

TOWN BOARD
APRIL 24, 2002

A public hearing 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
George Lenhardt, Councilman
Doris M. Davis, Councilman
Daniel G. Plummer, Councilman
Thomas Marcelle, Councilman
Kathleen A. Newkirk, Town Clerk
Robert J. Alessi, Esq., Town Attorney

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SUPERVISOR FULLER: Good evening and welcome to a meeting of the Bethlehem Town Board. Ask you to join us in the pledge of allegiance.

Supervisor Fuller said prior to beginning the agenda this evening, she called on Sergeant Joseph Sleurs to come forward and presented him with a Certificate pertaining to his retirement from the Bethlehem Police Department after 33 years of dedicated service. She congratulated Sgt. Sleurs and his wife.

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Supervisor Fuller asked if Katherine Mahoney was in attendance. She was not in the audience. She said she asked Ms. Mahoney who had received the award on the billboard for America's Recycles Day to attend the meeting.

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Supervisor Fuller next called Mr. Daniel Santola forward to present him with a Certificate for his service since 1978 (24 years) to the Town of Bethlehem as Counsel to the Assessor's Department and the Board of Assessment Review. She thanked Mr. Santola for his meritorious and dedicated service to Bethlehem and its people.

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SUPERVISOR FULLER: May I have a motion to indent the Notice of the Public Hearing.

TOWN CLERK NEWKIRK:

RESOLUTUOIN PURSUANT TO SECTION 202-B OF THE
TOWN LAW OF THE STATE OF NEW YORK
ADOPTED AT A REGULAR MEETING OF THE
TOWN BOARD OF THE TOWN OF BETHLEHEM,
HELD AT TOWN HALL, 445 DELAWARE AVENUE,
DELMAR, NEW YORK ON THE 27TH DAY OF MARCH, 2002

WHEREAS, the Town Board of the Town of Bethlehem (the "Town") has heretofore established Water District No. 1; and

WHEREAS, the Town subsequently expanded the water district by the construction of additional water supply facilities, including a water supply system consisting of, among other things, an infiltration gallery located in the Schermerhorn Island area of the Town and a water treatment plant located on Clapper Road in the Town (collectively, the "Existing Infiltration System"); and

WHEREAS, the Existing Infiltration System was required and expected to produce ground water in the amount of at least 6 million gallons per day "MGDS"), and will further produce 12 MGD; and

WHEREAS, soon after the Existing Infiltration System began operating, the Town discovered that it was not producing the required 6 MGD, and the production of the Existing Infiltration System has continued to decline to a point where it now produces less than 1 MGD; and

WHEREAS, issues relating to, among other things, the hydrogeologic and engineering investigations relating to the infiltration gallery, the infiltration gallery's design, and the infiltration gallery's performance have been the subject of litigation between the Town and the consultants for the Existing Infiltration System; and

WHEREAS, IN OR AROUND May 2001, the parties to the litigation entered into a Settlement Agreement, whereby certain defendants, including Earth Tech Environment and Infrastructure, Inc. ("Earth Tech"), without admitting any liability, and at no cost to the Town, agreed to, among other things, conduct additional investigations and permit, design and construct a supplemental well system consisting of a series of diagonally-drilled wells at the site and other possible intakes for the purpose of supplementing the yield of the Existing Infiltration System; and

WHEREAS, Earth Tech has proposed to install a system of individual, diagonally-drilled wells and other possible intake devices and associated infrastructure (the "New Well System") in an area generally adjacent to and southerly of the existing infiltration gallery; and

WHEREAS, Earth Tech has constructed and tested a full-scale test intake component of the proposed New Well System which consists of, among other things, a single directionally-drilled well (the "Test Well"); and

WHEREAS, Earth Tech has advised the Town and others that, based on its pump testing of the Test Well, and its analysis of the requisite pumping and related data, the parties are justified in proceeding to construct the New Well System; and

WHEREAS, Earth Tech has prepared a map, plan and report, entitled "Engineer's report, Water Supply Augmentations, Bethlehem, New York," dated March 2002 (the "Engineering Report"), which describes, among other things, site conditions, hydrogeologic investigations and data, the proposed New Well System and related matters; and

WHEREAS, Earth Tech has furnished copies of the Engineering Report to the Town Board; and

WHEREAS, a copy of the Engineering Report is on file in the Town Clerk's office for public inspection; and

WHEREAS, the proposed New Well System would be constructed at no cost to the Town pursuant to the Settlement Agreement; and

WHEREAS, Section 202-b of the New York Town Law provides that whenever a town board determines it to be in the public interest, after a public hearing, the town board may acquire or construct on behalf of a water district, additional facilities therefore and appurtenances thereto, including additional lands or interest in lands, or may approve or reconstruct existing facilities and appurtenances; and

WHEREAS, the Town Board is desirous of conducting a public hearing regarding the proposed New Well System and wishes to give notice thereof by publishing and posting as prescribed by law; and

NOW, THEREFORE, BE IT RESOLVED that the Town of Bethlehem shall meet and hold a public hearing at the Town Hall, 445 Delaware Avenue, Delmar, New York at 7:30 p.m. on the 24th day of April, 2002, to consider the aforesaid Engineering Report and the proposed New Well System and to take such action thereon as may be required or authorized by law.

BE IT FURTHER RESOLVED that the Town Board hereby authorizes the Town Clerk to publish notice of the aforesaid public hearing as prescribed by law, including Section 202-b of the Town Law;

BE IT FURTHER RESOLVED, that a copy of this determination shall be noticed and filed as required by law. On a motion by Mr. Plummer, seconded by Mr. Lenhardt and a vote of 4 for, 0 against, 0 abstention, and 1 absent, this RESOLUTION was adopted on March 27, 2002.

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State of New York)
County of Albany)

ELIZABETH BRADT of the Town of Bethlehem, being duly sworn, says that she is the RECEPTIONIST for THE SPOTLIGHT, a weekly newspaper

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published in the Town of Bethlehem, County of Albany, and that the notice of which the annexed is a true copy, has been regularly published in said THE SPOTLIGHT ONCE A WEEK FOR 1 WEEK consecutively, commencing on the 10th day of April 2002.

/s/ Elizabeth Bradt

Sworn to before me this 10th day of April 2002.

/s/ Sharon A. Doldo

Notary Public, Albany County

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STATE OF NEW YORK)
COUNTY OF ALBANY) ss.:

KATHLEEN A. NEWKIRK, being duly sworn, deposes and says that she is the Town Clerk of the Town of Bethlehem, Albany County, New York and that I posted on April 10, 2002, a Notice of Public Hearing, a copy of which is hereto attached, on the sign board of the Town maintained pursuant to subdivision six of Section thirty of the Town Law.

/s/ Kathleen A. Newkirk
Town Clerk

Sworn to before me this
24th day of April, 2002.

/s/ Catherine T. Picarazzi

Notary Public

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The motion was made by Mr. Plummer and seconded by Mrs. Davis to indent the Notice of Public Hearing, Affidavit of Publication and Affidavit of Posting on the minutes of the meeting. The motion was passed by the following vote:

Ayes: Mrs. Fuller, Mr. Lenhardt, Mrs. Davis, Mr. Plummer, Mr. Marcelle.
Noes: None.

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SUPERVISOR FULLER: Which one is starting the presentation?

MR. MYERS: Would you mind if I moved the mikes over here so that we could face the audience?

TOWN CLERK NEWKIRK: You just need the silver one.

SUPERVISOR FULLER: Does that still record?

COUNCILMAN LENHARDT: You can take it out of the holder if you want.

MR. MYERS: That's okay. Good evening. Again, my name is Stephen Myers with Earth Tech and I don't normally read when my presentations but I do want to read this. It is a public hearing and I'd like to make some statements that I would like to go into the record if I could. My name is Stephen Myers. I am Vice President of Earth Tech located in our Albany, New York office and the officer in charge of the Bethlehem water supply solution project for the Town. I'd like to first thank the Town Board for the opportunity for our team to appear before you and the public this evening to describe our proposed water supply augmentation strategy in the area of the present infiltration gallery along the Hudson River.

Our agenda for this evening's public hearing follows: I would like to make a brief introduction. We'd like to describe who we are. We will then discuss why the gallery is not providing 6 million gallons a day as was intended. Go through our solution plan, talk about the permits that are required for the solution, project

schedule and certainly accept any questions. Included in our brief introduction is the purpose of this hearing and I would like to provide some background on our firm and how we relate to the historical chronology of the subject problem and finally I'd like to introduce our team members.

For those who don't know, I presume you do, but the purpose of this public hearing is to provide the Town with a synopsis of our proposed solution for the insufficient quantity of water being provided by the existing infiltration gallery so that the Town as the applicant, will authorize us to submit the various applications necessary to obtain State and Federal permits to proceed with the project. The details of our presentation tonight are contained in the draft engineer's reports which we have provided to the Town. In addition, we are here to answer questions that you or the public may have on the project.

If we could, just for a moment, just step back... it's very important for Earth Tech and particularly for me to provide the public some facts regarding our firm, our responsibilities in this matter and some brief chronology on the problem. Earth Tech, if you are unaware is an approximately 1.3 billion dollar engineering/science and technology company with over 8,000 employees worldwide. The company is one of the largest engineering firms in the United States. The company was founded in the early 1970s and was eventually purchased by Tyco International in 1996. Tyco is, today, a 30 billion dollar worldwide leader in the electronics, health/care, finance, fire and security systems and infrastructure business areas. Tyco is a solid company with real results and real cash flow. Tyco and Earth Tech have both grown significantly through acquisitions. For your ... that I provided just a brief presentation materials on Earth Tech which I will leave with you, as well as, our annual report for those who would like to look at them.

In 1998, Earth Tech approximately doubled its size by acquiring Rust Environmental Infrastructure from a company by the name of Waste Management. Rust E and I was previously one of 5 Rust companies within Waste Management providing certain engineering consulting services. The other Rust entities were sold by Waste Management to other companies. Neither Earth Tech nor Tyco had any involvement in those transactions. Rust E and I was the company that provided aquifer investigation services to the Town on the infiltration gallery. Rust E and I was not the design engineer nor the construction company for the existing gallery but they did work closely with Fraser and Associates who did the design and construction.

In 1998, by acquiring Rust E and I, Earth Tech acquired responsibility for all existing Rust E and I contracts and specifically the issues that are before us today. We at Earth Tech take that responsibility very seriously and we move to meet those obligations. Excuse me, in 2000 I identified a red team of some of the best scientists and engineers in our firm including outside experts to investigate the issues of the infiltration gallery, review the feasible alternatives and define a solution strategy. In parallel with our legal counsel, we began negotiations with the Town and with Fraser to reach a settlement agreement which was accomplished on May 17 of 2001. The settlement agreement specifically identifies how the solution process will proceed and what methodologies are anticipated including the location. The settlement agreement includes a performance guarantee and will require no capital expenditure on the part of the Town.

To date, Earth Tech through its fix it team, I have to thank Mr. Alessi for that title as he has described us, has spent close to 3 quarters of a million dollars on the technical aspect of the solution and will spend a total of several million dollars to fix the problem. None of the project team we will meet this evening had anything to do with past work related to the gallery.

I hope this information provides additional information for you on who we are, our standards of business, conduct and clarifies our commitment to responsibilities we have to the Town. With this as a back drop, I'd like to move on and introduce the key members of our team to you this evening.

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First just let me give you a little of my own background. As I indicated, I am the Vice President of Earth Tech and the Senior Section Manager of Earth Tech's Albany, New York office responsible for environmental services in New York State. I have 25 years of environmental management and engineering experience in both industry and consulting. I perform water and waste water engineering projects in both the public and private sector, as well as, environmental management, regulatory compliance, contamination investigation and environmental liability projects. I hold a Bachelor of Science in Chemical Engineering from Lehigh University and a Master of Science in Environmental Engineering from Rensselaer Polytechnic Institute. I'm a Certified Environmental professional in Environmental Operations and a Certified Professional Environmental Auditor.

Paul Cote is our Technical Project Manager, Senior Engineer of the team. He is the leader of our water resources group within Earth Tech's Global Water Division. He has 26 years of experience in the planning, design and construction of services for water and sewer mains, pump stations, storage facilities, tanks, dams, water distribution systems and water treatment plants. He has undertaken several specialized projects in the area of ground water exploration and operational trouble shooting. Paul holds a BS in Civil Engineering from the University of Maine and an MS in Civil Engineering from North Eastern and he is a registered professional engineer in 3 states.

Gary Smith... if you've been out to the gallery, you probably have seen Gary, he seems to spend a lot of time out there lately. He's our Senior Hydrogeologist and Field Leader of our team. He is a member of the Water Resources Group within Earth Tech and is located in New Hampshire. He has 25 years experience in ground water exploration and sand and gravel and bedrock aquifers, as well as, walled construction design. Gary holds a Bachelor of Arts degree in geology from Rider and a Master of Arts degree in physical geography from SUNY Binghamton. He is a registered well driller.

Jesse Schwalbaum... I don't know... Jesse was here last time. Jesse is our Senior Hydrogeologist and lead ground water modeler on our team. Jesse also is a member of the Water Resources Group and is located in Amherst, Massachusetts. Jesse has over 22 years experience in hydrogeology and 15 years experience in ground water modeling. Jesse holds a BA in geology from Boston University and an MS in geology from the University of Massachusetts at Amherst. He's a certified geologist in the State of Maine and a Member of the Massachusetts Department of Environmental Protections Ground Water Advisory Committee. He's also the author of the book "Understanding Ground Water – A Consumers Guide to Safe Drinking Water".

Finally, Trish Gabriel. Trish is our Senior Environmental Scientist here in our Albany office. She's responsible for the permitting of the Bethlehem water supply augmentation project. She has over 9 years experience of regulatory issues as they relate to environmental permitting and compliance for a wide range of municipal, industrial and commercial projects. Trish specializes in wetland delineation, permitting, impact analysis, evaluation and mitigation. She holds a BA in biology from Hartwick College and a Master of Science in Environmental Science from SUNY College of Environmental Science and Forestry. Trish is also a certified professional wetland scientist and has provided technical guidance in matters related to wetland ecology.

That's the team that's working on your project and what I would like now to do is turn this over to Paul Cote who will discuss the issues with the present gallery and issues with its yield.

SUPERVISOR FULLER: Okay, before you begin. I would like Mr. Alessi who is the Town Attorney to address the audience, please.

TOWN ATTORNEY ALESSI: Sure. Consistent with my remarks over the past 4

years on this matter, I want to alert the members in the audience to the fact that this is not your typical public hearing. This public hearing is occurring in the context of litigation. And, while we have a settlement agreement with various defendants in this litigation, the settlement agreement is contingent upon events that have not yet come to fruition and what that means is, is that litigation can still be a possibility. We're very hopeful that this fix is going to work and that we'll proceed on as had been planned year ago. However, because it is still technically in litigation, we have a challenge here and the challenge is we want to be as transparent as this Board always is with regard to the events and the questions, however, we also have to protect the Town's position in the litigation. We are no different than any other litigant and that is that we have to make sure that we don't have strategic discussions in public that would prejudice the Town and hence the taxpayers and the citizens by too transparent a discussion. So, what we are going to try to do tonight is to make sure that we... as best we can... answer any questions. This is a public hearing, not truly a question and answer session but to the extent those questions come up, but there may be times when we have to interject and say that that would be something discussion that could very well jeopardize the Town's position in the litigation. And, as many of the public know, this is no small litigation, this is a litigation that involves millions of dollars. So, we do have to be prudent here.

