

## **CHAPTER 10**

### **ECONOMIC ANALYSIS AND PROJECT FUNDING**

#### **10.1 PROJECT FUNDING**

Funding a project of this size will likely come from a number of sources. The following funding list gives the potential funding sources and their applicability to this project.

##### **10.1.1 Funding Sources**

Ten potential funding sources were identified for improvements to be made to the drinking water supply system for the City of Gillette:

1. Wyoming Water Development Commission (WWDC)
2. Drinking Water State Revolving Fund (DWSRF)
3. Mineral Royalty Grant and Direct Revenue Distribution Program
4. Business Ready Community Grant & Loan Program
5. Land & Water Conservation Fund Project (LWCF)
6. North American Wetlands Conservation Fund
7. Public Works and Economic Development Grants
8. Community Development Block Grant (CDBG)
9. Abandoned Mine Land Public Facilities Program
10. Budget Reserve

##### **10.1.1.1 Wyoming Water Development Commission**

###### **Description:**

The Wyoming Water Development Commission programs can provide financial and technical assistance to a municipality, irrigation district, or other approved assessment district undertaking a project that meets the requirements below.

###### **Type of Funding:**

Grants and loans. Grants can be made up to 67% of the project cost. Loans are made for 33% of the project total at 4% interest.

**Funding Use:**

Three programs are administered which can provide financial and technical assistance:

A. New Development Program -- The New Development Program develops presently unused and/or unappropriated waters of Wyoming.

B. Rehabilitation Program -- The Rehabilitation Program provides funding assistance for the improvement of water projects completed and in use for at least fifteen (15) years.

C. Water Resource Planning -- The Wyoming Water Development Commission serves as the water development planning agency for the State of Wyoming. In this capacity, the WWDC can provide the following assistance to project sponsors.

1. Basin Wide Plans -- The program serves to develop basin wide plans for each of the state's major drainage basins.
2. Master Plans -- The program provides a service to municipalities, districts and other entities to assist in the preparation of planning documents which serve as master plans for future water supply systems and improvements. The plans serve as a framework for the entities to establish project priorities and to perform the financial planning necessary to meet those priorities.
3. Federal Funding -- The program assists entities in preparing the reports necessary to achieve federal funding assistance for water development and other water related projects.
4. Groundwater Grant Program -- The primary purpose of the program is to inventory the available groundwater resources in the state. The program also serves to assist communities in developing efficient water supplies. Municipalities and special districts that purvey drinking water are eligible to receive up to \$400,000 in grant funds if 25% of the total project costs will be paid by local matching funds.

**Matching Requirements:**

Vary with programs.

**Criteria to Award Funding:**

The following is a list of types of projects, in order of preference that the WWDC currently emphasizes:

1. Multipurpose Projects -- Multipurpose projects are defined as projects which serve multiples of the following functions: agriculture, municipal, industrial, rural domestic, recreation, environmental, flood control, erosion control, and hydropower.
2. Storage Projects -- Dams and reservoirs which store water when there is a surplus to make it available when needed is a WWDC priority.
3. Supply Projects -- These projects include groundwater wells, alluvial wells, diversion dams, and other structures which put water to use.
4. Supply Systems -- While the above three types of projects make water available at the source, supply systems make the water available closer to the point of use through transmission pipelines and canal systems.
5. Hydropower Projects -- These projects include retrofitting existing facilities or the construction of new facilities capable of developing marketable hydropower. However, these types of projects will not typically be subsidized with grants or low interest loans.
6. Purchase of Existing Storage -- This type of investment may be made if the storage is uncommitted, the purchase is project specific and there are assurances that the investment will lead to the ultimate use of the water.
7. Recreation -- These projects include the development and rehabilitation of water facilities whose primary purpose is to provide recreation.

**Deadlines:**

New applications are due August 15<sup>th</sup> each year. The Commission will develop its preliminary recommendation on new applications during its regular November meeting.

**10.1.1.2 Drinking Water State Revolving Fund (DWSRF)  
US Environmental Protection Agency/Wyoming DEQ****Description:**

The Safe Drinking Water Act, as amended in 1996, established the Drinking Water State Revolving Fund to make funds available to drinking water systems to finance infrastructure improvements. The program also emphasizes providing funds to small and disadvantaged communities and to programs that encourage pollution prevention as a tool for ensuring safe drinking water.

