

TOWN BOARD
AUGUST 13, 1997

A regular meeting of the Town Board of the Town of Bethlehem was held on the above date at the Town Hall, 445 Delaware Avenue, Delmar, NY. The meeting was called to order by the Supervisor at 7:30 p.m.

PRESENT: Sheila Fuller, Supervisor
Freeman T. Putney, Councilman
George Lenhardt, Councilman
Doris M. Davis, Councilman
Robert C. Johnson, Councilman
Bernard Kaplowitz, Esq., Town Attorney
Kathleen A. Newkirk, Town Clerk

Supervisor Fuller welcomed everyone to a regular meeting of the Bethlehem Town Board. She asked for everyone to excuse the mess but invited everyone to observe the beauty in the room with the new pale green paint. She said she has held up further work in the auditorium so that she could provide room for everyone to be at the meeting. She said there were a couple items before the presentation, indicating it will take only a few seconds.

The first item was a recommendation from Jeffrey Lipnicky, Town Planner, to consider a Local Law amending Local Law No. 5 of 1991, as amended by Local Law No. 7 of 1994, extension of time requirement for lands located south of McCormack Road and east of Cherry Ave. Ext. This could be advertised August 27, 1997 and hold the public hearing September 10, 1997, at 7:30 p.m. Supervisor Fuller asked for a motion to approve setting a public hearing for September 10th.

Local Law amendment for lands located south of McCormack Rd and east of Cherry Ave Public Hearing September 10

The motion was made by Mr. Lenhardt and seconded by Mr. Putney to approve the setting of a public hearing to consider a proposed Local Law amending Local Law No. 5 of 1991, as amended by Local Law No. 7 of 1994, extension of time requirement for lands located south of McCormack Road and east of Cherry Avenue Extension for September 10, 1997 at 7:30 p.m. The motion was passed by the following vote:

Ayes: Mrs. Fuller, Mr. Putney, Mr. Lenhardt, Mrs. Davis, Mr. Johnson.
Noes: None.

The following item was a recommendation from Richard Vanderbilt, Chairman, Traffic Safety Committee, for repeal of 40 miles per hour on Russell Road; repeal of 35 miles per hour on VanDyke Road; and repeal of 40 miles per hour on Blessing Road. This could be advertised August 27, 1997 and a public hearing held September 10, 1997, at 7:45 p.m.

Traffic Safety repeal of 40mph Russell road repeal 35 mph Vandyke Rd 40 mph Blessing Road Public Hearing September 10, 1997

Councilman Putney asked if the Notice of Public Hearing could be worded in a way to allow for changes without being specific to the recommendation. Attorney Kaplowitz indicated it is an ongoing problem, and noted it has to be specific enough so the people know what is happening, however, if it is too specific, you are limited as to what changes can be made. Supervisor Fuller asked Councilman Putney if it was something he would know now. Councilman Putney said he thought among the possibilities would be to reduce the speed limit on VanDyke Road during certain hours or perhaps when children are present. He would like to be able to have the hearing broad enough that they might be able to take action other than the recommendations. Supervisor Fuller said something like that could be considered. Attorney Kaplowitz said this is close enough to allow that. Supervisor Fuller thanked Councilman Putney.

The motion was made by Mr. Lenhardt and seconded by Mr. Putney to approve setting a public hearing for September 10, 1997 at 7:45 p.m. to consider a Local Law regarding repeal of 40 miles per hour on Russell Road; repeal of 35 miles per hour on VanDyke Road; and repeal of 40 miles per hour on Blessing Road. The motion was passed by the following vote:

Ayes: Mrs. Fuller, Mr. Putney, Mr. Lenhardt, Mrs. Davis,
Mr. Johnson.
Noes: None.

The next item was a presentation of a report regarding Water Facilities from O'Brien and Gere, consulting engineers.

Report regarding water facilities from OBrien and Gere

SUPERVISOR FULLER: Welcome again everyone. This evening's report from our consultants, from O'Brien and Gere, will begin very shortly. The rules for the evening are the Town Board needs the first opportunity to ask some questions. We need answers and when we are finished, we will then allow time for the audience to ask some questions. I am going to ask each and everyone of you to cooperate as far as the questions need to be directed to O'Brien and Gere's report for all of our benefit, please. Thank you for your anticipated cooperation and I will begin by introducing Bruce who will give us a quick run through of where we have been. Excuse me, Bruce, for one minute. For your information, the additional person at the table this evening does not have a vote, he is on my left, he is John Rudy, our Counsel from LeBoeuf, Lamb. Okay, go ahead Bruce.

MR. SECOR: Good evening. I just wanted to go over some of the background information. This is basically just an excerpt from the Memo to the Board -- every one has it but just so that we all have -- starting from the same position and leading up to O'Brien and Gere's report. Our new water infiltration system on Schermerhorn Island went into service on January 2, 1996. The ground water is pumped from Schermerhorn Island up to the new water plant on Clapper Road where it is purified and filtered and then pumped into the industrial area. During 1996, we produced a little bit over 850 million gallons of water from the new plant which is an average of about 2.3 million gallons per day. During the first year of operation, we tried to test out all the systems and complete all of our testing. We do have a problem, on January 19 and 20, 1996, less than a month after beginning operation of the new system, heavy rains and unusually warm winter temperatures combined to cause severe flooding in the Hudson River valley which inundated Schermerhorn Island and deposited a thick layer of silt and mud throughout a wide area. This January 1996 storm was one of the largest flood disasters reported in New York State in recent times. The Federal government declared the damaged area a disaster and made Federal aid available through the Federal Emergency Management Association. Forty-one (41) counties were impacted by the flooding and more than 1,200 damage survey reports were filed with FEMA for storm damage, among this was 31 claims filed by the Town. The pumps were turned off during the flooding and after the flood waters receded, we went down and inspected the wells. The wells had been designed as submersible because we knew we were in the flood plain and they were designed to withstand flooding. There was no apparent damage to the wells. The silt deposits were tested for pcb's with none found. Since we found no major storm damage to the wells, no application was made at that time for Federal assistance.

The infiltration system at the water plant continued to operate throughout 1996. Contractors were required to repair, recalibrate, and replace equipment which did not perform according to specifications. This included the replacement of all 3 of the well pumps, they were not machined properly. The last of the new pumps was installed in the fall of 1996 at no additional cost to the Town. With the new pumps in place, a pump test of the infiltration system was scheduled. In order to gather data during the pump test, additional monitoring wells, disometers, well points, river gauge, sensors and instrumentation placed in the infiltration system. While installing the river gauge and well points, a thick layer of mud was observed in the river bottom. The presence of this thick mud layer on the river bottom was new and had not been detected during the earlier borings and was never observed prior to January of 1996 flood. When the monitoring equipment was in place, an evaluation and higher pump rates was started. Initial data from the higher pumping rate did not appear normal and an investigation was begun to determine if there were any significant changes in the infiltration system. Because it was believed that the thick layer of silt and mud in the river bottom was affecting or might be affecting the

infiltration system, core samples were taken along the river bottom adjacent to the infiltration system. These samples found that the silt and mud layer was from 1 to 6 inches thick and covered the entire area adjacent to the infiltration gallery. Although the quality of water did not change, the silt and mud layer was affecting the rate of recharge of the natural sand and gravel aquifer, thus affecting the quantity of water that the new system could produce. Until the mud and silt layer could be removed to restore the site to its pre-flood condition, no high capacity test of the infiltration system could be completed.

After the field data was evaluated, it was a recommendation of our existing geotechnical consultant that the best way to remove the silt was by vacuuming it up with a suction dredge. The wells were turned off on March 19th, mud removal began on March 20th and was completed by March 25th of this year. Sand from the river bottom after dredging verified that the silt and mud had been successfully vacuumed and removed. The wells were restarted. The yield at the infiltration system was found to be greatly improved. The level of draw down after dredging was less than 1/3 of the level of draw down prior to dredging. This dramatic improvement confirmed the belief that silt and mud layer was a cause of the yield.

Since the flood damage in January was eligible for Federal assistance, application was made to FEMA for Federal assistance and both FEMA and NYS Emergency Management have processed our funding application.

During April and May pumping of the infiltration system was continued at a constant rate in order to establish the steady state of condition in preparation for a high capacity pump test. Monitoring the wells, river gauges and other instrumentation were reinstalled. During this 2 month period, it was observed that spring run off and high water periods had produced some resiltation of mud and silt in the river bottom in areas previously cleaned. A new sample of the river bottom was taken in late May. This new round of sampling showed a layer of mud/silt approximately 1/4 inch to 1 inch thick with the denser area located at the northerly end of the system.

Although March dredging had proved successful and showed immediate positive results, in the infiltration system there appears to be a continuing problem of silt because of the normal amount of silt in the river and surrounding tributaries. The silt condition in the river in the spring has contributed to the silt layer and the silt layer seems to be compromising the recharge aquifer once again. Our existing geotechnical consultant has suggested that the normal silt load is continuing to cause this problem. It was our original intention to run the extended high capacity test and to recommend to the Board to have an independent engineering consultant review the test results and make sure that they were done thoroughly and that we had an accurate report of the yield of the system. However, given the current circumstances we haven't gone ahead with that and asked this consultant to review what we have now and what the impacts are of the system as it now stands. And, with that, I will ask O'Brien and Gere to give their presentation and then we will try to answer questions.

SUPERVISOR FULLER: Guy Swenson and Tony Geiss, each doing it or...

MR. SWENSON: Ladies and gentlemen of the Board and public, I appreciate the opportunity to be here to present our report and hopefully in doing so, we'll answer most of the questions that... after we present it, we will be glad to entertain questions.

I would like to just start with brief going over what our objectives of our study were. There basically were 2 objectives. The first was to try to identify what conditions associated with the infiltration system were limiting the production capacity of the system. The system was not producing as expected and so we wanted to try to figure out in our evaluation what were the factors that were causing that reduction. The second component was to take a look at what the system as it currently stands is capable of producing. And, there again, this is looking at the existing system and not looking back at

what we have done in the past but rather what can we do with the current system.

This is a cross section from some of the contract drawings, just to familiarize everyone with how the system is set up. The Hudson River is out here. The blue represents the bottom of the river. The water level fluctuates from a level of minus 9 feet relative to mean sea level up to a high of 6.4 feet and it goes up and down with tides. Back here, the red dot I put in is a pipe that is associated with the infiltration system. What we are looking at here is as if you could cut the earth in half and you are looking at what is known as a cross section. If you have a cake and you cut the cake in half, you can look at one side and see the different layers in the cake or marbling or whatever. So, we are looking at one side, a cut cross section of the infiltration system. Here is the pipe here, there is various other components of the infiltration system in terms of how they back filled around the pipe. In this area here is a clay barrier back fill that was put in for the purpose of preventing water with higher iron and mineralization that is located to the land side of the system, prevent that water with poor quality from entering the system and providing water quality issues.

Down here you have what is known as the top of bed rock or till. These are rock units or peologic units that generally don't produce very much water. They are generally considered a barrier to ground water flow. So, down here, you have some ground water but you are not able... it is not part of the aquifer that your system is in. Within this zone here and extending out under the river is the aquifer that the system is producing water from, mostly sand, some gravel associated with it. And, so this is the area that allows water from the Hudson River infiltrate and then move through the ground to the pipe here, at what point it is pumped out of the ground by the pumping system.

Right along the shore here there exists a timber pile, bulkhead that was installed many, many, many years ago to prevent erosion and to maintain the channel width. So, this is a general overview of what the ground water infiltration system looks like.

Now, there are a number of different factors that can come into play in determining how much water a system like this can produce. I want to give a brief discussion and description of what these different factors are and then I will let you know how we went about evaluating these.

One of the first factors is the horizontal hydraulic conductivity of the aquifer. Hydraulic conductivity is a technical term for how easy the soil allows water to move through it. What the permeability is of the soil. If you have a clay, you don't get water through it very well and very low hydraulic conductivity. If you have good coarse sand and gravel, a very high hydraulic conductivity. So, it measures the ease at which water moves through the ground. We looked at both the ability of... in the aquifer to move water horizontally in this direction and also vertically from the river down into the aquifer. Both of these can be... come into play as you might imagine, if the permeability of the hydraulic conductivity is low you are not going to be able to get as much water to your pipe system as if you have a high hydraulic conductivity.

Another component that we were looking at is the river siltation that Bruce Secor mentioned. Basically, this system depends on the recharge of water from the river into the aquifer that then allows it to move to the pipe. If you build up a layer of silt on the river bottom that silt is fine grain material, it is clays and it has a low hydraulic conductivity and as such, it can act as a barrier to the recharge of water from the river to the aquifer.

Another component that we took a look at is the elevation of the top of this bed rock till interface with the aquifer. One aspect of looking at ground water flow through an aquifer is how much of a cross section area does the water flow through. You might think of it a little bit in terms of how big a pipe can the water flow through. Obviously, if you have a small pipe, you can't get as much water through as if you have a big pipe. Well, the bed rock is not

at the same elevation every where around the system and as the bed rock comes closer to the ground surface, the dimensions of the pipe reduce, are shrunk and, as such, the amount of water that you can pass through the aquifer declines. Now, the bed rock isn't moving but we don't know for sure where the bed rock is everywhere out there so what we want to do is look at how much of a roll is that bedrock play in potentially reducing the flow to the system.

Another component that plays a roll is what the river wall level is. Basically to get water to flow from the river to the system in the ground, you set up a slop to the water. It is known as the hydraulic gradient but basically it is how steep is the slope from where it is starting to where it is ending up. As you might imagine, the slope that you can have when the water is at low level is less than when it is at high level or at high level it is a steeper hill and the water is going to move faster or more readily towards the collection system, towards the infiltration system.

The last main item that we looked at was the presence of the timber pile bulk head. There is a little bit of information available on that but it is possible that this timber pile bulkhead acts as a barrier to flow such that the water from the river can only flow to the pipe by going down... going down underneath the bulkhead. On the other hand if the bulkhead is somewhat permeable to water, then it may not provide a very great, very significant reduction to flow from the river to the pipe.

