MANITOBA CLEAN ENVIRONMENT COMMISSION

# PEMBINA VALLEY WATER COOPERATIVE

# SUPPLEMENTAL GROUNDWATER SUPPLY PROPOSAL

# HEARING

## TRANSCRIPT OF PROCEEDINGS

* * * * * * * * * * * * * * * * * * * * *

FRIEDENSFELD COMMUNITY HALL

FRIEDENSFELD, MANITOBA

NOVEMBER 9, 2006

* * * * * * * * * * * * * * * * * * * * *

Volume 2

APPEARANCES:

CLEAN ENVIRONMENT COMMISSION

Mr. Terry Sargeant - Chairman

Ms. Gisele Funk - Member

Mr. Ian Halket - Member

Mr. Kenneth Gibbons - Member

Mr. Doug Smith - Report Writer

Ms Cathy Johnson - Commission Secretary

Ms. Joyce Mueller - Administrative Secretary

PEMBINA VALLEY WATER COOPERATIVE:

Mr. Sam Schellenberg - CEO

Mr. Steve Wiecek

Mr. Harm Maathuis

PRESENTATIONS:

WATER CAUCUS- MANITOBA ECO-NETWORK

Mr. Glen Koroluk

Ms. Kimberly Balance

Mr. David Brooks

Ms. Lindy Clubb

PRESENTATIONS: November 9, 2006

Rick Martel - RM Rhineland, Town of Altona, Town of Plum Coulee, Town of Gretna

Bill Whitehead - RM Roland

PRESENTATIONS: November 9, 2006

Cheryl Kennedy-Courcelles

Claude Moquin - RM La Broquerie

Marvin Hovorka - RM PineyClaude Moquin - RM La Broquerie

Patrick Watson - Seine-Rat River Conservation District

Gerry Barron - Manitoba Public Utilities Board

Laura Reeves

Kimberly Balance - Water Caucus

Gail Whelan Enns - Water Caucus

INDEX OF EXHIBITS

INDEX OF EXHIBITS

INDEX OF EXHIBITS

THURSDAY, NOVEMBER 9, 2006

UPON COMMENCING AT 9:12

THE CHAIRMAN: Good morning. Could we come to order, please? I would like to apologize for the slight delay in getting going this morning. I seem to be coming down with the latest autumn bug. And I had to spend a bit of time running around town finding a drugstore that was open to get some medication. But we're here now and we're ready to go.

First thing this morning, the order of the day this morning will be, more or less, first up the Manitoba Eco-Network will be asking some questions of the proponent. Following that, members of this panel will ask further questions of the proponent. And then following that, we will have presentations by a number of individual citizens and representatives of Rural Municipalities.

So if I could ask Mr. Schellenberg, Mr. Wiecek and Mr. Maathuis to take the front table, we will proceed.

Mr. Koroluk, as I said to you just off the record before we started, any questions that are repetitive or irrelevant, I'll scratch them.

So stick to new topics and we will be fine. You may proceed.

MR. KOROLUK: Thank you, Mr. Chair. Before I begin, my presentation of yesterday referenced a lot of materials. And I just want to hand in those references for your panel. I've got the City of Winnipeg Groundwater Feasibility Study, Phase 2. A presentation to the LPG of Hadeshville. I've got the Water Resources Conservation Act, the Water Protection Act, the Water Rights Act. A memo from Manitoba Intergovernmental Affairs and Trade on New Planning Legislation and Requirements for Livestock Policies. A letter from the Red River Basin Commission to the Bureau of Reclamation indicating their policies and principles on in-basin water supply. The RM of Piney's Bylaw Number 45-06. A map of conservation districts in Manitoba, and a map of sub-basins and watersheds in Manitoba.

And also, very briefly, I would like to redress some of the comments that I heard on Tuesday from the proponents. The first item I would like to redress is the notion that there is an option in North Dakota that will redirect Red

River water back into the Fargo area and create a flow on the Red of eight cubic feet per second at the International Border. I mean, that is an option. However, it is not the option that the State Water Commission has chosen. So I have got redress item number 1 that sort of tells us which option they are selecting. It would involve an interfacing transfer of water from the Missouri River.

I have got another redress item here. I heard on Tuesday that there isn't much work being done on establishing an apportionment agreement at the border, the International Border. In fact, there is -- I've got minutes from the Fourth Interim Meeting of the International Red River Board, a body of the IJC, which indicates that they do have a committee who is working on trying to establish an apportionment number at the border.

And also the IJC does have an International Water Sheds Initiative. And they report that the Red River is a high priority basin, that's redress item number 3.

It was also mentioned on Tuesday that small storage options on the upper parts of the

watershed is not a useful way of trying to find more water. In fact, there is a -- there was or there is a successful model in the area. It's called a Tobacco Creek Model Watershed. And projects such as that that could store more water are useful for flood mitigation and also water supply. So I've got two items from the Tobacco Creek Model Shed for you, a redress items number 4 and 5.

I also heard on Tuesday that all of the options have been explored in terms of finding a new water supply. I've got selected pages copied from the Stephenfield Lake Watershed Management Plan. I'll term that redress item number 6. And it indicates that more exploration should take place in terms of looking for groundwater sources. They say there is possibilities that there are groundwater sources on the upper parts of the Morris River Watershed.

And the last item here I have redress item number 7, it's from the U.S. Geological Services. It's a water availability report in the western U.S. And it was mentioned on Tuesday that artificial recharge of aquifers doesn't work. Well, there are a number of programmes that are

doing that in the U.S. And I have highlighted them for you, so that is another option for water supply.

Thank you for that opportunity, and I will move to my questioning now.

THE CHAIRMAN: Mr. Koroluk, are you proposing that all of these documents that you have just named, those two piles in front of you, be filed as evidence before this hearing?

MR. KOROLUK: Yes. Yes, I do.

THE CHAIRMAN: Okay, let me just consider this for a moment. Unless there are compelling arguments against accepting them, I will accept them on this provision, that copies will be made. They will be distributed to the proponent. The proponent will be given a reasonable amount of time to provide written comments to us. Do you have any objections to us accepting them on that basis?

MR. SCHELLENBERG: No, Mr. Chairman, I don't. These are all documents that are in the public and that have been circulated, so there is nothing new there. If I have a chance, I would like to make a few comments related to his statement. But other than that, no, to answer

your question, I don't have a problem with it.

THE CHAIRMAN: Okay, so we will accept them, then, Mr. Koroluk. We will offer Pembina Valley Water Co-operative a reasonable amount of time. We will determine over the course of today how long that will be. It won't be a long period, but it will be reasonable. And they can provide written comments. Those written comments will be shared with you.

Now, Mr. Schellenberg, you said you wanted to make some comments. Do you want to make them before Pembina Valley starts their questions?

MR. SCHELLENBERG: Yes, if I could, just in response to the comments that Glen just made.

THE CHAIRMAN: Certainly.

MR. SCHELLENBERG: The State Water Commission can make the recommendation, but as Glen knows, does not make the decision. The decision is going to be made by the Federal Government on the recommendation of others. And that has yet to come down, but it is expected early next year, at the last, in terms of timetable.

The International Red River Board, in

fact, does have a committee that has been assigned to look at this. I checked as recently as Tuesday. It has yet to meet. And I hold out very little hope that anything meaningful is going to come from those meetings, given the relationship between the U.S. and Canada at the present time.

And the IJC's Watershed Initiative is hardly new. That dates back several years. And to date, really, nothing has happened.

The Tobacco Creek example that he lists is for flood mitigation. And I think even he would admit it is not capable of water supply that anyone would really seriously want to tap and treat.

And in terms of the groundwater sources up in the upper Boyne and what have you, the quality there, and that's also I think included in that same report, is very, very questionable and poses some problems. And true aquifer recharge, I maintain the comment that I made the other day, and it is reflected in some of the disasters that have occurred in other places, it is very risky. You must have the right water to be able to do that. And if you have the right water, it is also very costly.

Those are my comments.

THE CHAIRMAN: Thank you.

Mr. Koroluk, you may proceed with questions.

MR. KOROLUK: Thank you, Mr. Chair. I wanted to start off, basically, you've mentioned in your presentation the sustainable yield. It's in one of your documents, and it was in your presentation. Can you tell me exactly what sustainable yield means and where are you applying it when it comes to the region where you want to bring water in?

MR. SCHELLENBERG: Do you have a specific source that you are referring to?

MR. KOROLUK: It's page 7 of your handout from Tuesday.

"All of the region's existing supplies are used to their sustainable yield."

MR. SCHELLENBERG: Okay. This would apply particularly to the Boyne River and Stephenfield. This would also apply to the Winkler Aquifer. And you have heard more comments relating to the Winkler Aquifer on Tuesday evening where the sustainable yield is seen as being exceeded, but they are getting a lot closer to having it back to that level.

This, in terms of licensing, would also apply to the Red River and numbers there that the province utilizes in terms of licensing. So in some cases sustainable yield is, in fact, determined and in many cases determined by the province.

MR. KOROLUK: So you are taking the province's definition?

MR. SCHELLENBERG: Yes, we are.

MR. KOROLUK: Okay. A couple of weeks ago we tried to get numbers from your Co-op, as well as from the Province on trying to determine how much water is actually used in those two areas where you supply. And I'm talking mostly the Morris River Watershed and the Plum Coulee Watershed. And you gave us a chart that was broken down by gallons. And then you gave us a breakdown in that chart that said roughly 10 percent is used by industry, 12 percent is used by the AG industry, and 8 percent is used by municipalities, and 70 percent is used domestically -- domestic use. And we really didn't understand how you defined those terms. Can you give us a more, sort of, exact definition what industry, AG industries, municipality and

what domestic is and what that means?

MR. SCHELLENBERG: Well, industry I thought was pretty much self-explanatory, and certainly in my presentation on Tuesday I defined that very carefully. Industry, in this particular case, the larger users are also identified, industry as it is understood. It's the canola crushing facility in Altona which takes 40 percent of Altona's water. It is Farm a Lot in St. Claude, which uses 23% of St. Claude's water. And in Winkler, the number was given to us by the City of Winkler, which includes their two foundries, and they also have a small cheese plant. Other than that, industry in our area, water use industry is limited and wet industry cannot be supported.

MR. KOROLUK: Okay. And for the AG industry?

MR. SCHELLENBERG: Well, the AG industry, it is somewhat more diverse. It in some case, certainly in the St. Claude area, and in the presentation that Charles Scharien made on Tuesday night, he specified that in their case it provides, in terms of AG industry, to one chicken operation and two dairy operations.

In terms of some of the other municipalities, there are some barns that are on it directly, hog operations, primarily weanlings, in terms of first priority, but it is also used in the potato industry, especially for washing. And there is some small on-farm processing of meat products. These are not large users at all, but they would be included within that 12 percent, as well.

MR. KOROLUK: Okay. And the reason why I was confused with that definition, and why it was at 12 percent, is if you go to your master plan by Cochrane in 2003, it states that approximately 41 litres per second is what's used in the -- in the agricultural sector at that point in time, which would have been a couple of years ago. And specifically, I think, what it said is that 41 litres per second was mostly for stock watering. Now, 41 litres per second, if you look, and if the master plan is correct, your total consumption at that time would have been about 114 litres per second. So if you take 41 divided by 114, you get 36 percent that's used by the agricultural sector, and predominantly by stock watering. Now, I am wondering why 36 percent from

your master plan, it says 36 percent, and it says 12 percent in the handout you gave on your water budget?

MR. SCHELLENBERG: I have addressed this before. I will address it again. For the record, the Board and the Co-op disagreed with those numbers. That master plan was not adopted by the Board, nor was it distributed to our membership, I might add. It was given to the Clean Environment Commission at their request. And only after I realized that Cochrane Engineering had advertised the success of this particular project in a magazine article. In that case, obviously, it had to be made public. However, those numbers are not correct. And they were arrived at by taking the Census Canada total animal numbers and making the assumption that all of these would be provided for from our supply, which is definitely not the case.

Now, if you listen to Mr. Marten's presentation, Herm Marten is the Reeve of the RM of Morris, presented here on Tuesday evening, as well. In his case he has both a hog operation and he also has a chicken operation, and they are a fair size. And neither one of them use water from

our supply. And he specified that in the barns what they use the water for is for domestic consumption; in other words, for showering and for drinking water. But the rest of the water is provided for from impoundments.

Now, you will probably want to make other references to the Cochrane report in terms of consumption. I just want to say, for the record, those numbers are not accepted by us, and we put that forward with that caveat.

MR. KOROLUK: So it's the numbers -- which specific numbers, the 114 litres per second of your total use or the 41 litres per second for stock watering?

MR. SCHELLENBERG: The total use numbers that we provided to you in gallons you have before you, and those are absolutely and utterly accurate. Those are the total numbers for the last 12 months. And we can provide them for previous months, if you so desire, those are the accurate numbers, Glen.

MR. KOROLUK: That's the 700 million-gallons per year?

MR. SCHELLENBERG: Correct.

MR. KOROLUK: Can you tell me how much

water is used in that area in total?

MR. SCHELLENBERG: No, I cannot. And there is a reason why I cannot do that. And that is because in most of these cases, we are a wholesaler. And I have explained this before, as well. We are a wholesaler of water. The distribution is done by our municipal governments. That could be the City of Winkler or it could be the RM of Roland. Now, what they distribute of our water, we can account for every drop of it. What, in terms of those RMs, is accessible to them, in terms of impoundments and what have you, no, we wouldn't have those numbers, but they are reasonable. And we do use and we utilize our sources of water in a very effective and proficient way. With the price of our water being what it is, you are not about to waste it and you are not going to use it unless you have to.

MR. KOROLUK: Okay. I want to get back to the numbers that you gave us in gallons, which it would have been nice to get some standardized unit of measurement. But I wanted to break it down in a different way and try to get an understanding. If you look for, what year was it, the year with 683 million-gallons that were used

totally, if you look at all of the rural use by rural municipalities and don't take into account the villages, cities and towns, you see that 44 percent, or almost 300 million-gallons, are used rurally. Is that all domestic or?

MR. SCHELLENBERG: It is largely -- it is largely domestic. And in order for you to understand this, I probably have to give a little tour of the area. If you take a look at the RM of Stanley, and they made a presentation on Tuesday night as well, they literally have subdivisions within the municipality that are quite substantial. And as he told you, they are looking at 50 new houses being constructed every year within the municipality. We have a lot of pent-up demand. The domestic need was not being met anywhere within our region. And so when a pipeline comes by, we get 100 percent hookup. Everybody taps into it. And they treat the water very respectively, as you will see in terms of the consumption of litres per person per day, but that is how it is used.

MR. KOROLUK: And, just briefly, what is sort of the breakdown, population breakdown, between rural and municipality, like city, towns?

MR. SCHELLENBERG: Well, when we get the new census numbers out, we will be able to do this math a lot more carefully. At the moment you have some estimates that are before you that are estimates, so we will just leave it at that.

MR. KOROLUK: And those are the most recent numbers?

MR. SCHELLENBERG: I don't know the --

MR. KOROLUK: 65, 75 percent live in cities and towns? I mean, you should know the area.

MR. SCHELLENBERG: Gord, what would you guess the number to be?

GORD: You can ask the councillors. They will have a better idea how many people are living in the RMs.

MR. SCHELLENBERG: I would have to do some crunching on that. I am not going to speculate.

MR. KOROLUK: Okay. You don't want to. I guess the point is, is that a lot of, you know, half of your water is used rurally, yet most of your people live in towns and cities. And you don't seem to accept your master plan that says that there is a fair amount of water being used in

the livestock sector.

MR. SCHELLENBERG: What you are overlooking, what you are overlooking, Glen, in arriving at those numbers, is that 60 percent of the City of Winkler supply still comes from their aquifer. 75 percent of Carman's supply comes from the Boyne. And 90 percent of Morden's supply comes from Lake Minnewasta. Those numbers are not included in there. If you throw those in, your picture changes quite dramatically.

MR. KOROLUK: Well, I am aware of that. But I guess another point is that we don't have those numbers in front of us. We don't have how much water that's really out in that region for your Co-op to tap into. Did you get a copy of the table from Manitoba Water Stewardship that indicated what was licensed in the region for all of your municipalities?

MR. SCHELLENBERG: I certainly got the first one. I know you had a subsequent question. I am not sure whether they provided more information or not.

MR. KOROLUK: Okay. And you notice that only roughly half, 50 percent, of the water is used for municipal purposes, so there is a

whole lot of other water that's being used for other purposes in the region.

MR. SCHELLENBERG: Correct.

MR. KOROLUK: Okay. I guess the point I want to make is that as a utility or a co-op that's supplying water in a region, would one want to take a look at all of the other options for water in your region first before tapping into an outside source?

MR. SCHELLENBERG: Absolutely. We don't exactly attend Clean Environment Commission Hearings as trivial. We have repeatedly -- there is going to be a presentation made later this morning by Rick Martel that is going to look at some of the history of what the region has been through in terms of those searches. Those smaller impoundments that you are talking about, what you also have to realize is that two years out of ten they don't have any water, and sometimes more frequently. That is not -- and that's PFRA stats, by the way. And PFRA did have a representative here on Tuesday and do this morning. You can question him if you like. That's not the basis on which you can provide water for 45,000 people, that is simply not the case.

MR. KOROLUK: We also heard on Tuesday that some of these dugouts are basically not being used, decommissioned because of water quality problems; is that correct?

MR. SCHELLENBERG: Oh, no. The reference to that was for the very small communities for which we provide them water, instead of doing their own treatment. Yes, in some cases that was, indeed, the case. In other cases, it is simply the treatment throughout which was a problem. That water, however, which is impounded, or which was impounded as being utilized, is being utilized in the AG sector.

MR. KOROLUK: Okay. So currently you've got a licence on the -- two licences on the Red to take out 31,057 cubic dams at each of your treatment plants; is that correct?

MR. SCHELLENBERG: That should be correct.

MR. KOROLUK: Okay. I did a bit of math. And I took your 700 million-gallons per year, and I discovered that you are only utilizing half of what you've been given the rights to take out of the Red. In other words, you are only using about 32, 3300 cubic dams per year. So I'm

wondering why are you applying for another 50 litres per second when you have twice as much available on the Red River by law?

MR. SCHELLENBERG: Well, first of all, if you had listened to my presentation carefully, I think that is sort of self-explanatory, but let me go over it again. We have stated, for the record, on Tuesday, that we still have considerable licences to pass, especially at the Morris Treatment Plant. We can triple the size of that plant, given our existing licence.

We also stated that when we have utilized this particular supply, which we are presently requesting, we will, and if the Red is still capable of providing, which we sincerely hope it is, we will go back to the Red to meet our future requirements because it is a lot cheaper, take my word for it.

What we're looking at here is a supplemental supply. We need to supplement the supply that we have in the Red in order that we can deal with low flows. And hopefully we don't have to deal with drought, but that we can also address the drought question. We require -- in order to utilize either one of those plants, we

require 4.6 metres of water above the intake. And yes, you can modify intakes, and just for the record, it has already been done at the Letellier Plant. It was done three years ago in order to make sure that we could maximize the usage from the Red. So we have done those - we have taken those measures. And I know that was a point that you were making in your written presentation.

But the reason that we are going to -- we are looking at other alternatives is that we do know that the Red becomes low. We will get to a point where we won't have 4.6 litres over our intake. And that is going to happen, hopefully knot in the near future, but there is no determining when it is going to happen. And so this is a supplemental supply.

When we have brought this in, and we have some assurance of supply that it is going to have some continuity to it, we will be going back to the Red River. We have no difficulty in utilizing the Red River for our water supply. It is an excellent source, as long as the water is there.

MR. KOROLUK: Okay. Just one more question along the water budget here. In your

original proposal, I mean, your request is 50 litres a second. But you do mention that it would be desirable, at some time in the future, to get up to 300 litres per second.

MR. SCHELLENBERG: No, that's not -- and I explained that number once earlier, as well, in response to questions from the Commission. That number came in response to a question which said: What would it take, in a drought the like of which we haven't seen yet, what would it take to replace all of the water resources utilized in that entire region? And let's assume we didn't have a drop in it. And the answer to that is 300 litres per second. That is most unlikely to happen. If it does, the entire province is in devastation.

MR. KOROLUK: Okay. And that 300 litres per second was mentioned in your original application.

MR. SCHELLENBERG: It may have been.

MR. KOROLUK: Yes, it was. I would just like to tell -- to tell you that the 300 litres per second scenario is also in your master plan.

MR. SCHELLENBERG: No, I don't think

it is.

MR. KOROLUK: It is what you predict you need by the year 2021.

MR. SCHELLENBERG: No. It is what Cochrane predicts that they think we are going to need by 2021. That is not our prediction. It is a report, I repeat again, and I knew this report was going to give us grief, but you have to understand that the board did not accept that report. It is not implementing that report. The only thing that we can salvage from that report, by the way, is a very respectable analysis of the status of our water treatment plants and of the distribution system, that was the value of that report.

MR. KOROLUK: So it's coincidence, then, what you stated in your Environment Act Application of 300 litres per second is also in your Master Plan Cochrane Report needing water of 300 litres per second of water by the year 2021, is that a coincidence?

MR. SCHELLENBERG: I wasn't aware that that was in there, to be honest. I will tell you how we got to the 300 litres per second. We simply added up everything that is being utilized

at the present time. And if you utilize all of the impoundments, everything else that is going, and you add a factor of safety to it, you will come to 300, and that's now. We are not predicting that for 2020.

MR. KOROLUK: And how many litres per second, again, are you using right now?

MR. SCHELLENBERG: Right now? You see, it's a question of -- and the other thing that you missed in terms of the supply from the Red, is that it is nice that you can average your number. Unfortunately, that's not how a system works. We have to meet peak demand, and the demand fluctuates. So right now we have the capability on the Red of producing up to 130 litres per second, and there are certainly many times when that is exactly what we are using. However, the average demand is quite possibly the number that you put forward. I haven't done the math on it.

MR. KOROLUK: Okay. I would like to get into a different area of questioning here. I noticed also in your handout of Tuesday that your pipeline was -- from Sandilands was going to cut right through the town of St. Malo. Was there any

intention of selling water to St. Malo at that point?

MR. SCHELLENBERG: No. But let me clarify this matter, and it is also a matter that I am going to repeat in my conclusions here. The one thing I want to clarify is that the Pembina Valley Water Co-operative is not out there looking for new customers. We could find those in any direction: North, west, even south, by the way, although we are not looking in that direction. We are not looking to grow the system. We're hoping to stabilize the system within our region and to provide an adequate and stable supply of water.

What we will not do, however, is we won't do what the City of Winnipeg does, which basically says to their surrounding municipalities: We are not going to give you any water, under any circumstances. When we pass through an area, Glen, with a pipeline, and if that area indeed needs the water and requests the water, and if they are prepared to pay the Co-op price, then that is something that will certainly receive serious consideration by the Board. The demand en route from the Sandilands to Morris is extremely limited because all of those communities

have excellent water resources. And in the case of St. Malo, they just put in a new well and are looking after their needs quite successfully, and at a lower price than what they would have to pay to our Co-op.

MR. KOROLUK: And the RM of Franklin and farther east?

MR. SCHELLENBERG: The RM of Franklin is already a member of the Co-op, by the way. And they are receiving water up to Dominion City. Further east if they have water requirements, certainly we are going to look at it.

MR. KOROLUK: You mentioned that the 12 million, estimated 12 million cost for this is already paid for in the $5.40 per 1,000-gallons recharging; is that correct? Did I hear you right?

MR. SCHELLENBERG: Well, paid for would be wishful thinking. But the carrying costs are covered, yes.

