

## FINAL MINUTES

### EXETER WATER/SEWER ADVISORY COMMITTEE MEETING MINUTES      Sept 14, 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 and Selectman Don Clement. Mr. Paul Scafidi was absent. Ms. Jennifer Perry, DPW Director, Mr. Mike Jeffers, Water/Sewer Managing Engineer and Mr. Paul Roy, Water Treatment Plant Operations Supervisor were also present.

Selectman Don Clement advised the committee that the meeting had not been properly posted as per regulations. It was determined that the meeting would proceed as an information session and no binding votes would be taken. Mr. Clement reminded the committee about Right to Know Laws, especially with regard to email communications. He said that an email went out today to the entire committee that he suggested be printed out and included with the meeting minutes to avoid any issues with the Right to Know Laws. He recommended avoiding email communications.

#### 2.      **Review of Draft Minutes of August 10, 2011**

Chairman Lambert opened the floor to comments about the meeting minutes of August 10, 2011. Hearing none, discussion and vote on these minutes was tabled until the next meeting.

#### 3.      **Jady Hill Utility Improvements Presentation by Wright-Pierce**

Peter Atherton and Tim Vadney of Wright-Pierce Engineers were present to provide information about Phase II of the Jady Hill area utility improvements program. Peter Atherton gave a power-point presentation that provided an overview of the overall wastewater infrastructure in Exeter and details about the specific components of the Jady Hill Phase II project as well as funding. Committee members were provided with handouts that had been requested at the previous meeting.

The Town's main wastewater infrastructure can be broken into 3 different components: collection, conveyance and treatment. Collection consists of the pipes and services that are buried underground. Conveyance involves the pump station and force mains, while treatment is done at the plant facility. All of these components are aging and because of that the Town has put together various capital improvement plans to address the aging infrastructure. Based on standard infrastructure replacement costs for the various components, if Exeter had this infrastructure today and was going to replace it over a period of 50 to 100 years (which would be a typical infrastructure replacement timeline) it would be investing \$500,000 to a million dollars a year just to maintain the collection and conveyance. Exeter has a significant investment buried beneath the streets and replacing that requires significant investment.

There are various issues with respect to each of the system components today. The collection system has issues with inflow and infiltration (I/I). Conveyance system issues are CSO's and SSO's. With respect to the treatment, the issue that is around the corner is potentially much more stringent treatment requirements. The various regulatory agencies have put some orders on the Town because of these issues. In 2010 the Town received an administrative order (AO) to address the CSO's and SSO's. In addition to that, earlier this year the Town received a draft discharge permit to address treatment requirements. The Town commenced a town-wide I/I study in 2009 in response to these issues within the collection system. The Town also took the high priority areas and combined them with their aging infrastructure CIP initiatives. The 2009 study included some work that would investigate the CSO's and SSO's and there is some other ongoing work with respect to these issues as well. In order to address the treatment issues, it is recommended that the Town do an Overall Wastewater Facilities Plan possibly next year. If the Town goes forward with the Wastewater Facilities Plan, it might be a good idea to roll

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all of the different components in to have a coordinated, cohesive plan on how to address overall wastewater infrastructure for future years.

The Jady Hill Project Phase I and Phase II really addresses collection system issues in priority I/I areas identified in the 2009 town-wide study and combines that with some other CIP needs. Jady Hill Phase II includes relief drains which would be similar to storm water basins and be a component of inflow and infiltration reduction. They are included as an option because there are certain site constraints that make not having them somewhat problematic. These constraints include topography, soil type and closeness of homes. Given the site constraints existing in the Jady Hill area, there are concerns if relief drains are not included as part of the project. These concerns include ponding of water, groundwater recycling, road/driveway freezing and sump pump redirecting.

There are some technical concerns with private service laterals. The vast majority of these services are around 50 years old and made of inferior orangeburg pipe. There are also sump pump concerns. Nontechnical concerns include private responsibilities, public good and precedent set for future. The service laterals are owned by the homeowner from the house to the main. For discussion purposes, private service replacement refers to the area from the right of way (ROW) to the home. Based on their experience looking at industry standards for I/I reduction, if they work on just the main line itself the amount of I/I reduction would be about 25%. If work is done on the main line and the ROW, they would expect to get around 45% I/I reduction. If they go from the main line all the way to the home, an I/I reduction of around 80% would be expected. There is a definite benefit in going that additional distance to the home.