So, these were the main factors that we looked at and in order to do our evaluation, we developed a ground water model, a computer model, that provided a representation of this system. With the computer model we were able to go out and change these various factors in the model and look at how the system responds. If we reduce the hydraulic conductivity we take a look and we find that the flow coming out of the system also declines. And, so by working with the model trying the different... different range of values for these different factors and then comparing the results to what we have seen in the pumping systems and what we have seen in terms of the flow rate out of the system, and in terms of the water level in the system, we were able to develop an understanding of what are the limiting factors to the system.

We did that and we came up with a number of different results. To start with the... probably the most significant factor in limiting the flow of water from the river to the infiltration system is the presence of silt on the bottom of the river. What I have here is a graph showing the estimated trench yield and this is estimated because it was based on... it was done with the computer model but the estimated trench yield versus the water level in the trench system. So, if you start at a minus 6 elevation of water in the trench without silt you are getting somewhere up on the order of about 1200 gallons a minute from the system. As you drop the water level in the trench further, your rate of flow in the system increases such that at roughly 20 feet elevation, pumping elevation in the system, you are getting up on the order of 2500 and 3000 gallons per minute out of the system. This is without silt. If you add silt into the equation, this is silt on the river bottom, at the lower level you reduce the decline but you also notice that as you get up around minus 10 foot elevation you can drop the water level a lot lower in the system and you don't really get much more water. This basically tells us that the silt is playing a very major roll in the ability of the system to produce what it was expected to produce.

Now, by itself, although the silt is playing a major roll some of the other factors are also... to some extent exacerbating the problems that are caused by the silt. The... a very significant component in exacerbating the problem is the limited thickness of the aquifer. The elevation of the bottom of the trench is about minus 22 feet, the water level even under high water level is about 6 feet mean sea levels so you got about 28 feet of saturated thickness. Not a lot of thickness for water to flow through and as you start to drop the water levels in the aquifer when you pump the system, you decrease the amount of saturated thickness in the amount of trunk areas that the water can flow through. This is from our computer model. This

is the river surface and the river bottom, this is the timber pile bulk head, right down here is the infiltration trench, this is the bottom of the aquifer, the bedrock and till. This line right here represents the water table. In other words, if you dug a hole down in the ground, you would have to dig down this deep before you encounter water when the system is pumping. When the system is not pumping, the water level basically should be about where the river level is but when the system is pumping you draw that water level down. In this aquifer as you do that, the thickness that the water can flow through declines. You can imagine that if you have about 28 feet of thickness of aquifer, if you drop the water level by 10 feet, you reduce your volume of the area that the water can flow through by almost $1/3$. So, that plays a roll in exacerbating the problems of the pumping system and of the silt.

The timber pile bulk head does appear, based upon what we know about it, to be playing a roll in exacerbating the problem in that it prevents water from flowing through this section of the aquifer. I don't think it totally prevents it. It is a little hard to tell from what information we have just how... how low a permeability, how low the hydraulic conductivity of the bulk head is but it seems to restrict the flow so that a larger percentage of it comes down under the bulk head as opposed to trying to go through it. The river level... the river water level will play a roll. Obviously, you might get when the water level is dropped at low tide, you do not have as much of a slope for the water to flow on and so if you already had some limitations due to the siltation, decreasing that slope further decreases your ability to get water from the system. A number of these components are exacerbating the problem.

There is another thing that seems to be occurring that is further limiting the flow and further exacerbating the silt problem and that is that when you are pumping at a low... when the water level in the trench is down very low close to the pipe, you end up developing what is known as an unsaturated zone. A zone where there is no ground water, in other words, you dug a hole through the bottom of the river you would not find water right under the river close to the shore and somebody driven points with an observation point that Bruce Secor has put in has demonstrated that this is an unsaturated zone under the river. Without getting very technical, there has been a fair amount of work in the studies that demonstrated that while it may be hard for water to move from the river through the silt into the aquifer, it is even harder for it to move into the aquifer when there is this unsaturated zone here. So, this unsaturated zone basically creates an additional barrier to getting water into the aquifer that can then be supplied to the system.

So, siltation is a major problem, probably the major cause of the reduced yield but there are other factors other limitations, given the nature of the thickness of the aquifer, the hydraulic conductivity of the aquifer, the presence of the bulk head and this creates some of the unsaturated zone which exacerbates the problems.

In looking at the system, our estimate of the potential yield of the system, with siltation present is it is basically on the order of about 1,000 to 1,500 gallons per minute or on the order of 1.4 to 2.2 million gallons per day. That's with the silt built up to the maximum level that has been observed to date. Without the silt, our... our evaluation suggests that the system might be capable of yielding 2,500 to 3,000 gallons per minute which is about 3.6 to 4.3 million gallons per day.

The big question between... in terms of the differences between those 2 numbers is how much silt is going to be present and how much silt can be... presence of silt can be minimized. Obviously, if there is a lot of silt there, you are not going to get up to the higher level. If there is some way to keep the silt off or to very minimize, you are going to be able to climb up to a higher level.

We indicated that we would provide some recommendations to the Board and the first 2 recommendations that we identified are really in relation to how can you optimize the existing systems. And, these are, again, taking the system as it currently is and trying to work with it to provide the most cost effective system and get the most

water for the dollar out there. One of them is to take a look at optimizing what kind of pumping level works best for the system. As we... as I showed you, in this earlier graph, there is a point at which it is likely that you can pump even harder and you don't get very much more water and so, cost wise it doesn't make sense to try to pump real hard if you are not going to get a lot of water and you might sometimes be better off operating at a... pumping a little... not quite as hard but getting very close to the same amount of water. Now, this is... I might point out, this is a model and you need to do some testing of the system to identify for that particular system just what that optimal pumping rate is at what point do you get a lot more draw down without a lot more water.

A second component of trying to optimize the existing system is to look at the siltation issue and there is 2 components to that. One is how often is that resiltation going to occur. Is this something that is going to occur when you have a very major flood event and then it is going to take a little time for that to clear out and then it is gone or are you going to get continued siltation at certain times of the year for decades to come. The frequency at which resiltation occurs will identify whether it is feasible to look at doing dredging periodically to maintain the system or whether you would be out dredging every week or something like that at which point, it... cost wise, it probably isn't worth doing something like that. So, there ought to be some evaluation of how often this resiltation is going to occur and whether you can do something to minimize the presence of silt in a cost effective way..

The last recommendation relates more towards looking at the detailed design and construction of the system. We did not look in detail at the design and construction of the system to determine whether there were some deficiencies in the design or construction or is it such that you could fix the system and improve the flow or that there would be a potential for recouping or going back to the designers and the construction firms and getting them to address some of the issues. We have not looked at that but it is something that we would recommend be done so that the Board could better evaluate their next step.

That basically concludes our presentation and I think if the Board has some questions, I would be glad to answer them.

SUPERVISOR FULLER: Ted, go ahead.

MR. PUTNEY: Would you please address your recommendations, 1. to...

SUPERVISOR FULLER: You have to lift the microphone up I am afraid.

MR. PUTNEY: Would you please address your recommendations, 1. and 2. in terms of the amount of time and/or the amount of expense that could be involved in having those recommendations undertaken, please.

MR. SWENSON: Okay. Number 1. the amount of time you would need for that is... you are probably looking at maybe a month. Its mostly what could be done by the Town itself. We would provide the guidelines in doing some testing of the system, pumping rates, things to monitor, and then we will provide assistance in terms of evaluating the data but...

MR. PUTNEY: Has any of this been done at all in the past in terms of endeavoring to find the optimum performance level, Bruce?

MR. SECOR: Yes, we have been trying to monitor the draw down but we have been putting the reports in.

MR. PUTNEY: Okay, thank you.

MR. SWENSON: Some of that may be available and it is a matter of basically looking at what is the flow at what pumping rate and plotting the data. When your pumping rate starts to not give you a lot more increased flow, that is telling you that you are probably getting to the optimization end. The other component you need to look at is what are the water levels under the river and they will tie together but if you want to try to keep the saturation ... of the

water in the aquifer in contact with the river bottom. Again, that's probably fairly low cost. We probably have to define the scope to make sure we understand just what has been done but you are talking basically low cost and most of it being done by the Town.

The second one, evaluation of resiltation, you probably are looking at a somewhat series of steps. And, you get a variety of points along that you might get the answer you need. This... likely a fair amount of background information on river flows and silt loads in the Hudson River. It is a pretty prominent river here. And, that information is going to provide some guidance as to how much silt is typically flowing in the river and how excessive has it been in the recent past when we have identified these problems. Associated with that is the issue of looking at doing dredging and evaluating how fast does the silt come back. And, you may have to look at it for the course of the year if you were going to do this because during the summer months when you have low flow, the river is not carrying as much silt, it may not be silt, you may find that for certain months of the year you don't have as much of a problem.

SUPERVISOR FULLER: Let me ask you a question. If we did not have the flood in January, am I hearing that we are not going to see the 6 million gallons that this community was told they would have?

MR. SWENSON: Based on our evaluation, the information we have seen on the system, without the silt on the bottom, it does not look like the system will produce the 6 million gallons.

MR. JOHNSON: Tony, could you explain number 3, the amount of time and effort that you feel that that would take.

MR. SWENSON: Number 3, probably looking at something on the order of 2, 3, 4 months, depending on how long it takes to get the various pieces of information we need to look at and just how much information there is out there in terms of design documents and notes, etc.

MR. JOHNSON: You have a ball park figure, what something like that would cost?

MR. SWENSON: It is a little hard to tell without knowing fully what all the documents are. If it is 2 documents, it's a lot less than if it is 200. So, it is a little hard to tell what that would be and I think that if we sat down with the Town and found out what documents would be available we could certainly provide an estimate on that.

SUPERVISOR FULLER: It's the recommendations 1, 2 and 3 are not necessarily the order in which we need to proceed either, I guess, is my opinion.

MRS. DAVIS: Right.

MR. SWENSON: We don't have them in terms of hierarchical. It is more as... as technical people we think of working with a system first and then we think of the issue of the... let's look back at the design. These have only... we put them down without any hierarchical order but these are the top 3 and just to differentiate them, I gave numbers to them.

SUPERVISOR FULLER: Okay, thank you.

MRS. DAVIS: You include in your report several options that the Town might have as corrective measures and 2 of them include removing the clay barrier on the west side with some additional action. I assume, not being an engineer, I assume that the clay barrier was included for some very good reasons. Can you explain what the down side then of removing the clay barrier that was put there for some engineering purposes to begin with would be?

MR. SWENSON: The clay barrier was installed to prevent water from the land side of the infiltration system which has high iron and mineral content from entering the system and resulting with water that was a poor quality, high iron and so forth and so obviously, while removing the barrier is going to give you more flow, there are water quality issues that would need to be addressed before one goes

out and does it. One would need to sit down and decide whether this is possible, whether you can treat for the system or whether you could... one of the options was, basically, infiltrate river water on the land side of the system such that you are getting basically river water from 2 sides. And, that might be a way of avoiding some of the quality issues that the barrier was put up to address in the first place. Again, this is directed at how might you get more flow. There are a lot of issues that one would need to address before one went out and implemented any of these things.

MRS. DAVIS: The timber bulkheading that you referred to which has been there, I assume cannot be removed. I mean, this is an integral part of the whole river system.

MR. SWENSON: I would have to check with the Corps of Engineers...

MRS. DAVIS: That is what I mean.

MR. SWENSON: My guess is that...

MRS. DAVIS: We don't have any choice there, I don't think.

MR. SWENSON: I could not say whether there is an option. My guess is that they like it there, whether there is some options we would have to investigate with them in terms of whether you can remove it or put in something different.

MR. LENHARDT: On that timber bulkhead, do you have an estimate of the dimensions both laterally and horizontally?

MR. SWENSON: The only thing I know is the dimensions based on the drawings here which basically show it... I believe it is on the order of 10 feet or so in width extending from the river back. The pile of the ... extends to an elevation of about minus 20 feet. But, that... and I understand that there was some excavation done up at the ... and they found a lot of backfill and clay material up near the top. Beyond that, I do not know. I have not looked into that. I just worked from what I have seen in the reports and this document.

MR. PUTNEY: Much of what you have done is based on modeling, could you give us an idea, please, of how accurate you feel the model is relative to reality and is it something that has a very high probability of being correct or questionable or how would you describe it, please?

MR. SWENSON: Well, modeling... I don't know if you have ever heard the term gig-open -- garbage in-garbage out. The whole purpose of doing models is to try to provide an accurate representation with the available information. Now, we have a certain... a fair amount of information on the system. We feel that this is a reasonable estimation. I am not going to say you know plus or minus 20 percent in terms of flows, there is probably about where you are, given what we know about the system. One of the things we did to try to make sure that we were providing a reasonable representation is to do... what we know, calibrate the model where we know what pumping well levels we have in the trench, and what flow rates we have and we checked our model so that when we had minus 6 feet elevation in the trench, the following... without silt, that we were getting 1200 gallons a minute out of the trench. So, we did some calibration of the model to sight data. In terms of being right on the money, you know it is not going to be that. It is going to provide a good representation. It's I feel comfortable in saying that based on the model, you are not going to get the 6 out of the system given what we know about it.

MR. PUTNEY: Plus or minus 20 percent seems to be...

MR. SWENSON: There is some flexibility. I am not going to hold myself to any particular number because it is not that...

MR. PUTNEY: I understand.

MR. SWENSON: We just don't know enough about the system. That is where the limitations are. If we knew all the details of the system

334

down to the nearest foot, we could model that and be very precise but the limitations are we don't know everything about it.

MR. PUTNEY: Thank you.

MRS. DAVIS: Has your firm every constructed a system similar to this?

MR. SWENSON: Not just like this. This is rather unique in the presence of the clay barrier. That is the most unique thing. We have done a lot of wells for water supply systems. We have done collection trenches to collect ground water similar to this. In terms of actually tying it in and putting a clay barrier, getting close to the river, not precisely like this but this is within the purview of the type of stuff we do.

MRS. DAVIS: Have your systems been on a tidal river?