Finally, I want to say that there is, as I mentioned, a settlement agreement. We're not writing from a clean slate here. There are obligations that the parties have taken upon in the settlement agreement, including the Town. So, we are having this public hearing, it's a genuine public hearing. It's a genuine issue for the Board to be addressing but there are certain obligations in the settlement agreement that we have to move forward on. So, if at times, we have to interject on that, we do it with advance apologies but we are hopeful that with to the system, and the technical questions and presentations with regard to the system that we can have a very fulsome discussion on that.

SUPERVISOR FULLER: Thank you, Bob. You may continue.

MR. COTE: Thanks, Bob. My name is Paul Cote and as Steve introduced, I am the Technical Project Manager for this project and I'll start off with the slides to just give you a little orientation on where the site is that we have been working on. This box here is the gallery located along the Hudson River. The gallery was originally intended to deliver 6 million gallons per day. It hasn't done that, that's why we are here. It's currently capable of producing about a million gallons per day and for those that may be thinking in terms of gallons per minute, that's about 700 gallons per minute. 700 gallons per minute is 1 million gallons per day. The gallery essentially consists of a large box, if you will. If you just imagine there was 1,000 foot long in length, a box was created in the earth, excavated nearly to bedrock. That box is then filled with... it's like a gravel and a pipe is placed in the bottom of that box to collect water of the ground. That water was supposed to come from the ground, as well as, the infiltration from the river itself.

This is a view of the river from the gallery. As you can see.... Most of you all know that. This is a very active shipping channel, this particular stretch of the Hudson. We'll show you some test wells that were part of the gallery, investigation of the ground water and the aquifer beneath the river. This is a view of a manhole, if you will, similar to the gallery pump station. The lights are a little bit bright here but on the edges of the manhole, if you will, and on each side of these pipelines, are an iron growth. Similar to the iron growth that we found in the gallery pump stations and on the pumps in the gallery. This next picture, this is one of the pumps from the gallery itself. This rectangular opening is where the water actually flows or is drawn by the pump into the gallery piping system. This opening right here, normally is wide open and water flows from the aquifer or from the pump station into this opening up through the pump and into the piping. The iron bacteria leaves this iron crustation which is choking off this particular point. Before this picture was taken, the pump was actually cleaned and outside the pump you can actually see blue. It was all covered by this iron crustation here.

We were curious to know what happened to that pipe that I described in the bottom of the excavation of the trench, so one of the things we did as part of the investigation was to look at the inside of that pipe using an underwater remote operated camera. It was on a little track... if you will with a camera and light source on the head end of it so we could actually look at what goes on inside the gallery screen. To install that gallery screen, we had to use a diver to go down inside one of the pump stations, went down through this manhole and saw the camera into one of the laterals. The gallery is actually running in a north/south along this access. This is the river up here and you'll see a later slide when the construction takes place along the west of the river. This is what the actually inside of the screen looked like after we televised it. When you are televising it, you have to get one of the pumps running so water is going from an auto sleeve towards us. You can see this incrustation just really a natural bacteria of iron bacteria. And, iron bacteria is found specifically found in ground water, comes past this iron bacteria, if you will, eats of the iron and turns it into a composite of iron oxide and iron hydrate.

This is an actual section of the screen where you can actually see the screen itself. You can see the slot and the pvc pipe... 12 inch diameter pvc pipe. You can see how thick the buildup is on these slides and we estimate that across the link... and again, the screen is about 1,000 feet long, something nearly 95 percent of it is plugged up by this iron oxide. This is a good view of the river bank near the gallery. The gallery is immediately over here behind the trucks and we were doing some test wells, if you will, to look at a cross section, laterally, across the river bank to the gallery itself to determine ... head locks... to determine where the friction is of the water flowing in from the river and into the ground water and into the gallery.

In this cross section you can see the gallery trench itself. This is the pipeline that they're talking about and these light blue lines are indicating the flow of the water from the aquifer beneath the river into the gallery. One of the things that we've learned through our testing and modeling of the aquifer is that the gallery failed for a number of reasons. Partly due to the construction of the gallery and the way it was constructed into the ground. Partly due to geology where the bedrock is shallower perhaps than was originally thought and partly due to physical limitations. Just off shore... edge of the shore, if you will, there was a sheet or a pilot wall that was constructed to retain, if you will, the river bank against the tidal ... of the river. For those pilot bluffs that are near the bedrock and perform a physical barrier, if you will, that will keep water flowing freely from the river bottom into the infiltration gallery.

Gary Smith is going to come up and talk about some of the technical solutions that we've looked at.

MR. SMITH: Thank you, Paul. Good evening, if you can't hear me, I'll come up to the mike here but I'd rather stand back here. What I wanted to do is take you back in time... back in time, I don't think anyone here from memory 10,000 years ago but if we look at this picture here... we can look at this visualizing from Bethlehem north right along the Hudson River valley. This is a glacial ice sheet that existing here about 8,000 years ago, temperature warmed in the earth and the ice started to retreat coming out from the end of the glacial ice sheet was water carrying a lot of silt laden materials, sands, gravels, depositing between the valley walls on the east side of the Hudson River. Can't get good help around here.

If we look from basically Bethlehem southward along the Hudson River we can visualize this as being the Hudson River. Here's the side valley walls and coming out from the glacier is your sand and gravel deposits. If we took a slice through the aquifer we would see that it would be comprised of various thicknesses of sand, alternating layers of sand and gravel. In this particular case most of the material that was deposited in what we call Schermerhorn Island site, is comprised of sands which would be the finer grain layer and there are some thin deposits of coarser

gravel. A lot of this deposit has been mined in the past through dredging. Some parts have been... it was mined down to certain depths. I've had quite a wonderful historical accounting of the past and I've learned a lot over the last couple of weeks and like to thank Mr. Kelleher for that.

Next slide. In order to examine what the water yield and capability of the aquifer that we believe had existed on the site. We had to get out and do our homework. We had to do test well exploration. We looked on the land side of the sea wall and we also looked on the river side. We went in with barges with a drilling rig on top and we conducted extensive test well exploration to find out the distribution of the sand and gravel and also its transmissivity. It's water transmitting capability. What we found is that the most permeable, most prolific water producing portion of the aquifer lies directly underneath the Hudson River, basically paralleling what is called the sea wall or retaining wall that was put in here, basically wood piling that front the shore line of the Hudson River that began construction, I believe, back in the early to probably 1830s and continued up through maybe 1920s or 30s. And, what we determined was the most appropriate type of well construction in order to get the greatest quantity of water with the highest potential water quality was through the installation of what we call angle wells. This angle well which we call AW1 was installed at a 20 degree angle and what it did is projected a 24 inch diameter casing underneath the ground surface, beneath and through the wood pilings out beneath the river bed and this is the only drilling technique that is out there to be able to construct this large a diameter casing through wood pilings that are basically this thick in diameter because they're kind of springy and we could actually go through this successfully.

What this angle well looks like at a close up, here we have... we propose either constructing up to 6 more for a total of 7 at either 10 or 20 degree angle from horizontal. Here we see the pilings in brown and what this represents is the screen link that's exposed. The screen allows water to flow into the well from the aquifer to be transmitted in. We installed an artificial gravel pack around the screen which allows us to increase the openings in the screen. This technique here, we only have 3 inches of gravel pack around the screen. That's a key critical element in the ability to maintain this type of well for years and decades to come. What we've done is minimize this pack diameter so that we can rehabilitate the wells as effectively as possible. One of the other key elements is that it also allowed us to extend the 24 inch casing outside of the wetland area. It facilitates permitting and it also facilitates protection against ice flows and gets the well out of this particular zone. This is the only technique out there that can do this large a diameter construction with gravel packing and it is very innovative technology.

Here we see a close up of the stainless steel screen and these are milled slot and thousands of an inch opening. They're computer generated... computer well for precision. This screen is inserted inside 24 inch diameter outer casing and an artificial gravel pack... it would look like filter sand that you might find with your pool filter... installed and placed in between the outer 24 inch casing and the outside of the screen, providing a buffer. You notice at the top here, we have a chlorine injection tube. The purpose of this chlorine injection tube is in order to maintain a residual chlorine in and around the screen, not only when the well is pumping, but also when the pump is shut off that there will be a residual placed in around the screen. The purpose of the chlorine injection is to minimize iron bacteria growth and build-up and to facilitate any type of future clean-up. This is proven quite successful in some recent wells that have been installed throughout New England in iron laden aquifers similar to this.

I would like to make note that the natural iron on the site is elevated. What we intend to do by coming at an angle 20 degrees and going beneath the river is to get a reduction in the iron and to basically get a lower iron water. One thing I would like to mention is... next slide. At the end of the installation in December, the end of December between Christmas and New Year's – great time to do this but we're lucky we didn't have snow or frozen river conditions – we conducted a 7 day constant rate pumping test on AW1 at a rate of 600 gallons a minute. What this is

equivalent to is approximately 1/7th of the 6 million gallons a day that we're going to achieve for this site. At the end of the pumping test, our water was totally coliform free, ecoli free although it had elevated iron, that was expected. But, we anticipate with continued pumping that the iron should drop and... Okay, another slide.

Another aspect of our augmentation recommendations, we're not only talking about angle wells but also the concept of what's called a ground water reservoir. This concept is very simple but yet very innovative. In a sense, we will go into those areas of the aquifer on the land side of the river and what we propose is up to 3 ground water reservoirs that will be excavated down into the aquifer, lined with rip-rap around the side for stability and water would be pumped from these aquifers up to the water treatment plant. This type of procedure here should be... receive very low maintenance requirements. Next slide.

Another augmentation method that we are proposing is conventional vertical wells. Where I mentioned about the angle well going in at 20 degree angle, conventional wells are installed vertically. This would be a supplement to ensure that if necessary we're going to do it in sequential fashion to ensure that we get the 6 MGD. Next slide.

A very important aspect of the success of this whole project is maintenance and due diligence maintenance is really critical. What is very important is to ensure that when the well... all well yields will tend to decline over time but naturally whether there is iron in the water or not, however with iron it can facilitate the decline more so than a non-iron type of ground water system. And, what it is, is that once a well starts to decline to about 85 percent, it's highly likely that by going in and applying proper rehabilitation techniques that you can obtain a 100 percent full recovery. However, if the well is allowed to decline in yield, it gets down to a point to like 40 percent where it's highly unlikely if not impossible to ever bring the well back. An alternative end then is to install a replacement well. So, maintenance is probably one of the critical factors here for this project. Next slide.

Standard well cleaning that's proposed for this project, I've been involved in 30 or 50 over my career aspect includes the application of chlorine in the form of calcium hyperchloride and we estimate about 40 pounds, the cost is at \$3.00 a pound, and 300 gallons of hydrochloric acid which is better known in this percent concentration, muriadic acid at \$3.25 a gallon. You can see the chemical costs are relatively inexpensive. What comes into the additional cost is the actual labor cost of pulling the pump which is... we're setting it up to be very easy to do... and agitating and surging the well with a set of surge blocks... rubber blocks which I will show in a minute here... and if necessary you can repeat this chemical application at this time. Next slide.

Here you see a close up of what these surge blocks look like. These are actually done on angle well number 1. Very easy to insert, they act like surge plungers and they will agitate the chemicals, stir up the iron – any biothaling that may be occurring in the well. And, then you would end up pumping the chemicals out into a neutralizing tank that would neutralize the chlorine and neutralize the acid.

What I'd like to do is have my co-associate Jesse Schwalbaum to speak about how we quantized or determined how much water we feel we can obtain from this quite prolific aquifer on the site. Jesse.

MR. SCHWALBAUM: Thank you, Gary. I'm not going to go into a long, long discussion about how we're modeling but it's basically a way of mathematically compiling all the information that we have on this aquifer. The geology of the aquifer, the materials that are in it, the river and how all these interact. We basically put them all into this computer model and these lines here that you see are little pieces of the computer model. These are what they call.... This is just the top of the model. It's actually 8 layers thick, a 3 dimensional model. And, each one of these little boxes here, in fact they get so small that I can't even see them up here.

They're 5 feet by 5 feet in size and each one of them has a little bit of the aquifer in it and mathematically the model just adds them all together. Just to give you... orient a little bit, this is the Hudson River here and ... extends all the way out here, the Vlomankill here, there's the that goes across Schermerhorn Island, the access road to the infiltration galley. Here is the proposed wells.... Angled wells going in. Here's the proposed ground water basins and here's the vertical wells here ... and a vertical well there. And, this is all input into the model. We ran the model. We compared it to the results of pumping test that we conducted both at the angled well and at the infiltration gallery and got good maps so we felt confident that the models actually is showing us what is happening in the aquifer. And, then we simulated different scenarios, different number of wells and different positions and what we found is, with the angle wells alone we get the vast majority of the 6 million gallons per day that we needed but not with a very wide margin of error. So, we decided that we needed some back-up just in case things are not as rosy as we hope so that's why we proposed the other ways of getting water. But, we are hoping that most of the water can come through the angled wells and these other system will only be put in as we need them.

So, if people have questions about the ground water talk about it a little later but right now, we've talked about the study that was done and how we came up with the system and Trish is going to go through the permitting process.

MS. GABRIEL: Thanks, Jesse. Trish Gabriel and as he said, I am responsible for the permitting of this project. There are several permits and approvals that we need to obtain to authorize this project. Firstly, the project is subject to the State Environmental Quality Review Act, SEQR, and the project is classified as an unlisted action under SEQR and therefore, a full environmental assessment form must be completed. With the Town Board's approval, the form and supporting information will be submitted to the Department of Environmental Conservation. A coordinated review of the project will be conducted and once selected, the lead agency will issue it's determination of significance.

We anticipate that the project will receive a negative determination of significance and no further action will be required under SEQR.

The next permit is actually a modification of an existing permit, the water supply permit which was issued by the DEC and reviewed by the Department of Health, the State Department of Health and the County Department of Health. We'll be submitting a request to the DEC to modify the existing water supply permit to include the proposed augmentation components of the project. Originally the water supply permit was issued for 6 million gallons per day and no additional capacity will be requested. The next item is New York State Freshwater Wetlands act permit which is also issued by the DEC. Because the angled wells, the vertical wells and some portions of the new water supply line, will be placed within the regulated 100 foot adjacent of the State wetlands, a Freshwater Wetlands Act from it will be required. However, no impact to wetlands will result from the proposed construction of the project.

Next item is permit for use of State owned property which is issued by the New York State Office of General Services. A portion of the augmentation system will be constructed on State owned property which is administered by the Office of General Services. We, therefore, must obtain a permit for use of State owned property from OGS.

Next item is actually a review. It's conducted by the Department of State and since the project is located entirely the coastal zone associated with the Hudson River, the applicant is required to submit a Federal Consistency Assessment Form and a Consistency Certification for review by the Department of State. The Department of State will review the proposed project for consistency with the policies of the coastal management program

The last permit we need to obtain is a Section 10 permit and this is issued by the

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U.S. Army Corps of Engineers. The U.S. Army has jurisdiction... regulatory jurisdiction within, above and below the Hudson River and since we will be drilling angled wells below the river a Section 10 permit will be required from the Corps.