Gene Lambert requested the reference documents which support the quoted I/I reduction rates. Wright-Pierce will get the research papers which substantiate the numbers. Bob Kelly pointed out that the other consultant that presented at the last meeting had different numbers specifically for Exeter. Mr. Atherton said that the 2009 town-wide study had indicated that work on the main line was predicted to solve about 40% of the I/I problem and going all the way to the homes would solve about 70% or possibly more. The added benefit to going all the way to the home is about 30%. The numbers are similar but that study was specific to monitoring results. The monitoring that was done indicated that about 43 million gallons of I/I per year comes from the Jady Hill area. Right now the main line and ROW work is included in the project plans which would eliminate around 45% of I/I. The added benefit of going all the way to the home would be an additional 15 million gallons per year of I/I removed per year (if the math is done using the industry standard number difference of 35%). Bob Kelly wanted to know why there was only an 80% I/I reduction rate if all of the lines are replaced. Mr. Atherton said it is reasonable to expect over 90% I/I reduction if all lines are replaced and there is verification that the sump pumps have been taken out. They have tangible evidence from other projects to bear this out. The 80% figure is a conservative assumption for the cost effective analysis.

Wright-Pierce has calculated the Town's current cost to convey / treat and remove the I/I at about \$0.0014/gallon. The cost of removing the 15 million gallons per year over 20 years would be \$420,000 and the 50 year cost would be about 1.05 million dollars. Future cost was estimated at \$ 0.0020/gallon looking at cost curves and considering that the Town is eventually going to have to build an advanced treatment plant. The 20 year estimated future cost would be \$600,000 and 50 year cost would be 1.5 million. Committee members had several questions for Wright-Pierce regarding the details of this analysis. Mr. Atherton said that they did a straightforward analysis of current versus future costs and realize that there are other factors and different variables to be considered. The analysis showed that the additional cost to remove the private I/I (sanitary lateral and storm service) was about \$500,000 and cost for the relief drains was \$608,000. The two numbers are about 1.1 million dollars.

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Jady Hill Phase I is funded through the water/sewer CIP. Jady Hill Phase II is similarly funded through integrated water/sewer CIP. For the private non-ROW services, there is a question of how that would be funded. If it were to be funded by the homeowner, would it be done by separate contract or a town contractor? Or would there be funding from the public via the CIP? If there is public funding, would it be actual cost or a set fixed amount / fixed percentage? There is a wide variety of different possibilities and it should really be what is the best solution for the Town.

Discussion ensued about these options. Mr. Clement said that the Board of Selectmen has not yet made a decision on whether the private costs would be solely borne by the homeowner or whether there would be some incentive. This decision would need to be made before moving ahead with a warrant article. Storm drain costs would come out of the General Fund. Colleen St. Onge said that with regard to the private work portion it would seem logical to start gathering information to see if there were some private companies that could do this work at discounted prices for this volume. Wright-Pierce said that they have found that the best pricing often comes from the contractor that has the contract to do the construction because they are already in the neighborhood doing another portion of the work. There are economies of scale with this as well, plus the advantage of better quality control when the same inspector is watching it all go together. Chairman Lambert asked if they were aware of any history of percentage of I/I achieved when a Town focused aggressively on ordinance enforcement. Mr. Atherton said that typically one half of all pipes in the ground are private services. However, historically municipalities did not really focus on the private portion until more recently in the past decade. Communities have tried various types of incentive programs but he is not aware of any examples where I/I reduction was reported due to aggressive ordinance enforcement. Many municipalities have reported that they have looked at the public good and decided to defer a portion of the costs. They are weighing the public good versus private responsibility versus setting a precedent in Town. Some have funded the entire cost. Different municipalities have had different and unique approaches to this issue.

