

Hull Public Information Meeting Minutes

Stevens Point Municipal Well #11

Jan. 28, 2010

Hull Municipal Building, 4550 Wojcik Memorial Drive, Stevens Point, WI 54482

In attendance: Hull Chair **John Holdridge**, Hull Board Members **Dave Wilz, Dave Pederson, Bob Brilowski**. Mayor **Andrew Halvorson**, District Representative **Jim Krems, Kim Halvorson**- Director of Stevens Point Water and Wastewater Dept. , **Joe Lemke** Director of Public Works - City of Stevens Point, **Gary Kuplik** -Distribution Superintendent for water utility - City of Stevens Point, **Patrick Planton** – engineer for S.E.H., **Scott Beduhn**, project engineer for S.E.H., **Glenn Falkowski** – DNR. **George Kraft** – Dir. of Water Resources at UW-SP. **Ray Schmidt** – Water Quality Specialist for Portage County, **Chuck Lucht** – Portage County Planning and Zoning Dept. **Citizens:** Michael Karch, Emy Babcock, LaVerne Syens, Dave & Nancy Schmidt, Robert Perkins, Shawn & LeeAnn Spoon, Carrie & Robert Butt, Carl Karcheski, Bill Hinnen, Richard Ensign, John Kolinski, Bob Bowen, Jim Kasukonis, Russ Prusak.

Holdridge I want to start out by talking about vision. I'm not talking about the vision for the Town of Hull or the City of Stevens Point. I'm talking about my personal vision. I'm a low vision guy who's had 6 surgeries on my left eye, retinal detachment. What is most disturbing about that is that I don't always recognize people. If you come up close, I can look over and recognize the mayor, but if you are sitting out there, I have a difficult time recognizing you. I want to apologize in advance. When we get to the question and answer, we will recognize you. I may not recognize you even though I've known you for 30 years. So please accept that. I really dislike that as it may appear to be arrogance. You walk into a store and someone will say "Hello John" but I can't recognize them. But that's life and I apologize to you.

Public meeting: the mayor and I were talking earlier about the real basis of American Democracy. It is citizens coming to their government with questions or petitions. It's so fundamental. I was reading USA Today, "We face a deficit of trust", was the headline. For me it would be very interesting if the press would say at some point, what do Hull citizens say about their government, do they have trust. My guess is that a lot of local people say they have trust in their local government. That's one of the things that strikes me about local government because we're always trying to resolve local problems and reach some sort of conclusion or get some kind of answer. But that goes back to basic democracy. It's so important. One of the things we're going to be doing this year, which we've done every year, but we've never really advertised it much, is the so-called annual meeting. It goes back to Colonial New England. I think one of the great photographs of American history is Normal Rockwell's picture of a guy standing up at a public

meeting with work clothes on, the salt of the earth, and just raising a hand and asking his government what they are doing. I would like to see more of that in our township. We tend to get good participation by citizens, they're very active. Our annual meeting is April 13th and we'll have to make a decision because we can only hold 54 people in here and often times we have far more than that. Therefore we tend to move them up to SPASH, North Commons and sometimes have had them in the auditorium up there. So mark that down because I would like to see more citizens, develop an agenda that meets your needs and talk about local issues that are important to you.

Let me briefly recognize any public officials here. It's a federal system, not just the town or city government, it's the county, state and federal government. Bob Brilowski is here from our Town Board, Dave Wilz from our Town Board, Dave Pederson from our Town Board, Mel Bembenek is excused and then I'm here so we have 4 out of the 5 Board members here and we're happy to have that. From the Portage County Board, Don Butkowski is working tonight, he represents the 25th District and he may well try to get out here later. Mike Splinter will probably be the new District 26th representative; he's at the Cub Scouts where he has to make a presentation or handout some awards. Jim Krems is here from the 27th District and he represents Hull and Park Ridge. We have a very good, solid County Board representative that participates well. Bob is a retiring member from the Portage County Board and we're very appreciative to them. I invited the state representatives. The state representatives are in legislative session. The one that is probably most active besides Louis Molepske would be Amy Sue Vruwink, that's the 70th District. It's a federal system and what we do here; we get support from those governments outside of local government.

Let me talk briefly about the water issues. I've tried to track various things going on around the Country. In Wisconsin there are a lot of things going on. The reason we adopted the Great Lakes Compact with 8 states involved is that they've selected water basins. Outside the water basin, they've got a tough time getting Great Lakes water. I think New Berlin and Waukesha are going to get it and what's happening in those communities. I don't know if it's a quantity or quality problem but they need some assistance with their water. So that's the Great Lakes Compact. We know there are things going on over in the Fox River Valley, Green Bay area with water. Up in Marathon County, the Village of Abbotsford has had water problems. They're trying to get the City of Wausau, who may have agreed on this, to run water from Wausau to Abbotsford. I understand it's about a \$30 million project. So everywhere, it seems to me, is the issue of water. When I grew up, I grew up in Baraboo and I remember around the square all these fountains they had. Water ran constantly through those fountains except in the winter months. Water was just taken for granted. Now it's an extremely valuable product or commodity. My problem with the water issue is we clearly ought to be concerned about the Little Plover River. I'm a trout fisherman. We certainly need to be concerned about the municipal water supply. There's people, there's jobs, it's crucial. We need to be concerned about water for industry. We certainly need to be concerned about water for agriculture. But who looks out for the household? In our community we have 2,020 households. Nobody talks about the household water in terms of quantity. It just isn't on the radar screen. I think a third of the Portage County households depend upon a private water supply. So it seems to me that has to get into the equation. By that I mean, there needs to be more information about private wells. But it just has to be out there. If you look at it, what would you do if you don't have good water? It's such an

essential, it's our whole living. I look at our community and I think of people who are retired, people who don't work. I'm not directly involved in water for industry. I'm retired. I understand that. The water for the Little Plover River, I understand that. One thing I really understand is water that comes through my tap. The policy issue has to start looking at that. That's an issue out here and a concern tonight. So water is an important thing.

Plover Heights Subdivision: how this happened was, I had a call from a citizen who lives over there and he said the City is putting in this and I said, "Yes, I knew they were putting it in", and he said "How will this impact my water?" I said, "That's a great question and I don't know that". The reaction to that is, "Why don't we look at the issue, why don't we try and understand?" That really is the purpose of being here tonight. I look at myself on this issue because I have a big vacuum and what I would like to have is some knowledge and information because I don't know much. I get bits and pieces of this stuff without any real formal hard thinking about it. We need to start looking at it and understanding it. I don't think there is enough understanding from John Q Public, and I'm John Q Public. We certainly see the need but I don't think we understand. How many of you know the depth of your well? Raise your hand if you know the depth of your well. I don't know the depth of my well and I live right down by the City well fields. I suspect it's maybe 28-30'. I've got great water. But those kinds of questions I think have to be looked at.

So what I would want to do now is get into the information presentation part. To do that, I'm so happy to see Halvorson out here, the mayor of Stevens Point. We'll turn it over to Andrew and we'll introduce some people. There will be a presentation by the engineer. I'm anxious to hear what you've got to say and what they've got to say.

Mayor Halvorson John, thank you very much and thank you all very much for allowing us to come out here and give you a presentation on what this well is all about and some of the facts that are associated with it. I want to introduce a few key people that are here with me this evening. This is Kim Halvorson, Director of the Water and Wastewater Dept. with the City of Stevens Point. Joe Lemke is Director of Public Works for the City of Stevens Point. This is Gary Kuplik who is our Distribution Superintendent for the water utility for the City of Stevens Point. This is not necessary a town or city issue, we all know each other. We all work with each other so it's really an information sharing process to make sure everyone is clear as far as what goes on. Directly behind Gary is Patrick Planton. He's been the chief engineer for the water utility for several years. He's works with Short, Elliott, Hendrickson (S.E.H.) of Appleton and right next to him is Scott Beduhn who is a project engineer for this particular project and other things we use S.E.H. for as well. So we're thrilled to be here and there's a power point presentation that Patrick is going to walk us through about the planning we do. The strategic planning, the hydrology that's affected in this area, depths to wells, projected draw down of well #11 at 5 million gallons a day which is about what it is being constructed for. We have a lot of information we want to share with you and with that I'll turn it over to Patrick and then we'll have questions and answers for you at the end.

Planton Thanks mayor. On behalf of the City of Stevens Point that we are working for, I'm glad to see a very good turnout tonight. I have a lot of information and hopefully everyone can see the board. We have some handouts, if you'd like to take a copy of the presentation home with you, you are more than welcome. The print is kind of small but we'll go through everything tonight during this presentation. A quick antidote: I live in the Village of Plover and I have for 23 years. When my wife and I moved up from Chicago (I'm from Sheboygan originally), the first house we looked at was in the Town of Hull. Growing up in Sheboygan, we lived on Lake Michigan water. It had no taste, no odors, it was wonderful water. My parents had a cottage out in the country with a private well. The water was terrible, iron, smelled bad, tasted bad. So as soon as we walked into this house in the Town of Hull, the first thing I did was to grab a glass and took a glass of water. The water tasted like Lake Michigan water. I couldn't believe it. So after that I walked down to the basement to see if they had a softener or some kind of water conditioner or treatment system that made this well water in the Town taste so great. All that came out of the wall was a pipe, no treatment, nothing. Right out of the ground, fantastic water. That was my introduction to the groundwater in the center of the state, Stevens Point area, fantastic water supply like the mayor and John were alluding to. That's one of the reasons why I wanted to live in a house either in the Town of Hull or City of Stevens Point. My wife wanted to live in a house she picked in Plover. After 6 years, the Village of Plover came through with a public water supply. I know a little bit about private wells as I was on one for 6 years. I've been in the drinking water engineering business for over 25 years. I've been working with the water utility for over 20 years. I'll go through some of the history and background of this project. What we'll talk a little bit about is the Stevens Point water situation and the reason why we're here to talk about that. A little bit about the background of the well project itself. We'll talk about what is actually going on over there at the well property. If you don't know where it is, we've got some maps to help you see where that well is being constructed and what it's going to look like after it's built. We'll talk about the project schedule and how long it's going to last, about when the well will be put into operation. We'll talk a little bit about water level. I know people are concerned about the water levels. What may happen when this new well is turned on. What kind of negative affect there may be. And also potentially, changes in water quality. We'll have time for questions afterward. As we go, we'll try to keep this informal. If you have a question that you just can't wait to ask, go ahead and raise your hand and if we can try to answer it right away, we will, otherwise there will be time for Q&A afterward.

As Kim can attest to, anyone who runs a large municipal utility, gas or electric utility, in this particular case the water utility, it's always a situation of how much supply do you have and how much demand do your customers need on a daily basis, in 5 years, in 25 years. The types of supplies that have to be constructed and planned for often times can take 6 years. This project had its genesis back in 2006, 4 years ago, and the well is just being constructed now. We have about a year and a half to go before we pump our first gallon of water out of that well. Very large capital projects have a long time horizon. So utilities just can't sit back and realize that some day that they need a new water supply so let's go drill a new well and 6 weeks later the water supply is there. Not in this type of situation. What we look at is how much demand the City customers have. You look at an average day; it's a typical number that is thrown around. Stevens Point, as of a few years ago in its master plan data, it's about 7 million gallons

per day. In the summertime that demand almost doubles to about 13 million gallons per day. That's what Kim and her staff are responsible for supplying on a daily basis even though this demand isn't needed every day. In the summer time, you could have those maximum days, day after day so that's a pretty important number. That's the demand side of the equation.

