

**CORPORATION OF THE CITY OF CAMBRIDGE
HESPELER WEST SUBWATERSHEDS STUDY
WORKING COMMITTEE
MEETING AGENDA**

**Thursday, February 19, 2004
Allan Reuter Seniors Centre, 507 King Street, Cambridge (Preston)
3:30 p.m. to 5:30 p.m.**

1. Introductions
2. Declarations of Pecuniary Interest
3. Confirmation of Minutes (attached)

THAT the Minutes of the Hespeler West Subwatersheds Study Working Committee meeting held February 5, 2004 be considered for errors and/or omissions.

4. Grand River Conservation Authority – Drainage Basins and Floodlines
 - (a) Drainage Basins and Floodlines - Discussion – Gus Rungis, Senior Water Resources Engineer, GRCA
 - (i) Community Concerns – Subcatchment 2125 Outlet Omission (Background attached) – Carlo Radicioni, Senior Development Engineer and Miron Docev, Project Engineer, City of Cambridge to attend.
 - (ii) Frequency of Overtopping – Briardean Road
 - (b) Scheduled Areas – Presentation – Nancy Davy, Senior Resource Planner
5. Other Business
 - (a) Follow-up List Attached
 - (b) Request for Information on Floodplain Determination Memo Attached
 - (c) Clarification of Wetland Mapping Techniques used in Hespeler West Subwatersheds Study Memo Attached
 - (d) List of Topics for Upcoming Meetings Memo Attached

Next Meeting Date – Thursday, March 4, 2004
Allan Reuter Seniors Centre
507 King Street
3:30 to 5:30 p.m.

**CORPORATION OF THE CITY OF CAMBRIDGE
HESPELER WEST SUBWATERSHEDS STUDY WORKING COMMITTEE
MEETING NO. 5
MINUTES**

Thursday, February 5, 2004
Allan Reuter Seniors' Centre, 507 King Street, Cambridge (Preston)

Committee Present: Councillor Rick Cowsill (City) (Chair), Erich Ritzmann (MGWA), Cathy Murphy (MGWA), Ron McKittrick (alternate for John Vasiga (MGWA)), Chris Gosselin (RMOW), Ken Cornelisse, Tricia Rosa (GRCA), Wendy Wright (City), April Souwand (City), Ian Rawlings (Large Property Owners), Charlene Schiedel (MGWA)

Others Present: Gus Rungis (GRCA), Nancy Davy (GRCA), Mary Hammer (landowner)

1. Call to Order

The meeting was called to order at 3:30 p.m.

2. Declarations of Pecuniary Interest

None

3. Confirmation of Minutes

Erich Ritzmann pointed out that the header on p. 2 has the wrong date on it.

Erich Ritzmann, on behalf of the MGWA, questioned the accuracy of the statement on Page 2, Paragraph 2, "He explained that the information from the HWSS provided by Dougan and Associates was well within 30 metre plus or minus level of accuracy that is expected of wetland evaluations in the province." Erich Ritzmann read from a prepared statement expressing concern about the recording of this statement (attached to the minutes). Rick Cowsill thanked the committee for reviewing the minutes in such detail. He indicated minutes should reflect what was said, and he is glad the committee is doing this, to keep everyone on their toes. In order to resolve this, Ken Cornelisse suggested that the phrase "well within" should be changed to "generally within". Ian Rawlings suggested that the minutes do reflect the points of refinement that wetland evaluations can be subject to. Erich Ritzmann suggested that "30 metre" should be "40 metre". Ron McKittrick emphasized that the concern is that errors could be plus or minus 40 metres in the wetland mapping presented in the report. It is important that people reading the report are aware of this, as the error could be as wide as the frontage of an urban lot.

Moved by Ron McKittrick

Seconded by Erich Ritzmann

THAT the Minutes of the Hespeler West Subwatersheds Study Working Committee meeting held January 15, 2004 be amended as follows:

- The second sentence in the second paragraph on Page 2 change “was well within the 30 metre” to “was generally within the 40 metre”
- The header on the second page be changed from “Meeting No. 3 Minutes December 18, 2003 to Meeting No. 4 Minutes January 15, 2004

And adopted as amended.

CARRIED

4. Drainage Basins and Floodlines

Presentation: Gus Rungis (Senior Water Resources Engineer, Grand River Conservation Authority) gave a presentation on flooding issues (attached to minutes), from the perspective of the Grand River Conservation Authority. He divided his talk into three sections: Hydrology, Hydraulics and Floodplain Mapping. There was discussion about the use of the Hurricane Hazel Storm as the Regional Storm event and how the Conservation Authority regulates this. The delineation of watershed/subcatchment boundaries was discussed with respect to techniques used and accuracies of scale. Gus Rungis explained that the information sources used to do this vary with respect to their level of accuracy. He then explained that the GAWSER model is used to generate evapotranspiration, runoff and infiltration numbers for the pre- and post-development scenarios. Model validation and simulation output (peak flows and flow rates) was shown. The hydraulic model used was HEC-RAS (commonly used in floodline work). The major output of this model is flood elevations and velocities. This information is then used to generate floodplain mapping. Accuracy depends on topography in the area, among other things. When there is a well-defined valley, the accuracy does not change much if there are discrepancies in hydrology/hydraulics inputs. However, in a relatively flat area, there can be interpolation differences between cross-sections and the hydrology/hydraulics inputs can result in bigger changes. The federal Flood Damage Reduction Program standards specify levels of accuracy. Refinements can be made to floodlines based on new/more detailed information or changes that have occurred. The statement on p. B-46 re overtopping of Briardean Road will be reviewed by Gus Rungis and explained at the next meeting. The refinement of the subcatchment line in the north end of the Middle Creek subwatershed will be done to recognize new information. A minimum area of land to determine floodlines is not prescribed in Conservation Authority regulations, but pragmatically, an upper limit is set based on different factors. It was pointed out that the assumptions about future development and non-development lands are very important in the final product. Gus Rungis also pointed out that monitoring of