In terms of permitting review time frame, with Board approval, Earth Tech plans to submit all permit applications on or before May 10th and we've conducted two pre-application meetings so far to facilitate the review process. We anticipate that the review of permit applications will be completed within 2 to 3 months, however, the reviewing agencies will ultimately determine the actual review time frame.

Now, I will turn it back to Steve to discuss the project schedule further.

MR. MYERS: Just wanted to provide you with just an overview of some of the major elements of the project going forward. I believe it was Mr. Plummer asked last meeting what our sort of overall time line was. These are the major elements of the project moving forward. The hope is that... we'll basically hear the information we have provided tonight and do the engineer's report and if we get authorization to submit a permit application by the end of March. With that as a time frame... I'm sorry... get authorization by April 30th so that we can submit permit applications by approximately the middle of May. With those in place, that would then take... we're anticipating a couple months for the State to review those applications and ultimately give us permits. In the intervening time what we would like to do is perform a pilot test on the ground water reservoir option that we've described this evening. As we noted the last time we were here and we first introduced this particular option, it is an option only. It's still in discussion with the Town. We have some additional testing to do on that particular option and I believe we can run a pilot test to see if the results of that test are consistent with what our theory is in terms of the yield of those ground water reservoirs and the water quality.

With the anticipated permit approval sometime in July and as you know, that's obviously in the auspices of primary DOH and DEC, we would like to be in the field for construction some time into the summer and construction would proceed through the remaining part of the 2002 construction season to install additional augmentation sources, primarily angled wells during that period of time to try to get the bulk of the sources in the ground this year. In the fall we would anticipate parallel with that, doing additional infrastructure design. The piping system that go along with the angled wells, etc., getting those developed and designed in anticipation of completed piping lines sometime in the spring of 2003 with the ultimate transition of turn over of the entire system to the Town by December of 2003.

So, that right now is our proposed schedule. As I said, much of this is contingent upon review of the permit application by the State and Federal government. As Trish indicated, we have had some, I think, extremely productive meetings with the State and the Federal government anticipating their need to ask questions given them the opportunity to understand what we've been doing so as not giving them surprises in their review process to try and shorten that time period and get them on board with where we are. And, that has been going very well.

With that, that's our primary presentation this evening. We are available to answer questions and we'll do so at this time.

SUPERVISOR FULLER: Sure. Anyone who has questions, we need you to come to the mike for the public hearing so that it's all recorded.

COUNCILMAN MARCELLE: Madam Supervisor, can I ask a couple questions just so I'm clear about a couple things.

SUPERVISOR FULLER: Sure.

COUNCILMAN MARCELLE: The cleaning process you mentioned with the

chemicals, how often would you anticipate that's needed to be done in an angled well?

MR. COTE: It's kind of hard to tell until we actually get something in place and the water quality but typically with water quality like this, you could be cleaning every few years, it may be as long as 5 years but probably something in the 3 to 5 range to do the wiring. As Gary expressed, what we're hoping for is that as we pump these wells under a continuous day system, water quality will improve, the iron level will go down. Again, to lengthen that time frame for cleaning.

COUNCILMAN MARCELLE: Why would that be? Why would you... the more you pump you lessen the amount?

MR. COTE: What we've got is iron laden water that comes from the land side and as we pump, the reduced raw water from the river if you will, the water underneath the water has less iron. As we pump it will change the balance of the water, the hydrology so more water will come from the river side of the aquifer rather than the lands on the aquifer.

COUNCILMAN MARCELLE: How long has your AW1 been in the ground?

MR. SMITH: Since December.

COUNCILMAN MARCELLE: So, it's really too early to tell what kind of iron build up has occurred in a quarter of a year.

MR. COTE: That's right. All we've done... we pumped it just for about a week. It's not pumping currently. It's still sitting there.

COUNCILMAN MARCELLE: Is there any adverse affect of the cleaning upon the water or the environment?

MR. SMITH: Adverse... you mean on the chemicals?

COUNCILMAN MARCELLE: No, I mean adverse on the water supply. In other words, if you... you know, I'm not too familiar with this but it seems to me if you start dumping hydrochloric acid down where people are getting the water from or where we're getting the water from, you could have an adverse affect on the water quality.

MR. SMITH: None. You pump it right out.

COUNCILMAN MARCELLE: It doesn't escape?

MR. SMITH: No. The acid has a higher ... gravity than water so it sinks and it will basically... water moves in a matter of just several feet per year in the ground so it won't migrate very far from the actual screen itself and what we do, is the time that we let the acid and the chlorine set in approximate 24 hours in the well, then pump it directly out and neutralize it into a basin so it does not migrate out.

We basically put the volume of the screen of chemicals into the well, put some water behind it and push it out a little bit ... around the pack itself and it does not migrate very far from the screen at all. Probably migrate

SUPERVISOR FULLER: Any other questions from the Board.

COUNCILMAN PLUMMER: Just on your schedule, you mentioned that you had a few pre-application meetings with DEC. Do they concur with that schedule that you outlined there?

MR. MYERS: Yes, basically the schedule that has been prepared was really trying to parallel what their needs are for review.

COUNCILMAN PLUMMER: Right.

MR. MYERS: I would say probably the one element we're not exactly sure of is whether they might say a month and a half, two months, potentially 3 months to review the application. They understand the sensitivity of trying to get as much of the construction season available to us this year. On the other hand, they can control that schedule. So, it's not as if we can force them to review it faster but our hope was that virtually everything that you have seen, maybe less some of the details on the ground water reservoirs are well known to them and have been discussed in detail with them already so the hope is that it will shorten the cycle because they are well aware of where we are heading. So, I think it is a fair schedule. It could take a little bit longer but I don't think it will be significantly longer.

COUNCILMAN DAVIS: You talked about the 3 inch gravel pack.

MR. MYERS: Yes.

COUNCILMAN DAVIS: Which was critical, you said, in this whole process and, again, I'm not an engineer, I don't understand a lot of it but considering where it is in the river, what prevents just wear and tear from that 3 inch gravel pack from deteriorating or wearing away?

MR. MYERS: That gravel pack is comprised of silica or quartz base. Its... cannot be broken down by acids or chlorine. It's a very resistant sand paper made out of ... buildings that last for thousands of years out of granite which has a quartz comprises that and what it is, it has very little foreign minerals in it, such as other irons and manganese that can be found in materials if they were derived locally from the area here because the rock in the area here is very high in iron naturally and this gravel would be imported from... it's called Cape May gravel from Southern New Jersey to the site and it will be there for thousands of year, physically, it will not break down.

COUNCILMAN DAVIS: Okay. You talked about the maintenance that's also a critical part of this whole new project. Who is responsible for maintenance just so I know? Will the Town ultimately be responsible for that or is that all part of Earth Tech's responsibility? Where does that responsibility lie?

MR. MYERS: Well, the operation and maintenance protocols as we described them in the settlement agreement will be our obligation to prepare. We will prepare those ... to the Town and in essence give to the Town user manual – if you want to call it – for how to operate and maintain the system. The actual maintenance and operations of the system will be the responsibility of the Town.

TOWN ATTORNEY ALESSI: To add to what Mr. Myers just stated, the settlement agreement states that the maintenance costs shall not be substantially different from the maintenance costs that would have been incurred for the existing system. So, there is a limitation built into the settlement agreement as to the magnitude and the Town was careful to make sure that we didn't end up with a system that would albeit work produce extraordinarily high maintenance costs for the Town.

COUNCILMAN DAVIS: And, in talking about the build-up of the iron, can we deduce then that the build-up that we saw in the gallery that's currently there --the picture that you showed -- that was very initial in the current infiltration galleries life?

MR. SMITH: I was not involved with the gallery, so I can't... I don't know...

MR. SCHAULBAUM: Well, it's hard to say because it's the first time anybody looked at it.

COUNCILMAN DAVIS: Okay.

MR. SMITH: I can't go back, I really don't know.

MR. MYERS: Well, it's hard to say because it's the first time anybody looked at it. First time anybody pulled a pump, first time anybody looked in that screen. So...

COUNCILMAN DAVIS: And, it hasn't been there for very long.

MR. MYERS: Right.

MR. SMITH: Chances are it happened gradually over that time. I doubt... it didn't happen over night.

COUNCILMAN DAVIS: But, the process that you plan to use will eliminate that build-up.

MR. SMITH: It will minimize it and extend the life... extend the duration of cleanings that will have to be done. I would like to emphasize that cleaning and maintenance is a normal operation that a municipal water system commonly incurs and what we designed the system to do is to minimize the frequency of cleaning as best possible....

MR. MYERS: One thing that I think the Town should recognize is that even though you see that rather significant amount of build-up inside the screen, most of the loss of flow from the system is not occurring there. It's actually occurring out in the gravel that was placed to build, in essence, the gallery box on the outside, so far from the screening that's almost impossible to clean back there to get it out. And, that's our biggest concern. If you remember the graph that was up there, you saw a line that came from the river and dropped off significantly in terms of pressure drop. But, that's where most of the ... is going on that's causing the loss in flow. If we thought you could just go in and clean the screen, we'd clean the screen and probably do it quite effectively and not all that expensively. Our concern is that it would be almost an ongoing process that probably would not return the gallery to the significant enough yield to where that would be a beneficial process versus other opportunities that we have to ... flow. Even though that looks really sort of ugly, it's sort of fluff. Is that right?

MR. SMITH: It's not a health hazard ... say bacteria. Bacteria that's naturally ...

MR. MYERS: When we were doing our feasibility analysis of how you approach increasing yield, one of the things that we looked at... as Mr. Alessi knows... was trying to ... optimize existing flow in the gallery. There may be some ways of doing that to some extent or minimizing the drop off in flows but we don't want to send good money after bad and try to rehabilitate a gallery when other systems might be better and easier to clean and maintain than the gallery ... presently used.

COUNCILMAN DAVIS: Do you anticipate that there might be a need to increase the number of these angled wells?

MR. SMITH: We have... we're prepared ... up to 7 of the angled wells. You know, we couldn't put more in because they would basically ... too many ... interfere with each other but the maximum amount that Jesse has calculated that we would be prepared to put in 7 angle wells.

COUNCILMAN DAVIS: And, currently the wall... the wall that was put in by the Army Corps years ago I think just looking at what's happened in other parts of the river, that will continue to deteriorate. I mean, that does not have a...

MR. MYERS: An Life.

COUNCILMAN DAVIS: Yea, an infinite life. What effect might that have as it deteriorates over time which is just a natural thing? What effect might that have on the angled wells? I mean, is that a problem? Is that something that we need to anticipate now?

MR. KELLEHER: Could I answer that question?

COUNCILMAN DAVIS: No, I... I didn't ask you yet... not yet, Mr. Kelleher. I asked the gentlemen here. Sorry, Sheila.

MR. MYERS: maybe the easiest way to answer it is when we were looking at the impact of the sea wall and the wooden pilings which are in about 3 layers, depending upon where you look, we weren't really sure exactly how deep they wanted at the time and we didn't want to take intrusive methods to try to find out how deep. The purpose of the angle well strategy was to get the source of the water to the other side of the wall, if you want to think of it that way. So, all of the screens on the river side of the pilings and as we discussed before, part of the problem with the existing gallery is you have to bring river... aquifer water on the river side through the pilings to the gallery. With the angled well, all of the screen is beyond the pilings so that we have a better opportunity to induce river water via filtration into the screen than we would have with other methods whether they be vertical wells or others. The other reason that the angle well technology that Gary was looking at worked because we could get through the pilings to actually put the well in the ground without having to cut the pilings off, in essence the auger that drilled the well went right through the wood and we were below where the cap is... where the concrete cap is. So, I would suggest that the angle wells really aren't affected by the wood pilings at all because they are on the river side of those pilings. If they deteriorate, you have a casing around the well itself so it really is... it wouldn't really matter that much. I would prefer to see probably instead of pilings ... there essentially and seen rip-rapping and then something that might have to be done years down the road. I don't.....

COUNCILMAN DAVIS: Okay, that's my question. If, in fact, this deterioration does occur is there something that could then be done to... as it has been done in other parts of the river.

MR. MYERS: Yes, very successfully and that's possible. I think that's more of a function though ... original purpose of the pilings ability and so on as opposed to the well... the water supply processes.

MR. SMITH: If we built sailboats going up and down the river, we wouldn't have the deterioration of banks ... if anybody has been there, including myself, and if you haven't seen 3 foot waves come in, cruisers and things that's what is eroding the shoreline.

COUNCILMAN DAVIS: Right.

MR. SMITH: Not natural processes.

COUNCILMAN DAVIS: Right, okay.

TOWN ATTORNEY ALESSI: To supplement the answer that you were given, the settlement agreement has a provision in there where Earth Tech is warranting the yield for 13.5 years – I believe is the number. And, they have, therefore, a vested interest in making sure that items like rip-rap and walls maintain integrity such that there is a well yield of at least 6 million gallons per day.

COUNCILMAN DAVIS: I was concerned about the long term, as well as, the short term.

MR. MYERS: Did I answer it?

COUNCILMAN DAVIS: Right. Good. Thank you.

SUPERVISOR FULLER: Okay, any questions from anyone? Yes.

MR. JENNINGS: I'm curious about the preparations for the hundred year flood. We've had 2 within the last...

SUPERVISOR FULLER: Mr. Jennings, can I ask you to come to the mike.

MR. JENNINGS: Sure. Curious about the provisions for anticipating and taking care of when that area may well be under water as parts of it have been recently.

MR. SMITH: These angle wells are set up and what... no matter what option, whether it is a vertical angle well or ground water reservoirs, that have submersible pumps. Submersible means they can be submerged no matter what kind of flood conditions you have and that the system would be waterproof from the 100 year flood event being designed so it can be submerged. Like you mention that the water is going through a full scale water treatment plant at the end for added protection.

SUPERVISOR FULLER: Mr. Drazan.

MR. DRAZAN: You've been answering most of my questions as I've been writing them down. Two questions if I might ask, can AW1 be added to the existing system at this time?

MR. MYERS: Technically speaking, we do not have a permit to operate that well as a production well. It's specifically permitted for test purposes only. I will say that we designed and built that well as a full scale well in anticipation of putting it into production. Frankly, for 2 reasons, number 1 we didn't want a question on scale up in terms of... well, if this is an 8 inch well it does tax, what will a 24 inch well do? And, secondarily, we want to be able to just bank it into the other ones so that we have 5, 6 or 7 of like ... wells for consistency of maintenance size, well and so forth. So, the State will not allow us to basically pump... put that well into production at the present time. The other thing, as Gary mentioned, we were only able to pump that well continuously for about a week. We had an unfortunate event on the river right at the time we were pumping and had to shut down that end of the gallery. I believe it was a gasoline spill up in Green Island. We had the data we needed so we shut it down and moved on working with Mr. Secor. But, that well still has to be fully developed. It has not been fully developed.

MR. DRAZEN: Okay, and, the other question, do you think it's feasible that you would be able to get a permit for these reservoirs in the coastal plain?

MS. GABRIEL: Yea, I think it would be. It doesn't really seem to conflict with the policies of the coastal management program for

MR. DRAZEN: Thank you.

