# Rochester Hills
## Minutes
## City Council Work Session

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***Melinda Hill, Bryan K. Barnett, John L. Dalton, Jim Duistermars, Barbara L. Holder, Linda Raschke, Gerald Robbins***

**Wednesday, January 26, 2005** **7:30 PM** **1000 Rochester Hills Drive**

**2005-0039** Discussion regarding Water and Sewer/DPS Projects

***Attachments:*** Agenda Summary - Radio Reads.pdf; Radio Read information.pdf; Meter Reading Costs(1)(1).pdf; 062503 Minutes CC Work Session re: Radio Reads.pdf; 090104 MInutes CC Reg Mtg re: Radio Read.pdf; Agenda Summary - Reservoirs.pdf; Average Water Comparison.pdf; A

***President Hill*** *explained that the purpose of the Work Session was to update Council on various City projects and to examine the impact these projects may have on water and sewer rates as well as the Water and Sewer Fund.*

***RADIO READ SYSTEM***

***Mr. Roger Rousse****, Director of DPS/Engineering, provided a description of the current meter reading process and equipment, and described the radio read system under consideration. He explained that the primary savings to the City with the radio read system would be in the time and labor needed to read meters. Because the new meters can be read while driving by rather than physically touching the meter, the entire City's water meters could be read in a matter of hours as opposed to days.*

*As to the matter of transitioning to the new system, Mr. Rousse, noted that there are approximately 31,000 water accounts in the City and the DPS Department replaces 5,000 meters on an annual, routine basis. As such, it is assumed that as the meters are replaced and the labor needs for reading them is reduced, the manpower can be shifted away from reading and to installations.*

*Mr. Rousse estimated that the installation/implementation period will be approximately three (3) to four (4) years depending on the chosen vendor.*

*The estimated cost to implement the program will be as follows:*

* *Purchase: $2.0 million to $2.7 million*

* *Installation: $400,000 to $900,000*

*Ongoing operational costs will be determined by the life of the battery. A longer battery life will result in reduced labor and replacement costs. Battery life varies by vendor and ranges from seven (7) to twenty (20) years.*

*Mr. Rousse estimated that payback to the City for total implementation of the system will be eight (8) to twelve (12) years depending on the chosen vendor.*

*In response to Council questions, Mr. Rousse explained that, while*

*implementation of the program would result in an anticipated reduction in staff, this would be a result of a reassignment of staff to other City departments and unfilled vacancies as a result of retirement.*

*Mr. Rousse further noted, "Most all communities are transferring to this [system] in order to minimize their labor costs."*

*Another advantage to the system that Mr. Rousse highlighted would be early detection of some problems in the water system such as an undiscovered water leak.*

*Mr. Rousse explained that a committee has been formed to examine and evaluate the various RFPs received and a recommendation will be forthcoming.*

***WATER RESERVOIRS***

***Mr. Rousse** explained that the original goal of the reservoir project was to address pressure problems in the northwest and south central areas of the City most evident during periods of high demand. In addition to the lack of sufficient water to homes and businesses, these problems pose a safety issue with regard to fighting fires. Mr. Rousse indicated that ARCADIS FPS, Inc., the research firm contracted to provide research addressing this problem, determined that a water storage system with additional pumping stations could best address this situation. Following these findings and recommendations, ARCADIS FPS, Inc. was asked to provide financial analysis that would address the cost of the project, the estimated payback, and the impact on rates from the Detroit Water and Sewer Department (DWSD).*

***Mr. Jan Hauser** of ARCADIS FPS, Inc., provided a Power Point presentation of his firms research findings:*

***Original Goals of 2002 Study***

1) *Identify pressure and flow deficiencies.*
2) *Identify potential improvements to increase pressure.*
3) *Identify methods to lower the peak demands required from DWSD.*

*The original findings called for two (2) two-million gallon storage tanks.*

***Goals of October 2003 Study***

1) *Confirm the size and location of tanks.*
2) *Confirm project costs.*
3) *Secure support from DWSD.*
4) *Develop cost effective analysis and payback period.*

***Technical Analysis***

* *Updated computer model.*
* *Incorporated DWSD requirements.*
* *DWSD verified independently that the model was accurate.*
* *Actual peaking factors were used to determine rate savings.*

***Cost Estimates***

** Total cost = $7.7 million (2004 dollars) includes 20% contingency*
*- Construction: $6.4 million*
*- Professional Services: $1.3 million*

