

## FINAL MINUTES

### WATER/SEWER ADVISORY COMMITTEE MEETING MINUTES

August 10, 2011

#### 1. Call Meeting to Order

Chairman Gene Lambert convened the Water & Sewer Advisory Committee at 6:30 pm in the Nowak Room of the Town Office Building. Other committee members present were: Mr. Bob Kelly, Mr. Jim Tanis, Ms. Colleen St. Onge, Mr. Boyd Allen, Mr. Paul Scafidi and Selectman Frank Ferraro. Mr. Mike Jeffers, Water/Sewer Managing Engineer, Mr. Paul Vlasich, Town Engineer and Mr. Paul Roy, Water Treatment Plant Operations Supervisor were also present.

#### 2. Review and Approve Draft Minutes of July 13, 2011

Gene Lambert would like to see the name of the recording secretary added to the bottom of the minutes pages and asked that a Task List item be added.

**Bob Kelly moved to accept the meeting minutes of July 13, 2011 as amended, seconded by Colleen St. Onge. Vote: 5-0 Motion carries. Paul Scafidi abstained.**

#### 3. Review Current W&S Billing Practices and Issues

Chairman Lambert said that DPW was asked to provide a brief overview tonight of the Town's metering methods and how the flow of information translates into customer bills. There are two products: water and treatment of waste water. A mechanism is needed to recover the costs for these services from the customers and it is helpful to understand how this process works.

Mike Jeffers, Water and Sewer Managing Engineer, said that the Town currently has about 3,400 accounts. Approximately half of these accounts (1,700) have older style manual meters and half (1,700) have radio read meters. Manual meters require the reader to manually key punch in the reading, while information from radio meters is directly input into the device when the reader drives by the location. This is the second year that the department will be trying for a warrant article to go to all radio read meters. The meter reading device goes back to DPW and is put into a docking station where it uses a software called Equinox that mates with Munismart and generates bills. Bills are not printed in house but rather are sent electronically to vendors who print and mail them. Some recent changes that they have made to the bills include showing the customer's average rate, last payment date, last meter read date and a clearly defined billing period. They are considering switching to a different type of software that is more tailored directly to utilities billing. Munismart is very good software for taxes but it was never really intended for utilities billing and has to be modified quite a bit for this application. He has been discussing this idea and looking into software proposals with Mr. Dean and Ms. Ravell of the Finance Department.

#### 4. Inflow & Infiltration Presentation by Underwood Engineers and Wright-Pierce

Chairman Lambert explained that the Town has been working with Underwood Engineers and Wright-Pierce for several years on a number of projects. Paul Vlasich, Town Engineer, said that tonight's presentation will recap the details of the capital project proposed by DPW for the Jady Hill area so that everyone will have a good baseline of what inflow and infiltration (I/I) means throughout the Town and to Jady Hill. They were not successful in the Town vote this last year for an additional phase of the project that included I/I removal. They still feel that it is a very important project to do. Over the next couple of months they will be talking about the specific recommendations from the engineers for Jady Hill infiltration/inflow and the question of how it will be paid for.

Keith Pratt, President of Underwood Engineers, gave a powerpoint presentation. Cole Melendy, Project

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Engineer, was also present. The presentation outlined the scope of Underwood's project which started in 2009, its goals, and some of the issues and drivers. There was information on the history of I/I in Exeter. Some of the initial study results and approach were presented. Underwood Engineers is not done with data collection and will continue to collect data for another year or so before issuing a final report. Their findings on public and private I/I sources was one of the study's biggest discussion points.

The scope of the study was driven by Exeter's interest in maintaining its investment in its sewer infrastructure, reducing inflow and infiltration, reducing capital and operational costs, eliminating CSO's into the river and improving water quality and meeting regulatory requirements. Exeter received an EPA Administrative Order (AO) in September 2010 which requires the development of a long term plan to control CSO's. More recently Exeter has also received a draft permit from the EPA for the waste water treatment.