MR. SWENSON: I don't think we have done any infiltration drain or trench like this on a tidal river. We have done wells on a tidal river which to a large extent pumped in very similarly in terms of the hydraulics of the flow of ground water. But, I don't believe we have done a trench along the river... tidal river.

MRS. DAVIS: This may be an unfair question, would you have designed this system in that way?

MR. SWENSON: I have not looked at the detailed design calculations that were done to know whether there's things I wouldn't have done or would have done in a similar situation.

MRS. DAVIS: I said it was an unfair question.

MR. SWENSON: Yes. I think that the concept of a trench along a river like this is a very reasonable thing to consider, especially given the limited saturated thickness of your aquifer but beyond that I would have to look at the details to figure out just this sort of design would we have done it or would we have done something different.

MRS. DAVIS: Thank you.

SUPERVISOR FULLER: Part of the recommendations that you have mentioned certainly have dollar amounts with them, not only dollars for your services or whoever services we continue with or find someone new, whatever, is additional dollars. I think I am going to hold the rest of my comments until later on because I think the community is anxious to have some questions answered. Ted.

MR. PUTNEY: Ya, one more please. You indicated at one point that it was a 28 foot distance between the red dot which is the pipe and something up there and you indicated that it was rather short and I was wondering if that was intended to give criticism of the system or...

MR. SWENSON: No, not a criticism as much as a limitation. When one designs a ground water supply system, one must have 1,000 feet of gravel that is all saturated. You can get tons of water, you don't have to worry about drawing the water level down and making for a thinner aquifer. And, so really, it is a limitation of the area and the intent of using a drain... a drain is better able to adapt to this thin aquifer than a vertical well is. It doesn't mean you can't use a vertical well but drain is better able to adapt to this thin situation. More of a limitation of the aquifer than any criticism.

MR. PUTNEY: Thank you.

MR. JOHNSON: Tony, can this aquifer be engineered to produce 6 million?

MR. SWENSON: With this drain the way it currently sits, if you were getting even just 1,000 gallons per 1,000 feet of trench, you could add enough linear feet of trench, one can get the amount of water you want, yes. I think your only limitation is how much area you have to work in and, I haven't looked at that.

MR. JOHNSON: Thank you.

SUPERVISOR FULLER: The issue with this water is quantity and has not been quality. Are some of these recommendations that you are speaking about, now changing it into a quality issue?

MR. SWENSON: With the...

SUPERVISOR FULLER: Such as removing the clay barrier for example.

MR. SWENSON: If you get into our recommendations that go into where you might get more water from, I think one needs to always make sure one looks at the quality issue because 1. it is known that this iron problem is out in the aquifer and then you need to balance... for example, you can put in... may be able to put in a well and mix that water with this and not have a significant water quality problem. But, you need to pay attention to the quality issues when you go and look at getting a new supply from this area or from some other area.

SUPERVISOR FULLER: Any other questions? Okay. If you would please come to the microphone.

MRS. CAPONE: Last week...

SUPERVISOR FULLER: Can I interrupt for one second? You are free to come up to the microphone, ask your questions, your comments, whatever it is an open meeting. I just ask that we give everybody a chance to speak. Can you hear me in the back of the room?

AUDIENCE: No.

SUPERVISOR FULLER: Okay. What I just asked is everyone is welcome to come up and ask their questions, we need to have you hear using the mikes since these minutes are part of our meeting and you are recorded on our minutes, so please come to the microphone, identify yourself, ask your questions.

MRS. CAPONE: Last week in the Spotlight, it said that citizen of the community have called this engineering firm to discuss this. I think the people who originated the call should be charged for it, not the Town and it should apply to attorneys too. If people are going to call, engineering firms or attorney, they should pay for it. I think that we should keep in mind that Mr. Kelleher, Sherwood and Bruce are 3 engineers that when Mr. Kelleher and Sherwood graduated engineering school, Bruce was not born.

MR. DAVIES: Thank you, Marie. Good evening. I have some 6 questions for Mr. Geiss but prior to asking those questions I do have a question for Mr. Secor. I think I heard Mr. Secor say that in the silt samples, no pcb's were found. Could you clarify what you mean by no pcb's.

MR. SECOR: Well, you have copies of the results. We have sent them to an independent lab. We got results back that said they found no pcb's. It's that simple.

MR. DAVIES: Is that what the lab said?

MR. SECOR: That's what the lab said.

MR. DAVIES: Could I... I think it is... this is extremely important on the water quality issue, the 2 ratio and I would like to address that for just a moment.

Of the 4 lab results on the 4 silt samples, the pcb's were reported as less than 1,000 parts per million. It did not say no pcb's. The 1,000 parts per million limit is the point where you should either dispose of it in a restricted area or you might dispose of it in an unrestricted area. So, I think this is extremely important to correct a comment -- no pcb's. I would further add that you should carefully look at the pesticides, DDT, deoldran and lindane. If you look at that, you will find that the lab did not make the analysis at a limit sensitive enough to meet the dredging requirements.

My questions, Mr. Geiss, you mentioned that the clay barrier from review of the report was to prevent the iron from... the ... and iron from entering the infiltration gallery, is this correct?

MR. SWENSON: Just so Mr. Geiss doesn't get into trouble, my name is Mr. Swenson.

MR. DAVIES: I am sorry, Mr. Swenson.

SUPERVISOR FULLER: I was going to correct you as soon as he finished.

MR. SWENSON: My understanding is from 3 of the reports and talking to the Town is that the principal focus of the clay barrier was to prevent the water from the land side of the system to get into the system because of the water quality issues.

MR. DAVIES: Could you project any views or would you be looking at this because the concentration of iron has not been reduced, essentially, in the operation of the trench? It is in the range of 5-10 parts per million.

MR. SECOR: That is not correct. Sherwood, you have the multiple lab reports, you know that's not correct. When we started off, we were 13... 12-13 parts per million. The average results from the laboratories, right now for the well water is 3 to 5 parts. It has gone down by two-thirds. That is absolutely an incorrect statement. You keep making it and you can't prove that there are some.

MR. DAVIES: Well, let me... let me ask a question of O'Brien and Gere. If the Hudson River water is less than 1/2 a part per million in iron, why are we finding, Mr. Secor's concentrations of 3 to 5 parts per million of iron?

MR. SWENSON: We have not taken a look at the water quality of the current system. We looked at the yield, the water volume, the water coming out of the system. That was a focus of our evaluation.

MR. DAVIES: Would this be something that would be worth looking at?

MR. SWENSON: My understanding right now is that the water quality meets the levels that the Town is interested in getting. I don't think that... I think it would be up to them to decide whether that is something that needs to be further looked at.

MR. DAVIES: All right. All right. The questions are was the siltation due to the January 1996 flood? You didn't comment on that in your report.

MR. SWENSON: Yes. We did not look at the cause of the siltation, we were focusing on is the siltation a major cause in the reduction of flow from the system. We have not looked at what the source of that siltation was and that was one of the recommendations we would get into... was that a 100 year flood or is that something that might happen every year when you get heavy run off.

MR. DAVIES: But, if you're addressing the resiltation then, you are addressing it on the basis of not another flood similar to the January 1996 flood. Is this correct?

MR. SWENSON: The recommendation would be to take a look at the issue of how often might resiltation occur. And, that would probably address whether it occurs once every year, hundred years, 50 years.

MR. DAVIES: Your figure 1. that you had on the screen there, plots the well yield versus draw down showing siltation and no siltation. What data and assumptions were used there?

MR. SWENSON: What we did is, we made use of the data that is in the various reports. I indicated, I think, in our table 1 in our report the rain and hydraulic conductivity, the bed rock elevation, a variety of the input parameters. We went through a series of test runs to best match the performance of our computer model with the existing system and we found that when we got to the point of having a good match, we then did things -- in this case, of adding siltation

versus no siltation and looking at the potential response of the system given those 2 factors. That's what is shown here.

MR. DAVIES: Well, the line there on siltation is it conceivable that you had an unsaturated zone in the aquifer when you showed that result on siltation?

MR. SWENSON: Yes. One of the things we did factor in to this line was the development of some unsaturated zone.

MR. DAVIES: Okay.

MR. SWENSON: The... without some unsaturated zone you still get basically the same line but this is a slight variation in the end amount not... on the order of a couple hundred gallons per minute, not a real significant change.

MR. DAVIES: You refer to the unsaturated zone in the aquifer, could that be to over pumping of the well?

MR. SWENSON: Our evaluation suggests that the pumping of the well combined with the siltation, the limited saturated thickness result in that draw down of the water table extending out under the river. So, just over pumping the well will not create that unsaturated zone, you have to have this silt layer to basically reduce the infiltration that allows the unsaturated zone to profligate out there.

MR. DAVIES: But, it would result in what you see there is you did develop the unsaturated zone.

MR. SWENSON: Yes. You create the unsaturated zone, you are going to exacerbate your problems.

MR. DAVIES: Right. The last reference in your list of references refers to a January 1997 Rust report on evaluation on the infiltration system. Could you describe briefly what that report consists of?

MR. SWENSON: My memory of it was that there was some testing, predominantly one of the test that was done and presented in that report was the attempt to remobilize the silt by back flowing the system. In other words, instead of pumping water out of the system, adding water into the system with the intention of trying to remobilize the silt on the river bottom. There were some other aspects of that but I couldn't tell you right now exactly what those were.

MR. DAVIES: The reason, Sheila, I mention... raise the question about this Rust report January 1997. I had specifically requested, made a FOIL request in February and again in May for any reports by Rust and was advised by Mr. Secor that nothing was available. It is obvious that there is something and I just want to bring to the attention of the Board, that I do not feel that we are getting everything we ask for.

My last question, do you have...

SUPERVISOR FULLER: Bruce, did you have... Sherwood was this the same report that you had appealed to me and I did get it for you?

MR. DAVIES: No, this is not...

MR. SECOR: No, and Sherwood is right. What I gave to him was a draft report. I have not received the final report from Rust and I don't have the attachments to go with it and it wasn't a complete thing. I gave him what I had and I will be happy to give you a copy of it. I didn't have a final report, Sherwood, and I responded to your FOIL that I didn't have a report and I still don't have it. So, I will give you what I have. It's just... I hate handing out partial things but I will give you what I've got.

MR. DAVIES: I would appreciate it.

The last question, do you have an estimated time frame for evaluating the design, construction and I had operation of the infiltration gallery?

MR. SWENSON: I think I have indicated that the time frame may extend from anywhere from 2 months to 4 or 5 months depending on how much information is available, how long it takes to get the information. We would want to look at, not only, just the formal reports but if we can get calculations and model that... material from previous consultants. So, there is a range of time frames and it depends on how much we get and how long it takes to get it.

MR. DAVIES: Okay. Those are my questions, Sheila. I do have some comments maybe later on if I can give them to the Board.

SUPERVISOR FULLER: Sure. I would like to give everybody an opportunity to ask their questions.

MR. KELLEHER: I am Bill Kelleher. Mrs. Capone, when I got home from Bermuda on Monday, my wife asked me.. she got the telephone bill on Tuesday -- she asked me what was that telephone call to Syracuse for. So, I think...

MRS. CAPONE: This is not what I am saying... the time of the interview...

SUPERVISOR FULLER: Mr. Kelleher, would you do me a favor and ask your questions and Mrs. Capone...

MR. KELLEHER: Yes, I am sorry. I am sorry. I have some very important questions to ask. This graph up here, the information that Mr. Secor gave you was for March... the information on pumping rates and draw down was for March, is that correct?

MR. SWENSON: I was provided...

MR. KELLEHER: Just before the dredging.

MR. SWENSON: I was provided with information on pumping yields from the system and water levels for a period time in 1996 and for a period of time in 1997 which included prior to dredging and post dredging.

MR. KELLEHER: Did he give you any information on January and February? That is a very important question.

MR. SWENSON: I would have to go back and look at my notes, I don't recall specifically which months of the year I had.

MR. KELLEHER: All right. It is very important because supposedly Mr. Secor gave us the same information he gave you and I didn't see anything on January and February. It is extremely important to understand why that line just levels right off at 10 feet. Mr. Secor has pointed out that there is an icing problem. Icing that causes a major reduction in the well yield. He has so stated that and I agree with him. This river is subject to 6 foot fluctuation of water level and that ice on the shoreline where it is only 2 feet deep, that ice basically builds up and seals off your infiltration area. And, that is why in March the well yield went down to 50 gallons per minute per foot of draw down. Now, it wasn't that in December when you didn't have any ice and I wanted to know if you had looked at any data in January and February which would indicate that this effect of icing sealing off that infiltration area. Did you? Do you have any... have you considered that at all?

MR. SWENSON: We considered that overall in looking at the data, there does not seem to be a direct correlation between the time of the year and the low yield. Icing, certainly, can be another contributing factor... the variety of other small factors that can play a roll but what we are seeing in the system is low yield at other times of the year besides when there is just ice. So, we didn't feel that that ice was a critical component in the overall functioning of the system throughout the year.

MR. KELLEHER: If the ice... I am not talking throughout the year, ice only forms in the wintertime. I am talk... but it is extremely important to recognize that the dredging was started after the ice let out. Mr. Secor said so. Mr. Secor said in his application to DEC, the Corps of Engineers and I believe, to FEMA that the ice compacted the silt layer. Is that correct, Mr. Secor?

MR. SECOR: It was one of the factors we looked at.

MR. KELLEHER: I happen to agree with you. I think the icing caused a very significant decrease in the well yield and if that is the piece of data that you use, that can explain why at 10 feet the draw down... you know, I got the same data that you did. But, I also recognize the fact that there was icing. There is definitely a temperature related affect here and I think it is icing and so does Mr. Secor. And, I believe, so does Rust Infrastructure. I could be wrong.

Now, another point I would like to make here, that siltation is a very misleading term. Look up siltation in the dictionary, you are an engineer, you recognize siltation in the reservoir, that means settling of silt. And, silt is defined as a particle size between sand and clay, correct? It is basically mud. Now, the material that is being filtered out on the sand, are you saying that is silt?

