



GUELPH WATER SUPPLY MASTER PLAN

PUBLIC ADVISORY COMMITTEE MEETING #2 DRAFT MEETING SUMMARY

June 9, 2005
Cutten Club
Guelph, Ontario

City
of
Guelph

This meeting summary was prepared by Lura Consulting. This draft meeting summary captures the key presentation and discussion points from the June 9th, 2005 Public Advisory Committee Meeting #2 for the Guelph Water Supply Master Plan. It is not intended to act as a verbatim transcript, and is subject to review by meeting participants. If you have any questions or comments regarding the summary, please contact either:

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GUELPH WATER SUPPLY MASTER PLAN

PUBLIC ADVISORY COMMITTEE MEETING #2

JUNE 9TH, 2005, 7:00 P.M.– 10:30 P.M.

Cutten Club, GUELPH

The second Public Advisory Committee (PAC) meeting was hosted by the City of Guelph Waterworks Division to consider and discuss key “drivers” for the Water Supply Master Plan (WSMP) process.

This summary report focuses primarily on the feedback and comments made by PAC members. It provides a high level summary of the key presentation points. The complete PowerPoint presentation is available on the project website at www.guelph.ca.

Thirteen of the seventeen PAC members attended the meeting. The meeting agenda is attached as Appendix A and the list of participants is included in Appendix B.

AGENDA AND MEETING #1 SUMMARY REVIEW

Dave Dilks, Lura Consulting, Facilitator

Dave welcomed all participants, reviewed the agenda and materials available for participants, and indicated the meeting would provide an update on the WSMP, present key “drivers” including population and water demands, water conservation, and groundwater assessment. The next PAC meeting is tentatively scheduled for the fall.

CITY OF GUELPH UPDATE

James Etienne, City of Guelph

James thanked all participants for coming. He noted that Councillor Downer could not attend due to a mix-up in scheduling by the project team. James indicated that the City has undertaken a number of activities both directly and indirectly linked to the WSMP in an effort to put water on the public agenda. Some of the initiatives include:

- **Water Supply Master Plan webpage:** Set up to keeping people informed.
- **Public Forum #1:** Held in early March and well attended by both local and neighbouring municipal representatives and interested citizens;
- **Chamber of Commerce Event:** Open house event and facility tour;
- **Public Works Week:** Outreach events in schools and facility tours for students and the general public resulting in approximately 2000 people learning about Guelph’s water supply;
- **Waterworks tours:** Opportunity for individuals get a better understanding of where water comes from, issues faced by Waterworks, and scope of facilities to supply water to the City; and
- **Children’s Groundwater Festival:** Presentation about water conservation.

James provided an update on three key initiatives that are closely linked to Guelph’s water supply:

- (1) **Wastewater Master Plan:** The Terms of Reference (TOR) is presently with the Purchasing Division, and the RFP will be issued shortly;
- (2) **Bio-Solids Master Plan:** The TOR is also being completed; and
- (3) **Update to Wastewater Environmental Assessment:** EA that will outline what to expect to see in next 5-10 years.

Questions, Comments and Concerns:

Participants had the following questions or comments directly relating to James' presentation. The following identifies the participants' questions (identified with 'Q') or comments (identified with 'C'), are listed below with responses (identified with 'A') from the project team in *italics*.

Q1: Is there an update on the application for expanded water taking at Arkell Spring Ground?

A: *We are still working with the Ministry of the Environment (MOE) at the staff level to respond to the change request and how it will address the concerns of citizens, neighbouring communities and Puslinch Township.*

C1: The MOE is already at least six months overdue in responding to the change request. This creates an added level of uncertainty.

A: *Part of that delay stems from the fact that the MOE is dealing with changes to regulations and how they look at permits to take water (Regulation 387 which was drafted last fall and implemented on Jan. 1, 2005). There is also a new manual on Permits to Take Water and both of these new elements impact the speed of MOE approvals. As a result, Guelph is caught in the middle of these regulatory changes and therefore the MOE is asking questions they traditionally haven't asked before. The City is working within those parameters.*

Q2: These regulatory changes shouldn't affect an application for a new well.

A: *The City is still working on it.*

MASTER PLAN UPDATE

John Haasen, Project Manager, Earth Tech

John Haasen, Project Manager of Earth Tech, emphasized the purpose of the meeting was to provide factual information about water supply key drivers and to provide an update on the work completed-to-date that will allow the process to move forward and develop a multi-faceted approach. The information touched on the mechanics of systems, and a hydrogeological review of capacities to be substantiated by the Golder Report that will allow the team to start developing "what if" scenarios.

John indicated that a revised Purpose Statement and evaluation process incorporating the recommendations made by the PAC and public is still being completed, and the team will issue it to PAC members shortly allowing for a 3-4 week review period.

