



# CITY OF RAPID CITY

## Engineering Services

300 Sixth Street

Rapid City, SD 57701-2724

Telephone: (605) 394-4154 FAX: (605) 394-6636

May 17, 2005

To: City Council Members

From: Dan Coon  
Project Engineer

Ref: Water, Water Reclamation, and Solid Waste  
Income Based Discounts

During the past several weeks City Council members have requested information concerning income based discounts for the City's water, water reclamation, and solid waste customers. Attached are summaries of the information requested. The information is supplied in two packets.

1. March 29, 2005 Packet -Income based discounts for water and water reclamation using the School Lunch Income Level as the income level baseline. This information is the same as was attached to the March 29, 2005 Public Works Committee Meeting Agenda.
2. May 18, 2005 Packet - Additional information requested for income based discounts for water, water reclamation, and solid waste using the Health and Human Services (HHS) poverty level as the income level baseline. This information has not previously been presented to the entire City Council.

I will be prepared to discuss the information contained in these packets and options available to the City Council at the May 18, 2005 Council Information Meeting.



EQUAL HOUSING

EQUAL OPPORTUNITY EMPLOYER

**Water, Water Reclamation and Solid Waste  
Income Based Utility Discounts**

**May 18, 2005  
Rapid City Council  
Information Meeting**



# CITY OF RAPID CITY

## Engineering Division

300 Sixth Street  
 Rapid City, SD 57701  
 Telephone: (605) 394-4154 FAX: (605) 394-6636

March 29, 2005

To: Public Works Committee

From: Dan Coon  
 Engineering Project Manager

Ref: Water and Water Reclamation  
 School Lunch Income Level  
 Income Based Discounts

At the March 16, 2005 Public Works Committee Meeting the following request was made.

“Identify the financial affects of applying a 20% discount at 150% of the poverty level and a 10% discount at 170% and 175% of the poverty level, as outlined by the school’s free and reduced lunch program.”

The attached documents provide this information. Attached are:

- Water Reclamation Enterprise Fund Income Based Discount Summary for 10% and 20% discounts at 150%, 170%, and 175% of the school lunch income level.
- Water Enterprise Fund Income Based Discount Summary for 10% and 20% discounts at 150%, 170%, and 175% of the school lunch income level.
- Income Based Discounts, Water and Water Reclamation Enterprise Funds, Data Sources and Assumptions
- Rapid City School Income Eligibility Guidelines

The following is an explanation of the information contained within each table on the attached summary sheets.

### Income Levels Used:

This table provides the school lunch eligibility levels for different family sizes and the resulting 150%, 170%, and 175% income levels for each family size.



**Impact on Total Revenue:**

This table provides the impact on the total revenue for the utility enterprise funds with 10% and 20% discounts at the 150%, 170%, and 175% income levels. For example the total revenue impact to the Water Reclamation Enterprise Funds in 2006 for a 20% discount at the 150% income level is \$112,955.00.

**Number of Households Receiving Discount:**

This table provides the estimated number of households that would receive a discount at the proposed income levels.

**Impact on Other Rate Payers:**

This table provides the estimated impact on rate payers not eligible for the income discount if the revenue requirements are distributed evenly among the remaining rate payers. The additional per unit revenue listed is for generation of \$50,000.00 of revenue for the enterprise fund. Using the example from above if \$112,955.00 in additional revenue is needed to be generated then the 2006 Water Reclamation Enterprise unit rate would need to be increased \$0.045 ( $(\$112,955/\$50,000) \times \$0.02$ ) to meet this revenue need.

**Discount to Eligible Households:**

This table provides the monthly and annual discount a typical utility user would receive with a 10% or 20% discount.