MR. SWENSON: We have not done a grain size analysis. We are using the word siltation basically to represent the fine grain material that is settling on the bottom of the river that is impeding the flow of water from the river to the aquifer.

MR. KELLEHER: What I am saying here is that this is suspended material that's being removed on the filter. You shouldn't classify it as siltation. I think it is an extremely important fact and the way you can prove the difference -- it's very simple -- there were 3 floods 1936, 1948 -- those 2 floods were greater than the flood of '96 -- yet your samples taken in 1992 of borings taken in 1992, show no siltation whatsoever. None whatsoever and these floods were worse but this is only a 40 year flood, so hey, there should be siltation from a 30 year flood if what you are saying is true. What I am saying is it's very misleading. You know what a rapid sand filter is, you are an engineer, you know what a rapid sand filter is now if you have a water treatment plant and you coagulate... if you don't coagulate and settle the water first, how often are you going to have to clean off that filter? You know, remove the material from the filter -- it is going to be quite often, correct? Very often. In fact, you don't do that with a rapid sand filter. Now, what's the difference between this and a rapid sand filter, there is no difference. You had to go in there and dredge it to clean it off. And, you are going to have to do it all the time. You know why? Because take a look at DEC's monitoring reports on the Hudson River directly upstream at the Niagara Mohawk Power station in Glenmont, it isn't very far upstream and what do you find? That the average concentration of iron hydrate, that's suspended material in the Hudson River is 1.6 parts per million. Some of their samples have gone up as high as 8 parts per million of iron hydrate. That is suspended material in the water and you know very well as an engineer what happens, what you have to do with that filter if you are removing iron hydrate on the filter. I am not saying iron hydrates the only thing on that, you are going to find clay, you are going to find silt and most likely find very fine sand. But, that filter has to be cleaned and you're model shows it very well. This is a rapid sand filter, it is not a slow sand... slow sand filters you don't have to clean but you wouldn't have this kind of silt loading or whatever you want to call it, suspended material loadings on a slow sand filter. I never heard of it.

Now, in actuality...

SUPERVISOR FULLER: Mr. Kelleher, may I interrupt for one minute?

MR. KELLEHER: Yes.

SUPERVISOR FULLER: Would you do me a favor and just limit this to questions at this point, not opinions at this point.

MR. KELLEHER: Well, I have to describe the background. Do you consider this to be siltation or filtration? I am asking you the question.

MR. SWENSON: We looked at the issue of whether silt materials... whether fine grain silt on the river bottom are a significant factor in reducing the flow to the system. We did not look at the cause or nature of that fine grain material.

MR. KELLEHER: You missed my question. I say this is... the proper description of this is suspended material filtered from the water, not siltation. I am saying you are misleading people by calling it siltation. I am asking you again, do you consider this to be siltation or filtration?

SUPERVISOR FULLER: I am going to the next person for questions. It is only fair, everyone get to ask their questions, please.

MR. KELLEHER: Okay. All right. Well, all right. I have another question. Obviously, you have not looked at the concentration of iron in the Hudson River.

MR. SWENSON: We have not looked at the water quality.

MR. KELLEHER: You haven't looked at the concentration of iron in the silts on the bottom of the Hudson River either, have you? There are reports available, but you have not looked at them.

MR. SWENSON: We did not deal with that part of it.

MR. KELLEHER: Did you know that its... that the source of iron is coming from the river itself? And, that clay wall barrier is useless. Did you know that?

MR. SWENSON: We have not looked at water quality issues except that we considered whether it is possible for precipitation of minerals within the aquifer could be causing reduction in the flow.

MR. KELLEHER: Well, iron hydroxide or iron hydrate is a mineral material...

AUDIENCE: It is not a question.

MR. KELLEHER: Is a mineral material, correct? Did you look at the precipitation of iron hydroxide or iron hydrate in the aquifer immediately adjacent to the well?

MR. SWENSON: We took a look at the system in terms of precipitation potentially reducing the flow because the system does not show an overall decline without... I mean, basically, when you go in and dredge, the flow rates go up, we could... at this time precipitation within the aquifer or at the trench system itself is not a significant factor in the performance at this time.

MR. KELLEHER: At this time?

MR. SWENSON: Over the course of 100 years...

MR. KELLEHER: How about the future?

MR. SWENSON: ...it could be a different issue. What we are looking at is the current functioning of the system and the data does not suggest that that is playing a significant roll.

MR. KELLEHER: I have another question, have you looked at the USGS data on the datums... on the elevation of Hudson River at Albany?

MR. SWENSON: We are familiar with the fluctuations of the water levels in the Hudson River.

MR. KELLEHER: Have you looked at it during the period when it was being dredged? Did you consider that in getting your draw down? That is what I am asking you.

MR. SWENSON: We did not consider the fluctuations at a specific time. We are looking at the long term potential performance of the system with respect to current conditions. Water levels go up and down daily. At low water levels you are going to get less water. At high water levels you are going to get higher water levels... higher flow rates.

MR. KELLEHER: But, you could average it over the day but you can get that information and you can factor it into your study. You can easily get that information. That is all I am saying. Thank you.

MR. SWENSON: We factored the water levels in both average and high flows when we did our evaluations.

SUPERVISOR FULLER: Thank you, Mr. Kelleher.

MR. GLAZER: Hi, my name is Joseph Glazer. I am an attorney here, live in Delmar. I know that there was probably a substantial amount of information... substantial amount of information provided to you as far as background in reference to the set up, how this was intended to work, all of those kinds of things you are talking about, conclusions as far as how much water would ultimately be available. Let me ask you if you have ever seen a report entitled, The Schermerhorn Island Ground Water Infiltration System Design? It is a September 15, 1992 report, it was done by Dunn Geoscience.

MR. SWENSON: Yes, I believe that's one of the ones that we have referenced in our report.

MR. GLAZER: Okay. There are a couple of questions going back to that report which were subsequently raised in a February 27, 1995 petition to DEC and also forwarded onto the State Department of Health regarding some issues that were raised. You had mentioned in relation to this chart, in particular, that the limits of a 1,000 foot trench configured this way was somewhere in the are of 3.6 to 4.3 million gallons per day. Is that basically what you said was the maximum that ultimate operating could be drawn through the trench?

MR. SWENSON: Our evaluation based on the information we reviewed suggested that is what this system could produce without the silt.

MR. GLAZER: Okay and that is with a 1,000 foot trench?

MR. SWENSON: No, I believe the trench is about 950 feet long, not exactly 1,000 feet. That's... 950 feet is the length and I understood it to be approximately and that's what we used in our testing.

MR. GLAZER: Are you aware that in 1992 it was recommended that to reach 6 million gallons per day, the trench length would have to be 1500 feet?

MR. SWENSON: We did not take a look at past design issues. We looked at the current system. We read the reports but we focused on selecting information from those reports that we could factor into our model and that specifically... the input data on hydraulic conductivity, aqua thickness, etc.

MR. GLAZER: Well, to follow-up on a question I guess that came from Mr. Putney originally, and this may be again asking you more specifics than you probably can address all in one question and with the knowledge that you have gotten so far, but is it safe to say that increasing the length of this trench by 50 percent would go a long way towards meeting that 6 million gallons per day goal?

MR. SWENSON: A longer trench will produce more water in most circumstances. Before you did something like that you would need to make sure you addressed issues like water quality, like interference with the existing system... existing section of trench and so forth. But, very generally, the longer the trench, the more water you can get out of the system.

MR. GLAZER: Okay. Also in that report there was discussion of the rubble silt fill within the bulkhead blocking the flow of water

through the bulkhead and it is stated that the effect of that would be diminished draw capacity below the 6 million gallons per day. Did I hear you say that that is consistent with what you were finding in your research?

MR. SWENSON: We took a look at the affect of the timber pile bulkhead and found that as you do vary the ability of the water to move through that bulkhead, if the water is impeded you will get reduced flow. It is not a very significant quantity and you don't see the wide fluctuations that you see with the silt. But, it does play a roll in how much water you can get from the system.

MR. GLAZER: Okay. The Schermerhorn Island report concluded that the maximum sustainable constant pumping rate is estimated to be 4 to 4 3/4 million gallons per day. Is that consistent with the findings that you have in relation to the studying that you have done so far?

MR. SWENSON: I have not compared our findings to the method of evaluation that they used. The numbers are similar but I do not... did not sit down and look whether they would have been the same kind of evaluation for the same kind of system.

MR. GLAZER: That's... that's understandable but basically you are drawing... the work that you have done has gotten you in the same ballpark of 4 to 4 3/4 million gallons per day as optimal draw.

MR. SWENSON: With the existing system, without the silt, we are estimating up on the order of 2.6 to 4.3 million gallons per day, could potentially be possible from this system.

MR. GLAZER: Is there anything that you found in your study here that was so shocking, so new, so previously undiscoverable that the situation would have changed this greatly between 1992 and today? I mean is there anything that you can point to that you could say is an unanticipated cause of the 4 to 4 3/4 million gallon maximum draw?

MR. SWENSON: We did not try to address that question. We looked at this is the system, what can we do with it. What can you get out of it. We did not try to look back at was there something that people should have thought about or is it basically, did they basically do a good job.

MR. GLAZER: Yes.

COUNCILMAN PUTNEY: Mr. Duclos, what was...

MR. GLAZER: Mr. Duclos...

MR. PUTNEY: Mr. Glazer, excuse me.

MR. GLAZER: A little lighter and little less bearded.

MR. PUTNEY: Sorry.

MR. GLAZER: That's all right.

MR. PUTNEY: What report were you referring to, please?

MR. GLAZER: This is all in the Schermerhorn Island report from September 15, of 1992 done by Dunn Geoscience. My question is really towards your professional opinion, you have said this is a unique system you have never built one like this but obviously you have the expertise to go back and review it because you have done that and I think you have done it admirably well. I think that the conclusions that you have come up with are consistent with the conclusions that Mr. Davies and Mr. Kelleher and other engineers who have looked at this have come up with as well. No matter when gravity was invented, no matter when water was invented, the science really hasn't changed that much and my point is, is there anything that you found in going through this that would be completely unexpected in creating an aquifer based system like this?

MR. SWENSON: I don't think I can really answer that because I think it would be unfair to characterize what might have been known in the

past without looking at that as a specific focus of our investigation. Certainly, the design of systems and shallow aquifers along rivers is not brand new. This is a system... we have not built something just like this. We have some similar types of systems but I think it would be unfair at this point without detailed looking at the basis by which people designed it to try to characterize whether there was something new or unexpected.

MR. GLAZER: Okay, thank you very much.

MR. DRAZEN: Good afternoon. I am Don Drazen. I am a resident of Delmar. My first point I would like to direct to the Town Board. I have a day job so I really can't spend a lot of time looking at these things. In the past I have been able to go to the Town Library and get copies of the various reports and it has been very, very helpful to me. I attempted to go and contact the Library today to find out about the availability of reviewing this report before this meeting tonight. This report is essentially not available to the average citizen to go down and pick up at the Library in order to prepare for a meeting such as this.

SUPERVISOR FULLER: It will be and I have to tell you I gave it to Mr. Davies yesterday afternoon and the Town Board received it, I believe, yesterday afternoon... the day before. I don't even remember when it was sent out.

MR. SWENSON: We sent you a fax copy.

SUPERVISOR FULLER: The Times Union and Spotlight I did give it to, just so we could get the news out front. I am sorry I never even considered having individual reports made up. So, I will take full blame for that.

MR. DRAZEN: Well, it is just more of a case. If there is a copy at the Town Library, it is open. I can tell you I have gone through most of the documents. The Schermerhorn Island report that everybody is referring to, I remember talking about that in the December meeting whatever year it was with Supervisor Ringler.

My first question and, you will have to excuse me I am a little bit disorganized here, you mentioned in the... couple questions ago, the unsaturated zone under the river was due to pumping and siltation. Do you believe that if there was not siltation, we would not have the unsaturated zone... the unsaturated zone under the river?

MR. SWENSON: That's correct. What happens and I should show you here. If there was no siltation on the bottom of the river, the water can easily enter from the river to the aquifer and you are not able to pump hard enough to draw the water level down below the river because the water just provides whatever you need.

MR. DRAZEN: So, you feel there is sufficient porosity and permeability in the river bottom if it was not... if there was not the siltation issue.

MR. SWENSON: The aquifer itself is permeable enough that the water would go in and not create unsaturated zones. If you create a barrier to that flow entering the aquifer, that's when you create the opportunity to develop unsaturated zones.

MR. DRAZEN: Okay. You also mentioned and Mr. Secor also discussed there is several points placed by the Town. Has... Mr. Secor, this question is essentially to you... have you gone and done any pump testing to determine what the maximum yield would be and have you tried cycling the wells in order to try to increase the yields?

MR. SECOR: Yes. When we first calibrated everything, we actually had continuous recorders in the various points and that was the work done by Rust which we turned over to this consultant. And, we did. The problem is, what actually happened, we have shown here. You try to pump harder, you actually get less water.

MR. DRAZEN: No, I appreciate that and that is why I am wondering if you have looked at the yields through time so maybe if you run it at

a lower rate 24 hours a day as opposed to pumping it harder during the 12 hour shifts, something along those lines -- if you would be able to go and maximize the yield and work off the raw water storage.

MR. SECOR: No, again, the way to work these wells is to pump long and steady. I mean, you shouldn't be fluctuating. What we were seeing before the silt layer, we would see the tidal fluctuation in the well or in the infiltration system, so if the tide went up 5 feet, the wells would recover a couple feet. And, then when the tide went back out, the wells would go back down. So, you would see in the graphs that are generated by the computer and I don't have them for every day, every hour but the ones we did generate, you see this. As the silt layer came in and the flow path got longer, then the effect of the tidal variation is lost in the wells and the wells basically stayed at draw down level and just hang there.

MR. DRAZEN: So, you are pumping at a constant yield.

MR. SECOR: Pumping at a constant rate.

MR. DRAZEN: All right. Some places don't do that.