The Master Plan update indicated that the public consultation component is on track, growth scenarios are confirmed and that the City will be developing a separate strategy for growth. The team is currently confirming historical demand and conservation information, determining sensitivities and triggers, assessing groundwater system, and confirming this information with the Golder Report. Given the delay in acquiring this key report, the project is delayed and anticipated to be complete in early 2006.

The next steps in the process include confirming demand requirements, existing groundwater system needs; confirming additional groundwater supply potential; identifying alternate supply options and innovative options; and conducting an EA evaluation, public forum #2 in November, and reporting in the fall (Nov. to Jan.).

Questions, Comments and Concerns:

Participants had the following questions or comments directly relating to the Master Plan Update presentation.

Q1: When will the PAC be able to review the Golder Report?

A: *A draft will be presented to the Steering Committee within the next three weeks, to provide comment. Once their comments are incorporated in the report, the Grand River Conservation Authority (GRCA) will host a public open house, and then finalize the document. At this point, we are not sure about distribution beyond Steering Committee.*

C1: Puslinch Township already has the report.

A: *The City of Guelph is partner in the report's development as is Puslinch Township. The GRCA is the project manager, so we are waiting for MOE to approve its distribution. We will take your request to the Steering Committee.*

Q2: The presentation shows that the grow scenario is confirmed, does that include provincial land use planning?

A: *No. This is a lower level than Places to Grow, which will be covered in the next section.*

C2: The public consultation slide indicated that geo-political issues need to be addressed, but it should also address riparian issues.

Q3: In the presentation you mentioned that there is no guarantee on source, what does this mean?

A: *The point is that the current groundwater based system allows for 63,000 m³/day, but we can't assume that quantity will always be available from the source because we don't always know how much is susceptible to contamination. There are, however, some buffers built into system as the capacity for Guelph is closer to 72,000 – 74,000 m³/day and we downgrade that value to 63,000 m³/day to allow for drought and susceptibility to contamination.*

Q4: On the “PAC and Public Feedback” slide, the second bullet indicated - Maximize groundwater supply - does that include plans to include groundwater recharge?

A: *No, this was intended to be highlights of the feedback.*

Q5: On the “Next Steps” slide we need to include conservation in demand management.

A: *Demand management and conservation are covered in Martin Lavictoire's presentation.*

Q6: Can you identify how much water is still being lost from leakage?

A: *This will be covered in the presentations, but we are still losing about 12%.*

KEY “DRIVERS” FOR THE WSMP

Population and Water Demand Projections – John Haasen

John presented data on the current population and water demand projection, and presented three scenarios for growth to 2054 – 1.5%, 2.0% and 2.5% growth determined using both real people and models for comparisons. He emphasized that these projections are for this project alone and are independent from the City's Growth Management Strategy and the Province's Place to Grow Initiative.

Members of the PAC discussed the issue that surrounding areas and the province's directions will impact Guelph's plans for growth.

Water Demand

Water demand in the City is currently estimated to be:

- Average day demand is approximately 400 L/per capita/day (Lpcd) and was 500 Lpcd in 1997). This reduction was in part achieved through successful water efficiency strategies and conservation initiatives and potentially been influenced by rate structures;
- Max. day is 65,000 m³/day;
- Max day factor is 1.2, which is very low due to Outdoor Water Use program and Drought Plan. Most cities of this size would have max. day values of 1.5 - 2; and
- Future needs range from 88,900 m³/day average (133, 400 max. day) at 1.5 growth to 115,900 m³/day average (173,900 max. day) for 2.5 % growth.

The details of population and water demand projections in Guelph are available in the PowerPoint presentation.

Questions, Comments and Concerns:

Participants had the following questions or comments directly relating to the Population and Water Demand Projections presentation.

- Q1: How do you distinguish between water demand for person vs. industry? Has this changed the way you are looking at quantities? The values presented are estimated by household, but this is not accurate way to look at wastewater.
- A: *CN Watson did review of the population and water demand and translated the data into a population equivalent value. For the Master Plan we are looking at larger area, so if a large industry expands then water demands are covered.*
- Q2: Do the estimates include private wells?
- A: *These values are only counting what reaches the end-consumer. We use population equivalents to flatten the numbers between Institutional, Commercial and Industrial (IC&I) and households to get the per capita values. In the table, the first number is water demand based on real people in Guelph, while the second number is water demand for the equivalent population.*
- Q3: Are these estimates after conservation because they are already very low?
- A: *No, the numbers reflect only what has been achieved already and what the City is billing out currently. Yes, they are low.*
- Q4: Does the existing residential population value of 114,000 include students at the University of Guelph?
- A: *No, students would be included in the total equivalent population value.*
- Q5: Where do water needs for fire services come in?
- A: *Fire requirements do not contribute to the real people numbers, but rather come from storage. The amount of water available for fire services assumes that the system is not running at maximum supply. Water for fire services only impacts water supply if the system doesn't have enough for a max. day.*

Water Conservation – Martin Lavictoire, City of Guelph; and John Haasen, Earth Tech

Martin provided highlights of the Conservation program initiated in early 1990's that includes an on-going education and awareness campaign encouraging residents to retrofit showers and toilets as well as the Alternate Day-Lawn Watering Program. The Water Conservation and Efficiency (WC&E) Report completed in 1999 provides a baseline of water consumption data for Guelph and made a series of recommendations to improve water conservation in the city. The City chose to conduct a pilot program in response to the Report's recommendations.