SUPERVISOR FULLER: Is there anyone else? Okay, I would ask...

MRS. CAPONE: Wait a minute...

SUPERVISOR FULLER: Sorry.

MRS. CAPONE: In all the years I've been here I have never seen such a presentation. This is why nobody is asking. They told us everything. Thank you.

SUPERVISOR FULLER: At this time, I would ask... this is a public hearing if you would come forward for those speaking in favor and in opposition.

MR. PHILLIPS: I'm Joe Phillips. I have 2 quick questions. Are you suggesting the abandonment of the existing infiltration gallery over time or will that be maintained as part of this augmented system?

MR. MYERS: That's a good question. We're not suggesting it be abandoned. From our standpoint as design engineers we have to make a prediction as to its useful life and Over a period of time that the overall system will be used. I think many people have seen the data on the existing galleries. Three has been significant decline in its yield and what we want to do is factor that in conservatively based upon the yield that we expect to be ... in a cost effective way. And, that will continue to be a viable part of the system. We will just, probably, use it as... at a reduced rate from what it was originally intended.

MR. PHILLIPS: And, my other question, I have forgotten for the moment.

SUPERVISOR FULLER: Is this a question, Mr. Johnson or are you speaking in favor or in opposition?

MR. JOHNSON: Just a question.

SUPERVISOR FULLER: Okay, come ahead.

MR. JOHNSON: Ron Johnson. I was just wondering now that we're going under the river in regard to where we were trying to make an... get water from along side the river, what is this going to be as far as the PCBs that are in the bottom of the river now and also what affect will this is there any consideration of the affect of this as to when they start doing the dredging 5, 10 years from now and the PCBs that are going to be coming down the river. I know they claim they're not going to be but we know better and so what is this system going to be in the effect of PCBs that are already there?

MR. MYERS: That's a very good question. Let me try to answer it this way. First, the angled wells that we have designed for the system have a separation distance of at least 20 feet between the top of the screen and the bottom of the river. So, there's 20 feet of filtration that is required in essence by DOH to be able to call that water that we are drawing... ground water under the influence of surface water. So, first of all, we are not taking river water directly into that system. So, you got, in essence, pre-filtration going on by the river bottom itself. I think that's a critical parameter that we are going to have to maintain in order to ultimately get DOH permits for this system.

Secondly, we are well aware of the PCB issue. I personally am well aware of it. Just to let you know, my office basically oversaw the largest dredging project that's been done in New York State. It was done in Lake Champlain. We are presently doing a 38 million dollar dredging project in Indiana. We know a lot about dredging. The dredging project that GE will probably... or the Fed's will ultimately undertake... First of all be above the Troy dam which is where most of the PCB laden sediments are. I would venture to say, just my own personal opinion, that the re-suspension is going to be fairly small. I don't want to predict yes or no, that certainly cannot be done. But, PCBs are basically a very stable compound and will sit very close to the surface of the river bottom no matter where they are. There is literally no way that they are going to be dragged by that water system through 20 feet of soil into that system. I believe we did some sampling, did we not, Gary? We tested for PCBs and basically it was nondetect.. and it should remain nondetect. There's not a lot of action, frankly, PCB sediment right out here, most of it is upstream of here. Most of it that will get here is through fish by accumulation more than anything else. So, I really don't think PCBs are going to be an issue here but we are watching for that to make sure.

TOWN ATTORNEY ALESSI: And there's a Department of Health law which requires monitoring of public water supply systems which will monitor for many parameters. So, we appreciate, Mr. Myers expertise and in addition to his

expertise, we will have proof in the pudding so to speak.

MR. SCHWALBAUM: Basically, PCBs ... a long way from the river but carried downstream in the river. They are practically immobile in ground water because they just can't move through soil ... the river's ... through large parts and that's been... people have been studying this for a long time. And, the separation distance we have to the angled wells is virtually the same as what we have for the infiltration gallery right now. We give it basically the same level of protection for heavy contaminants ...

MR. PHILLIPS: Now I remember it – you suggested that the minimal clogging of the system by the iron deposits that you had... that have affected the infiltration gallery comes when this is operating at maximum capacity. Is that generally correct?

MR. SCHWALBAUM: The more you pump it probably...

MR. PHILLIPS: The more you pump it, the less you have that problem, does that...?

MR. SCHWALBAUM: Well, it's a little more complicated than that.

MR. SMITH: What we're... what Paul had indicated about constant rate pumping, what we have is 2 different water chemistries going on. We have the natural ground water flowing from the bedrock island coming up to the river on the non-pumping positions. When we pump from the river, we're going to be bringing in a different water quality... it's called a chemical ... mixing and what we want to do is we don't want to have that chemical mixing be shifting back and forth, back and forth. It's just... it's like an upset stomach and, you know, after a while things happen. That's what happens around the screen. So, what we want to do, is pump this well what's called a steady state of conditions so we have chemical equilibrium occurring at that screen.

So, one of the things I'd like to mention is the screen... anything you put into the ground is like a foreign antibody and as a result... puncture or put something in our system we try to put antibodies... you know, heal around that situation. That's what happens when you put steel or something that hasn't been there for thousands of years in this ground, it is a foreign object and something likes to grow through it and that's what the iron bacteria does. So, what we want to do is try to keep that chemical chemistry in the ground at harmony or balance by pumping at a constant rate ...

MR. PHILLIPS: So, in layman's terms, it's not so much the volume as the constancy of its use. Don't shut it off and turn it on.

MR. SMITH: Right.

MR. PHILLIPS: ...at random intervals.

MR. SMITH: That's correct.

MR. PHILLIPS: Which, I guess, answers in some ways the other half of my question, which is since the long term intent of this system is to be used for industrial use as right now the volume that is going through that plant, if I am remembering the estimates we've heard before correctly, is about 3 million gallons a day of actual use of the system by the industrial businesses that are the primary users of it. As that grows over time, which one might hope would be the case, that's not going to cause problems for this system or conversely, we don't have to be running it at 6 million gallons a day now when we are not using 6 million gallons a day of it. Is that the correct understanding of that?

TOWN ATTORNEY ALESSI: To answer that a little differently, the settlement

agreement obligates Earth Tech to have 6 million gallons per day available right away so that if on day 3 we have a demand for 6 million gallons per day, they will be in a position to provide it from this system or have to provide it from another source. We have also put in there, however, that we are not going to produce water that we're not going to use. So, we're not going to be put in a position where we've got 6 million gallons being delivered and we don't know what to do with it. We waste it.

MR. PHILLIPS: That was the jist of my question because...

TOWN ATTORNEY ALESSI: So, we have the flexibility to go either way with regard to the system.

MR. PHILLIPS: Thank you.

SUPERVISOR FULLER: Okay. I would ask the public to speak in favor or in opposition. This is your opportunity to speak.

MR. KELLEHER: Bill Kelleher.

COUNCILMAN LENHARDT: The silver one.

MR. KELLEHER: I have one question. Now, you mentioned hydrochloride solution. Is this correct?

MR. SMITH: correct.

MR. KELLEHER: That's an alkaline solution, right?

MR. SMITH: Calcium hydrochloride. Yes.

MR. KELLEHER: Yes, that's alkaline. But, you are going to use hydrochloric acid?

MR. SMITH: Yes.

MR. KELLEHER: One's going to neutralize the other.

MR. SMITH: Right. You put the acid in first, put water behind it let it sit and then you put chlorine after that.

MR. KELLEHER: The chlorine is to knock off the iron bacteria. Right?

MR. SMITH: Yes.

MR. KELLEHER: Okay. But, chlorine is an oxidizing agent.

MR. SMITH: Yes.

MR. KELLEHER: And, how about the precipitation of ferric hydroxide in the sand grains themselves. That's iron hydrate. I don't question about being able to clean a well with iron bacteria. That can be done but I have... I demand that you prove to this Town that you can clean a well the way you describe it. It can't be done. Now, the Town better recognize what they are getting us into here. I have another question. Are you proposing chlorine all the time? I mean... this chlorine distribution pipe on the screen, that's going to be a continuous operation, correct?

MR. SMITH: Correct.

MR. KELLEHER: Where we going to get the chlorine from? It's an operating procedure, right? Are we going to have a building down there? Are we going to use chlorine gas or hyperchloride solution that the operators have to mix up for 7

wells now? We got to control it for 7 wells not one and then if you get these vertical wells, maybe we're talking about 10. That's quite... you know, an additional maintenance procedure that we don't have. And, incidentally, Bob, there was no maintenance what-so-ever in this well... on the infiltration gallery.

TOWN ATTORNEY ALESSI: That's why I said, Mr. Kelleher, compared to what the maintenance would have been.

MR. KELLEHER: I know you said would have been.

TOWN ATTORNEY ALESSI: Right, I understand...

MR. KELLEHER: What do you mean by would have been? What do you mean by would have been? What was it? I can tell you what it was and I heard somebody say that this is the first time it was brought up, is this correct? Is that what you said? That this is the first time the clogging of the well of the infiltration gallery?

MR. SMITH: Well, it is the first time anybody has seen it.

MR. KELLEHER: The first time anybody seen it... you mean with the camera? That's what you meant?

MR. SMITH: Well...

MR. KELLEHER: Because any... anybody who knows anything about designing wells with iron would know... with this ... of gravel that you have there that you're going to get a prolific growth of iron bacteria. Anybody knows that especially when you have 15 parts per million of iron to begin with. And, furthermore, there were... I'll give you credit, you are the first consultant to appear before the Town Board to advise the Town Board that iron was the main problem here. We had 9 consultants or engineers who said maintenance of this well... the infiltration gallery would be a piece of cake, nothing to it, just ordinary standard procedures. I think you will admit that it would require a horrendous amount of hydrochloric acid to reclaim the infiltration gallery and get it back to its '96 level. In fact, it can't be done, can it? There's no way you can do it and you want to know something, we know it too. Clearwater for Bethlehem submitted a petition to the State of New York after we uncovered the maintenance procedures that were given in this hidden report and one of the main reasons for our petition was that the large amount of hydrochloric acid required wasn't possible. It was impossible to do and I have a reply here that I would like to enter it as a matter of record of this meeting. And, you can have a copy. I would be glad to supply all the reasons why we wanted to see the permit revised or revoked but hydrochloric acid cleaning was one of the main reasons. If you look in there, I can give you the questions... but you can see from there that Rust Environment and Infrastructure and Fraser in the State of New York, they all said it is just routine maintenance. And, I am agreeing with you, it can't be cleaned and you were bound to find iron bacteria. I mean, you don't have to be... have to much experience to know that that was environment for iron bacteria.

Now, in terms of iron hydrate precipitating out in the sand, you even admit that there is a great head loss in the sand itself right adjacent to the well, is that correct?

MR. SMITH: No.

MR. KELLEHER: No, you didn't find that?

MR. SMITH: No, the head loss is not at the sand, it is in the artificial gravel pack that was placed there.

MR. KELLEHER: And, there's no head loss in the sand whatsoever.

MR. SMITH: We didn't say no, we said the majority of the head loss is in the gravel pack.

MR. KELLEHER: You don't think there's any iron hydrate out in the sand?

MR. SMITH: All we...

MR. KELLEHER: And, how you going to get the hydrochloric acid out to there? And, by the way, if you use hydrochloride...

MR. SMITH: We are talking about the gallery.

MR. KELLEHER: Yea. Okay, they'll talk about the... your wells... the angle wells are basically horizontal wells. All right, you say, if you hydrochloric acid is so heavy it goes down, how you going to clean the top of the well screen?

MR. SMITH: Through the injection of the chlorine and work from the top down.

MR. KELLEHER: From the stop down?

MR. SMITH: Yes.

MR. KELLEHER: Well, you can do that with a vertical well but you're talking about essentially a horizontal well here. I mean, 15 degree angle isn't very much.

MR. SMITH: It is very easy to do.

MR. KELLEHER: Well, you know what I say, cycle the well, deliberately clog it, then prove to us, the Town, that you can clean this well and do it a second time and prove that you can clean this well. Bring the well cleaning outfit that is going to come in... you know, the cost of the chemicals aren't that much, it's going to be the labor... this is very skilled work. Well cleaning is an art. It's... you know very well it is. You need years of experience. I'm sure you got a lot more experience than I do in cleaning wells but this I guarantee you, you can't do it. You can't do it.

Now, in terms of your ground water reservoir, the ground water reservoir you... that has the best chance because you can mechanically clean it. You can go out and scrape it off. I believe that's what your report says you can do. But, I wish you a lot of luck getting approval from DEC to do it. In other words, you're going to have to make a demonstration the same as you did with the angle well and the angle well, you have to deliberately clog it and then clean it so you can come up with an operation maintenance manual. You can tell the Town how much this is going to cost, what the standard procedures are for adding chlorine routinely. I mean this required operators going down there and what happens when the river floods, you know. We aren't worried about it when the river floods right now.

Now, in answer to your question, Doris, in terms of the ... interfering with the wells, they were smart enough to place it below the half that is deteriorating where the horizontal well... the infiltration gallery is now, that could very easily go into the river sooner or later because the Corps of Engineers has abandoned the dikes completely but the dikes where they propose the angle wells, it won't be a problem because they've already decayed away down to the water line. But, there's no... there's no cantilever effect. Those dikes were probably much higher at one time but they just... the wood decays away at the water surface... at the ground or the bottom of the river that's where your oxygen is the greatest and that's where the organisms decay the wood away so that wood piling that was there at one time probably 1865, you'd have to check with the Corps of Engineers.

Another problem you are going to have with these ground water reservoirs, PCBs were dredged out of the Hudson River and placed behind the dike. We know absolute certainty that happened because those results of the bottom sludges that I

gave you show very high concentrations of PCBs at Poughkeepsie and at Waterford. Now, we didn't have any directly out in the river next to Schermerhorn Island but they're bound to be there. You go to the Corps of Engineers you know exactly when they dredged. You can find a period when they were discharging PCBs and you can eliminate those areas where you have PCBs that were dredged out of the river, otherwise, I would be telling you to take a scoop of soil, you're going to have to... you know, look for PCBs in it because I guarantee you there's PCBs in there.

Now, I've been very hard on Earth Tech. At least they were the first consultant that appeared before the Town Board who knows what they are talking about in terms of cleaning and maintaining the wells. But, you got to remember that Earth Tech is to protect title. Earth Tech is here, you know, they're representing the defendants. Tyco, as they have said, they don't want to spend any more money than they have to.

Now, I was going to go into the background and history of Rust but... and I think I will. Rust was founded in 1920, all right, since that time 14 different companies owned Rust. That's not a good sign. One of the signs that owned Rust is Waste Management Inc., you mentioned that. You bought it from them, I didn't know that. I thought you bought it from Rathion, okay.

MR. MYERS: We were never associated with Rathion.

MR. KELLEHER: Waste Management Inc., if you read Patty Strong Wilbur's letter to the editor, doesn't have a very good record.

SUPERVISOR FULLER: Mr. Myers, I didn't hear your response to that statement.

MR. MYERS: I'm sorry, I just said we were never associated with Rathion.

SUPERVISOR FULLER: That should be part of the record.