**Water Reclamation Enterprise Fund  
Income Based Discount Summary  
School Lunch Income Levels**

**Income Levels Used:**

Family Size	1	2	3	4	5	6	7	8
Free Lunch Level	\$12,103	\$16,237	\$20,371	\$24,505	\$28,639	\$32,773	\$36,907	\$41,041
150%	\$18,155	\$24,356	\$30,557	\$36,758	\$42,959	\$49,160	\$55,361	\$61,562
170%	\$20,575	\$27,603	\$34,631	\$41,659	\$48,686	\$55,714	\$62,742	\$69,770
175%	\$21,180	\$28,415	\$35,649	\$42,884	\$50,118	\$57,353	\$64,587	\$71,822

**Impact on Total Revenue:**

Year	2005 (1)		2006		2007		2008	
	10%	20%	10%	20%	10%	20%	10%	20%
Income Level								
150%	\$25,227	\$50,453	\$56,478	\$112,955	\$63,255	\$126,510	\$70,785	\$141,571
170%	\$32,769	\$65,539	\$73,364	\$146,728	\$82,168	\$164,335	\$91,950	\$183,899
175%	\$34,861	\$69,723	\$78,048	\$156,095	\$87,413	\$174,827	\$97,820	\$195,639

10%      20%  
Total      Total

\$215,745    \$431,490  
\$280,251    \$560,501  
\$298,142    \$596,284

**Number of Households Receiving Discount:**

Income Level	Households
150%	2988
170%	3882
175%	4130

**Impact on Other Rate Payers:**

Income Level	Households	Monthly Discharge 7 units/mo.	Annual Discharge	Total Annual Units	Remaining Annual Units	Additional per Unit Revenue Needed for \$50,000
150%	2988	20,918	251,012	3,081,424	2,830,412	\$0.02
170%	3882	27,172	326,062	3,081,424	2,755,362	\$0.02
175%	4130	28,907	346,878	3,081,424	2,734,546	\$0.02

**Discount to Eligible Households:**

Year	Rate	Monthly Discharge Units	Monthly Bill	10% Discount Monthly	20% Discount Monthly	10% Discount Annually	20% Discount Annually
2005 (1)	\$2.01	7	\$14.07	\$1.41	\$2.81	\$8.44	\$16.88
2006	\$2.25	7	\$15.75	\$1.58	\$3.15	\$18.90	\$37.80
2007	\$2.52	7	\$17.64	\$1.76	\$3.53	\$21.17	\$42.34
2008	\$2.82	7	\$19.74	\$1.97	\$3.95	\$23.69	\$47.38

Note: (1) Assumes program will begin July 1, 2005. Totals indicate 6 months of revenue.

**Water Enterprise Fund  
Income Based Discount Summary  
School Lunch Income Levels**

**Income Levels Used:**

Family Size	1	2	3	4	5	6	7	8
Free Lunch Level	\$12,103	\$16,237	\$20,371	\$24,505	\$28,639	\$32,773	\$36,907	\$41,041
150%	\$18,155	\$24,356	\$30,557	\$36,758	\$42,959	\$49,160	\$55,361	\$61,562
170%	\$20,575	\$27,603	\$34,631	\$41,659	\$48,686	\$55,714	\$62,742	\$69,770
175%	\$21,180	\$28,415	\$35,649	\$42,884	\$50,118	\$57,353	\$64,587	\$71,822

**Impact on Total Revenue:**

Year	2005 (1)		2006		2007		2008		10% Total	20% Total
	10%	20%	10%	20%	10%	20%	10%	20%		
Income Level										
150%	\$28,303	\$56,607	\$61,910	\$123,819	\$75,179	\$150,359	\$82,142	\$164,285	\$247,535	\$495,070
170%	\$36,734	\$73,468	\$81,033	\$162,066	\$97,739	\$195,478	\$106,791	\$213,582	\$322,297	\$644,593
175%	\$39,105	\$78,210	\$86,344	\$172,688	\$104,028	\$208,057	\$113,663	\$227,326	\$343,140	\$686,280

**Number of Households Receiving Discount:**

Income Level	Households
150%	2988
170%	3882
175%	4130

**Impact on Other Rate Payers:**

Income Level	Households	Monthly Usage 10 units/mo.	Annual Usage	Average Total Annual Retail Units	Remaining Annual Units	Additional per Unit Revenue Needed for \$50,000
150%	2988	29,882	358,589	5,109,230	4,750,641	\$0.01
170%	3882	38,817	465,803	5,109,230	4,643,427	\$0.01
175%	4130	41,295	495,540	5,109,230	4,613,690	\$0.01