Citizen That number is houses or is that businesses also?

Planton Everything. Everybody in the City of Stevens Point. We can break that down but that's the aggregate total of pumping that the utility needs. That was the demand side of the equation. Now we look at how much water Stevens Point can provide. Right now there is a reliable supply capacity of 12.6 million gallons per day. When you say reliable, that means how much water the City can pump into the system with the largest water supply unit out of service. That's what water supply utilities plan around. They have to plan that their largest unit could be out of service at the worst possible time in the middle of summer. This supply capacity assumes that well #10, the City's largest water supply well, is out of service. It could go out of service for maintenance or mechanical failure and it could happen in the middle of July. What Stevens Point has available is that number. What they need is that number (*showing them on the Power Point screen*). So they are short about a million gallons per day, as of 2 years ago. Stevens Point is projected to grow. This time horizon is out 20 years. Now Stevens Point is not going to grow tremendously like other parts of the state. Like in the southeast part near Fox River Valley or like the St. Croix area near Minnesota. But Stevens Point is projected to grow over the next 20 years. That maximum demand is projected to grow from 13.4 million gallons per day to about 15 million gallons per day. Not a tremendous increase over 20 years, but still an increase. So you can see the double edge sword the City is facing. A supply deficit with future demands are going to grow, maybe not a lot but they'll be more than they were in 2005. And already starting in a hole of almost a million gallons a day. Other things the City is up against is that they've got a relatively old water supply system. The oldest wells of #4, #5, #6 and #7, they've got some well issues also and that concerns the City. Especially well #4 over the last 6 years with the water in the Plover River high in April, that well is down by Iverson Park. There have been 2 incidences in the past 6 years where there has been unsafe water coming into the well. The treatment plant is set up to treat and provide safe water. But in getting a raw water sample that's bad, the City will turn that well off. Well #5 is behind the Hilltop and that is the only well the City operates on the east side of the Plover River, with very high nitrate levels. Not above the drinking water standards but close. About 9 ppm of nitrate and the drinking water standard is 10 ppm. If that well ever hits 10 ppm, the DNR is going to tell Kim that well needs to go off line. You would need to demonstrate to the DNR that the well can go 4 quarters under that level before Kim can turn it back on. As you know in this part of the country and state, nitrates are not the kind of a contaminate that goes down over time. It could go up and up and then well #5 could be out. That would be another 1.5 million gallon supply that Stevens Point wouldn't have. Well #6 and #7 are over in the Stevens Point Airport well field and they have a manganese issue, higher manganese than other wells. They can get by with pumping those wells because they are blending them with wells #8, #9 and #10. Yet there are some pretty high manganese levels in those wells so those 4 combined are 7 million gallons a day. There are 3 things: increased demand, they're in a hole already and potentially there are some wells at risk.

Citizen What capacity is the largest well, #10?

Planton It has the capacity of 5 million gallons. This is a map of the water supply. You can see the freeway, Hwy. 10 and Hwy. 66. What I'm showing on this map are the wells. That's where Stevens Point gets its water supply. It's very close to the River and there's a reason for that. Here's where we are today. That's the well site, surrounded on 3 sides by the Town of Hull and with the airport property to the south. This is an aerial map and this is the Stevens Point water supply over 70 years ago. Before 1923, Stevens Point took water out of the Wisconsin River, treated it and pumped it into the distribution system. That's pretty commonplace. The engineers back in 1923 said that there was a great water supply available along the Plover River, in Iverson Park so the City put 3 wells, #1, #2 and #3 in 1923 – 1938 and ran those wells for quite a long time. They were decommissioned in 1979 for old age, poor performance and poor well quality. Wells have a certain age at which time they are no longer cost effective to run. In 1960-1965 wells #4 and #5 in approximately in the same area were built. In 1967-1968 wells #6- #9 were built along the airport area, just south of the airport near the Plover River. Very high-capacity wells, about 2,000 gallons per minute. Very productive wells. That's been the Stevens Point water supply system for 42 years. There's a reason it's located along the river. It's not because it's taking water out of the river. But there is some correlation there. This purple shaded area, there's a bedrock channel that runs along this part of the state. It does parallel the Plover River for a ways north of Hwy. 10. We know that because of the well logs in the area. The Country Club down here has an irrigation well that is 200 feet deep. If you remember when Fleet Farm was built over on Brilowski back 15 years ago, their well went down into the granite and they couldn't use it and had to turn off their drinking fountain because it had high levels of uranium. I remember that because my kids were little and if they wanted a drink, they couldn't use the drinking fountain because the water was contaminated. The bedrock was 20 feet underground whereas over by the golf course it was 200 feet. It's kind of a geological anomaly. That's where Stevens Point has the advantage of some fairly deep wells. Not the river but the bedrock channel.

I mentioned that wells #1, #2 and #3 were abandoned after 41 years; the City water supply system is relatively old. Well #4 is 50 years old. Well #9 was put in 1969 and is 42 years old. The City has only put in one additional well in 42 years and that's pretty rare for a city the size of Stevens Point, considering the magnitude that Stevens Point has grown. If you look back at the maximum water demand back in 1968, it was about 6.8 million gallons per day. We're projecting double from 1968 in 13 years from now. That's the supply that Kim and her staff are charged to meet.

History of the project: this north well field that the City owns was actually talked about 20 years ago as a potential water supply site for the City of Stevens Point. Right now, the majority of the supply comes from the airport wells, #6-#10. In any given day, about 80-90% of the water comes from the 5 wells in that area. Well #10 was recommended in 1991 by a planning study that was done by the City and

constructed 17 years ago. Our well will be very similar to well #10. The use will be 5 million gallons per day. Well #10 is relatively close to the Plover River comparing it to where well #11 is going to be. There will be a difference that way. These collector wells are very efficient in bringing water into a pumping station and there is usually very little draw down. To give you an example on how efficient this well #10 is, it's got a specific capacity. It's a number that tells you how efficient the well is in having the water pumped out. The specific capacity of well #10 is 1,250 gallons per minute per foot of drawdown. If you wanted to pump 5,000 gallons per minute out of that well, the water would draw down 4 feet. It's only designed for 3,500. It's a tremendously productive well. It also has very good water quality. So well #10 was an example going forward to the next well which is well #11. The City has been extremely diligent, probably more diligent than any community I've worked with, in planning for the future for distribution systems, planning for storage and supply. These projects take anywhere from 4-6 years and so you have to plan ahead. The City does plan ahead. Every 5 years they do a comprehensive water system master plan. In 1991, that's the plan that recommended well #10 along with a future well #11. There were some other recommendations. This is a figure right out of that report from 20 years ago. You can see the freeway, the Plover River, here's the Iverson well field, the airport well field. Even 20 years ago, this north well field was talked about and recommended as a long-term solution for the City's long-term water needs. Here's another graphic from that same report. The recommendations for treating water in well #4 took place 9 years after this report was done. The recommendation for well #10 and the transmission to connect it was done 2 years later. This area up here north of the airport, we were talking about a future well #11 and a future well #12 and a future treatment plant at least 20 years into the future back then. So this is the plan for quite a while.

Back to our aerial map: well #10 is just on the edge of that buried bedrock channel that is sufficient thickness for a high capacity municipal well. We know anything east of the Plover River will be high in nitrates. We've got documented water samples from irrigation wells out there. We know if you go north of the SPASH area, there is very high bedrock that the City had to blast rock out of the ground. There's no water supply capacity for the City west of the river because of the high groundwater table and also high bedrock. To the south is the Village of Whiting and Plover with nitrate problems down there as well. The City is somewhat limited on where they can go for the next water supply well. The 1996 master plan recommended rather than going for a new supply well, treat the water from well #4 because in that water there was some high iron and manganese. The City spent \$2 million 10 years ago to treat that well rather than spend \$2 million on a new water supply. This is the capital improvements plan from that report. Note down here, the long-term improvements from 2003 – 2010 for their plan was to add the ---- and proceed with the proposed well field and well #11. So it was talked about even then as a long-term improvement. In 2001 it became a short term need because of the water supply demand and the lack of supply. Here's the capital improvements table from that report from 8 years ago. There are short term improvements to construct well #11 for \$800,000. That would not have been a collector well, that would have been a standard vertical well like wells #4-9 are. But also for intermediate improvements, construct 2 more wells. So we were recommending the City spend \$2.4 million to construct 3 wells up in this north well field that we're looking at right now. So that's been talked about before as well and moved up on the schedule. The last study that was done a couple of years ago, we spend a lot of time looking at supply versus demand. How much water does the City need and when do they need it. The blue line here on this graph (*see page 5 of power point presentation printout*), that's the maximum daily demand projected here

at about 14 million gallons going up to about 15.2 in the year 2025. Right now the City supply capacity is the dark black line. That's with everything running. The red line is the reliable supply capacity with a large unit being out of service. So even if there were 6 or 7 years with everything running, they'd have to run everything 24-7 to try to meet that maximum daily demand. They don't run their wells 24-7. They need to give them a resting period. Their plan is to run their wells no more than 18 hours per day. But to meet these demands, they had to run them more than 18 hours per day. They did some rehabbing and increased the water supply capacity on wells #6, 7 and 8 which was of advantage to the water supply. Well #11 was recommended and also well #12 about 4-5 years later. That would have been a smaller vertical well, not a horizontal collector well. But that was what was recommended for the City.

Holdridge What is the distinction between horizontal and vertical? What does that mean in terms of well construction?

Planton If you can wait a few minutes, that explanation will be coming up shortly. I want to acknowledge our friend from the DNR, Mr. Glenn Falkowski. He's the area engineer that oversees the operations of how many dozens of utilities in Central Wisconsin. Glenn is responsible for making sure that the City of Stevens Point meets regulatory requirements for water quality, water quantity, operations and those kinds of things. The DNR for the last 5-10 years been a strong advocate that the City needs to add water capacity. Glenn does an annual inspection for the DNR of Stevens Point every year. Here's a copy of his report. Fact #2, the City from May 2008, I'm highlighting that one sentence where Glenn on behalf of the DNR is saying that the City has to realize that not increasing their water supply capacity is not an option; something has to be done. That's what really got the ball rolling for the City back in 2008 almost 2 years ago.