Infiltration is the entry of groundwater into a sanitary sewer system and inflow is the entry of storm water into a sanitary sewer system. A combined sewer system is one which collects sanitary sewage and storm water flow into a single pipe system. Exeter is thought to have a combined sewer system. A CSO is a situation when the flows from a combined sewer system are in excess of the interceptor where the pipes transport that flow and there is a diversion structure. Exeter has two diversion structures, one on Spring Street and the other on Water Street. Combined sewer overflows and I/I are problems because they increase capital and operational costs. Exeter's waste water treatment plant facility has an average 3 million gallons per day (MGD) treatment capacity and a 7 MGD peak capacity. CSO's generally occur when flows exceed 6-7 MGD. By comparison it is known that the actual sanitary flow from users connected to the system is about 1.5 MGD.

Mr. Pratt summarized some studies and projects done in Exeter in the past with reference to CSO's and inflow and infiltration. Exeter had 31 CSO events in 2006, 8 in 2007, 8 in 2008, 2 in 2009 and 21 in 2010. The plan of Underwood Engineers was to do initial I/I investigation, primarily on infiltration. They wanted to look at the hydraulics of the CSO's and I/I reduction strategies. The overall CSO strategy is the part that they are still waiting on. They are going to get one more year of CSO data before finishing that report. They are here to help with budgeting, planning, public education and outreach.

They did field investigations in 2009 and 2010 where they put meters in the flushing system in 3 locations which performed continuous flow monitoring. The three chosen areas of Pilot Study were Jady Hill, Downing Court and Westside Drive. They flow isolated 75% of the system. This is done by going out in the middle of the night when they presume that no one is using the sanitary system and assume that water found is generally due to infiltration. They studied 300 properties to see if there were sump pumps or drains connected, inspected 650 manholes and put TV cameras in 7 miles of Exeter's sewers.

Key findings: 1) I/I was found in everything (sewers, manholes and services) 2) 25% of homes in the sample base were found to have sump pumps connected to the sewer 3) During rain events they observed 800 to 2,500 GPD I/I in services. Some private services were higher at 5,000 to 11,000 GPD. In summary the majority of I/I was found in private service laterals. This indicates that the Town has been doing a good job so far of taking care of the pipes in the public system and now they need to look at what can be done to reduce inflow and infiltration from private services.

Frank Ferraro asked what progress has been made on stopping inflow from a number of large single sources that were previously identified. Jennifer Perry had made a statement at a previous meeting that

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the Town is working with those sources to try to get them to stop. Mike Jeffers said that these identified sources include some PEA sites and the old high school on Linden Street. Mike Jeffers said that the current status is that they are continuing to have discussions with the owners of these properties but so far none of these inflows have been stopped. Mr. Ferraro pointed out that Town ordinance prohibits these inflows into the sewer system. The only thing allowed to be discharged into a sanitary sewer line is sanitary waste. Mr. Dean confirmed that the Town has had this ordinance on the books for 20 years or so but it has never been enforced. It would be up to the Selectmen to make a decision to start enforcing this.

Mr. Pratt said that some of their work had identified 36 suspected roof drains that discharge into the sanitary sewer system. Traditional I/I projects address only public sewers, but as the results of their work indicate, this won't solve the problem. Exeter needs to find a way to deal with private I/I somehow. Approaches to removing private I/I include enforcement, assistance in public funding and education. Selectman Ferraro asked what, if any, effect the Water Street Interceptor project will have on this. Paul Vlasich explained that this project will relocate the diversion structure and replace an undersized pipe that is just down the road from it. This will not stop CSO's entirely in this section of Town, but replacing the undersized pipe will help to minimize CSO events and probably prevent them entirely in cases of mild storms.