**Discount to Eligible Households:**

Year	Base Rate for 5/8 inch Meter	Unit Rate	Monthly Units Used	Monthly Bill	10% Discount Monthly	20% Discount Monthly	10% Discount Annually	20% Discount Annually
2005	\$6.38	\$1.53	10	\$18.62	\$1.86	\$3.72	\$11.17	\$22.34
2006	\$6.95	\$1.66	10	\$20.23	\$2.02	\$4.05	\$24.28	\$48.55
2007	\$7.58	\$1.81	10	\$22.06	\$2.21	\$4.41	\$26.47	\$52.94
2008	\$8.26	\$1.98	10	\$24.10	\$2.41	\$4.82	\$28.92	\$57.84

Note: (1) Assumes program will begin July 1, 2005. Totals indicate 6 months of revenue.

## INCOME ELIGIBILITY GUIDELINES

(Effective from July 1, 2004 to June 30, 2005)

Below are the income scales to be used to determine applicant's eligibility for free or reduced price meals if the family is at or below the guideline.

Household Size	Annually	Annually	Monthly	Monthly	Every 2 weeks	Every 2 weeks	Twice a month	Twice a month	Weekly	Weekly
	Free	Reduced Price	Free	Reduced Price	Free	Reduced Price	Free	Reduced Price	Free	Reduced Price
1	12,103	17,224	1,009	1,436	466	663	505	718	233	332
2	16,237	23,107	1,354	1,926	625	889	677	963	313	445
3	20,371	28,990	1,698	2,416	784	1,115	849	1,208	392	558
4	24,505	34,873	2,043	2,907	943	1,342	1,022	1,454	472	671
5	28,639	40,756	2,387	3,397	1,102	1,568	1,194	1,699	551	784
6	32,773	46,639	2,732	3,887	1,261	1,794	1,366	1,944	631	897
7	36,907	52,522	3,076	4,377	1,420	2,021	1,538	2,189	710	1,011
8	41,041	58,405	3,421	4,868	1,579	2,247	1,711	2,434	790	1,124
For each additional family member, add	4,134	5,883	345	491	159	227	173	246	80	114

**NOTE TO LOCAL AGENCY OFFICIALS:**

When making a determination, the frequency of the current income should be compared to the respective scale above (weekly income should be compared to the weekly scale above). When income is from more than one frequency, each should be converted to monthly income and added together.

To convert weekly income to monthly income, multiply weekly income by 4.33.

To convert bi-weekly income to monthly income, multiply bi-weekly income by 2.15.

Instructions for farm/self-employed people are included in parent letter and the guidance for completing the application as well as memo. The agency should verify any questionable applications.

**Income Based Discounts  
School Lunch Income Level  
Water and Water Reclamation Enterprise Funds  
Data Sources and Assumptions**

Data Sources

1. The base income eligibility level was determined using the attached Income Eligibility Guidelines obtained from the Rapid City School District. The base income levels used are those found in the column defining the annual income level necessary to be eligible for free school lunches.

These income levels differ from the 2004 Health and Human Services (HHS) Poverty Guidelines. The Rapid City school lunch income eligibility guidelines are 30% higher than the HHS Poverty Guidelines.

2. The HUD Special Tabulations of 2000 Census Data was used to determine the number of households in each income level. This data is for home owners for all of Pennington County. The data indicates there were a total of 22,913 home owners in Pennington County in 2000. The City of Rapid City Water Division has approximately 15,600 Single Family Residence accounts. Therefore, all the Pennington County household numbers for each income level was multiplied by 0.68 (15,600/22,913) to determine the number of households at each income level in Rapid City.

The 2000 Census Data only provides information for households up to 5+ persons. Therefore, the school lunch income guideline for a household of 5 was used to determine the eligible income level for households with 5 or more people.

Assumptions

1. Only data for home owners was used. It is assumed the majority of renters live in multi-family housing or live in single family housing and do not receive a utility bill directly from the City.
2. It is assumed the 2000 census data will remain consistent through 2008.
3. The total revenue numbers indicate 100% participation by eligible households.
4. Sewer discharge for all participating households will be 7 units per month and water usage for all eligible households will be 10 units per month.