**The committee recessed at 7:46 pm and reconvened at 7:51 pm.**

#### **4. Capital Improvement Plan (CIP) Review**

Jennifer Perry and Mike Jeffers gave a power-point presentation on 2012 CIP projects. Highlighted items were: groundwater treatment facility, water meter replacement, water treatment plant waste stream reduction, water treatment plant heating system replacement, Lincoln Street project Phase I Utilities, waste water treatment plant facilities plan and main sewer pump station force main repair.

Ms. Perry said that one of the major efforts for 2012 is the groundwater treatment facility. The groundwater treatment facility was presented to the voters this year but did not pass. This is part of a project that has been going on for several years to revitalize two of Exeter's existing ground water supplies, Gilman well and Stadium well. It would also treat the Lary Lane well which has a low level of arsenic. Back in 2003 they tried very hard to build a new surface water treatment plant which carried a 17 million dollar price tag and failed to pass two years in a row. After that there was a decision made to look into groundwater which would be cheaper to treat and has a higher quality of water.

They did do the reconditioning of those two older wells that had been not used for years. They did get approval from NHDES for the withdrawal of those groundwater supplies. They have done Pilot studies looking at appropriate treatment methodologies for those groundwater supplies. This work is being done in conjunction with Weston & Sampson Engineers. Two sites are being considered for location of this facility, Gilman Park and Lary Lane. It would be a 6.35 million dollar project with the majority of those funds going toward the construction. The project was submitted to NHDES as part of the State

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Revolving Loan Fund program and it was accepted as one of the high priority projects. Because of that they would be eligible for 20% forgiveness on the loan that would equate to almost 1.3 million dollars. The loan itself would be at a very low interest rate.

Some of the benefits to the groundwater treatment plant include: lower treatment cost than surface water, it would resolve the Lary Lane arsenic issue, it would treat iron and manganese issues with Gilman, Stadium and Lary Lane wells and it would diversify the Town's water supplies. This facility would be used in conjunction with the surface water treatment plant on Portsmouth Avenue.

There was a lot of discussion about this project and location choice for the facility. Jim Tanis asked what other alternatives were pursued and whether they had looked at options such as piping the well water to the existing surface water treatment plant so there would not need to be two treatment facilities. Ms. Perry replied that they did consider the idea of using the current surface water treatment plant as the groundwater treatment facility. There are several challenges with this. It also gets very expensive to retrofit an old facility and it was considered best to go with a new facility. Ms. Perry will look for the cost analysis and matrix of options done at the time this decision was made. Mr. Jeffers said that the surface water facility has much more complex and expensive treatment than is needed for groundwater. Ms. St. Onge inquired about the type of security being considered for the Gilman Park location since there is so much public access. In the wake of 911 they need to be concerned about the safety of the water supply. Ms. Perry said that there are several options and the details of how to effectively manage access would be discussed in a public forum. Mr. Clement said that Homeland Security has guidelines for this and security is an issue regardless of the chosen location.

Bob Kelly asked if the Stadium well site had been considered for location for the facility. Ms. Perry said that the Town doesn't own the property that the Stadium well is on. The Town did approach PEA about it but the idea was not well received. Mr. Clement said that this past Monday night the Board of Selectmen directed Ms. Perry to obtain a conceptual layout design plan of how this facility would be placed at Lary Lane. Mr. Jeffers clarified that there would be much less chemical required to treat groundwater. Since the quality of groundwater is much higher, it would require just an oxidizer which is basically bleach and much less per gallon is required for treatment. In contrast, three or four more types of chemicals are needed for the surface water treatment plant. Jim Tanis pointed out that the introduction of any significant percentage of groundwater into the blend will reduce by dilution the amount of lower trace organic residuals at the end of the line. This will be a significant increase in the Town's overall drinking water quality and will put the Town in a better position to meet new guidelines for these organic residuals. If they stay at 100% surface water they will have a very difficult time meeting these new guideline requirements. Mr. Jeffers pointed out that one more benefit to groundwater is that if there was a radiological event, a groundwater treatment plant is much less vulnerable to contamination than surface water.