The proposed total cost for the Jady Hill project work was about 3.1 million dollars. Of this figure, 1.4 million was for public sewer line work, \$ 600,000 was for private sewer service work and 1.1 million was for storm drains. If the Town chose to do the public sewer line work only at a cost of 1.4 million, Underwood Engineers estimates that the amount of I/I removed would be about 20%. If the public sewer line work was done in conjunction with the private sewer line work at a total cost of about 2 million, they should achieve around 70% reduction in I/I. However this does not leave the homeowner anywhere to put their sump pump. The addition of the 1.1 million storm drain piece for a total project cost of around 3.1 million will still achieve a 70% reduction in I/I, but also gives homeowners somewhere to put their sump pumps and drains. Their analysis shows that it is more cost effective to deal with some of the added projects and not just do the public work only.

In summary, most of the I/I is coming from private sources such as sump pumps and roof drains. This must be dealt with somehow to obtain effective removal of inflow and infiltration. It is more cost effective to include the private work. They recommend that the Town manage the private sewer services work so they have control over what happens with it and know that it gets done. Various options exist for cost sharing and educating the homeowner with regard to the private work. Examples were given of other communities that dealt with this and achieved expected results. The AO that Exeter has received requires the development of a long term CSO control plan. Underwood Engineers is in the middle of finishing up the first part of their report of CSO data. Underwood Engineers met with the EPA along with the Town and explained that much of what the EPA was looking for was included in the study they were currently in the process of doing. They were able to submit the study information to the EPA to satisfy their requirements for the time being. EPA will expect the full report from Underwood Engineers when it is completed around December of 2012.

Keith Pratt handed out a graph indicating a relationship between rainfall, CSO's and high tide. He explained that they noted a relationship between CSO's and high tide. They are constantly making efforts to improve their data collection. Based on the chart it would indicate that there seem to be tidal influences somewhere in the system. Mike Jeffers and Paul Vlasich mentioned that several large fish have been picked up in the weir screens recently.

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Bob Kelly asked if discussions with Jady Hill residents had indicated that the residents truly understand the problems of I/I and the solution options for fixing the problem. Paul Vlasich believes that education is key. He feels that there is some awareness but the financial part is tricky. Some residents are surprised to learn that they own the sewer service pipe to their home. Most residents he has spoken to are willing to do something but they would like the Town to help financially. Discussion ensued about solution options for reducing private I/I in the Jady Hill area. There were questions about whether or not the Underwood Engineering study of the 3 chosen areas in Town constitutes a true Pilot Study or not since different areas of Town are unique. It was pointed out that there are at least 13 other identified project areas in Town for I/I reduction which are not currently under discussion. Mr. Dean said that the decision point regarding whether or not the Town will financially assist with the costs of the private work is one of policy as the Town can borrow the money and work out a repayment program later on. There will be cost savings to the Town when the amount of I/I is reduced which needs to be considered. The benefits of reducing CSO's are more intangible but include compliance with regulatory authorities. Bob Kelly thought that more meetings should be held with Jady Hill residents for discussion and educational purposes. Gene Lambert felt there was a need to expand these to include the residents of the other 13 identified areas as well.

Wright-Pierce is doing the design for Jady Hill. Tim Vadney, Wright-Pierce Project Engineer, gave a brief presentation on cost analysis work they did for the Jady Hill area utility replacements. One of the primary drivers for the Jady Hill project is to decrease I/I and eliminate CSO's. The annual amount of Jady Hill I/I volume is estimated to be around 40 million gallons. Decreasing I/I reduces the Town's pumping and treatment costs and ultimately will decrease the size of the new treatment plant that will have to be built down the road. The more I/I that they can get out now the better. The larger the treatment plant the higher the cost, so this is a big factor. The Exeter waste water treatment plant treats around 766 million gallons of waste water per year. Based on current water and sewer budget data and EPA guidance on the matter, the Town is paying around \$ 0.0014 per gallon to pump and treat waste water. Using general industry guidelines to estimate the cost of building an upgraded waste water treatment plant, future cost to pump and treat is estimated around \$ 0.0020 per gallon. The estimated savings for conveyance and treatment over 20 years if 85% I/I removal was achieved with the current facility would be around \$ 1,020,000. The estimated savings for conveyance and treatment over 20 years if 85% I/I removal was achieved with a future facility would be around \$ 1,460,000. There would also be an estimated savings in building a smaller capacity plant of \$930,000. The total savings would therefore be almost 2.4 million dollars. This means that 60% of total project costs would be recovered within 20 years. There was some brief discussion about this and committee members requested to be provided with copies of the slides from the power point presentation.