MR. SECOR: Again, we basically have 2 customers so what happens is we will pump at a constant rate and for example, this spring, Cogen shut down for 2 weeks for a planned outage. We have a take or pay contract with them so, they are paying us whether they take the water or now but we got no place to put the water, so we shut the wells off and then wait. So, some of the pumpage you will see will go along for a while and then will be off or we have had 4 power outages in the month of June from Niagara Mohawk, my friends and you know, some of it was beyond their control -- cars hitting poles or whatever -- but we drop the wells off and then we have to restart them.

MR. DRAZEN: And, also, how do you determine the water levels in the trenches? Is this through those well points?

MR. SECOR: The normal measure... there is a depth indicator and each of the operating wells and that's what brought back to us on a computer system. During the pumping test, we had monitors out there but normal activity is to go out with an M-scope or just a instrument with a bell wire and when it hits the water it buzzes and you measure the length of the wire but you take periodic readings. But, during a natural pump down test, in order to get better information, they have a number of well points monitored plus the trench plus they also had a river gauge so you could tie the river fluctuations into the wells.

MR. DRAZEN: So, currently there are not continuously recording meters on these well points?

MR. SECOR: No, no.

MR. DRAZEN: As being monitoring wells.

MR. SECOR: In each of the pumping wells, there is... we have 1 that is broken but the other 3 are working. It is one continuous trench, you know, the pumping well might be 6 inches or 8 inches lower than the others but if you measure one you measure them all.

MR. DRAZEN: But, I was wondering if you were working at all, whether you are taking any constant measurements say in back of the timber wall and then also say perhaps the clay barrier.

MR. SECOR: No, we take... intermittently we will take those and the slope is very uniform. You take one set of measurements and it is basically the same measurement every time. They're very uniform flow. After the dredging that all jumped back up again. You went back to this condition versus the other condition.

MR. DRAZEN: Okay. And, my last question, have you taken any soil core? Based on one of your other comments, have you done any spoon samples or anything just to see what you are seeing in the trench area or in front of it?

MR. SECOR: Oh, yes. When... there were a whole series of samples. There are 3 or 4 geological reports that have borings in them. We started off with test bores and went to test wells. We actually hired a barge and put a drilling rig out in the river.

MR. DRAZEN: No, I mean since we have started seeing the problem, since Mr. Kelleher has been talking about the iron problems.

MR. SECOR: Yes. Last fall we went and put in additional pizarmeters and they split spoon samples of that. We have seen no change in the aquifer. It is there. The problem we see is the difference between this graph and the other where you have a draw down at one configuration, when the silt came in, you've now got this and if you look at the scale, here's 100 feet. You don't get back to your saturated condition until you are out almost 100 feet. So, we have a dry point just off the bulkhead. We have dry points that is 2 feet into the river bottom and we have another dry point that is about 10 feet below the river bottom. And, there is usually water in the 10 foot one but not in the 2 foot one. And, that is what we can monitor to watch this unsaturated zone.

MR. DRAZEN: So, essentially, these split spoon samples, you have not seen any of the iron problems that has been reported by Clearwater and such.

MR. SECOR: No. We have seen no change in the aquifer and the draw down is relatively uniform. It is not a situation where it goes and there is a sudden drop off at some place. It is very uniform and when you sketch this thing out, it is very uniform -- as our geologist or our consultant has said, the effect going across the bulk head... it's not like you see a line here and a big drop off on the other side. It is a fairly uniform line through there and the pizometers.. there is a pizometer right behind the bulkhead and one right before the trench. There is in the trench and we have one actually on the back side of the trench and all others were monitored during the test in addition to the trench itself.

MR. DRAZEN: All right, thank you very much.

SUPERVISOR FULLER: Mr. Drazen, hopefully I will be forgiven, take my copy, my fax copy. I received the original tonight.

MR. DRAZEN: Thank you very much.

SUPERVISOR FULLER: Next.

MR. RON JOHNSON: Hi, I'm Ron Johnson. And, have you taken any test as far as the permeability of this aquifer from the well site out into... underneath the river to know what the different permeabilities are of that aquifer?

MR. SWENSON: We have not done testing ourselves, we strictly did work in the office with the computer. We have made use of the test data that was collected briefly by previous consultants and also did evaluate. We did try changing the hydraulic conductivity of the permeability of the aquifer and looked at what the response would be to the system.

MR. SECOR: Just to give you a direct answer. When we had... rented the barge and put the drill rig out in the river, there was a geologist on board, samples were taken and that is in one of the geologic reports, the results of that and they did do conductivity analysis. There is... that is the base of what they used for the design. That is available and its in the reports. If they are still in the Library, if not we have them on file here.

MR. RON JOHNSON: Well, according to them reports then, what would be the evaluation of the conductivity of this particular aquifer in say 1 to 10... 10 being the best and...?

MR. SWENSON: You can't really rate aquifers. Basically, hydraulic conductivity of soils range over ... 10 orders of magnitude, so it is a big range. This is a moderately permeable, probably, aquifer. It is not... I certainly have seen ones that produce tons of water and

you can get some limestone aquifers that are literally rivers coming out of the side of the hill. So, this is certainly decent material for developing water supply but it is not the best I have seen and certainly not the worst I have seen.

MR. RON JOHNSON: Okay. Would you say percentage wise, most of our water that we are getting from the river is coming in underneath the bulkhead rather than coming through the bulkhead?

MR. SWENSON: I really did not try to evaluate the percentage of water flowing through or underneath the bulkhead. What we did look at is if we made this bulkhead variable permeability, if it was clay or something. We saw some decline in the flow here but not... we are not talking as significant as the siltation. There was a smaller amount of decline. So, the bulkhead does play a roll, mostly, I think, to exacerbate the problems that are initially caused by the siltation. But, we did not actually try to evaluate how much water was going through the bulkhead versus under the bulkhead.

MR. RON JOHNSON: Well, I ask this question was because back in 1994 of September when we had a meeting on this, and this question came up as to whether the river bottom was going to be playing any part in this aquifer, and we were told by Mr. Secor at that time that 90 percent of the water flow into this aquifer was not going to be coming from the bottom of the river. It was going to be coming in from the side of the river through the aquifer. Now, evidently, there... at that time, there was no mention of any bulkheads in this aquifer. And, we were told at the time, because we were question... we were raising up a lot of questions about the pcb's being drawn down through the bottom of the river and that and we were told that all... the highest percentage of this water flow through this... into this aquifer was going to come out in... from the side of the river rather than through the bottom and that. So, somewhere along the line, these bulkheads were either ignored or we weren't told about them. But, there was never. This is the first time that, to me, that there was any mention of bulkheads being in there since I know that this well was being constructed.

MR. SECOR: The original report that had the original cross-section had these in there. We actually dug test holes just behind the bulkhead and found that some of the timber lagging was overlapped like wooden fence and that was addressed... we dug test holes here to look at the current bulkhead. The consultant went up to the Corps of Engineers and there were either 2 or 3 different cross-sections from end to the other and that was discussed in the report and evaluated and the flow path has always been, you know, it is a relatively shallow aquifer, that hasn't changed -- if we miss communicated, I am sorry about that but everything that has been presented here has been very constant ever since 1991 when the first report was published. The first cross-section was developed very similar to this. There were some design detail changes but from the first cross-section, if you look at the September 1993 report for the preliminary stuff or the contract 1A drawings, this cross-section was very constant.

MR. RON JOHNSON: No, I have a cross-section home and I wish I had brought it because it does not show any indication of bulkheads being along the side of the river. It shows an open flow aquifer and that's what you were telling us at that time, that we were going to get 90 percent of our flow was going to come out of the side of the river rather than through the bottom. Because there was a lot of question asked about the pcb's being drawn down through. And, are you... I know you must be aware of the fact that this a back flowing river due to the tide and you are going to get silt coming in, back in from the bottom of... from the downstream of the river just as much as you are going to get it from the upstream, from the tide moving back up into the river.

MR. SWENSON: If I could just provide a little clarification in terms of the... where the flows coming with respect to the river. The river is, I believe, oh a good 1,000, over 1,000 feet across. The great majority, 90 percent of the flow to the system is coming from the area basically adjacent to the... on the edge of the river, we are talking 100 maybe a 200 feet out from the river. So, that is where the great majority of the flow is coming, how it is migrating

in terms of coming through here or coming underneath, may vary depending on the hydraulic conductivity of the bulkhead. But, the great bulk of the flow is coming from the very near shore area.

MR. RON JOHNSON: Yes, well I understand what you are saying but what I am saying this is kind of in a reverse of what we were originally told. Yes. No problem with that from you.

What would be the toxic levels that are treatable, the toxic level of the water before you can say that the water is untreatable? Is there a specification there of a limit as to how toxic the water can be before you can efficiently treat it?

MR. SECOR: Well, again, the ground water levels that we were looking at, we wanted to be less than the 12 to 15 parts per million of iron and all of the other test results are in the various reports and we spent a lot of time going over water quality. But, the water purification plant is fully capable of treating the water we are getting. So, we have had no problem. It's whenever we hear water quality issue, it is more of quantity issue that we are dealing with. We are getting about the quality that we looked, if not a little bit better, the iron levels have gone down, we are seeing changes in the water to reflect that you are actually moving water through, basically a natural sand filter. There is no bacterial, there is no cryptosporidium or geardia that we have accomplished. So, the water quality really hasn't been a problem. The plant is fully capable of treating what we are getting.

MR. RON JOHNSON: Well, you kind of missed my question there. I am asking what was... what is the maximum toxic level in the water before you can consider it untreatable type water?

MR. SECOR: There... you know, there are hundreds of chemicals that we have tested for and we really haven't found anything that is a problem in terms of being able to remove them. The water quality is not the issue and as far as what is the toxic levels. If we get up to 20 parts of iron or something else, then that would become a problem in treatment but we haven't seen that and that is... The basic design was to get away from those kinds of problems. But, it's really not a quality issue, it is a quantity issue that's what we have hired these folks to look at. They really haven't gotten into quality.

MR. SWENSON: I might just add that the New York State does set standards for various chemicals and they are the ones that are looked to and they are the ones that the Town has to report to with regards to the various chemicals.

MR. RON JOHNSON: Okay. Another question then, is the fact that there is a waste treatment plant just about 1/4 mile above, upstream from this system having any effect on a silt build-up or like Mr. Kelleher was trying to say and everybody was trying to ignore the question that he was trying to ask, is that the amount of silt that is suspended in the water, the amount of waste that is suspended in the water after this water is being drawn down into the silt, this is going to cause a siltation on the bottom of the river and it is not from the dirt flowing into the river but this is -- you got 6 water waste treatment plants upstream from this system and they are putting a lot of suspended waste into this water system and as you are drawing that water down into there, you are going to draw... create a build-up of siltation on the bottom of the river just from drawing that suspended particles in the water down into this filtration system. And, I think that is what Mr. Kelleher was trying to ask you before. Has there been any evaluation about the amount of siltation that is suspended in the water rather than what is laying on the bottom.

MR. SWENSON: We did not take a look at the source of the material that is ending up on the river bottom. We strictly looked at how material on the river bottom affects the flow of the system.

MR. RON JOHNSON: Affecting the system, yes. You didn't actually evaluate how... how it's getting there?

348

MR. SWENSON: No, that was not part of our charge.

MR. RON JOHNSON: I see. Okay. Thank you.

MRS. SCHOLES: My name is Nancy Scholes. I have a lot of questions, but mostly for the Town Board, so I won't give them at this time. But, I just want to thank the Town Board for commissioning this study and thank you O'Brien and Gere for a very good report that documents the failure of our new water system to be ever able to produce the 6 million gallons a day that the Bethlehem taxpayers have paid 13.9 million, I believe, for.

I was fortunate to be able to get a copy of your report last night and there are just... a figure in here that you didn't mention that I think these people ought to be aware of, okay. And, you said that in optimum conditions our plant would only produce between 3.6 and 4.1 gallons a day.

SUPERVISOR FULLER: He did give it.

MRS. SCHOLES: Right. There is another figure you didn't mention that was in your report and I think we all agree, it doesn't take an engineer or a rocket scientist to realize that there will always be some siltation in a tidal river like the Hudson River. So, you are never going to get that optimum production or capacity from our plant and the figure that you gave for -- if there is an optimum performance and operation and a minimum siltation -- and, am I correct that in your report you said that we could maximize the most we would get would be between 2.1 and 2.8 million gallons a day? Is that correct?

MR. SWENSON: Yes. What we did is we took a look at it and made an estimate as to how effective one might be at keeping silt off the bottom, if this were a regular occurrence and we did identify a range of 2.1 to 2.8 million gallons a day in the likely range of silt continues to be a problem out there.

MRS. SCHOLES: I don't know if you are aware of the fact that Bethlehem is locked into a long term commitment with the industries in that area -- Selkirk Cogen and GE Plastics -- to provide them with up to 4.4 million gallons a day if it is so required. And, at this point in time we are only able to produce 2.4 million gallons a day.

SUPERVISOR FULLER: Bruce, do you want to address the issue on the supply of water?

MR. SECOR: Again, the purpose here tonight is to address how we are going to get what was intended to be gotten.

MRS. SCHOLES: Right.

MR. SECOR: There is no doubt that the water is available, there is between 4 and 9 billion gallons a day that pass past where our infiltration gallery system is. Right now, the system is not producing what we needed to do. We have hired an outside expert to look at that and make recommendations which we are discussing. So, you know, the water is there, it's a matter of getting the water into the pipes and getting it to the plant. So, you know, that's what we are here to discuss and to work out the solution. And, that's what the Town Board is after.

MRS. SCHOLES: But, at this point in time, we are committed to 4.4 and we are only getting 2.4. Is that correct?

MR. SECOR: That is correct. And, right now, they are using on the average about 2 million gallons a day and we are producing that. GE is using a little bit of the other source.

MRS. SCHOLES: Okay. And, if no more money is spent by the taxpayers at this point to do further studies or do any remediation work, we are locked also in a long term commitment to buy supplemental water from Albany for \$1.81 per thousand gallons and we are committed to sell it to Selkirk Cogen at only \$1.69 and GE Plastics at a \$1.32 and

it could be fairly concluded that we would be subsidizing industry if there is no other remediation done to this water plant.