MR. KOROLUK: The carrying costs are covered. So you're going to have to borrow some funds or are you going to have to find, you know, additional users to pay for it?

MR. SCHELLENBERG: No. We actually

have a bank which is prepared to make a 10-year investment, and that's the rate at which it is going to be covered.

MR. KOROLUK: Okay. I would like to ask a few questions on your conservation plan, which I thought I had here. All right. Now, this plan was a requirement of your last environmental licence?

MR. SCHELLENBERG: It was.

MR. KOROLUK: And it was requested in 1993. And it was submitted in 1998; is that correct?

MR. SCHELLENBERG: Well, it was prepared in 1997. It was requested in '93. And we went back to the Department and advised them that we would not be able to act on the project until we had the funds to do so. It took us four years to get those funds. And so once we were ready to move with the project, we also moved with the Water Conservation Plan. Prior to that, it is pretty tough to go out to people that don't have water and get them to cooperate in terms of a Water Conservation Plan. So that's why the plan was submitted at that time.

MR. KOROLUK: Okay. And you also

mentioned that it really isn't the responsibility of the Co-op to do conservation. Each municipality is --

MR. SCHELLENBERG: No, I did not say that. As a matter of fact, we have invested considerable energy and dollars, I might add, in terms of water conservation. And we need that. There is nothing to be gained by oversizing a Water Treatment Plant. And there are some within this room that could tell you what the costs of that are. They are very, very high. And there is no value in oversizing a distribution system. So you cut them right tight, if you want to run a utility appropriately and if, in fact, you want to be able to balance your books with reasonable costs. So in those circumstances, you have to use water conservation in order to make sure that you stay within those numbers.

If you want to increase the size and add to a Water Treatment Plant, for example, the capital cost that's involved is only recovered over a very long period of time. And so you try and avoid that as long as possible. And one of the methods by which you do that is to make sure that that water is used as efficiently as possible

within the region, and that the conservation strategy or conservation ethic which was there before we came through with the pipelines remains there and is reinforced.

MR. KOROLUK: Okay. Can you tell me, then, you know, which municipalities, towns or cities are using treated effluent for irrigation?

MR. SCHELLENBERG: Treated effluent as irrigation is a -- is a risky issue. And it was certainly looked at in terms of the City of Winkler, where it was being -- and there was a project related to it. And as you will recall, at that time this was a subject under discussion. Whether that is still the case or not, I cannot confirm.

MR. KOROLUK: And can you tell me which municipalities are using an increased -- increased block rate for water when they charge for water?

MR. SCHELLENBERG: Increasing rates?

MR. KOROLUK: Yes.

MR. SCHELLENBERG: No, I cannot. We don't -- the other thing that you must remember is that although the Pembina Valley Water Co-operative is not subject to PUB regulation,

each of our municipal entities are. So that is where those issues are discussed and licensed and approved.

MR. KOROLUK: Okay. Are you aware of any sanctions for industries not implementing water conservation programmes, any municipalities doing that?

MR. SCHELLENBERG: The sanctions which they get, and we certainly have discussions in terms of it, and we get those discussions quite regularly, are related to the price. And the price creates a real problem for them, but the price also influences their usage and certainly reinforces the conservation ethic. And a good example of that would be Bunge in Altona.

MR. KOROLUK: And you mentioned you metre all of the water that you sell in bulk at each municipal government point. And we've heard that some municipal governments do their own metering. Can you tell me which, out of the 18, which municipal governments do metering themselves at the customer level?

MR. SCHELLENBERG: All of them.

MR. KOROLUK: Every hook-up, every municipality has a metre?

MR. SCHELLENBERG: To the best of my knowledge, every hook-up.

THE CHAIRMAN: Every residence?

MR. SCHELLENBERG: Yes.

THE CHAIRMAN: Thank you.

MR. SCHELLENBERG: Yes. The entire system is metered, no question about it. And I might add that in the rural areas, the meter is at the home. The purpose and the priority of rural distribution systems is to provide the water to the home.

MR. KOROLUK: Okay. And are you, again, aware of any bylaws in place to increase water conservation?

MR. SCHELLENBERG: There are some that are in place. I couldn't give you a listing off the top of my head. But the RM of Stanley, as an example, said they were encouraging water-efficient appliances, especially in new construction projects, so there are some on the about books. And I think the City of Winkler has some as well. There are certainly restrictions in terms of lawn watering which is available in every one of them, the urban communities, that is. But generally speaking, the conservation ethic and the

conservation program is developed at our Board level and is reinforced then from the Board down to the customer.

MR. KOROLUK: So no bylaws have been encouraged then?

MR. SCHELLENBERG: There are bylaws. But we are not in control of bylaws, nor do we make bylaws. We certainly encourage them. And there are bylaws in place, but I don't have a list of them.

MR. KOROLUK: No, you don't. Okay. How many front-load washers are there around in the whole area?

MR. SCHELLENBERG: How many what?

MR. KOROLUK: Front-load washers, washing machines.

MR. SCHELLENBERG: That is an interesting question. If you could find that out in the City of Winnipeg, I would be delighted to hear. I haven't exactly gone to the appliance dealers, but I understand that they are quite keen on selling them and they are becoming popular, that's all I can tell you, Glen.

MR. KOROLUK: Well, I have gone all over your conservation plan that was required in

1993, and submitted in 1998, and there are about a dozen points that were in that plan. And I can only see maybe about three of them that have been acted upon. So, I mean, I hear that, you know, there is a conservation ethic in those communities, but I'm not really seeing it at this point in time. So I guess it is not a question, but I guess an observation.

MR. SCHELLENBERG: It's an observation that you could apply to the City of Winnipeg as well, I would suggest.

MR. KOROLUK: I mean, this is not a debate as to which community is the best. I mean, the City of Winnipeg has an old infrastructure that leaks up to 15 percent of its water.

THE CHAIRMAN: Can I just interrupt? We are not here to consider the City of Winnipeg right now.

MR. KOROLUK: Sorry, Mr. Chairman. Okay. Those are my questions on water conservation.

Now, a number of questions were asked by the Clean Environment Commission, I guess, about a month ago, and one response was on your 10 to 20-year projections. And you talked about

population, you know, one percent a year for humans. However, the question related to livestock was kind of confusing. Do you have that response in front of you or should I just read it off?

MR. SCHELLENBERG: Read it off.

MR. KOROLUK: Okay. This is in response to the 10 to 20-year projections for livestock purposes, and this is from the CEC.

MR. SCHELLENBERG: Yes, I remember.

MR. KOROLUK: And you responded:

"Diversification in agriculture, while continuing, is projected to slow down, and we project growth and livestock numbers to do the same. However, because not all of our rural municipalities are fully served with pipe water, agricultural usage will grow in the next 10 years and then stabilize."

MR. SCHELLENBERG: Correct. And I gave you another document which indicated exactly what percentage of our rural municipalities were served. And on average, I think it was coming out to somewhere around 85

percent. Some of them are 80 percent complete, some of them are somewhat less, but there is a couple that are entirely completed. Like, they are in the Rhineland, for example. And they are in Montcalm. But some still have some distance to go. The RM of Morris, for example, is 80 percent done. And that additional 20 percent, which they are going to be completing within the realm of these projections over the next ten years, there may well be a barn or a potato washing facility that will want to have a water hook-up. So on that basis, I am allowing for some growth.

However, in the existing network, the point that I'm making is that it's not going to change. And the existing network, which rural municipalities put in, is put in at the lowest cost possible because I can assure you that the rural residents and farmers don't want to pay any more upfront than they have to. And right now they are paying about, on average, very close to $10,000 in cash upfront in order to get a water hook-up, and that's in order to defray the costs. And then they pay the -- the rural municipality pays the $5.40, which is our wholesale price, plus their markup to cover distribution costs and

capital costs, so it usually runs fairly close to $8.50 to $10. Now, that means that the distribution system that they put into place is going to be fine-tuned to meet those immediate demands. And they are not going to oversize it because they can't afford it.

And so if, down the road, you want to put up a cattle facility, or a potato washing facility, or what have you, on an existing system, it will not possible because they just do not have the ability to distribute the amount of water that you need. It is designed for what is there now. So unless you are a Maple Leaf, or somebody with very deep pockets, and you can afford to pay for new infrastructure to come into that particular facility, there is going to be no growth.

MR. KOROLUK: So you're saying within the next 10 to 20-year projection there is going to be no growth?

MR. SCHELLENBERG: There is going to be some growth, in terms of those additional areas that have yet to be served. And we are putting in those estimates for it. When I sent that out to you, I also attached a press release and some

correspondence from Maple Leaf related to the hog industry. Where, in fact, you are seeing that it is, in fact, closing in. And, in fact, we project that it is a mature industry. And it is as likely to decline in terms of the number of barns in the area as it is to grow.

MR. KOROLUK: That's correct. And I was just going to -- you are ahead of me right now.

MR. SCHELLENBERG: Fine.

MR. KOROLUK: You indicate that the livestock industry in hogs, in particular, has peaked and, in all probability, will decline. Now, I mean, I have been following the hog industry as of late. And, in fact, Maple Leaf is going to build a second shift at their plant in Brandon. And they are also going to 100 percent vertical integration, so they will require another 2.25 million hogs. We have got the weanlings. We export 3.5 million weanlings to the U.S. However, what we will need to finish off is at least three million hogs in this province. If you combine it with the Olywest proposal, you also require 2.25 million hogs, so I can't understand how anyone could say or --

MR. SCHELLENBERG: The key term -- the key term that you use, and you missed the entrepreneurial initiative in our region, and that's vertical integration. They are going to be owning their own facilities. And the farmers that we have in our area don't look kindly on that kind of approach, I assure you.

MR. KOROLUK: For Maple Leaf. But we still have another Olywest plant that's in its proposal stage.

MR. SCHELLENBERG: And there is no argument that we have got existing barns that are going to require a market. So I come back to my point that, from our perspective, we don't see the market.

MR. KOROLUK: Your whole, again, master plan, which you don't accept, is based on the notion that there is going to be livestock growth in the livestock sector.

MR. SCHELLENBERG: Huge, huge expansion into the hog industry, I know.

MR. KOROLUK: And considering that we are going to have another 4.5 to 5 million pigs killed in this province, we are going to have to build the barns to finish them off, am I correct

on that?

MR. SCHELLENBERG: I don't know. I think it's speculative at this point. Olywest is not a reality as yet, as I recall. And what I just said earlier related to what our infrastructure can support. In terms of water supply, I don't see it.

MR. KOROLUK: Okay. Actually, I'm okay for now. And I think Dr. Brooks had a few comments to make.

THE CHAIRMAN: Thank you. Dr. Brooks.

DR. BROOKS: Thank you, Mr. Chair. I have submitted my points in writing, so I am just going to summarize. We are already at 10:00. I would just like to highlight our points. Three areas to which I want to return -- there are three points to which I will return, which are in order, in the sense that each one builds into the next.

The information that we have about conservation efforts in the region, that is at the regional municipality level, beyond the point for which you are specifically responsible, is that it's a much less intensive effort than you seem to imply. Glen has already gone over that, so I will not repeat any of the material he has suggested.

And I will just add one point that I do bring in here and challenge the notion that it is dramatically too expensive to deliver water in two qualities, potable quality and water that is less than potable quality. In this case, I am not talking about treated effluent, but about use of water that is naturally contaminated with salts or carbonates, or other things of this kind, that can be used for washing and many on farm uses and, in fact, many qualities secondary uses within the home. And I give a couple of examples of where that is done.

The second point is about the no project alternative, where I think I am quoting you, sir, when you said the alternative, the no project alternative, is devastation. I think that reflects a misunderstanding of the no project alternative. It does not mean that you don't build the pipeline and hope that there is never another drought. Rather, it means: What do you do if you don't have the pipeline? And what we are suggesting is there are lots of things that can be done. That the no project alternative is quite a vibrant, and a rather complex alternative that includes lots of activities, but they are not

construction.

Now, one of the things, and I am very grateful for your explanation about the specific problems of low flow on the Red, which I admit I did not fully understand the effect of it on your -- on your intake system, but the particular level, I'm not worried about what your intakes are. That is a technical problem that I'm sure you can handle. But where the Red can get so low that you can walk across it. My point here is that judging from the pictures, what you provided in your testimony on Tuesday, this is roughly a 20-year phenomenon. You are planning for a 20-year drought. Not that rare, but not a yearly event either.

The general economic prescription when you have a periodic, rather than a chronic problem, is to look for solutions that are low capital, but high expense. That is you capital but high expense, that is you can afford to spend a lot of money when they occur because you save a lot of money that is otherwise, in effect, sterilized in a system that is not being used to capacity.

Now, following on this sort of

reasoning, we have put forward a couple of ideas of the kind of strategy that one might use specifically to deal with that low flow on the Red, the 20-year drought. I don't know. The correct figure might be 15 years or 25 years. I don't have the long-term data and have time to get it all, but it is certainly available. And I have just put forward a couple of alternatives that would be expensive when they come into operation, but you only need to put them into operation for one or two, possibly three-year periods, when the drought occurs. Those are the three points I wanted to put in. The material is available in writing and it's been provided to the Commission and to the proponents.

And I think to save time, I will stop with that.

THE CHAIRMAN: Thank you very much, Dr. Brooks.

MR. SCHELLENBERG: Mr. Chairman, if I might response to those comments?

THE CHAIRMAN: Certainly.

MR. SCHELLENBERG: In terms conservation strategy, and I notice that in both of your cases you are zeroing in on, in

particular, to the rural municipalities and the rural distribution system. I will refer you back to our litres per person day, all in, in those rural municipalities. Most of them are under 200, some as low as 190, and that includes everything. There is a conservation ethic out there, which is commendable, and which I think should be commended, especially when you take a look at what our urban counterparts are utilizing. In terms of personal usage, it is considerably higher. Those kind of numbers don't give you the same scope for action that you would have, for example, in Winnipeg where you are talking about 376, or some such number, in terms of where you can go.

The other point, the no project alternative, I was looking at it this from a business perspective. The no project alternative, and you did say you have a background in economics, basically means if we do nothing, what's the case? That is the no project alternative from the business perspective. And we certainly use it in terms of putting forward business case.

And in terms of your alternatives, the 20-year drought, what year are we in, in the terms

of the 20 years? Are we in year 13 or are we in year 14? How many time do we have to look at some of these alternatives. If you had the responsibility for providing water for 45,000 people, how much of a gamble would you be prepared to take? And how long do you think you would live? In my particular case, not that I am concerned about my life expectancy directly, because at my age it sort of becomes a mute point.

DR. BROOKS: I understand that.

MR. SCHELLENBERG: And the other point that I just want to make is that some of the alternatives that you suggest, and I'll look through them very quickly, and I do appreciate the effort that you are putting into this, but they are third world initiatives is how I'm describing that and would leave us, in terms of costs and in terms of the limited supply, totally uncompetitive and with a devastated economy.

THE CHAIRMAN: Mr. Koroluk, did you have another question?

MR. KOROLUK: Just a couple more follow-ups, yes. Your "all in" per capita consumption in RMs, does that include, like, you know, water that residents take from their wells?

MR. SCHELLENBERG: No, it does not. We don't have wells, though, so it is an irrelevant number.

MR. KOROLUK: Right. So the actual number, the per capita use for an individual farmstead, is higher than -- it's basically what you supply, it's higher than the 200, because they are utilizing well water, too?

MR. SCHELLENBERG: No, it's not. I just finished telling you we don't have wells that you can utilize.

MR. KOROLUK: The meter --

MR. SCHELLENBERG: The meter is in the residence, so the number that you see there is a real number.

MR. KOROLUK: Right. But they are using their well water for other purposes, watering the lawns?

MR. SCHELLENBERG: I am going to repeat it one more time, sir. The number of wells that you can count on in our region, they are not there. You have got some perhaps in the far western area. And you heard Charles Scharien talk about that in terms of the area of Grey. You heard about the quality of water they had in those

wells. You heard Herm Martens talk about wells which they have tried to dig and the fact that the water wasn't fit for man nor beast. Wells are not utilized. And they are not even utilized as an alternative.

MR. KOROLUK: Where are operations, livestock operations getting water to clean their barns from?

MR. SCHELLENBERG: From impoundments, from string runoff impoundments.

MR. KOROLUK: All of them?

MR. SCHELLENBERG: No, not all of them. But those not utilizing other supplies are taken from there.

MR. KOROLUK: Just to close off here, is it possible to ask the department some questions on their water budget?

THE CHAIRMAN: I'm sorry? You wanted to ask --

MR. KOROLUK: Yes, Manitoba Water Stewardship a couple of questions on the water budget that they provided us.

THE CHAIRMAN: Well, I think we are going to ask Mr. Betcher to answer some questions generally later on, so if you could hold until

that time, please.

MR. KOROLUK: Okay. Mr. Betcher actually wouldn't be the right person to address these two.

THE CHAIRMAN: Well, if there is somebody else, we will ask that that person provide these answers. But let's just wait until a little later in the proceedings.

MR. KOROLUK: Okay. That's all the questions I have at this point.

THE CHAIRMAN: Thank you. We are going to take a pause, and this isn't a break. We are going to take a pause for about five minutes just so that we can gather our questions. We have a few more questions from panel members. We will take a longer coffee break in about a half an hour, so five minutes.

(Proceedings adjourned at 10:10 and reconvened at 10:16)

THE CHAIRMAN: Okay. We will move on now with some questions from Mr. Halket.

MR. HALKET: I would like to follow up on some comments that were sent to the Clean Environment Commission by Mr. Render. And it concerns the pumping test and the lay-out of the

wells during the pumping test. Mr. Render suggests that there is a standard procedure for laying out the wells, the observation wells, around the pumping test. And he actually -- he suggests in his submission that the lay-out that was used in the -- in the area did not conform to standard operation. I was wondering if you could comment on that?

MR. WIECEK: There is no standard lay-out for a pumping test well. Each lay-out is designed for the specific circumstances of that site, and in consideration of the infrastructure lay-out. The standard lay-out that was proposed there involved, just for the one aquifer, 28 observation wells distributed in four directions up to two miles, a distance of two miles. I know of no pump test in this province, or elsewhere, that has ever been done with that level of -- that type of observational network.

MR. HALKET: What would be a standard lay-out, like, what is the industry standard?

MR. WIECEK: Each lay-out -- as I said, each lay-out is designed for the site in question, depending on what's known about the geology and the hydrogeology of the area.

Typically, you have a pumping well, or an observation well, proximate to your pumping well. And in this case, we had one that was three metres away. And then incrementally, outwards from there, you have a lay-out of wells. In this case it, was 400, 800, 1600 metres, and so on.

MR. HALKET: Well, Mr. Render suggests that you should lay-out your wells along an east/west transect and also a north/south transect.

MR. WIECEK: As I said, it's --

MR. MAATHUIS: Pumping tests, as referred to as standard, refers to as a certain kind of geology, hydrogeological setting, the ideal. It is "standard" should be read as guideline, not as standard. So you modify what is considered the guidelines to the local hydrogeological setting, as well, and which is also always an important point, which is accessibility. So there is nowhere in any book that says you have to go north/south or east/west. There is nowhere that says that for any particular pump test you need 10 wells or 20 wells. In this regard wells, an observation wells network is, indeed, very unique for a pump test like this.

And in most normal cases, you will see maybe one or two wells, monitoring wells. So what was done here goes far beyond what I would consider as a normal pump test.

MR. GIBBONS: Just for clarification, if I may, it seems to me in the earlier discussion, sorry, on Tuesday, that it was becoming apparent that we didn't know very much about this aquifer. We don't know what the east or west boundaries of the aquifer are, based on your own testimony. Would you say the same -- you said that this is more than what would normally be done. Is that true of situations where we know, apparently, so little about the aquifer in question? In other words, you mentioned that typically there might be one or two wells. But would that not be the case for aquifers where the nature of the aquifer is better understood. And that in a case where an aquifer is reasonably un -- not well understood, that we would need, then, to do more of that testing? I'm not quite sure when you say compared to normal, whether you're talking about normal testing in a reasonably well defined and well understood aquifer or not? Could you elaborate on that,

please?

MR. MAATHUIS: We start talking here about what is reasonable. And I assume that it is always arguable what would -- you know, five more wells, would it have given us any more information? No. 20 more wells, no. It refines a few things. And don't forget, the objective of a pumping test is to get some aquifer parameters. It wouldn't have yielded any more information than what was coming out of the test.

MR. GIBBONS: I'm sorry, I just need to pursue this one further moment. Could you, perhaps as a way of explaining to the panel, as well as the audience, then, at least draw some kind of comparison as to what you might do when you are dealing with tests in a well studied fully, or at least a reasonably well understood aquifer, compared to one that seems to be from, again, based on what I heard on Tuesday, an aquifer that isn't particularly well understood yet? And I'm not quite sure that you've answered that question. What would you normally -- what would be the normal expectation? I am not going to use the word "standard", but what would you normally do in an aquifer where you know the

boundaries, et cetera? What would you do there, as opposed to a situation where you are dealing with a relatively not well understood aquifer? I am not quite hearing that.

MR. MAATHUIS: In comparison, if you already know -- the hydrogeological setting is a very simple one. You, very simply, would follow some guidelines. You still would put, you know, wells at variable distances from the production well. You probably would put -- not probably, I am pretty sure you would put in much less monitoring wells than what was done here.

THE CHAIRMAN: Fewer than what you are proposing for here?

MR. MAATHUIS: Fewer -- well, we are talking about a pumping test. And the number of wells used for analysis of the results of the pumping tests, yes, it would be fewer.

THE CHAIRMAN: Thank you.

MR. HALKET: I'm wondering, in the first submission that you gave, the Pembina Valley Water Co-operative Supplemental Groundwater Supply Hydrological Assessment Report, it shows in this report the cone of depression around the pumping well is defined as circular, or was it not?

And could you -- well, could you show me what the cone of depression around the pumping well looks like?

MR. WIECEK: Well, what was defined, what was shown on that figure in that report was the radius around the well, and that was relative to the distance to the existing well users.

MR. HALKET: Okay.

MR. WIECEK: That was not the cone of depression shown on that one particular report you are referring to.

MR. HALKET: Okay, thank you.

MR. WIECEK: The cone of depression that was shown in the supplementary report, when we were asked to show additional information, was that elongated figure that we showed yesterday -- or on Tuesday, sorry, and that's what's in that report.

MR. HALKET: Okay. Now, Mr. Render also suggests that when you are doing a pumping test that the observation well should be fully penetrating for the aquifer in question, for the intake, if you will, or the filter for it. So I was wondering -- and he makes the comment that there are corrections needed if this is not done

in the field. And it seems to me that his comments suggest that your -- that your observation wells weren't fully penetrating for the aquifer in question.

MR. MAATHUIS: Okay, let me answer that. Certainly when you do a pump test of this kind of, like, 72 hours, the whole aquifer in the area tested is part -- is being tested. And it doesn't really matter whether or not your observation wells are screened across the complete aquifer or not. If you go into the literature, if you do very short-term tests and you have a production well which is not -- which is only partly completed across the thickness of the aquifer, yes, then you will have to do corrections. In this case, there is no need for any corrections.

MR. WIECEK: In this case, the pumping well was fully penetrating and, therefore, the correction, like you said, the correction is applied when the pumping well is partially penetrating. The correction is not applied when the observation well is penetrated. It is also, too, is we get into the issue of designing your well network to accommodate the actual

hydrogeological conditions. In this case, it was expected that we would see some vertical variability or transmissivity. By putting the observation wells distributed vertically, you get a better picture of what is happening in different parts of the aquifers. If you have a screen that goes through the entire aquifer, you are getting a blended average of the response over the entire length of the aquifer, and you don't really see the specific details of it. So, again, it comes down to designing the test to accommodate the conditions, or the expected conditions at the site. And as far as partial penetration, that applies to the pumping well.