### **5. Presentation by Jim Tanis of Budget & Rate Worksheet**

Chairman Lambert said that the Water and Sewer Advisory Committee is tasked with assisting with rate setting for water and sewer users. Jim Tanis gave a brief explanation of the rate structure used several years ago to assist with rate setting. He was on the subcommittee that looked closely at rates in 2006 when they came up with the 3 tier structure and service fees. One of the tools that was used was a software program called Ratemaker 4.1. This software has budget and rate sheets which assist with rate setting. It also provides guidance for setting reserve levels for capital and operating budgets and debt service. It recommends that rates be set slightly higher than what is needed to meet costs. Rates should be analyzed often and small communities like Exeter should establish reserve funds from 20 to 30 percent of their budget.

Rate subcommittee members spent a lot of time analyzing this data in 2006 and ran many different iterations to determine what the appropriate unit costs should be. The software program recommended

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that any communities with significant fixed costs show that as a separate service charge so that it could be monitored separately instead of being included with the variable rate. There was a problem in Town at the time where small users were subsidizing the large users and this inequality was the reason for the creation of the 3 tier system. The program water rate schedules asked for projections five years out which requires the input of the 5 yr schedule capital requirements and debt service. It would also build up a capital operating reserve and have these as separate line items that could be monitored and managed. If reserves build up to a high level, the program will call for a look at a possible rate reduction. This is the way it was designed to be managed. Mr. Tanis has the entire software package if anyone would like to read it. It describes line by line what data needs to be input in order to come out with the resulting numbers and what they mean. Mr. Tanis believes that the tools are there to improve our management of the system especially when it comes to the reserve balances. Chairman Lambert asked if this program is currently being used. Jim Tanis said he doesn't think so and believes the Town is currently using alternative methodologies.

Mr. Dean said that they gravitated away from using this because it is a spreadsheet program and are currently using the Town system which is Munismart. Munismart is designed to produce similar data by the tiers. They can print out the gallons of usage by district on a monthly basis and chart the sewer by district. They can plug in numbers at each tier to get revenue estimates. They cannot drill down into individual users but it could be altered to do this. It is used in the working subgroups and has served the current purpose. He is concerned that everyone may not be on the same page if the committee is using a different software than the one used by the Town Office and working subgroups internally. Chairman Lambert said that the committee is concerned about the current status of the reserves as they stand as a budget item and not a cash flow item for the water and sewer department to be able to effectively meet emergency needs. This would be more of a planning and budgeting tool, but if it has some rate application as well it would seem logical for the rates subgroup to take a look at that.

Mr. Dean said that the Capital Improvement Plan is being presented tomorrow and they have been working on some information on the Water Fund and Sewer Fund on a proforma basis. He provided committee members with information sheets that show where they stand with this on a budget basis. The data walks through the years 2006 through 2017. Total projected 2011 revenue for the Water Fund is 2.6 million. The current default budget amount set by the March vote is \$2,018,276. On a budget basis at the end of the year if all goes well they will have a budget surplus of \$ 612,708. Unaudited fund balance as of 12/31/10 is \$ 753,173 which when added to the \$ 612,708 gives you 1.36 million as a total balance in the Water Fund. Mr. Dean wanted to go over this tonight to illustrate some future year expenses and revenues. The CIP debt service shows the list of projects proposed for the water system for the next 6 years. This is a planning tool to consider the impact to the budget if all of these projects are funded. Mr. Dean also pointed out that the proposed cost for a new waste water treatment plant would be 52 million dollars which is essentially two times the entire sewer budget at the moment.