MR. SECOR: But, that's not going to happen.

SUPERVISOR FULLER: You've jumped way ahead. First, of all it is a 10 year contract with the City of Albany.

MRS. SCHOLES: 10 years, right.

SUPERVISOR FULLER: At \$1.81 and it was...

MRS. SCHOLES: I might also add that the Town of Guilderland just completed the successful contract to buy supplemental water at only \$1.25, is that correct, a thousand?

SUPERVISOR FULLER: \$1.25 and you know, I was so glad that somebody would raise it tonight. When I saw it in the add this morning I couldn't wait to comment because really the Town of Bethlehem is paying much less than Guilderland and I have the figures broken down for you. I can run through here and find them but I can tell you the 2.3 million that Guilderland is paying is just for the privy of having access to water. The Town of Bethlehem has water. The Town of Bethlehem is paying \$1.81 for the water. Guilderland is paying far more than the Town of Bethlehem for water.

MRS. SCHOLES: I am just quoting the Times Union and the Times Union said that Guilderland signed the contract for \$1.25.

SUPERVISOR FULLER: I have the Guilderland contract, you are ought to take a look at it.

MRS. SCHOLES: And, Bethlehem is \$1.81.

SUPERVISOR FULLER: It's... we have the bargain in the Town of Bethlehem. So, you can take a look at both contracts and see what the differences are.

MRS. SCHOLES: I might add that Beth... that the Town of Guilderland did not have a minimum purchase requirement which Bethlehem is required to have. That's all I had to say.

ATTORNEY KAPLOWITZ: That's not true either.

MRS. DAVIS: No.

SUPERVISOR FULLER: That's not true at all. Guilderland...

MR. SECOR: That's not true either. The Town of Guilderland had a minimum requirement of half a million gallons a day year round, which was hurting them. They bought out of that by giving the City of Albany 2.3 million dollars. The interest on that money is more than what we are paying for Albany water. So, if you want to make that comparison, our water is free.

MRS. SCHOLES: Guilderland... well, I don't want to get into the politics of this now but Guilderland had to pay 2.3 million for the connection.

SUPERVISOR FULLER: No, Nancy, that is not politics. That is fact and it is time to stick to the facts.

MRS. DAVIS: Did you have more questions?

SUPERVISOR FULLER: We have the contract.

MRS. DAVIS: Did you have more questions?

MRS. SCHOLES: No, I don't. Thanks.

SUPERVISOR FULLER: Is there anyone else who has a question?

MRS. SHAPIRO: I would like to ask if you were hired for a job previous to this one because I understood from the Spotlight that the sample of water that you used was taken before...

SUPERVISOR FULLER: Eleanor, we need up at the microphone.

MRS. SHAPIRO: Before...

TOWN CLERK NEWKIRK: Pull the black part down.

MRS. SHAPIRO: The water sample that you used was taken before you were hired for this analysis. So, I wondered why you were out here before. Did I misunderstand that in the Spotlight?

MRS. SWENSON: Yes, we have not collected. We have not been... O'Brien and Gere Engineers has not been hired by the Town of Bethlehem on this project before. I do not know for sure whether our laboratory, which is a separate company, might have done some analysis. Bruce can probably answer that but we have not been employed and we have not done any sampling out here. We just strictly have looked at this in terms from ground water modeling that we did.

MRS. SHAPIRO: So, you never examined the site?

MR. SWENSON: I visited the site and walked around with Bruce. He showed me the different aspects of it and so forth and their system but we have not collected any data at the site ourselves.

MRS. SHAPIRO: Thank you.

SUPERVISOR FULLER: Any other questions?

MRS. CAPONE: Mr. Kaplowitz... want to ask Mr. Kaplowitz.

SUPERVISOR FULLER: Not yet. Is there anyone else who has a question before we take another question from Marie? Anyone?

MRS. CAPONE: Mr. Kaplowitz, Mr. Kelleher did not understand what I was saying. He saw a phone call as a bell call. I saw it as a time sheet call. Could you tell him how engineer and attorney works with time sheet.

ATTORNEY KAPLOWITZ: I am not sure I understand, Marie. You saw a time record of somebody speaking with him.

MRS. CAPONE: Yes.

ATTORNEY KAPLOWITZ: Somebody in Town Hall?

MRS. CAPONE: No, if Mr. Kelleher would call the gentleman and talk to him for 3 hours.

ATTORNEY KAPLOWITZ: We hired O'Brien and Gere, if I remember it correctly, at an hourly rate. Did we or did we not? Now I am confusing this. I am sorry, confusing that with Leboeuf and Lamb.

SUPERVISOR FULLER: With the attorney.

ATTORNEY KAPLOWITZ: But, either way, the general procedure is to bill for it. But, we did hire them, not at an hourly rate.

SUPERVISOR FULLER: \$5,000.

ATTORNEY KAPLOWITZ: \$5,000 to do everything.

MRS. CAPONE: Yes, but that is not what I am saying. If Mr. Kelleher would call the gentleman and talk to him for 3 hours, he would bill the Town for the 3 hours. But, Mr. Kelleher...

ATTORNEY KAPLOWITZ: In some cases yes, in some cases no because they weren't hired on an hourly rate. We weren't paying O'Brien and Gere for the number of hours.

SUPERVISOR FULLER: It was a \$5,000 flat fee, Marie.

ATTORNEY KAPLOWITZ: We agreed to pay \$5,000 regardless.

MRS. CAPONE: Yes, but what I am saying is when people...

MR. GLAZER: I think that we at this point can pretty much consider that that would be an anticipated cost and part of the bargain that there would be involvement from folks from Clearwater...

MRS. CAPONE: Yes, but the same thing can occur when they call attorneys.

ATTORNEY KAPLOWITZ: Not necessarily so in this case. In a lot of cases that is true, if you are hired by the hour then they put you on every minute they can figure. That's the name of the game.

GENTLEMAN: Suppose every resident of the Town calls, that's kind of stupid, isn't it.

MRS. CAPONE: Well, Mr. Kelleher is a State worker, he doesn't know these things.

SUPERVISOR FULLER: Is there anyone else has anything to offer on this before the Board goes back to their discussion of the issue, please. Yes. Sherwood, first then Mr. Johnson.

TOWN CLERK NEWKIRK: Just take the black part by your hand and pull it up in the air.

MRS. DAVIES: Sherwood, you are the engineer.

MR. DAVIES: Can you hear me?

GENTLEMAN: Yes.

MR. DAVIES: I would like to address because O'Brien and Gere have indicated that water quality and cost should be an evaluation and a consideration, I believe, before any further money is expended to try and increase the well yield. On the water quality, I would like to again raise the issue of pcb's. In 1996 there were 4 samples collected from this well and analyzed by J.H. Consulting Group for pcb's. That laboratory did not, I repeat, did not report total pcb's. The DEC water quality regulations for ground water, the standard is 100 parts per billion of total pcb's. I would urge that this Board ask Mr. Secor or their consultant as to the results of these 4 samples and relate it to the ground water standards of DEC.

I would just like to conclude by saying that there have been... options have been suggested for increasing the well yield but did not address water quality and cost issues. Declining well yield may be due to the operation of the well over the last 1 and 1/2 years, that is over-pumping of well and fluctuation in draw down. We have a \$650,000 ozone unit that has been installed at the water treatment plant but is not operational. Is this due to design, manufacturing deficiencies or the inability of staff to operate the unit?

I would like to recommend to the Board that 1. they accept this O'Brien and Gere report which I think is extremely well done; 2. appropriate the necessary funds to retain an engineering firm to evaluate, a. the design, construction and operation of the infiltration gallery, b. the non-functioning ozone unit, c. the water quality, d. cost of water produced from the Hudson River plant and income revenue to defray such costs; 3. I think the Town should consider appointing a by-partisan citizens advisory committee to represent a cross-section of the community interests and lastly I believe that they should direct that the Commissioner of Public Works be removed from direct responsibility of this evaluation as he may have been somewhat responsible for a declining well yield due to the operation. Thank you.

SUPERVISOR FULLER: Would you address the ozone issue and whatever issues you would like to?

95

MR. SECOR: I have sat quietly meeting after meeting and listened to miss statement of fact by Mr. Davies but I can't sit here and listen to that. First of all, the pcb samples he is repeatedly said we didn't test properly. That is not a correct statement. We have tested in accordance with the New York State Health Department and Albany County Health standards. I have talked to both of them. I have talked to Mr. F ????? directly, said Cliff, am I crazy or are we doing this right. He said no, you are testing the way you should. You should test for the individual alecores as we had done. If you get hit on any one of them, then you go back and run additional tests. So, Mr. Davies, you are wrong. You keep bringing up the same point but you are wrong.

You have stated time and time again the ozone system is not working. That is not correct. The ozone system has been up and operating since last fall. We had the completed work letter which was submitted to the Health Department. I thought I gave you a copy of that letter, maybe I didn't. I will have that to you. The operator training has been done and the system is not operating because we don't need it. The water quality is not the issue. We are meeting all the standards. We do not need the ozone system. The ozone system was put into the plan as an optional method of oxidation if we needed it. We have not needed it. We have met all standards.

So, I just have to address those 2 points because it is simply not correct to keep restating something that is wrong to try to make it right because you are wrong.

MR. KELLEHER: I would like to add something if I could.

SUPERVISOR FULLER: I also think that there is a lot of people here tonight that really would like to see where the Board... what their discussion is on this and I would like to have the opportunity to discuss it with the Board members before it gets much later.

MR. KELLEHER: Yes. I will make it very short. First of all I would like to apologize if I was a little bit hard on you because I think your report for \$5,000 is an excellent report. And, the reason I called you is to let you know the controversy, you know, as a fellow engineer I thought you should know about the controversy that is going on in this community. I mean, Mr. Johnson pointed it out very well because the first Dunn report was in the library. And, that's the only one he saw. I... we uncovered the second Dunn report that showed that the first Dunn report, the design was impossible because of the bulk head. That report was never in the library. I had to threaten to sue Rust Infrastructure in order to be able to find that report. So, this is giving you an understanding of what has gone on in the past in this community. Now, again, I think it is an excellent report but the report also shows that it clearly shows that a thorough engineering study of the design, construction and operation of the new water supply is needed. The report also shows the need to estimate both the cost and the environmental impacts of corrective actions to improve the well yield. All of those corrective actions are going to cost a lot of money. You are absolutely right, Mrs. Fuller. I mean, some of those things like extending the... putting a new trench in there or extending a trench, in the south you have wetlands, you can't go into that according to DEC. In the north you are going to get into bed rock. I mean, you are putting a ditch in between the river and the well. Every time that river overflows, it is going to scour out the ditch and there goes your well. I mean, that... and then as you put a ditch on the other side to the west side, you are going to get an approval to drain the wetlands from DEC and I think it is going to be impossible. Furthermore, we spent 1.5 million dollars to build that clay wall barrier. That's extremely expensive construction project, that clay wall barrier. And, as any engineer knows, that in order to increase the well yield you shouldn't have that there. That decreased the well yield. It didn't do any good with the iron but let's not argue that. It is going to cost you another million dollars to remove that clay wall barrier and now, we are talking about big bucks here. Any of the remedial actions he mentioned, are going to cost a lot of money. I believe that a good engineering study would cost about \$100,000. And, I think the person who should supervise that study should not be Mr. Secor. He should be removed

from it. The person who should supervisor that study should be an attorney who has some background in malpractice engineering or malpractice. I believe that O'Brien and Gere, if they wanted to, could take this project on. But, I think I would leave that up to the attorney to draw up a contract. The attorney should draw up a contract of what the scope of the study should be because it is very important. And, again, I think instead of O'Brien and Gere reporting to Mr. Secor, they should report to the attorney. Thank you.

SUPERVISOR FULLER: Is there anyone else?

MR. GLAZER: Yes. I would just like to add a couple of follow-up comments. For starts, we do and I do in particular appreciate the opportunity to do this. I know that this has been a great leap for everyone to go out and bring in the independents and really, basically, stepped up and accept that there may be some things that are wrong. In particular, madam Supervisor, my heart goes out to you because much of this transpired before you took that seat that you are presently in and you have some difficulties...

SUPERVISOR FULLER: Thank you, Mr. Glazer.

MR. GLAZER: You have some difficult decisions ahead of you.

SUPERVISOR FULLER: Yes.

MR. GLAZER: The issue at hand now, goes far beyond the issue of money. It now goes to the issue of accountability. The people responsible for causing this debacle must be held accountable. That is something that now falls into your lap and your responsibility. I am not going to take much more time elaborating on that but the big question is, and I am sure you understand as well as we do, we were raising these issues as early as 1992, 93 and 94 and the question really becomes who knew what, and when did they know it. And, we need to answer those questions and then make some decisions as far as how to move forward. If the end result is that we decide that the best thing to do is keep the system operating as it presently is and use that water only for the purpose of supplying industrial use in that part of the Town, then we may need to look at an arrangement to have those people become the primary payers of the cost. There are several options here. Having a water system segregated for industry only may make some sense. But, I agree with both Mr. Kelleher and Mr. Davies, that in the short term we are going to have to lay out even more money and the cost of this project is going to go well beyond the 30 million dollars we anticipated debt service and everything else. But, there is no more time to waste. We have got to start working on it right now. I appreciate your efforts in undertaking that. Thank you.

SUPERVISOR FULLER: Thank you, Mr. Glazer.

MR. RON JOHNSON: Yes, this is Ron Johnson again. Has there been any evaluation between the quality of the water in the river compared to the quality of the water that you are getting out of the wells? How much difference is there in quality water? Is a great deal, is this aquifer working?

MR. SECOR: Yes, it is. That was documented in that September 1993 report which is in the library. There is some similarity but there is a lot of difference -- it's ground water, there is no bacteriological content. There has been a couple independent studies on cryptosporidium giardia. All the sanitary issues have been resolved by taking round ups but yes, it has been very effective in that... the quality part is really not of issue. The thing we need to... focusing on now is quantity.