change over time is important to see if development occurs as predicted. Erich Ritzmann had some questions about contributing areas (specifically subcatchment 2125). He had a report done by MTE (John Vasiga had it in his personal library) that gave details on some drainage work done here. Ian Rawlings spoke about modeling calibration used to validate the model. He wondered how many points of actual data were gathered. Gus responded he thought there were 3 data collection points. Ian Rawlings wondered if floodlines were “open files” like the wetland files of MNR. Gus responded that the GRCA would consider new information and adjustments could be made. The MGWA was concerned that pit extraction was not considered in floodplain calculation. Ken Cornelisse explained that this deals with groundwater and the study of hydrogeology. Gus Rungis indicated that the first half metre of soil is considered by GAWSER. Erich Ritzmann will put the MGWA questions into an e-mail to Gus Rungis to respond to at the next meeting.

5. Other Business

- a) Tricia Rosa distributed scheduled area maps promised by Nancy Davy at the last meeting.
- b) Wendy Wright will put forward a future meeting schedule of what is coming up for the next few meetings.
- c) Follow-up list will be updated for the next meeting.

Erich Ritzmann motioned to adjourn.

Meeting adjourned at 5:30 p.m.

Next meeting – Allan Reuter Seniors’ Centre – 3:30 to 5:30 pm, Feb. 19, 2004

MGWA Review of Minutes for Jan 15th

The header on page 2 of the minutes reads ... meeting No.3 December 18, 2003. It should have read mtg 4, January 15, 2004.

Last meeting I suggested we quantify the general margin of error for the air photography interpretation methodology being used. This appears on page one of the minutes and reflects what was said: 40m. Numbers are important and I thank you for including it.

I would however like to speak on behalf of the MGWA regarding the following statement on page two of the minutes:

"... the information from the HWSS provided by Dougan and Associates was well within the 30m plus or minus level of accuracy that is expected of the wetland evaluations in the province."

The members of the MGWA who reviewed the minutes and the video, are not sure that this was really what had been said.

It seemed that that we said that the 1:10000 airphoto interpretation system was used for the HWSS. And that, that system could have errors of plus or minus 40m. We recap some of the known sources of error:

Pencil line of 1mm is equivalent to 10m of reality on 1:10,000 air photos. Plus digitization errors which could exceed that amount. Add to that yaw and pitch errors. Plus, Ken suggested height errors might add another 5% or so in scale errors.

Last meeting, Unit 2.13 was removed from the wetland classification. This unit was 40m at its widest point.

In September, we removed unit 2.11 from wetland classification. That unit was 90m at its widest point.

Furthermore, we observe that in a direct response to the question raised by Ron McKittrick, it had been stated that the original Study had not been done with ortho-imagery. It was made very clear that the (old) 1:10,000 scale air photos were used. For this technology, it was said that the possible error could be 40m, plus or minus.

The instances cited, are each readily visible from the road. If anything, they reflect errors that should have been caught prior to the finalization of the study. They weren't, and that is why we are here.

Plus or minus 40m accuracy reflects the discussion and it reflects precisely the type of error we seek refinement on.

And we invite you to reflect on the purpose of this Committee. Are we here to hand kudos to the work of a specific consultant? I would suggest, we are not here to criticize, or flatter any of the individuals who contributed to the Study. We are here precisely, because the results have not measured up to the standards of the people who live, work and own these lands. Democratic standards are the standards we are striving for in this working committee. If the work of the consultant had

measured up, then why do you suppose we are here?

Loaded statements which do not reflect the views and discussion of the working committee should not be used on the record.

...

It was moved that the minutes be adjusted, so that the wording "generally within the 40m plus or minus" be used instead. Everyone agreed that this wording more accurately reflects the discussion.

Hespeler West Subwatersheds

Flooding Issues

- how floodlines are determined

Subwatershed Planning

- Resource management done on a watershed basis
- Done in advance of development
- Develop technical information – including floodplain analysis

Floodplains

- Floodplain – an area, typically adjacent to a river system, which would be inundated by water during a major storm event.
- Floodlines – outer extent of the floodplain.
- Regulatory Floodplain – Floodplain resulting from a storm equivalent to Hurricane Hazel.
- 100 year floodplain – floodplain generated by a storm event with a one percent chance of being equaled or exceeded in any given year.
- Technical standards – MNR Technical Guide – River and Stream Systems: Flooding Hazard Limit

Developing a floodplain from a rainfall pattern

Three main components to the work:

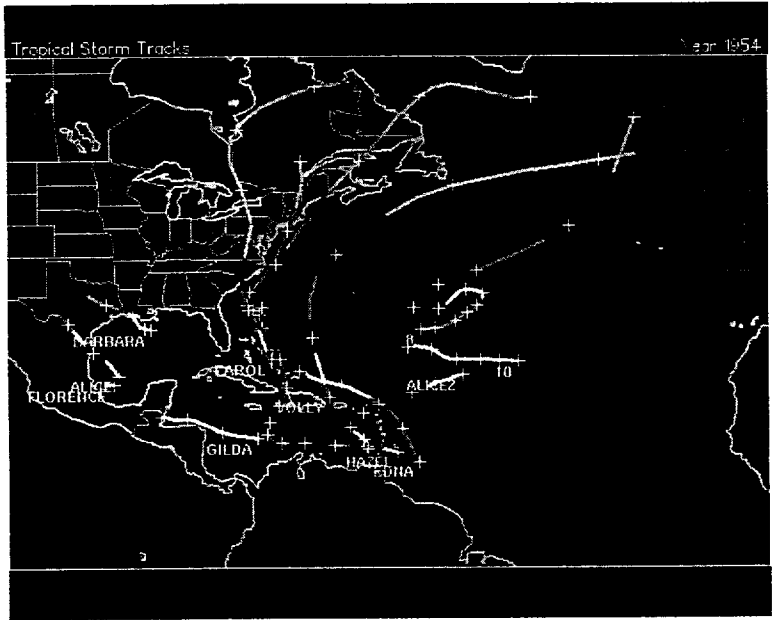
1. Hydrology – determining the flood flows
2. Hydraulics – determining the flood elevations
3. Floodplain Mapping – identifying the floodplain