The City's pilot targeted various users including:

- Industrial, Commercial and Institutional sector with a toilet rebate program aiming to reduce consumption by two to ten percent;
- Linkages to the Guelph International Resource Center;
- Creation of a compost utilization pilot that encourages developers to use compost in new developments;
- Royal Flush Program which has retrofitted 3,600 toilets; and
- Educational campaign branded "Waterwise".

The results to date of the water conservation program indicate that overall water use has decreased by about 3,000 – 4,000 m³/day since 2001 and that the number of peak demand days also decreased.

Martin briefly called attention to some of the key barriers and opportunities for conservation in the City:

Barriers	
<ul style="list-style-type: none"> • Costs • Regulations 	<ul style="list-style-type: none"> • Climate Change • Public acceptance
Opportunities	
<p>Residential</p> <ul style="list-style-type: none"> • 6-litre and dual-flush toilets • More efficient faucets/showerheads • Front-loading washing machines • Leak detection and repair • Outdoor: xeriscaping, rainwater harvesting • Other: Instantaneous hot water systems, grey water 	<p>Overall System</p> <ul style="list-style-type: none"> • Enhanced Leak Detection (target <10%) • Pressure reductions • System Maintenance Improvements • Wastewater re-use
<p>IC&I</p> <ul style="list-style-type: none"> • Water Audits • Toilet retrofits • Waterless/low-flush urinals • Front-loading washing machines • Irrigation/Landscape improvements, rainwater • Process/Cooling water re-use 	<p>Delivery mechanisms</p> <ul style="list-style-type: none"> • City Leading by Example • Direct Purchase of Water Savings • IC&I Loans and Grants • Rebates for installing water efficient fixtures • Education • Further develop partnerships with local groups • Conservation Rate Pricing: seasonal or increased block • Regulations/Local By-Laws

Martin presented a recommended strategy for water conservation that includes six components:

1. WC&E Steering Committee can help develop strategy and implementation schedule;
2. Further enhance educational component to develop a culture of conservation;
3. Review Best Management Practices and benchmark against other municipalities;
4. Develop reduction scenarios of 10%;
5. 15 % and more; and
6. Revisit program every 5 years.

Questions, Comments and Concerns:

Participants had the following questions or comments directly relating to the Water Conservation presentation.

Q1: What are estimates for IC&I reduction? IC&I is using about 300 L/capita?

A: *With water rates going up, IC&I often take care of retrofits themselves to lower overall costs.*

C1: There seems to be a 10% reduction for both residential and IC&I, so they are keeping pace.

Q2: How many industries have done water audits?

A: *Data collection is in progress, so we are uncertain at this time.*

Q3: Is the WC&E Steering Committee active?

A: *Yes, but need to be brought up to speed.*

C2: A 15% target is achievable, and we can consider a higher target for conservation but we also need to recognize that the City will have to decide what point they bank on conservation and how to invest in it. Looking at a National Water and Wastewater benchmarking initiative, Guelph is already at the lower end of use in comparison to other cities.

Q4: How much unaccounted for water is there?

A: *For most cities there is about 10-20% unaccounted water. Getting down to 10% is considered fantastic, especially since this doesn't include some usage (i.e. fire).*

Q5: Water conservation is a short-term strategy, which can only keep off a longer-term problem. What we have to do is make a commitment to local and global climate change. We could do greening of community, work in collaboration with county, province, national and globally.

A: *We are aiming to promote sustainable living and link water conservation to other environmental initiatives in the City.*

Q6: City Council will be advised about these programs through the output of this study. What other sources of public opinion are you getting information from?

A: *We receive public input from public forums, and provide information to the public via the website and newsletters.*

C3: There is a lot of inequity in reduced water consumption. That is almost twice the reduction as the Township. In the Township capacity is limited by the capacity of wells. I would like to see broader perspective to include the Township because eventually it will impact Guelph.

C4: We could recommend that PAC members sit on the WC&E Steering Committee.

C5: There are a couple of things that the City should consider for water conservation:

- (1) We are going to build new civic centre and library and these buildings should be examples of water conservation and sustainability;
- (2) We need to review the budget to figure out how to find the leaks. The data here suggests 12% represents 1 municipal well. Ask council for more money to reduce leaks;
- (3) We should provide a good deal for showerheads that remove chlorine as well as low-flow;
- (4) We need a by-law designed to go to planning, as we grow, we don't want any more large water users.