MR. HALKET: So my understanding of this aquifer is it's very varied. It has got very many different levels of, shall we say, permeability or transmissivity within it that would give different values. And I'm just wondering -- I am just wondering how that would affect the wells in -- you know, your observation wells? Would you not want to screen through the whole width of the aquifer?

MR. WIECEK: That's why I said the screen through the whole width or the whole

thickness of the aquifer gives you an average response. What that doesn't tell you, if there are preferential pathways in there, like there are zones with coarser sands and then finer sands, a screen through the entire zone would not tell you exactly where the water is moving because it's an average. Whereas a screen specifically in the coarser area, and a screen in another part of the aquifer that's in the finer area, will have -- you will see the different response. One is responding more than the other one is, so it gives you a better picture of the vertical variation of the aquifer.

MR. HALKET: And is that what you had out there?

MR. WIECEK: That's correct.

MR. HALKET: I have another -- Mr. Render raises concerns about the salinity front in the carbonate and sandstone aquifers. He suggests that the recharge in the glaciofluvial, in this glaciofluvial deposit is quite critical to the recharge of the carbonate aquifer and the sandstone aquifer, and that any withdrawal should be considered very carefully, any withdrawal from the glaciofluvial aquifer, in case that would

affect the movement of that front, the salinity front eastward. He also points out that we don't know very much about that front. There is some speculation as to whether it's stationery or is it moving eastward? And I was wondering what impact that a withdrawal from the aquifer may have on the movement of that front?

MR. WIECEK: Certainly the saltwater front has been studied in extensive detail by the province for many years, and the province has been regularly publishing those results. And they would be in the best position to comment on that particular aspect.

MR. HALKET: So it's fair to say that you haven't investigated that?

MR. WIECEK: By our assessment, the distance from the saltwater front, we will not have an effect on that saltwater front.

MR. HALKET: Pardon me, could you repeat that?

MR. WIECEK: Our assessment is that there will be no effect on the saltwater front.

MR. HALKET: Okay. Kennedy and Woodbury, in an article in 2005 that was submitted to us, in a modeling study of the aquifers

underlying the sand aquifer, point out that the recharge for the aquifer is the Sandilands region. The Sandilands is also the only recharge choice for the sandstone aquifer. Kennedy and Woodbury model the response of these two aquifers to a three-year drought period under continuous pumping. And they suggest that both aquifers, especially the carbonate aquifer, are particularly vulnerable to a loss of head when recharge is reduced during a three-year drought condition. They say, this is to quote them:

> "As might be expected, the effects of reduced recharge on the entire aquifer sequence are significant."

Now, would you care to comment on that?

MR. WIECEK: Well, on Tuesday we did discuss the recharge mechanisms that are known between the overburden materials and the carbonate and the sandstone aquifers, and we also explained how that varies through the region. And that is within the particular area that is being proposed for this project, that there is the sands and gravels are underlain by lower permeability clays and tills which limit the interconnection between

the aquifers.

And there are other places, especially like we pointed out further north, where there is a very clear connection between the surface, in that case it was the Brokenhead River, and the wetlands and the aquifers. As far as the impact on the recharge to those aquifers, it's quite variable. And in this case, there is a limitation to how much recharge could come from the aquifer being proposed to be pumped here.

MR. HALKET: What evidence do you have that suggests that there is no connection between the aquifer you are proposing to pump and the carbonate and the sandstone aquifers in the area?

MR. WIECEK: Those are the cross-sections that we have put up on Tuesday, and they are included in our report, that show the presence of the tills underlying there. Also that has been noted that the lack of connection, or not the lack of connection, but the limited connection between the sands and gravels of the Sandilands are Bedford Ridge area and the underlying bedrock, has been noted by a number of researchers, including Cherry, Ferguson and Woodbury and others.

MR. HALKET: Thank you. Do you know what's happening to the discharge from the aquifer in question, the lower sand unit, like where is the discharge going, do we know the answer to that?

MR. WIECEK: That can't be specifically quantified, no.

MR. HALKET: And so it is conceivable that there are pathways to the carbonate and the -- and that sandstone aquifer from that lower sand unit?

MR. WIECEK: Yes, it is. There is a component that is going to there. But as we indicated, it is likely not the major recharge area. Other portions of that area, going up to as far as Highway 15 and further north, have much greater connections and are, therefore, much more capable of providing recharge to the aquifer.

MR. HALKET: On Tuesday you suggested that the aquifer, the lower sand aquifer, was in an equilibrium state, that the recharge was equivalent to the discharge, did you suggest that?

MR. WIECEK: That's correct.

MR. HALKET: Okay. My understanding of this, and maybe you can help me here, is if

that is the case, that means that if we had a hydrograph that was set up in the aquifer, or a well that was set up in the aquifer to monitor, and a hydrograph -- or a station was set up on it, and a hydrograph produced, that that hydrograph, my understanding, would be would be fairly flat. Now, it may show some periodic fluctuations due to differences in recharge in the spring and fall, et cetera. But over the years, it should be a fairly flat; is that correct?

MR. MAATHUIS: No, that is not correct.

MR. HALKET: Okay.

MR. MAATHUIS: It still will be subject to natural changes. We always will have natural changes. But what is meant as being flat is that it will not be -- if recharge and discharge were always the same, yes, it would be flat. You can have a series of years that are drier, which result in the water levels to increase and the discharge to increase or, conversely, if there are dry years the water levels will increase and the discharge will decrease. It is like if you take a 100-year period and exclude all of those climatic

variability kind of influences, yes, it would be flat. There is no continuing -- if you would -- what can I say? There is no continuous either up or down. It fluctuates.

MR. HALKET: Okay. If I could understand this just a little bit, it might help if we could put a graph up or a hydrograph up. Could we put a hydrograph up? And maybe the one that is the longest term which you have proposed for this. How about the upper sand unit hydrograph, that's over the last 20 years or so, I think.

MR. WIECEK: This is the same plot we were looking at on Tuesday.

THE CHAIRMAN: Pardon me?

MR. WIECEK: It is the same plot that we were looking at Tuesday. It may look different because it is in a different file than the one on Tuesday.

MR. HALKET: Now, that aquifer extends over a period -- or that hydrograph extends over a period of years. And my understanding here of that curb is that there are some times the downward trend, for example, at the start, would indicate that the discharge exceeds the recharge

on that graph?

MR. WIECEK: The downward trend, especially when we approach the '80s to the early part of the '90s, is associated with an increase in the recharge to the aquifer, associated with the drought that occurred during that period of time. Now, obviously, as well, this is declining so it is recharge. Discharge would be declining, as well, because the hydraulic gradient is declining.

MR. HALKET: But simply put, the downward trend says that there is more going out than is coming in?

MR. WIECEK: Yes.

MR. HALKET: The upper trend says that there is more coming in than going out. Do you understand me?

MR. WIECEK: Yes.

MR. HALKET: What you stated the other day was that the recharge to the lower aquifer, the lower sand unit, that there was no reason for a water budget, or at least this was my understanding of your comment, because it was an equilibrium that what was coming in was going out.

MR. WIECEK: It is in a state of

dynamic equilibrium.

MR. HALKET: Okay.

MR. WIECEK: It is not constantly static. There is a flow through that aquifer that is occurring on a daily basis. Groundwater is in a state of motion, it's in a state of flux. And the limiting factors to recharge to that lower sand unit would be the aquitard that's above it, that's what controls how much can get into that lower sand unit. The changes in precipitation above that zone has a lesser effect on it because the changes in hydraulic gradient have lesser effect on the actual flux of water moving into the lower zone. And so it is a question of which one is the dominant factor controlling the movement of water.

MR. HALKET: And my question here is we don't -- do we have evidence that -- do we have evidence of that? Like, do we have evidence that the lower sand aquifer is in equilibrium, or is reacting like this, or not like this? What kind of evidence do we have?

MR. MAATHUIS: Yes, we do, by virtue of the fact that there are no external sources which would either put water in or put water out

of the system. Like, there are no wells pumping from that aquifer, nor are there -- for the sake of other words, nor is there a recharge basin on top of it. So there are no external influences so, yes, it is the natural system that, you know, we are seeing.

MR. HALKET: Okay. This is a long-term record for the upper sand aquifer. My question is how does the lower sand aquifer -- how has it reacted during this period? Do we have any evidence to show how it has reacted? Because there is quite a drawdown in this aquifer. There is about five metres, I think it is.

MR. WIECEK: In the upper sand aquifer, yes, it is much more variable because it is more influenced by changes in precipitation. As we showed, when we looked at -- I don't have the hydrographs for the lower sands right up at the moment. But as you will recall from on Tuesday when we showed the hydrographs for those lower sands, the period of record for monitoring is since the early '90s or the mid-'90s. And during that time, it has basically followed the same rising trend, and so it is following. And it is reasonable to expect that overall it is

following the rising trend. But what we have only seen is a one to two metre increase in the water level. And that indicates that there is a dampening effect and that the lower sand is less -- subject to less rises and falls due to varying precipitation because of those limiting factors.

MR. HALKET: I am just -- I am just wondering, the lower sand also for the period, it's only about half of that?

MR. WIECEK: That's right.

MR. HALKET: Half of that fall. So you are saying that if I was to -- if it is following it in lockstep, as you say, you would expect maybe a four or five metre, maybe a four or five metre drawdown for the same period in the lower sand unit?

MR. MAATHUIS: The way observation wells -- the hydrographs for a particular observation well is air function where it is placed in the aquifer system. And as I tried to explain on Tuesday, the magnitude is not of significance in any analysis. It's the trends in the water level which are indicative. And any surficial aquifers, an aquifer let's say at the

ground surface, intuitively you will realize that it will respond much quicker to any changes in input.

MR. HALKET: Yes, I agree with that.

MR. MAATHUIS: And deeper aquifers, like the semi-confined lower sand aquifer, will follow the same kind of -- kind of trends. But depending on the geological settings, it may show a little delay in time. But trend-wise they will also follow the same kind of trends. There, again, it really depends on how accurate is the system, you know, what the magnitude is. So you can't compare apples and oranges.

MR. HALKET: So we really don't know how that lower aquifer will respond over, say, that whole 20-year period to the conditions at the upper aquifer responded?

MR. MAATHUIS: Well, we know that it will respond in a very similar fashion. But the other details on it, no, the record is relatively short.

MR. HALKET: Okay. I have two questions about that, how it would respond. And the first goes to if you are at that low, that period where recharge has been reduced to the

aquifer, what do you think the effects of the cone of depression from the pumping of 50 litres per second would be at that low, compared to where the -- where the water levels or the piezometric surfaces are now? Because it looks to me like there is a further three to four metre drawdown there, or depression, that we could envisage for the lower sand aquifer for that period.

MR. MAATHUIS: It very simply will be a substraction. The cone of depression, at any point in time, right, is in addition, if you wish, to the natural water level fluctuations. So let me say for argument point of -- for argument's sake, we have a well here. And the drawdown in this well is, let me say, one metre. But the natural water level is going up by a metre, and then you just -- then you just add those two together. So during good recharge conditions, you will see much less influence of the cone of depression at that particular site.

Now, conversely, if we have had a number of years of low recharge, then the water level at that site would be, you know, by one metre lower than what would have happened under normal conditions, than in the non-perfect

conditions.

MR. HALKET: So the cone of depression that we are talking about here as being superimposed on the -- on sort of the annual water levels is you are saying?

MR. MAATHUIS: Yes, that's correct, that's always the case.

MR. HALKET: It seems to me that there is quite a -- quite a drop in that upper sand unit. There is about a five metre. And if we were to say that the lower sand was in lockstep with that, with some dampening, as you've said, there is still quite a drop, a few metre drop to be expected. And I'm just wondering what the effects of pumping would be at 50 litres per second when the aquifer, the lower sand unit, is experiencing those recharge lows? What would the cone of depression be? Would we expect it to expand, both upstream and downstream for the aquifer, and also east and west, or would we expect did to be the same? Would it just be a simple super position, or would it be dynamic in terms of how it responds to differences in water level over the long term experienced by the sand aquifer?

MR. MAATHUIS: It will be a matter of super position at all points in time. Any water level, at any given point in time, is in a super position of numerous impacts.

MR. HALKET: Okay. But it seems to me that you are telling me that this aquifer is very complex. It is very heterogenous. It has got many different types of, shall we say, porosities and permeabilities in terms of its materials. And if you are dropping the water level within the unit, then wouldn't it be -- wouldn't the cone of depression be -- wouldn't the water be coming from different types of material? And, therefore, wouldn't you expect -- wouldn't you expect the cone of depression area, and everything else, to be the same?

MR. WIECEK: The cone of depression will vary depending on the conditions at the time, because the flux of groundwater is varying seasonally, even daily, so there will be some fluctuations to that, yes.

MR. HALKET: Now, my next question goes to that recharge period. There was some discussion about -- if we could put that back up, the graph, please, there was some discussion about

the low in the lower sand unit or in the upper sand unit. And there was also some discussion in your report that the aquifer, the lower sand unit, would be able to provide water in times of drought because its response time -- its response time is somewhat lengthened.

MR. WIECEK: Yes.

MR. HALKET: Am I correct in understanding that?

MR. WIECEK: There is a delay effect that occurs.

MR. HALKET: There is a delay effect. What is the delay effect, do we know? My question is the lower sand aquifer, when is it -- it's waters levels or piezometric surfaces, what are they responding to? The climate or the weather, the recharge 20 years ago, 10 years ago, 5 years ago? What is that delay?

MR. WIECEK: As far as specifically qualifying a specific droplet of water and when it goes from the surface and when it gets to the aquifer, no, that can't be done. As far as the flow rate, there is, and I don't -- I can't quote them right now. But there has been calculations that have done, particularly in Cherry's thesis,

and also in Ferguson's paper. And it's on the order of metres per year is the rate of movement of groundwater. So we're talking to get -- for water to get from the surface down, say, 30 metres to the top of that lower sand unit is on the order of years.

MR. HALKET: So we're talking many years, then, for the down drain if we're -- because what's the lower depth of the lower sand unit?

MR. WIECEK: Well, it's -- it's not a flat surface.

MR. HALKET: No, I understand.

MR. WIECEK: It goes from one end to the other. And it is about 30 metres to 60 metres.

MR. HALKET: So you're saying, then, about 45 years?

MR. WIECEK: I wouldn't put that precise number to it.

MR. HALKET: No, I know.

MR. WIECEK: And it is --

MR. HALKET: But there is a delay. And my question is of concern here. And I think because this is a supplemental water system that

we are looking at, it is 50 litres per second -- and so my question -- of extracting from the aquifer is 50 litres per second. And my question is here, and this is to ensure or to guard against drought conditions in the Pembina Valley Water Co-operative. But because there is a delay in the aquifer's response, what guarantees do we have that you wouldn't be pumping from the aquifer during a drought period when it's responding to a previous drought period? What would that do to your --

MR. WIECEK: Well, that's why there is a monitoring program in place, so that there will be a long-term monitoring program throughout the duration to be able to monitor for that sort of effect.

MR. HALKET: But surely there is a probability of that happening?

MR. WIECEK: I've never seen an analysis done of multiple drought effects and where you are pumping during the delay effect from a previous drought effect, that's just not something that -- those are -- you are getting into scenarios of -- the what if scenarios.

MR. HALKET: But aren't you

concerned --

MR. WIECEK: There is an infinite --

MR. HALKET: But aren't you concerned about what if scenarios?

MR. WIECEK: Well, to an reasonable extent. There is an infinite number of what ifs that you can get into. At some point in time you have to say that we have covered off the bulk of the -- or what are the most likely scenarios to occur.

MR. GIBBONS: If I may follow up, and I think this may require only a short answer, but I'm not sure. When we look at the elevations, both for the upper sand where we have a long-term record from '65 to 2006, we see the variation upwards or downwards, depending on the time period of about five metres. Even if we take one of the lower sand units, OE -- sorry, OE-040, in the period of about six years, from roughly early 2000 to mid to late 2006, there is a variation, in this case, upwards of about two and a half metres. So there does seem to be some, what to me, would seem to be significant shifting in the elevations that we're talking about. What I would like to hear from you, I guess, is what -- given your

experience in this field, what is a reasonable degree of variation in terms of trying to project the potential impacts on aquifers? In your view, is a five metre variation well within typical patterns or is this -- I guess what I'm asking is, is this aquifer more active in terms of vertical change than other aquifers might be or is it perhaps typical? I'm not quite sure because I don't see a comparative element here. So I often ask these kinds of comparative questions. Is this a significant -- is a five metre change there, or a two and a half metre change, in the case of OE-040, are these, in fact, typical kinds of shifts in elevation or are they, in some way, unusual?

MR. MAATHUIS: To be able to answer that question you would have to look at all of the available hydrographs for the province and see what is happening in the various type or similar kind of aquifers.

MR. GIBBONS: Sorry, let me make it simpler, then, compared to the aquifer that you know best, which is the Winkler Aquifer? Rather than comparing it to all aquifers, let's just look at what you, as an organization, are the most

familiar with.

MR. WIECEK: It's coming up. It will just take a second for it to come up here. This is the hydrograph for the Winkler Aquifer going back from 1962 to 2006, basically to present. And the variation on that one is from 269 to 273. So that's approximately four metres, four to five metres, depending on which peak you are going to pick.

MR. GIBBONS: So it's comparable, then --

MR. WIECEK: Comparable.

MR. GIBBONS: -- to what happens at Winkler. Thank you. And, sorry, is that particular graph in any of the reports that we have?

MR. WIECEK: That's not part of the report.

MR. GIBBONS: Okay. But it is useful, I think, to know what the comparable figures might be on this, thank you.

MR. WIECEK: There is -- there is on the order of -- the last count I saw, there is on the order of 800 provincial groundwater monitoring wells.

MR. GIBBONS: Okay.

MR. WIECEK: It's more than that now, so there is quite a database.

MR. GIBBONS: Yes. But certainly, for our purposes, having some comparison to the Winkler Aquifer might be sufficient for this panel.

THE CHAIRMAN: Does anybody else have any questions?

MS. FUNK: Yes, I have one question. And with regard to recharge and discharge, okay, and I like to use the term cone of depression, in which that would be precipitation coming in. And at this point right now, we would say if the aquitard at the top is full, then we would have runoff. And whether there is discharge within the aquifer itself and where it's going, we're not 100 percent here. So my question is have any studies -- and do we know how this aquifer is affecting the downstream, the wetlands, the bogs, any of that ecosystem there at all, so do we know what its place is in that area?

MR. WIECEK: The hydrogeological setting of this site is that the bulk of the water is coming off the Bedford Ridge in the upper sand

unit. That's the zone that is most exposed to precipitation. And it's also the flow -- or the slope of the land, and therefore the flow, is directly off and to the wetlands. So those are being primarily recharged by movement in the upper sands.

MS. FUNK: Thank you.

THE CHAIRMAN: I am going to propose that we take a short break. I think we are getting close to the end of the questions of the proponents. After the break, if there are any members of the general public who have questions for the proponents, I am going to invite them to ask those questions at that time. There may be one or two more from the panel, and then I think we will be able to move on. So let's come back at quarter after sharp, please.

(Proceedings recessed at 11:04 and reconvened at 11:15)

THE CHAIRMAN: Order, please. Could I ask you to take your seats? I think it is obvious that we are not going to be finishing by 1:00 o'clock today, as we had originally thought. That's not unusual for our processes. I think on the Floodway we added three and a half days and on

Wuskwatim we added 14 days. But we absolutely have to conclude these hearings today. When we tried to find other dates over the next two or three weeks to hold, or possibly hold these hearings, it was impossible to find a date when everybody was available. So we must finish today.

We do have a couple of questions from one more panel member, and then I'm going to invite questions from members of the general public.

We will take a break at noon or shortly after noon for lunch, and we will reconvene after lunch.

Ken, you have a couple of short snappers?

MR. GIBBONS: I am hoping the answers will be short, I'm not sure about the questions because I want to try to get these to be fairly precise.

The first question is about whether we can get -- and it has a couple of parts to it -- can we get a clarification of how much water PVWC is intending to draw on a regular basis through this pipeline, if this pipeline goes forward? We have heard several figures. One, of course, is

that the maximum amount is 50 litres per second. There was mention at one point of 35 litres per second, ultimately perhaps moving up to 50. There was discussions at times in the reports about using this only intermittently, as needed, in the context of supplementing sources during droughts. Can I get a sense of what that figure would be on a regular basis, and if that amount, in your view, is going to have any impacts on the groundwater situation as, and here I will refer back to the submission by Mr. Render, to the areas south of the TransCanada, west of Sandilands? In other words, do we know whether there is any inter-connectivity in terms of the area that you are drawing from and the areas that are to the west of that? Can I leave it at that? Hopefully that's clear enough.

MR.SCHELLENBERG: The answer, there are a couple of questions there and the answer isn't as straightforward as I would like it to be, because of operational issues. Basically, in terms of when we start to draw on this well, there will always be some movement of water in that pipe, and the main reason for that is to make sure that the quality of that water in the pipe is

maintained at the best standard, you have got to keep it moving. The request that we have is for 50 litres per second.

On day one, if we were to try and withdraw the maximum that we could utilize at the present time, given some other restrictions in the system, the highest -- that's where the 35 litres per second comes in -- we could go as 35, and we wouldn't. I would suggest that our draw is going to begin in a modest way because we have monitoring wells. We too have concerns as to how this aquifer is going to respond. As we stated before, we are very conscious of the fact that we do not intend to try and solve a water challenge that we have by inflicting problems or creating water issues for other jurisdictions. That simply does not and cannot be allowed to happen. We will, however, eventually work it up to 35 litres per second. And I would suggest that during the first -- usually these things are completed in the fall -- during the first winter months, for example, we are probably going to be drawing somewhere in the order of 20. And those numbers will be available to the province, so obviously they know what the effect is as compares to the

results that you are getting from your monitoring wells. If we get into a dry summer situation, it will come as high as 35. And eventually, we are talking some years down the road, we are going to be able to get to the point where we might draw 50. But our reading would be that by that point we would have some time to see exactly how this aquifer responds and we would be in a better position to make that judgment.

MR. GIBBONS: Thank you. The second question builds on a question that was raised by Dr. Brooks, and it has to do with what he has called the no project alternative. I have to admit that in the context of the discussion that took place that I do think that there seems to be, at least, at the very least a talking past each other on that particular point, in that my understanding of the no project alternative is not that you do nothing, which I think was the response, I may have been misreading that, but it is not do nothing, but not doing that project means conceivably doing something else.

Now, I've put this question on Tuesday, and what I would like to do is direct it a little bit more specifically towards the

following scenario, in terms of whether or not potential alternatives were considered. And it is raised in part because of the point made about the fact that if we agree to the figures that were quoted earlier, PVWC is pulling in about half of its licensed amount of water from the Red River. Is it possible, and in terms of alternative scenarios, is it possible that Red River water could be used to a greater extent than it is now, given, and I understand that you are talking about the fluctuations and so on in the river levels, could it be used more extensively than it is now if it was possible to take some of that water during the times when the river flows are extremely high and impound that water in some way for use later? And we talked about impoundment a bit earlier. I'm wondering about that specific scenario, impounding Red River water in its high volume stages and holding it to those times when river levels are lower?

MR.SCHELLENBERG: Sir, there has been considerable work done in looking at all of the alternatives in terms of talking past each other, and our document I think talked to some of them, and I gave you a little more detailed information

on some of the others that we have looked at.