Hydrology

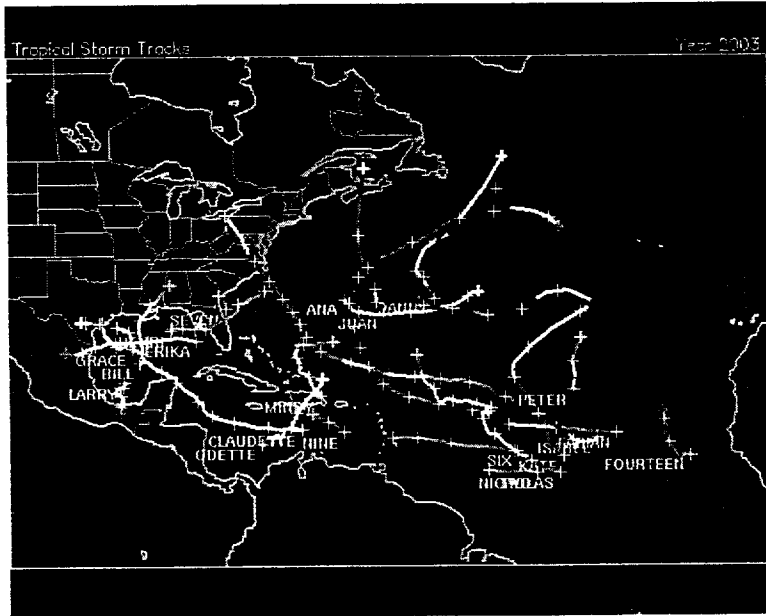
- Hydrologic models are used to convert the rainfall to runoff and generate flows for the area of interest
- GAWSER used in Hespeler West study
- Major inputs include – breakdown of drainage areas, rainfall, soil conditions, land use, drainage channel characteristics, storage areas,
- Major outputs – water balance, flow hydrographs, peak flood flows
- Models are calibrated based on observed stream flows, sensitivity analysis
- Hydrology work generally includes future land use considerations and control strategy including baseflow, stream erosion, and flooding concerns.

Regional Storm

- Specified Rainfall event equivalent to Hurricane Hazel magnitude
- 285 mm of rainfall (11.2 inches) over 48 hours
- Specified rainfall pattern – 73mm first 36 hours, followed by hourly rainfalls of 6, 4, 6, 13, 17, 13, 23, 13, 13, 53, 38, and 13 mm.



<http://weather.unisys.com/hurricane/index.html>



<http://weather.unisys.com/hurricane/index.html>

Watershed/Subcatchment Boundaries

- Height of land determining which way will the water flow
- From mapping (various scales and sources), other studies or information sources (hydrology studies, drainage studies), field inspection, survey.
- Subcatchments are delineated as required for flow outputs, hydrologic connections and characteristics, future changes.