Q7: Isn't it misleading to call the 12% loss?

A: *The current term is 'unaccounted for water' or 'non-revenued' water.*

Q8: The baseline that we have is 150 Lpcd or 210 Lpcd, but there is a 30% reduction based on European standards, so how do they do it?

A: *The price per demand is greater in Europe and the population density is greater so rate increases have an impact.*

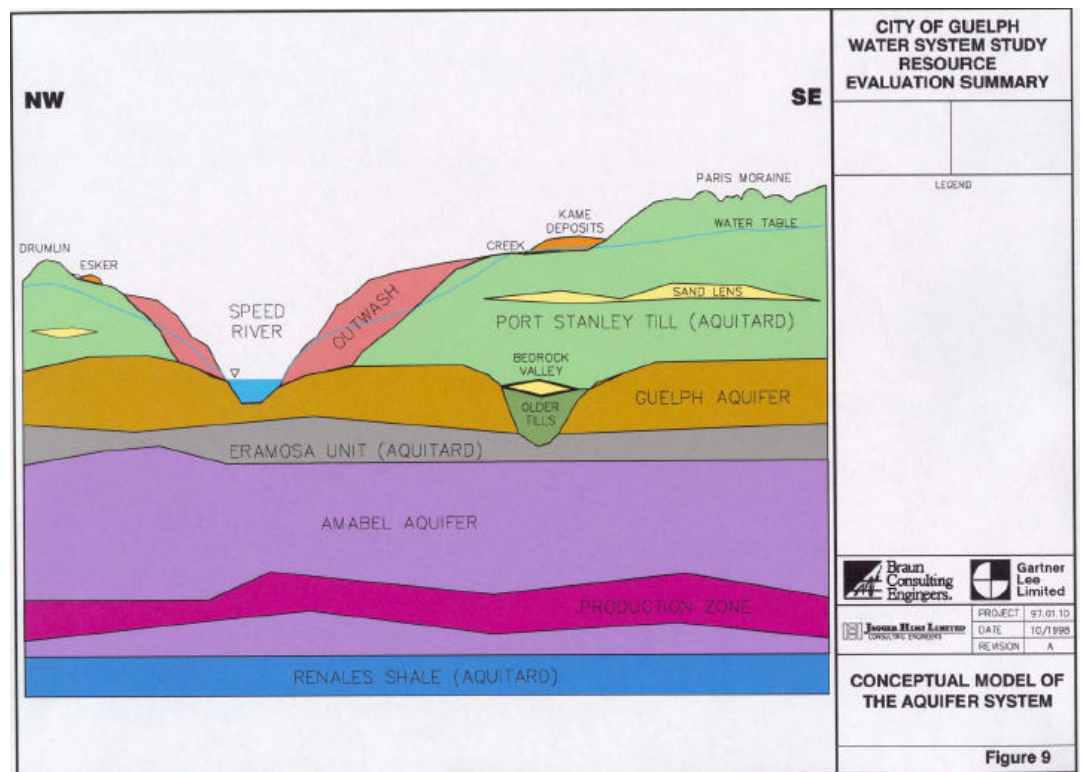
C6: Should we aim for a 30% reduction then?

A: *The City of Calgary is currently using 210 Lpcd, and is being aggressive on conservation side by targeting a 30% reduction. They are keeping conservation efforts moving while they have identified a 15-20 % reduction from changes to the system.*

Groundwater Assessment – Dave Belanger, City of Guelph; Tony Lotimer, Lotowater

Dave presented a brief overview of the history of groundwater studies in Guelph. He indicated that the earlier studies focused on water supply, but gradually began to include watershed and hydrogeological data as well. In the early 1990's there were very comprehensive Quadrant Studies that defined the geologic/hydrogeologic setting, determined existing water supply, water production, water quality and developed a groundwater flow model and management program.

Dave provided an overview of the location of the wells within the City as well as their current status. He provided a synopsis of the hydrogeology for the area showing that most water supply comes from deep bedrock. In Guelph, the production zone is formed in dolomite, underlain by a shaley dolomite so water is transmitted slowly into the Amabel aquifer. The production zone is where most water comes from in the Guelph area and this is anywhere from 30m below surface in Arkell to 80-90m below in hillier areas.



Dave indicated that the capture zones are the entire area recharging or contributing water to a well or wellfield. They were first modelled in 1999 and revised as more information became available. Dave showed the capture zones for Guelph - Puslinch that reside within the City and immediately around it.