Our alternative right now, in terms of dealing with the situation, would be to put a weir on the Red, and the exact location of that is identified and the nature of the structure is identified as well. Because the river has very little drop to it, the size of the weir that you would have to put in -- it would be about 15 miles north of Morris down the river -- would be in the order of 14 to 16 feet. That would hold back water in the river up to the U.S. border, but not crossing the U.S. border in terms of what we are withholding, so we don't get into a contravention of the International Boundary Waters Treaty Act.

That kind of an impoundment, if you are looking at a serious drought, would do you for about a year and a half, assuming that we don't have excessive heat in terms of evaporation and what have you. And that's also assuming that we are not getting meaningful flows from the U.S.

Now, there are those that take very, very strong exception to this, fisheries being one and there are others. I would suggest that the City of Winnipeg would probably take very serious exception to that proposal as well, because if you

are looking at a real serious drought scenario of that kind, you are going to a similar situation on the Assiniboine, and the amount of water that is going to be flowing through the City of Winnipeg is going to be drastically reduced. The upside of that is for the first time on record we would actually have residents of the City of Winnipeg conscious of what a drought means and perhaps a little more prepared to address it. But I don't think that we want to go there, and it is for those reasons that we are looking at this particular alternative.

But, yes, we can do that, and it is a short-term measure, it is a stop gap measure, it will do us for a year and a half, it might do us for two years if we are really careful, but that's what you have to do.

MR. GIBBONS: Quick follow-up then, is the weir the only impoundment method available, given the volumes of water that you would need?

MR. SCHELLENBERG: The weir is -- based on work which has been done over a long period of time, and you are going to get some history to some of the other approaches that have been taken later on this afternoon, I guess --

yes, it is, it is the only thing that will work.

Off-stream storage, for example, is what you are basically alluding to, and the amount of storage that you would require, the environmental consequences of putting that into place is far more serious than the weir itself and the issues related to it. And there is a number of reasons for that, and also the size of it would be very, very considerable. But that's the -- we have got -- our water treatment plants are at the river, they are on the river, and that's where we need to treat the water in order to distribute it, that's where our distribution comes from.

MR. GIBBONS: Thank you.

THE CHAIRMAN: Okay.

MR. HALKET: My understanding of a weir is it is an overflow structure?

MR. SCHELLENBERG: Pardon me?

MR. HALKET: It is an overflow structure, it will hold water back, it will hold a certain amount of storage back, but once it is full, it will just keep on flowing, the water will keep on flowing. And the characterization that you were making that the City of Winnipeg would be losing water, it would still be flowing after --

MR. SCHELLENBERG: At 14 to 16 feet high, and given the 1988 scenario, no, there would be no flow over. We have 32 cubic feet per second that were coming into the Red at that time. We are withdrawing more than that at any given time during that period, so you are going to be drawing down on that reservoir which you created, and hence because there isn't enough recharge, if you want to use that term loosely in this particular case, you get that kind of scenario.

THE CHAIRMAN: Thank you. I'm now going to invite members of the general public who may wish to ask questions to come forward at this time, please? We did have an indication earlier from three or four people that they wanted to ask questions.

I would ask you to state your name, please, and direct your question briefly and directly?

MR. CHAPUT: I am Roland Chaput. I could not attend on Tuesday, I don't know if this was discussed. I heard today there is a lot about up and down of the water in the aquifer, the quantity of the water in the aquifer. Was there anything done regarding the quality of the water,

what will it do to the quality of the water in the aquifer? Will it affect the quality of the water?

MR. WIECEK: There is a data base existing of the water quality that's been collected by the province, by the GSC, Geologic Survey of Canada, as part of the water quality initiatives. Essentially, there is no effect to the water quality in the area. And what has been found in the area is that water quality in the different aquifers is very similar. So it is unlike to the west of the Red River where there is potential for the salt water intrusion, we don't see that in this area, so there is no effect to the water quality.

MR. CHAPUT: Now to your plan, you say you have salty water west of the Red River. Is there a way to treat that water to make it good water?

MR. SCHELLENBERG: Yes, there is. And certainly it has been demonstrated in the Middle East, and there is some evidence of that as well in the U.S. on the coast where that is being done right now.

There is a number of problems with it. First of all is the overriding cost, but the

bigger issue -- and energy is the big issue, by the way, in terms of process. But then you have all of this salt that you have to dispose of. And in the Middle East, basically, and in the U.S. where they are doing this, it goes back into the ocean, which is where they are drawing their water from and it is an easy disposition of that product. When you are out on the prairies, as we are, it becomes a much, much bigger issue and a much bigger problem to deal with.

MR. CHAPUT: Okay. Another question that I have is, you seem to be pretty confident that it will not affect the aquifer, what happens if it does? The people around here depend on wells for their water, they have been depending on wells for their water for years. I have got a private well and I'm not the only one, I don't want to speak just for myself. What happens if those wells go dry? Is there any guarantee that -- will you cut a cheque to me if my well runs dry? Will you be hauling water? Will you change my system? This is very important to people around here because they have been depending for years on that water, and if anything happens, anything, worst case scenario, anything

happens, why would it be incumbent on me or people around here to absorb the costs?

MR. SCHELLENBERG: It shouldn't be. We are -- there are large number of monitoring wells which are in place already. We are suggesting that a number should be added, and at least two of those are going to be added in areas where we can monitor more closely what happens -- and I don't know where you live -- but what happens to wells such as yours.

It is our responsibility, if it is our fault, if it is a problem that we create that causes a problem for you, it is our responsibility, and it will be our responsibility to rectify that issue. We should know about that well before it happens, because the monitoring that we are going to be undertaking together with the province should give us those readings. And if that indeed is the case, if in fact we have misread this aquifer or we have misread the situation, then we are going to withdraw from those withdrawals and we are going to look for other alternatives within the area, that won't have a negative effect on someone like you, or a negative effect for that matter on the aquifer.

MR. CHAPUT: The burden of proof will be on who? Because I see you guys have got -- I won't say an unlimited amount of money, but you can tax people or raise your fee, but the people around here will not have the money to hire a hydrologist or an expert to prove, to make their point.

MR. SCHELLENBERG: The monitoring is taking place together with the province. In fact, the province is going to be in charge of the program, they are going to be reporting those results. And so you do have an objective system in place to look at this. This is not something that -- we are going to be providing and we are going to be doing a lot of the work and we are going to be providing the cost in terms of putting it in, but the actual control of that review and the control of the monitoring falls within the provincial jurisdiction. So it is not you against us, it will in fact be the province that's in the middle, and we will deal with things -- they will deal with things very, very objectively.

MR. CHAPUT: Are you trying to say all I have to do is make a phone call and, bingo, my problem is solved?

MR. SCHELLENBERG: No. But we don't run a big operation. In our office, just for your information, there are two people, you can either talk to Gordon Martel or myself. So it won't take a lot of phone calls to zero in on your problem.

MR. CHAPUT: Will these monitoring results be available to the public?

MR. SCHELLENBERG: This is something that we are recommending and it is something that it would be up to the province to decide. I don't know if there is a decision that can be made real quick on that or not. Is the monitoring open to the public?

SPEAKER: Provincial monitoring wells -- monitoring results from Provincial monitoring wells are available to the public, yes. The question would be which are Provincial wells and which are private wells? If the monitoring is reported to water rights as part of a licensing condition from monitoring wells which are installed by the proponent, then I'm not quite sure exactly how that works.

MR. SCHELLENBERG: We would probably ask them to be made public, and that will take the heat off.

SPEAKER: We will just mark it that way in our data base and they would be available.

MR. CHAPUT: What would be done regarding the enforcements of your licence? Because from the past, regarding the Water Rights Act, there has been basically no enforcement. We have heard from the government that the manpower is not there, the money is not there, or there is a lack of political will. I think this should be taken out of the realm of politics and the power given to the people. Like an Act is an Act, and again this is -- the burden of proof is put on the individual. What will be done regarding enforcement of this licence if it is issued?

MR. SCHELLENBERG: That's a question that I can't answer and it is a question that should be answered by the department probably.

THE CHAIRMAN: Mr. Chaput, there are provisions under statute for monitoring and enforcing this. It is also something that we as a panel will consider and may or may not make recommendations in regard to that in our report. I can't tell you right now what will be in our report, but that is something that we may well consider.

MR. CHAPUT: Okay. Because I knew a little bit -- I am a vegetable grower, so I know a little bit of irrigation. Will this water be used for irrigation of fields?

MR.SCHELLENBERG: No, it will not. The wholesale price of this water is $5.40 per thousand gallons, and in the farmers' hands it is averaging $8 to $10, so I don't think that you will be doing any irrigating with that.

MR. CHAPUT: I will just raise my price of beans, that's all.

MR. SCHELLENBERG: I hope you find a market.

MR. CHAPUT: Will a security bond be asked to be put down on the table, just in case something happens that we are not aware?

MR.SCHELLENBERG: If you want me to answer that I will tell you we are a fair-sized operation in terms of a water utility, we are probably the largest regional utility. We make a very easy target. You will know exactly where to take your problems and where your lawyers are to contact us, if that happens.

MR. CHAPUT: Again, a phone call will solve my problem?

MR. SCHELLENBERG: It won't solve mine but it might solve yours.

MR. CHAPUT: I hope somebody is putting this in writing here, and I will ask you to sign it after. You are aware that in the Southwest United States, the Ocalla water aquifer is a real disaster. And I hope this doesn't happen to this aquifer.

MR. SCHELLENBERG: No, it certainly can't. With the monitoring that we are going to be doing, there is no way that that will be allowed to happen, especially with the information being available to the general public and open for anyone's review.

MR. CHAPUT: One more question, without counting the cost of the hearings and everything like that, how much money has been put in the infrastructure of this project as of today?

MR. SCHELLENBERG: In terms of the -- we have done a number of monitoring wells throughout that whole area, and the actual well, the work that's been done is somewhere in the order of three quarters of a million dollars.

MR. CHAPUT: Thank you.

THE CHAIRMAN: Thank you, Mr. Chaput.

Ms. Kennedy-Courcelles, did you have a question or two?

MS. KENNEDY-COURCELLES: Yes.

THE CHAIRMAN: Please state your name for the record?

THE WITNESS: Cheryl Kennedy-Courcelles of St. Adolphe, Manitoba. I will be speaking later and I have 30 questions at that point, which I am not necessarily looking for the answers, they are just questions to be raised. But today I guess, earlier you had mentioned that perhaps there wasn't much activity done in the Sandilands, or that we, the people, wouldn't have to worry that there is possible openings or intrusions.

Well, the local people know that for two to three years drilling has been happening in that area, pretty much non stop for 12 months of the year. So the safety factor that there is no openings, there is no holes, there is no way for those aquifers to be contaminated, I guess isn't really -- we are not feeling that confident that, you know, things have been left how they should be. So I guess that would just be a question that if this proposal did go forward, what, you know,

what is going to be done for the work that's been done without any licensing in the first place? So that's just one point, and I don't know if an answer really needs to be happening on that one.

Another one I guess would be, if the Pembina Valley Water Co-op is in the business of providing safe drinking water to the residents that live in an area of the province that if you move into that area, you know already that you don't have a great water supply. That's part and parcel of making the choice of living in that area. So I guess my question would be, if you are in the business of providing, being a water provider, has the idea been contemplated about tapping into the aqueduct from Shoal Lake, which is a steady above-ground, non-aquifer provided stream? So if you are dealing with 45,000 people versus the unknown 4 million hogs, right, 45,000 people I think could handle a pipeline tapping into the aqueduct and it would not be that big of a deal, versus setting up infrastructure or structure that could handle up to 4 million hogs. And of course, you know, if we burn out the hogs, well then it will be chickens and turkeys and everything else. I guess my question is, have you

looked at Shoal Lake or the aqueduct at all?

MR. SCHELLENBERG: The answer to that is yes, and we talked to the City of Winnipeg and we talked to them on more than one occasion. But I will give you another example; so did Headingley, and the answer to Headingley was a resounding no, and they had to develop their own water system, in their case from Cartier. And the answer to us was a resounding no as well. The City of Winnipeg is of the opinion that if they can hold on to their water resources, they will also get all of the development that goes with it.

Going back to your original comment related to water quality, the water quality in this aquifer is absolutely excellent. And if we were to withdraw water from it, we would want to retain it in exactly that form, and we would have a strong vested interest to make sure that it stays that way.

MS KENNEDY-COURCELLES: So you are telling us that all of the drilling that has been happening in the last three years will get cleaned up, fixed up, properly closed up, or whatever the case needs to be?

MR.SCHELLENBERG: I can't comment on

the drilling that has been taking place in the last three years. I can comment that on the drilling that took place in regards to our project, which was how many wells -- 19 wells -- that those have been looked after in a very responsible way. Most of those will be used for monitoring, by the way, and we have taken every care to make sure there is no contamination.

MS KENNEDY-COURCELLES: Very good. Thank you.

THE CHAIRMAN: Thank you. Are there any other members of the public? Yes.

MS. SCHOENBACH: I'm Alana Schoenbach from the RM of Piney. Mr. Chaput brought up the idea of private wells maybe being affected, and I would like you to elaborate a little bit on the idea. Has there been any real serious consideration about a performance bond in case of adverse effects on private wells? Mr. Schellenberg just stated a few minutes ago that it would be their problem, as in the PVWC. I don't really agree with that, I think the lack of water would be an immediate problem to homeowners and landowners. If you are so confident that there won't be any adverse effects on these wells, why

not provide some upfront guarantee?

MR. SCHELLENBERG: First of all, in the comment that I made that it would be our problem, I meant in terms of the dollars and the reparations that would be required. I come from an area that we lived without water, and I live in a rural setting, by the way, where it only arrived not that long ago. So I certainly would have great sympathy.

By the way, when you are running a utility and any pipe runs out of water, you know about it and you know about it real quickly, and we are familiar with that. The performance bond, when you realize that this is -- what we are dealing with here, the Pembina Valley Water Co-op is a non-profit corporation which is owned by 18 municipal governments like Piney. If you develop a problem, you have got basically a route to 18 municipal governments, if you want to look at it that way. And in terms of performance bond, I think I would rather have 18 municipalities be responsible for my problem than rely on a performance bond. I don't have a strong feeling about a performance bond. By the way, it can be done. It just becomes a question of how high and

who holds it and what kind of return is someone getting on it hopefully. We are non-profit, but we do have access to dollars if we get into a problem and we are also, by the way, insured to the hilt.

MS. SCHOENBACH: If we are talking about opinions, I would just like to state for the record that I would rather have the money in the bank than rely on the 18 municipalities. Thank you.

MR. SCHELLENBERG: You are welcome.

THE CHAIRMAN: Any other persons who wish to ask questions?

MR. WEINSTROM: I am Eric Weinstrom, a resident from Marchand, and I would like to make a statement, and then I will ask a question. Take you back to 1979, the project was on highway 52 west of Steinbach, just short of the Kleefeld turnoff, there was a major problem with heaving of the highway, and they decided to drill wells there to alleviate that. At that time there was a group of farmers in the area that were concerned with that, studies were done, and they were reassured that nothing would happen. They went ahead and drilled the wells, and at the time that they

opened up the wells, it was almost immediate that these dairy farms ran out of water.

Now, they had a lawyer in place, and the guarantee at that time was that the government at that time would drill the new wells, which is exactly what happened. In fact, the one farm, I believe it happened even a year later, and it happened December 22, a really good time to have that happen. But, yes, they did come in and they drilled them new wells at the government's expense.

I guess my concern is the same here. Being probably a community that is at the forefront of a disaster that could potentially happen, because our aquifer is right next to the well that you are talking about. For myself, we are running a third generation cattle ranch, we have got two Artesian wells that are running. The one Artesian well is all of 60 years old and it has been running all of this time. So I think I will notice when there is something happening. And the same way I too would like a guarantee from you guys that we will be compensated, and I would like that in writing. Is that possible?

MR. SCHELLENBERG: That is possible.

And just for the record, December 22nd isn't too bad, we have been out making reparations on Christmas eve and Christmas day. But, yes, it is possible. And we are very sensitive to the flowing wells of Marchand. As a matter of fact, they were part of the presentation on Tuesday. And we recognize that we have to do some additional monitoring, particularly as relates to that water supply. And we also recognize the importance water supply plays in your community, and in your particular case in your operation. So we are well aware of it and we are sensitive to it, and we will be watching it.

MR. WEINSTROM: I appreciate it.

THE CHAIRMAN: Thank you. Are there any others? Are there other questions of the proponents from --

MS. GERARDY: Good morning, ladies and gentlemen, my name is Bev Gerardy, I am living in the town of Ste. Anne, but born and raised in RM of Piney. My husband and I have four children and own land in the RM of Piney. Some day we hope to retire there. Today we are here to discuss water, the RM of Piney water, water that has won top awards for quality. While no one here is denying

the right to have quality water, it seems a shame to me then how no one here is talking about how much water is being used by the hog industry. I'm also talking in regards to potable water. When I make this comment, I'm really referring to Tuesday's meeting. Today I have seen improvement in topics covered.

Let's look at the big picture. On one hand we allow the hog industry to use such large amounts of our potable water, and on the other we are searching for ways to pipe water to less fortunate areas of our map. This upsets me. Water is such an issue, we have to purchase bottled water for the lack of, or poor quality of. Does this picture make any sense? I think we should step back and re-evaluate.

The argument here is, where do we get water that is so in need? We also know there are systems that can clean water, but the word is, it is too expensive.

Now, let's look at the floodway. If things were done properly right off the hop, we wouldn't have been in the dilemma that we were in. Again, the big solution was costly, but I'm sure it cost more money since we did not act

accordingly. Everything costs money. Why not spend more money on a project that works rather than going back to fix something that we will end up paying for dearly?

If in the case we do carry out this project and the water in the RM of Piney is not recovered, the RM of Piney and others suffer the consequences. This is not technology. Do we want to risk draining one area to supply another? You are the people with degrees and diplomas. Surely, with the technology of today, you can muster up a plan that is effective and safe to ensure water and water quality for all. We do not want -- or we do not want or need a quick bandage to remedy this problem, we need a positive solution that will allow us to move ahead and not cause us problems down the road. This project requires further studies, that is evident.

Apparently, the proponent shows little concern or regards to this matter. I say one thing, being overconfident in regards to anything is not necessarily a good thing. No one here is questioning the strong importance of water. Questions I don't have answers to are as follows: Number 1, how much water is available and how much

of that is needed?

What is the estimate for the number of years Sandilands will remain to have water before its assets are depleted?

Number 3, and then what, what is plan B and C and D, and so forth? My guess, since we really didn't receive an answer on Tuesday, is there isn't much concern. Since the RM of Piney is a large area with good quality water and with little population to cause a dispute over, you will just be able to pick a spot.

Number 4, what are the number of domestic wells in the vicinity of your plans, and how will they be affected negatively, positively? The case of different scenarios, that should be projected in your plans. In a nutshell, this project does not leave me feeling secure. While I'm not against piped water, as it is a requirement to sustain our well-being, I am opposed to this project. I too would like to maintain the lifestyle of running water in the years to come. I'm convinced generations after us will carry the same concerns. There are many components to consider, including respecting the concerns for those who may be affected by your

actions. Thank you.

THE CHAIRMAN: Thank you. Now, are there any other questions for the proponents at this time?

I think we can probably let you gentlemen leave the table. Thank you very much for your responses.

Mr. Koroluk, did you have a question or two? You have to leave at noon, is that correct?

MR. KOROLUK: Yes, I do.

THE CHAIRMAN: And you had a question or two for one of the officials from Water Stewardship?

MR. KOROLUK: Yes.

THE CHAIRMAN: And it won't take long?

MR. KOROLUK: No.

THE CHAIRMAN: Which gentleman?

THE WITNESS: Probably Mr. Matthews.

MS. JOHNSON: I would like to add some exhibits to the list. A left over item from Tuesday evening, Mr. Zacharias presentation will be exhibit 34. All of the documents that Mr. Koroluk provided today will be exhibits 35 through 51. Number 52 will be Dr. Brooks' presentation.

Number 53 will be the questions and answers that Mr. Koroluk referred to the Pembina Valley Water Co-op. And number 54 will be the Kennedy and Woodbury article referred to by Mr. Halek.

THE CHAIRMAN: Thank you. Mr. Matthews, could you state your name for the record please?

( MR. MATTHEWS, SWORN)

THE CHAIRMAN: Mr. Koroluk.

MR. KOROLUK: Yes, very briefly, thank you, Mr. Chair, for this opportunity.

I just wanted to ask Mr. Matthews, this is a standard question that we tend to ask over the years when we have these type of hearings. It is related I guess to the resources and staffing within the department. I wanted to know what the latest figure now is for the status of total backlogs in terms of licences that are expired or any applications?

MR. MATTHEWS: I don't have that information here.

MR. KOROLUK: Okay. Do you have any status of unused allocations in the province at this current time?

MR. MATTHEWS: What do you mean by

unused?

THE CHAIRMAN: Used allocations of what?

MR. KOROLUK: Of water, they have a permit, but they are not using their water?

MR. MATTHEWS: Are you saying province wide?

MR. KOROLUK: Yes.

MR. MATTHEWS: In what industry or what sector?

MR. KOROLUK: Total figure?

MR. MATTHEWS: No. Under the Water Rights Act you are given an allocation based on your need upfront, and if over time that you are not using that amount of water and there is a compelling need to claw that back, we claw it back either at the point of need or at the time the licence is renewed. And licences are issued for a specific amount of time. In the livestock industry, it is ten years and they have to reapply. In the case of a municipal licence, it is 20 years and so on. So if the usage is out of balance at that time, that's an appropriate time to make an adjustment to the licence.

MR. KOROLUK: Are you aware of any of

those types of licences that might be in the Pembina Valley water supply network area?

MR. MATTHEWS: No, I'm not.

MR. KOROLUK: Okay. It would be worthwhile to check it out, though, wouldn't it?

MR. MATTHEWS: I took your question to mean am I actually aware of it, in other words, am I aware of it and doing nothing about it? My answer to you is, no, I'm not aware of a situation where there is an excess amount of water and we are doing nothing about clawing it back.

MR. KOROLUK: Okay. And I guess through this exercise, I mean, we were trying to get an idea of a water budget of the total supply area, all of the municipalities in that area, and trying to figure out how much Pembina Valley Water Co-op is using, and how much the irrigators are using, et cetera, and how much agriculture is using. And you had mentioned that there is some new applications in that region that are sort of on the queue; am I correct?

MR. MATTHEWS: You will have to flesh that out a bit, I'm not sure what you are referring to.

MR. KOROLUK: Well, there are

applications in that region, currently people are applying to get a water rights licence.

MR. MATTHEWS: The table that I provided to you, and Dr. Brooks kindly gave it to me -- is it the second version, Dr. Brooks?

DR. BROOKS: No, that is the first version.

MR. MATTHEWS: Okay, close enough. You will notice that the irrigation use, for example, and we talked about that in the days leading up to this hearing via email, is that up in the RM of Dufferin on the Boyne River that's from the system that's been mentioned by Mr. Schellenberg as being fully allocated, so there really aren't any applications, therefore, that we could entertain from that area. If you get down around in the Stanley area, the Morden, Winkler area, it is my understanding that those ephemeral streams are also essentially booked out for water availability.

MR. KOROLUK: So you are saying then the outstanding applications in front of the department right now are being reviewed?

MR. MATTHEWS: Yes, that's correct, there is a number of them that are in a long

process, in the irrigation industry in particular, that have been under review for a number of years. And that appears, that number appears in here, that's not a number that didn't appear in here. Because you asked, when you asked for this table you said you wanted kind of all in table one that had projects for which we had already issued a licence and projects that were under application.