GAWSER Modelling

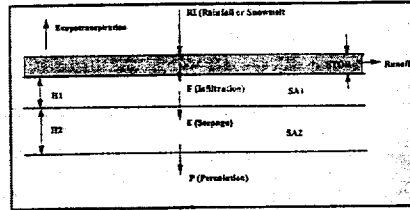


Figure 2.2.1a Two-layer soil concept for runoff generation model

Water balance results

Precipitation – 882mm

	Pre	Post
E/T	497	324 mm
Runoff	205	462 mm
Infil	179	97 mm

HWSS – Middle Creek at Spendsville Rd

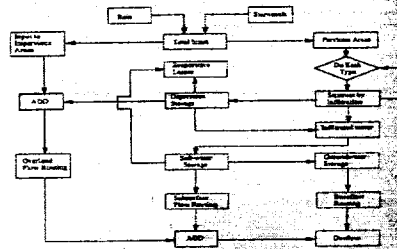


Figure 2.2.1b. Flow chart of runoff generation processes in GAWSER

Figure 3.6.2 Flow Duration Curves Middle Creek Existing Conditions

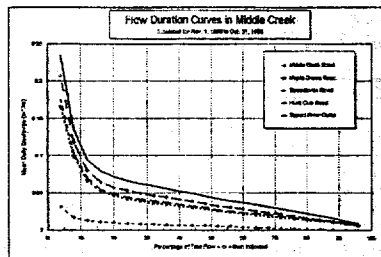
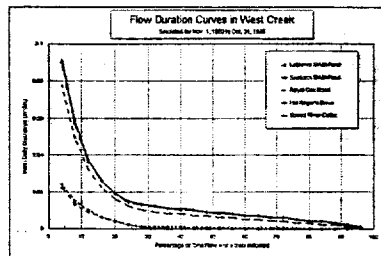
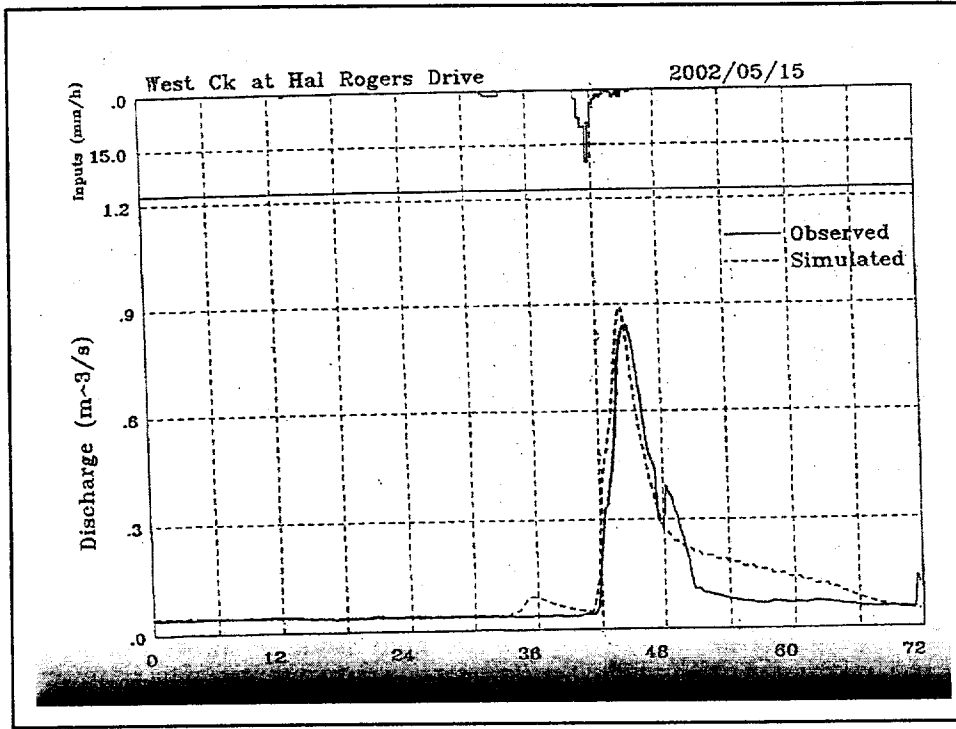


Figure 3.6.3 Flow Duration Curves West Creek Existing Conditions





April, 2003

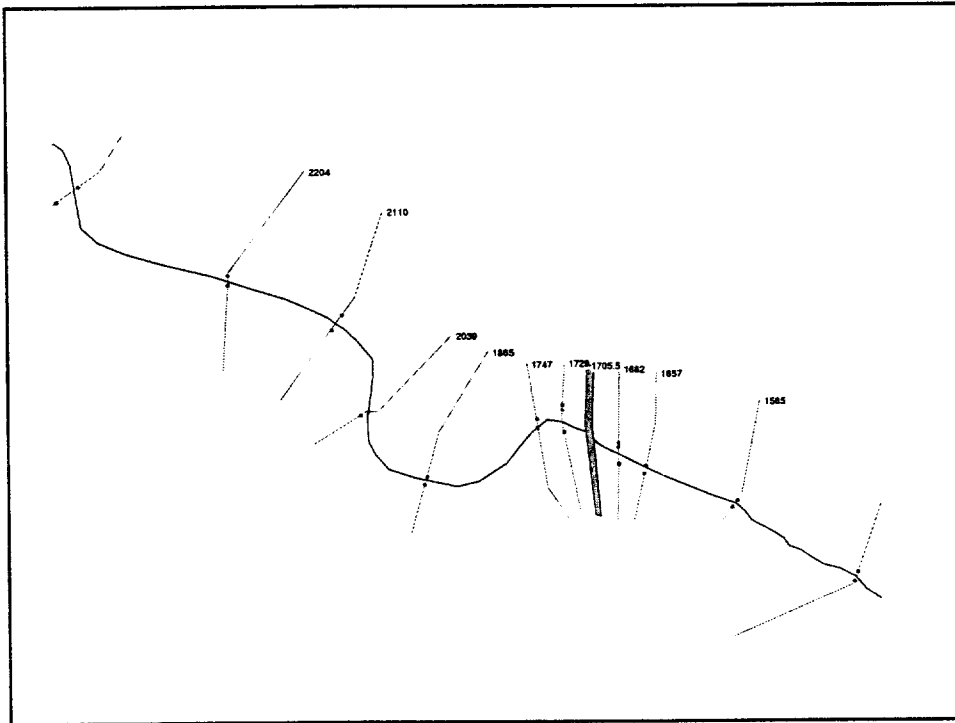
Hesper West Subwatersheds Study
Appendix D

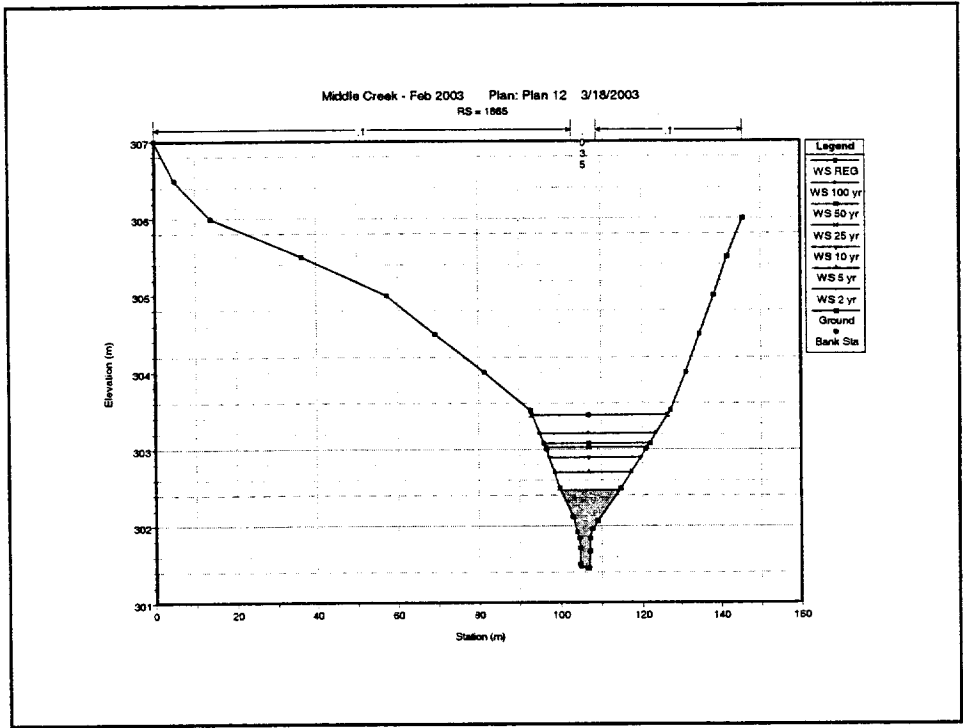
Table 3.4.6 Summary of Flood Flow Estimates: Hesper West Subwatersheds Study
Scenario 3 (Ultimate with Controls)