Dave emphasized there are a number of uncertainties when predicting groundwater availability. This, coupled with increased post-Walkerton restrictions, rules, policies and regulations (i.e. New water permits considerations, pending

source water protection planning legislation, Environmental Assessment process constraints) means that even if potential areas of new groundwater exist there are no guarantees they will become a new supplies for Guelph.

Questions, Comments and Concerns:

Participants had the following questions or comments directly relating to the Overview on Groundwater Supplies presentation.

Q1: At which point will you look somewhere else aside from Arkell?

A: *That is why discussing difficulties in getting new water in Tony Lotimer's presentation on areas of potential groundwater sources.*

Q2: Do we have the probability of each of these scenarios?

A: *We mentioned that this applies to existing water as well. Source water protection (SWP) will help protect water but reality is that communities like the Region of Waterloo have lost portion of water supply, and we need to plan for that possibility as well.*

Q3: Do we know if bottled water taking in Puslinch is from the same aquifer?

A: *It is from the same Amabel aquifer, but it is in a different watershed.*

Q4: The Amabel aquifer in Puslinch is on the other side of Mill Creek (which is a Groundwater divide) are they hydro-geologically connected? Does it flow to Guelph?

A: *No it does not flow to Guelph but it is the same aquifer in a different watershed.*

Q5: Are the particle tracks from 1999 in the production zone?

A: *Most of them are and are continuous within the aquifer.*

Q6: I still don't see aggregate producers at the table. The City has already approved lands and the aggregates are using at less half of water from Grand River watershed for cleaning.

A: *Their water taking is included in the model. The capture zone presented is only shown for the municipality.*

Q7: Does that include LaFarge water taking?

A: *The Golder Report is presented at a higher level and they contacted aggregate producers to see what water they are actually using to make the model.*

Review and Assessment of Existing City Wells and Potential New Areas for Groundwater Development – Tony Lotimer, Lotowater.

Lotowater has just completed the review of existing well supplies and are currently looking for opportunities for additional groundwater supply at existing City well sites. Lotowater conducted a detailed background review of older reports, individual well testing reports and City records. They developed a conceptual hydrogeology and are assessing yields.

The process was facilitated by scientifically defined hydrogeological criteria that the City can use to evaluate supply opportunities (i.e. well interference, environmental impacts on wetlands and streams, potential contaminant source, susceptibility to contamination, SWP issues, water quality, aesthetic issues, health parameters, yield).

Lotowater divided the City into four quadrants:

	Southeast Quadrant	Southwest Quadrant	Northeast Quadrant	Northwest Quadrant	TOTAL
# of Sources	11	8	7	6	32
Existing water supply (m ³ /day)	46,000	16,000	12,500	6,400	~ 80,000
Potential additional supply (m ³ /day)	6,100	8,600	8,000	950	~ 23,000

Lotowater also examined potential areas for new groundwater development and identified:

AREA	Potential New Water Supply	Potential Issues of Concern
East-central Part of City	Area between existing capture zones	<ul style="list-style-type: none"> Well interference Water quality
Guelph Lake Area	Area of potential high recharge	<ul style="list-style-type: none"> GUDI issue Impacts on surface water
Edinburgh Road/Hanlon Expressway	Known potential yield from area of the quarry	<ul style="list-style-type: none"> Water quality concerns Impact on surface water flows
Clair Road and South	Area outside of existing capture zones	<ul style="list-style-type: none"> Impacts on wetlands Impact on surface water flows
Northwest Part of City	Outside existing capture zones	<ul style="list-style-type: none"> Water quality concerns Contaminated sites concerns

Tony indicated that the next steps include:

- Review of the new groundwater model (from the Guelph-Puslinch Study)
- Refine the groundwater yield estimates (existing and new)
- Assist in developing the criteria for further evaluation of the groundwater options.

Questions, Comments and Concerns:

Participants had the following questions or comments directly relating to the Review and Assessment of Existing City Wells and Potential New Areas for Groundwater Development presentation.

Q1: You identified Clair Road as a potential new source with a potential concern for water quality - Are you aware of the proximity of this site to the Puslinch landfill and groundwater contamination?

A: *We haven't looked at the issue of contamination yet. It is a factor that would have to be taken into account for Clair Road and all areas. We need to ask what are the impacts to surrounding area and what are potential sources of contamination?*

Q2: In the assessment of existing wells portion, can the perennial yields be enhanced by aquifer storage?

A: *That is something certainly worth looking into, and we will be in the next stage of the Master Plan process.*

C1: If pumping at Dolime Quarry property, then most water would get into the river anyway, so there is no impact on surface water.

A: *It depends on how you look at flow. If its part of municipal system then the quantity is the same but temperature and quality may be different.*

C2: The developer has rights to land for next 10 years.

A: *The developer has rights to the land, but does not have a water-taking permit.*

Q3: How many wells have you taken video of?