Chairman Lambert said that they need to be careful to educate the public about what is needed. Residents are sensitive to costs going up and want to know what their benefits are. He feels that they need to look at the cost/benefit to the average resident ratepayer and be careful to look at it from the pocketbook point of view. Mike Jeffers said that the Town is not going to meet Stage 2 disinfectant byproduct rules and next year when the rules become site specific they will be in violation of these even more than they are now. He has been advised that the Town will almost certainly receive an Administrative Order giving a timetable to solve the problem which is a major upgrade at the surface water treatment plant. Chairman Lambert asked what this upgrade would cost and Mike Jeffers said that they would need a study and facilities design to determine this cost. Mr. Allen feels that they should be able to generate some order of magnitude estimates on this without full blown facilities studies. Ms.

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Perry said that this is something that they could do and they already do have pieces of it.

Ms. Perry explained that the water meter replacement program would replace all of the Badger meters and remotes. This is a \$750,000 project that narrowly missed passing when presented to the voters this past year. The average useful life of most meters is about 10 years by AWWA standards and the Town has meters that date back to the 1970's. These meters are essentially the cash registers for the water flowing into the homes and they do have lost revenues because the meters and remotes slow down as they age and don't register the full amount of water flowing through. The new Neptune radio read meters do not have separate house-mounted remotes so there is no chance of having a discrepancy between a meter and remote. This radio unit can be picked up when the meter reader drives through the neighborhood and would significantly cut down on meter reading time. Users would be able to tap in to see their usage trends and information. It should lead to quicker discovery of leaks and improve conservation efforts.

This is another top-ranked project on the NHDES green priority list and is eligible for an SRF low interest loan with 20% forgiveness. The 20% loan forgiveness would equate to \$150,000. Boyd Allen asked if they have a coarse number of how much revenue is being lost due to these older meters. This number was estimated at \$ 400,000 per year after a quick review of the figures presented. Therefore it would appear that this project would pay for itself in two years. Mike Jeffers said that the project would replace approximately 1,700 entire meters (wet changes) and 1,700 Neptune meter head changes. It is expected to take about 18-24 months to complete all of these replacements. Costs would be internal and they would not need to hire any additional staff to do this. Mr. Dean provided a brief explanation of how the SRF loan program process would work with this. Chairman Lambert asked how they are going to demonstrate the savings per year return on investment to show traceability of savings to the public. Ms. Perry said that they regularly monitor the amount of water that is pumped out to the public as well as how much is recorded so they have a current benchmark. Boyd Allen pointed out that they could record the deltas between the meter and remote readings on the replacements as a scorecard. Mike Jeffers said that this would be standard operating practice for meter change-outs. Mr. Allen asked if the homeowner is responsible for this delta or are they forgiven. Mike Jeffers said that at this point in time they do not go after the homeowner for deltas on worn-out equipment and most utilities do not do it either. Mike Jeffers also pointed out that this would allow the Town to go to 30 day billing which is something that cannot be done with the old meters.

The water treatment plant waste stream reduction CIP item is a \$285,000 project to revitalize and re-use existing lagoons at the water treatment plant adjacent to the Reservoir. It would allow the recycling of some of the filter backwash and clarifier flush water used at the water treatment plant that is currently wasted to the sewer. They wouldn't have to be sending 100% of the wash water to the waste water treatment plant. This project would save an estimated 57 million gallons of water per year. Jim Tanis pointed out that this is more water savings than Jady Hill for \$285,000 and said he thought this was a great project. Mike Jeffers said that there are 6 possible technology options with this and he can provide the detail on these if desired. This project would also reduce electrical costs, decrease chemical usage, decrease the amount of sewer pumping (\$43,250 in 2009) and decrease CSO's. Chairman Lambert asked if there was any way to do this through the regular operating budget as a capital item and not as a CIP project. Mr. Dean said that because Exeter is an SB2 town they need to put a warrant article on that is a bond article because it deals with the SRF program and is eligible for the 20% loan forgiveness. They have been working hard to educate the public about this. Mr. Clement pointed out that there is a risk to having it in the regular budget if the budget is voted down like this past year.