No. Point of Interest	Area		Peak Flow (m ³ /s)						Req
	m ²	25 mm	1:2 yr	1:5	1:10	1:25	1:50	1:100	
1503 East Ck - Meadowlark Pond	0.309	0.039	0.064	0.229	0.532	0.777	0.930	1.370	2.866
1210 East Ck at Mohawk Road	0.384	0.047	0.072	0.359	0.699	1.050	1.250	1.890	3.940
1213 East Ck at Node 1213	0.502	0.047	0.071	0.359	0.699	1.050	1.250	1.890	4.753
1232 East Ck: Lower Wetland	1.279	0.036	0.268	1.300	2.280	3.240	3.640	5.050	9.240
1225 East Ck at Maple Grove Rd	1.023	0.011	0.027	0.095	0.191	0.293	0.355	0.507	0.570
1239 East Ck at Beaverdale Rd	1.332	0.038	0.218	1.130	2.270	3.130	3.580	5.070	9.570
1255 East Ck at Speed-R outlet	1.607	0.008	0.295	1.630	3.400	4.980	5.540	8.200	12.200
2215 Middle Ck at Block Road	1.044	0.150	0.377	1.210	2.260	3.450	3.800	5.400	12.000
2228 Middle Ck at Station 11+25	2.069	0.138	0.258	0.862	1.520	2.170	2.590	3.510	12.400
2228 Middle Ck at Station 16+25	2.285	0.115	0.166	0.922	1.610	2.320	2.780	4.140	12.400
2240 Middle Ck at Node 2240	3.759	0.356	0.716	2.210	4.118	6.610	7.940	12.100	28.400
2745 Middle Ck at Maple Grove Rd	4.029	0.374	0.779	2.443	4.530	7.250	8.710	13.300	31.200
2800 Middle Ck at Briarcliff Rd	4.512	0.418	0.969	2.910	5.548	8.760	10.500	15.900	36.500
2800 Middle Ck at Briarcliff Rd	4.894	0.440	1.070	3.160	6.018	9.470	11.400	17.200	39.100
2262 Middle Ck d/s Briarcliff Rd	5.110	0.465	1.150	3.470	6.660	10.300	12.300	18.500	40.300
2265 Middle Ck - Inlet Farm Pond	5.214	0.477	1.130	3.470	6.660	10.300	12.300	18.500	42.400
2275 Middle Ck at Hunt Club Rd	5.360	0.478	0.963	3.340	6.658	10.600	12.860	19.400	42.400
2285 Middle Ck at Speed R Outlet	0.151	0.064	0.084	0.216	0.441	0.688*	0.818*	1.215*	1.470*
3501 West Ck - Johnson SWM Pond	0.191	0.047	0.093	0.130	0.222	0.360	0.430	0.540	0.700
3502 Outlet Seaforth SWM Pond	0.686	0.111	0.136	0.799	1.980	3.010	3.820	5.440	8.620
3204 West Ck Start Toyota Divers.	0.848	0.127	0.213	1.010	2.420	3.790	4.590	6.880	11.430
3210 West Ck w/s Arch Site	0.114	0.044	0.067	0.124	0.455	0.842	1.070	1.700	2.300
3505 Outlet A/S SWM Pond	1.222	0.198	0.152	1.343	3.250	5.280	6.280	9.610	12.400
3235 West Ck at Royal Oak Rd	1.382	0.212	0.338	1.270	3.180	5.190	6.200	9.530	13.500
3245 West Ck at Highway 401	1.403	0.230	0.349	1.270	3.180	5.210	6.310	9.700	13.500
3247 West Ck at Hal Rogers Drive	1.477	0.231	0.354	1.280	3.160	5.190	6.320	9.770	13.500
3255 West Ck at Speed R Outlet									