A: *We have video footage for roughly 20 wells in the City that we have visited. It is our practice to take the pump out of the well and video to document where water comes into/out of well. The video provides support for the information generated through computer models. In reality we can identify a well to be 30 m deep and find through the video that all the water is coming from a small space within that area.*

C3: I would like to see someone from the City explain this to Council. Why are we not looking in the growth area around the City for new water?

A: *The feedback we received at both the PAC meeting and public forum stressed respect for the urban/rural boundary so we have started looking for new supplies in the City first. If we can't find enough water to meet needs for 50 years in the City, then we will need to consider other options. We would need to ask - How would we get that extra water? Could we go outside city? - and these would be public discussions.*

Q4: The data shows the existing water supply at approximately 80,000 m³/day, how many people does that translate into?

A: *If we assume the average person uses 400 l per day then that represents 200,000 population equivalent (i.e. allowing for real people and IC&I).*

C4: So this falls inline with the potential growth to 250,000 real people as suggested by Places to Grow.

A: *Yes it does, but please use these numbers with caution. The correct comparator would be 380,000 population equivalent. We now have the additional tool of the Golder model, so we will need to go to next step and confirm the data.*

Q5: One thing that has not been discussed is the question of the security of the existing wells. When looking at all these sources within the different quadrants, how are you going to decide which new sources, and whether contaminated sites need to be cleaned up, etc.?

A: *That is why we identified the uncertainties associated with additional supply options. Just because we identified a new source doesn't mean we can use it. So there is a need for additional work.*

Q6: How do you decide which existing wells to shut down?

A: *We will have to develop a factor to determine which ones will be closed.*

Q7: How much of a threat is an inter-model rail facility on top of an aquifer?

A: *That is a tough question. An inter-model rail facility is no different than highway and the level of threat will depend on site-specific issues (i.e.: on where it happens, the sensitivity of the aquifer, availability of natural protection, etc.).*

C5: It looks to me like the City is working at cross-purposes.

A: *That is the case and source water protection planning will help to resolve that. We can't realistically ask an industry who has been here for 50 years to move, but we can ask them to use best practices.*

NEXT STEPS

David Dilks thanked everyone for their participation and feedback at the meeting and noted that advice from this meeting will be incorporated into a report to be circulated to all PAC members.

James Etienne also thanked participants for and left the group with a specific challenge - to consider their water bill and the numbers that were discussed during the presentation (for use and conservation) and determine how much they really need in a day or a month.

APPENDIX A: AGENDA

City of Guelph Water Supply Master Plan:
Public Advisory Committee Meeting #2
7:00 – 10:30 p.m., June 9, 2005
Cutten Club, 190 College Street, Guelph

AGENDA

Meeting Focus: To consider and discuss key “drivers” for the Water Supply Master Plan process.

- 6:30 p.m. **Registration and Refreshments**
- 7:00 p.m. **Agenda Review and Introductions** – Dave Dilks, Facilitator
- 7:05 p.m. **Review and Approval of January 26th, 2005 PAC Meeting Summary**
- 7:10 p.m. **City of Guelph Update** – James Etienne, City of Guelph
- Master Plan Communications Activities
 - Status of Wastewater Master Plan
- 7:20 p.m. **Master Plan Update** – John Haasen, Eath Tech
- Project Status and Schedule
 - PAC and Public Feedback to Date
- 7:35 p.m. **Key “Drivers” for the Water Supply Master Plan**
- i. Population and Water Demand Projections - John Haasen, Eath Tech
 - ii. Water Conservation – Martin Lavictoire, City of Guelph; John Haasen, Eath Tech
- 8:30 p.m. **Break**
- 8:40 p.m. **Key “Drivers” continued**
- iii. Groundwater Assessment – Dave Belanger, City of Guelph; Tony Lotimer, Lotowater
- 9:25 p.m. **Next Steps and Meeting of the PAC** – Dave Dilks
- 9:30 p.m. **Adjourn**

APPENDIX B: LIST OF PARTICIPANTS

The following is a list of PAC members signed in at the PAC Meeting #2:

Name	Affiliation
Ralph Billings	North Halton resident
Bill Banks	Guelph resident
Robert Barron	Council of Canadians
Doan Bellman	Sleeman Brewery
Peter Chisholm	Guelph resident
Rob deLoe	University of Guelph
Ken Hammill	Friends of Guelph
Dave Hume	Puslinch resident
Dan Maclachlan	University of Guelph
Gary Martin	Guelph/Eramosa resident
Laura Murr	Green Plan Steering Committee
John Pawley	Guelph resident
Lynda Walters	Clean Water Coalition
City of Guelph	
Councillor Laura Baily	Joan Jylanne
Dave Belanger	Brian Pett
James Etienne	Vince Suffoletta
Martin Lavictoire	Lee Wilson
Consulting Team	
John Haasen	Earth Tech
Patty Quackenbush	Earth Tech
Dave Dilks	Lura Consulting
Susan Hall	Lura Consulting
Tony Lotimer	Lotowater Geoscience

APPENDIX C: ADDITIONAL PARTICIPANT FEEDBACK

Participants were invited to provide more feedback or comments on the key drivers for the WSMP. Participants had the following additional comments/questions and the project team responses are identified in *italics*.