**Type of Funding:**

Loans. The loan term can be up to 20 years, and the interest rate is 2.5 percent. A 0.5 percent origination fee is collected at loan closing. Loan repayment must begin within one year after the substantial completion date of the project.

As of June 2007, the interest rate on SRF loans is 2.5%.

**Funding Use:**

Activities eligible for DWSRF loans include: projects to upgrade or replace drinking water treatment, transmission, distribution, and storage facilities, and consolidation of drinking water systems.

**Criteria to Award Funding:**

The project must be prioritized on the current DWSRF Intended Use Plan. The SRF Program needs to be contacted if the proposed project is not prioritized. The DWSRF IUP is updated once annually in the fall. The priority ranking system is based on public health issues, compliance issues, system deficiencies, and affordability criteria.

**Deadlines:**

The loan applicant needs to begin the SRF loan application process at least 6 to 12 months prior to bidding out the project. Final loan approval is by the State Loan and Investment Board (SLIB). SLIB meetings are normally held every two months.

**10.1.1.3 Mineral Royalty Grant Program and Direct Revenue Distribution  
Office of State Lands and Investments****Description:**

Federal Mineral Royalty Grant Program grants funds for projects, especially in areas of the state that are highly impacted by that development of minerals leased under the Federal Mineral Leasing Act of 1920. Counties, municipalities, and other districts are eligible to apply.

Direct Revenue Distribution is also made through SLIB. However, for the purposes of this report, monies from Direct Revenue Distribution will be classified as funding that is currently

available to the City on an on-going basis for general purposes, rather than a new funding source.

**Type of Funding:**

Project Grants and Direct Revenue Distribution

**Funding Use:**

Projects that may be funded are those which 1) Alleviate an emergency situation which poses a direct and immediate threat to health, safety or welfare or 2) comply with a federal or state mandate or 3) provide an essential public service including: water and sewer projects. Funding may also be used for refinancing outstanding loans extended to the applicant.

**Matching Requirements:**

The State Loan and Investment Board splits available funding into two allocations. Twelve and one-half percent of the funds can provide grants up to 75% of eligible project costs. Criteria to receive a grant of up to 75% are: If the applicant is a municipality and has a population of less than 1,300 or is located within a county where the three-year average of the local government share of state sales and use tax per capita is less than seventy percent (70%) of the statewide average.

Applicants who do not meet these requirements can apply for grants of up to 50% of the eligible project costs. The Board allocates 87.5% of the funds available to make grants up to 50%.

There is no conflict in using money from this program along with grants from WWDC.

**Criteria to Award Funding:**

The 2007 legislature appropriated \$6,534,500 for grants for impact mitigation capital construction projects stemming from natural gas development, with \$2,174,478 allocated for Gillette, and \$2,405,100 allocated for Campbell County. The cities and counties were required to submit a list of agreed upon projects to be funded with the grants. These grants have been awarded for 2007. If similar appropriations are made by the 2008 legislature, Cities and Counties will again be able to apply for this grant money. Robert Tompkins in the Office of State Lands and Investments can be contacted for more information regarding this action.

To be eligible for funding the project must:

- (1) Alleviate an emergency situation which poses a direct and immediate threat to health, safety or welfare;
- (2) the project is needed to comply with federal or state mandate;
- (3) Provide an essential public service. (Defined by Board rule)

Second:

The Board's rules sets forth the following additional criteria used in awarding Mineral Royalty Grants:(a) The extent of the match committed to the project from all sources; (b) The applicant has made a significant commitment of local resources; (c) The applicant has matching funds for the project from other than state grants; (d) The project is appropriately sized in relation to the population to be served by the project; (e) The relative urgency of the project; (f) The applicant is current on all its repayment obligations to the Board; (g) The extent to which the applicant is utilizing, or plans to utilize, available and qualified Wyoming based professional firms and contractors on the project; (h) The financial need of the applicant, as determined by the Board; (i) The percentage of the applicant's population directly served by the project.

Third:

Social and Economic Impact. The Board shall give priority to projects in those subdivisions of the state socially or economically impacted by development of minerals leased under the Federal Mineral Leasing Act of 1920 (30 U.S.C. 181, 191).

Fourth:

Projects are reviewed by appropriate State Agencies and those reviews are used in formulating funding recommendations.