MR. KELLEHER: Well, I'm going to get to that, you weren't. Now... but still in all, we have to look at the defendants in the lawsuit because your representing the defendants, I'm sorry Steve, that's what you are. You're representing the defendants. Maybe I'm wrong there, I'm not a lawyer.

MR. MYERS: I can tell you we are the defendants.

MR. KELLEHER: In 1992 to 1994, Wheelabrator which owned part of Rust promoted the ozone equipment and they sold the Town \$650,000 worth of useless ozone equipment. I just wanted to point that out.

Now, Earth Tech bought Rust Environment and Infrastructure in 1999. They had nothing to do with the worthless ozone equipment and they had nothing to do with the Waste Management Inc. which has a very bad record.

Now, however, I would like to point out that Tyco International is being investigated by the SEC also IBM and GE are being investigated. You know, it's an ENRON fall out but Tyco is not in that good shape according to some analysts on the stock market. We have in effect an investment in Tyco or in Waste Management, I don't know which. I don't know where all this big money, Bob, where's it going to come from? Tyco or Waste Management Inc? Maybe you can't answer that question.

TOWN ATTORNEY ALESSI: Is that a question?

MR. KELLEHER: Yes.

TOWN ATTORNEY ALESSI: Oh, okay. The answer Mr. Kelleher is the Town is in an extraordinarily better position than it was in all aspects, including financial

assurances, than it was when the system was built, when the litigation was commenced and we are no different than any other municipal or governmental entity that contracts with a vendor. So, we are probably in as good a position with as good a company as a municipality can be at this time but as you appropriately note, in light of ENRON there are more unknowns than there were before.

MR. KELLEHER: Fine, that's a good answer. That's what I wanted to point out that we are taking some kind of a risk in prolonging this lawsuit. The risk is... you know, Tyco could go bankrupt. If Tyco is indeed the company we're going to get the money out of. So, Waste Management, if we try to get the money out of them, I don't know what the arrangements between Tyco and Waste Management was or when they bought it out. I do know this, that the agreement between Rathion Engineers which sold Rust... the contract with Rust International, they sold that to the Washington group, the Washington group went bankrupt and the Washington group is now suing... or did sue Rathion. Rathion... they sued them for 1 and ½ billion dollars. Rathion has already written off a billion dollars in earnings. So, you know, ENRON can happen more often than not and we realize that now. We've didn't realize it when we started the lawsuit but it is a factor that has to be considered.

TOWN ATTORNEY ALESSI: Mr. Kelleher, one further point, there appears to be an inherent assumption in your statements that we are relying solely on Earth Tech. Pursuant to the terms of the settlement agreement, the... there is financial contribution by the insurance company for Fraser which by all accounts that insurance company is in very good shape and, as you probably know, insurance companies are heavily regulated and have to put up bonds, insurance, etc.

MR. KELLEHER: I thought he only had a million dollars malpractice insurance? Fraser, maybe I am wrong.

TOWN ATTORNEY ALESSI: Suffice it to say that Earth Tech has already spent an extraordinary amount of money toward the solution and that what remains... it might not be a perfect contribution but there are monies other than Earth Tech's money that are part of this resolution.

MR. KELLEHER: Yea, that's what I am afraid of. You know, quite frankly, it's a waste of money. I'll be just as frank as possible. To Earth Tech too, it's a waste of money trying to get water out of stone.

TOWN ATTORNEY ALESSI: I'd finally add, Mr. Kelleher, that if the money you are talking about, even assuming it were a waste, is not Town money and that if this system does not work pursuant to the settlement agreement, we go back to court and pursue the litigation for damages.

MR. KELLEHER: Yea, yea. I understand that. I still say it's in the best interest of the Town and of Earth Tech... believe me, it's your own best interest and the industries in Selkirk to turn this water supply into a true industrial water supply. Take water directly from the Hudson River and settle this lawsuit as soon as possible. Any questions?

SUPERVISOR FULLER: Are you speaking in favor or in opposition?

MR. KELLEHER: I am speaking in opposition to obtaining permits for 7 angled wells. I am in opposition to obtaining permits for the vertical wells. I am in opposition... of obtaining permits for the ground water reservoir. The Town applying for permits, let... again, I emphasize this... let Earth Tech build a demonstration... if we have to apply for a demonstration ground water reservoir, it's fine. I don't know what the procedures would be. Did we have to apply for the well?

TOWN ATTORNEY ALESSI: Yes, we did.

MR. KELLEHER: Okay, then I think we should apply for the demonstration project. I have no objection to that. For the angle well, I think we should require that they demonstrate to us what it costs to maintain this well... ..and you can do it very easily, clog up the well. Cycle it, draw it down, let it recover, draw it down, let it recover, let it clog up and then have Earth Tech bring their professional well cleaning people in here and gives us... you know, give us an idea how much it's going to cost and don't do it too cheap just to get the contract either. Okay.

SUPERVISOR FULLER: Thank you, Mr. Kelleher. Is there anyone else who would like to...

MRS. CAPONE: Oh, yes, I'm in favor of everything that Mr. Kelleher is against.

SUPERVISOR FULLER: Mr. Samsel?

MR. SAMSEL: Bob Samsel, Selkirk. Short and sweet, I'm in favor of Earth Tech. As a point of order in the future, could you keep these people to say it yes or no?

SUPERVISOR FULLER: Well, I do try to keep open government here and sometimes I guess I have let it go on too long but I was trying to get everyone's opinion and hopefully we haven't kept all of you sitting here waiting too long to give your opinion.

MS. HENDRICKSON: My name is Debbie Hendrickson and I'm an upland owner to where the well sites are. You are asking for a yes or no. I can't give you that right now because I don't believe I have enough information. I am concerned... what is industrial use? I'm not... I haven't read a lot of information on... I'm not as researched as Mr. Kelleher. What exactly is industrial use of the water? And, if the wells are being used just for industrial use, are the wells that we're doing – are they overkill for our needs?

SUPERVISOR FULLER: Do you want to explain that whole history?

TOWN ATTORNEY ALESSI: I'll try and do it briefly. And, you can tell me, M'am, whether or not I answered your questions sufficiently.

The system was originally proposed to be used for potable water, as well as, industrial. Not a perfect definition but hopefully one that's meaningful for you is that industrial can be anything that is not residential, is perhaps the simplest way to look at it. So, for the residents in Bethlehem, single family homes, apartment buildings, others where people are going to consume the water, that's generally everything but industrial. Industrial is really... I'm sorry everything but the residential. So, if you think of your house, apartment buildings, etc. Industrial for people who take the water in and usually use it for a process and it's really not intended to be ingested, consumed. That's potable.

MS. HENDRICKSON: And, how is that kept separated?

TOWN ATTORNEY ALESSI: I would have to defer to the Engineering Department but suffice it to say in terms that I think will be overly simplistic but deal with it, they're valving. Is the way it is done. And, what happened was although the system was designed and this system will be designed to meet potable standards so you can ingest it, based upon the input from the community when this system was originally bought or constructed, and the actions of previous Town Boards, that there was a resolution that this system would not be used on a town-wide basis for potable water. There are people, however, on the line who voluntarily take their drinking water from the system. The system meets all the State water quality standards and this system we are talking about tonight is going to be designed to do that. But, the most recent pronouncements from this Town Board have been that not with standing its ability to meet those standards, that the system will not be used for drinking water purposes, potable purposes.

Does that help out?

MS. HENDRICKSON: It does help, yes, it does. The other thing I had to say is being an upland owner, having animals, I am on a well so I won't even be using your water. I have animals, I have children we take our walks down through what you call the access road which is my property. We walk down there. My concern is the animals that are around. You are talking about chemicals and you're saying that those chemicals will not seep out into the environment. I do have concerns of that. I live there. We hope to begin farming that property. How is that going to affect your reservoirs? You know, it's farm now. There's chemicals that some of the farmers put sprays and things on. How is that affecting your water? These are questions that I have not heard answers to.

TOWN ATTORNEY ALESSI: Those are very good questions and understandable concerns that you have. In New York State there is a permitting mechanism where for... if you are going to store chemicals, etc. you have to go through a permitting process which we're going to go through. There are bulk... for example, bulk storage to use a technical term requirements, that is something that the applicants are going to have to demonstrate and applicants, including us that we are going to be in compliance with those laws that will be reviewed by the DEC and I encourage you to keep aware of that process. And, if you have comments or concerns to make sure that those comments are made, not only to the Town Board here, but to the DEC that will be reviewing it so that they are certainly aware of what they otherwise might not be aware of.

MS. HENDRICKSON: You will have to forgive me if I sound defensive but, you know, with Waste Management and then the wells in front of us, I feel like my space is encroached a little bit. One of the other things is with the reservoirs, when they are put in they are going to have to be protected. Fencing is going to have to be put up around them, is this? How will this be landscaped so that... you know, what I am viewing from my front yard is an industrial.

TOWN ATTORNEY ALESSI: I am going to let Earth Tech answer that. But, I want to let you know that the reservoirs are not yet a given for this system.

MS. HENDRICKSON: I understand that, I did read that.

TOWN ATTORNEY ALESSI: So...

MS. HENDRICKSON: But, it's a possibility.

TOWN ATTORNEY ALESSI: It sure is. Yes.

MR. MYERS: Those are all very good questions. I would say at this point, one of the things... one of the parameters that we have been trying to use for whatever system we put down there was trying to minimize the view scape impact of any system, structure and so on. Example, one of the things we looked at were actual horizontal wells. Now a horizontal well does go actually horizontally out of a structure directly underneath the river. But, the system we were looking at had a very large concrete caisson that would basically have to be constructed to take these fingers or arms or horizontal wells, as you might perceive...

MS. HENDRICKSON: Right.

MR. MYERS: ...out into various directions in the river and would have been visibly more available for you to see than what we hope to construct with angle wells or any other structure. My point is, we're aware of the view shed issues of the upland users and we're trying to minimize both the visual impact of those. Certainly we have to look at chemical impact. We try to look at flood control. Trying to look at security. We're trying to look at all those things because frankly, our goal is the same as yours which is to have an effective system that works. To be perfectly blunt, we want to put it in the ground and move on to our jobs. I mean,

we have business to do. It is but we have other business to do and we want to have you get what you deserve and move forward. So, we want all input from everyone of every kind that might be an issue on these systems and we appreciate yours, we appreciate Mr. Kelleher's. We appreciate everyone's because we want the system to work. We would be foolish to be spending our own money and that is what we are spending to do this. Mr. Alessi suggests, we can spend it in court or we can spend it on a system. When I met with Mrs. Fuller in 2001, I asked her permission to spend it on a system as opposed to spending it in court. So, we want the system to work. We would be foolish to sit here and say, we're going to go with blinders into this process and not take things into consideration. So, yours concerns, call us, take us down there, show us what it looks like. Give us all that input.

You do bring up a valid point which is that that is farm area and as you know, there has probably been herbicides, pesticides, other types of materials that have been spread and sprayed there over the years. They are probably contaminants and constituents that are in the ground anyway as a result of agricultural use. As Mr. Alessi said, there is a lot of... right now regulatory pressure on pesticide application and what they call non-point source discharges – run off. We need to look at all of that. So, this is still very much in the evaluation stage. I don't want to get anybody believing that tomorrow we will be out there with dozers putting reservoirs out there. That's not our intent.

MS. HENDRICKSON: Oh, thank God.

MR. MYERS: Our concern is to... Mr. Smith's comment which was... there is only just so many wells you can punch into the same aquifer before you run out of water to draw. And, there is only so much cost effectively that you would put in the ground that way. So, we're trying to make sure that the agencies of all the options we would consider in front of them so we don't surprise them in permitting process. So, this is sort of a sequential process that still has steps to go through. This isn't the final design, it's the engineer's report. There will be plenty of ... time and we encourage you to stand

MS. HENDRICKSON: My final statement would be that I would like to be able to have another chance in the future after the wells have been tested and we have more information to whether or not let you know that we are for or against it. And, thank you.

SUPERVISOR FULLER: Is there anyone else wishing to address the Board?

MR. MYERS: Mrs. Fuller, if I might, could I just make a clarifying statement just for purposes of clarification?

SUPERVISOR FULLER: Yes. Would you come to the mike so we can have it for the record, please.

MR. MYERS: I don't mean to extend this, I just want to make something perfectly clear to everyone.

SUPERVISOR FULLER: We only have a full agenda yet to deal with.

MR. MYERS: I am sure you do and this will take 30 seconds. I just want to state that we have no association with Waste Management, none. We bought a company they owned. Our parent company is Tyco. We stand behind the ratings of that company and the results are financial results of that company. I can also state for the record that the SCC has investigated Tyco at least twice, if not more, and never found anything of concern. They will probably continue to investigate Tyco because we are an acquisitive company. We acquire companies very quickly and we acquire them all over the world. That confuses people and we have an open shop as our Chairman has said in terms of providing information to the investing community. I would also like to say, it is my opinion and my professional opinion in the job that I hold that if Earth Tech had not bought Rust Environment and

Infrastructure, you would have a different problem on your hand with probably a bankrupt company to deal with. So, I think that we do stand behind our financial commitments. We have made agreements with both the Town and with Fraser for the financial performance of this project and we will do our level best to make that happen.

And, I will only emphasize one other point as Mr. Alessi did, we are going to come up with operation and maintenance protocols that to our best level of effort will be consistent with what should have been performed on the system that you were intended to get originally. And, we are committed to doing that. Thank you.

COUNCILMAN MARCELLE: Madam Supervisor, I'm sorry, can I just ask one last question?

SUPERVISOR FULLER: Certainly.

COUNCILMAN MARCELLE: I'm just a little unclear about. It has to do with what Mr. Kelleher raised about cleaning of the wells. Do you currently have for the angle wells... do you currently have a set of procedures and protocol of how to clean them or is that something that will be developed subsequently?

MR. MYERS: Probably Mr. Smith can answer it specifically but in essence the angle well is no different in its construction than a vertical well other than its degree of angle. What we will do is build specific protocols for that system once we know how many, how we want to operate them, capacities of those wells that are specific to the system that you would have to do anyway that are appropriate for this particular configuration. But, in terms of the specific protocols, we would use for cleaning, as Mr. Smith indicated that's something that has been done, would be done and in our opinion, can be done effectively if done at appropriate frequencies and before the well degrades too much.

COUNCILMAN MARCELLE: And, you have past experience with that?

MR. MYERS: Yes. That answer your question?

COUNCILMAN MARCELLE: Yes. Thank you. Positive?

MR. MYERS: Yes.

SUPERVISOR FULLER: Okay.

GENTLEMAN:

SUPERVISOR FULLER: Sure. Can you come to the mike, please?

MR. MEYERS: Yes. Christopher Meyers. Are you guys... why are we not pumping out of the river like we're doing now, why don't we just keep doing that? It's working great. It's for industrial use. Design a system to work with that. It works. What's wrong with that?

MR. MYERS: I think that's probably a question Mr. Alessi can answer better.

TOWN ATTORNEY ALESSI: We're pumping from... directly from Hudson River pursuant to an emergency authorization.

MR. MEYERS: And, it works?

TOWN ATTORNEY ALESSI: It does work before the Fish and Wildlife folks, it is not the best system and we have put in an application to, hopefully, get authority to pump directly from the river for 18 more months. The Fish and Wildlife folks believe that any time you draw from the river, the term is entrain and impinge fish because you have to put screens there to stop material from being drawn in.

