the wastewater treatment plant and this capacity now allocated to the new users should be paid for directly by them. In this case, a connection fee is the most appropriate funding mechanism.

	Contract 1	Contract 2	Contract 3	Contract 4
Project Cost	\$7.3M	\$7.5M	\$6.8M	\$5.3M
Total Units	606	328	687	1395
Cost Per Unit	\$12,046	\$22,866	\$9,898	\$3,799

Table 6-3
Cohas Brook Sewer Cost Analysis

In addition, betterment fees could be assigned for the actual connection of the parcel to the sewer system. As pointed out above, several different ways exist to calculate betterments but in this case, the beneficiary of the connection is the owner of the parcel and as a result it may be unreasonable to assign these capital costs to all other sewer users instead.

A unique situation exists with parcels that are currently vacant. Once the sewer connection is made, the actual construction costs should be recovered via a betterment assigned to the parcel. Depending on the units of capacity required to serve this newly connected parcel, connection fees should be assigned. Even if initially, only a few units may have been built on the plot of land, any additional construction, i.e. any expansion of the required demand, also substantiates the need for additional connection fees to be applied.

The costs presented in this section include project design, permitting, construction, construction oversight, and are in midpoint of construction dollars. Land acquisition costs are not included. These costs also include construction of a sewer service lateral to the property line.

In the past the City has not used betterment fees for funding sewer extension projects.

6.4.4 Tax Contributions

Some communities support all or part of the construction of its sewer system through the general tax rate. Less frequently, communities use the general fund to subsidize the operation of the system. Under either of these circumstances, sewer related expenses become an expense to the general fund and are paid through the proceeds of local property taxes. The use of tax levy support is often justified on the basis that these investments provide benefit to the community as a whole, as well as to

individual properties serviced by the facilities. In the current economy, additional tax burden has a low possibility of passing.

6.5 Conclusions

The City of Manchester has a variety of options available to provide financing for the construction costs of the Cohas Brook Sewer Project. In many other communities in New England, such sewer additions are paid for by the revenue generated from betterment fees. The rationale behind such fees is that the direct beneficiaries of the new sewer system also should pay the majority of the costs. Partial subsidies to lower the cost burden on the connecting new sewer users may be provided from the general fund if the community deems this to be appropriate.

However, more than 90 percent of the entire service area of the City is already sewered, and historically all capital improvements have been paid for by revenues generated from sewer user fees. In other words, all sewer users have collectively paid for capital projects through their sewer usage bills. It seems fair and equitable to continue this practice and also apply the same concept to the Cohas Brook Sewer Project. All residents theoretically benefit from a well maintained and operated sewer system and consequently it is appropriate to recover all additional capital and operating costs associated with the new system from the entire customer base. Additionally, all residents of the City benefit from the protection of Lake Massabesic. By following this practice, the City would be consistent in its revenue and cost collection policies and also provide fairness and equity to its system of user fees and charges.