Chairman Lambert asked how the concept "reserve amount" is being defined. Mr. Dean said that the short answer is that it is a budget surplus. New Hampshire law allows the appropriation of money from surplus on a budget basis and it does not mean actual cash on hand. Bob Kelly would like to see reserves be a line item and actually budget for them. There was discussion about reserves and projects on the CIP list. Bob Kelly would like to see some analysis done on where rates would have to go over the next several years in order to do all of these CIP projects. Chairman Lambert questioned why a project such as \$ 30,000 worth of planned sludge removal in one of the lagoons is in the CIP and not a budget item. This sludge removal is planned maintenance that is done on an every 4 year cycle. Mr. Dean said that it is Town policy that any item over 25 K must be put into the CIP. He feels that there are some items in water and sewer that should be exceptions to this and there will be more discussion

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about this in the future. Bob Kelly felt that they should take a hard look at anything under \$ 75,000 to \$ 100,000 to see if it could be put into the budget instead of the CIP. Voters would also appreciate not having so many warrant articles to consider.

Chairman Lambert said that one of the problems is that there are some budget items they can control and some they can't. They cannot control the people portions of wages, benefits and taxes. They do have influence over expenses and revenues. Jim Tanis pointed out that they can give their opinion on any proposed head count changes. Mr. Dean said that the lion's share of expenses are related to testing, electricity and maintenance items. Chairman Lambert said that there is a curve of preventive maintenance versus emergency maintenance that may reduce the cost of capital items down the road.

Chairman Lambert said that the issue they really need to address is how to create and come up with a separate reserve amount that needs to be defined hopefully as a separate line item. Discussion ensued about this. Paul Scafidi disagreed with funding a reserve in this manner, saying that things change year by year and board by board. People think it is a slush fund. He feels that the way things have been working is just fine and as a rate payer he wouldn't want to contribute to a deferred maintenance fund. Bob Kelly feels it is good policy to fund a revenue stream that is slightly higher than expenses. They need a snapshot of how much money they would like to have in case there is an emergency. Paul Scafidi said that money can be appropriated from the Town's rainy day fund if needed in case of an emergency. Planning should be done on a year by year basis. If there is too much reserve money it is a management issue and either projects sitting on the books should be done or rates should be reduced. Mr. Dean said that you have to recognize where you are, where you might be and what the trends are over a multi year period. Some of the fund balance could be structured as a debt reserve against current obligations. Jim Tanis asked if the Town is getting interest on the surplus and Mr. Dean said that the Water and Sewer Funds do earn interest. Bob Kelly retracted his earlier idea of funding reserves at this time, but stated that they need to take a better look at how everything is being managed. Money needs to be allocated for projects that dearly need to be done. Mr. Dean said that if these CIP projects are implemented as scheduled based on the current situation, the Water Fund balance goes negative in 2014. If all projects cannot be done, they need to have discussions on how to prioritize which ones are most critical.

### **6. Discussion / Action Items**

#### **a. New Business**

##### **i. Monthly Reports by Mike Jeffers**

Mike Jeffers distributed copies of his July monthly report to committee members. Committee members requested to receive this report prior to the meeting if possible in the future. Mr. Ferraro suggested posting it online with the meeting agenda. It was also noted that they do not need the level of detail contained in the report and going forward Mike could just send the first page.

##### **ii. SOP for switching between reservoir and river sources**

Jim Tanis would like to see written SOP guidelines on how you switch between the reservoir and river water sources in order to get on top of the manganese problems next year instead of chasing it. Mike Jeffers said that both sources have high manganese so it isn't just switching. Jim Tanis would like to see them get the additional chemical feed equipment at the river they need in order to get the proper alkalinity to reduce the manganese and start using the river water before they historically get the manganese problem.