# CITY OF RAPID CITY

## Engineering Services

300 Sixth Street

Rapid City, SD 57701

Telephone: (605) 394-4154 FAX: (605) 394-6636

May 18, 2005

To: City Council Members

From: Dan Coon  
Project Engineer

Ref: Water, Water Reclamation, and Solid Waste  
HHS Poverty Level  
Income Based Discounts

Attached please find an analysis of the income based utility rate discounts for 100%, 130%, and 150% of the Health and Human Services (HHS) poverty level.

Attached are:

- Water Reclamation Enterprise Fund HHS Poverty Level Income Based Discount Summary for 10% and 20% discounts at 100%, 130%, and 150% of the HHS poverty level.
- Water Enterprise Fund HHS Poverty Level Income Based Discount Summary for 10% and 20% discounts at 100%, 130%, and 150% of the HHS poverty level.
- Solid Waste Enterprise Fund Income Based Discount Summary for 10% and 20% discounts at 100%, 130% and 150% of the HHS poverty level.
- Income Based Discounts, Water, Water Reclamation and Solid Waste Enterprise Funds, Data Sources and Assumptions, HHS Poverty Level

The following is an explanation of the information contained within each table on the attached summary sheets.

### Water and Water Reclamation Summaries

#### **Income Levels Used:**

This table provides the HHS poverty levels for different family sizes and the resulting 100%, 130%, and 150% income levels for each family size.



EQUAL HOUSING

EQUAL OPPORTUNITY EMPLOYER

HHS Poverty Level  
Income Based Discounts

**Impact on Total Revenue:**

This table provides the impact on the total revenue for the utility enterprise funds with 10% and 20% discounts at the 100%, 130%, and 150% income levels. For example the total revenue impact to the Water Reclamation Enterprise Funds in 2007 for a 20% discount at the 130% income level is \$53,354.00.

**Number of Households Receiving Discount:**

This table provides the estimated number of households that would receive a discount at the proposed income levels.

**Impact on Other Rate Payers:**

This table provides the estimated impact on rate payers not eligible for the income discount if the revenue requirements are distributed evenly among the remaining rate payers. The additional per unit revenue listed is for generation of \$50,000.00 of revenue for the enterprise fund. Using the example from above if \$53,354.00 in additional revenue is needed to be generated then the 2007 Water Reclamation Enterprise unit rate would need to be increased \$0.0213 ( $(\$53,354/\$50,000) \times \$0.02$ ) to meet this revenue need.

**Discount to Eligible Households:**

This table provides the monthly and annual discount a typical utility user would receive with a 10% or 20% discount.

**Solid Waste Summary**

**Income Levels Used:**

This table provides the HHS poverty levels for different family sizes and the resulting 100%, 130%, and 150% income levels for each family size.

**Number of Households Receiving Discount:**

This table provides the estimated number of households that would receive a discount at the proposed income levels.

**Impact on Total Revenue:**

This table provides the impact on the total revenue for the utility enterprise funds with 10% and 20% discounts at the 100%, 130%, and 150% income levels. The Solid Waste Monthly Collection Rate is adjusted annually in accordance with the Consumer Price Index (CPI). Therefore, a revenue impact estimate was only made for the known 2005 rate. For example the total revenue impact to the Solid Waste Enterprise Funds for a 20% discount at the 130% income level is \$41,913.00.

HHS Poverty Level  
Income Based Discounts

**Impact on Other Residential Accounts:**

This table provides the estimated impact on residential accounts not eligible for the income discount if the revenue requirements are distributed evenly among the remaining residential accounts. The additional per account revenue listed is for generation of \$50,000.00 of revenue for the enterprise fund. Using the example from above if \$41,913.00 in additional revenue is needed to be generated then the Solid Waste Enterprise Monthly Collection Rate would need to be increased \$0.22 ( $(\$41,913/\$50,000) \times \$0.26$ ) to meet this revenue need.

**Discount to Eligible Households:**

This table provides the monthly and annual discount a typical residential solid waste account would receive with a 10% or 20% discount.