Back to our aerial map: we've can't go to the east, we can't go to the north, can't go west, can't go west of the river, we can't go south. But we want to stay in the buried bedrock channel. We want to stay west of the river and as far away from the river as possible. As far away from private wells as possible. So this location which was identified 20 years ago, now is coming to the forefront. That's where the City has been looking for the last 2 years for an additional water supply. We were retained 2 years ago to do some exploratory work to see if that was a good site. What the water quality was, how much water the City could expect to be available at that site. Here's a larger blowup of the property and here's that buried bedrock channel with Hwy. 66, Plover Heights Road. This is what they call the western part of the Boy Scouts property that the City owns. That's what we focused our attention on to try to stay as far away from the Plover River as possible. We did exploratory work on that parcel 2 years ago and we did more detailed exploratory work back in 2008. This is the report that was put together at the end of that year. One of the reasons why we recommended the middle of that parcel is that the DNR code requirement is that high capacity municipal wells need to be at least 400 feet away from septic wells. That is a code that rarely gets a variance. The state, for obvious reasons, wants to keep high capacity wells that serve thousands of people as protected as possible. What this maps shows, with Hwy. 66, Plover Heights Road and the Boy Scouts property, the Plover River over here, this is a 1,200 foot setback. The new

groundwater requirements have a number of exceptional outstanding water resources in the state. The Plover River isn't one of them, at least not yet. But the state can protect exceptional water resources and not allow any high capacity municipal wells within 1,200 feet. The things we told the City, who knows in the future how much more difficult it may be to put in a municipal well and maybe the Plover River will get that designation. Our recommendation is to stay as far away from the river as possible. But again you need to be 400 feet away from septic systems. So this actually reduced the potential area where a well could go by about half. A collector well is a little different than a vertical well. It reduces more where that well could go. So we centered the well on this property and that's where it's being built right now and it met all the criteria we were looking for. City owned property, buried in the bedrock channel, west of the river, far from the river. As far as we could feasibly get with as much separation from private wells and maintain our 400 foot setback from septic tanks. What that maps shows is our setback from homes and where their wells are. We did assume that the septic tanks were right on owner's property lines just to be on the safe side. What has happened in the last year is we have gotten approval from the DNR for the well site. We got approval for the engineer report from the DNR. We got construction authorization from the Public Service Commission. They do an environmental review as well. So the DNR and the state have already approved those steps that had to be taken to get this well authorized and approved to be built. There was a public hearing for the City that was notified back in May and we had it in June to talk about the project. I was there and gave my presentation the same as here to the City folks about costs, benefits, impact, what could be expected. That occurred 6 months ago. It was advertised as a class 2 notice advertised probably in the Gazette which is the City's paper of record.

What has happened in the last 6 months is that we've had well design approval. We bid the project to a contractor, awarded it and they've been working there since October. The City was very successful in getting funding from the state through the stimulus fund packages to the tune of \$1.4 million in grant money and \$1.4 million in a low interest loan at 2.6 percent for the project. The project overall is about \$2.8 million, half of which has been provided with grant money. Not only that, the Dept. of Commerce with the Community Development Block Grant also provided another \$750,000 towards the well and treatment plant project. The City has been very successful in obtaining funding for the project.

Now I'll talk about the site and what is going on out there. I'll get to that question about a collector well and how is it different, what are the benefits and what are some of the costs. Well #11 is very similar to well #10. Well #10 was such a successful project and provided such good water quality and quantity at such low draw downs that we recommended, and the City agreed, that would be a better option than building 3 vertical wells in the same area and having virtually no separation. Collector wells are more expensive to build. On average about 3 times more expensive than a typical vertical well but you get much more yield out of a collector well than you would from a vertical well. Typically you have smaller draw downs. There is going to be a treatment plant to address the iron and manganese in this water so it's not a \$2.8 million project but by the time the City is done, it will be over \$10 million. But the treatment is necessary in addition to the well. Usually, if you have multiple wells that need treatment, it's more cost effective than using economy as a scale at one big facility rather than having smaller unit wells located around to collect that water.

This is a cross section view of a collector well. A typical vertical well is no different other than it's much larger than your private wells, especially you're drilled private wells. You have a steel casing going down into the ground. It has a screened portion underneath the water table. You have a submersible pump sitting under the water that pumps the water out of the well underground into your house and into your plumbing and treatment system, whatever you might have. A municipal well is no different only much larger scale and scope. What makes a collector well different, the screen on Stevens Point's vertical wells are about 30 feet deep in the aquifer. The water comes into the well and is pumped out. The best part of the aquifer might be a 5 or 10 foot area of very coarsely graded sand and gravel where the most water can get into the well. Above and below that is finer sand, limits how much water can get into a well. With a collector well, you can put these horizontal screened laterals in the best part of the aquifer and that's why these wells are so efficient. The best part of that aquifer is between 70 feet and 110 feet. The best part, very coarse almost like pea gravel, is between 100 and 110 feet. That's where our laterals are going. We won't have 30 feet of screen, we'll have 8 laterals and there will be a total of over 1,200 feet. So when a lot of water is being pumped out of these collector wells, you don't have a tremendous drawdown in the immediate vicinity because you spread that out over a 300' radius. The other thing about the septic tanks is, as far as the DNR is concerned, at the tip of that lateral, that's where the well is. So we don't have, like at other Stevens Point wells, a 24' diameter well that has to be 400' away from a septic tank. We have almost a 300' diameter well that has to be 400' away from a septic tank. Collector wells aren't for everybody and it really depends upon the hydrogeology of a particular area. Often along the river valleys in Wisconsin, other than Stevens Point well #10, Wisconsin Rapids is the only other community that has collector wells, they have 4. That's their entire water supply capacity. Manitowoc had some on the shores of Lake Michigan which I don't believe they use anymore. There's a power company on the Rock River that has a collector well. That's pretty much it. If you go to other parts of the country along the Ohio and Missouri Rivers you'll see collector wells up and down the shore. That's where a lot of the groundwater is at and they use groundwater rather than surface water to get some of the filtration of the soils that filter out the bad stuff that's in the surface water. John, does that answer your question?

Holdridge Yes, it helps clarify it.

Planton It's a very different type of construction as compared to a standard well.

Holdridge Going back to the capacity of bringing the water to the surface, what is the advantage with that over the other type of wells you have?

Planton You've spread out your screen laterals in the best part of the aquifer in a much bigger area. The upper part of the aquifer above 70 feet is very fine sand and we didn't hit bedrock at 110'. We went down to 160' and still didn't hit bedrock but between 110' and 160' very fine sand. Not real

conducive to high capacity municipal wells. You need a very fine screen to hold a formation back. But between 70' and 110' it's a wonderful formation that's put down by the glacier 10,000 years ago.

Holdridge If you take this another step, what's the implication of that kind of design in terms of private wells around the area? Does that make a difference?

Planton It does and we'll get to that in a minute or two. To give you an example, I'll use a vacuum cleaner analogy. Stevens Point vertical wells in the airport well field have a specific capacity. Some are about 50 gpm per foot and the highest one is about 200 gpm per foot. Well #10 is 1,200 gpm per foot so you would have, at a specific capacity of about 200 gpm per foot, 6 times the drawdown in a vertical well.....(*end of tape*). This is what's being built on the site right now. What's being built are sections of this concrete caisson, 20' diameter and in 12 foot sections, one at a time. After they get that section poured, they come strip the forms and with a clamshell crane dig out the middle of it and it sinks down. When they get that top form down about a foot or 2 above the ground, they form up another section, pour it, let the concrete cure, come with the clamshell crane, dig out the middle and follow the same process. They've been doing that now for about 2 months. In another month, they'll be done and then the bottom of that well will be down 110' and the next step is to project the laterals out at 105'. That will happen sometime in April or May (of 2010). Here's the site. To give some orientation here's Hwy. 66, here's Plover Heights Road, here's the City's owned Boy Scout property. The well is located where we see it here. This temporary access road that the contractor is using right now is only temporary. As soon as the construction is done, there will be a permanent road out to Hwy. 66. Then this temporary road will be abandoned and be allowed to grow over. You can see these spider fingers sticking out, those are the laterals; the horizontal collector screen laterals 155' long. So you've really got a 300' radius well source where the water is coming in. Not at one location point, but over 300' in the best part of the aquifer, the most productive part of the aquifer. That's one of the reasons draw downs are not as much in the immediate vicinity as they would be of a vertical well. The other plus is we're going to have a treatment plant to remove the iron and manganese right next to the well or connected to the well building itself. A way to get the water from the well, treatment plant back into the system so there will be a water transmission main going out along the access road and heading to the southwest back towards Stevens Point to connect to their system. Here's a map view of the property with access road and water main. The City's water main terminates just beyond Torun Road on Hwy. 66 and this new water main will connect to it at that point.

Citizen Can you point out on the map which way the horizontals will go from the sections of the collectors? How far back in Plover Heights, etc?

Planton The actual laterals themselves will only go out that direction here.

Citizen So the red lines, Plover Heights?

Planton Okay, this is just Plover Heights Road. So when we locate it, remember that map with the orange circles where the septic systems are, now we go 150' in each direction, we are relatively close to that 400' and there's very few places where this could go on that property. It's good fortune for the City that there is just enough room to meet the 400' setback to have a collector well put there. So this is the alignment. That main will run along the eastern right of way to the transmission main in the ditch line. There will be construction. Driveways will have to be interrupted while that water main will be put in but they will be restored as part of the contractor's responsibility. That's what it means to get the water from point A to point B. We looked at the possibility of going through this wooded area and up to the airport property but the airport would have nothing to do with that. We can't put water main underground at the airport. So we're going to utilize the right-of-way along Hwy. 66.

Halverson Let's be clear about that. The State Bureau of Aeronautics and the FAA wouldn't have anything to do with that. I'd love to do it.

Planton Here's the project schedule, a little hard to read. We're in here right now, the middle of January with this line right here and the individual tasks that the contractor has to do. This first set along here, that's building the concrete caisson. It takes about a week to 10 days to do each section. So they should be done with constructing the caisson probably sometime in the next month with good weather and if they can keep the pace they are going now. When that is done, a new crew comes into town and they actually project these laterals in 15' sections. They can't be any longer than that, in order to fit into the caisson. They project them with a boring jack just like a water or sewer main underneath a highway. Put a casing out there and get it out 155'. They stick the screen inside of there then pull back the casing to expose the screen to the formation. They'll go through some development pushing water in and out to remove fines that might plug the screens. They'll do some test pumping and by the end of June, the well contractors will be done. If everything goes according to schedule, we'll have the water treatment plant contractor ready to go on site and mobilized by the first week of July. Once the water treatment plant construction starts, it'll be about a year to build that. I wouldn't anticipate any water being pumped out of that well or treated by that treatment plant until the latter half of 2011. The caisson is 60% complete. They just poured their 6th lift yesterday so they have 4 to go. Then they'll be done with that. Hopefully in February, the screens get put in, developed and test pumping done, then the treatment plant will be constructed and again, no water will be pumped from that site until at the earliest at late summer 2011. That's the schedule for the well project.