MR. KOROLUK: Okay. So my question then is, if you have all of these applications under review within the area, and we have an entity who operates and has valid licences in the area, I'm hearing that they have to find water from another region of the province. So how do you make a decision as to who gets water in the same region?

MR. MATTHEWS: The Water Rights Act, the philosophy of the Water Rights Act which we share with the rest of, much of the rest of western North America is called the first in right, first in time principle -- first in time, first in right principle. And essentially those who apply first have the senior water rights. But it is not that simple, because it depends on the water source that's available. So, for instance

the water source that the irrigators use in the RM of Stanley, between Morden and Winkler is how I think of it, those water sources are the ephemeral streams. And we have been told by the proponent that impounding of water from ephemeral streams would not be suitable for a municipal supply, given alternatives. So, in other words, very often there isn't a competing use on any particular water supply, water source. Also it is quite true that very little of the water that has been allocated in this area comes out of groundwater, with the exception of the Winkler aquifer and a little in the upper Boyne. There just aren't the aquifers in that area.

MR. KOROLUK: I do notice there are licences for irrigation utilizing groundwater on your chart?

MR. MATTHEWS: Where is that, Glen? RM of Dufferin, surface water irrigation allocation, 2,410 dams a year, ground water 10 dams a year.

MR. KOROLUK: Groundwater RM of Franklin 62, groundwater RM of Rhineland 85.

MR. MATTHEWS: Just a minute, Glen. That's 85 versus 1,702 for surface water. It is a

minor amount of water.

MR. KOROLUK: I'm just making the point that groundwater is being used for irrigation.

MR. MATTHEWS: And 85 cubic dams is a very small amount of water compared to the licenses for the proponent on the Red River.

MR. KOROLUK: I'm aware of that.

THE CHAIRMAN: Mr. Koroluk, I'm just trying to figure out where you are going with these questions? How is that relevant to the issue before us?

MR. KOROLUK: I guess the point that I want to make, Mr. Chair, is that we have spent a good time in the pre-hearings trying to assess, trying to establish a water budget. And we weren't able to get the exact numbers from both the proponent and the regulator as to -- if you look into that entire region, we don't know exactly how the water is used. For one, all of the units are different; for two, they define use categories different. And our point is it is very important, if we are going to start taking water from other parts of the province, that we have to at least have an understanding as to how we are

using this water in a particular region. So this is some of the stuff that we would have cleared up weeks ago, but it just didn't happen. But on saying that, I think I will close my questions. And just to make the point that it is very important to have a water budget.

THE CHAIRMAN: Thank you. Now the document that you were referring to, has that been filed with us? We will need a copy of that.

MR. KOROLUK: I'm not sure, but, yes, you can have a copy.

THE CHAIRMAN: Perhaps you can get Joyce to make photocopies for our records. Thank you very much, Mr. Matthews.

I would propose that we take a break for lunch now. Please be back and ready to go at 1:15.

(Proceedings recessed at 12:04 and reconvened at 1:15 p.m.)

THE CHAIRMAN: Could we come back to order, please. For the first little while this afternoon, we have a couple of officials from the department of Water Stewardship who are going to answer some questions from members of the panel, largely or almost specifically in respect of

policy issues.

Mr. Betcher, we have heard and we have read a fair bit about watershed planning and sort of regional planning for water uses. What is the philosophy behind that? What is it and how would that play into what we are considering today?

MR. BETCHER: I will just wait. I can give a bit of a presentation on what we are doing in terms of looking at regional water supplies, and how we are trying to evaluate sort of groundwater systems to determine the overall sustainable yield and how to manage those aquifers.

THE CHAIRMAN: That would be helpful.

MR. BETCHER: Okay. I could try that one. I'm only answering things that I have the answer on here for.

THE CHAIRMAN: Yes.

MR. BETCHER: I guess we could start with this; what is the Provincial role in aquifer management in the province? And from a studies point of view, our role is to broadly examine all of the aquifers in the province, and try and develop an understanding of these aquifers. So we can classify our roles as first developing a broad

understanding of the occurrence of aquifers, how aquifers and aquitards interrelate, groundwater/surface water interrelationships and understanding groundwater quality and its distribution within aquifers or aquifer systems.

We also carry out studies that allow us to work towards an understanding of sustainable withdrawals of groundwater from aquifers, obviously this is a very complex area, and it varies from aquifer to aquifer. Our section also carries out broad scale groundwater monitoring. We have somewhere in the area of 550 active groundwater monitoring stations in the province, and these are related to both water levels in aquifers, and monitoring water quality in aquifers, both in areas that are influenced by and pumping effects and areas that are outside of human impact in just recording natural conditions.

Fairly recently we have really gone into a program where we feel that what we should be doing to manage aquifers or aquifer systems is to work to develop three dimensional and two dimensional groundwater models of these systems. In other words, we need some mechanism whereby all of the information that we have on the

hydrogeology and the geology of aquifers, the information that we have on where pumping is occurring, perhaps where recharge is occurring, where discharge is occurring, where wetlands occur. What we want to do is integrate all of that into one system, so when we come to issues like this we don't sort of do a quick calculation or a calculation which doesn't include a regional influence. So we feel that ten years from now, hopefully, we will have developed mathematical models for quite a number of our aquifer systems.

And we have just recently hired a hydrogeologist to start working on doing that type of thing.

Our other role is from our studies to provide numbers essentially to water rights. That is, what is the sustainable yield of an aquifer or a portion of an aquifer? We provide that to water rights. Water rights uses that number and allocates water essentially up to that number.

So the first area actually that we are looking at in terms of developing a regional ground water model is the area essentially from the capital region to the Sandilands and perhaps a little bit past the Sandilands. And the

information that we would like to put into this model includes the geology, the information that we have on the hydraulic properties of aquifers and aquitards, so that's all of the aquifers and aquitards essentially from Precambrian right up to ground surface. Any information that we may have on recharge and discharge, for instance, we know the discharge to the floodway, and we know approximately where that occurs. So that's something that you could use as input into a model or alternately you could prepare your model results or model predictions to what we actually know is occurring. We put in surface water boundaries, surface water bodies, where it drains, wetlands, rivers and creeks. We would also input into the system groundwater withdrawals, how much water is licensed for withdrawal in various places. And where we know them, we would also put in groundwater quality boundaries. This is not really a -- I didn't quite come prepared to talk about groundwater quality boundaries, but in essence in the carbonate aquifer the fresh water/salt water boundary runs something like this. So, in other words, in these areas in the carbonate aquifer we have fresh water, and in

these areas we only have saline water. In the Winnipeg formation it is somewhat different, it sort of runs like this and then heads out to Beausejour and back, and then goes somewhere up in the Interlake. So we actually have a different fresh water/salt water boundary in those two aquifers. And that's something that we would want to include and incorporate in the model. Because certainly one of the concerns and something that Mr. Render raised, was can we affect the fresh water/salt water boundary. And I think the primary concern there is having a high capacity well very near the boundary. And that's certainly not something that's occurring with this, with this proposal. We are not near any fresh water/salt water boundary, so we don't see a direct effect from this proposal on a boundary.

The issue that does become, and if you look in the Woodbury Kennedy paper that's discussed as well, is the question of how much water can we develop in this entire area? What is the sustainable yield of this entire area? And as we approach that sustainable yield, would we start seeing effects on the fresh water/salt water boundary? In other words, if we pump so much

water out of this area, remove that water from the ground water system, will we in fact lower the heads enough that this boundary will start to shift. Our current information is that the boundary, at least in the carbonate aquifer, is very stable. That when we have done water sampling along that boundary and compared that results to the '60s and '70s, we find essentially the same thing. So that boundary we don't believe has moved in the past 40 years or so, or there hasn't been a significant move in that boundary.

The Winnipeg formation is kind of neat, the scientist in me is coming out -- but actually the Winnipeg formation boundaries is not really stable. The fresh water recharge which is occurring down here, and up in other areas, is actually driving the fresh water/salt water boundary off to the west and north, which is a very interesting situation, and really dates back to geological occurrences probably 10,000 or 11,000 years ago, which essentially developed the Sandilands and imposed a higher head and started driving the salt water out.

So essentially those are the types of things that we are looking at. In terms of this

three dimensional model, when you create a model you want to try and determine whether the results that you are getting out of the model are correct or not, so you try and calibrate it. You can calibrate it against a number of things, against modeling, pumping responses, that type of thing. Models as well are not static. What we see is developing a model, doing the best we can, and then as new information, new understanding comes to us, we will incorporate that into the model, or if there is another pumping centre, for instance, we will then incorporate that into the model. Then we see that we could -- if there is a proposal for a groundwater extraction, for instance, and we are concerned about it, we can inject that into the model and run the model for 20 years, and say what is the effect of this, or make our best guess at what the effect is, given the reliability and accuracy of the model at that point.

So, essentially what we see is that developing these models, the models will become the primary tool that we can use for groundwater management over large areas, or within larger aquifers. As to when the model will be ready for

this particular area, it will be quite a number of years before I think we feel comfortable that we have developed a model that we can use in a predictive sense.

The person who is going to do this work has just moved to Manitoba, so he has a long learning curve ahead of him. He is actually out today, because our first drilling program that is part of the study actually began this morning. I haven't got a phone call yet, but I think it began this morning. So he is out on the rig and will be for the next couple of months.

So, essentially that's the Provincial role that we see in terms of examining these broad scale issues that are related to groundwater development. And this is the approach that we have adopted, and we are going to take along with a lot of other things that we are doing in terms of mapping groundwater and looking at geochemistry.

THE CHAIRMAN: So that this is sort of where the legislation talks about watershed management, when it hits the street, this is what you are talking about, doing this kind of modeling and --

MR. BETCHER: Well, groundwater systems don't necessarily follow surface watersheds.

THE CHAIRMAN: True, yes.

MR. BETCHER: He is asking me to think on my feet, or on my seat, as the case is. I'm trying to dissuade him from doing that.

What we have in terms of planning is we've -- the initial planning that we've done has basically been on an aquifer basis. So we have come up with a management plan for the Winkler aquifer, we have come up with a management plan for the Assiniboine-Delta aquifer. The shift now provincially is towards planning on a watershed basis. And in many respects aquifer planning or the aquifer planning that we do on an aquifer as a whole is simply the same thing that we would do in a watershed, although there would be a lot of other interests which would come in as part of the planning process. But essentially the type of thing that I'm saying that we are trying to do for this part of this aquifer, if we have several different watersheds within that area, our approach would be that when we come in each of the watershed development plans, we would do

groundwater mapping and then we would essentially cut out that portion of the model and use the model to help predict what is going to happen, or to describe the hydrologic system within the watershed.

I think perhaps the main extension that we might see by going to watershed plans and moving away from aquifer plans, is we might begin to see far more interest in surface water/groundwater interactions than what we have seen in the past, and I think that's probably what we are going to see develop as sort of more of an interest by going to a watershed plan, because we are deliberately getting surface water people and groundwater people together and discussing mutual problems, which we may not have had to address if we were just doing an aquifer management plan itself.

THE CHAIRMAN: What kind of knowledge or information does Water Stewardship have in respect of this specific aquifer that we are considering in this hearing, the lower sand unit in the Sandilands complex?

MR. BETCHER: Probably most of the understanding that we have developed from it has

come out of this program. It is certainly the most intensive drilling that's been done to look at the stratigraphy.

THE CHAIRMAN: This program being the PVWC proposal?

MR. BETCHER: They have done a lot more intensive drilling than anyone else has done in terms of the scale of the drilling and the number of holes that have been installed. Nonetheless, there have been a number of other people who have done work -- I have an answer to this one too. Hang on.

This is a listing, and Steve has probably gone over this on Tuesday, but this is essentially a summary of the amount of work that's been done on the Sandilands as a whole, and you have to recognize that this particular proposal is only a portion of the Sandilands as a whole. The Provincial interest is in the whole area, and this particular study is only a part of that whole area. So the initial monitoring well I think went in, that was the Sandilands number 1, and I think that went in in 1966. There was some geological work by Teller and Fenton, who looked at the geology of the area. And in 1980 and 1985 there

was regional test drilling carried out in parts of the area as part of the groundwater availability studies by the predecessors to our department. And in 1992 the Geological Survey of Canada and Industry Trade and Mines carried out rotosonic drilling. In rotosonic drilling you essentially collect 100 per cent core. As opposed to rotary drilling where you have to figure out what you are drilling through, rotosonic actually gives you the core and you can take a look at the core and really understand what the geology is.

Water stewardship also did some additional test drilling and monitoring well installation in the 1990s. Industry Trade and Mines has been doing a lot of work over the past number of years to develop three dimensional geological models, and they have included the Sandilands area in this, and we have had quite a bit of discussion with them as to the origin of the Sandilands, because when you are doing hydrogeology you have to understand geology, and if you can understand the origin of the deposits, often you can make some broad assumptions as to the continuity of individual aquifers. While you may only explore in a certain area, if you know

how the deposit was made, you would be able to make an assumption that this is probably interconnected on a very broad scale. That's part of the geological input, this type of thing.

And other studies, and Steve has mentioned these, were the study by Andrew Cherry, PhD work by Grant Ferguson, and in 2000 the Geological Survey of Canada has done quite a bit of work in here, and that's part of the thesis that were done as well, and they have left some installations that are looking at recharge rates and ages of groundwater. There has been some seismic reflection studies done by the Geological Survey of Canada. The idea of seismic reflection is to try and give you an idea of the continuity of geologic units from place to place. As hydrogeologists we come in and drill a hole here and here, but often we don't have money to drill holes in between. So we will interconnect this unit with this unit. And in most cases we have a pretty good idea of that. One of the difficulties here is that we don't really have good marker beds, so extending over large distances becomes difficult. So the GSC has done seismic work, which is intended to help us understand the

geology of the area. So that hasn't been all that extensive to date, but it is certainly a nice approach.

That's what we have done in the Sandilands. We had hoped to do additional drilling this year but we ran out of money in our drilling budget, but we do hope as part of the three dimensional model development we will be able to come in next year and do quite a bit of drilling in the Sandilands area as a whole, not just around this area.

THE CHAIRMAN: Thank you. Is there anything, or what does Provincial legislation or policy say, if anything, about the allocation of water in the province? Like the allocation of good water from an area that has an abundance to an area that doesn't have enough? Is there anything in legislation or policy in that respect?

MR. MATTHEWS: If I understand what you are asking, is there a policy permitting or prohibiting transfer of water from one location to another? Is that the nature of your question?

THE CHAIRMAN: Prohibiting or even allowing, does it say anything about how water can be moved from one area to another?

MR. MATTHEWS: Well, there is an Act, about a four page Act called the Water Resources Conservation Act that appears to speak to that issue. But really the Act comes without any regulations, and it talks about prohibiting the transfer of untreated water across the Continental Divide; the Continental Divide being the one between the Hudson Bay drainage basin and the adjacent drainage basins of the Missouri River or the Mississippi River. And we are not talking about that in this case and we are not talking about untreated water either. I don't know if that's --

THE CHAIRMAN: Yesterday, not yesterday, but Tuesday Mr. Koroluk talked about that piece of legislation, and about sub basin to sub basin, and that that Act prohibits sub basin to sub basin. What would be a sub basin?

MR. MATTHEWS: Two aspects to that; a sub basin hasn't been defined under the Act, neither in the Act or in regulation, as I said there is no regulation on it, so essentially the Act is silent on what a sub basin would be. But we understand it to be, from just our working knowledge of it to be, for example, the Red River

sub basin, the Assiniboine River sub basin, and the Winnipeg River sub basin and in the north the Seal River sub basin and so on. So the Act is not helpful because of that, because we don't have the sub basins defined.

THE CHAIRMAN: Now I'm not sure that this comes under your department, but I will ask it anyway and if it doesn't you can say so. We have heard a fair bit about a flow agreement across the international border for the Red River. Do you know if anything is being done to pursue that, sort of actively being done to pursue a minimum flow agreement?

MR. MATTHEWS: My supervisor, Steve Topping, who I believe you know from other matters, provided me with some information on that. And what has essentially been presented is that the International Red River Board, which is an IJC board, and it is made up of Provincial, state and Federal representatives, that board is responsible for resolving inter-jurisdictional water issues, and to provide advice to the IJC on the administration of the 1909 boundary waters treaty. At the present time there is no apportionment agreement on the Red River. And the

IRB, the board, has established an inter-jurisdictional committee with a mandate to provide options for the development of an apportionment or minimum flow proposal for the Red. This committee will likely table its findings within the next 12 months for discussion at the board level. And this has come up a couple of times over the last few days, and one thing that I have not noticed anybody mention is no matter what that agreement entails, if we do get one, of course, it can not guarantee a flow.

THE CHAIRMAN: Of course. But that last scenario would be a natural situation, wouldn't it?

MR. MATTHEWS: Yes, that's right, and that's the purpose of the project, as I understand it.

MR. GIBBONS: Maybe one quick one, and I'm not sure who among you might answer this, but we have heard it said earlier that alternative water supply solutions, such as impoundment and whatnot, would not seem to be feasible in dealing with the kinds of issues that the PVWC is dealing with. Is that also the position of the Water Stewardship department in terms of whether

something could be done in those regards? Is that, in your perspective, not a feasible element as well? Is there agreements, in other words, between the proponent and the department in this matter?

MR. MATTHEWS: I think that question would go to someone else ideally than myself or Bob. It is really, it is probably a question that a man like Don Rocan would be better placed to answer because it is an engineering question. It is a question of the engineering economics of storing water in large impoundments, and also the health aspects of having open water reservoirs exposed to bird life and so on. So those are really engineering questions that I'm not prepared to answer.

MR. GIBBONS: But in effect then what you are saying is that there is no policy position now from the department on that particular matter then?

MR. MATTHEWS: I can't answer that either, it is an issue related to the office of drinking water on whether or not -- in one sense it is related to the office of drinking water whether or not that would be a suitable way to

provide a reservoir of water that would be ultimately used for potable purposes. If you think about the City of Winnipeg, as I understand it, they, over the years, have closed in their reservoirs that they have within the city because of faecal coliform impacts from the birds flying over and swimming in it and so on. The same problem would exist in the open reservoirs. The reason that the irrigators can use it down in the countryside is they don't have worry about the faecal coliform count and they don't have to store it over a winter. So from a practical matter, I can't comment on it, but as a layperson it seems there would be difficulties with that.

MR. GIBBONS: Thank you.

THE CHAIRMAN: I just had a brilliant question whip right through my brain and go out the other side, and I'm trying to recall what it was.

Now you said, Mr. Betcher, that I think you are just starting this aquifer planning or aquifer modeling, and it is going to take any number of years, even just for this one region, and province-wide that much longer?

MR. BETCHER: Yes. Certainly beyond

my career.

THE CHAIRMAN: Certainly beyond mine then. Is there any, or what, if anything, is the province doing in respect of sort of province-wide strategic planning for extended periods of drought in respect of supplying water?

MR. BETCHER: I don't know myself. You know, I tend to be a somewhat insular person and tend to stay within the groundwater section, so there could be quite a bit of work going on in that, but I wouldn't necessarily be aware of it.

THE CHAIRMAN: Okay, thank you.

MR. HALKET: What is the province doing in terms of linking the water resources within a watershed? And if I understand you correctly here, it seems to me that you are working with the aquifers? Are you linking, for example, the Assiniboine-Delta aquifer, is that being linked with the Assiniboine River and also with atmospheric conditions within the watershed? Is it a total watershed model being prepared or just an aquifer model?

MR. MATTHEWS: The Assiniboine-Delta aquifer plan, and Bob can pick up on this, the water budget for the Assiniboine-Delta aquifer

assumes that a certain component of it leaks out the bottom, so to speak, in the creeks and in the major two rivers, and that in that sense we understand it to be linked. So there is -- the sustainable yield on that aquifer was set to allow for a certain component of what is recharge to the aquifer to sustain base flow in the Assiniboine River, as well as some of the creeks and so on. I don't know if that gets close to answering your question or not, but that's the type of thing that's done there. Bob was saying earlier that really watershed management planning and aquifer planning are two things that are hard to put together, because in some cases, like for instance, the Assiniboine-Delta aquifer which is the so called surficial or unconfined aquifer, really it sits over the top of the hydrology in a sense, and you have got the two major water basins there, so we could end up having a watershed management plan for the Whitemud and one for the Assiniboine River, and then maybe a third one for the Souris. So those three surficial -- the watersheds actually take a piece out of the surficial aquifer, the Assiniboine-Delta aquifer. It doesn't lend itself easily to integrate these

aquifers into specific watersheds. They either drape across watersheds or they sit, as in the case of the bedrock aquifers would, like the carbonate aquifer or the limestone aquifer running from the Interlake down through this area, it sits silently underneath a lot of these watersheds. It is not something that is easy to integrate in that way.

Yes, there is a connection, water does move from one to the other, but to actually say that the boundary for a watershed is the same as the boundary for the aquifer, it almost never happens on the prairies.

MR. BETCHER: For the Assiniboine-Delta aquifer, I think maybe a direct answer to your question is that Al Woodbury at the U of M is working with a post doc and a PhD student and some other people to try and develop a model which would integrate surface water, the atmosphere and groundwater. They essentially are looking at climate predictions and such, but they want to integrate a climate prediction into the amount of recharge that may occur and how that would affect the groundwater system. I think they started working on that about a year ago, and they

faced a few very difficult problems. So this is long range research which they are looking into to try and integrate the entire systems, the atmosphere right through to the groundwater.

THE CHAIRMAN: Thank you.

MR. HALKET: So the province -- it is my understanding that the province is embarking on a new watershed sort of planning strategy, water management strategy. And from what I'm hearing here is that the aquifer systems, they are hard to integrate into that strategy; is that what you are saying, in terms of looking at watersheds?

MR. MATTHEWS: The boundaries do not coincide.

MR. BETCHER: What we are doing, though, is that when -- I think the concept is that over the next ten years a watershed management plan will be developed for each of the watersheds in the province. So what we are doing in the groundwater section, is we've essentially bought into this, and when the planning begins for a watershed management plan, we become involved and we take that opportunity to carry out regional groundwater mapping or revise our regional, or existing regional groundwater maps on watershed

basis to encompass that watershed. And then we carry out other studies such as looking at age dating the groundwater, the geochemistry of the groundwater, and hopefully what this will lead to is on a watershed basis, a better integration of groundwater with surface water issues. For many of our streams, for instance, we don't have a good idea of what the groundwater component is, what the base flow is. On some of the streams we do, but on many streams we don't.

So this is certainly one of the issues that we could start taking a look at and do that on a watershed basis. That will depend on the amount of surface water monitoring stations there are, for instance. If there isn't a station on the major river in that watershed, that's something that you just couldn't do a base flow analysis. But this is how we are provincially trying to integrate surface water and groundwater on a watershed basis and groundwater is a significant component of that.

THE CHAIRMAN: Thank you very much. Mr. Schellenberg, do you or either of your associates have any questions? Thank you very much, gentlemen. It has been very helpful.

Now, when they have cleared the table we will have presentations from a number of individuals, some representing municipalities, Mr. Rick Martel, I believe, is up first.

MS. JOHNSON: Mr. Chair, while we have a short break I would like to add a few more exhibits. The table that Mr. Koroluk referred to this morning will be exhibit 55, and Mr. Betcher's information that he just presented will be number 56.

(RICHARD MARTEL, SWORN)

THE CHAIRMAN: Thank you.

MR. MARTEL: Thank you, Mr. Chairman, Commissioners, ladies and gentlemen. It gives me pleasure today to make this presentation to you. I'm speaking for and on behalf of the Town of Altona, the RM of Rhineland, the Town of Plum Coulee and the Town of Gretna. At one point or another today they were all present. I'm going to refrain from making introductions because I'm not sure who is all still here, and that way I won't miss somebody.