Ms. Perry said that another project is replacing the boilers at the water treatment plant. Since the time

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that this CIP sheet was developed for the total replacement of the boilers and all the associated improvements with a total cost of \$120,000 they have already come up against having to replace these boilers prior to the heating season. The boilers did not pass their licensed gas fitter's inspection. DPW came before the Board and requested an emergency expenditure out of reserves for the replacement of the two boilers. There is still other work that needs to be done in terms of piping improvements and energy savings measures so they are still talking about \$70,000 for additional heating related issues with the water treatment plant. Jim Tanis asked if the \$50,000 was wasted and Ms. Perry said no. The \$50,000 was used to replace the boilers.

The water treatment plant roof replacement is a \$106,150 CIP project that would replace the roofs on both the water treatment plant building and the sedimentation building. It would include all of the roofing, foam insulation, flashing, developing slope for good drainage and spot replacing of some tile on the old historic building out front.

Ms. Perry said that they have a new project in the Lincoln Street area which is primarily being driven by the need for water main replacements. It would be a phased utility replacement project. This is one of the major connectors in the distribution system and they have lines in this area that are over 100 years old. It would also replace some lines on Tremont Street and Daniel Street. As people may recall, they had started a capital program for water and sewer line replacement which was an every other year program. They are proposing to use those monies for this project. The intention for 2012 would be to do the water and sewer utility improvements in this area, followed by overall streetscape roadway design in 2013 and actual roadway construction in 2014. Mr. Tanis asked why they are proposing to double the size of the water main. Ms. Perry replied that this would be a major connector from the Southeast side of Town where the groundwater facility would be located to the Epping Road tank. It is over 100 years old and ready for replacement anyway. Michael Jeffers said that simply put the Lincoln Street line is too small and very old.

The Wastewater Treatment Plant facilities plan would be a study to look at what treatment alternatives they need to be considering in order to address the new wastewater discharge permit. Cost of the plan would be on the order of \$375,000. They still have only a draft permit with a nitrogen requirement of 3 mg/L. Whether the final permit has a level of 3 mg/L or 5 mg/L or 8 mg/L, it is not a level that they can meet with their current technology. The first step in addressing that is to do a facilities plan to do a thorough analysis of what the Town's needs will be for the next 20 to 30 years. There are a lot of different processes and treatment options. This will be a fairly major endeavor and they want to do the best for the Town by doing an objective and thorough review of the options. Chairman Lambert asked about the study that the Town is involved in to study the nitrogen values. Ms. Perry explained the Town's involvement in the MOA study and the fieldwork being done on the Swampscott River. The study's goal to develop some basic measurements of several parameters and nutrients to get a better understanding of what is contributing to water quality problems in the River.

There was a discussion about the study, draft permit and proposed facility. Several committee members expressed concern that it may be premature to be spending money on a facilities plan at this point. Ms. Perry said that the facilities plan would look at different levels of treatment and would be flexible. The reality is that the Town will have to build a new treatment plant and it is important to show progress to EPA to prove that Exeter is taking this seriously. She recommended moving forward with the study and said that it is just the first phase of what will perhaps be a 5 year plan to get the Town into a new facility. Bob Kelly agreed that EPA responds to initiative and thinks it will be money well spent to provide a range of options to give the Town some control over what the bottom line number of the plant cost will be.

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The next CIP item is Main Sewer Pump Station force main repair. This is the station that is adjacent to Swasey Parkway and elderly housing. This would design some flow improvements and install isolation valves on either the inlet or outlet side of the station. Currently there are no isolation valves and it is almost a mile long force main so there are some real concerns with that. It would also allow increased capacity through the pumping station and would be another improvement in minimizing overflows. Proposed to be done in 2012 is a \$55,000 study with \$240,100 in 2013 for design and construction.

### **5. Discussion / Action Items**

#### **a. New Business - None**

#### **b. Old Business - None**

### **6. Regular Business**

#### **a. Water / Sewer Abatements - None**

#### **b. Water / Sewer Monthly Report**

The committee thanked Mr. Jeffers for sending them all his monthly report.