MR. RON JOHNSON: I understand you are talking about the pure flow of water and that and your quantity of water. What I am asking though, in the reevaluation of this system that we are supplying this industry or complex down here with water, does it have to be -- and I brought this up a long time ago -- does it have to be class A water? Why are we treating to class A water, when they are only using it to cool their machines and wash their floors? Let me speak this out first before I get cut off. Why do we have to treat to class A type

water? Why can't we just treat to class C? Is the water in the river on the surface that you could take out of the river right, before you go through the aquifer, could we treat that water to be acceptable class C water for industry and I suggested this a long time ago, to send just class C water to the industry complex and then set... but you... at that time, I know you said well we never thought of that. We didn't run 2 lines but I suggested we run 2 lines, 2 water lines, 2 main lines going... you already got a main line coming into the plant from the other side to provide class A and now you put this new line in from the new water plant, so why couldn't we just use that line... I know what you are going to say because you say you got 10 families feeding off that line. But, why couldn't we run a separate line to them 10 families and leave this main line that we got in going to the industry and just feed off class C water and not have to go through this aquifer, just take it off the river top. Could we do that? Is that a possibility? And, then we just... we could send the 6 million gallons of water that we need rather than pulling it out of the aquifer. If you want to pull out of the aquifer and treat some water as class A, I don't know if you can do that at your filtration plant but you ought to be able to find out whether you can set your plant up to do that. Because use some of the water from the aquifer to send... to treat and send to the plant as class A and then take some water maybe off the top of the river, right out of the river and treat it as class C to send to the industry for just washing their floors and cooling their machines and stuff. It's an option that I would like to have mentioned and put on record that it's been mentioned that maybe we don't need to draw the full 6. so million gallons of water a day out of this aquifer to just send to the plant. You know, maybe, we could use some of the water out of the river and send it as class C water to the plant.

SUPERVISOR FULLER: We need to have the water because that is what the community...

MR. RON JOHNSON: That's what I am saying. I am saying make another line to run to the community. Would that be cheaper than going through digging this big trench trying to increase the flow through the aquifer.

MR. SECOR: Ron, what you have just done is go all the way back to 1991.

MR. RON JOHNSON: Right.

MR. SECOR: When we started on the options, there was a whole big report on various options and various things to be considered. The analysis of non-potable versus potable... Cogen looked at the possibility of pumping water directly from the river to themselves. They didn't want to get into the process of getting easements, water purification... all of the things to go through, they said it is hard enough for us to run a cogeneration facility, we don't want to run a water plant too.

MR. RON JOHNSON: Right.

MR. SECOR: They couldn't... they thought it was going to be cheaper. They would have gone off and done that themselves and treated to whatever standard they wanted it. So, this is an issue... this is a very long debate to get into. The system that was built was built to serve the industrial area and the long term need. Certainly Cogen had a lot of use for non-potable water. They take 1/2 million gallons a day from General Electric and recycle it. You have to...

MR. RON JOHNSON: I understand that.

MR. SECOR: ... from the General Electric waste water treatment plant they use in their cooling tower. They are already using gray water as much as they can.

MR. RON JOHNSON: Yes.

MR. SECOR: They buy the make-up water from us. So, they are already doing that. Owens Corning recycles... they base their... system...

MR. RON JOHNSON: Right.

MR. SECOR: They recycle, they catch rain water and reuse it. So, these industries are very efficient and looks at these things. So, if it had been more cost effective for them to take another alternative, they would have done it. The Town of Bethlehem was not interested in getting into running a non-potable water system nor do I think we should be because the industrial needs of all the industrial area go far beyond just one person who may need some gray water to work with. So, I really don't want to get into a long debate but those issues were looked at early on when the Board... in fact it was a different Board... looked at alternatives and looked at the long range use of the Town. One of the strange in the northeast is that there is water available. Water is not a problem but not in Arizona. The problem is the money to develop and use it wisely. Industry is very efficient and they look at their costs very closely and we are providing a very cost effective service. So, I really don't think we should get into this whole debate again.

MR. RON JOHNSON: Well, okay, but as I say, we back then... you thought we had the system that was going to meet the needs. Now, we know we don't have the system that is going to meet the needs.

MR. SECOR: We have a problem but the water is there.

MR. RON JOHNSON: I am saying do we have to look at another option, maybe go back and look at these options over again. Thank you.

SUPERVISOR FULLER: Thank you, Mr. Johnson. Now it is back here where the hot seats are, I guess. I would like to just basically let you... thank you.

I would like to say something. First of all we can't view this project as a flop. The plant is there. The plant is working very well and we in the Town of Bethlehem don't ever loose sight of this -- have saved over \$1 million by having our own supply here in the Town of Bethlehem and I can't say that enough. That is the bottom line. Our taxes have gone down. We have saved money.

We need to deal with what we are looking at now as a problem. I know that the Board Members and myself, we did not receive this report until Monday at 1:07, the Supervisor received it -- and the Town Board probably got it delivered a little later -- by fax. Hopefully we have all had the opportunity to take a look at it because we are here to protect your interests and everyone in this community.

We have looked at the report, I guess I would like to ask the Town Board to consider -- and I made the point of which recommendation was the most important to me and to all of you -- and that is the recommendation which was placed 3rd on the list. We need to have someone take a look at the entire design of the project.

But, I also think and did for a while today while trying to figure out what's the best approach -- is I am going to ask the Board if they would object to having LeBoeuf, Lamb, who is our counsel on the left, ask them to hire the consultant for the Town of Bethlehem to review this.

My concern, and I am sure everyone of you are concerned in the audience and at this table is, we contracted for a water plant... ground water infiltration system I should be saying, for 6 million gallons and that is where, I personally, am headed and I am sure that the Town Board unless they have a unique idea other than this, I have to say I think we're all... I would view it as the best approach to protect all of you.

Is there anyone that has a...?

MR. PUTNEY: Would you please explain what you just said, I missed it.

SUPERVISOR FULLER: I wonder if it would be best... you know, certainly we can discuss this... I think it would be to our advantage to have our counsel hire the consultant to review the engineering,

the design, Mr. Rudy. I think we need to begin to take a look at the design of it. Who is responsible.

MR. PUTNEY: Yes.

SUPERVISOR FULLER: And, I think we ought to combine it with our counsel, as well. So that we are not doing this a 2 step process. Have counsel hire a consultant.

MR. LENHARDT: I only have one... I don't have a problem with that thought, I just have 1 question. Is that subject to competitive bid in this case?

ATTORNEY KAPLOWITZ: No. One of the reasons that we considered doing this was that the report of an expert is generally not discoverable by the other side in a law suit. We have a better argument with what.. we have hired to be done was something prepared for litigation and that is what exempt from the other side getting it. If Mr. Rudy is to hire the consultant, the argument is far stronger that it is done for litigation or preparation for litigation and, therefore, the report that they come up with is not discoverable or not accessible to the other side. It is one reason for letting him do it.

SUPERVISOR FULLER: I think the other idea is we will be looking for any expenses that we have to look at if we end up taking some other recommendations after we have gone through all this. We need to be in place for recouping any additional funds that we, the Town, have to pay.

MRS. DAVIS: There is a question.

SUPERVISOR FULLER: Yes?

MR. ROWAN: Is Mr. Rudy's law firm capable of hiring the best technical people to look at the design?

SUPERVISOR FULLER: Would you like to answer the question, Mr. Rudy? Would you give us your name, please?

MR. ROWAN: Marty Rowan.

MR. RUDY: I think we are, Mr. Rowan, just by way of background. My law firm is a firm of about 500 lawyers. We have 14 offices in the United States and 4 overseas. Our largest office is in New York City, where I am headquartered but we also have an office in Albany, where my partner Bob Alessi, who works with the Town continually and I think he is a resident of Bethlehem.

SUPERVISOR FULLER: Yes, he is.

MR. RUDY: Resides and practices. We are not unfamiliar with litigation on behalf of municipalities, on behalf of developers and owners of projects who contract out for these kinds of facilities. We also have and do represent other clients who are in the business of developing water projects. So, in answer to your question, I think we are... we have a familiarity with the area. We have a familiarity with the problems attendant to professional design and construction problems that arise and we will address those as we go along in this process. But, I would also say to you that in this context, one shouldn't just walk out of here thinking that we're about to engage in armagedin because sometimes it happens, it is rare but it happens, that when one party resolves to pursue its interests, the other party who may feel that he or she or company really has created a problem and doesn't have many defenses to the problem, it decides that it is in everyone's interest, including its own, to sit down and try to resolve it in a non-adversarial manner. And, it would not surprise me, given the participants or potential participants in this matter if that was a scenario that might work out. I am not suggesting that it will, I am just saying that it is a possibility. We would act within the context of that being a possibility.

MR. ROWAN: My point to is that in place... Frasier or whoever designed the system ... looking at the system and at the design before pursuing say attorneys to go forward with it, I think somebody

like O'Brien and Gere or a similar firm should look at the design. I am surprised nobody has done that yet.

ATTORNEY KAPLOWITZ: That is what Mrs. Fuller is suggesting.

MR. ROWAN: Right, but I am just saying to go through an attorneys group to do that and pick that out maybe is not needed up front before technical people could look at it and get a wide range of opinion on it and see maybe there was nothing wrong with the design. Maybe there was... maybe it was the construction... nobody knows yet what the real problem is. So, we might be jumping the gun here.

MR. DRISEN: Don Drisen again. Sir, do you have the technical staff on your law firm... do you have any hydrologists? Any professional engineers that would be able to do the review the reports that were coming in to determine the efficiency or will you have to go back and instead rely on the Town services?

MR. RUDY: No, we have a number of lawyers in our firm who have professional engineering degrees as their first degree. We also have a very substantial environmental practice where there are environmental lawyers who practice both in the Albany office and in the Hartford, Ct. office, doing exclusively environmental work and water quality and water treatment projects are a large part of their practice. So, they would be involved in this as well.

MR. DAVIES: Would the proposal be available for public review?

ATTORNEY KAPLOWITZ: Which proposal?

SUPERVISOR FULLER: What proposal?

MRS. DAVIS: Which proposal?

MR. RUDY: The description of the request for services?

MR. DAVIES: That's right, before any contract is let.

MR. RUDY: We could draft that and make it available to the Board.

MR. PUTNEY: I would want that.

MR. ROWAN: Plus, it would have to go out for bid being a Town job, right?

SUPERVISOR FULLER: No.

MR. PUTNEY: No.

ATTORNEY KAPLOWITZ: Personal services is not...

MR. PUTNEY: Professional services.

ATTORNEY KAPLOWITZ: They are not subject to bid, professional services.

MR. ROWAN: Even under a dollar amount?

MR. PUTNEY: Accounting is the same way.

SUPERVISOR FULLER: Any further discussion here from the Town Board?

MR. PUTNEY: I would endorse the proposal, Sheila, with the understanding that the attorney would come back to the Board with a proposal and then we would act upon that.

I would also, like... at some point, like to get to 1 and 2 also which I think also needs attention.

SUPERVISOR FULLER: Well, I think 1 and 2 does but I think we need to start with number 3, to determine where we go with 1 or 2.

ATTORNEY KAPLOWITZ: What does John think about that?

358

MR. RUDY: I was commenting on item 3 in the O'Brien and Gere report. Items 1 and 2, I think, are separate items.

MR. PUTNEY: Yes.

SUPERVISOR FULLER: Does everyone know what item 3 is while we are all sitting here. Do you need me to repeat what the 3rd option was?

MRS. DAVIS: Do you have just the overlay quickly?

SUPERVISOR FULLER: The focus of the above recommendations is the optimization of the existing system operation as noted in the introduction, the ground water infiltration system was not evaluated in detail to assess whether there were deficiencies in the design or in the construction. Such a detailed evaluation should be completed before specific recommendations for correcting problems can be made.

MR. DAVIES: Should be added, I believe, operation because any objection to the design and construction may fall back on the question of operation. So, I sincerely believe that you should add the word operation.

MR. PUTNEY: How do you feel about that?

SUPERVISOR FULLER: Design, construction and operation of the system.

MR. SWENSON: To the extent that the design and construction specifies how the system will operate, that can be reviewed in terms of potential responsible parties. I think there may, legally... I would want to let the attorney provide some guidance as to the separation of the operation which is... and let them prescribe by the design engineer or something, that may not fall under the same legal purview as the design and construction.

SUPERVISOR FULLER: Yes, I am sorry.

MR. MC GRATH: You made the statement that we have contracted...

SUPERVISOR FULLER: May I have your name, please?

GENTLEMAN: Would you use the mike.

SUPERVISOR FULLER: Yes. They can't hear you, unfortunately, so we need you to come to the mike.

MR. MC GRATH: Yes. My name is Kevin McGrath. You made the statement that we had contracted for a water system that was supposed to deliver 6 million gallons a day. Can you, in fact, has the Town Council actually reviewed the contracts and do we, in fact, have a contract that states that we are to have a designed, constructed and delivered water system that will produce 6 million gallons a day. Is that what the contract states or does it state that we are to receive a system that meets the design specifications of the designer as it was evolved over the course of a 6 or 7 year period while this was going on? I think that is a significant difference prior to turning over the decision on whether or not the detailed evaluation is going to be handled through an attorney sponsored engineering firm or put out to a Town bid. We should have a basis on whether or not we actually have... whether or not we have gotten what we asked for, what we bargained for or are we just barking because we are angry because we didn't get what we wanted.

ATTORNEY KAPLOWITZ: One of the documents upon which all this was based includes specifications and an assurance that we would get from 5 to 5 3/4 million gallons of water.

MR. MC GRATH: 5 and 3/4s.

ATTORNEY KAPLOWITZ: We are satisfied that that is sufficient representation. It is a long way from 2 and 1/2.

MR. MC GRATH: Yes, it is. Its a... I will take it on a daily basis.

SUPERVISOR FULLER: Yes.

MR. DRISEN: This is Don Drisen again. My only point is that I would say that I would hate to see you segregate the system and only have the attorneys look at the section number 3 because 1 and 2 and 3 are all together. And, if we contract 1 and 2 out separately and then 3 we are going to be doing duplicate work. I think we are going to be loosing something at that point.