**Emergency Funding:**

The 2007 legislature appropriated money for an emergency reserve for capital projects grants at the discretion of the Board. These funds for emergencies apply statewide and may be awarded at any Board meeting upon submission of a complete application. Robert Tompkins in the Office of State Lands and Investments was contacted regarding the status of these funds, and he stated that it would be very unlikely that these funds would be available for this type of project as there is a relatively small amount of money to be distributed (around \$700,000 at the time of the June conversation) and that it is the Board's intention to spread it among the very

most egregious emergency situations. The Board is looking at funding cases with serious emergency needs which pose immediate health risks or other serious immediate problems.

**Deadlines:**

Applications for non-emergency situations are considered on a semi-annual basis by the Board on the third Thursday of January and the third Thursday of June. Applications must be submitted 120 days before the grant meeting. Applications for emergency situations can be considered at the Board's regular monthly meetings. Emergency applications are due at least 10 working days prior to the next Board meeting.

**10.1.1.4 Business Ready Community Grant & Loan Program  
Wyoming Business Council****Description:**

This program provides financing for publicly owned infrastructure that serves the needs of businesses and promotes economic development within Wyoming communities. The primary intent of this program is to ready a community for new business development through economic development projects such as the purchase of land, telecommunications infrastructure, rights of way, airports, sewer and water projects, etc. Cities, towns, counties, joint powers boards and Tribes are eligible to apply for funding.

These funds are to be used for very specific economic development needs and not for general infrastructure.

**Type of Funding:**

Grants and loans. Loan interest rates have not been set as no loans have ever been made under this program. A minimum 1% interest rate is required; however, the SLIB would actually set the rate, and it would then need to be approved by the State Attorney General.

There are no conflicts or limitations on combining this funding with that from WWDC.

**Funding Use:**

Infrastructure such as water, sewer, streets, telecommunications, airports, rights of way, land, spec buildings, or amenities within a business park, industrial park, industrial site or business

district or other appropriate physical projects in support of primary economic development. Educational development infrastructure such as workforce training facilities is eligible. Recreational facilities, landscaping and convention centers are also eligible. The maximum grant and loan amount is \$3,000,000.

Three types of projects are funded:

- **Business Committed Projects** - Businesses committed to locate or expand in the community. Applications are accepted at any time. Maximum award is \$1.5 million.
- **Community Readiness Projects** - No specific business is committed to expand or locate in the community. The community wants to build facilities to ready itself for new business development under a specific strategy or plan of action. A community must demonstrate that appropriate planning has been conducted and capacity exists to accommodate new business development. Maximum award is \$1.5 million.
- **Community Enhancement Projects** - An applicant wants to improve the community's aesthetic character or quality of life through such activities as landscaping, recreational or convention facilities in order to make itself more attractive for business development under a specific strategy or plan of action. No specific business is committed to expand or locate in the applicant's community. Maximum award is \$500,000.

Requirements for Community Readiness Project:

- (a) Planning Requirements for a Community Readiness Project. An applicant must demonstrate that appropriate planning has been conducted and capacity exists to accommodate new business development in order to insure success of the project. Information must be submitted along with the grant application or may be submitted independent of a grant application in order for the Council staff to determine an applicant's readiness for a project. This is demonstrated by having some or all of the following items in place as appropriate.
  - (i) A current Comprehensive Economic Development Strategy (CEDS) covering the area.
  - (ii) A recent labor force availability study, quantifying such things as unemployment, underemployment, wage distributions, commuting patterns, skill availability and educational levels.

- (iii) A targeted marketing and recruitment strategy, if recruitment of outside companies is contemplated. This needs to include identification of the group(s) responsible for marketing the facility.
- (iv) A recent housing availability study for the area.
- (v) A priority listing of proposed infrastructure projects and sites related to economic development along with preliminary cost estimates for land acquisition, final engineering and construction.
- (vi) Any special plans or studies related to specialized labor skills, raw material availability, local feedstock materials or other material which tend to support the overall development strategy for the area.
- (vii) Other appropriate plans or studies, such as educational, workforce, or entrepreneurial development plans, studies or programs, which support the proposed project and indicate its chances of achieving success in creating or retaining new primary jobs.