**Water Reclamation Enterprise Fund  
Income Based Discount Summary  
HHS Poverty Levels**

**Income Levels Used:**

Family Size	1	2	3	4	5
Poverty Level	\$9,310	\$12,490	\$15,670	\$18,850	\$22,030
100%	\$9,310	\$12,490	\$15,670	\$18,850	\$22,030
130%	\$12,103	\$16,237	\$20,371	\$24,505	\$28,639
150%	\$13,965	\$18,735	\$23,505	\$28,275	\$33,045

**Impact on Total Revenue:**

Year	2005 (1)		2006		2007		2008	
	10%	20%	10%	20%	10%	20%	10%	20%
Income Level								
100%	\$6,033	\$12,065	\$13,506	\$27,011	\$15,126	\$30,253	\$16,927	\$33,854
130%	\$10,639	\$21,278	\$23,819	\$47,638	\$26,677	\$53,354	\$29,853	\$59,706
150%	\$14,635	\$29,271	\$32,766	\$65,531	\$36,697	\$73,395	\$41,066	\$82,132

10% Total	20% Total
\$51,592	\$103,184
\$90,988	\$181,975
\$125,165	\$250,329

**Number of Households Receiving Discount:**

Income Level	Households
100%	715
130%	1260
150%	1734

**Impact on Other Rate Payers:**

Income Level	Households	Monthly Discharge 7 units/mo.	Annual Discharge	Total Annual Units	Remaining Annual Units	Additional per Unit Revenue Needed for \$50,000
100%	715	5,002	60,025	3,081,424	3,021,399	\$0.02
130%	1260	8,822	105,861	3,081,424	2,975,563	\$0.02
150%	1734	12,135	145,625	3,081,424	2,935,799	\$0.02

**Discount to Eligible Households:**

Year	Rate	Monthly Discharge Units	Monthly Bill	10% Discount Monthly	20% Discount Monthly	10% Discount Annually	20% Discount Annually
2005 (1)	\$2.01	7	\$14.07	\$1.41	\$2.81	\$8.44	\$16.88
2006	\$2.25	7	\$15.75	\$1.58	\$3.15	\$18.90	\$37.80
2007	\$2.52	7	\$17.64	\$1.76	\$3.53	\$21.17	\$42.34
2008	\$2.82	7	\$19.74	\$1.97	\$3.95	\$23.69	\$47.38

Note: (1) Assumes program will begin July 1, 2005. Totals indicate 6 months of revenue.

**Water Enterprise Fund  
Income Based Discount Summary  
HHS Poverty Levels**

**Income Levels Used:**

Family Size	1	2	3	4	5
Poverty Level	\$9,310	\$12,490	\$15,670	\$18,850	\$22,030
100%	\$9,310	\$12,490	\$15,670	\$18,850	\$22,030
130%	\$12,103	\$16,237	\$20,371	\$24,505	\$28,639
150%	\$13,965	\$18,735	\$23,505	\$28,275	\$33,045

**Impact on Total Revenue:**

Year	2005 (1)		2006		2007		2008		10% Total	20% Total
	10%	20%	10%	20%	10%	20%	10%	20%		
Income Level										
100%	\$7,983	\$15,967	\$15,004	\$30,008	\$18,917	\$37,833	\$20,666	\$41,332	\$62,570	\$125,140
130%	\$14,080	\$28,159	\$26,990	\$53,980	\$33,361	\$66,723	\$36,446	\$72,893	\$110,878	\$221,755
150%	\$19,368	\$38,736	\$37,520	\$75,040	\$45,893	\$91,785	\$50,137	\$100,273	\$152,917	\$305,834

**Number of Households Receiving Discount:**

Income Level	Households
100%	715
130%	1260
150%	1734

**Impact on Other Rate Payers:**

Income Level	Households	Monthly Usage 10 units/mo.	Annual Usage	Average Total Annual Retail Units	Remaining Annual Units	Additional per Unit Revenue Needed for \$50,000
100%	715	7,150	85,800	5,109,230	5,023,430	\$0.01
130%	1260	12,600	151,200	5,109,230	4,958,030	\$0.01
150%	1734	17,340	208,080	5,109,230	4,901,150	\$0.01