MR. MEYERS: Yes, I've seen the system.

TOWN ATTORNEY ALESSI: And, there's a great debate, nationwide, on whether that should be allowed. And, so, the DEC requires you to look at alternatives with regard... if you ever want to draw directly from the Hudson River. They make you look at alternatives and they make a judgment as to whether another alternative would be less impactful to the environment. So, it's not our judgment here, it's the judgment of the DEC and they have sent some very, very clear signals as to what their preference is with regard to the system.

Now, reasonable people will argue with the DEC and say that's not correct but we don't want to go pursue with our water needs a system that we're hearing is unlikely to be authorized. But, your question is probably best directed to the DEC.

MR. MEYERS: Okay. Now, thinking about the system that is proposed, is the spawning beds that are right outside that wall and these pipes going through spawning beds and either the silt layer in there... I can see down the road where that's going to be a problem. I can see where the river changes in depth... these pipes go out. The channel is out probably about maybe a hundred yards... ah, it's not quite a hundred yards, probably 70-80 yards. The pipes extend out how far close to the channel. The spawning beds are right there. If we're concerned about the environment, down the road these high capacity wells that are drafting out millions of gallons of water, I don't care what kind of stone bed you put around that pipe, you are going to erode soil and that river is eventually going to start compacting down around. The silt layer is going to compact around that pipe. You're going right back where you were. I don't care what kind of to, take a pipe and put it into the water, put high capacity right to it, start putting silt in around it and bingo, clog. You can't stop it. The Hudson River is full of silt all the way from New York City all the way up. That's it.

MR. MYERS: I think the point is that the angled wells are not in the river. They're 20 to 50 feet below the river there.

MR. MEYERS: But, they are high capacity wells.

MR. MYERS: You're not going to pull silt 20 to 40 feet before the river is my point.

MR. MEYERS: Well, when you start drafting that much water, you start drafting.

MR. MYERS: It's also a function of velocity too. The idea of a larger well, you're going to have cooler spring velocity. I mean, as Jesse said, we just don't think that's going to be a concern.

MR. MEYERS: Well, I guess in closing, I think it is unfortunate that with industrial uses as the main intent, with Hudson River being the watershed that it is, it's too bad it just can't be used for its intended purpose and just supply us with water. So, keep up the good work. Thanks.

SUPERVISOR FULLER: May I have a motion to close the public hearing?

The motion was made by Mr. Marcelle and seconded by Mrs. Davis to close the public hearing at 9:25 p.m. The motion was passed by the following vote:

Ayes: Mrs. Fuller, Mr. Lenhardt, Mrs. Davis, Mr. Plummer, Mr. Marcelle.
Noes: None.

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SUPERVISOR FULLER: What needs to occur is a motion, because it is viewed as in the best interest of the public to authorize the preparation and submittal of definite plans and applications to the relevant agencies for the proposed

improvements. May I have a motion to approve.

The motion was made by Mrs. Davis and seconded by Mr. Lenhardt to authorize the preparation and submittal of definite plans and applications to the relevant agencies for the proposed improvements. The motion was passed by the following vote:

Ayes: Mrs. Fuller, Mr. Lenhardt, Mrs. Davis, Mr. Plummer, Mr. Marcelle.
Noes: None.

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Supervisor Fuller instructed Earth Tech to go finish their project. She thanked them for attending the meeting and hopefully they will not have to be before the Board too soon.

The following resolution was presented for adoption:

RESOLUTION
RELATING TO PROPOSED EXPANSION OF WATER SUPPLY FACILITIES
ADOPTED AT A REGULAR MEETING
OF THE TOWN BOARD OF THE TOWN OF BETHLEHEM
HELD AT TOWN HALL, 445 DELAWARE AVENUE DELMAR, NEW YORK,
ON THE 24TH DAY OF APRIL, 2002

WHEREAS, the Town of Bethlehem, New York (the "Town") has previously constructed a water supply system consisting of, among other things, an infiltration gallery located in the Schermerhorn Island area of the Town and a water treatment plant located on Clapper Road in the Town (collectively, the "Existing Infiltration System"); and

WHEREAS, the Existing Infiltration System was required and expected to produce ground water in the amount of at least 6 million gallons per day ("MGD"), and with further modifications would produce 12 MGD; and

WHEREAS, soon after the Existing Infiltration System began operating, the Town discovered that it was not producing the required 6 MGD, and the production of the Existing Infiltration System has continued to decline to a point where it now produces less than 1 MGD; and

WHEREAS, issues relating to, among other things, the hydrogeologic and engineering investigations relating to the infiltration gallery, the infiltration gallery's design, and the infiltration gallery's performance have been the subject of litigation between the Town and the consultants for the Existing Infiltration System; and

WHEREAS, in or around May 2001, the parties to the litigation entered into a Settlement Agreement, whereby certain defendants, including Earth Tech Environment and Infrastructure, Inc. ("Earth Tech"), without admitting any liability, and at no cost to the Town, agreed to, among other things, conduct additional investigations, and permit, design and construct a supplemental well system consisting of a series of diagonally-drilled wells at the site and other possible intakes for the purpose of augmenting the yield of the Existing Infiltration System so that it produces at least 6 MGD for a certain warranty period; and

WHEREAS, Earth Tech has proposed to install a system of individual, diagonally-drilled wells and possibly other intakes and associated infrastructure (the "New Water System") in an area generally adjacent to and southerly of the existing infiltration gallery; and

WHEREAS, Earth Tech has constructed and tested a full-scale test intake component of the proposed New Well System which consists of, among other things, a single diagonally-drilled well (the "Test Well"); and

WHEREAS, Earth Tech has advised the Town and others that, based on its pump testing of the Test Well, and its analysis of the requisite pumping and related data, the parties are justified in proceeding to construct the New Well System; and

WHEREAS, due to the underproduction of Existing Infiltration System, the Town has been forced to use water from other sources in order to attempt to meet the needs of the Town and its citizens; and

WHEREAS, the Town has been relying on, among other things, a water supply from the Vly Creek Reservoir, and purchases of supplemental water from the City of Albany which in turn relies on the Alcove Reservoir as a water source; and

WHEREAS, a severe drought has caused the water level in the Vly Creek Reservoir to fall to record low levels, and forced the Town Board to declare a water supply emergency at a Town Board meeting on January 9, 2002; and

WHEREAS, the City of Albany has stated that the drought has caused the level of the Alcove Reservoir to fall to low levels and, therefore, the City may no longer be able to sell the Town water in excess of the amounts authorized by the parties' contract for an extended period of time; and

WHEREAS, in or around January 2002, the Town Board adopted a resolution declaring a water supply emergency in the Town and adopted rules limiting the use of the Town's public water supply; and

WHEREAS, the Town has notified its customers of the existence of a water supply emergency and requested that they reduce water consumption wherever possible, including by placing notices on water bills, sending letters directly to water customers, running advertisements with local media, posting notices in public places, and by providing relevant information on the Town's web site; and

WHEREAS, the Town has also implemented other water conservation measures, including requiring industrial water users to submit written plans for water conservation, initiating a program of reading the water meters for large water users twice each week to closely monitor compliance and eliminating non-essential water use including prohibiting washing of municipal vehicles; and

WHEREAS, as an emergency measure and to provide a sufficient quantity of water to meet the needs of the Town and its citizens, the Town has received temporary emergency authorization to withdraw surface water from the Hudson River in an amount up to 3 MGD to supply the Clapper Road Water Purification Plant and service the industrial area of the Town; and

WHEREAS, the Town has installed and is operating an emergency pumping system (the "Emergency Pumping System") in conjunction with the Existing Infiltration System to pump river water from the Hudson River into the Existing Infiltration System; and

WHEREAS, this water is being transmitted to the water purification plant on Clapper Road where it is being fully treated and purified in accordance with health department standards; and

WHEREAS, without this supply of water to the Clapper Road water purification plant, the Town would be unable to supply a sufficient quantity a water to meet the current needs of the Town and its citizens; and

WHEREAS, pursuant to the request of the New York State Department of Environmental Conservation (the "DEC"), the Town has filed additional documentation and other information in support of additional approval and permits and to convert the Emergency Pumping System into an approved water supply pending the construction and operation of the New Well System; and

WHEREAS, engineers duly licensed by the State of New York employed by Earth Tech have completed an engineer's map and plan and report entitled "Engineer's Report, Water Supply Augmentations, Bethlehem, New York," dated March 2002 relating to the New Well System (the "Engineer's Report"); and

WHEREAS, copies of the Engineer's Report have been furnished to the Town Board, and a copy of the Engineer's Report has been placed on file in the Town Clerk's office and made available for public inspection; and

WHEREAS, the New York State Environmental Quality Review Act ("SEQRA") states that no agency shall carry out, fund or approve an action until it has complied with the requirements of SEQRA; and

WHEREAS, Section 202-b of the New York State Town Law provides that, whenever a town board determines it to be in the public interest, after a public hearing, the town board may acquire or construct on behalf of a water district, additional facilities therefor and appurtenances thereto, including additional lands or interests in lands, or may approve or reconstruct existing facilities and appurtenances; and

WHEREAS, the required notice of such a public hearing having been provided and the Town Board having conducted said public hearing on this date.

NOW, THEREFORE, BE IT RESOLVED, that providing an adequate water supply for the Town is essential to protect the health, safety, and welfare of the community.

BE IT FURTHER RESOLVED, that severe drought conditions have reduced the quantity of water available from the Vly Creek Reservoir, and have caused the Alcove Reservoir to be an uncertain source of supplemental water for an extended period of time.

BE IT FURTHER RESOLVED, that the yield of the Existing Infiltration System continues to decline, and the Town has been advised that no procedures exist effectively to improve the yield of the Existing Infiltration System.

BE IT FURTHER RESOLVED, that based upon its review of the Engineer's Report and public comment to date, the Town Board finds, among others, the following facts and conclusions: (a) the proposed New Well System is intended and will be designed to produce a supplemental ground water supply for the Town with a yield of at least 6 MGD for an established warranty period as required by the Settlement Agreement to be treated by the existing Clapper Road water purification plant; (b) in connection with approvals for the construction and operation of the Existing System, the Town obtained approval to withdraw ground water in the amount of 6 MGD; (c) the yield of the New Well System, when combined with the water withdrawn by the Existing Infiltration System, will not exceed the withdrawals previously approved for the Existing System; (d) at present, the New Well System is the only available option for attempting to secure a supplemental water supply to meet the foreseeable short and long term water supply needs of the Town and its citizens; and (e) the concept of the New Well System is consistent with the Settlement Agreement.

BE IT FURTHER RESOLVED, that the proposed New Well System would be constructed at no cost to the Town pursuant to the Settlement Agreement; and

BE IT FURTHER RESOLVED, that at this time the Town Board determines it would be in the public interest to construct and operate the New Well System.

BE IT FURTHER RESOLVED, that the Town Board hereby authorizes the Town Supervisor and/or the Town's Commissioner of Public Works to execute on the Town's behalf any and all applications and other documents (collectively, the "Applications") that are required to allow the Town to apply for all permits necessary to construct and operate for the proposed New Well System, and to further take whatever other and additional actions that are necessary to complete, support and process the Town's applications.

BE IT FURTHER RESOLVED, that the Town Board hereby further authorizes the Town Supervisor and/or the Town's Commissioner of Public works to initiate the SEQRA and application review processes by filing a copy of the Engineer's Report, the Applications, and any other documents and information with the required agencies, and to further take whatever other and additional actions that are necessary to facilitate these processes.

BE IT FURTHER RESOLVED, that this determination shall not commit the Town Board to approve the proposed New Well System, and no final determination shall be made until the conclusion of the SEQRA process and the application review process, which are intended to, among other things, facilitate the collection of additional information relevant to a full consideration of environmental, engineering, feasibility and preliminary planning and other issues relating to the proposed New Well System.

BE IT FURTHER RESOLVED, that a copy of this determination shall be noticed and filed as required by law and any applications for permits for the proposed New Well System.

On a motion by Mrs. Davis, seconded by Mr. Lenhardt and a vote of 5 for, 0 against, 0 abstention, and 0 absent, this RESOLUTION was adopted on April 24, 2002.

The next item was to accept the resignation of Police First Sergeant, Joseph Sleurs, effective April 26, 2002.

The motion as made by Mr. Plummer and seconded by Mrs. Davis to accept with regret the resignation due to retirement of Police First Sargeant, Joseph Sleurs. The motion was passed by the following vote:

Ayes: Mrs. Fuller, Mr. Lenhardt, Mrs. Davis, Mr. Plummer, Mr. Marcelle.
Noes: None.

The next item was a request from Chief of Police, Richard LaChappelle, for approval of appointment of Police Sergeant effective April 27, 2002. Supervisor Fuller said Officer Robert Markel to the position of Police Sergeant at an annual salary of \$51,575 from the list of eligible candidates as provided by Civil Service and fills the budgeted position made available by a recent retirement.

The motion was made by Mr. Marcelle and seconded by Mr. Lenhardt to approve the appointment of Office Robert Markel to the position of Police Sergeant effective April 27, 2002 at an annual salary of \$51, 575. The motion was passed by the following vote:

Ayes: Mrs. Fuller, Mr. Lenhardt, Mrs. Davis, Mr. Plummer, Mr. Marcelle.
Noes: None.

The following item was a request from Richard LaChappelle, Chief of Police, for approval of transfer from Insurance Recovery Account to Collision Repairs in the amount of \$3,070.60.

The motion was made by Mr. Plummer and seconded by Mrs. Davis to approve the transfer of funds from Insurance Recovery Account to Collision Repairs in the amount of \$3,070.60. The motion was passed by the following vote:

Ayes: Mrs. Fuller, Mr. Lenhardt, Mrs. Davis, Mr. Plummer, Mr. Marcelle.
Noes: None.

The next item was a request from Chief of Police, Richard LaChappelle, for approval of disposal of unclaimed property (bicycles) at auction pursuant to the Personal Property Law to be held in conjunction with Bike Rodeo and Safety Day on May 11, 2002.

The motion was made by Mrs. Davis and seconded by Mr. Plummer to approve the disposal of unclaimed property (bicycles) at auction pursuant to the Personal Property Law to be held in conjunction with Bike Rodeo and Safety Day, May 11, 2002. The motion was passed by the following vote:

Ayes: Mrs. Fuller, Mr. Lenhardt, Mrs. Davis, Mr. Plummer, Mr. Marcelle.
Noes: None.

The following item was a request from Commissioner of Public Works, Bruce Secor, for approval of award of bid for 2 Chemical Bulk Storage Transfer Stations to the low bidder.

The motion was made by Mrs. Davis and seconded by Mr. Lenhardt to approve the award of bid for 2 Chemical Bulk Storage Transfer Stations to Marando Construction, Albany, New York at the bid price of 476,078, the low bid. The motion was passed by the following vote:

Ayes: Mrs. Fuller, Mr. Lenhardt, Mrs. Davis, Mr. Plummer, Mr. Marcelle.

Noes: None.

The next item was a request from Bruce Secor, Commissioner of Public Works, for approval of appointment of part-time Building Maintenance Helper. Supervisor Fuller noted this is to fill a vacancy due to a letter of resignation. The recommendation was to appoint Mrs. Tina Ross.