Let's get to the thing that most people are interested in. What's going to happen with water levels when you potentially take 5 million gallons of water out of the ground? Surely that has to have some impact. One of the things the City has is a lot of monitoring wells in the area for a number of different reasons. To track and monitor water levels upstream from the existing wells and also to take water quality samples

to make sure nothing is happening in the water aquifer that we may find gets into the high capacity wells 2 or 3 years down the road. The City is very diligent about that. They handled a spill at the airport a number of years ago that really got the people excited. The airport, where the jet fuel spill was, just up from the well field, about a year or two out travel time and if it takes 6 years to replace one well, it would take even longer to replace 80% of Stevens Point's supply capacity. So there have been a number of monitoring wells in the area and they sample them annually for well depth, water depth, for quality and contaminants. One thing that I noticed in reviewing some the monitoring of well water around the site, the shallower the wells, the more nitrates we are seeing in some of those samples over 20 years. The deeper ones have more manganese and iron. We don't see iron and manganese in the monitoring wells because they are shallower. I bring it up because your private wells are usually shallow. We do have some homes that are deeper but for the most part, the wells are shallow. Nitrate is a concern living in Plover. We were concerned about that and had our water tested every year for nitrates because we had young children in our household back in the late 1980's. We've looked at some of the water levels in the monitoring wells and those water levels do fluctuate seasonally, naturally with dry weather, wet weather, summer to winter. That's natural and there's nothing wrong with that. When we design large wells, more specifically when private well drillers drill wells, they're not going to drill down to the water table and terminate the well, they're going to go down much deeper. Any fluctuations from season to season in the water level, when they set your pump, they'll set that much deeper too so there isn't a change that if you go through a 1998 and first year you'd have a dry well. They put them much deeper. We do the same with the high capacity well pumps, typically 30-40 feet below the water table just to make sure we have a little bit of a cushion. It takes time for a high capacity well to lower the pump deeper. I've got some graphics from 3 monitoring wells around the area of well #11. What this is meant to show is the ground level, this is the elevation of our water treatment plant and this shows the annual water depth sample the City has been doing for 20 years since 1990. Unfortunately we don't have 1988 in here, remember 1993 the highest water ---- that occurred over the summer time. The deepest was actually measured last summer so there's about a 5 foot difference from highest to lowest. Not a great deal of difference but there is some natural fluctuation. Here's another well, a little deeper, ground elevation about 1,113'. In 1993 the highest water levels were only 26' down. The deepest was back in the summer of 1999 in this particular monitoring well at about 29' so very little fluctuation. The same thing with this other well. This is just south of the Boy Scout property. A little more fluctuation. Again in 1993 with all the water that was recharging the aquifer and you see a natural elevation in the ground water level. So there are some natural fluctuations and that's not to be concerned about. When you put in your wells, they're done so that the fluctuations are taken into consideration. A foot or 2 of fluctuation in our sandy soils is not unusual.

Holdridge These are all test wells that were put in absence of any high capacity well. These were just there to see / monitoring the ground water over time.

Planton The City probably monitors for a dozen different water quality constituents. Manganese, iron, nitrate, sulfites and a number of different things, just an early warning system for what's coming down the pike because the natural flow of groundwater in this area is from the northwest to the southeast and then the groundwater discharges into the Plover River.

How will water levels be affected by this project? This is one of the most important things we want to talk about. We collected a lot of data and in August of 2007 we did 2 exploratory borings. We collected even more information in August of 2008 when we drilled a 12" test well and pumped it at 2 million gpd for 72 hours. We got water quality samples, we monitored for drawdowns, we monitored for recovery after the water was pumped, we monitored the stream gage for flowing of the Plover River while we were pumping. We collected all that information so we would have a better idea of what this site would be like and what kind of water quality we could expect.

Citizen Did you see any impact on the Plover River during that 72 hour test?

Planton The stream gage was looked at every 2 hours during the test pumping. At the closest point, the Plover River is about 1,800' from well #11.

At this point John Holdridge recognized the presence of Amy Sue Vrunick who had just arrived.

Planton Based on all the information we collected during these two independent testing periods, we made some projections of what we could expect the drawdowns to be in the area of well #11. That's what everyone in this room is most concerned about. We projected it based on the 5 million gpd limit for this well, comparable to well #10, 3,500 gallons per minute which is 5 million gallons per day. It would be pumping for 24 hours to produce 5 million gallons. Our assumption is that the well is not going to pump 24 hours a day straight into infinity. The City has 7 other wells, it's going to be rested. No well on average that the City owns and operates pumps more than 12 hours a day already. This well is not going to pump anymore than that. It will probably pump less because we'll have additional supply added to the system initially. We want to have some conservative assumptions. Worst case scenarios we'll talk about in a few minutes. The analysis doesn't include any recharge, any rainfall or snowmelt or anyway for the water to get back into the aquifer. It could happen like it did back in 1988. That's what we looked at for worst case scenario. Particularly if we recharge throughout the year and month, that replenishes. Remember in 1993 the higher water table we looked at? That was the recharge from all that rain we had during the summer time period. So #1, the drawdown estimates are conservative. The hydrologists that we are working with, they used that specific capacity number I threw out there. They used 200 gallons per minute per square foot. This well has a formation very comparable to well #10 as specific capacity. So we're using very conservative assumptions for these draw downs. What we calculated is that within 200' of the well, we would expect a 3' drawdown. That's still within the property. Within 450' of the well, we would expect a 2' drawdown, and that's still inside the property. Everybody between 450' and 1,400' we would anticipate in a worst case scenario a water level decline of about a foot with maybe a maximum of 2 feet. Now remember we are using a specific capacity for this well. It's 1/6th of what well #10 is and well #10 has minimal draw downs. Well #10 can pump 3,500 gpm and the water level drops

----. I've got some maps that will give you some special context as well. There will be pumping tests that will be done once the well is completed. We'll verify this information again and I anticipate that we'll find the draw down will be even less. We wanted to give worst case scenarios but will there be more, I really doubt it.

Citizen You keep saying worst case scenario but you said earlier that if #6, 7, 8 or 9 or 10 had a problem, let's say #10 has to be shut down, then what would this project be? What would be the gallon per day that would go up, then what would those numbers be?

Planton In a worst case scenario, #10 goes down, the City can still get by in pumping ----. Worst case scenario, all wells are down, it's going to be more because they'd have to pump this more. The likelihood of all 4 of those wells going down is remote.

Citizen Is there a number that shows that?

Planton You would double the draw down. That's worst case scenario. That's with all those conservative assumptions built in. If the City has those 4 wells go offline at the same time in the middle of the summer, it's possible it could be more. But we'll verify that information when we do the test pumping. I know these numbers are conservative but we'll verify that and if there comes a change, we'll be back here with you guys talking about the actual numbers.

George Kraft-Hydrologist at U.W. Stevens Point – This slide is the whole reason why John invited me here I suspect. Can you tell me how they did the analysis? I don't know how you do that for a collector well.

Planton They have special computer programs. It's much different hydrology because it's not a vertical well. Temperature is a big component of how much water can get into a collector well versus a vertical well. They used a hydrologist during the exploratory work. We use information on collector wells from all over the country.

Kraft So if you ran this 5 million gpd, 12 hours on, when you ran the simulation for 30 days. I want to quibble about one thing: the no-recharge, since Theis and Theis-like equations are super position things, recharge and draw down is on whatever other factors will be there so recharge doesn't figure into it. I know you guys require that in your permits. You talk about these things with recharge but that's neither here nor there. It seems to me like this isn't worst case since you only.....I don't want to imply

that you're causing a problem here. I don't know that. There are other factors here that might mitigate even what you have here. The fact that you only ran this for 30 days and not the steady state makes a big difference. So I wouldn't say this is a worst case scenario. You had some numbers in your report that you ran off for 30 days and they were much bigger pumping numbers. When I ran them out from the 30 days to more of a steady state thing, I thought wow, that's a whopping big number. So perhaps that's something you want to do. Run out a 10 year simulation and I think that would give you a more realistic situation.

Planton Wait until we do the actual pumping test, when the laterals are in place, we'll have a much better idea of drawdowns.

Kraft You could do that now with the data you have. It wouldn't take much except changing the length of the simulation. Instead of 30 days, to 10 years.

Holdridge Pat, when you do that, is that all part of the public record? Is that available to share?

Planton It's documents we've prepared for the City.

Holdridge But I'm saying we have citizens out there and around there, a lot of this stuff is technical and we can understand it but it takes us longer. What I'm concerned about is if you run the test, is that a public expression of what happens there? That would be very useful to have that. We may not understand that and need to interpret that to understand it. I just think it would be helpful to have as much transparency in this as possible which would help the understanding. It may even help the research if you do that. That would be one of the arguments I would like to suggest that you folks are technical people, civil engineers and you have skills in these areas. To get that information out, it usually takes us laymen to look at this stuff, digest it and become comfortable with it. I think our citizens have to stretch for this.

Planton Why we put this graphic together, we'll leave a large printout in the back that people might want to go up and see, where their properties are and where they are located relative to the well #11 site. What we did here is we got a bunch of GIS (*Geographic Information System*) data from the City and County and these green dots represent private wells on the properties that have a DNR well construction. Not everyone in this area could we come up with in the well log but there's probably 2/3rd to 3/4 of the properties have well logs. What they tell you is how deep they are, what was encountered, where the water level was when the well was finished. Those kinds of things that are important for us as engineers when we are talking about drawdowns as potential facts. We need to know what is out there that can be impacted and what depths some of those wells are at. The bulls-eye you see here is well #11. You can see Hwy. 66 and Plover Heights Road. The green bulls-eye, that would be the 3 foot contour we'd expect

at 5 mgd, the yellow inside the property, that's the 2 foot and from that point from the 2 foot out to the red line is where we'd anticipate a foot of drawdown. Everything beyond that would be a foot down to virtually nothing as you get further away. What we did is we looked at all the wells.....this is well #11, the top of the elevation that it's at is about 1,113, down to 1,000 feet above sea level. The red lines are meant to show when we are pumping at 5 mgd for that period, what the drawdown would be at the well. This is a property on Plover Heights Road. These are 8 of the 10 properties that abut the well field property. 8 out of the 10 properties have construction well information that we can review and analyze. So there are any number of depth of wells that we have in here. The top of the red line indicates what the static water level is in the well; subject to some natural fluctuations during the year, with the well pumping 30 straight days, that is what the drawdown we would anticipate be, essentially between 1'-2'.

Citizen That's anticipated. Were those wells checked when you did your test?

Planton No. These are well logs from the DNR.

Citizen How come the DNR didn't have these wells tested as you were pumping to check to see if there was actually any change in the water level? When they were pumping all that water out for 12 days or whatever, how come they didn't monitor the wells around there? That's what I can't understand. Or is it just that it's their public/private land and they can do whatever they want? It doesn't matter to us. I live down the road and I know that it's going to affect me. I'm at 228' right now. My wife's flower garden, that's the only thing I water. My neighbors to the east and west were complaining because I was taking their water. They have shallow wells. When I put in my well, it was explained pretty well where the pockets are. I went down and had to hydrocrack to get to water. I know this well is going to affect me. If my well at 228' affects my neighbors, what is this going to do? And we're up the road a little. Not just the area of the people around there, I feel sorry for them because I know it's going to go down, that's my opinion.