**Discount to Eligible Households:**

Year	Base Rate for 5/8 inch Meter	Unit Rate	Monthly Units Used	Monthly Bill	10% Discount Monthly	20% Discount Monthly	10% Discount Annually	20% Discount Annually
2005	\$6.38	\$1.53	10	\$18.62	\$1.86	\$3.72	\$11.17	\$22.34
2006	\$6.95	\$1.66	10	\$20.23	\$2.02	\$4.05	\$24.28	\$48.55
2007	\$7.58	\$1.81	10	\$22.06	\$2.21	\$4.41	\$26.47	\$52.94
2008	\$8.26	\$1.98	10	\$24.10	\$2.41	\$4.82	\$28.92	\$57.84

Note: (1) Assumes program will begin July 1, 2005. Totals indicate 6 months of revenue.

**Solid Waste Enterprise Fund  
Income Based Discount Summary  
HHS Poverty Levels**

**Income Levels Used:**

Family Size	1	2	3	4	5
Poverty Level	\$9,310	\$12,490	\$15,670	\$18,850	\$22,030
100%	\$9,310	\$12,490	\$15,670	\$18,850	\$22,030
130%	\$12,103	\$16,237	\$20,371	\$24,505	\$28,639
150%	\$13,965	\$18,735	\$23,505	\$28,275	\$33,045

**Number of Households Receiving Discount:**

Income Level	Households
100%	715
130%	1260
150%	1734

**Impact on Total Revenue:**

Income Level	Households	Monthly Rate	Annual Revenue	10% Discount	20% Discount
100%	715	\$13.86	\$118,919	\$11,892	\$23,784
130%	1260	\$13.86	\$209,563	\$20,956	\$41,913
150%	1734	\$13.86	\$288,399	\$28,840	\$57,680

**Impact on Other Residential Accounts:**

Income Level	Total Residential Accounts	Eligible Households	Remaining Non-Eligible Accounts	Additional per Account Revenue Needed for \$50,000
100%	17,192	715	16,477	\$0.25
130%	17,192	1260	15,932	\$0.26
150%	17,192	1734	15,458	\$0.27

**Discount to Eligible Households:**

Monthly Rate	10% Discount Monthly	20% Discount Monthly	10% Discount Annually	20% Discount Annually
\$13.86	\$1.39	\$2.77	\$16.63	\$33.26

Note: Estimates use 2005 Monthly Rate for medium size residential container.

**Income Based Discounts  
Water, Water Reclamation and Solid Waste Enterprise Funds  
Data Sources and Assumptions  
HHS Poverty Level**

Data Sources

1. The base income eligibility level was determined using the 2004 Health and Human Services (HHS) Poverty Guidelines.
2. The HUD Special Tabulations of 2000 Census Data was used to determine the number of households in each income level. This data is for home owners for all of Pennington County. The data indicates there were a total of 22,913 home owners in Pennington County in 2000. The City of Rapid City Water Division has approximately 15,600 Single Family Residence accounts. Therefore, all the Pennington County household numbers for each income level was multiplied by 0.68 (15,600/22,913) to determine the number of households at each income level in Rapid City.

The 2000 Census Data only provides information for households up to 5+ persons. Therefore, the HHS poverty income for a household of 5 was used to determine the eligible income level for households with 5 or more people.

Assumptions

1. Only data for home owners was used. It is assumed the majority of renters live in multi-family housing or live in single family housing and do not receive a utility bill directly from the City.
2. It is assumed the 2000 census data will remain consistent through 2008.
3. The total revenue numbers indicate 100% participation by eligible households.
4. Sewer discharge for all participating households will be 7 units per month and water usage for all eligible households will be 10 units per month.
5. The 2005 Monthly Collection Rate for medium a size residential container was used for the Solid Waste Enterprise Fund estimates.

## **Income Based Utility Discounts Available Options**

1. Do Nothing. Keep rates as they are.
2. Institute income based discounts and recover reduced funding to the enterprise funds by increasing rates to non-eligible rate payers.
3. Institute income based discounts and do not recover reduced funding to the enterprise funds by increasing rates to non-eligible rate payer. This option will result in the reduction of the enterprise fund's capital reserve equal to the amount of discount provided or reduce the funding available for capital improvement projects.