To understand water in the Red River Valley you need to have a brief history of the lower Red River Valley Water Commission. Acute

shortages of water west of the Red River to the Pembina Hills Escarpment and damage of spring flooding led to many meetings in the area in the 1940s and 1950s. 440 concerned citizens met at a mass meeting in Winkler, Manitoba, on December 5, 1955 to find a solution to this problem.

On December 13, 1956, the Red River Valley Development Association, the predecessor to the Lower Red River Valley Water Commission, was formed in Morris, Manitoba. In January, the board met and the executive was instructed to do three things. And these are interesting because they have come up, all three of them, here in the last two days. They were instructed to meet with the Winnipeg Water District Board to discuss a pipeline from Winnipeg to the main communities in the valley. That was the first attempt to make an agreement with Winnipeg -- that was over 50 years ago -- to ask the government to do an engineering study of a pipeline from Winnipeg, and to obtain government support for a dam on the Pembina River for flood control, water irrigation. And in August 1957 a report from Arthur D. Little on the Lower Red River Valley Water System was received and studied by the board.

In November of 1957 the board met with representatives of Manitoba government and presented them with a brief that included four points.

Number one, a water authority to be set up by the government for the valley, and an engineering study to begin immediately.

Number two, that we recommend the construction of the Stephenfield dam.

Three, that we recommend the development on the Pembina dam.

And number 4, that we recommend the construction of a pipeline grid, connecting all of the towns and villages in the valley.

It is interesting to note that of those four, one is completed 50 years later.

The Water Supply Districts Act was passed in April 1958, and the Lower Red River Valley Water Commission was formed with 19 municipality members, who today are all members of the Pembina Valley Water Co-op.

By February of 1959, the government agreed to establish the public utility which would sell water to the water districts constructed. The Commission requested the government to start

negotiations with the City of Neche, North Dakota in mid April, 1959 that lead to an agreement to supply water to Gretna and Altona by pipeline.

In August 1959 the Manitoba Water Services Board Act was passed. And in 1960 at a meeting in Winkler the executive instructed the Commission to take a more positive action to bring water storage in the valley to the attention of the government. The executive recommended the following:

In the southern section; they consider the dam on the Roseau River. Number 2, consideration of the dam on the Pembina River in Canada. And number 3, design and estimate a pipeline to serve the towns in the southern section.

In the northern section; consideration of the dam on the Boyne River; consideration of a dam on the Assiniboine River; and design and estimate of a pipeline to serve the towns in the northern section.

In December of 1960 the executive dealt with the dam on the Boyne River, a water pipeline to Winkler and Plum Coulee, and dams on the Pembina and Roseau Rivers. By April 1961 the

Town of Morden had requested another dam on the Dead Horse Creek, because they felt that any water taken out of the reserve for use downstream would endanger their own supply. Later in May, test wells were being drilled at Winkler and an engineering study of the Winkler distribution system was complete, and that would be the aquifer.

In October of the same year Mr. Griffiths stated that the PFRA was now agreed that they would build the Stephenfield dam. This project would be under construction by the summer of 1980. He also reported on the requested dams in Morris, Roseau River, and Tobacco Creek, as well as the status of the Morden, Winkler and Plum Coulee water supply.

By April of 1965 St. Jean and Letellier also accepted the proposal from the Water Supply Board and approved construction of a distribution centre. Then the mayor of Gretna, Peter Loewen, also reported the construction of a pipeline to Gretna and Neche had started, and that the Canadian government will sell water to Neche, water from Neche to the U.S. Federal governments, which was rather unique at the time; shipped it to

Canada and turned around and shipped it right back to customs so they would have access to water.

Ring dykes around Emerson, Morris and St. Jean were approved by November of 1966 to an elevation of the 1950 flood levels. And the government agreed to contribute up to $500 of protection of farm buildings, in Morris, Montcalm and MacDonald municipalities. 265 applications for such assistance were received.

At that time Mr. T.E. Weber also spoke at length on the water problems throughout the area, replying to a number of questions from commissioners.

By December of 1967 the Tobacco Creek project was well underway, as were the drainage and dyking projects throughout the valley. Discussions were held on the Aux Marais River and the Gretna drain, and the problems this was causing on both sides of border. Two years later a report of additional ground water supplies had been found in the Winkler area and additional storage had to be created at Neche by raising the dam, hoping these supplies would be ample until the Pembina project was built. Petitions were received from the farmers in the Aux Marias area

in June of 1978 in regards to perennial flooding, and the R.S. McKenzie report on the Carman flood, and asked the Commission to support the resolution to the government for the diversion of the Boyne River around Carman. Two years later T.E. Weber reported that a committee had been set up to deal with water problems on the U.S. border near the Aux Marias, and other valley water problems were discussed.

Representatives of the RM of Pembina, the Villages of Manitou and LaRiviere attended and showed much interest in the briefs the Commission had made to Governments, and would support briefs urging the construction of the Pembina dam, and expressed concerns regarding drought in the area.

March 19, 1973 a brief presentation to the Manitoba Water Commission was done in Morden, urging construction of a dam on the Pembina River near Kaleida.

In April of 1973 the area was experiencing drought conditions and a letter was forwarded to Premier Schreyer requesting discussion on the Pembina River basin project as a last alternative whether the Commission would consider a dam on the Pembina on their own. By

January 1974, Mr. Weber also mentioned the problems of the Garrison dam diversion, and a presentation to the Honourable Sidney Green was prepared regarding the flooding along the U.S. border, and requesting the Canadian participation for the construction of the Pembelier dam.

In February 1975 more discussion was held on the Morden dam, Carman flood protection, Aux Marias, Buffalo Creek and the Roseau River projects. And by the fall of that year the Commission went on record in expressing their concerns and opposition to the Garrison Diversion project as presently envisioned.

Other matters discussed included the Pembelier dam, Dead Horse Creek, Carman flood protection, and Roseau River basin project. By the end of 1976 a resolution from Morden regarding a weir on the Morris River and further discussion and support on the Carman diversion from the Commission was expressed.

An agreement regarding the flood plain mapping was to be signed in Ottawa, and Morden members brought up the desire to have another dam built on Dead Horse Creek, and a Miami member expressed concerns about the wells running dry.

Discussion on the two dam proposal on the Pembina River was continued in April 1977. It was reported that Premier Lyon made the following remarks at a meeting in Miami, "When we form the next government, we will take steps to reactivate the Pembina project." By April of 1979 Tom Weber brought the Commission up to date on various projects in the commission area. These included the Pembina river dams, additional water storage at Dead Horse Creek, Aux Marais and Roseau River projects, Carman flood protection and Gretna.

A lengthy discussion ensued on the Carman Diversion, the Bryson project, Garrison dam, the pollution from the U.S. on the Red River, a study on providing water for Rosenfeld and other matters. By the end of June of that year, 34 local briefs were presented at a meeting in regards to the flooding on the Boyne River at Carman. There was also reports from six municipalities regarding the flooding west of Carman in the Rural Municipality of Dufferin, as well as flooding on both sides of the Red River along with a number of other commissioners spoke about flood damage in their area.

At a meeting in July of 1979 the

following concerns were discussed with Provincial Cabinet at the legislative building in Winnipeg. The request from the Town of Morden, Winkler, and RM of Stanley for a second dam on Dead Horse Creek; a diversion channel on the Boyne River, north of Carman; the Pembina River basin project, and flooding along the Red River. Briefs were presented to cabinet on these various concerns and lengthy discussions followed. In November of 1979 the executive met with members of the Provincial Cabinet again to review the various concerns and projects in the commission area.

In Carman the matter was being given the active consideration and a decision was to be made shortly. Mr. Ransom at that time said, "Our government has recognized that cost benefits may now have to have a ratio of one to one and that other non monetary benefits also have to be taken into consideration."

The Red River flooding problem on the Red cannot be dealt with independently by only Manitoba, as much of the water originates in the U.S. Discussions were held by the Premier and the Governors of North Dakota and Minnesota, and these discussions are still ongoing.

The Roseau River project which had been on the back burner by the U.S. government and no further activity of that has been reported until just the last couple of years.

The Pembelier dam, the Aux Marais and the South Buffalo have to be considered as one package and dealt between governments accordingly.

The government decided not to construct an upstream dam on Dead Horse Creek but to raise the existing dam on Lake Minnewasta, and this was in April of 1980. In October the Army Corp of Engineers looked at raising the height of the Pembelier dam which would back up water into Manitoba. Reported progress was made on the Morden dam. The Aux Marais and South Branch of the Buffalo Lake proposal was back on track. And discussions were held on the Carman diversion, the Garrison, the Emerson dykes, the Altona-Gretna-Rhineland water supply as well. Location of the water treatment plants for the towns along the Red River was brought up for discussion.

In the 1980's planning proceeded on the regional water supply project, and over time came to be the Pembina Valley Water Co-op made up

of all of the original members of the Lower Red River Valley Water Commission, and we stand before you today requesting badly needed new resources for water for supply for south central Manitoba.

This is a brief historical report on what has happened. I have left the Commission with a written report that was done by the Lower Red River Valley Water Commission that details this and many more. The point to be made is we have looked at many options many times, over and over again. That's the end of my report. Thank you.

THE CHAIRMAN: Thank you very much, Mr. Martel. Any questions? Thank you. Next up, Bill Whitehead. Please state your name for the record.

(BILL WHITEHEAD, SWORN)

THE CHAIRMAN: Proceed.

MR. WHITEHEAD: Thank you, Mr. Chair and members of the Clean Environment Commission, panel, ladies and gentlemen. My name is Bill Whitehead. I'm the Reeve of the Rural Municipality of Roland. As council's representative, I wish to go on record in support of the Pembina Valley Water Co-op Sandilands

project, which will provide a supplementary source of water for the Pembina Valley region.

The Rural Municipality of Roland is a long term member of the Pembina Valley Water Co-op, and I have represented the municipality on the Co-op board since 1995, including the past six years as an executive board member. I have seen the Co-op grow from studying the feasibility of a treated water pipeline to being the main supplier of treated water to a growing region. I feel that the Co-op has maintained an open policy, welcoming new members and striving to accommodate their needs for a water supply.

The Rural Municipality of Roland is 15 miles wide by 12 miles north and south and that equals 5 townships. We service approximately 1000 people. There are a few farm yards in the southwest corner of our municipality that have good water wells, as they are located over top of the Winkler aquifer. At present the Winkler aquifer is at the highest level of the past 20 years. All other areas in our municipality either do not support the installation of wells, or they are very mineralized and not suitable for drinking water.

Residents before were required cisterns and had to haul their water, or have it hauled in from outside of our municipality. In 1979 the Rural Municipality of Roland obtained a Water Rights Licence on the Winkler aquifer. This allowed our municipality to install a water distribution system in the Village of Roland and several small rural distribution systems. In 2003, the Manitoba government terminated that licence, forcing the municipality to obtain an alternate water source. Given our municipality's location, at the centre of the Co-op area, water supply from the Pembina Valley Water Co-op was obviously the best fit for us.

The networking of Pembina Valley Water Co-op lines throughout the municipality has allowed us to service all of our ratepayers as well. We have approximately 100 miles of water distribution line throughout the municipality. All water comsumption is metered at a charge of $7.50 per thousand gallons. Our water is supplied by the Morris water treatment plant, which is a state of the art facility, producing the best water quality technology allows.

Residents are happy with the water

supply and quality. The majority of our water usage is household. There is no wet industry in our municipality. We have a few livestock farms; some of which have alternate water ponds. We have very little wasteland in the municipality, the majority of it is arable and is in grain production. I would like to thank the Commission for allowing me the opportunity it address it.

THE CHAIRMAN: Thank you very much. Ms. Kennedy Courcelles.

(MS. CHERYL KENNEDY COURCELLES, SWORN)

MS. KENNEDY-COURCELLES: Before I start, if I could just make a comment that some of the Hutterite colonies, in order to keep the birds out of their water supplies, what they use is fishing line. So the idea of an impoundment going on the Red River at Morris, and the whole idea of the birds, well there is easy solutions to that. And the Americans with the Canadian geese going down south, they have been using just fishing line across the water for years. So that one doesn't really hold anything in my opinion.

And as far as stagnant water, well, I would think it would make good sense that that impoundment would have a constant, steady flow in

it, that you wouldn't leave it as stagnant water. And as a citizen that gets artificially flooded by the operations of the flood gate yearly -- boy, those of us that are upstream, downstream, depending on where you are, we sure would like the idea of the Pembina Valley Water Co-op using a larger impoundment area to help you out with your water needs, that would be solving, you know a couple of problems all at once. So there is alternatives to that. But anyway, thank you.

Dear Commissioners and fellow Manitobans and Canadians, it is with great sadness that I, Cheryl Kennedy Courcelles, of St. Adolphe, Manitoba, am here today on behalf of those who do not have a voice, but have to bear the weight of our societal choices and decisions. I'm here on behalf of our future generations, our wildlife, natural resources and spirit energy. The intentions behind our actions are being closely felt by mother earth, the animal kingdom and spirit energy. Society's continual misuse and lack of respect given to our natural resources, specifically water and wood energies, have left certain sections of Manitoba and Canada facing obvious negative repercussions, reflecting on our

societal choices in the first place. We would like to blame things on mother nature, but it is not so. It is good old cumulative adverse effects that time has run out on and it is now upon us. Drought, flooding, soil erosion, severe storms, water quality safety, disease control, emergency measures and endangered species are the global Canadian and Manitoba manifestations of our human actions in unbalancing our natural resources. This is exactly what we are experiencing in southern Manitoba, and we need to have a good honest look at why we are experiencing these droughts, floods, soil and water quality issues in the first place. To set up systems and pipelines, et cetera, to tap into one of Canada's most precious, pristine aquifer is like having the cart before the horse, or it is like asking permission to rob the candy store.

I have some questions that are perhaps unanswered still and some food for thought. Number one; we really don't know what we are sitting on top of with this and other aquifers. The past studies that have been done have been vague and not specific to this case or for the future urban, industrial and agricultural uses and

intentions of the co-op area. Scientific and traditional research knowledge is incomplete and understudied for such a precedent proposal, and its possible negative repercussions.

Lester R. Brown in his book, "Rescuing a planet under stress and a civilization in trouble" states that in other countries like China and India who have decided to draw upon their aquifers to attempt to meet the demands of growing populations, food capacity and increased standard of living, after a short 50 years hit the ultimate brick wall. Their aquifers have and are running dry with no hope of recharging. No one thought of this. They had no sustainable vision. And we ask and learn today in hindsight. The countries, Mr. Brown states, like South Korea, that have recognized and implemented programs that have put back the grasslands and forests which help aid in ending droughts, soil erosion and air pollution, are the countries to notice the positive changes to their natural resources and for us to learn from.

How much worse does it have to get down here in southern Manitoba with floods, soil erosion and decreased water tables and water

quality like Lake Winnipeg before we start implementing similar restoration programs to aid and restore the balance to your environment?

Number 4, development and implement systems like Dr. David Brooks, "The Soft Path For Water." These Canadian leaders have taken the time and resources to help develop systems for us citizens to get our water resources back into a healthy, sustainable state. We, the people, the mother nature, eco-systems, spirit energy and the wildlife proudly endorse these ideas from The Soft Path For Water, and like programs providing alternative methods of restoring, providing and protecting our natural resources, specifically our water. We do not need to rewrite the book, the knowledge is here in Canada, in this province and around the globe. You know it already inside of you, water is sacred. We need to reduce, re-use and recycle. And we can do a better job this time.

Number 5, if water and wood energy was given a fair cost basis analysis, this hearing wouldn't even be taking place today.

Number 6, if we tap into this virgin aquifer and it starts draining rivers, streams

lakes, wetlands, wells and other aquifers and recharge areas, what is our backup plan then? How do we put this water back? How long will it take to refill five rivers? Who pays for this and at what cost to all life forms? What about the new wells that provides homes, their geothermal heating systems that have suddenly gone dry, who is going to pay for their heating? What about all of the water needed to feed and sustain all existing and future water rights of those that this Sandilands aquifer directly affects? Who and how would we pay for this loss of water table and water resources? Who would pay for the drinking water losses or the testing that's going to be required? What about all of the existing intensified livestock operations in southern Manitoba and the potential 2.5 million hogs more to come, has a safe and steady water supply been factored into the final dollars and cents for these mega projects? As well as Manitoba Hydro's future commitments, is it based on water volumes too.

Water energy and ripple effects is not new science, but we as a society are learning a new respect for its power over our well-being.

What would this proposal's effects be on wildlife if the water tables drop and the rivers and stream dry up, what is our back up plan for them? What is our emergency plan for our fish and our other endangered species?

Number 7, who would be financially responsible for any such events or combination of events if they would happen? Will the Pembina Valley Water Co-op pay for all or any adverse effects that could stem the water quality and quantity all over this province, extending into the States and into Saskatchewan as this aquifer is known to do?

Number 8, if Winnipeg and surrounding areas added up to around 800,000 people, and the proposed hog processing plant is planning on setting up shop on the top of City of Winnipeg's main water supply from Shoal Lake, and something happens and there is an adverse affect now to the main line of water, what would the City of Winnipeg do for its water supply? And can the City afford a decline or changes in their water tables? And what about the Manitoba Floodway Authority and all of its operations and the aquifers that it sits on top of, how will it be

affected and, again, who is going to be responsible?

Number 9, how much water is needed by the Co-op for human consumption, waste management, agricultural and industrial usage?

Number 10, should industry be set up or funded in areas of the province that can not locally furnish its natural resource needs?

Number 11, what does the International Joint Commission have to state regarding the Pembina Valley Water Co-op's proposal and the possibility of reductions in water tables, water quality and sustainability across the border?

Number 12, have the First Nations and Aboriginal people and all of their treaties been settled of which this aquifer and its ripple effects apply to? Is there any money to be made from this proposal? Is the First Nations part of this economic gain, or are they part of the natural resource burden?

Number 13, does the switch get turned off when the water levels, erosion, flooding, drought occurs in the affected areas? Who is responsible for the health and well-being of the Seine River, the Rat River, the Brokenhead, Cooks

Creek and the Whitemouth River?

Number 14, what could happen to the international Red River and its tributary and recharge areas that run into the Red River, who will pay for the effects to the Red River, the co-op, our taxes, from Emergency Measures or Disaster Financial Assistance, or just who?

Number 15, who will pay for the stress related conditions in the human bodies and the infrastructure that shall immediately follow after any big changes happens to our rural and urban water supplies?

Number 16, the RM of Richot drilled about 130 feet deep at the CPR tracks at Ste. Agathe or around Ste. Agathe and hit water that is cleaner at 78 feet than the Artesian well water that they get from New Bothwell. Has the Pembina Valley Water Co-op drilled along this same vein?

Number 17, we strongly support the Manitoba Water Caucus and the Manitoba Eco-networks' positions and submissions on this proposal. Is any part of the proposal based on fossil aquifers, as we are told once they are depleted, it is gone forever.

Number 18, what percentage of the

co-op area has been or is designated as having water storage capabilities, such as wildlands, wetlands, grasslands, et cetera?

Number 19, what has the Pembina Valley Water Co-op done to minimize water and waste management and supply needs and usages?

20, are composing toilets and recycling gray water part of the co-op's action plan or current efforts to reduce consumption? And what has industry done to reduce their needs?

21, what percentage of water usage goes to intensified livestock operations in the co-op area for feed and for waste management and who pays for that? Has drip irrigation been looked into for this area, or other forms of natural irrigation? And again, who pays for the irrigation water?

22, is the Pembina Valley Water Co-op currently collecting rain water or snow? Are cisterns being utilized by anybody?

23, is watering the grass banned in the co-op area? Is the area using local Provincial/Federal incentive programs, education and marketing programs to reduce, re-use and recycle water?

24, are the people of Manitoba and Canada aware that mining of groundwater via aquifers has and is undermining the future of many countries around the world? And can we learn from other countries actions?

25, if we base high grain productivity or high intensive livestock productivity on removing the groundwater to fulfill these needs, when the groundwater drys up, which seems to be by world standards in about 50 years, what shall we do then and how will we feed ourselves? What is the backup plan?

26, what about our Provincial Waters Protections Act, what is it doing for us?

27, is urban water recycling cheaper than new infrastructures?

28, the days of using water to dispose of our waste is coming to an end all over the world, as disease and water contamination go hand-in-hand, and we are finally realizing the adverse effects it is having on our overall health and sustainability. Our own toxic blue-green Lake Winnipeg is a perfect example of our core modern day practices. What plans does the area have to keep up with the times?

29, how many trees has the Pembina Valley Water Co-op planted to help restore the balance to the area?

Number 30, what are the other Federal and Provincial departments stating about this proposal, such as Ducks Unlimited, the First Nations and Aboriginal people, Fisheries and Oceans, Cultural and Tourism, Manitoba Hydro and so on?

The days of dropped decisions are over when it comes to Natural Resources and sustainability. Our collective actions have lead us to a whole new awareness in respect for water and waste management systems. We will witness more changes in the next 10 to 20 years than we have seen for centuries before. This is the new growth industry and Canadians shall discover the solutions and answers to our water crisis problems. We have no choice but to move forward in a more green and harmonious action plan for our natural resources. It is our responsibility to get our eco-systems back into harmony as our forefathers had passed on to us. When we restore this balance, no living being shall ever have a water shortage, as originally intended and

designed by mother earth.

We the people of the heart of the continent owe it to ourselves and to this nation to bring in water experts from all over Canada to accurately and currently study this precious Canadian water gem, Manitoba's very own acres of diamonds. Our communities and eco-systems need to know that water is underneath them.

Abundance flows freely and clearly to those that are in harmony and gratitude with their actions and intentions with mother nature's. But if our actions remain out of balance, then abundance shall be taken away from society, as we are experiencing in Manitoba in all of our water emergencies in this province in this last decade, including this year of 2006.

The Pembina Valley Water Co-op hearing is only the tip of the iceberg of all of the exciting but challenging water protection measures, rights, education, industry and departments to follow. Once again Manitoba shall lead in its intentions and expectations of our provincial, national and global responsibilities on water sustainability, education and leadership.

Everything is for a higher reason.

Manitoba is up for this challenge, we can do this. Harmony and abundance is our Canadian heritage and our responsibility. Let us protect and restore all for one and one for all.

I thank you for your time and attention to raise some questions, expectations and intentions on behalf of the people, water and wood energy, animal kingdom, eco-systems, First Nations and treaty rights, and most importantly, our future generation's sustainability. Thank you.

THE CHAIRMAN: Thank you, Ms. Kennedy-Courcelles.

MS. KENNEDY-COURCELLES: Regarding Mr. Hugh Arkley?

THE CHAIRMAN: Is it a brief presentation?

MS. KENNEDY-COURCELLES: It is about two paragraphs.

THE CHAIRMAN: Okay, you can read it in now. Just explain what it is.

MS. KENNEDY-COURCELLES: So Mr. Hugh Arkley was here as a registered participant -- person, registered person on Tuesday, and he has a comment.

"Dear Clean Environment Commission:
As a registered participant I was unable to attend the Pembina Valley Water Co-op hearings during the day, I was able to attend on November 7th. I have also read material relating to its plan to pipe water from Sandilands to its members. The single most striking feature of this scheme is the cavalier attitude that prevails regarding conservation and demand management. The pursuit of these inevitable goals is embodied in much more than increasing the price for water. This is simply a form of inflation for which business, professionals and individuals will compensate by raising their prices, fees and salary demands.
Real conservation and demand management is much more proactive and aggressive. It was clear on November 7th that the Pembina Valley Water Co-op will not be proactive or aggressive. Further proof is in the

applicant's failure to comply with your recommendation number one from 1994. The Pembina Valley Water Co-op is trying to grow its way into sustainability. This is an oxymoron. It can not be done. The Clean Environment Commission should dismiss the application from the Pembina Valley Water Co-op just as the Pembina Valley Co-op dismissed your 1994 recommendation. Yours truly, C. Hugh Arkley, Box 126R, Dugald, Manitoba."