#### **c. Financial Report**

Mr. Dean handed out his financial report to the committee members. He said that receivables are fairly consistent over time. They are getting ready to send out shut-off notices so there should be some increased revenue coming in shortly. The current projection is for a \$612,000 budget surplus in the Water Fund at the end of the year. However at the end of the year there is still going to be some amount of revenue from 2011 that is not yet collected. Real income would be \$312,000. A distinction is made with regard to the corrective bill revenue because that is a one time bump in the data. They will see some increased revenue going forward because those meter multiplier errors have been fixed.

#### **d. Discussion of 8/25/11 Water/Sewer Rate Group Meeting**

There was a brief meeting on August 25, 2011. Ms. St. Onge said that they did come up with a recommendation for a modified service fee of \$10.00 per quarter for water and \$10.00 per quarter for sewer with a \$5.50 per thousand rate for water and \$4.50 rate per thousand for sewer. Their recommendation was presented to the Board of Selectmen this past Monday night. Mr. Dean said that they found that Exeter's service charges are far larger than other communities when they did comparisons. One of the issues to be resolved is that the graduated tier system doesn't address the issue of a user like a condo with one meter and multiple users. They pay one service fee. In these cases their incremental cost of use under the tier system ends up being a subsidy compared to charging each of the units a separate service fee per quarter. The recommendation generated a lot of discussion when presented to the Board of Selectmen and there was some feeling that another option would be to reduce the tiers.

Discussion ensued about this. Bob Kelly asked why the service charge was recommended to be reduced so drastically. It is supposed to be the administrative costs of running the utility which were around \$300,000 divided by the number of users. Usage was independent. Mr. Dean said that one of the reasons was that Exeter's service charges were much higher than comparable municipalities. He has a different definition of what the true overhead costs are than the way that the previous rates group defined it. Mr. Clement said that the initial reason they went back to the rates committee was because there was a question of how to rebate the found money to ratepayers. The committee returned with a recommendation to reduce the service fee to rebate the money. Whether or not this reduction would be

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permanent would need to be determined after further analysis and discussion. Mr. Tanis said that the surplus money belongs to the ratepayers and it should be a priority to return it to the ratepayers as quickly as possible. He thought the Selectmen's decision to pursue researching giving a credit based on 2010 usage was a great idea. Ms. St. Onge said that the rates group had felt that spreading the reduced service fee over a period of time would be more appreciated by users than a one time reduction.

Chairman Lambert pointed out that one of this committee's tasks is to hold one public water rate hearing and one public sewer rate hearing each year not later than the first week of November. Stepping in as they did as a committee they have really not yet been involved in this process. Mr. Clement explained that the water and sewer rates group's time has been totally taken up with how to return the back-billed collected money to the ratepayers in an equitable fashion. There has been virtually no discussion about the existing water and sewer rate system. A study and analysis would need to be done of current rate structure and budget in order to move forward. Mr. Dean said that some projections into 2012 have been done but he agrees that based on the committee's charge they would want to hold a public hearing on water and sewer rates and make a final recommendation to the Board for 2012 rates. This needs to happen in advance of the final adoption of the budget. There was discussion on how to go about this. It does not look like the committee will be able to make having a public rate hearing by November 1<sup>st</sup> but they may be able to do this by January 1<sup>st</sup>. Ms. St. Onge was charged with the task of making a step forward plan and suggesting how to move forward on this.

Mike Jeffers announced that the first week of flushing starts this coming Monday, September 19<sup>th</sup>. It will be on the website.

### **e. Task List Updates**

- 1. Discuss Jady Hill private lateral payment strategy**
- 2. Rate over-payment update/discussion**
- 3. Discuss CIP item prioritization**
- 4. Plan from Rate Subcommittee to identify steps to make a 2012 rate recommendation to the Board of Selectmen**

**f. Provide 1 page W&S Engineer's Report, CIP Summary of requests & backup, Reduced size (11"x17") I&I with 23 areas shown**

Chairman Lambert was pleased to note that all open tasks have been completed.

## **7. Review Committee Calendar**

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

The next meeting of the Water and Sewer Advisory Committee will be on Wednesday, October 12<sup>th</sup> at 6:30 pm.

## **8. Adjournment**

The meeting stood adjourned at 10:15 pm.

Respectfully submitted,

Jennifer Mancinelli  
Recording Secretary



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