Kraft I think your initial question is why doesn't the DNR test the private well level. Because we don't have the authority to do that, believe it or not. If you threw gas out your back door and polluted the groundwater and we found out about it, you'd have to clean it up, yes.

Citizen If they take water out of my well, the DNR doesn't care about that?

Kraft There is case law that protects homeowners if they are impacted by somebody else's well and that would be the recourse in your case if this well would dry up your well, you would have to take the City to court.

Planton Before 1974, the law in Wisconsin was the English Law of Absolute Possession. Anybody who wanted to pump as much water from their property could do it. It happened in Wisconsin Rapids when we put the collector wells #1, 2 and 3 in the 1950's. That was the law. They put the wells in the town, pumped them hard, dried up people's wells but the law said, English Law of Absolute Possession. In 1974, the State of Wisconsin vs. Michael's Pipeline Construction, Inc. case, a precedent setting groundwater law that if somebody is pumping groundwater that injures a neighboring property owner's well or use of their water supply, they're protected. The person who causes you to have injury has to make recourse, has to provide water, provide you with a new well. It's not your fault if somebody else is pumping water and it brings it down. That is the law of the land right now and it's probably not going to change because it protects people. 100 years ago the way the law was, you could even be malicious.

Some general mixed conversation regarding if a well goes bad, that it would have to be demonstrated that it was related to a municipal well drawdown with comparable information before the city well was in use and then after it started.

Planton If your well goes dry and the water level goes below the bottom of the well, there could be easy fixes like just lowering the pump in the well or there could be more difficult fixes like having to drill a new well. There may be water quality issues that have to be answered as well.

Wisinski 4855 Hwy. 66 – I'm going to get my well tested before this pump goes online. I've got a brand new pump and everything is new in my well and I'll find out what the gallons per minute is right now. Then I need to find out through a lawyer how much it would need to go down for it to be an issue. Because I know this is going to suck it down. If I'm sucking my neighbors down and my well is going down, I lost almost 2 gallons per minute since my well has been in. So I suggest that everyone should get a certified test down right now to check the condition of their well now and have that information in their back pocket.

Planton If you don't know what the depth of your well is, we have records for about 2/3rds to 3/4s of the wells in the area but not all of them. If you have records at home, you can talk to the well driller. It would help us if we could put that information on these maps. So if something does come up in a worst case scenario and there are wells that break suction or dry up, the City doesn't want to have that happen either. That's the last thing they want to happen and that's one of the reasons we're talking about this.

Holdridge Pat, I'd like Glenn to talk a little bit about the potential damages to resident wells and from your perspective, where is the law of the layman and how does that function today in Wisconsin.

Glenn Falkowski – DNR I can read to you from the approval letter. They go over some of that stuff in here. The final recommendation on the well was: “It was recommended that the City monitor the surrounding private wells for groundwater and water quality impacts before, during and after the final test pumping of well #11 as practical. The City should be prepared to work with any surrounding private wells owners whose wells may be significantly impacted if applicable.” We know that potential is there and that could happen and we are encouraging the City to work with the private well owners in the area so they can determine what the water level quantity and quality was prior to, during and after the test. We cannot make them do that. That’s not in our authority but we are encouraging them to do so exactly like what you asked about.

Holdridge Glenn, are there any examples around the state where we’ve had some of these conflicts and how they get resolved?

Falkowski The best example is Wisconsin Rapids and I think we had this discussion. Wisconsin Rapids area in the town of Grand Rapids did put in a well similar in construction to what we have here. There were a lot of wells in the area. Very shallow wells with drive points. A lot of those wells were not even legally constructed. They were very shallow, 17-20’. They only had 3 or 4 feet of water above the screen and when that well was pumped hard in a drought period, some of those wells would go dry. So the City of Wisconsin Rapids did make arrangements to deepen those wells, lower the pumps and put new wells in. That did happen in Wisconsin Rapids.

Planton I was part of that project 20 years ago and I remember a lot of inspections in that Wintergreen subdivision and you’re right. They were all driven points because the water table is relatively high and everybody within tier 3 actually had their sand points replaced with a drilled well. But we knew in going through this analysis that everybody inside of tier 3 closest to the well were going to be impacted if they were shallow. Even with minimal drawdowns, of course well #4 for Wisconsin Rapids wasn’t always productive in that sand. The saturated thickness was much less.

Russ Prusak When you drill those wells, will the quality of the water go down? Grand Rapids was up on top because they had bad water at lower levels.

Some inaudible conversation covered over by someone whispering too close to the microphone.

Planton Some people in here have deeper wells. Sir, how deep is your well?

Citizen 228'

Planton 228'? How is your water quality?

Citizen I have magnesium periodically and rust.

Planton Do you have any treatment inside your house at all?

Citizen I use a water filter.

Planton Have you noticed any change in your water quality over the last 3 years?

Citizen Yes. There's a lot more magnesium now.

Planton Manganese or magnesium?

Citizen Magnesium. I had to have them come over and check to see what it was.

Planton It's getting worse?

Citizen It's up and down. In the summer it's worse. In the winter it's better. The summer is when the drawdown is.

Citizen The water is variable around here from top to bottom. Typically if you go deeper, particularly in my area up there the water is about at a 40' level and is not as good as it is at about 30' and above.

Planton I've been doing water supply for some 20 years in test wells. If you move your well over 10 or 20 feet, it can be completely different. Right below grade there's a lot of uncertainty, which is again, why we did a lot of exploratory work because we can't know everything.

Citizen You talked about tier 1, 2 and 3 for private wells. There are no private wells in 2 and 3.

Planton Tiers 1, 2 and 3 were graphics so we really haven't determined everybody within 250'. That would be analogous to what Wisconsin Rapids was. Everybody in tier 3, we knew with some certainty that they were going to have a well that would go dry. They were provided with new drilled wells at the utilities expense before the well was even constructed. They got a lot better information about the wells and how shallow they were.

Falkowski To finish your question. You asked about legal. In the approval letter we also mentioned and I'll read it again: "If there is an actual adverse affect caused by the proposed well to nearby our utility wells or any other wells, the injured party may seek relief under the reasonableness of use tests set forth in the State of Wisconsin vs. Michael's Pipeline Construction, Inc., 6, Wis. 2nd, 278 (1974)." Basically that was the case law that set up, like Pat was talking about, in 1974 that said that if somebody damages you by lowering your water table and making your well unusable, you can recover that. As Pat said, the burden of proof then as in a court of law, you would have to prove that your well was impacted. You can't have everybody coming from 30 miles around saying that it dried their well up. You need to have reasonable proof that that actually happened.

Holdridge Why don't you go through this and then we'll come back for questions. What the mayor asked is probably the big one.

Planton I've got another graphic that is also a part of that board back there. The immediate abutting properties to the well site. There's 10 properties and 8 of the 10 we've got well logs on so that's where they are tracked/plotted on that graphic. The next one we did, because as we head up to the north and west, again the green dots, those are where we have private well construction logs. What we did was to go out as far as almost a mile to the northwest upgrade from where the water is coming from and see what kind of impacts there may be going beyond the 1,400' where that one radius ends. This is actually a 1,000' radius right here. Here's well #11 and going out in this direction I believe there are maybe 10 or 12 wells. Here's the groundwater flow approximate direction again going towards the discharge to the Plover River. The same kind of graphic again over here. Here's well #11, the drawdown anticipated at 5 mgd and then here are the wells with the addresses of the private wells. Some of those people may be here. Again, this is from the well logs and this isn't meant to be the scale in this direction so that is why we put underneath a text box actually showing how may lineal feet away from well #11 we're going and

what kind of drawdown we anticipate from pumping at 5 mgd. As you would expect, as you get further away, of course the static water level for all intents and purposes, when there's no pumping, there's no change. Because the amount of water being pumped collectively is of little impact on the water table. Then the drawdowns would be measured relatively speaking the depth of that green rod. This one, the closest could be a sand point, but there may be others. That's getting back to if there is an injury to a water supply system. Again, just lowering the water table even by a little bit, as long as the well is still operational and the water point doesn't change and the pump doesn't break suction, it may be hard to argue that you've been harmed. If you go to an engineer and you find you have to pump your water 2 feet more for the next 50 years that you're living there, there's a logical cost to that. We ran through a quick calculation of maybe a 5 gpm well at ½ hp for a year and the additional electrical energy for a 2 foot drawdown per year is less than \$1.00. What would be the impact if a well dries up? There's water quality issues. That could cost money to fix and you could say to Stevens Point, there's an impact here. We'd have to travel through the process. So homeowners are protected and people with large volumes of water under their property, that could impact people outside their boundaries.

The final thing I wanted to talk about is water quality. Not only quantity, depths of wells and water table declines, potentially, but what happens if the water quality changes? It could, potentially. We don't anticipate anything. We've done a lot of sampling before, during and after the wells were pumped at about 50 gpm in 2 exploratory wells in 2007 and pumped at 1,300 gpm for 72 hours back in July of 2008. We measured drawdowns, took water samples with no real major changes between August 2007 and August 2008. The one thing that did change when we pumped a little bit harder is that we got a little more iron and manganese. That was anticipated. Some of the reasons we are going to sample again is if we have to prove to Glenn and the DNR that this new well does meet all the federal and state drinking water requirements. Just like we have the last 2 Augusts, it would be the same thing. The groundwater meets all primary and safe drinking water standards now. It meets all secondary esthetic types like hardness, sulfates but the 2 of note are in part taste and odor, staining fixtures and laundry. That is something everybody out in the country has to deal with. High manganese. And Stevens Point is no different. The iron level, secondary standards .3 ppm or .3 mg per meter. We measured at pumping 2 million gpd. On the borderline, being treated. The bigger concern, and Stevens Point knows this, is because the 2 wells that turned...well #6 and well #7 have manganese levels of about double that. That's a concern from the water quality perspective. But even though the secondary standard for manganese is 50 ppm or .05 parts per million per liter their well was about 67 times that and had to be removed before water could be pumped or they'd have complaints. The phone would be ringing off the hook. That's why the City is committed to building a water treatment plant to take out the iron but more so to take out the manganese.

So what kind of water quality impact can we expect in pumping well #11? We don't anticipate any. Not to say that there couldn't be any. So we are going to resample when the wells are test pumped in the spring. Remember the County recommends that all private well owners send their water, at least annually, to be tested for bacteria and nitrates. Like I said, we live in Plover and when we had young children, we sampled the water in our well every year for bacteria and nitrates. It gives some peace of mind to know that your private water supply is safe. For \$44 for a sample, the Wisconsin Environmental

Analysis Water Lab (WEAL) will test that water for you. I recommend it. If you haven't done it recently, get your water tested. It will give you peace of mind to know what the bacteria and nitrates are. In other parts of the county the nitrates are high. If you get on the other side of the Plover River, there are drinking water wells with nitrates that are 20-30 ppm. Maybe not a problem for adults, but could be for children. That's why nitrates are a primary drinking water standard.