Hydraulics

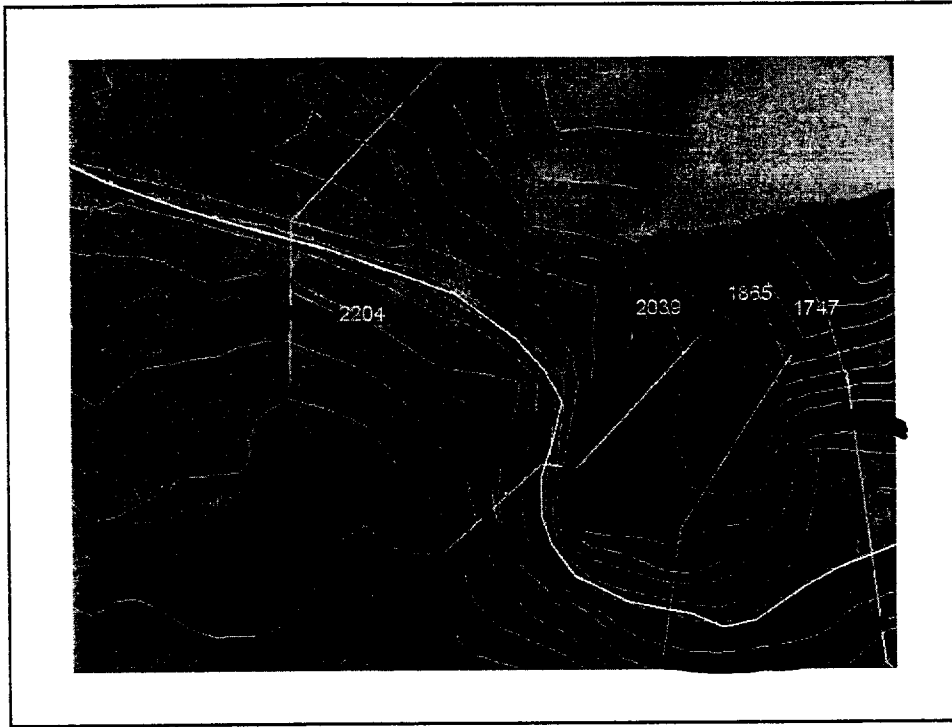
- Flood flows are converted to flood elevations
- Hydraulic model HEC-RAS is used
- Major inputs: flood flows, surveyed stream cross-section geometry, roughness, hydraulic structures
- Major outputs – flood elevations, velocities





Floodplain Mapping

- Detailed topographic mapping developed to at least extent floodplain along watercourses
- Cross-sections plotted
- Floodplain interpolated between cross-sections based on flood elevations
- Can be done manually or automated



- Questions?

Hespeler West Subwatersheds Study Nov. 03, Community Concerns

Subcatchment 2125 Outlet Omission

An area west of Fountain St, and south of Middleblock Rd is shown by the outline 2125 on Figure B 2.3.1 “Subcatchment Boundaries” in the HWSS. This subcatchment represents a depression area sloping down towards the west, with the high point being immediately east of Fountain St and at places by Fountain St itself. There is no channelized outlet shown by the HWSS as an outlet for this subcatchment.

The HWSS classified a wooded wetland in the centre of this area. This hydrological sponge is surrounded on all sides by agriculture. Fields drain overland into a catchbasin on the south-east edge of the woodlot. This in turn is connected to a 200mm Municipal Drain which crosses the agricultural field, subterranean, in the south-easterly direction across Fountain St, near Banat Rd. The existence of the Drain is verified by England Naylor in their 1996 Geotechnical Report (relevant map is included below). Field tiles in the area also contribute to this Drain.

The existence of the catchbasin and Municipal Drain (photos included below) is well-known to area farmer, John Vasiga and to the Corporation of the City of Cambridge. It should not have been missed, though it seems to have been completely omitted by the HWSS Nov '03 and the two previous revisions.

Nearby the point of the underground Drain crossing under Fountain St., there is visible a roadway culvert which joins both sides of Fountain St and yet another 900mm culvert extending north along the Loblaws berm. The Municipal Drain does ***not*** interconnect to either of these culverts. The culvert running north is typically dry even after extended periods of heavy rain.

The Municipal Drain, historically, continued south-east to Maple Grove Rd, at which point it connected to what is known as West Ck. When the Maple Grove Industrial Subdivision Phase I was developed, the Drain was severed and removed by the City's contractor (photos below). It was replaced with a stormwater drainage system which runs from north to south, down the east side of Fountain St. (photos below). The replacement portion includes a series of catchbasins along Fountain St. Only this “replacement” was documented by the HWSS, Figure A 3.3.1, although never identified as an outlet to 2125.

The Municipal Drain has a steady flow through the moist seasons of the year – in summer it dries up. Following heavy rains, there is a medium constant flow for many days, due to the storage capacity and buffering effect of the subcatchment characteristics.

HWSS Figure A 1.1.1 indicates that subcatchment 2125 was included in the analysis for the Middle Ck Subwatershed. As outlined above, supported by photos and an engineering report, there is considerable evidence that indicates baseflow/low flow outlet through the Municipal Drainage system which does not contribute to Middle Ck. It is suggested that a review of the HWSS subcatchment outlet assumptions be made.



Illustration 1 Overland flow contributes to Municipal Drain catchbasin in subcatchment 2125. This Drain also provides the outlet for agricultural field tiles.



Illustration 2 Municipal Drain severed by the City's Contractor in Maple Grove Industrial Development Phase I



Illustration 3 Severed Municipal Drain contributed flow to West Ck.

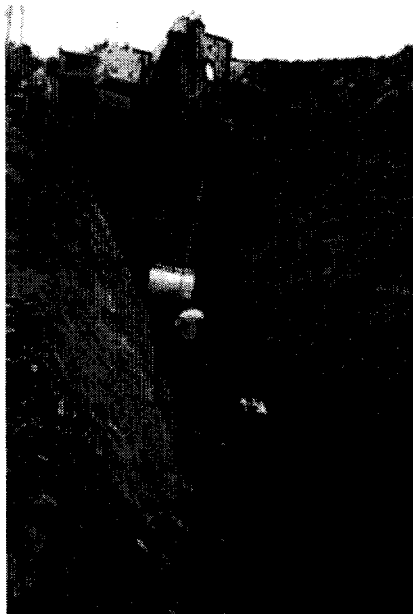


Illustration 4 Municipal Drain replaced with stormwater management system running south on the east side of Fountain St, east and south of Banat Rd.



