AFFORDABILITY ANALYSIS
For Communities

Community: City of Anywhere

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Alternative Description: Alt No 6 Activated Sludge (Extended Aeration

WHAT IS IN THE FACILITY PLAN SCOPE OF STUDY?

The proposed facilities will be (check more than one if applicable): ☐ New ☒ An Expansion ☒ An Upgrade

The facilities will serve: ☒ Existing Population on Sewers ☐ Existing Area Served by Onsite Systems ☐ Existing Industries ☒ Anticipated Growth

Indicate the approximate percentage of the plant's capacity that will be allocated to each: 66.7 % ____ % ____ % 33.3 %

Entities to be served: ☐ County ☒ Municipality ☐ Sewer District ☐ Industry

Design population: 1,500 (Year 2030)

WHAT ROLES AND RESPONSIBILITIES WILL LOCAL GOVERNMENTS HAVE?

Cooperative arrangements between various entities may be required to meet the financial and management needs of wastewater treatment facilities.

What agency will: ☒ Own the facilities: City

☒ Operate: City

☒ Finance: City

Will there be financial contributions by: ☒ Other agencies ☐ Industry

Have participating agencies reviewed the: ☒ FP scope of study ☒ Population projections ☒ Service area boundaries

Have agreements been sought between the operating agency and: ☒ Participating agencies ☐ Other agencies ☐ Industry

HOW MUCH WILL THE ALTERNATIVE COST AT TODAY'S PRICES?

The following figures are estimated costs for construction, operation, and maintenance of the proposed facilities. Dollar amounts reflect today's prices.

Base year for the following estimate of today's prices: 2010

A. Construction costs estimate		B. Estimated annual operation, maintenance, and maintenance replacement (O, M+R)	
Treatment plant	$ 2,449,853	Labor	$ 70,000
Pump stations	$	Utilities	$ 33,600
Interceptor sewers	$	Materials	$ 5,000
Collection sewers	$	Outside services	$
On-site systems	$	Miscellaneous expenses	$ 5,000
Land acquisition	$	Equipment replacement	$ 5,000
Other	$	Other	$
Total construction costs	$ 2,449,853	Total O, M+R	$ 118,600

HOW WILL THE ALTERNATIVE BE FINANCED?

A. Amount to be borrowed

Total project costs	$ 2,449,853
Less grant amount	$ 400,000
Less contributions by the community	$
Less contributions by other agencies and/or industry	$
Amount to be borrowed	$ 2,049,853

B. Methods of financing existing facilities and wastewater improvements alternative

Financing Method	Amount Borrowed	Amount to be Borrowed	Interest Rate	Term of Maturity	Annual Debt Service Payment
G.O. Bond(s)*	1. $ 2. $ 3. $	4. $	1. % 2. % 3. % 4. %	1. Years 2. Years 3. Years 4. Years	1. $ 2. $ 3. $ 4. $
Revenue Bond(s)*	1. $ 856,157 2. $ 3. $	4. $ 2,049,853	1. 4.25 % 2. % 3. % 4. 3.25 %	1. 20 Years 2. Years 3. Years 4. 20 Years	1. $ 64,400 2. $ 3. $ 4. $ 140,987
Other Loan(s)*	1. $ 2. $ 3. $	4. $	1. % 2. % 3. % 4. %	1. Years 2. Years 3. Years 4. years	1. $ 2. $ 3. $ 4. $
Total	$ 856,157	$ 2,049,853			$ 205,387

***List each bond and loan separately**

C. What are the existing annual debt service payments for wastewater if any in each year for the next 10 years?

Existing Facilities Annual Debt Service Payments (USD)	
20 11	$ 64,400
20 12	$ 64,400
20 13	$ 64,400
20 14	$ 64,400
20 15	$ 64,400
20 16	$ 0
20 17	$ 0
20 18	$ 0
20 19	$ 0
20 20	$ 0
20 21	$ 0

D. Total estimated annual wastewater facilities costs (USD)

	Existing Facilities	Increase for Alternative	Alternative
Annual O, M&R	$ 40,000	$ 78,600	$ 118,600
Annual debt service payment	$ 64,400	$ 140,987	$ 205,387
Total estimated annual wastewater costs	$ 104,400	$ 219,587	$ 323,987

E. Sources of funding for total annual wastewater facilities costs (USD)

Service charges	$ 323,987
Surcharge	$
Special assessments and fees	$
Betterment assessments	$
Connection fee	$
Other	$
Transfers from other funds	$
Other	$
Total funding	$ 323,987

WHAT ARE THE ANNUAL COSTS PER HOUSEHOLD?

	Cost Item (USD)
Total estimated annual wastewater facility charges	**$** 323,987
Less nonresidential share of annual charges	**$**
Residential share of total annual charges	**$** 323,987
Number of households	435
Annual costs per household for	
Wastewater collection and treatment	**$** 745
Other	**$**
Total annual costs per household	**$** 745

ARE THE RESIDENTIAL COSTS HIGH IN COMPARISON TO MEDIAN HOUSEHOLD INCOME?

Median Household Income = Median Family Income X 0.854

The median household income must be updated from the last census (either 1999 or 2009 income):

1. Obtain the consumer price index for the year in which the most recent income information is available. For urban communities in the Midwest, the Consumer Price Index (CPI) was 162.7 in the year 1999.

2. Obtain the current CPI and adjust for inflation to the base year for which the total annual cost per household was estimated.

3. Divide #2 by #1 or use the inflation calculator at the following web site to obtain a CPI ratio. http://www.bls.gov/data/inflation_calculator.htm

4. Adjust the median household income census or survey figure by multiplying that value by the CPI ratio found in #3.

Compare the total annual cost per household to the community's median household income (express the cost per household as percentage of the median household income).

Generally, if the total annual cost per household is less than 1.0 percent of the median household income, it is assumed that the project is not expected to impose a substantial economic hardship on households.

ANALYSIS OF ABILITY TO PAY

The answers to the preceding questions will provide useful information regarding the cost of the proposed facility, how it will be financed, and what this means in terms of costs to the typical household user. In order to evaluate effectively the true impact of the proposed wastewater disposal system, however, this information must be viewed within the overall context of the community's financial condition, financial resources, legal constraints, and local public policy.

The guidance document entitled, "Interim Economic Guidance for Water Quality Standards," EPA-823-B-95-002 presents one public sector a approach.

Listed below are additional elements relating to a community's overall financial condition and its ability to pay the local costs of constructing and operating the treatment system:

- Reasonableness of population projections relative to historic trends (if new population growth is needed to help finance the proposed system).
- State finance laws and legal debt limits.
- Historical trends in your community's revenue sources (e.g., changes in taxable assessed property valuation with respect to population).
- Current bond rating and its historical trend.
- Median household income in the community as a percentage of statewide household income.
- Families below the poverty level in the community as a percentage of the statewide number of families below the poverty level.
- Per capita outstanding debt of the system as a percentage of median household income.
- Cost effectiveness calculated by determining construction costs per user.

In most cases, total annual per household costs that exceed 2% of the MHI are considered unaffordable. However, the analysis of the other factors listed above must also be considered before a final determination can be made. The factors listed above could make costs above 2% of the MHI affordable and costs below 2% of the MHI unaffordable. For example, if the majority of the factors listed above are positive indicating a stronger financial condition costs above 2% of the MHI could be affordable. Also, if the majority of the factors listed above indicate a weaker financial condition, costs below 2% of the MHI could be considered unaffordable.

The guidance document entitled, "Interim Economic Guidance for Water Quality Standards," EPA-823-B-95-002 presents one approach for private sector facilities to determine the affordability of less degrading options.