**Matching Requirements:**

Business Committed and Community Readiness Grants require a 5 to 10 percent match based on the grant amount. Up to \$250,000--a minimum 5 percent match of project costs. Over \$250,000 and up to \$1,500,000—minimum of 10 percent match of project cost. Community Enhancement Grants require a 50% match of total project cost. The maximum Community Enhancement award is \$500,000.

**Deadlines:**

September 14, 2007 is the next deadline for applications, which will be reviewed and decided upon by January 2008.

**10.1.1.5 Land & Water Conservation Fund Project (LWCF)  
Wyoming State Parks and Historic Sites****Description:**

The Land and Water Conservation Fund Act was originally passed by Congress in 1964. The Act was intended to provide federal financial assistance for the acquisition and/or development of public outdoor recreational lands and facilities. Project sponsors such as cities, towns, counties, and school and recreation districts are eligible to apply for L&WCF monies.

**Type of Funding:**

Grants

**Funding Use:**

A successful grant applicant must agree to dedicate the park or area where the project is located for use by the public for perpetuity. In addition, the grantee must also agree to develop, operate and maintain the development to acceptable National Park Service (NPS) standards for public outdoor recreation. All applications must meet a State Comprehensive Outdoor Recreation Plan (SCORP) identified need and will then be numerically ranked by the Open Project Selection Process (OPSP). Grants for matching funds are subject to approval by the NPS. All costs must be incurred after the project has received approval from the NPS.

**Matching Requirements:**

The L&WCF is a matching grant program based upon a fifty percent (50%) reimbursement of the total cost of the project. Only costs for the development and/or acquisition of public outdoor recreation lands and facilities are eligible for assistance.

**Deadlines:**

Grant applications are to be mailed to Wyoming State Parks and Historic Sites no later than January 30 of each year. All applications will be prioritized and approved by the Wyoming State Parks and Cultural Resource Commissioners and then mailed to the NPS for their review and approval. It is anticipated the NPS will provide final approval by May 1 of each year.

**10.1.1.6 North American Wetlands Conservation Fund  
Fish and Wildlife Service, Department of the Interior****Description:**

The North American Wetlands Conservation Fund provides grant funds for wetlands conservation projects in the United States, Canada, and Mexico. Funds are available to private or public organizations or to individuals who have developed partnerships to carry out wetlands conservation projects in the U.S., Canada, and Mexico.

**Type of Funding:**

Project Grants

**Funding Use:**

Funds may be used to acquire real property interest in lands or waters, including water rights. Funds may also be used to restore, manage, and/or enhance wetland ecosystems and other habitat for migratory birds and other fish and wildlife. Projects must provide long-term conservation for wetlands-associated migratory birds and other wetlands-associated wildlife.

**Matching Requirements:**

Proposals must have at least at 1:1 match of nonfederal US dollars.

**Criteria to Award Funding:**

Applications are screened by the Coordinator's staff, and further reviewed and ranked by the North American Wetlands Conservation Council (Council) Staff and North American Waterfowl Management Plan Joint Venture Coordinators. Site visits are conducted as needed. Grant proposals are recommended for approval by the Council to the Migratory Bird Conservation Commission (Commission). The U.S. Fish and Wildlife Service conducts a National Environmental Policy Act and National Historic Preservation Act review of the projects that the Council selects to recommend to the Commission. The Council selects proposals in March, July, and December that are recommended to the Commission for final funding approval in September, March, and June respectively. The grant is administered by FWS DBHC.

**Deadlines:**

US Standard grants are due in March and July; specific proposal due dates are published on [www.grants.gov](http://www.grants.gov) and on the NAWCA website.

**10.1.1.7 Public Works and Economic Development Grants****US Department of Commerce Economic Development Administration:****Description:**

Public Work and Economic Development Program grants are awarded to enhance regional competitiveness and promote long-term economic development in regions experiencing substantial economic distress. EDA provides Public Works investments to help distressed communities and regions revitalize, expand, and upgrade their physical infrastructure to attract

new industry, encourage business expansion, diversify local economies, and generate or retain long-term private sector jobs and investment.

**Type of Funding:**

Grants. These grants cover 50%-100% of project costs depending on economic need as defined by the Department of Commerce.