***Rate Analysis***

** DWSD's rate structure is based on the following factors:*

*1) Average day usage*
*2) Maximum day usage for year*
*3) Peak hour usage*
*4) Distance of pump from water plant*
*5) Elevation*

** The only thing the City can affect is peak hour usage.*

** Annual savings varied from $1.6 million to $1.2 million between 2001 and 2004.*

** Average estimated annual savings = $1.4 million.*

***Cost Effective Analysis***

** Calculation based on Storage versus No Storage includes:*

*- DWSD changes*
*- Debt retirement of bonding for construction*
*- Operation, maintenance and replacement costs*

** No Storage = $6.5 million average equivalent annual cost*
** With Storage = $6.0 million average equivalent annual cost*

***Payback Analysis***

** Calculated on total project cost divided by net annual profit:*

*- Net Annual Profit: Rate savings minus the cost of running the facilities, the operation, maintenance and replacement minus debt payment.*

*- Operation, maintenance and replacement cost = $75,000*
*- Average annual debt payment = $550,000 (depending on rate)*
*- Payback Period = Ten (10) years (assuming twenty-year bonding period)*

*In response to Council questions, Mr. Rousse and Mr. Hauser noted the following:*

** Tanks will cost $2.3 million.*

** Pumping stations will cost $2.6 million.*

** Valving will cost $400,000.*

** Tanks are depreciated over fifty (50) years.*

** Pumps, valves, etc., are depreciated over twenty (20) years.*

** Water rates can be held at a "very steady and reasonable increase."*

** City land will likely be used for construction of tanks.*

** Elevated tanks are more expensive to build and maintain.*

** The Michigan Department of Environmental Quality has concerns with ground storage tanks based on potential contamination.*

** Water storage is the only alternative that meets the goals outlined in the original study.*

** Storage system will improve reliability, flexibility and vulnerability of the City's water system.*

** Deficiencies in the system are a result of both DWSD's inability to supply higher pressures and the City's system inadequacies.*

** While DWSD is contractually obligated to provide a certain level of services to the City, any improvements or increases in pressure would be reflected in increased water rates.*

** While insurance liability may increase with the implementation of a water storage system, it has not been shown to be a substantial increase and is balanced by the increase in fire fighting capabilities.*

***Mr. Hauser** cautioned Council that "the big unknown in this deal is what DWSD does in the future." He stressed that if all other communities choose to develop a water storage system and Rochester Hills does not, DWSD will almost certainly increase the City's peak rate.*

***(RECESS 8:36 P.M. - 8:52 P.M.)***

## ***DEPARTMENT OF PUBLIC SERVICE (DPS) FACILITY***

***Mr. Rousse** explained that Yamasaki's design study for the facility will likely be completed by March or April of this year; therefore, it is now time to determine a funding source for the project. Mr. Rousse indicated that the City is pursuing federal grant money to fund part or potentially all of the project.*

***Ms. Linda Davis-Kirksey**, the City's Grant Writer, explained the grant process noting that she has contacted various legislative representatives and gained their support for pursuit of the various grant funds as the first step in the application process. She announced that she will be visiting Washington DC in February to meet with appropriations managers and to appear before the various appropriations committees. She stressed that she is applying for the entire amount of the project.*

***Ms. Davis-Kirksey** and **Mr. Rousse** noted the two (2) technical aspects of the project that may be of particular interest to the appropriations committees:*

** Relocation of the electronic equipment that controls the traffic control devices.*

** Green roof technology that results in doubling the life expectancy of the facility roof, as well as lowering energy costs; however, it does increase the initial cost of the project.*

***Ms. Davis-Kirksey*** *estimated that the determination of these grants would likely be November of this year.*

***Mr. Duistermars*** *stressed that he would like to see this project moved along, as the City is losing money in depreciation of vehicles and equipment that cannot be housed and protected from the elements in the existing facility.*