The motion was made by Mr. Lenhardt and seconded by Mr. Lenhardt to approve the appointment of Mrs. Tina Ross to the position of part-time Building Maintenance Helper at an hourly rate of \$11.65. The motion was passed by the following vote:

Ayes: Mrs. Fuller, Mr. Lenhardt, Mrs. Davis, Mr. Plummer, Mr. Marcelle.
Noes: None.

The next item was a request from Engineering Division, Terrance Ritz, Department of Public Works, for approval of award of bid for Corrugated Steel, Corrugated Aluminum and Plastic Pipe.

The motion was made by Mr. Marcelle and seconded by Mrs. Davis to approve the award of bid for Corrugated Steel, Corrugated Aluminum and Plastic Pipe to those companies and items listed in the Memorandum dated April 18, 2002 from Terrence Ritz, Engineering Division, Department of Public Works. The motion was passed by the following vote:

Ayes: Mrs. Fuller, Mr. Lenhardt, Mrs. Davis, Mr. Plummer, Mr. Marcelle.
Noes: None.

The next item was a request from Engineering Division, Terrence Ritz, Department of Public Works, for approval of award of bid for Precast Reinforced Concrete Manhole Sections.

The motion was made by Mr. Marcelle and seconded by Mr. Lenhardt to approve the aware of bid for Precast Reinforced Concrete Manhole Sections from May 1, 2002 through April 30, 2003 to the Fort Miller Company. The motion was passed by the following vote:

Ayes: Mrs. Fuller, Mr. Lenhardt, Mrs. Davis, Mr. Plummer, Mr. Marcelle.
Noes: None.

The next item was a request from Engineering Division, Terrence Ritz, Department of Public Works, for approval of award of bid for Iron Castings.

The motion was made by Mr. Marcelle and seconded by Mrs. Davis to approve the award of bid for Iron Castings for the items indicated to Neenah Foundry, Albany, New York and Syracuse Castings, Cicero, New York in the Memorandum dated April 18, 2002 and on file in the Town Clerk's office. The motion was passed by the following vote:

Ayes: Mrs. Fuller, Mr. Lenhardt, Mrs. Davis, Mr. Plummer, Mr. Marcelle.
Noes: None.

The next item was a request from Administrator, Nan Lanahan, Parks and Recreation Department, regarding use of Henry Hudson Park, Cedar Hill, Selkirk. Supervisor Fuller said this the sale of beer on Town property for the Selkirk Fire Company who will be hosting the County Convention in September 2003. She said the exception has already been made for the St. Thomas parish picnic. She said

certainly with the County Convention and the large turnout, Mrs. Lanahan has checked this out with our attorney and recommends that we permit this request.

The motion was made by Mr. Lenhardt and seconded by Mr. Marcelle to approve the sale of beer at the Town of Bethlehem Henry Hudson Park as requested by Selkirk Fire Company in September 2003 for the County Convention. The motion was passed by the following vote:

Ayes: Mrs. Fuller, Mr. Lenhardt, Mrs. Davis, Mr. Plummer, Mr. Marcelle.
Noes: None.

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Supervisor Fuller thanked Mr. Metz attending the meeting. Councilman Lenhardt said this is a beautiful location to conduct the convention. Councilman Davis said there will be a means of screening people who are eligible to drink. Mr. Metz said he would leave the information, noting they have a lot of things covered. Supervisor Fuller said they will have all the things covered. The information submitted indicated the activities, numbers of attendees anticipated and how they plan to control the beer sales. Supervisor Fuller thanked Mr. Metz.

The following item was a request from Nan Lanahan, Administrator, Parks and Recreation Department, for approval of appointment of seasonal personnel.

The motion was made by Mrs. Davis and seconded by Mr. Plummer to approve the appointment of seasonal personnel as requested by Administrator, Nan Lanahan, Parks and Recreation Department at the titles and salaries listed in the Memorandum dated April 24, 2002. The motion was passed by the following vote:

Ayes: Mrs. Fuller, Mr. Lenhardt, Mrs. Davis, Mr. Plummer, Mr. Marcelle.
Noes: None.

The next item was a request from Comptroller, Judith Kehoe, for approval of entry into lease purchase agreement and related budget modification with authorization of the Supervisor to execute the lease agreement regarding the purchase of a truck-mounted combination vacuum and high velocity sewer cleaner for the Department of Public Works.

The motion was made by Mr. Plummer and seconded by Mrs. Davis to approve the entry into the lease purchase agreement and related budget modification with authorization of the Supervisor to execute the lease agreement regarding the purchase of a truck-mounted combination vacuum and high velocity sewer cleaner for the Department of Public Works as requested by Comptroller, Judith Kehoe. The motion was passed by the following vote:

Ayes: Mrs. Fuller, Mr. Lenhardt, Mrs. Davis, Mr. Plummer, Mr. Marcelle.
Noes: None.

The next item was a recommendation from Comptroller, Judith Kehoe, to accept resignation from position with Town Court and reappointment thereof. Supervisor Fuller said this was done with Parker Mathusa when he retired from State service. She said he had to have a leave of absence for a day from the Planning Board. This is for Joseph Sleurs who does want to stay on for the Town Court but needs to resign from the part time break for the one day break.

The motion was made by Mrs. Davis and seconded by Mr. Lenhardt to accept the resignation of Joseph Sleurs from the position of Part time Court worker. The motion was passed by the following vote:

Ayes: Mrs. Fuller, Mr. Lenhardt, Mrs. Davis, Mr. Plummer, Mr. Marcelle.

Noes: None.

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The motion was made by Mrs. Davis and seconded by Mr. Lenhardt to approve the appointment of Joseph Sleurs to the position of Court worker effective April 29, 2002. The motion was passed by the following vote:

Ayes: Mrs. Fuller, Mr. Lenhardt, Mrs. Davis, Mr. Plummer, Mr. Marcelle.
Noes: None.

The next item was a request from Gregg Sagendorph, Highway Superintendent, for approval of authorization for the Supervisor to sign a resolution for grant regarding partial reimbursement of costs associated with 2002 Household Hazardous Waste Day. Supervisor Fuller noted Household Hazardous Waste Day will be held May 4, 2002.

Resolution Authorizing the Filing of an Application for a State Assistance from the Household Hazardous Waste (HHW) State Assistance Program and Signing of the Associated State Contract, Under the Appropriate Laws of New York State.

WHEREAS, the State of New York provides financial aid for household hazardous waste programs; and

WHEREAS, the Town of Bethlehem, herein called the MUNICIPALITY, has examined and duly considered the applicable laws of the State of New York and the MUNICIPALITY deems it to be in the public interest and benefit to file an application for such STATE Aid;

WHEREAS, it is necessary that a Contract by and between THE PEOPLE OF THE STATE OF NEW YORK, herein call the STATE and the MUNICIPALITY be executed for such STATE Aid;

NOW, THEREFORE, BE IT RESOLVED BY THE TOWN BOARD OF THE TOWN OF BETHLEHEM:

1. That the filing of an application in the form required by the State of New York in conformity with the applicable laws of the State of New York including all understanding and assurances contained in said application is hereby authorized.
2. That Town Supervisor, or her designee, is directed and authorized as the official representative of the MUNICIPALITY to act in connection with the application and to provide such additional information as may be required and to sign the resulting contract if said application is approved by the STATE;
3. That the MUNICIPALITY agrees that it will fund the entire cost of said household hazardous waste program and will be reimbursed by the State for the State share of such costs.
4. That the MUNICIPALITY or MUNICIPALITIES set forth their respective responsibilities by attached joint resolution relative to a joint program.
5. That five (5) Certified Copies of this Resolution be prepared and sent to the NYSDEC, together with a complete application.
6. That this resolution shall take effect immediately.

The foregoing resolution was presented for adoption by Mr. Plummer, seconded by Mr. Marcelle and passed by the following vote:

Ayes: Mrs. Fuller, Mr. Lenhardt, Mrs. Davis, Mr. Plummer, Mr. Marcelle.
Noes: None.

The next item was a request from Town Clerk, Kathleen A. Newkirk, for consideration of adoption of Proclamation regarding recognition of Municipal Clerks Week, April 28 through May 4, 2002.

The motion was made by Mr. Lenhardt and seconded by Mr. Marcelle to approve the adoption of the following Proclamation:

PROCLAMATION
MUNICIPAL CLERKS' WEEK
April 28 through May 4, 2002

- WHEREAS, The Office of the Municipal Clerk, a time honored and vital part of local government exists throughout the world, and
- WHEREAS, The Office of the Municipal Clerk is the oldest among public servants, and
- WHEREAS, The Office of Municipal Clerk provides the professional link between the citizens, the local governing bodies, and agencies of government at other levels, and
- WHEREAS, The Municipal Clerk has pledged to be ever mindful of their neutrality and impartiality, rendering equal service to all.
- WHEREAS, The Municipal Clerk serves as the information center on functions of local government and community,
- WHEREAS, The Municipal Clerk continually strives to improve the administration of the affairs of the office of the Municipal Clerk through participation in education programs, seminars, workshops and the annual meetings of their state, province, county and international professional organizations.
- WHEREAS, it is most appropriate that we recognize the accomplishments of the office of Municipal Clerk.

NOW, THEREFORE, I, Sheila Fuller, Supervisor of the Town of Bethlehem, do recognize the week of April 28 through May 4, 2002, as Municipal Clerks' Week, and further extend appreciation to our Municipal Clerk, Kathleen A. Newkirk, CMC and to all Municipal Clerks for the vital services they perform and their exemplary dedication to the communities they represent.

Dated this 24th day of April 2002.

Sheila Fuller
Supervisor

The next item was to approve the Town Board minutes of March 13 and March 27, 2002.

The motion was made by Mrs. Davis and seconded by Mr. Marcelle to approve the Town Board minutes of March 13, 2002 as submitted. The motion was passed by the following vote:

Ayes: Mrs. Fuller, Mr. Lenhardt, Mrs. Davis, Mr. Plummer, Mr. Marcelle.
Noes: None.

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The motion was made by Mr. Marcelle and seconded by Mr. Lenhardt to approve the Town Board minutes of March 27, 2002 with correction. The motion was passed by the following vote:

Ayes: Mrs. Fuller, Mr. Lenhardt, Mr. Plummer, Mr. Marcelle.
Noes: None.
Abstain: Mrs. Davis.

SUPERVISOR FULLER: Mr. Secor, would you give us the update on water.

MR. SECOR: This is basically a graph of actual reservoir elevations over the last 15 years and this is full. So, we normally fill up in the spring. The reservoir carries

on down through and in the fall we usually get some recharge. This black line is a plot of the warning level. When the reservoir gets down to this warning level, which happened in the fall of last year, the red line is the emergency level. The black line represents 70 percent of normal seasonal levels. This is 60 percent of seasonal levels. Last fall we reported to the Board we had gotten into the warning zone and actually this spring we crossed over and got into the emergency. So, the Town Board had declared an emergency in January.

Since then, the spring rains have come back and filled up. We are still in this zone... warning zone and we need about another foot of water, foot and a half of water to get up into... above this. The report I handed out is from April 15th. We are required to report the 1st and the 15th of each month to the Health Department on the status of the reservoir.

We said way back in the beginning in November that depending on how the rains came, when we were in an emergency, we took emergency actions and that if the emergency lessened, we could look at alternatives. At this point, I'd still like to put off any action, as far as, trying to make any extermination of changing of our regulations until the first meeting in May. It is only 2 weeks away and that will get us past the diversion that we're available to do. I gave the Board at the last... 2 meetings ago, a copy of the letter we wrote to DEC on the stage 3 diversion. At this point, the water conservation measures that we have in place are helping us. We have been able to reduce the water we're taking from Vly Creek reservoir. We've increased our purchase from Albany. We have not had to increase our purchase from Albany up to the full 2 million that we are authorized. This time of year it just isn't that... the flow... we're starting to get into the season where we're going to get into the sprinkling.

Basically, we gained about 3.9 feet in the month of March. We gained about 2 feet so far this month. We need to get about another foot, foot and a half, and what we've been working on in response to some questions asked by the Board. Basically what we've done, we've taken 2 different thoughts. The green line represents if we had the drought continuing and got very little precipitation into our system and that this would be normal use, assuming there was lawn watering allowed and some restrictions in place but some lawn watering involved. The blue line represents what would happen if we had a wet summer or average summer where we get our normal precipitation is 36 inches a year and if you've been watching the weather, cumulatively from 2001 and 2002, we're almost 19 inches below normal precipitation. So, this drought that we've seen is severe and it is an uncommon occurrence.

By contrast, this is the line for 1998. In 1998 we were within 6 inches of being full in February. In 1985, we only filled up to about 70 percent. In 1995, we filled up to about 78 percent. There's been about 3 or 4 years when we haven't filled up again. We normally got some fall rains so we never got down into these lower levels. That's basically where we're at right now and I will be back to the Board on the 8th of May, the first meeting in May and give you an update and tell you.

We have 2 regulatory things pending with DEC. We have our request for the 18 month extension or authorization for 18 months to continue pumping directly out of the river to serve the industrial area and we have a request pending to allow us to continue to divert from stage 3 for the months of May and June. And, DEC was out today looking at it and they're in the process of reviewing both of those requests.

COUNCILMAN PLUMMER: When do you expect them to respond on each?

MR. SECOR: We have a notice of complete application for the water supply permit for the river taking to supply the industrial area. And, I expect that over the next 2 weeks get feedback on that. We're still getting in additional information, we're not at a point where we have a completed application to satisfy DEC on the stage 3 diversion. We did have L and S Engineers, Lawlor and McCusky and

Skelly, their chief biologist went up and walked the whole stream and he has given us a 4 page letter which I just faxed to the DEC yesterday. He's putting together a formal stream report and that will support our application that we're not damaging the life in the stream. Basically, there is no stream. This is a stream that is dry for months at a time and when it rains, the water zooms down through it and goes past us. We get some of that into our Vly Creek reservoir. So, you know, it's just a matter of looking for additional...

COUNCILMAN PLUMMER: Going back to the other one, though, the 18th month. Would you expect by the May 8th meeting that we'll have a decision on the permit request for the 3 million gallons a day?

MR. SECOR: I don't know. I will continue. I call 2 or 3 times a week, not to pester but just to see if they need any clarification or any additional information. And, I haven't gotten a time line from them yet. And, I'm not sure if there's a regulatory... you know, they have so many days to give us a notice of complete application. I'm not sure there is an absolute deadline for them to make a decision by. I'm not sure about that. But, I'll check on that. I'm hoping that we will by the 8th of May.

COUNCILMAN PLUMMER: My understanding also is that out of the 2 million gallons that the city will sell us a day, we're using about 1 right now, maybe a little over that from the graphs that I have seen.

MR. SECOR: About 1.2 yes.

COUNCILMAN PLUMMER: If we were to loosen up on the restrictions somewhat, as you and I have talked, similar to what Guilderland has done -- they have, I understand a time frame from 6 a.m. to 9 a.m., odd/even. They allow for the uses that we've provided plus watering lawns and plus for new lawns and plus for pools. Would that then, in your judgment, would that take more than the amount that we are allowed to use of the city's willing to sell us now? Or would that be conceivable? Is that something we can look to do?