**Funding Use:**

Grant eligible projects include construction and maintenance of water and sewer facilities, industrial access roads, industrial and business parks, port facilities, and other infrastructure improvements needed for business retention and expansion. Eligible activities include the acquisition or development of public land and improvements for use for a public works, public service or development facility, and acquisition, design and engineering, construction, rehabilitation, alteration, expansion, or improvement of publicly-owned and operated development facilities, including related machinery and equipment.

**Matching Requirements:**

The maximum investment rate shall not exceed 50 percent of the project cost, except that the project may receive an investment rate up to 80 percent based on relative needs as measured by the severity and duration of unemployment and the per capita income level and extent of underemployment in the region. On average, EDA investment assistance covers approximately 50 percent of project costs.

**Criteria to Award Funding:**

A project must be located in a region that, on the date EDA receives an application for investment assistance, satisfies one or more of the following economic distress criteria:

**A. Unemployment:** The project is located in a region which has an unemployment rate that is, for the most recent 24-month period for which data are available, at least one (1) percent greater than the national average unemployment rate.

**B. Per capita income:** The project is located in a region which has a per capita income that is, for the most recent period for which data are available, eighty (80) percent or less of the national average per capita income.

**C. Special need:** The project is located in a region which has experienced or is about to experience a "Special Need" (as defined in 13 C.F.R. § 300.3) arising from actual or threatened severe unemployment or economic adjustment problems resulting from severe short-term or long-term changes in economic conditions.

**Substantial Direct Benefit:** A project located within an Economic Development District, which is located in a region that is not subject to the economic distress levels set forth in question 2 above, is also eligible for EDA investment assistance if EDA determines that the project will be of "substantial direct benefit" to a geographical area within the Economic Development District that is subject to the economic distress levels set forth in question 2. above. For this purpose, a project provides a "substantial direct benefit" if it provides significant employment opportunities for unemployed, underemployed, or low-income residents of the geographical area within the Economic Development District. If applicable, identify the Economic Development District in which the proposed project will be located and explain how the proposed project will provide a substantial direct benefit to a geographical area within the Economic Development District that is subject to the economic distress levels set forth in question 2. above.

In addition the project must fulfill a pressing need of the region and must: 1) improve the opportunities for the successful establishment or expansion of industrial or commercial plants or facilities in the region; 2) assist in the creation of additional long-term employment opportunities in the region; or 3) primarily benefit the long-term unemployed and members of low-income families. In addition, all proposed investments must be consistent with the currently approved Comprehensive Economic Development Strategy (CEDS) for the region in which the project will be located, and the applicant must have the required local share of funds committed, available, and unencumbered. Also, the project must be capable of being started and completed in a timely manner.

**Deadlines:**

Generally an applicant is given 30 days after a formal application has been invited to submit a completed application. Normally, a response is given within 60 days of acceptance by EDA of a fully completed application.

**10.1.1.8 Community Development Block Grant (CDBG)****Community Planning and Development, Department of Housing and Urban Development****Description:**

The primary objective of this program is the development of viable urban communities by providing decent housing, a suitable living environment, and expanding economic opportunities, principally for persons of low and moderate income. Each activity funded must meet one of the program's National Objectives by: Benefiting low and moderate income families; aiding in the prevention or elimination of slums or blight; or meeting other community development needs having a particular urgency because existing conditions pose a serious and immediate threat to the health or welfare of the community where other financial resources are not available.

**Type of Funding:**

Formula Grants

**Funding Use:**

Eligible activities are directed toward neighborhood revitalization, economic development, or provision of improved community facilities and services. Specific activities that can be carried out with block grant funds include: Acquisition, rehabilitation or construction of certain public works facilities and improvements, such as streets, water and sewer facilities, neighborhood centers, recreation facilities, and other public works.

**Requirements:**

The aggregate use of CDBG funds must ensure that not less than 70 percent of the funds received benefit persons of low and moderate income. For non-metropolitan areas, low and moderate income is generally defined as 80 percent of the median income for non-metropolitan areas of the State, adjusted for family size. Median income is approximately \$55,700 for a family of four in Campbell County.

**Deadlines:**

The deadline for application submittal to the Wyoming Business Council for 2007 is July 23.

**10.1.1.9 Abandoned Mine Land Public Facilities Program  
Office of State Lands and Investments**

At the present time, AML is not funding public facility projects as per communication with Evan Green. A decision regarding the future use of AML funds may be made during the 2008 legislative session.