THE CHAIRMAN: Thank you very much.

MS. JOHNSON: Cheryl, could I have that copy when you are finished?

THE CHAIRMAN: Mr. Claude Moquin. Please, state your name for the record.

(CLAUDE MOQUIN: SWORN)

MR. MOQUIN: Mr. Chairman, members of the board, ladies and gentlemen, the Rural Municipality of La Broquerie herewith registers several concerns on the proposal of the Pembina Valley Water Co-op Inc. The RM of La Broquerie recognizes that the residents of the Pembina Valley should have a stable and secure water

supply. However the municipality has concerns and would like answers on the following list of issues.

Number 1; the proposal is entitled Supplemental Groundwater Supply. Is it -- is the pipeline going to be an open tap and potentially turn into a prime source of water for the PVWC? We feel strongly that certain limits need to be discussed prior to the issuance of licence. What limits will be placed on the environmental licence, number of days of operation per year or maximum volumes per year?

Number 2; what is the current volume used by the residents supplied by the PVWC, and what are the calculations of future demand?

Number 3; PVWC has indicated that approximately 50 per cent of the water they require is for agricultural purposes. What significant effort has been made within their watersheds to create retention areas where that water is then used for agricultural production when required?

Number 4; if the groundwater staff from Manitoba Water Stewardship don't actually know how much water is within the aquifer and what

effects pumping more water out under drought conditions may have on all residents, farm operations, and businesses in the Steinbach area, is the province adhering to its principles of sustainable development and considering this development within the definition of sustainable?

Number 5; is it possible that the extraction of water from the aquifer would affect the volume usage of the current users? In other words, what we have taken for granted as an adequate supply of water for Steinbach and surrounding areas could become limited and affect our way of life. If the licence is issued, it will essentially set precedents for allowing other large users to extract water from this aquifer. What does the province have in place to protect the aquifer from becoming over-allocated and potentially resulting in serious long-term consequences?

Number 7; does Manitoba Conservation of Water Stewardship have any plans to charge a levy to groundwater users within the province? Could a groundwater protection fund be set up to be used by water management organizations like conservation districts to assist with groundwater

protection initiatives, such as sealing abandoned wells, creating water storage retention areas, and protecting groundwater recharge areas?

Number 8; considering that the province has announced a committee to developing source water protection plans for Southeast Manitoba, would it be too much to request that people hooked up to the PVWC network contribute in some way towards the implementation of the plan?

In closing, the RM of La Broquerie would like to object to the project until answers are given and guarantees or assurances that the aquifer will not be depleted for Southeast Manitoba. I thank you for the opportunity to make a presentation today.

THE CHAIRMAN: Thank you, Mr. Moquin. Marvin Hovorka.

(MARVIN HOVORKA: SWORN)

MR. HOVORKA: Good afternoon, Commission members, proponents, ladies and gentlemen. I'm Marvin Hovorka, Reeve of the RM of Piney. We have two members I believe here today; Earl Sawaka and Alana Schoenback, colleagues and council members.

One of the presenters in favour of

this proposal has stated,

"As leaders of our municipalities, we have a responsibility and obligation to our ratepayers to provide them with clean drinking water."

We too have the same responsibilities.

The RM of Piney is in the extreme southeastern portion of the Province of Manitoba. It is made up of 912 square miles of forest and Crown land, agricultural land, wetlands, Sundown, Carrick, Piney, Sprague, and St. Labre bogs, Spurwoods Wildlife Management area, Cathills Provincial Forest, Wampum Provincial Forest, Northwest Angle Provincial Forest, Sandilands Provincial Forest, the Whitemouth Lake Island Ecological Reserve, Watson P. Davidson Wildlife Management Area. And out of the 912 square miles in the RM of Piney, only 24 per cent is privately owned, 6 per cent is municipal, and the balance of 70 per cent is Provincial Crown lands.

The municipality is an area of forest, small lakes and ponds, streams, springs, pockets of agricultural lands, and is part of the boreal forest. The historical significance of the area is built around forest, agricultural and wildlife.

The RM of Piney is in the process of creating a development plan and subsequent zoning. The development of the municipal plan includes the designation of water quality management zones. The municipality has concerns due to the diverse eco-system of our area.

We have expressed our concerns to the Water Stewardship Department since its creation with Mr. Ashton as Minister. Our request for a comprehensive study, including the mapping and designation of the sensitivity zones, aquifers and their capabilities was received with enthusiasm and a promise to complete within three to six months. Three years have past since that time to no avail.

The RM of Piney, being a major source of water resources, has two water plants operating successfully and a third pending. The 1,700 residents of RM of Piney are concerned about the domestic water quality, supply, and the possible impact due to intensive livestock development, the sale and processing of water, and increased demand for water by other communities and organizations such as Pembina Valley Co-op.

Our residents presently enjoy some of

the best drinking water in the world. There are no water treatment plants or other water related infrastructure present. In fact, the only source of the potable water for our residents comes from landowners and from the landowners' private wells. There are no other alternatives, and up until now there has been no need to consider alternative sources. The population certainly could not financially afford the infrastructure costs of a complicated alternative freshwater system.

Because the recharge capacity of the Sandilands aquifer is unknown by the proponents or by the Province of Manitoba, we believe that the Pembina Valley proposal threatens the water quality and thus the way of life of our residents. We know that the province has already granted at least three water rights licences to the three bottling plants located in the RM. We also know of numerous licences granted to a number of livestock operations located within our boundaries, yet no one seems to know how much water is available for the taking. With all of the scientific studies and research that has supposedly been conducted, no one from Pembina Valley or the Province of Manitoba is willing to

guarantee that local wells in the RM of Piney will not be adversely affected by this project.

Other concerns have come up regarding natural wetlands and eco-systems. Who is willing to guarantee that these won't be negatively affected? And it is not acceptable to push this proposal through and worry about the implications later on. Self monitoring is not acceptable.

It was also mentioned by another presenter that,

> "If this project goes forward, it sets a precedent that water is available for the taking."

I asked the question, who is, who will be asking for water next, and how much will they want? And it will be another guess as to how much the aquifer can sustain.

Dr. Brooks mentioned water management needs to be a public policy decision, not a political decision. And water has a value, it belongs to the public and not to the person that pumps it out.

Conservation practices are not in the best financial interest of Pembina Valley, especially with a substantial return on the

investment. We would like to ask who stands to gain the most from this proposal, the public or the Cooperative?

Pembina Valley states that an interrupted three day testing period is sufficient to predict the drawdown in the water in the area. We are also told that the cone extended to the wetlands of the Bedford Ridge. What will happen if the extraction goes at 50 litres per second, 24 hours a day, seven days a week, et cetera?

Pembina Valley says there is,

"...enough information now to make a decision and that the research will be done later, hopefully with others contributing."

Does this sound adequate to you? In our opinion it seems to be putting the cart before the horse.

The RM of Piney bylaw which prohibits the bulk removal of water by tanker trucks or pipelines is not a new idea. According to a news release from the Government of Canada on February 10, 1999, concerning the strategy launched to prohibit the bulk removal of Canadian water, including water for export, they strongly cautioned that,

"Water is vital to eco-systems, human health, agriculture and industry. Bulk water removals may have cumulative effects on watersheds. Inter-basin transfers result in the introduction of non-native microorganisms and exotic species and the alteration of natural eco-systems and changes in water flows and tables. Climate change implications have heighten concerns about water removal."

We have simply followed their lead. The RM of Piney and our legal counsel believe that we have the right and responsibility, through the Municipal Act as determined by the Supreme Court of Canada, Canada's decision in Spraytech versus Hudson to protect our citizens.

We recognize the importance of water as a resource that we are richly endowed with and envied by our municipal and city neighbors. Water is both a key to environmental health, as well as being a scarce commodity having intrinsic value that must be managed in a sustainable way.

Some of the questions or concerns we

as council have:

1: How can the Clean Environment Commission make a valid recommendation to the Minister of Conservation without having a complete understanding of groundwater sensitivity areas adjacent to aquifers, and the impact of removing water in undetermined volumes?

2: Should this project take place, what reason would there be to deny additional volumes to be licensed? It is our understanding that a proposal has never been rejected by the Province of Manitoba since the Environment Act was enacted in 1988.

3: Who will guarantee, A, that the residents of Sandilands and surrounding areas do not experience a shortage of water in their water systems? And who will guarantee, B, that the municipality and other resource users will not experience an adverse effect in the surrounding eco-systems such as wetlands, forest and fauna?

This specific aquifer is at the confluence of five watersheds, each with unique characteristics. However, the proponent's proposal understandably isolates their requests and concerns to the aquifer and the well site. We

have to deal with the responsibility with the bigger picture and the long-term effect on the municipality.

How much information does the Water Stewardship and the Conservation departments have on this most sensitive water recharge area? Has there been a study extensive enough to justify a decision? The province has a responsibility to the general public, the Clean Environment Commission, the proponent here, Pembina Valley, and the RM of Piney to undertake a comprehensive study of the Sandilands/Bedford aquifer and related areas prior to issuing any licence. The RM of Piney insists that the mapping of water sensitivity zones and aquifers be included in this study.

We respectfully request the support of the Clean Environment Commission, Pembina Valley Water Cooperative, and all of the participants in this hearing today to accomplish this task. It would be irresponsible for the Province of Manitoba to allow this project to proceed without these proper studies being completed. Thank you.

THE CHAIRMAN: Thank you, Mr. Hovorka. Did you have a question or two of clarification,

Mr. Schellenberg?

MR. SHELLENBERG: Thank you, Mr. Chairman. Thank you for that presentation, and certainly a lot of your concerns are duly noted.

The question about monitoring, where you state self-monitoring is not acceptable, we agree. And self-monitoring would not be what would be taking place here. There has been a fairly extensive monitoring plan that has been recommended here and it will be looked at.

The other point that I wanted to make was that you state that conservation practices are not in the best financial interests of the PVWC, especially with a substantial return on investment. You are dealing with a non-profit corporation. We don't have a return on investment, nor do we have profits at the end of day. In our office we have got less staff than you have in yours, we actually have two people working there. If and when we have any money left, it goes back to the municipal members. So the Co-op has nothing to gain. As a matter of fact, we have a great deal to gain from conservation because it keeps our costs down.

Those were some of the comments I was going to quickly make, and just to add that we agree with you that water is both a key to environmental health, as well as being a scarce commodity having intrinsic value that must be managed in a sustainable way. And we agree.

MR. HOVORKA: Thank you, I appreciate your comments.

THE CHAIRMAN: Patrick Watson.

(PATRICK WATSON: SWORN)

MR. WATSON: Good afternoon, Mr. Chairman, members of the panel, hearing participants and ladies and gentlemen. My name is Patrick Watson, I'm the manager of the Seine/Rat River Conservation District. I would like to thank you for this opportunity to present on behalf of the Seine/Rat River Conservation districts and the residents of Steinbach and surrounding areas, some concerns with the project under discussion and some suggestions for the CEC panel to consider prior to making their final recommendations to the Conservation and Manitoba Water Stewardship.

So what is actually under review? In the letter sent to the Director of Environmental

Approvals at Manitoba Conservation dated December 12, 2005 from UMA Engineering, it states,

> "The Pembina Valley Water Co-op's current water supply may not be able to provide the required volumes of water during period of drought, and in order to address this concern, the Water Co-op is proposing to construct a groundwater supply system within the Sandilands Provincial Forest."

Somehow between this time, the time this application letter was submitted, and Tuesday, November 7, the water co-op has changed their request. They now seem to want the additional water to supplement their existing supplies irregardless of what is occurring within their area and to better prepare themselves for anticipated population growth and development.

We have some serious concerns about the Water Co-op's long term plan, also known by many as the hidden agenda. During the very limited and relatively ineffective public consultations that Mr. Schellenberg undertook in March of 2005, he verbally promised the RM of Stuartburn, the RM of Hanover, RM of De Salaberry

and the RM of Franklin that the Water Co-op would make some of their pipeline water available, of course, at the wholesale price paid by the municipal members.

The point here is that while the existing Pembina Valley Water Co-op distribution members claimed to be concerned about securing new sources of potable water, Mr. Schellenberg was already trying to drum up some new business and expand the Co-op's distribution network.

If what is really under review here is the question of should the Pembina Valley Water Co-op be allowed, licensed to take water from the proposed Sandilands well in order to reduce the local area risks of water shortage during times of serious drought and emergency, I think most people would probably say yes. There are likely many people in this room, or other people who have heard about the project in the media that have friends, relatives, or business associates living in the Pembina Valley region and, of course, want to see them thrive and prosper. In general, it is fine and dandy to respect the desire of people to build a community, but surely not if it comes at a cost to others.

With all due respect to Mr. Schellenberg, one has to be completely naive to believe his statement that he will agree to turning off the tap if there is some issues that arise or negative impacts that occur as a result of this water extraction project. We are talking about the Water Rights Act here. If a rural landowner dug a new drainage ditch without a water rights licence, and was told to fill it back in or block it because it was causing flooding and erosion problems downstream, and he apologized and promptly did what he was told, I'm quite sure it would be a first in Manitoba.

I will now list some suggestions for the CEC panel to consider in making their recommendations, with the assumption that the licences may actually be issued.

Number 1: In order to address the real issue of adding security to the Pembina Valley Water Co-op's existing water distribution system, pumping from the well should be limited to a maximum of 4 months per year, have a maximum allowable volume per year, and be operated only under drought or emergency situations as clearly defined by Manitoba Water Stewardship and agreed

upon by the RM of Piney, RM of Stuartburn, RM of La Broquerie and the RM of Hanover.

Relating to Mr. Schellenberg's comments that the pipeline should have a constant flow of water is interesting. It is, of course, possible to have no water in the pipeline at certain times. The argument that there must be a constant flow of water within the pipelines so that the water doesn't become stagnant and that it will meet the Canadian Drinking Water Quality Standards doesn't make sense. The water is all going to the Morris water treatment plant, and any quality or improvements are done there and can be done there as required, prior to further pipeline distribution.

Number 2: Pumps should be approved by Manitoba Water Stewardship and the Manitoba Water Services Board and only have the ability to pump the groundwater, once at ground level, at just slightly above the rate of 50 litres per second, not a much larger 150 litres plus per second pump initially set on the lower 50 litres per second flow rate.

For some additional information for the CEC panel relating to the actual pipeline, I

had a recent conversation with a water pump and pipeline installation professional, and he reported that the maximum flow rate a 12-inch PVC pipe similar to the one that Pembina Valley Water Co-op has mentioned they would install, should experience in the neighborhood of 2,200 U.S. gallons per minute or 140 litres per second. Since this pipeline has the actual potential to flow 140 litres per second, there should be some other restriction such as a 50 litres per second pump, in order to ensure that, if licensed, the project extraction rate adheres to the actual licensed limit.

Number 3: The Water Rights Licence should expire after ten years, after which time the water co-op would be required to participate in a full public review of the extraction activities and groundwater monitoring results. If the review proves to be entirely successful with no negative impacts, a ten year extension to the licence including any modifications could be issued. It seems to us that this is more in line with the guidelines provided in the Sustainable Developments Act. A life time licence should not be considered or issued.

Number 4: We understand that the Provincial groundwater management section has reviewed this proposal and obviously has no objections to the project. We have to trust that these professionals are capable of collecting and interpreting the information required to make a responsible decision in the best interests of all Manitobans. With that we have certain expectations that need to be addressed. Firstly, a scientifically approved number of continuous groundwater level monitoring stations should be monitored over the life span of the withdrawals. The technical aspects and design of the monitoring program should remain the responsibility of our groundwater branch at Manitoba Water Stewardship, while the long term monitoring expenses should be the responsibility of the Pembina Valley Water Co-op -- yes, a user pay system. We are not indicating that all water users in the province should be fee based, but because of the uniqueness of this project, new money for monitoring will be required.

We have already heard from Bob Betcher that there are issues when it comes to work that they have planned to do, that the budget just

isn't there.

The groundwater monitoring network needs to be fully established prior to the pumping and Manitoba Water Stewardship should not be simply expected to have the additional money available within their budget.

Secondly, all of the groundwater monitoring stations should be installed, including the collection of relevant baseline levels prior to the initial operation of the well.

And last but not least, that the Pembina Valley Water Co-op is required to create and distribute a progress report on all of the activities related to and details of the long term monitoring program prior to the initial operation of the well. The progress report should be approved by Manitoba Water Stewardship and subsequently distributed to all of the rural municipalities that were contacted during the initial public consultation process, the Seine/Rat River Conservation district, and be available on-line at the Manitoba Conservation website.

Number 5: The collection of the long term monitoring data should directly involve the Seine/Rat River Conservation District and be paid

for from an annual grant or fee from the Pembina Valley Water Co-op towards all of the related monitoring expenses. Manitoba Water Stewardship would provide technical support, related training and orientation, and would remain the primary owner of the data.

The Seine/Rat River Conservation District has a genuine interest in the impacts this project may have on existing users, and in the long-term protection and sustainability of the water resources within our watersheds. We feel that due to our location, operational structure, and resource management responsibilities to our district residents, it makes us the best suited organization to involve.

Number 6, who may actually be put at risk? Well, the City of Steinbach, they obtain all of their water from the ground. Population and development is increasing each year, water requirements are increasing each year, and Steinbach may eventually need to supplement their existing water source. If they do, it will likely be with groundwater.

Secondly, the livestock industry, we can't overlook the fact that there are currently

hundreds of millions of dollars invested in the livestock industry, hogs, dairies and poultry in Southeast Manitoba. They are all significant water users and play a huge role in the socioeconomic prosperity of Southeast Manitoba.

Thirdly, rural residential water users, there is not one rural resident that will be okay with having to spend a few thousand dollars to have a new well drilled or a new pump installed because their water source has changed to the point it is no longer usable. Even though the Pembina Valley Water Co-op says that the existing users are protected, there is no money available for this. You can bet that the Pembina Valley Water Co-op will argue for proof that their activities are the cause.

What guarantees do the local residents and existing water users have to ensure that the water co-op will provide mitigation if and when their existing groundwater sources or other things are negatively impacted? The Water Rights Act is not effective at protecting downstream residents. There are very, very few instances where drainage officers have enforced the Act. Once again, we will be supremely naive if we think that we are

okay simply because the situation may be a violation of the Water Rights Act. We are wondering who will make the decision as to a negative impact that has occurred. If the resident calls the Water Co-op and explains that they have had a strong and flowing well for the last 10, 20 or 60 years, which has now stopped flowing and requires a new pump, will the Water Co-op send a truck out the next day to mitigate the situation? No one here should feel any comfort thinking that they are protected by the Water Rights Act.

I would just like to reiterate to the panel that in no way is the Seine/Rat River Conservation District in favour of this Water Co-op project. The no pipeline option is still an option. We do believe in the sharing of the natural resources within our great province, but not if there are many unknowns, potentially unmanageable risks, or no opportunities for mitigation. If our senior Provincial representatives from Manitoba Conservation and Manitoba Water Stewardship do decide to approve these applications, are they adhering to the guidelines within the Sustainable Development Act

and the recently proclaimed Water Protection Act?

The purpose of the Water Protection Act is to provide for the protection and stewardship of Manitoba's water resources and aquatic eco-systems, recognizing the importance of applying scientific information in decision making processes about water. If we all agree that more information regarding the potential impacts of this groundwater extraction project can be obtained, albeit at time and expense, is there not a loss of trust that they have violated what is stated within their own Act?

In regards to the issue of providing potable water to areas within the Pembina Valley that do not have sufficient long-term and stable water supplies, as previously mentioned, if there are serious water shortage issues that exist, the province should assist with locating and providing potable water. But what about in low population and chronic water deficient areas? Is it worth the investment and worth the potential negative impacts on other areas? I can only hope that the people in charge of land use and planning understand that development should not be allowed everywhere and anywhere, especially if the cost of

providing potable water is outrageous.

I hope we all realize that if the Pembina Valley Water Co-op receives the licences that they are asking for and starts pumping the 50 litres per second, their appetite will absolutely continue to increase. What is essentially being licensed is a land use and population development plan, with water being the essential and most important ingredient.

Due to population growth and development statistics -- do the population growth and development statistics in the Pembina Valley region equate to allowing the pipeline project to proceed? Yes, they have good growth within their area, but what about Steinbach and surrounding communities? The population growth and development that members of the Water Co-op board have mentioned can be equally compared to the growth and development statistics for the City of Steinbach and surrounding communities.

At the Chamber of Commerce meeting yesterday in Steinbach, our mayor, Chris Goertzen's main focus during his presentation was on the tremendous growth and development presently occurring in Steinbach. There was no mention of

ensuring a long-term sustainable supply of potable water, no, because we tend to take it for granted. We are what some people say blessed with an abundant supply of fresh water. The thing that bothers a lot of people is the fact that just because we have water now doesn't mean that we will have it forever. If this project is licensed, it will then be very clear to everyone that the Steinbach and surrounding communities have more than enough water to go around.

When will the next application for groundwater be submitted? Probably a lot sooner than you think. I obtained some current information from the Census Canada website which stated the following: The City of Steinbach 1996 to 2001 population increase was plus 8.8 per cent. The current population of Steinbach is just under 16,000 people. The growth rate has continued at a steady increase since 2001 and is expected to continue with influx of immigrants and increasing business opportunities.

To the east, the RM of La Broquerie, 1996 to 2001 population change was a plus 16.1 per cent. The growth rate has remained relatively constant since 2001 and is expected to continue to

current growth level. Housing developments in the Marchand area are the highest they have ever been. Population in the 1996 was 2,493 and today, 2006, more than 3,300 people. The RM of Hanover, 1996 to 2001 population increase was plus 9.7. The growth rate has remained constant and is expected to continue at the current growth level. Population in 1996 was 9,833, and in 2006 is more than 12,500. So in comparison to some areas in the Pembina Valley region, you can see that the City of Steinbach and surrounding communities are generally both experiencing the same kind of growth and development.

I'm also curious to know why there are no Provincial or Federal funds being sought after in the development of this project related to addressing public health and environmental health issues? The mandate of Manitoba Water Services Board is to assist rural residents in developing safe and sustainable water supplies and ensure that public health and/or environmental concerns are alleviated. They also provide technical and financial assistance in this regard. It is surprising to us that the Manitoba Water Services Board, as far as we know, did not provide any

input or comments on this project and is not in attendance here today.

In summary, if these licences are issued for the project to proceed, it will be a great day for some Manitobans and a sad day for others. What we really are dealing with here is a "hope for the best" or "let's see if it will work" guessing game. And as far as I'm concerned, it just, it shouldn't be just "passed along." Thank you.

THE CHAIRMAN: Thank you very much. Gerry Barron. State your name for the record, please.

(Gerry BARRON: SWORN)

MR. BARRON: Good afternoon, Mr. Chairman, members of the Commission, ladies and gentlemen. My name is Gerry Barron and I'm the associate secretary of the Public Utilities Board. The intent of this presentation is to provide the Commission with information with respect to the boards' interest in the matter before you and to highlight issues which may be of interest to the Commission.

I was able to sit through most of the evidence the Commission heard on Tuesday and most

of it today as well, and accordingly will stray from the pre-filed paper only to the extent necessary to assist the Commission.