#### **b. Old Business**

##### **i. CIP items**

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Bob Kelly said that they are going to need to take a hard look at the CIP items on a detailed basis and asked if this will be an agenda item for the next meeting. They need to review these items thoroughly so that they can make recommendations. Mr. Dean said that the CIP is a draft document at this stage that is a prioritized list of projects. The Planning Board is having its first meeting tomorrow night to have its first look at the projects. After that there is about a month lull before the Planning Board has its final hearing and makes its final recommendations. The plan itself doesn't bind any financial commitments. The budget process is driven by the Board of Selectmen with guidance and recommendations from the Budget Committee and other committees.

### **ii. Waste Water Treatment Plant Tour on August 2<sup>nd</sup>**

Chairman Lambert thanked Mr. Jeffers and his staff for the tour of the waste water treatment plant on August 2<sup>nd</sup>.

## **7. Regular Business**

### **a. Water / Sewer Abatements / Policy Questions / Waiver of Meter Service**

There were no water and sewer abatements tonight. Mr. Jeffers said they have a request from an individual who is very ill and not living in his home to waive his quarterly meter fees. The water is still on but not being used. His bill is only quarterly service fees and has had no usage for the past few quarters. Jim Tanis said that the service fees cover fixed overhead costs and these don't go away just because someone is not using water. Colleen St. Onge pointed out that snowbirds still pay the fees while they are away. It was pointed out that they have the option to pull the meters and then they would not have any charges. There are fees to pull and reinstall meters. Mr. Dean said that he believes the Town should grant waivers in hardship cases. The committee's recommendation was that the homeowner has the option to keep the water service on and pay the fees or have the meters pulled at a cost and receive no more bills after that.

Exeter River Coop has its own water and 2 meters that the Town uses to bill them for sewer. They want to put in water meters so they can have each and every account pay their own sewer bills. There are hardware and administrative costs to the Town to install all of these meters. Right now DPW would up front the cost of these meters and the money comes back to the Water Fund but comes out of the DPW budget. This would be a considerable cost and would mean many less meters that DPW could replace for other people in Town who really need new meters. Mike Jeffers would like to know if DPW could charge Exeter River Coop for the administrative costs and tell them that they are on their own for purchasing the meters. DPW would send them the information on how they can buy the meters.

There was discussion about whether the Town would send individual bills to these accounts once the meters are installed instead of one bill to each of the two master meters. Individual bills would mean that each account pays a quarterly service fee which would be increased revenue to the Town. There are about 400 units. The committee recommended that DPW let the Coop buy the hardware on their own and do what they want if they are going to deal with it themselves and continue to be billed for the master meters only. If they want to become part of the town system and have individual bills for the 400+ accounts, then DPW should sit down and talk with them and work it out. Mr. Jeffers was advised that he could make a request to Mr. Dean for the funds to purchase the meters in this case so that the funds do not need to come out of his meter budget. Mr. Dean would just need to know the cost of the implementation and when the revenue would be expected to come in.

### **b. Financial Report**

Mr. Dean handed out and presented his financial report earlier.

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### **c. Task List Update**

- i.** Get I/I Map figure 5-3 published on July 30, 2010 shown earlier during the presentation
- ii.** Get copy of slides from Underwood Engineers and Wright-Pierce presentations
- iii.** Get number of homes in 23 areas referred to in Underwood Engineers presentation
- iv.** Come up with a plan for recommendation for the I/I payment for Jady Hill

### **8. Review Committee Calendar**

#### **a. Future Meeting Dates**

The next meeting of the Water and Sewer Advisory Committee will be on Wednesday, September 14<sup>th</sup> at 6:30 pm.

#### **b. Water / Sewer Rate Workgroup August 18<sup>th</sup>**

Chairman Lambert reminded everyone that there is a water and sewer rate group meeting on August 18<sup>th</sup>.

### **9. Adjournment**

**Paul Scafidi moved to adjourn, seconded by Bob Kelly. Vote: Unanimous**

The meeting stood adjourned at 10:00 pm.

Respectfully submitted,

Jennifer Mancinelli  
Recording Secretary

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