**10.1.1.10 Budget Reserve**

Budget reserve funds are excess state funds that can be appropriated by the Legislature and the Governor.

**10.2 RECOMMENDED FUNDING STRATEGIES**

Of the funding sources described above, this list shows funding Gillette should be eligible for:

1. Wyoming Water Development Commission (WWDC)
2. Drinking Water State Revolving Fund (DWSRF)
3. Mineral Royalty Grant Program (2008)
4. North American Wetlands Conservation Fund (Only if any wetlands mitigation is required or if constructing a surface impoundment could be considered wetlands creation.)

For the purposes of funding calculations, it is assumed that WWDC will fund 67% of project costs excluding treatment facilities by grant with the remaining 33% funded through the DWSRF loan program. DWSRF was chosen as the preferred secondary financing alternative because of its low interest rate. Any cash contributions or other funding sources outside of those considered here would serve to reduce the amount borrowed from DWSRF.

**10.3 RATE STRUCTURE**

The City of Gillette's current rate structure is shown in Figure 10-1.

Figure

1

## **10.4 NEW RATE STRUCTURE**

A new rate structure was developed for the City of Gillette to include new debt financing and operation and maintenance obligations onto existing rates. This new rate structure accounts for apportioning costs on an EDU basis. Where an EDU basis can not be applied, such as to bulk water users, a rate amount proportionate to the percentage increase in a 1 EDU user rate will be applied to the existing bulk rates.

### **10.4.1 Equivalent Dwelling Units**

The first step in the economic analysis is to determine an equivalent dwelling unit count that can be used for future financing and rate calculations. A tap count which included size and number data was provided by the City of Gillette.

For the purposes of this study, the City of Gillette has defined a 1" service line tap as 1 EDU. Corresponding equivalent EDU's were calculated for other service line sizes. Equivalent carrying capacities were calculated using a factor of  $D^{2.63}$ , which is based on the Hazen-Williams equation. This service line capacity calculation calculates the flow for a given headloss. For instance, a 2" service will carry 6.19 times the flow of a 1" service at the same headloss per unit length. The summary of these results is shown in Table 10-1.

**TABLE 10-1  
EDU Calculations**

<b>Meter Size</b>	<b>Equivalent Carrying Capacity**</b>	<b>Number of Meters</b>	<b>Equivalent Dwelling Units (EDU's)</b>
5/8"	0.29	230	67
3/4"	0.47	6641	3116
1"*	1.00	713	713
1 1/2"	2.90	102	296
2"	6.19	219	1356
3"	17.98	74	1331
4"	38.32	36	1379
6"	111.31	16	1781
8"	237.21	3	712
		<b>Total</b>	<b><u>10751</u></b>

\*1" Meter = 1 EDU

\*\*Equivalent Carrying Capacity varies by Diameter<sup>2.63</sup>

#### 10.4.2 Funding Scenarios

Two funding scenarios were considered for the purposes of this study. Scenario #1 involves funding as much of the project as possible by WWDC grant with the balance funded from DWSRF funds. Scenario 2 involves a special funding scenario that can only be approved by the Governor of Wyoming and the Wyoming Legislature. Scenario #2 relies on funding the project through the Budget Reserve Account at 67% grant, and 33% on a 30-year, 4% interest loan.

Figures 10-2, 10-4, and 10-6 show funding Scenario #1 for each of the developed alternatives. The last line on each of these figures shows the monthly cost per EDU. Figures 10-3, 10-5, and 10-7 show funding Scenario 2 for each of the developed alternatives. The last line on each of these figures shows the monthly cost per EDU. In the next section, this increase will be incorporated into the existing rate structure to develop revised rates.

Funding Scenario 1 analyses outline components that are and are not eligible for WWDC funding. These costs are combined with operation and maintenance costs to develop a total annual commitment to fund this system. That is then broken down to a per EDU basis and further reduced to a monthly per EDU cost basis.

These funding scenarios are preliminary based on published information and conversations with administrators of these funding programs. This funding is not final, nor is there any guarantee the City of Gillette will receive the funding packages proposed herein.