***WATER AND SEWER PROJECTS FUNDING***

***Ms. Julie Jenuwine****, Director of Finance, presented four (4) possible scenarios for the implementation of the previously discussed projects, the financing options and the possible impact on water and sewer rates:*

| ***Scenario 1:*** | ***2005*** | ***2006*** | ***2007*** | ***2008*** |
|---|---|---|---|---|
| *Water Commodity* | *13.5%* | *13.5%* | *13.5%* | *4.6%* |
| *Sewer Commodity* | *6.2%* | *6.2%* | *6.2%* | *2.8%* |
| *Customer Charge* | *113%* | | | |

| ***Assumes Projects:*** | ***Funding:*** |
|---|---|
| ** DPS Facility* | ** Sale of Letica Property* |
| ** Mains and Services* | ** DPS Facility is Bonded* |
| ** Water Storage (peak factors decrease in 2008)* | |

*(Note: Radio Read System in Customer Charge.)*

| ***Scenario 2:*** | ***2005*** | ***2006*** | ***2007*** | ***2008*** |
|---|---|---|---|---|
| *Water Commodity* | *14.4%* | *14.4%* | *14.4%* | *4.4%* |
| *Sewer Commodity* | *7.5%* | *7.5%* | *7.5%* | *2.6%* |
| *Customer Charge* | *113%* | | | |

| ***Assumes Projects:*** | ***Funding:*** |
|---|---|
| ** DPS Facility* | ** DPS Facility is Bonded* |
| ** Mains and Services* | ** Letica Property is NOT sold* |
| ** Water Storage (peak factors decrease in 2008)* | |

*(Note: Radio Read System in Customer Charge.)*

| ***Scenario 3:*** | ***2005*** | ***2006*** | ***2007*** | ***2008*** |
|---|---|---|---|---|
| *Water Commodity* | *13.6%* | *13.6%* | *13.6%* | *5.8%* |
| *Sewer Commodity* | *6.2%* | *6.2%* | *6.2%* | *2.8%* |
| *Customer Charge* | *113%* | | | |

| ***Assumes Projects:*** | ***Funding:*** |
|---|---|
| ** DPS Facility* | ** Sale of Letica Property* |
| ** Mains and Services* | ** DPS Facility is Bonded* |

*(Note: Radio Read System in Customer Charge.)*

| ***Scenario 4:*** | ***2005*** | ***2006*** | ***2007*** | ***2008*** |
|---|---|---|---|---|
| *Water Commodity* | *14.6%* | *14.6%* | *14.6%* | *5.4%* |
| *Sewer Commodity* | *7.7%* | *7.7%* | *7.7%* | *2.0%* |
| *Customer Charge* | *27%* | | | |

***Projects:***
* *DPS Facility*
* *Mains and Services*

***Funding:***
* *Bonding*
* *Sale of Letica Property*

*(Note: Radio Read System is NOT implemented.)*

*The following assumptions were made with regard to all four (4) scenarios:*

* *Customer Charge includes meter installation, billings and meter reading costs.*

* *Two percent (2%) annual sewage rate increase each year.*

* *Seven percent (7%) water rate increase from DWSD.*

* *One percent (1%) growth in consumption each year.*

* *Two percent (2%) annual increase in employee wages.*

* *Two percent (2%) increase in supplies.*

* *Two percent (2%) increase in interest income on cash balances.*

* *Five percent (5%) annual decrease in capital and lateral revenues.*

*Questions were raised as to whether these assumptions were realistic.*

***President Hill*** *explained that the purpose of these scenarios was to provide "the big picture" for Council with regards to these projects and in some cases to offer a worse-case scenario in the hopes that future difficulties similar to the local roads issue can be avoided. She indicated that some of the concerns expressed by her fellow Council members will be addressed more thoroughly in upcoming Council Work Session meetings.*

***Ms. Jenuwine*** *noted that each scenario included construction of the DPS Facility, as City Council had identified it as their top priority on their list of goals and objectives during the previous year's budget discussions.*

*With regard to the four (4) scenarios,* ***Ms. Jenuwine*** *noted the following:*

* *Overall percent increases do not vary much among the various scenarios because in cases where bonding is highest, money is borrowed from the Fund Balance to avoid a "spike the first couple of years."*

* *Every $1 million dollars for which the City bonds results in approximately $80,000 in principal and interest payments annually, assuming a 5% interest rate..*

** It is necessary to raise water rates one cent for every $40,000 the City must pay towards bond repayment.*

***President Hill*** *stressed that water and sewer rates are very low and any increases should be reflected in "dollars and cents," as percentage increases often give a false impression of a greater rate increase.*

***Mr. Rousse*** *noted that the City's water system is relatively young affording "a high degree of certainty about future costs."*

**Discussed**