How will any future changes in groundwater quality be quantified? That's the biggest concern because after this well is operating and 2 years later you come back to the City and say that your water smells or is discolored or you can't drink it, like Glenn said, the burden of proof is on the property owner. How does the City know.....(end of tape)

Planton (continuation on next tap, some lost conversation) The City wants to be a good neighbor and the City has been very diligent and the first community in the State of Wisconsin to put together and enforce a well protection ordinance so that the groundwater throughout the City and area can be protected. One of the reasons why we don't see a service station on the corner of Hwy. 66 and the freeway is because it's in the City's wellhead protection area. The City doesn't want to have a service station there. It doesn't want underground storage tanks that could potentially leak and contaminate 80% of the water supply with the City's high capacity wells nearby. The City is doing its part to be a good neighbor to the people in the Town of Hull. What I recommend to the City is to have everybody that is closest to the new well with abutting property, to offer to them to sample or pay for the testing of the water from their private well. The samples would be sent into the University lab. They will test for a number of parameters. Everybody outside of that abutting area, further and further away from the well, I would recommend them getting a sample too.

Halvorson Pat, we're going to define "immediately adjacent" as 1,400 feet.

Planton The City can decide whatever they want that circle to be. My recommendation would be, at minimum, to test the people's water that abut the new City well property. Bottom line is, as a homeowner myself, that your water supply coming from the City is checked every (lost some words but it sounded like he referred to more frequent intervals)...2 years for over 100 different contaminants based on the safe drinking water act. So the City needs to test for safe drinking water standards. The City knows with a fair amount of certainty the quality of the water serving the Town of Hull residents. The problem with homeowners with private wells is that they don't know on a day-to-day basis (the status of their water). You wouldn't know if there is a spill until you could smell it or taste it in the water. But the nitrate level could be high and you wouldn't be able to smell or taste it. So I would recommend for everybody in the area to get a sample bottle to the University and get it tested. For \$97 you can get tested for nitrates (along with many other contaminants) and that's a pretty reasonable cost to get a lot of information on your private water supply. I would certainly recommend that you do that and the City will offer to pay for the people that abut the property to get that information for a number of reasons. #1: It's

good for those people to know what their water quality is and it protects both parties. #2: If there is a change in water quality a year or 2 down the road, even 3 years down the road, you can get the water sampled again and see what's changed.

Holdridge What was the distance again?

Halvorson All those that are within the projected 1-foot drawdown area which would be a 1,400 feet radius.

Planton What the City is going to recommend, and it would be better to see it on that bigger map, but for everybody whose property partially or whose property is completely within that radius?

Halvorson Yes. There are some that are so close, you might as well test them anyway.

Planton For that amount of money, it would be good public policy to pay to have those wells tested. That's everybody that we would anticipate to be within a 1-foot drawdown in a worst case scenario. If you are outside the radius of that red boundary on the map, there is nothing to prevent you from getting your well tested every year for bacteria and nitrates. I would highly recommend that and maybe every 2-3 years to do it for \$97 where you can get every single quality constituent tested.

Holdridge Why don't you wrap up because I want to turn to a couple of these other people. It's a quarter to 9 p.m. and if we go beyond 9 we may starting losing some. Is there anything else you want to say?

Planton The project has been in the planning for not 2 years, not 5 years, but 20 years. So it's been on the board for quite a while and it addresses the current needs of the City plus the projected 20 year demand need. It complies with the DNR's strong recommendation to increase the water supply capacity. It provides additional liability in case wells #1-5 have a nitrate violation or the other 2 wells have a problem. It's on City owned property with a very large, saturated thickness so it can support a high capacity well. It's got as large a separation distance from the neighbors as we can get in this area and comply with the setbacks for septic tanks. We're as far away from the Plover River as we can be on that property as well. So I'm done.

Holdridge Thank you Pat. Mayor, do you want to add anything? You or Kim?

Halvorson Not right now, unless there are specific questions that need answering.

Kerry Butt – 1434 Plover Heights Road. The first question is, if this has been in the planning for 20 years, why was there only one public notice in the newspaper to mention this? There was no letter sent, no notification to property owners within 1,000 feet of this well. Why? That's all that is necessary?

Halvorson Yes. All we did was the legal requirements for public notices.

Butt 20 years of planning and one notice in the newspaper?

Halvorson Actually, there were a variety of different public meetings that dealt with the issue over the 20 year period of time. When we got to the planning state, we did....of course they were all publicly noticed, absolutely. And there was... when we noticed the immediately adjacent property owners, of course they were notified. You were notified.

Butt We were not notified. No. There's one property between my house and the well plot.

Halvorson That's why you weren't notified. The protocol we used in the planning and inspection department is to notify those immediately adjacent property owners to anything we do. They would get a notice. That's the process we use.

Holdridge The people from the Plover Heights subdivision, did you get notices?

Citizen No, we didn't.

K. Butt But we gossip a lot.

Citizen I got a notice.

Holdridge Who are you?

William Hinner – 1406 Plover Heights Road. An adjacent property.

Holdridge That's your standard, that is the legal standard? The Town of Hull tends to have a much more different....we're much more liberal on that kind of stuff. We tend to send notices to lots of people who are affected by projects. We fill up the building and so forth. But that depends upon the government and how they do it and their (*level of*) responsibility. Any other questions?

Michael Karch I'm adjacent. First of all, that road that you're going to be putting in from the Hwy, will that be asphalt or gravel?

Planton/Halvorson It's going to be asphalt.

Karch It will be more quite and a lot less dust. Secondly, I've lived with a well all my life and there's the noise. Nobody has mentioned anything about the noise from this pump house and treatment house. Is that virtually quite, or is there some noise coming out of there or what?

Planton How much noise have you heard from the construction so far?

K. Butt Enough.

Karch Plenty of banging in there.

Planton You should not hear any noise to speak of when the pumps are running. The only time you might hear some noise is when the standby generator kicks in. With standby power, there would be some noise. That wouldn't be running unless there was some catastrophic power failure. You're out of power and Stevens Point needs to pump water and the reserve generator comes on. Otherwise, you might hear some noise if you are within....

Citizen How will that generator be powered?

Planton Gas.

Karch When will the construction be completely done? I'm talking the road, the pipeline running down along the side of Hwy. 66 to the connection at Torun.

Planton We haven't finished the new documents yet that list the construction potential completion. We're anticipating the contractor....we'll be bidding the project....June as soon as the well guys are done. Best case scenario, everything is done by July, I would guess by November of 2011.

Karch The last sentence in one of those letters said, as soon as we get done with this well, we're going on to the next one. Where and when? Where is the next well going to be?

Halvorson The likelihood of another well with well #11 being fully operational at 5 million gallons per day is very, very low. The idea of a new well, unless we have a failure of well #4 or #5 that puts them completely out of service, but if they both go down, we'd probably need to look at another well. It all depends upon the capacity we have.

Planton That article that you're seeing, I think that was in the Gazette?

Holdridge Yes, that was the last sentence of it.

Planton There are no catastrophic failures of Stevens Point wells at this point but at some point in the future, they will need to be replaced. But for the foreseeable future, this should work for decades. Remember, we need an extra 2.5 – 2.6 million gallons. Stevens Point does a very good job of maintaining these wells. I don't envision wells #4-10 the construction standards are better They maintain these wells spending \$10,000 - \$15,000 on these wells every 8-10 years making sure the equipment is reliable. I've been looking at these plan studies for years and this is probably the last well this utility will need for 20 years at the minimum barring unforeseen circumstances. Or, if Stevens Point goes through a tremendous growth spurt and it's not a 25,000 person community but a 50,000, but that's not projected to happen, at least not in our lifetime. But that would have some water quantity affects as well. The short

answer to your question is, there will be no well #12.

Holdridge Other questions?

Len Wisinski – Hwy. 66 I've got a question for the mayor. Is the City with this well, the idea is to make money with this well? Is there no way to conserve water like you had on your first draft saying it doubles the water in the summer? Other cities are cutting back watering of grass. You try to save on water rather than have green grass. It seems like with the City, the demand is there, so hey, put money in our pockets and slap in another well, make money and run?

Halvorson What individual property owners do on their own is certainly up to them.

Wisinski Excuse me but it's up to the City. Some cities ban.....

Halvorson I will not choose to do that.

Wisinski Can I ask why?

Halvorson Because that's the individual right of the property owner to decide whether or not they want to water their grass. If we get into a catastrophic drought where we have to implement a true sprinkling ban, which the only time we ever did that was in 1988 or 89. That's not something we want to do. The conservation efforts that the City is engaged in are certainly over and above what most do in terms of what we encourage. We've seen that certainly voluntarily. But if you put in a low-flow toilet and a low flow showerhead, that isn't going to fix our capacity needs moving into the future as of today. It isn't going to gain me capacity within the system of 800,000 gallons per day and that is really what the deficit is today. So no, we're not looking to do that at all. There is a rate implication to that, absolutely. There is a rate process that has to be maintained and a certain level of income that is necessary for the utility to keep the rates stable and within reason for our rate payers to handle it. So like any other utility, it's exactly like an electric utility as far as the rate assumptions that are created. That's all part of what has to go back to the reinvestment in main replacement, in well rehab. That's all part of the equation. You just can't run it any other way and that's why the regulations are very different from the DNR perspective and the Public Service Commission's perspective.

Holdridge It's basically a self-sufficient budget.

Halvorson Very much so. There are no levy dollars involved in that utility, that's the difference. These are enterprise funds which means they are run very much like businesses. Which also by the way, the borrowing of this doesn't impact the debt capacity of the City. It's a revenue issue.

Planton I live in Plover and I bet 90% of the people there have private wells, sprinkler wells. I have one. If you drive around the City of Stevens Point last summer, I would dare say that the only green grass you saw was at Sentry World and the Country Club. The Country Club is in the Town of Hull. You go to Plover and everyone has these plush fairway type grass with watering. I water every day, it's not costing me anything other than pumping it out of the ground with the power. Stevens Point, anybody that sprinkles their grass, the water runs through the meter so they are paying for their water. So inherently, if they're paying for their water with a bill every month, it may come to a point where they can't afford it anymore, they'll stop doing some of that discretionary spending. They'll still take showers and cook and clean, but maybe they'll let the grass turn a little brown until the next rainfall. So there is some inherent conservation built into the rates that utilities charge. The second point I wanted to make is that operating a utility is a tremendously risky business. I'll say that to this group especially, a utility has probably 90% of their costs that are fixed. Kim goes through a rate adjustment through the Public Service Commission projecting their operating and maintenance expenses, it's largely fixed. If they pump double the water, they're probably not going to hire double the staff. Or if there is a wet spring or summer, they're not going to lay people off. They have that fixed operating labor cost. Pretty much a fixed cost of maintenance. They have fixed costs for appreciation. Fixed costs tax equivalent that the utility pays the City. Then the utility is allowed to earn a rate of return of its invested rate base. A lot of people can conserve water. The only changes to Stevens Point costs would be less costs in chemicals to treat the water, less electricity to pump the water. I'm an advocate of conservation, don't get me wrong. I think you should try to do more with less. But the utility set up is to serve a large population base with sufficient water to meet drinking water standards and fire dept. standards. To meet the water quality and quantity standards. To do that, they've invested millions of dollars and all that is fixed. Just like your mortgage. Your mortgage doesn't go down if you get a cut in pay, you still have to pay your mortgage.