MR. SECOR: Well... the best projections we come up with is that lawn water consumes between ½ a million and a million gallons a day on average.

COUNCILMAN PLUMMER: For a community our size?

MR. SECOR: For Town-wide, for our community based on that. We're currently purchasing about 1.2 million from the city so we have some spare in there. The other side of that is, that we are also getting about 600,000 gallons a day from Guilderland right now which we may or may not be able to get as we get on through. So, one of the things we did... we said okay, water is available from Guilderland February, March, April, maybe into May but it then may fall off. So, we were taking water we could get from Guilderland at this time. Again, just like we've seen water in our reservoir by not pulling water out now, buying less than the full 2 million from the city the thought was that would save water that we might be able to depend on for the summer.

COUNCILMAN PLUMMER: How would that save water for us?

MR. SECOR: Well, you know, since we're limited right now to the maximum taking of 2 and I expect that's all we're going to get. But, if the reservoir... if Albany's reservoir and our reservoir gets up to a higher level because we didn't consume the ... of water early on, it's like putting money in a savings account, is the way I would look at that.

TOWN ATTORNEY ALESSI: Bruce, just in... excuse me, just wanted to clarify something that Bruce said. When you said we're limited to 2, actually the City of Albany is providing us with more water than we would otherwise be entitled to under the contracts so I think you were basically... what you meant to say was, the

City of Albany has authorized 2 million gallons per day for us. So, I just wanted to correct that.

COUNCILMAN PLUMMER: And, my point... and my understanding, I've talked to the Commissioner Bob Cross, who has indicated to me that they will be willing to sell us more water provided things continue the way they are at the Alcove. The percentage is way up so we can talk to them about more water with that prospect out there, and the fact that we're not using up to the 2 million gallons a day. I just think it's important that we try to work to provide some relief where people can use some water and I'm not saying opening up the flood gates but we can still conserve and let it be used for other purposes.

MR. SECOR: And, I don't disagree with that. Again, we got into this when we were in an emergency, we took emergency measures.

COUNCILMAN PLUMMER: Right.

MR. SECOR: Now, that we are out of the emergency, we can begin to talk about some other things. It would be much more comfortable if we got out of the warning stage. But, be that as it may, we've made our projections based on May levels, projected out for the rest of the year. One of the reasons we developed these draw-down curves was in response to the requirements of DEC for saying we had to certify that we had water for the next 24 months for whatever decisions we were making. So, whether it's relaxing the all out ban on sprinkling we have or some of the other things, we are going to have to show numerically, graphically and through statements to DEC that we can do this. So, we are working on developing this information. I should have compared it by the date.

COUNCILMAN MARCELLE: Bruce, can I just ask for clarification on something that you said. You said it is about 1/2 to 1 million gallons a day to water lawns. Is that just unrestricted watering lawns? Is that an odd/even? Is it just mornings? And, what's that number based on?

MR. SECOR: Based on looking at wintertime uses, factoring out industry and then looking at the change in water use from wintertime use for residential use versus summer times. And, the reason there's such a broad range there is that if you look at years when we had a wet time, obviously, the water sales will be down. This is a counter, you know, the less... the drier it is, the more water you should sell if you had it and reverse it and go the other direction. But, so there's a range there. With the normal restrictions... we have... I looked it up for the Board about a year ago on 3 levels of restrictions. No watering between 10 to 2 and the 6 to 8 point at night and then the odd and even. We're going to get to that. A million, million and a half with no restrictions down to a million down to a half a million with some restrictions. We will factor down that way.

COUNCILMAN MARCELLE: Okay. So there's a range involved depending. So, if you did something like an odd/even and restricted it to just in the morning, you would be towards that half million gallons per day.

MR. SECOR: Between a million and a half million, yes.

COUNCILMAN PLUMMER: Which falls within the range of what we're available to purchase now.

COUNCILMAN MARCELLE: One other question, Bruce, if I could bother you one more time. How much are we taking out of the Vly Creek reservoir per day?

MR. SECOR: Right now, about 800,000 gallons a day.

MR. HUSSAR: Excuse my ignorance, do you accept comments at this point?

SUPERVISOR FULLER: Sure.

MR. HUSSAR: Thank you, I'm Robert Hussar for the record. I'm from Haswell Farms, the newest phase in there, and you can imagine right now, we have a dust bowl right there. We submitted a letter, hopefully all of you received...

SUPERVISOR FULLER: Sam Messina.

MR. HUSSAR: Yes, Sam forwarded that to you.

SUPERVISOR FULLER: Yes, faxed it into me yesterday and the Board has received that.

MR. HUSSAR: And, we just respectfully request that you reconsider the conditions in light of the vast improvement over the recent past and as well as we are expecting more rain as early as tomorrow. So, to continue those restrictions really is a hardship on us. It's not that we are ignoring the importance of water conservation in times of emergency, but we do feel that based upon the improvements, that you do at least carve out the watering new lawns and the planting of new lawns as you have done, at least to my understanding in the past year. Thank you.

SUPERVISOR FULLER: Thank you. We do have your letter, Mr. Messina faxed it in yesterday and we did get it hand delivered to the Board. This is a difficult issue not only for you but for the entire community because frankly, it's a little premature to even consider adjusting these restrictions at this point in time. While things have improved, they're still not improved to the level of where they should be and what is even more difficult is this is not a time of year that people are concerned about lawns or that they are out there watering lawns. Peak time for the Town will be May through October where we're really looking forward ahead to save and conserve as much water as possible. I can understand the concerns that the individuals in Haswell Farms have voiced and some that were addressed to Mr. Messina's letter but the decision for the Board will have to be... is Haswell Farms lawn different than someone else's lawn and you know, where do you draw the line. I think as time goes on, we can perhaps look at some of these restrictions but I think it will determine, you know, how the weather is between now and May 8th. You know, the bottom line is we have to have water and it has to be drinking water for the community. And, frankly, that's where I'm sitting. I know how frustrating it is for many but not quite as frustrating as it would be if, God forbid, we ran out of water. This is not only a drought situation this is a problem for the Town of Bethlehem that you are not seeing in other communities. We have problems right here and you've sat through this meeting tonight to get a good idea of what is going on. I can't jump on the band wagon at this point to say this is a great idea to lift some restrictions but I think it's something we can take a look at. But, we have to take a look at the big picture that's out there.

MR. HUSSAR: May I respond?

SUPERVISOR FULLER: Yes. And, that really is a response to the community concerned about lawns. It wasn't so much for you but because you are here, I was speaking with you.

MR. HUSSAR: And, I understand that and I appreciate it. The only difference I would draw is, if we had a lawn I wouldn't be arguing to water our existing lawn. We have no lawn. We have dust blowing in our homes through our windows because of the fine particles. There is concern with erosion of the soil with health issues of children or even adults have asthma or allergies and it's just... it's a tough situation. Granted I wouldn't want to take drinking water out of people's mouths or to that extent but we are out of the emergency level. We are within the warning level but even per Mr. Secor's predictions and analysis, with a regular use we would even just be border line on warning, possibly... likely exceeding that.

COUNCILMAN DAVIS: I have a question.

MR. HUSSAR: Yes.

COUNCILMAN DAVIS: Has the developer, in any way, been able to assist with any kind of mulching or anything that would help to control erosion and help to control some of the dust bowl effect that you have talked about? I mean, I would think that they might be able to assist in some way.

MR. HUSSAR: We've approached the developer on that. The only steps they have taken to assist in the elimination or reduction of erosion is placing bails of hay at the bottom of people's lawns so it looks like a rodeo more than a neighborhood right now. But, in terms of placing mulch or another substance on top of the lawns, their concern is that it will promote weed growth and thereby damage our lawns in the future or maybe not damage... damage may not be the appropriate word but limit our ability to have the ultimate lawn or I don't know how to phrase it appropriately to you but they feel that it would be detrimental to us in the long run of doing that. And, in terms of anything else, I don't think they could put down gravel or any other type of substance that I am aware of that would be easily removed at the when we were to plant new lawns. Also, we have children and pets and other concerns, I'm not sure we would want our children playing in, you know, some type of pine mulch or other substance. But, we have approached them and they've said it's really out of their hands, it's... we have to wait until we can grow grass. Thanks.

SUPERVISOR FULLER: Thank you.

TOWN ATTORNEY ALESSI: Have a question for Bruce. Bruce, the emergency warning, alert parlance is with regard to the Vly Creek reservoir, correct?

MR. SECOR: Yes.

TOWN ATTORNEY ALESSI: It's not with regard to all sources of water, correct? It's just with... that is a gradation for Vly Creek only and we have to draw our water from addition to Vly Creek and my point is, I think we have to be precise about when we use the term emergency because while the Vly Creek reservoir may vacillate between emergency alert and warning, since it's not supplying all the water needs of the Town, to me the term emergency and how we have dealt with the DEC is with regard to the demands... water demands of the Town. So, you... my judgment is we are still in an emergency state with regard to the water needs of the Town and that this parlance is just with regard to the Vly Creek reservoir. I think it is important to look at as Supervisor Fuller said, the bigger picture and the bigger picture is what are the demands of the Town and where do we meet the demands of the Town. And, since we don't meet them all from Vly Creek, whether Vly Creek ends up coming out of alert or warning, doesn't to me end the analysis. You look at where your demands are and what other sources of water are. And, you know, one can then, I think, make a more informed judgment about the water situation in the Town.

COUNCILMAN PLUMMER: Yea, I agree with that and when you look at the demands what the water sources are, it's black and white. We know what they are right now. And, we have the ability to use up to 2 million gallons a day from the City of Albany and we've only been using a million. And, I think that because of that, we have to seriously look at having conservation measures but at the same time, let's use the full 2 million gallons a day that they are willing to sell us.

SUPERVISOR FULLER: What is the response to using the 2 millions from the City of Albany? Does that make a difference in our water?

COUNCILMAN PLUMMER: Well, I...

MR. SECOR: These graphs are projected with the full 2 million from the city being used and again, that's why the slope this year is so different from what we've

seen in past years. Is that... the 2 important things is and I think what Bob is referring to is that none of this works without continued use of the river water for just industry. So, that, you know the emergency declaration in terms of the town-wide situation, has more facets to it than just the reservoir. But, projecting this for use of the reservoir, it's one of the things we have to look at. In calculating this, we did put in getting the full amount from the city, getting some water from Guilderland and then whatever we didn't get from those other sources had to come from Vly Creek reservoir and that's why there's this range.

SUPERVISOR FULLER: Did you move from emergency to warning to almost out of warning by using 2 million gallons for the Vly Creek?

MR. SECOR: No. No, that terminology is just to deal with where the level of the reservoir is within the plan that we had submitted to the Health Department. Town-wide it has a different connotation.

SUPERVISOR FULLER: Okay.

MR. SECOR: You know, if we were not able to continue to pump from the Hudson River to supply the industrial area, there's no way to make up that 3 million gallons. You take all the rest of this conversation and throw it away because even buying 2 million from the city doesn't make up the 3 million lost from that other source. So, this is all dependent upon that 18 month approval from DEC to carry us through until what was described tonight by Earth Tech. Those new wells will be in, which they have projected summer of next year. That's why we asked for that time period.

SUPERVISOR FULLER: But, I think, Dan raises a legitimate concern that I'm not clear yet I understand the answer. We're able to take 2 million from Albany and we're only taking 1 million. In laymen's term, if we were to take 2 million gallons does that make up able to have people water their lawns?

MR. SECOR: Yes.

TOWN ATTORNEY ALESSI: And, that assumes that the authorization of people to water their lawns will not adversely impact our applications before the DEC to sustain the critical cog in this whole process which is the continued ability to draw water from the Hudson River.

COUNCILMAN PLUMMER: And, I agree and that's important. I think what we should do between now and the next meeting is the best we can, find out the answer to that from the DEC and also try to get a more specific sense as to what -- you know -- that demand would be. I mean you mention 500,000 gallons if we opened it up to something similar to what Guilderland is doing right now which is still a very restrictive conservation program. But, I think between now and May 8, it would be my recommendation we try to find the answer to that question from the DEC.

COUNCILMAN MARCELLE: If I could just follow-up on that question for our counsel, does it... would it make a difference to DEC if we said, look we're... we can purchase up to 2 million but we're only using a million as opposed to we actually use the 2 million. In other words, do they look at whether it is available and whether we use it? Does that make sense to you?

TOWN ATTORNEY ALESSI: I'm not understanding the question.

COUNCILMAN MARCELLE: In other words, your point was, I took it that if we lift... use... take more water from Albany and lift the restrictions on lawn watering, it could adversely impact us with respect to DEC. Why wouldn't DEC simply say to us, well why aren't you drawing the additional million gallons from Albany currently and view that as impacting negatively on us anyhow whether or not we allow watering of lawns.

TOWN ATTORNEY ALESSI: Well, I think you may very well have... well, let me just say that it's an interesting question that there are many answers to.

MR. HUSSAR: Very lawyer like.

TOWN ATTORNEY ALESSI: That's my job to protect the Town.

MR. HUSSAR: I'm an attorney as well.

SUPERVISOR FULLER: That's how you recognize that response, huh?

MISS CAPONE: In this whole discussion are we factoring in for emergencies? Like if we get a fire like the size of what Rotterdam got the other day because when we have a water problem like this, aren't we going to have increased amount of fires?

MR. SECOR: No, again, this is all predicated on maintaining fire protection in the Town. All of our calculations are with tank storage levels and that the fire protection is there. Most fires really don't consume that much water. I mean you do have the odd situation but there is enough system response to take care of any fires.

MISS CAPONE: Because they were saying the amount of brush fires are going to go up this year.

MR. SECOR: Again, I don't know.

SUPERVISOR FULLER: Our next meeting is May 8th.

Supervisor Fuller asked if anyone else wished to address the Board. Mrs. Capone noted she had 3 things but she would be fast. The first regarded the stanchions for pedestrian safety. She noted she had to go to the dictionary to find the definition. She said she watched the truck that took out the stanchion and took pictures of it. Supervisor Fuller noted it happened on Saturday afternoon and it was a car that hit the stanchion. Mrs. Capone insisted it was a truck. Supervisor Fuller said there must have been 2 of them. She said there was a truck this afternoon with water truck on the side of it and if the stanchion had been there the truck would not have fit past it.

Mrs. Capone next addressed the removal of the dumpster for clothes. Mr. Sagendorph said he asked Recycling Coordinator, Sharon Fisher, to look into the situation, however, she has not found a solution. He said there are Salvation Army bins at the Rupert Road Transfer Station and textiles can be taken there. Mrs. Capone suggested something be put in the newspaper.

Mrs. Capone said the next item is the garage sale. She said it is open and if something does not sell, and the person does not want to keep it, they can call John Geurtze and he will send somebody to pick it up. She thanked the Supervisor.

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Supervisor Fuller asked for a motion to adjourn the Town Board meeting.

The motion was made by Mrs. Davis and seconded by Mr. Lenhardt to adjourn the regular Town Board meeting at 10:07 p.m. The motion was carried by the following vote:

Ayes: Mrs. Fuller, Mr. Lenhardt, Mrs. Davis, Mr. Plummer, Mr. Marcelle.

Noes: None.

Absent: None.

Town Clerk