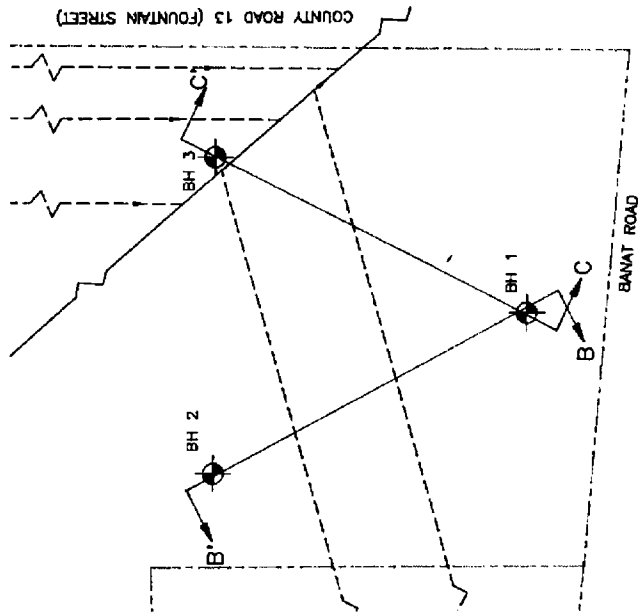
Illustration 5 Replacement stormwater system catchbasin being installed west of Loblaws berm.



LEGEND

--- ESTIMATED LOCATION OF FIELD DRAINS

— ESTIMATED LOCATION OF 200 mm MUNICIPAL DRAIN



BOREHOLE LOCATION PLAN			
STAGE 1 HYDROGEOLOGICAL INVESTIGATION			
BANAT ROAD AND FOUNTAIN STREET			
CAMBRIDGE, ONTARIO			
ENGLAND NAYLOR ENGINEERING LTD. CONSULTING ENGINEERS			
DATE	SCALE	JOB NO.	DRAWING NO.
OCT 1996	1:500	1594H01	3

**CITY OF CAMBRIDGE
 HESPELER WEST SUBWATERSHEDS STUDY WORKING COMMITTEE
 FOLLOW-UP LIST**

SOURCE/ MEETING DATE	ITEM	ASSIGNED TO	COMMENTS	DUE DATE	DONE
HWSSWG Oct. 30/03	Provide full hard copy versions of the HWSS to working committee	April Souwand	Nov. 2003 version to be distributed as soon as it is available from PEIL	Nov. 2003	<input checked="" type="checkbox"/>
HWSSWG Oct. 30/03	Finalize Terms of Reference: <i>Section 7 Time Frame and Work Plan</i> - process for review of community concerns - meetings with individual property owners - review of revised report <i>Section 8 Public Consultation/Information</i> <i>Section 12 Dispute Resolution</i>	Wendy Wright	Wording to be revised based on discussion at meeting	Nov. 19, 2003	<input checked="" type="checkbox"/>
HWSSWG Oct. 30/03	Choose representative of small property owners	Wendy Wright and Erich Ritzmann	Choose someone who is not represented by MGWA	Nov. 19, 2003	<input checked="" type="checkbox"/>

Follow-up List
City of Cambridge
Hespeler West Subwatersheds Study Working Committee

SOURCE/ MEETING DATE	ITEM	ASSIGNED TO	COMMENTS	DUE DATE	DONE
HWSSWG Oct. 30/03	Provide name of an alternative representative to committee	Each committee member	An alternative is necessary in cases where member is not able to attend meeting	Nov. 19, 2003	<input checked="" type="checkbox"/>
HWSSWG Oct. 30/03	Process for review of community concerns	Wendy Wright	Item for discussion on Nov. 19, 2003 Review draft with MGWA – Approved per memo dated Nov. 19, 2003	Nov. 19, 2003	<input checked="" type="checkbox"/>
HWSSWG Oct. 30/03	Provide list of people wanting site visits	MGWA/City	City has provided MGWA will provide, if needed	Nov. 19, 2003	<input checked="" type="checkbox"/>
HWSSWG Oct. 30/03	Produce a map of property owners in the study area	April Souwand	Map will be used to keep track of site visits	Nov. 19, 2003	<input checked="" type="checkbox"/>
HWSSWG Oct. 30/03	Invite City Clerk to next meeting to discuss pecuniary interest	April Souwand	City Clerk attended meeting	Nov. 19, 2003	<input checked="" type="checkbox"/>
HWSSWG Oct. 30/03	Produce list of previous studies done in HWSS	April Souwand	Examples are Cambridge Business Park Stormwater Management Report	Nov. 19, 2003	<input checked="" type="checkbox"/>
HWSSWG Oct. 30/03	Develop media protocol	April Souwand	See Pesticides Working Group Protocol	Nov. 19, 2003	<input checked="" type="checkbox"/>

Follow-up List
City of Cambridge
Hespeler West Subwatersheds Study Working Committee

SOURCE/ MEETING DATE	ITEM	ASSIGNED TO	COMMENTS	DUE DATE	DONE
HWSSWG Oct. 30/03	Schedule of Meetings	April Souwand	Next committee meeting	Nov. 19, 2003	<input checked="" type="checkbox"/>
HWSSWG Nov. 19/03	Updated List of Members and Alternates	April Souwand		Dec. 18, 2003	<input checked="" type="checkbox"/>
HWSSWG Nov. 19/03	Establish a Lending Library of Reports	April Souwand		Dec. 1, 2003	<input checked="" type="checkbox"/>
HWSSWG Nov. 19/03	Add media protocol to Terms of Reference	Wendy Wright	See Revised Terms of Reference	Dec. 18, 2003	<input checked="" type="checkbox"/>
HWSSWG Nov. 19/03	Invite Ken Cornelisse to present Wetland Evaluation and Classification info.	April Souwand		Dec. 18, 2003	<input checked="" type="checkbox"/>
HWSSWG Nov. 19/03	Inquire into using City's website to distribute agendas	Wendy Wright/ April Souwand	Will continue to send .pdf files by e- mail due to administrative difficulties	Dec. 18, 2003	<input checked="" type="checkbox"/>
HWSSWG Nov. 19/03	Terms of Reference Section 7.3 – Review of Specific Areas of Community Concern	Wendy Wright	Review following Presentation/ Discussion of Provincially Significant Wetlands		