It should be noted that on Figures 10-4 and 10-5 there are two additional line items that do not appear in Figures 10-2, 10-3, 10-6 and 10-7. These lines, "9 MGD Expansion in 2023 (2023 Dollars at 5% / Year)" and "Funding 9 MGD Expansion at 6% Funding (Bond)" are used to account for the costs to upgrade the surface water treatment plant from 9 MGD total capacity to 18 MGD. Based on demand projections, it is assumed that this upgrade will need to be completed in 2023. It is assumed that the rates for this plant upgrade will be placed into effect now and the excess revenue collected will be invested where it will receive 6% per annum. At the point where this expansion needs to be completed, it is assumed that invested money will be used to construct the plant, with the remaining financing procured by issuing bonds at 6%. It is difficult to assess the future funding situation for an action so far in the future. The intent of the methodology employed here is to provide a reasonable funding mechanism to ensure that when this expansion is needed that some funding has been set aside. Reliance on a grants or other funding sources in the future that are not within the control of the City of Gillette is tenuous, and could result in a severe shortfall of funding resulting in a drastic increase in rates. If grants are available at the time of expansion, Gillette will still be in a strong monetary position and could refund the excess saved to rate payers, employ it for another project, or retain it in reserve.

Figure

10-2

Figure

10-3

Figure 10-4

Figure 10-5

Figure 10-6

Figure 10-7

### 10.4.3 New Rate Structure

New rate structures to cover the City of Gillette's increased costs associated with the commitments necessary to build each alternative are presented in Figures 10-5, 10-6 and 10-7. These rates are preliminary only. A final rate study with definite increases should be performed when costs are firm. Any decisions to depart from existing City of Gillette rate policies are ultimately a policy decisions that rest with Gillette's City Council.

The total usage for 2006 was approximately 1,850 MG (data for the month of March was missing and approximated). Based on 10,751 EDU's, this equates to an average annual usage of 172,077 gallons per EDU per year, or 14,340 gallons per EDU per month. At the current residential rates, a 1 EDU customer could expect to pay an average of \$32.82 per month or \$393.84 per year for average usage.

The new rate structures were developed assuming that the existing rate structures adequately cover the existing costs. The simplest method of apportioning the increased costs is to increase each category by a proportional amount. The increased revenue needed to cover debt service and operational and maintenance is divided by the most recent annual flow of 1,850 MG to get an increased cost per gallon. This is multiplied by 1,000 to arrive at a Price per 1,000 gallons rate. This cost is then added to the existing rates.

One exception to this simple addition approach is commercial and industrial users with 2" and larger meters. These larger taps have the ability to place large draws on the system, but they pay a very small minimum fee each month. It is recommend that the minimum charge for these users be increased to match their EDU rating. The minimum rate for commercial taps was calculated by using the new base rate for residential customers (assumed as 1 EDU) and multiplying it by the appropriate number of EDU's from Table 10-1 to arrive at a pro-rated minimum charge. This charge is then divided by 2/3 of the cost per gallon for residential use to promote conservation efforts. Any water usage over the amount included in the base rate is sold at the new residential base rate.

**Table 10-2**  
**Base Rate Increases-Funding Scenario #1**

Alternative	Increase in Base Rate (\$/1,000 gal)	Total New Base Rate(\$/1,000 gal)
New Madison Wells and Pipeline	1.86	4.16
Surface Water Impoundment and Treatment	2.70	5.00
ASR	1.73	4.03

**Table 10-3**  
**Base Rate Increases-Funding Scenario #2**

Alternative	Increase in Base Rate (\$/1,000 gal)	Total New Base Rate(\$/1,000 gal)
New Madison Wells and Pipeline	2.21	4.51
Surface Water Impoundment and Treatment	2.28	4.58
ASR	2.05	4.35

**Table 10-4**  
**Total Average Residential Monthly Rate (existing = \$32.89)**

Alternative	Scenario #1 Rate	Scenario #2 Rate
New Madison Wells and Pipeline	59.49	64.49
Surface Water Impoundment and Treatment	71.50	65.49
ASR	57.63	62.20

These rates are incorporated into the existing City of Gillette water rate structure as shown in Figures 10-10 through 10-15. These rates are preliminary, and do not have specific funding related factors, such as reserve, fees, and coverage.

It should be noted that this rate analysis is for comparison and planning purposes only. A more in-depth rate study including more detailed analysis of existing costs and planned contingencies should be undertaken before making a water rate policy change. Such an analysis is outside the scope of this report.