COMMENTS ON POPULATION AND WATER DEMAND PROJECTIONS	
1.	<p>The stated 2004 total equivalent population water use of approximately 250 Lpcd (88 Imperial gallons per capita per day (Igcd)) is less than current Ministry of the Environment (MOE) guidelines for design of municipal infrastructure.</p> <p><i>This is correct that the 2004 total equivalent population water use is less than current MOE guidelines.</i></p>
2.	<p>If MOE guidelines are representative of water use generally in Ontario, the Guelph estimates can be taken to indicate that water conservation measures in Guelph have been successful. I believe it would be useful to compare current Guelph water use to MOE guidelines.</p> <p><i>The MOE guidelines are not representative of water use generally in Ontario, however we can assume that water conservation measures in Guelph have been successful and are in part responsible for the Guelph estimates. The project team will be comparing the current water use to MOE guidelines as part of Task 4 activities and reporting</i></p>
3.	<p>The stated 2004 total equivalent population water use of approximately 250 Lpcd (55 Igpcd) is subject to at least two different interpretations.</p> <ol style="list-style-type: none"> One is a design standard for hydraulic capacity in design of water supply infrastructure, sewerage infrastructure and sewage treatment infrastructure that is different from MOE guidelines. The second is a standard for estimating demand on water supply sources, unadjusted for effects of reservoir storage that is different from MOE guidelines.
4.	<p>The preceding comments apply in the same way to the stated 2004 Average day demand of approximately 400 Lpcd (88 Igpcd).</p>
5.	<p>These water demand projections seem to me to be low because, as I understand it, they use current Guelph max. day and max day factor values for Guelph, which are a long way below the MOE guidelines. How do we know that Guelph use values will stay away below the average values?</p> <p><i>This assumption is incorrect. We are not using the current Guelph max. day factor of 1.2 but are recommending max. day factor of 1.5, which is still far below the MOE guidelines.</i></p> <p><i>We know that Guelph use values will stay below the average values because they are consistent with the water use trends of the lower 1/3 of comparable municipalities, with a max day set to cover this potential. Most municipalities are in the 300 Lpcd range.</i></p>
6.	<p>The descriptives “real” and “equivalent” populations are confusing.</p>
7.	<p>We should try to get the Province to sign off on reasonable populations projections if there is going to be a concerted effort to initiate the “Places to Grow” initiative.</p>
8.	<p>The water supply projections shown indicate that a max day factor of 1.5 is being used. In view of the talk of the current 1.2 max day factor the 1.5-parameter seems excessive. 1.2 is too low but perhaps a factor in between these extremes should be considered.</p>

COMMENTS ON WATER CONSERVATION

1. During the meeting, Tony Lotimer provided current estimates for the sustainable yield from Existing City Wells in the Guelph system. These estimates convey the reality that these sustainable sources of groundwater have finite yield, not to be exceeded. Thus it seems that a principle objective of WSMP is to maintain the sources of water currently available to Guelph. Is it appropriate at this time to introduce the concept of “Firm Supply Capacity” and a quantitative value for it?
2. Among others, contemporary means to maintain the sources of water currently available to Guelph and its neighbours include:
 - a. Responsibility for geo-political and riparian contingencies;
 - b. Management of demand on the known finite sources;
 - c. Aquifer storage recovery by demand management including restrictions on lawn watering and recharge of surface water;
 - d. Source area protection including nutrient management within the boundaries of the sources;
3. Given the preceding contemporary and diverse means to maintain the sources of water currently available to Guelph, the emphasis on reduction of per capita water demand implies wasteful practice, is negative in connotation and places undue emphasis on only one of the many other positive actions required by the City of Guelph, its residents and neighbours to maintain current finite groundwater sources.
4. It appears that the preceding contemporary and diverse means to maintain Guelph’s sources might be captured by the more general task of Efficient Source Management, or other words to that effect, without undue emphasis on just one such means.
5. In the broader sense, I agree with an aggressive program of efficient source management. In this broader sense it would be very useful to have public opinion on factual, not arbitrary, values for minimum acceptable daily per capita water consumption in residential, industrial, commercial and institutional land use components of the Guelph planning area. I believe this public opinion might be available under Lura’s authorization.
6. I found this presentation informative and helpful. There seemed to be initial emphasis on residential water use. There seemed to be a reticence to tackle big industrial water use
7. I completely agree with John Haasen’s editorial comments to the effect that we cannot depend on conservation alone to meet future water supply needs. This very basic tenant must be stressed at every opportunity in the presentations to the public and our elected officials.
8. Further to the above, a backlash can be expected if the use of water, especially outside use, is unreasonable restricted.
9. I am surprised that no one has attempted to relate the falling use of water to the raising of our water and sewage rates. I believe that the city is failing in its fiduciary duties to the water users and taxpayers in its efforts to restrict water use unduly.
10. A financial audit should be carried out to examine the basis of the “capacity buy-back” program. Not only is the one time payment to the participating IC&I customer a loss in revenue but there is long term loss in revenue from lost water sales. While the program is worth while, surely the yearly savings to the IC&I customer should be adequate reward.
11. Does the 210 Lpcd (46 Igpcd) usage rate include the university population? Regardless, I hope this rate will not be used in any future forecasting efforts.
12. Climate change should not be used as a basis for any water supply decisions. There is no scientific proof that climate change will be a negative factor (or a positive factor) in relation to our local water supply needs. Climate change is a long terms proposition and, if it is to occur it will not have any discernable effect in the 50-year time frame of this study.