Holdridge Pat, I think you've made your point. I want to get to some of the other questions.

K. Butt On the same subject of conservation and price of water; there's a nasty rumor going around and I want to clarify this, someone has told me that if you are within the City limits, if you use a larger volume of water, your price is less per gallon. Is that or is that not true? If you are a large consumer of water, your price per gallon is less than someone who uses less?

Planton A large consumer like the paper mill or the brewery or the University?

K. Butt It's not per gallons but the rate is less...

Planton There are rate blocks and there is inherent conservation within the rate blocks because the residential customers pay more per thousand gallons...pay more per hundred cubic feet than say NewPage or the University or Sentry does. It's not that they are getting a break because they are great businesses. When you look at it, the mill uses water 24/7. In summer, in winter, their demands don't change month to month. But in the summertime, you've got 3,000 residential customers that all water their grass at the same time. Now with Kim, if they have one customer, if the paper mill was the only customer, Stevens Point might get away with 2 wells and that's it. With this big residential population base using huge peaks in the summertime, now Kim has to have 7 wells. Should the paper mill pay for that extra capacity to pump the water, have the facilities when they in part have no extra capacity costs to the utility at all? That's why the highest rate block is for the smallest users of water and that captures all the residential users of water. You pay more per 1,000 gallons than the next block down that captures all the schools, businesses and the last rate block is for the paper mill or Sentry or brewery or the University. They use so much water but it's flat throughout the year. It's no different than McDonalds.

K. Butt Is the difference the electricity?

Halvorson As far as what?

K. Butt The rates.

K. Halvorson The rates are set by the Public Service Commission. Regulated rates set by the Public Service Commission. Electric rates are different than water rates and they are also regulated.

K. Butt The point I'm trying to make is it doesn't seem like we're conserving if we're giving larger consumers a better price.

K. Halvorson Except the fixed costs are the difference. You pay so much for the chemicals in the water, so much for this, so much for that.

A. Halvorson It's all static.

Planton I can pretty much guarantee the paper mill and large users are not wasting water. Because they can save money if they can conserve water. They're in business to make money.

K. Halvorson I want to say something about conservation. I don't want people to think we are not conserving. We do a leak detection program on an annual basis throughout the whole entire City to make sure we aren't wasting any water. We do conservation efforts on the consumer confidence reports *(From Consumer Confidence Report: Continuing conservation efforts include an annual system wide leak detection survey that found a total of 17 leaks which saved approximately 27 million gallons of water per year and savings of \$20,379.00, after they were repaired.)* We give information on how to conserve water and a lot of residents in the City of Stevens Point have stopped sprinkling on their own. So we don't feel like we have to be the water police to make them stop.

Holdridge Dave, did you have a question?

Dave Schmidt – 5542 Riverview Court Could you call up your presentation to slide #11. This is for clarification for myself and the entire audience. With the proposed north well field, it looks like that north well field is considerably south of the Plover Heights subdivision. Is that correct?

Planton Yes.

Schmidt So sometime between when this was done in 1991 and now, the north well field has moved north. Is that correct?

Planton Yes.

Schmidt Could you explain why?

Planton Sure. Our recommendation was to get as far away from the Plover River as possible. Another thing is that I mentioned well #10 has great water quality. One thing the City has noticed is that when the well was drilled, the nitrate level was around 1-2. The nitrate level is about 5. So half of the standard, not going up very fast but we know for a fact, everyone east of the Plover River has tremendous ----. So 2 things, we want to stay away from the Plover River. There's been a lot of headlines in the Journal about the Little Plover River ----. The City has the ----, we can get further away. In that 1,200

foot separation for exceptional or outstanding water courses, my recommendation to the utility was that could change next year and the Plover River could be made an exceptional and outstanding water course. Folks in the DNR said if you change the water laws just like in Wisconsin Rapids where they can't pump that well #4 during the summer because it dries up --- Creek, not that there is a relationship between the Plover River and --- Creek but the state could come down and say, "Stevens Point, you spent \$10 million, you're going to operate it a quarter of the time now because you're within 1,200 feet of an exceptional water course," and I told Kim that I wouldn't take that chance. There's enough emphasis right now on groundwater impacting surface water, ponds, lakes, streams. If you can get further away and the water quality doesn't suffer and the quantity doesn't suffer terribly, that's the place to go.

Holdridge Any other questions?

William Hinner-What is the size of that treatment facility? Is it 10x10 or 100 x 100'? And where are you going to put it?

Planton Just immediately south of the well. If you've been out to the site, do you see where it's been cleared? Essentially 20 feet beyond where the well is. Possibly the generators will be outside. A masonry building 60 x 100, split faced block. It won't be the Taj Mahal but it won't be a building that will rust and fall down either. It should last 50 years. It will be 25' high. This building will be comparable to the one over by Iverson Park but this one will be bigger.

Citizen So are the pumps in the bottom of that 100' well or are they above the ground level?

Planton The actual pumps themselves, when you go into a well pump station....

Citizen The reason I'm asking is because if they're down at the bottom of that well, we're probably not going to hear them, but if they're up above ground.....

Planton The actual pumps are down there and there's a stainless steel shaft that's turning a motor so the only noise that comes out of that station will be the noise of a 125 hp motor which isn't going to be loud by any means when located inside of a masonry building. You're not going to hear it. So the actual pumps are down there. It's like a submersible pump except the motor isn't down there like a submersible pump, the motor sits on top, up above.

Bob Butt The ultimate question here is, if this does impact my private well and my neighbors private well, legal recourse you said was Michael's Pipeline versus ... that was a civil matter so that in a civil matter, if my well goes dry and I feel the City did it by the impact of this well, my only recourse is to hire an attorney and go after the City.

Halvorson I think your first recourse would be to take a deep breath and show us the data you have and more than likely, it could be worked out reasonably without lawyers.

B. Butt Okay, but I'm just saying, ultimately if there was a fight, there is no law on the books right now to protect private land owners. Am I correct?

Planton That's the State of Wisconsin vs. Michael's Pipeline Construction, Inc., 6, Wis. 2nd, 278 (1974). It's case law and that's the law of Wisconsin and it's been enforced a couple of times. It was precedent setting and it was down in Greenfield/Milwaukee where MSP put in a large interceptor sewer and went down 40' and home foundations and sidewalks cracked, the driveways cracked then MSP and Michaels said the law doesn't protect homeowners at all. It was a small subdivision. The state came back. The homeowners sued. The circuit court threw it out and when the supreme court ruled on it, it became the case law of the state.

Halvorson You also have to understand Bob, that you might be confusing the civil. It just doesn't mean that it's individual vs. individual. A civil action is a civil action. It's not criminal in court law. It would be the same process that you would use here.

B. Butt Another thing you might consider is that you're offering water testing for quality. What about water levels, checking private wells? Ultimately it would protect the City and the homeowners.

Halvorson That's actually what I told the directors.

Butt If we sign up, then you'll come in...but what about water levels?

Halvorson That's what I just said, I said yes.

Butt Okay.

Planton And I advised the City beforehand based on our experiences that when you start going inside of people's wells.....if somebody goes in there and all of a sudden the well is contaminated, then you're wondering if it was that way before, or did they do it? Then you get into a situation with that.

Holdridge What happened to the well?

Planton Contamination.

Holdridge Okay, so who did it.

Planton Was it before? Or did you do it?

Citizen Is that sample that you're going to do on file enough for us to stand on and come back to you if we need to and say here's the text X and here's test Y and here's the difference? What you're going to pay for will be enough for us to stand on?

Halvorson That's the whole idea of establishing an objective baseline to any of the properties that would most likely be affected which would be within 1,400' of the well. We established that baseline that we'll pay for it. You use the testing service that you want. Use the University or use the.....as long as it's certified.

Citizen Is that something we need to keep on file with the City?

Halvorson We will take all of the results of every one of them, we keep the originals. We have those on file. If you come to us in 5 years because you have an issue, show me the data and we'll probably, at that point, choose collectively another objective resource to make the same exact test. If that data comes back and both of those new tests indicate there's a significant change, then we clearly have something we want to look at.

Holdridge Mayor, is this process that you've outlined verbally, is that going to be put in writing and circulated to the citizens so we all understand?

Halvorson Sure in terms of what was talked about and what was discussed.

Holdridge Those procedures will all be out there?

Halvorson What will happen is S.E.H. and the Water Dept. will be dealing directly with the people that are within the 1,400'. You'll be contacted by us and you'll arrange who you want to do the testing and the testing will happen. You keep the originals and we'll have copies of all of those results. That becomes the general baseline that gets established for quality and depth as far as what goes on in those wells.

Planton Another thing is that the state does have a way to monitor too if something doesn't look right or the water quality...verify if something is happening in your well that might not be happening in mine that may require some additional exploration. There shouldn't be massive changes in water level. Nobody has a well that pumps more than 5 gallons per minute.

Halvorson Ray, did you have any comments?

Ray Schmidt I just wanted to ask Pat, when you modeled the zone contribution, are you looking at it as a circle around the well or wouldn't you extend that 1,400' up gradient?

Planton Ray, I'm going to have to take your question to a hydro geologist because a hydro geologist did that model.

Schmidt I would be surprised if it was a circular zone.

Planton Probably not but close.

Holdridge So that's something that may have to be looked at. Do you have other comments Ray,

that you'd like to make at this time?

Schmidt No. Good presentation.

Holdridge Glenn, any comments you'd like to make or thoughts?

G. Falkowski I think everything was covered pretty well.

Holdridge Are you the DNR honcho for this area that everything goes up to?

Falkowski No, I'm the lowest person they come down to. I handle all the municipal water supplies for 5 counties: Portage, Marathon, Wood, Adams and Juneau.

Holdridge So you tend to be the initial contact though?

Falkowski Right. I've been doing this for 23 years. I've been working with Stevens Point and all the other communities doing this for 23 years, looking at all the water supply stuff.

Holdridge Well we're pleased you are here tonight. George, comments?

George Kraft A few of them. First of all, I recommend to the Town of Hull that you ask for the updated drawdown projections. That instead of 30 days, you take it up to 10 years, 20 years would be fine to see what the drawdowns would more likely be in the more distant future here. A 30 day one doesn't tell us what we need to know in my opinion. Not that I'm saying that I highly suspect there's going to be a drawdown problem here. It's just being diligent as me being an advisor as to what you should do. Anybody that's going to take advantage of the City's generous offer to have the water tested, make sure you get it from an untreated point in your household. Not through a softener or something like that since you want to know what is coming out of your wells. Going into people's wells and people want to know the depth of their well water, that's fraught with potential peril. Again it's generous of the City to be making that available for you to have a contractor come and do that. However if the City already has monitoring wells that are deployed in such a way that we can use those to get water levels in locations and perhaps it would even be cheaper if they put in a few more in order to get a good water level

elevation out there. If you really want it on your own well, okay but like I say, people lower things and you get tangled and you have to pull pumps out and it's just a not a nice thing. It's something you need to consider. The University has a full model for the groundwater in the area so if and when, coming up with Ray's thing, you want a zonal contribution for well head protection to be developed, we can do that. I think we've done that for all the other cities.