While the board has no specific comments regarding the Pembina Valley Water Co-op's proposal, other than to indicate general support for regional utilities, the board wants the Clean Environment Commission to be aware of three things; the role of the board with respect to municipal utilities, the potential for the Board to review future rate proposals of the Pembina Valley Water Co-op, and thirdly, the actions of the Board in the area of pursuing sustainability at the time of considering municipal rate applications.

There are several themes that I will touch upon, the first one being the Board's oversight role. The Board has limited oversight responsibilities for Manitoba water and sewer utilities, excepting for the City of Winnipeg where it has no jurisdiction. In this capacity, and among other related matters, the Board receives applications for revised water and sewer rates. In assessing and deciding upon these applications, the Board monitors utility's

financial results considering the broader context.

As the Board understands it, the Pembina Valley Water Co-op's mandate is to build and operate in a sustainable manner a wholesale regional water supply system meeting the requirements of its members. The members are customers of the Pembina Valley Water Co-op or municipal water and sewer utilities, all regulated by the Board.

To date the Board has not involved itself in the affairs of the Pembina Valley Water Co-op. Going forward it is considering limited involvement as the rates set by the Pembina Valley Water Cooperative have and are becoming important factors in the rate applications to the Board filed by its members.

The next theme is how the application before the Commission affects the Board. The application before you involves a development of the supplemental water supply to member municipalities by means of transporting water a significant distance. The Board defers to the Commission the consideration of the effect, if any, on the availability of a water supply now or in the future for other municipal water utilities.

If this is a possibility, the potential impact needs to be carefully considered.

Now, I heard from the Pembina Valley Water Cooperative Tuesday and again today that this is a concern and has been considered.

Project costs will likely be significant and could result in higher rates for the municipal utility customers served by the Pembina Valley Water Cooperative. The Pembina Valley Water Cooperative charges its member utilities a wholesale rate for water with the cost reflected in the rates of the member utilities, rates which are subject to the applications to the Board.

Here again the Commission heard from the Cooperative on this matter as well, and the Pembina Valley Water Cooperative advised that the per cubic metre charge will not change as a direct result of this proposal before the Commission.

The decision to seek approval to pass on Pembina Valley Water Cooperative cost increases through an application to the Board is made by the municipality. To date the Board has treated these cost increases as being the control of the individual municipality and has allowed the

increase to be reflected in rates. The Board has adopted a formulated approach in considering pass-through rate applications and has not required rate studies or looked through the operations and the costs of the Pembina Valley Water Cooperative. That said, the Board requires municipal utilities to provide notice to the ratepayers as to the rate changes and their causes.

On page 4 and 5 of the proposal before you, there is reference to potentially building a water treatment facility and supplying "water to communities and rural municipalities along the way."

Now, again I have heard Mr. Schellenberg today say that will be looked at on a case by case basis. These are new utilities, this action will require applications to the Public Utilities Board.

On another theme, the jurisdiction over the municipal water and sewer utilities, the Board has jurisdiction. The Board's jurisdiction is limited to the rates charged and the approval of operating deficits, though in the review process qualitative matters are taken into

account. That said, the management of water and sewer utilities falls exclusively to the municipalities. Issues of water supply and safe sewer discharge are reviewed by other government agencies and are not matters that the Board directly oversees, though it takes an interest in them as rates, without the context of the service, lacks substance.

Capital requirements, requiring large capital outlays of debentures falls within the jurisdiction of the Municipal Board, though rate increases approved by our Board often are required to support such actions.

Another theme, Mr. Chairman, is the Sustainable Development Act. Having said all of this, there is another dimension to the Board's involvement with municipal utilities. In carrying out its mandate concerning rates and service, the Board is mindful of its own and the utilities' responsibilities under the Sustainable Development Act. Accordingly, the Board has taken a significant interest in matters of water quality, sewage treatment, and the sustainability of operation.

The Board shares the desire to ensure

the citizens of Manitoba are well served and provided with a safe and adequate supply of water to meet the health and economic needs of all communities.

The Board regularly notes the activities of municipalities and of other provincial departments of Water Stewardship and Conservation towards that and consults with these departments from time to time. The board is aware that to meet its obligations, the utility must have financial resources. In addition, the Board holds that utilities have an obligation to ensure that water is used prudently. Water is a precious commodity, as everybody in this proceeding has agreed, and its importance is increasingly being appreciated.

In section 2.10 of the application it states in part,

> "Water conservation measures to be used in the system include system metering to monitor unaccounted for water, customer metering and pricing, public awareness and education."

These are all matters that the Board regularly deals with. At every opportunity the Board asks

municipalities coming before it with rate applications questions related to demand side management. Municipalities are asked as to whether leaks in the system are being attended to promptly, what the municipality is doing to promote water conservation, either with respect to funding low-flow shower heads or other water saving devices, and as to the distribution of educational promotional material.

On Tuesday there was some difference of opinion as to whether the members of the Pembina Valley Water Cooperative are fully or partially metered. We have checked our records, Mr. Chairman, and can confirm that all member utilities are metered.

With respect to the utility's sustainability, municipalities are asked about their current and future needs, how these needs will be met, about their long-term capital plans and financing, whether the current rate structure is appropriate in light of the current capacity of the system.

Economic growth is good for everyone, and with growth comes higher demands for an adequate supply of water. The Board is aware of

increasing economic activity in the service area of the Pembina Valley Water Cooperative, and this is placing demands for new reliable water supply sources.

Again, although the Board takes no position as to the application before you, it does want the Clean Environment Commission to know of its ongoing actions to ensuring the prudent use of water.

Finally, while the Board recognizes that the Commission's role may not extend to the consideration of those factors, the Board believes that the Commission should be aware of them, as they are factors in the decision making process of utilities and the Board that regulates their rates.

Thank you for your attention and for the opportunity to address the Commission on behalf of the Board.

THE CHAIRMAN: Thank you very much, Mr. Barron. Laura Reeves.

(LAURA REEVES: SWORN)

MS. REEVES: I would just like to say that most of my concerns reflect those that are already brought up, so I'm not going to repeat

them all.

I just wanted to say that I was at the RM of Stuartburn council meeting on March 15 when the co-op was proposing this project and offering to build subsidiary communities along the way, including Vita. When one councillor asked how much water the Sandilands aquifer could supply, the reply from the Co-op was that this site should last indefinitely as it is a huge aquifer. It was said that that aquifer could allow for irrigation of Southern Manitoba. Such statements are made with much confidence.

Based on what I have heard so far, it seems that we still have a poor understanding of this aquifer and the complexity of its functions. I can probably cite a dozen local examples where things we initially considered to be of limitless abundance have either disappeared or are in serious and continuing decline, passenger pigeons, the prairie wolf, soil fertility, the tall grass prairie, the ecosystem as a whole, Interlake fish stocks, the list goes on. We have made a long history of abusing or exploiting things that we deem to be abundant.

Only recently another 4,000 head hog

operation was approved in the RM of Stuartburn. This operation is expected to use 2.4 million gallons of water per year. The Co-op stated at the RM of Stuartburn council meeting that the hog barns could hook up to the pipeline system, although they would need an on-site reservoir to ensure 24 hour supply. Surely, we can promote wiser use of our groundwater.

As a regular visitor to the springs located just north of the town of Sandilands, the thought of seeing these magical areas dry up is more than I can bear. When I hear statements like this site should last indefinitely or limitless supply, I see red flags waving. Thank you very much.

THE CHAIRMAN: Thank you. We have had no other persons registered to make presentations, so that concludes this part of the hearings. We will take a break for about ten minutes. We will come back and have closing comments from the Manitoba Eco-network, and finally from the proponent. So back in about ten minutes.

MS. JOHNSON: Mr. Chairman, we have an administrative matter to deal with again. As far as exhibits, number 57 and 58 are the material

provided by Mr. Martel; 59 is the RM of Roland presentation; 60 is that of Ms. Kennedy-Courcelles; 61 is Mr. Arkley's statement; 62 is from La Broquerie; 63 is the RM of Piney; and 64 is the Seine River/Rat River CD; 65 is Mr. Barron's presentation, and we also have letters from Save our Seine that will be number 66.

(Proceedings recessed at 3:30 and reconvened at 3:45 p.m.)

THE CHAIRMAN: Order, please. Ms. Whelan-Enns. Would you please state your name for the record.

(MS. WHELAN ENNS, SWORN)

MS. BALANCE: These are the closing remarks for the Manitoba Eco-network, speaking for Glenn Koroluk.

We wish to thank the Clean Environment Commission for the opportunity for allowing us to make our case. Environmental hearings are an important mechanism that introduces additional information into the overall environmental assessment process. Once a report is completed, we are confident it will serve as valuable advice

for the final decision maker, and that is the Minister of Conservation. We are impressed with the high level of interest and knowledge expressed by the panel, but note that some of the process difficulties leading up to this hearing, which have been inherent in hearings in the past. We also thank Mr. Schellenberg and the Pembina Valley Water Co-op for their commitment to this environmental assessment process, and acknowledge the good work that they do for their municipal partners.

We are living in difficult times. With global warming, water scarcity is an issue that we must address. However, the solution that is offered by the Pembina Valley Water Cooperative is not the answer. We also do not support the notion that devastation will occur in the Pembina Valley Water Cooperative region if this project does not proceed as proposed. We are going to rely on three main concepts to close our presentation.

First, I would like to reiterate the ecological importance and significance of the region. The Sandilands and Uplands, including the Bedford Ridge consists of a rich array of

wetlands, bogs, marshes, peat lands and forest. Wetlands are said to be one of the most biological diverse eco-systems on the planet. The region is the foci of three sub basins of the Hudson Bay basin, and the head waters of five water sheds. The glaciofluvial aquifer complex, which sits under the region, also supplies the sandstone and carbonate aquifers, two major bedrock aquifers in south central Manitoba.

The area truly is an ecological gem. Both the underlying aquifer and the above ground landscape should be protected for its beauty and ecological importance, today and for future generations. This region of Manitoba must be given a special designation. Tapping into this aquifer will only set a dangerous precedent which will open the door for others to come.

Our second contention is that the Pembina Valley Water Co-op service region must get their own region in order before they even think of looking for additional supply. We have heard through these hearings different reasons why more water is required. We have also heard that the water in their area has become polluted. We have found it difficult to ascertain how much water is

actually used in the region as a whole and for what purpose. Without a proper accounting system, it would be difficult to gain efficiencies and savings. It is also important that this accounting exercise occurs on a water shed basis, focusing on the Morris River and Plum Coulee water sheds.

Thirdly, the no-project alternative as we define it, is the immediate proof that municipal governments in partnership with the province must follow. It means that the conservation options that we have highlighted over the course of two days are the only path to take, if we as a society are to move towards sustainability. Thank you.

THE CHAIRMAN: Thank you.

MS. WHELAN ENNS: First, thank you to the chair to have two of us up here for short closing statements today. I'm the director of Manitoba Wildlands, and one of our staff, an associate and I have been working on research and language to assist the Water Caucus to get ready for these hearings. In those discussions a decision was taken that there were two main areas for some closing statements from myself today.

The first one is obvious in terms of our mandate and that is as director of Manitoba Wildlands in the province. The observation about this being an ecological decision is very, very strongly known right through the conservation and scientific community in Canada because of the remaining tall grass prairie in the reserve in this part of the province.

So it is worth also saying, and you will have seen some of the maps yesterday, and I have put out more copies today, it is worth saying there is very little land above this aquifer that's currently protected from development, so there is lots to do and that can be done in that regard that would potentially help all parties, and the future of the landscape and the aquifer.

The second reason that I'm here is to say that I am among those in organizations active in the Water Caucus in the province, also a resident of this region, and I use PVWC water. Having lived halfway between Ste. Agathe and Morris in the Morris municipality for over 30 years, it is very nice to have what we refer to as running water for the first time in 30 years, and that happened as of last fall as a result of the

Morris municipality's arrangements and contracts with the Pembina Valley Water Co-op. The hitch, though, is that I asked a whole range of questions at the time the municipality was running the first water line in our ward ever. And there was a fairly thorough amount of discussion in the ward and in the neighborhood the summer before in terms of what it would take, what it would cost, what the arrangements were. Those questions included, and I was not the only one asking them, whether the water supply was going to be stable and whether the water supply was sufficient, because most of us have been trucking water for a very long time from any of about three different directions and sources.

We also asked whether there was in the plan, in terms of running these lines and providing us with water in the municipality and the wards, any future capital needs or infrastructure needs. Whether, for instance, and you probably heard this today or yesterday in the room, whether there was still discussion about the possible need for a dam on the Red. We also were asking and talking among ourselves and talking to our councillors about what the concerns were and

what the plan was if we were suddenly, for instance, at a drought level like we had in the early 80's on the Red. So I wanted to basically say we asked all of those questions. We talked about it. I was not just the resident environmentalist in the ward. These things were on everybody's minds because we were essentially agreeing to what we were going to pay for over time at about $10,000 per household.

The answers to the questions were, yes, the water supply is going to be available. No, there isn't an assumption or a future surprise down the road in terms of building a dam or a whole lot more infrastructure. And, no, don't worry about it, we have planned for the possibility of water levels as low as they were in the early 80's. The only other thing that I would like to say as a ratepayer, if I may, and a property owner, and it is good to see a full room, my schedule was really frustrating this week and I wish I was here yesterday, and that is that it is fine from the point of view of this property owner, this ratepayer sitting here today, if our water costs and water rates go up in order to avoid this interbasin transfer and this pipeline

idea. That's obviously just one person speaking, but there is all kinds of alternatives, and I have been very pleased to assist in the research and writing in terms of the conservation work and the approach that the Water Caucus has taken in its presentation in these hearings. Thank you.

THE CHAIRMAN: Thank you very much.

MR. SHELLENBERG: Mr. Chairman and Commission members. I role into my closing comments and they will be brief. I wanted to comment on the last two presentations. Unfortunately I didn't have an agenda, and I don't know the name of the young lady who spoke last, bus she was correct about her recall, the reference to irrigation at that meeting, I believe it was Stuartburn, was related to work which was done in the 1960s when in fact the Sandilands area was being looked at as a possibility for irrigation. It was in that context that that statement was made. And that, by the way is a matter of record.

And I wanted to briefly comment on Mr. Watson's presentation, and certainly I accept his concerns. I won't be able to use you for a letter of reference, however, I'm afraid, because

you feel that I won't carry through with what I have committed to. I want to assure you, that if there are problems that are developing with this aquifer as indicated by the monitoring which we are going to be doing and, yes, for the record we are probably going to be paying for in its entirety, I will turn off the pumps. Anybody who knows me knows that that's the case. On top of which, if you don't accept that, I have 18 municipalities that will be down my back if I don't.

The other point is related to your 12-inch pipe. Just to set that straight, if that length of that 12-inch pipe was two to three feet, you are correct. We are looking at 90 kilometres with an awful lot of friction, and our engineers, and there are engineers in the room here that will confirm that the gravity flow, the best you can get is 50 litres per second and that indeed is the restriction on the system.

Fee base, and you raised fees as it relates to several issues and volunteered to help with the monitoring, again for a fee structure. The Water Co-op is on record, you might be interested to know this, as suggesting there

should be a fee charged for all water, by everyone, I might add. However, we don't want to see this go into the black hole called general coffers, and that in fact there should be an agency established which could handle this money and handle the appropriate way to address some of the issues which you identified by the way, and other issues that need to be taken care of by the department of which there are not resources at the present time. If we are going to be looking at something like that, it needs to be looked at from a Provincial basis, and we don't disagree.

And the 50 litres, you make the point is what is essentially being licensed or requested to be licensed is land use and population development, and it is not. We are, in fact, as I have stated before, if and when we need additional water supplies, you are quite correct, that the potable water crisis in your opinion is outrageous, and probably there are some of our customers that might even agree with you, we will be going back to the Red where the price would be less than a third. So there are some economic controls related to this, and I just thought I would reinforce that.

And as to why we are not going for Provincial/Federal funds, I'm afraid you are wrong. We have pursued those very agressively. But when you get to be a certain size, both the Federal and Provincial governments decide you can now do this on your own and it is expected of you. That's where we are at. We have been turned down for funding not just once, but repeatedly. But it would be nice. Individual municipalities still from time to time qualify, but we as a co-op do not.

So I hope that takes care of some of the issues that you raised, and again I thank you for the presentation, it was good.

To my closing comments. First, I too want to thank you as a chair and to the commissioners, for what is a very fair hearing. And you also are to be commended for pretty much keeping us on time, more so than I think many of us expected, given the nature of the discussions, and we are pleased with that.

We have between ourselves and the consultants and the other resource people here, we have provided much information and we have provided a great deal of research. And in a

complex hydrogeological setting like the Sandilands, it is never enough. But as Bob Betcher said, it will take years to obtain the detail we would like to have. And one of the things that's going to assist in doing that is drawing from this resource, but having it very, very carefully monitored. If approval is granted for this project, we are committed to undertaking that additional monitoring and research in cooperation with the Province, with Manitoba Conservation, with Water Stewardship. We have already transferred several observation wells to them last fall. The reporting system will be their call as to whether they want to have reports quarterly, semi-annually or annually, or all of the above, and from our perspective should be open to public review.

And as I said earlier, and I repeat, Mr. Watson, we will turn off the pump if in fact the observation wells indicate that we are creating a problem. Regardless of the arguments, and I put that in commas, the discussions and differences of opinions, and that's all they really at this point, I think it is important to remember what we are dealing with here is a very

small request for water; 50 litres per second. That is what you can pull out of two fire hydrants if you open them at the same time. And given the size of the request, the amount of research we put into it up to this point is not inconsiderable, and we are prepared to do more. And just for the record, I think it is the smallest water project ever reviewed by the Clean Environment Commission. And it is from an area which we know is rich in water resources and several alluded to it, and I think that has to be borne in mind.

We discussed mitigation plans and remain committed to the principle that we will not solve our water challenges by inflicting water problems on others. And we stand committed to that, as do the board members who are in this room and others that had to leave earlier. And by going east there is no intention to grow our customer base. I repeat that. However, we will make water available from that pipeline if there are municipalities and people along that route that don't have another supply, and they need it. Unlike the City of Winnipeg, we will allow that.

The intervenors have targeted water conservation as an area of weakness. Frankly, we

see it as a strength in terms of our overall strategy, and we suggest you take a closer look at our usage numbers.

It is particularly difficult to accept such observations from those who benefit from Winnipeg's rather generous supply, which is a result of the city father's sense of vision, and a source which calls for a transfer of water surpassing any distances that we are looking at. Sometimes when you sit through hearings like this, and we have been at Clean Environment Commission hearing before, it is hard to remember that first and foremost we are all Manitobans. And secondly, that presumably we all have the same rights and privileges. Thirdly, that we all share the province's resources, and especially when it comes to water there shouldn't be a us and a them, there shouldn't be a rural versus urban, those who have and those who are not.

Just to remind you again that we serve a growing entrepreneurial vibrant region of the province. It provides for a significant tax base as the second largest industrial centre in the province. It provides a very significant employment base, the benefits of which extend well

beyond the region's boundaries.

We need to supplement our water supply, and I won't repeat the rationale for it, you have it on the record. But permit me to state again, that given the important role that the Pembina Valley region plays provincially and given its growing population base, to leave it dependent on an uncertain U.S. supply of water is not prudent, when this supply can be supplemented from Manitoba resources. We thank you again for your consideration.

THE CHAIRMAN: Thank you, Mr. Schellenberg. Just before you leave, I think probably the first question that I asked on Tuesday, and we will make it the last question, it just relates to your closing comments and it will be I think a key issue in our deliberations when the four of us sit down in the next few days to consider this. Are we being asked to approve a well and a pipeline that will only be used in time of drought, or is this to be an ongoing supplemental system for your co-op?

MR. SHELLENBERG: This will be, and I will state as I stated earlier, this will be an ongoing supplemental system simply because we need

to keep some water in that pipe despite what Mr. Watson was saying. One of the presenters that wasn't here this afternoon, is from a First Nations community off of highway 23, and his reason for coming here, and he called me on this, was to make sure that their request for water from this particular pipeline would be accepted and would be appreciated. We have agreed if we go forward and get the appropriate request, we would consider it. It is that kind of thing that means that we have to keep at least a minimum flow in it going year round.

However, when our water supplies are sufficient within our local resources in the Red, it is much less expensive for us to pull water from that source than it is from this one, and economics is going to play an important role, and it will in fact be the controlling factor. It will be the controlling factor how many times we come back. We can expand our treatment facilities at Morris, for example, to provide an equivalent to what we could if we ran this 50 litre per second pipeline at full blast for $3 million or thereabouts. We are going to be spending in excess of 12 million on this, and the reason for

that is we can't have all of our eggs in one basket, we do have to supplement the supply, we do have to know where the water is going to come from in the event we run into very low levels on the Red. And that's why this initiative is being taken at this time.

THE CHAIRMAN: Thank you very much. Okay. Before we close the hearings, just let me make a few final comments.

First of all, I would like to commend all of you in this room for the positive and valuable contributions you have made to the process. I would particularly like to thank the proponent, the staff and consultants of the Pembina Valley Water Cooperative, all of who were forthright in answering the many queries we put to them throughout the couple of days of hearings. I would like to thank the one registered participant, the Water Caucus of the Eco-network for making a positive contribution to this process as well. Finally, to the number of presenters who came before us and made a pitch either for or against the proposal that was before us.

Just let me tell you briefly what happens now. Under our statutes, the Environment

Act, we have 90 days within which to conclude our report. At the latest that will take us into early mid February. In the report we will report to the Minister on the results of these hearings, and within our terms of reference we will provide advice and recommendations to the Minister. We do not make decisions. It is always open to the Minister not to accept our recommendations. Nonetheless, I can assure you that the Minister will take what we recommend seriously. Under the Environment Act, if the minister doesn't accept our recommendations, he must inform us in writing as to his reasons for not doing so. After the Minister receives the report, it is up to him to decide when it is released to the public. Typically it is about 10 to 14 days after we have delivered it to him.

Immediately following the close of these proceedings, that is in the next few days and weeks, the four members of the panel will meet to consider all of the evidence presented to us over the past couple of days. We will come to a decision in respect of the matters before us. In our deliberations we will be guided by the terms of reference that we received some months ago from

the Minister. We will be guided by the Manitoba Environment Act, the Manitoba Principles and Guidelines on Sustainable Development, and any other relevant legislation, in this case obviously some water legislation.

It is our job to look out for the interest of the environment. More specifically, it is our job to ensure that the environmental assessment prepared by the proponent sufficiently meets those environmental interests. If we find that their assessment is significantly deficient, it is open to us to recommend to the Minister that an environmental licence not be issued. If we find deficiencies that in our view can be mitigated, we can recommend that the Minister attach specific conditions to the licence. And if we find no deficiencies, we can recommend an unconditional licence be issued. While I cannot prejudge what conclusions my colleagues and I will come to, I can say with certainty that our recommendations will be based on the testimony and evidence presented in these hearings.

In closing I would like to thank my colleagues on this panel. I would like to thank the staff and consultants to the Clean Environment

Commission and our support staff, and I also would like to thank the staff of this hall who have accommodated us very well for the last couple of days. The hearings are now officially terminated.

(Concluded at 4:10 p.m.)

COURT REPORTER'S CERTIFICATE

CECELIA REID and LISA REID, duly appointed Official Examiners in the Province of Manitoba, do hereby certify the foregoing pages are a true and correct transcript of our Stenotype notes as taken by us at the time and place hereinbefore stated.

---

Cecelia Reid
COURT REPORTER

---

Lisa Reid
COURT REPORTER