ATTORNEY KAPLOWITZ: I agree with you.

SUPERVISOR FULLER: That is what I said.

MR. DRISEN: Nobody mentioned that before.

SUPERVISOR FULLER: I mentioned that that we ought to do it all in 1.

ATTORNEY KAPLOWITZ: Do it all.

MR. KELLEHER: To me 3 covers 2 and 1. Those things should have been included in the design.

ATTORNEY KAPLOWITZ: They are all related.

MR. KELLEHER: 1 and 2 should have been included in the design. I think the attorney recognizes that.

MR. RUDY: If I just may... the decision I was making in my own mind before tonight's discussion is that items 1 and 2 relate to, as Mr. Swenson was saying, attempts to address the problems in the system with adjustments to the system today. Item 3 deals separately with a look back on what was built, what was supposed to be built, how was it built. The what was built, what was supposed to be built, and the instructions on how to use it, yes Mr. Kelleher, would include 1 and 2. But, the way I was reading 1 and 2, was as pro-active items to get some adjustment in the current system.

SUPERVISOR FULLER: Any other comments from the Board members?

May I have a motion to retain...

ATTORNEY KAPLOWITZ: You have already retained LeBoeuf Lamb.

SUPERVISOR FULLER: We retained LeBoeuf Lamb, for them to retain a consultant for the Town of Bethlehem.

MR. PUTNEY: To report their recommendations to us for...

MR. RUDY: Subject to a draft of the scope of work to be presented to the Town Board...

MR. PUTNEY: Right.

SUPERVISOR FULLER: To the Town Board.

ATTORNEY KAPLOWITZ: Very good.

MR. PUTNEY: Yes.

The motion was made by Mrs. Davis and seconded by Mr. Putney to direct LeBoeuf Lamb to draft a scope of work to be presented to the Town Board regarding review of the design and construction of the water infiltration system of the Town of Bethlehem including recommendations for hiring a consultant. The motion was passed by the following vote:

Ayes: Mrs. Fuller, Mr. Putney, Mr. Lenhardt, Mrs. Davis,
Mr. Johnson.
Noes: None.

Motion was made to direct LeBoeuf Lamb to draft a scope of work regarding design and construction of water infiltration system

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SUPERVISOR FULLER: Repeat the motion, Kathy.

GENTLEMAN: Your mike is not working.

SUPERVISOR FULLER: Oh, it is still not working, I am sorry.

GENTLEMAN: It is only working when you pick them up to your mouth.

SUPERVISOR FULLER: That's where it has been all night, I am tired of holding it to tell you the truth.

GENTLEMAN: The mike should be able to pick you up if you are 3 feet away. They evidently aren't. If you don't pick them up, they are no good. So, why don't we buy new ones.

SUPERVISOR FULLER: We need to learn how to shout, I guess.

GENTLEMAN: I mean, I have seen people on stages with these little clips that they pick up 100 miles away.

SUPERVISOR FULLER: They are expensive, we are saving your tax dollars. They are expensive. We have thought about it.

I will repeat the motion to retain LeBoeuf, Lamb... we've already retained LeBoeuf Lamb as counsel.

We already retained LeBoeuf, Lamb as counsel but what the motion tonight is for LeBoeuf, Lamb to hire a consultant for the Town of Bethlehem. LeBoeuf, Lamb will be presenting us with their scope of work and dollar amount, I am sure, to the Town Board. That will be available for the public to see. That part of it was not part of the motion but I am just continuing talking now that I have figured out how to hold the mike close to my mouth.

MR. PUTNEY: And, that is prior to actually hiring the consultant.

SUPERVISOR FULLER: Okay. Thank you all. You are welcome to stay.

MRS. DAVIS: We didn't vote.

SUPERVISOR FULLER: Yes, we did.

TOWN CLERK NEWKIRK: The motion was Mrs. Davis and second was Mr. Putney and aye by all members.

MR. PUTNEY: Now, I have a question, what about 1 and 2?

SUPERVISOR FULLER: That's part of it, they can't do 3 without 1 and 2.

MR. PUTNEY: Okay, I will wait and see what comes back from them. Thank you.

The next item was a recommendation from Michael Cirillo, Engineering Services Administrator, for acceptance of deeds for Orchard Street, Delmar.

Engineering services acceptance of deeds for Orchard Street

The motion was made by Mr. Putney and seconded by Mrs. Davis to approve the acceptance of deeds from William Feeney and Susan Castronuovo, Orchard Street, Delmar, NY for highway and easement purposes on Orchard Street, Delmar. The motion was passed by the following vote:

Ayes: Mrs. Fuller, Mr. Putney, Mr. Lenhardt, Mrs. Davis, Mr. Johnson.
Noes: None.

The following item was a request from Judith Kehoe, Comptroller, for approval of use of a Purchasing Card through Chase Manhattan Bank.

Comptroller for approval use for purchasing card

The motion was made by Mr. Putney and seconded by Mr. Johnson to approve the use of a Purchasing Card through Chase Manhattan Bank. The motion was passed by the following vote:

Ayes: Mrs. Fuller, Mr. Putney, Mr. Lenhardt, Mrs. Davis,
Mr. Johnson.
Noes: None.

The next item was a request from Judith Kehoe, Comptroller, and Nancy Karins Mendick, Receiver of Taxes and Assessments, for approval of appointment of a Clerk to be shared between 2 offices (equaling a full time position) at a rate of \$11.85 per hour, effective August 14, 1997. Supervisor Fuller congratulated Sheila DeLong on her appointment to the Town. Supervisor Fuller said this is a unique opportunity to have job sharing in the Town of Bethlehem.

Request from
Comptroller
and Receiver
of Taxes
appointment of
clerk shared
between two
offices

Comptroller Kehoe explained she had an opening in her office and she had not advertised for the position. She said the part time clerk took the full time position. She said Nancy Karins was also looking for a part time employee and the discussion followed on sharing one employee. She said it is a unique situation where one person meets the needs of both offices. She said due to it being full time work, it would involve the benefits, but will reduce the turn over and retraining necessary with changes in personnel. Mrs. Kehoe said she feels confident they can cooperate and work well together with this arrangement.

The motion was made by Mr. Putney and seconded by Mr. Johnson to approve the appointment of Sheila DeLong, Delmar, NY to the position of Account Clerk to be shared between the Comptroller's Office and the Receiver of Taxes and Assessment's office at a salary of \$21,561 per year, effective date August 14, 1997, with fringe benefits as normally available to full time positions. The motion was passed by the following vote:

Ayes: Mrs. Fuller, Mr. Putney, Mr. Lenhardt, Mrs. Davis,
Mr. Johnson.
Noes: None.

The next item was a request from David Austin, Administrator, Parks & Recreation Department, for approval of a change order regarding fencing at the playing fields at Elm Avenue Town Park.

Parks and
recreation
department
approval of
change of order
regarding
fencing for
playing fields

The motion was made by Mr. Lenhardt and seconded by Mrs. Davis to approve a change order in the amount of \$480 regarding fencing at the playing fields at the Elm Avenue Town Park. The motion was passed by the following vote:

Ayes: Mrs. Fuller, Mr. Putney, Mr. Lenhardt, Mrs. Davis,
Mr. Johnson.
Noes: None.

The following item was a request from Administrator, David Austin, Parks & Recreation Department, for approval of appointment of seasonal personnel.

Parks and
Recreation
appointment
of seasonal
personnel

The motion was made by Mr. Putney and seconded by Mr. Johnson to approve the appointment of seasonal personnel as listed on the Memorandum dated August 13, 1997 from David Austin, Administrator, Parks and Recreation Department, at the titles and salaries listed. The motion was passed by the following vote:

Ayes: Mrs. Fuller, Mr. Putney, Mr. Lenhardt, Mrs. Davis,
Mr. Johnson.
Noes: None.

The next item was consideration of a resolution appointing Democratic Election Inspectors and Poll Clerks for the term July 15, 1997 through July 14, 1998 as submitted by the Democratic Chairman.

Resolution
appointing
Democratic
Election
Inspectors
and Poll Clerks

362

The following resolution was offered by Mr. Johnson and was seconded by Mr. Lenhardt:

RESOLVED, that pursuant to Article 3 of the Election Law, the following persons be and they hereby are appointed Election Inspectors and Poll Clerks as recommended by the Democratic Committee to serve for the period July 15, 1997 through July 14, 1998 as indicated on the attached lists. (See lists on file in Town Clerk's office)

The resolution was adopted by the following vote:

Ayes: Mrs. Fuller, Mr. Putney, Mr. Lenhardt, Mrs. Davis, Mr. Johnson.
Noes: None.

Senior Services request for part-time clerk

The following item was a request from Karen Pellettier, Director, Senior Citizens Services, for appointment of part time clerk at an hourly rate of \$6.85. Supervisor Fuller explained that Miss Watt would be helping out while Elizabeth Mosier is out on family leave and additionally helping out as Mable Farrell will be leaving to move south.

Mrs. Pellettier explained Miss Watt has worked for the Senior Citizen Services office since she was in 8th grade as a volunteer. She said she joined the National Guard and is between programs. Miss Watt offered to come in and volunteer and when Elizabeth announced she would be on leave, Mrs. Pellettier asked Rebecca if she would consider training to help with the switchboard. Mrs. Pellettier explained they need some helping hands due to the two losses. She asked that Rebecca be paid retroactive to her starting date.

The motion was made by Mr. Putney and seconded by Mrs. Davis to approve the appointment of Rebecca Watt, 7 Burhans Place, Delmar, NY to the position of Part time Clerk, Senior Citizens Services, at an hourly rate of \$6.85 per hour retroactive to August 1, 1997. The motion was passed by the following vote:

Ayes: Mrs. Fuller, Mr. Putney, Mr. Lenhardt, Mrs. Davis, Mr. Johnson.
Noes: None.

Receipt of Cable Television Quarterly Franchise Fee from A-R Cable Services

The next item was to acknowledge receipt of the Cable Television Quarterly Franchise fee from A-R Cable Services, Inc., in the amount of \$41,036.

Chief of Police approval for transfer of money

The following item was a request from Richard LaChappelle, Chief of Police, for approval of transfer of \$765.61 from the Insurance Recovery Account to the Collision Repairs Account.

The motion was made by Mr. Johnson and seconded by Mr. Lenhardt to approve the transfer of \$765.61 from the Insurance Recovery Account to the Collision Repairs Account. The motion was passed by the following vote:

Ayes: Mrs. Fuller, Mr. Putney, Mr. Lenhardt, Mrs. Davis, Mr. Johnson.
Noes: None.

Mr. Veltman suggested the Slingerlands Park to Town of Bethlehem Firefighters Memorial Park

Supervisor Fuller said the next item on the agenda was a unique opportunity and she would like Mr. Veltman to come forward and tell about the idea for the naming of the Slingerlands Park to The Town of Bethlehem Firefighters Memorial Park. Mr. Donald Veltman indicated he has lived in the Town for 35 years, born and raised here. He said the proposal is for the pocket park next to the Slingerlands Fire House. He said the park has been called many different things during

the years -- everything from the Slingerlands Fire Department park to the Slingerlands park to the park next to the Slingerlands Fire house. He said it has never really had a name. Mr. Veltman said during the years in the fire service he has seen a lot of good firefighters come and go, pass away over the years. He said he has seen a lot of memorials to different people around the Town. His suggestion he said was to make the park a memorial to the firefighters of the Town of Bethlehem by naming the park, the Town of Bethlehem Firefighters Memorial Park.

Supervisor Fuller said she wanted Mr. Veltman to get some recognition for this suggestion. She thanked him. She said Don also pointed out in his letter because of the special relationship between firefighters and children, there could be no more appropriate memorial than this park, a place where children play.

The motion was made with pleasure by Mr. Lenhardt and seconded with pleasure and thanks by Mr. Johnson to name the park adjacent to the Slingerlands Fire Department the Town of Bethlehem Firefighters Memorial Park. The motion was passed by the following vote:

Ayes: Mrs. Fuller, Mr. Putney, Mr. Lenhardt, Mrs. Davis,
Mr. Johnson.
Noes: None.

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Supervisor Fuller thanked Mr. Donald Veltman. Mr. Johnson asked Mr. Veltman about the suggestion to carry this to the fire companies and getting together and making a nice memorial or statue. Mr. Veltman said for information, he also spoke to the Supervisor -- due to his being a member of the Town of Bethlehem Fire Officers Association -- about approaching the fire officers with the idea of possibly having each fire department donate a park bench for around the perimeter and then at some point in time think about a program to set up a memorial at the corner of the park so it does not interfere with the actual playing area in the park that the children use. He said everything they come back with would have to meet the specifications of the Town but he would like to have permission to pursue that also. Attorney Kaplowitz said some kind of a plaque or a monument would be in order. Mr. Veltman said along the same line, he has already gotten a donation by Bob Zautner of the Tollgate Restaurant of the original Slingerlands elementary school bell. He said the school house used to be across from the church.

Mrs. Davis said she liked the idea of the benches too. Supervisor Fuller said this is a memorial park for all Bethlehem firefighters. Mr. Veltman said this was correct.

The last item on the agenda was to approve the Town Board minutes of July 9 and July 23, 1997 as submitted.

Approval of
Town Board
Minutes of
July 9 and
23, 1997

The motion was made by Mr. Putney and seconded by Mrs. Davis to approve the Town Board minutes of July 9 and July 23, 1997 as submitted. The motion was passed by the following vote:

Ayes: Mrs. Fuller, Mr. Putney, Mr. Lenhardt, Mrs. Davis,
Mr. Johnson.
Noes: None.

Supervisor Fuller asked if there was anyone who wished to address the Board. There were none.

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364

Adjourn the
Town Board
Meeting

The motion was made by Mr. Lenhardt and seconded by Mrs. Davis to adjourn the regular Town Board meeting at 10:20 p.m. The motion was passed by the following vote:

Ayes: Mrs. Fuller, Mr. Putney, Mr. Lenhardt, Mrs. Davis,
Mr. Johnson.

Noes: None.

Kathleen A. Newkirk
Town Clerk