COMMENTS ON WATER CONSERVATION

13. In view of the paranoid state of the current provincial water supply regulatory people I think it is unrealistic to talk about the use of “grey water”.
14. In the discussions about “unaccounted for water” we should mention the inherent inaccuracy of the water metering equipment. I believe that the city is on top of the meter change-out and repair program but this should be mentioned.
15. The reduction targets mentioned do not include the benchmark from which we are calculating the reductions.

COMMENTS ON GROUNDWATER ASSESSMENT

1. The information presented on Conceptual Model of the Aquifer System, Production Zone, Evolution of Groundwater Capture Zones, Particle Tracks-1999", and Guelph/Eramosa Twp GW Study and Potential Areas For New Groundwater Development provides new knowledge about the scope of finite groundwater sources available to Guelph residents and their neighbours.
2. It is expected that this new knowledge will be enhanced by the upcoming Golder Report. Meanwhile it would be useful to know whether current estimates for sustainable yield from known sources are with or without aquifer storage recovery and to what extent aquifer storage recovery might enhance sustainable yield. I believe that current policy for even/odd day water use does contribute to aquifer storage recovery. Do we know the effects of water use policy on aquifer storage recovery?
The current estimates for sustainable yield from known sources are presented without aquifer storage recovery (ASR). ASR would significantly enhance sustainable yield but only by an amount equivalent to the amount stored
3. The presentation of the “new reality” in water supply development was very effective. We should avoid, however, the defeatist attitude that could arise if we overstress the administrative problems caused by the Walkerton regulatory fall-out. The City of Guelph has a perfect right and a duty to provide adequate water for its citizens that that is what we are going to do!
4. The assessment of developable water supplies within the city limits lacks credibility when the possibilities of inter-well interference, real or perceived contamination and modelling errors are considered. Unless the 23,000 m³/day forecast contains a correction factor to account for these unknowns we should suggest a lower estimate of local supplies. In the end, we must search further afield for additional water supplies. I do not believe that there is any law that limits the City from developing supplies outside its boundaries.

ADDITIONAL COMMENTS

1. As noted, I suggest that Efficient Source Management be used instead of conservation as a key driver.
2. It would be useful to recognize and include waste loading capacity of the Speed River as a key driver.
3. I recommend that we include explicit public opinion on minimum acceptable daily per capita water demand as a key driver.
4. There are still a lot of unanswered questions here. Will the City of Guelph be successful in the application for increasing the water taking from the Arkell Springs?
5. What's the rate of recharge?
The rate of recharge varies across the City and surrounding area depending on the surface materials. Recharge rates have been developed by the GRCA based on Hydrologic Response Units (HRU) and vary from about 50 to 400 mm/year. Areas such as the moraine in the south end of the City have high recharge on the order of 250 to 400+ mm/year while the till deposits in the north part of the City are more on the order of 50 to 150 mm/year.

6. What proportion of seasonal precipitation over the watershed goes to recharge of the aquifer?

As above, the amount varies with the surface materials. Average precipitation is on the order of 870 mm/year so about 6 to 46 % of the precipitation goes to recharge. Note that recharge is all water entering the subsurface. Some of this water would recharge the shallow groundwater and discharge as baseflow to streams and rivers while some of the water would also recharge deeper aquifers.

7. What impacts do other; competing uses of the aquifer have on the availability of the water supply for Guelph?

In simple terms, competing uses decrease the amount of groundwater that may be available for municipal water supply.

8. The suggestion that growth in the surrounding rural areas was going to be zero just didn't "hold water". Farm use is going to increase. There are going to be more rural industries.

9. It seems to me the expectations in terms of business development in both the City of Guelph and the surrounding areas should be taken into account. Those are not going to be zero growth.