Planton We do that as part of our contract with the City.

Kraft Oh, okay.

Planton It's coming up. A well protection plan.

Kraft Well if you contact us, we'll do it for a freebie for you guys. Since you brought up the Plover, just because this well is by the Plover River doesn't mean that every drop it pumps is taking water from the Plover River. Mr. Mayor and Madam Director, I still hope we have that talk about the long-term water management in the area. Currently you're about at 8% of the flow of the Plover River is what you take before it flows into the Wisconsin. What's the vision for where we are at in 1, 2 or 3 decades from now?

Kim H. That's based on your modeling, correct?

Kraft It doesn't take much to do. It's like how much are you pumping? What's the flow in the River and divide those 2. We just happen to have the flow data unless you guys are taking some also. But it's a real simple thing. Unless you think your water is coming from somewhere else besides groundwater that would otherwise be.....

Kim H. George, we disagree with yours.

Kraft You think your groundwater comes from somewhere else?

Kim H. Not entirely. But there are other studies that refute yours and you are aware of those.

Kraft No, I'm not, so please share those with me. I'd be interested in seeing them.

Holdridge I think these discussions are very helpful. I've learned a lot and I hope everybody else has. Positions are taken and we ought to try to come to some kind of common ground. I think water is the issue now and will be the issue in the future. I don't want to see our constituents in Hull hurt by this and I don't want to see the City and your people....we all have to share that. As far as I can determine, nobody owns the water. So we all have it as a resource and we have to figure out some way to work together on it. This certainly isn't the last discussion on it. The water issue will be there and we'll have to get the data and make our intellectual arguments and get the sampling going so we really know what is going on. My problem is on these test wells. I don't know if we've ever seen that data and I think Hull has to step up to the plate here and either tap into what you folks have.....

Halvorson You can tap into our utility template.

Holdridge The notion of having test wells and comparing that data is really crucial. We do buy water for the fire department.

Halvorson Yes you do and we appreciate that you are a customer.

Citizen Can we request that for any future meetings that there be a letter sent to residents instead of just one notice in the newspaper that I don't get? That there be another way of notification.

Halvorson Are you asking me? John, how was that done?

Holdridge You brought up that we sent a letter to all those people in the Plover Heights subdivision and some others around there. Is that what you're referring to?

Citizen Yes.

Holdridge If you let us know, we'd be happy to communicate with you.

Citizen John, I'd check into those people that live in Somerset that probably didn't see that notice too, as they are almost equally as close as Plover Heights is. As far as I know, I'm the only one here from Somerset and we would like to have some information sent also.

Len Wisinski Am I being a dummy coming here and hollering at this meeting that they're saying it's not going to affect my well?

Kraft If I had to bet, given the depth of you well....how far away are you from that?

Wisinski Maybe a mile and a half.

Kraft I'd say no, it's not going to affect your well.

Wisinski Well if it does, you might be eating crow.

Kraft And that's fine. There are oddball things that happen sometimes but again, if I had to bet and I'm not a betting guy, I'd put a lot of money on this one.

Wisinski I don't know if I talked to you when I put my well in. An individual from the University showed me which way the water runs. From 10 years ago, which way it runs. I had them out because I was having trouble getting my well in and the University came out, explained, he checked. Would it have changed in 10 years?

Kraft I don't think so. Ray's got something here.

R. Schmidt The models have changed since then. They are now based on a lot more information that what they had then.

Planton We're trying to monitor where the bedrock is. We'll survey the whole site and every

elevation we can get that is successful trying to find where the bedrock is. We have a monitoring well here and a boring well here and here so you might have a 20 acre parcel and your asking someone to map the bedrock or map the water table. A lot of assumptions are made. Like Ray said, in 20 years a lot more data is now provided by well construction records that weren't there in the old days. Every day we get more and more information on what is going on underground. Where are you located? Northwest?

Wisinski West....the airport.

Holdridge There may be a need for some sort of ad hoc group as this process evolves, from the Town of Hull and perhaps some City people to follow this process and keep the information flow. Track the records and so forth.

Halvorson I kid George all the time and I get a little sarcastic at times and I apologize for that. I think the greater danger here for groundwater as a whole, municipally or otherwise in this county will be the influence of nitrates and the constant increase of that chemical within our aquifer. We're going to face it within our wells. Well #5 is our greatest point of vulnerability and it's no surprise why that is. It's east of the Plover River. My father-in-law, for example, lives in the Town of Hull and I know he's at 16 ppm nitrates in his well.

Holdridge Off Old Hwy. 18.

Halvorson Right. We monitor that very carefully given the age of our children of course. We bottle water from our tap and take it over there. There's a difference between bottled water and water that comes out of the tap. I think that's the greater dialog. I do not disagree with you that at some point there needs to be a collective solution on how we deal with this. Plover has their municipal challenges. There are a lot of things being done voluntarily within the Village of Plover, municipally as well through different businesses to counteract and redirect more of the water back to the Plover River watershed. It's going to continue to be a challenge but I think the single greatest threat, if I were to put my finger on the greatest threat that we face, it would be quality. I think you would agree that overall, quantity, depending upon the depth of the wells, will never really be a true issue for us. I mean just raw quantity. It really will never be a true danger. The real danger that I think we face are the chemicals we introduce into the aquifer, industrially, agriculturally and how, ultimately, we deal with the chemicals that find their way into the aquifer. There's really no easy solutions to that either. Agri-business is a huge economic driver within the area. Are there different substances that we use? That's going to be the interesting point. But I think the single greatest point of danger is probably the nitrate issue in the more rural settings of the county and quite frankly in the urban and municipal settings as well. There's no question. Plover has had to deal with it for years.

Kraft We won't run out of water, you're absolutely right, at least this side of the river in the County. We could potentially someday pump every lake and stream dry. But we will not run out of water.

R. Schmidt It depends upon what you are willing to sacrifice to supply water for municipalities.

Kraft And others.

Holdridge Could you comment on the households? Any thoughts on these 2,020 households that have private wells and a third of the county? Any thoughts on those in terms of water supply and quantity issue?

Kraft I think eventually these guys are going to do a good job coming up with an area here that may be (*end of tape*)....I think there may be an issue for those within certain circles of this map but over the broader area, I don't see where things should change substantially.

Kim H. Before we all leave, I want to tell everybody in that circle that we're going to get together all the addresses and supply bottles to you from the University with information on how to get the samples and then it's up to you to get them to the University and we will....

Planton It's easy to do. I sampled those wells out in Wisconsin Rapids and probably did 100 of them. As George said, make sure the sample is taken before it goes through any home treatment system. The well water that is coming into your house, take off the aerator off the sink where you take the sample from, clean it.

Kraft Go to your basement if you have a sample tap down there.

Halvorson For those of you that live in the township, you understand John's perspective, my perspective and the Village of Whiting's perspective and the Village of Plover's perspective will be this: 66% of the County's population receives their water from 14 wells. So just remember there is a very different statistic. John is talking about a third of the properties within the county having individual wells. Remember that 2/3rds, 66% of the entire county's population receives their water from 14 wells.

So remember that.

Kathy Dugan I'm from Stevens Point and am just an observer. I wanted to put a plug in for people reading the local newspaper. I know about this not because I talked to Andrew or Kim Halvorson. I read the Stevens Point Journal. The agendas and meetings are very well detailed and I have been able to follow well #11 for awhile now. So I put a plug in for the newspaper and subscribe to it, at least one of them and follow the City's meetings.

Kim H. All of the City's meetings are on their website.

Holdridge Is the Gazette your official newspaper?

Halvorson The other thing we've changed exponentially on the agendas we put on the web site as well was all of the attachments for all of the packets go now via PDF on our website as well. So if you click on the agenda and click on the all of the other materials whether its memos from myself or directors or engineering memos or whatever else is going with the agenda all the supplemental material is there as well. So the presentations that are part of the meeting are on the website as well.

Holdridge One point that I make to Andrew, the 66%, you're absolutely right but my point was that there has been very little attention paid to the householder and that's a large part of the population in Portage County and Hull. I think there needs to be some focus on that. I want to thank the mayor and his staff for coming out here. I'm please by how it turned out. We had an excellent reception. I would say to the citizens of Hull, you ought to think about this. As you think about it, if you have ideas, get back to us, we want to hear from you. Because obviously this issue is going to be with us. The whole water issue is going to be with us. We should start talking about it. I want to thank Ray for coming out and Glenn for coming from Wausau and George for coming. I'm pleased that you all showed up. I hope this is the start of a dialog. Hope ideas will be thrown out there and some we'll agree with, some we won't agree with.

A.S. Vruwink John, I would just like to make a point that in the County there has been a water working group and there will be groundwater legislation that this group has been working on since last year and it's comprised of a bi-partisan group of people. Representative Spencer Black in the Assembly and Representative Mark Miller in the Senate and they are looking at proposed groundwater legislation mandatory conservation or mandatory water budget throughout the State of Wisconsin. So there's going to be some new legislation. There we are hoping to pass it by, for better or for worse, and it's going to be controversial, by the last part of our session in April. So I just wanted to bring that to your attention to be watching some of the stuff because it's going to be regulating not only high capacity wells but it's going

to be looking at the overall use. Especially the Great River Water Basin which includes a little bit of the Town of Sharon, believe it or not. I just wanted to bring that to your attention because it's going to be directing the DNR and the authority of the DNR to be looking at some of these things. As it is now, the DNR has some authority for conservation practices under state statute 281.346 (8b). So there is some stuff they have. I just wanted to bring it up and bring it to your attention. Representative Molepske has been appointed to this as well. My promise to the societal, economic and agricultural impact in the State of Wisconsin is going to be really well looked at. So keep an eye on that if you need more information, you can contact Representative Molepske or myself.

Citizen Are there other mechanisms for a city or municipality to keep utilities solvent. They're talking about how they need the revenue....how can they reconcile conservation....are there mechanisms that you know about?

A.S. Vruwink Not so far. I look at the Public Service Commission and where the highest water rates are in the state and Stevens Point isn't the highest, it's second highest but it's not the highest. This is what the municipal water folks gave me for water rates and it's up, the second as far as the highest which is \$93.99 to \$337.50 and the second part....this is what the municipal water folks gave me the other day, which is \$75 - \$93. It's the yellow octagon.

Planton That's for an average family of 4 per quarter.

A.S. Vruwink. Quarterly bill for 18,750....this is from the PSC. Municipal environmental group gave me. You can take a look at it.

Multiple people talking.

Holdridge Thank you very much for coming and I'm sure we'll revisit this.

Meeting closed at 9:35 p.m.