Follow-up List
City of Cambridge
Hespeler West Subwatersheds Study Working Committee

SOURCE/ MEETING DATE	ITEM	ASSIGNED TO	COMMENTS	DUE DATE	DONE
HWSSWC Jan. 15/04	Provide a map of Scheduled Areas to MGWA	Nancy Davy	May be followed up with a presentation on the Conservation Authority's Fill, Construction and Alteration to Waterways Regulation	Feb. 5/04	<input checked="" type="checkbox"/>
HWSSWC Jan. 15/04	Refine wetland evaluation mapping for PSW	Ken Cornelisse	Some areas require site visit in spring to make a final determination. Four additional areas identified by MGWA will also be looked at for any changes needed.	Spring 2004	
HWSSWC Feb. 5/04	Provide reference from HWSS to the fact that floodline determination was based on full development scenario.	April Souwand	Memo to committee	Feb. 19/04	<input checked="" type="checkbox"/>



CITY OF CAMBRIDGE
Planning Services Department
73 Water Street North, 3rd Floor,
P.O. Box 669,
Cambridge, Ontario N1R 5W8
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Memorandum

File No.: D03.01.09.01

Date: February 11, 2003

To: Hespeler West Subwatersheds Study Working Committee

From: April Souwand, Senior Environmental Planner

Re: Request for Information on Floodplain Determination

At the February 5, 2004 meeting of the Hespeler West Subwatersheds Study Working Committee meeting, member Charlene Schiedel asked if the fact that the floodplain mapping was calculated assuming full development of the subwatersheds was found in the report. There are two places in the report that this is discussed:

Section B3.0 Floodplain Hydraulics Subsection B3.1 Introduction (page B-45)

...As per GRCA policy and provincial guidelines, flood flows are assumed to be based on future conditions as discussed further in Section C and Appendix D and E. The use of ultimate flood flows and floodlines will allow biologists, geomorphologists, planners and engineers to understand the ultimate effects on the creek system and make allowances for these flows.

Section C3.0 Management Alternatives Subsection C3.2.1 Hydrologic Impact Analysis (page C-12)

Scenario 3 (Ultimate Development) assumes complete development of all developable areas in all three subwatersheds. Scenario 3 is conceptual in nature as areas north of the countryside line have currently not been committed for development. However, Scenario 3 is necessary in order to fully understand how future conditions may impact the Hespeler West Subwatershed, to determine ultimate Regulatory floodlines and to allow the current study to make any necessary allowances.


April Souwand



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Memorandum

File No.: D03.01.09.01

Date: February 11, 2004

To: Hespeler West Subwatersheds Study Working Committee

From: April Souwand, Senior Environmental Planner

Re: Clarification of Wetland Mapping Techniques used in Hespeler West
Subwatersheds Study

In the MGWA review of the Hespeler West Subwatersheds Study Working Committee minutes from January 15, 2004, the 10th paragraph contains a statement which should be corrected: "...the original Study had not been done with ortho-imagery. It was made very clear that the (old) 1:10,000 scale air photos were used".

I have confirmed with Jim Dougan, the consultant responsible for the wetland mapping in the study that his staff used the 2000 digital ortho imagery supplied by the City of Cambridge to plot the wetland boundaries. Ken Cornelisse (MNR) has confirmed that he used 1:10,000 air photography to review the wetland boundaries when he first received the wetland evaluation from Dougan. He has since received the 2000 digital ortho imagery and has conducted his subsequent review, which he shared with the committee on January 15, 2004 using those images.

A handwritten signature in black ink that reads "A. Souwand".

April Souwand



The Corporation
of the City
of Cambridge

MEMORANDUM

To: Hespeler West Subwatersheds Study
Working Committee

Date: February 12, 2004

From: Wendy Wright
Commissioner of Planning Services

Our File:

Your File:

Re: Topics for Upcoming Meetings

March 4/04	<ul style="list-style-type: none">• Chris Gosselin – Regional ESPAs/ROPP Requirements for Subwatersheds Studies• Draft Newsletter #1 (?)
March 18/04 April 1/04	Protection of Wetlands/Floodplains – Nancy Davy/Chris Gosselin/ April Souwand
April 15/04 May 6/04	Field Visits (?)



MEMORANDUM

To: Hespeler West Subwatersheds Study Working Committee **Date:** February 18, 2004

From: Wendy Wright
Commissioner of Planning Services **Our File:** D03.01.09.01

Your File:

Re: Additional Agenda Item – February 19, 2004

4. Grand River Conservation Authority – Drainage Basins and Floodlines
 - (a) Drainage Basins and Floodlines – Discussion – Gus Rungis, Senior Water Resources Engineer, GRCA
 - (iii) “Hespeler West Subwatersheds Study Nov. ’03, Community Concerns”

Hespeler West Subwatersheds Study Nov '03, Community Concerns

GRCA "Scheduling"

1. Our understanding is the GRCA already has jurisdiction over all wetlands and watercourses in the Grand River Watershed, but that begs the question of, why scheduling?
2. What criteria are used in the selection of areas to be scheduled?
3. What is the procedure?
4. What scheduling activities are planned in the near future for the HWSS areas?
5. How will the findings of the HWSS affect scheduling?
6. Referring to the map showing scheduling within the HWSS area, when were these "scheduled"? and why?
7. What they are trying to protect? and why?
8. Do scheduled areas ever become "unscheduled"?
9. How does one go about getting the previously "scheduled" areas re-examined?
10. Under what circumstances does the GRCA schedule an agricultural ditch? When would they not schedule an agricultural ditch? How about roadside ditches?
11. Channel buffer recommendations used to be 10m, though the HWSS seems to recommend 15m. What is the rationale for this increase?
12. Can fill ever be placed in a scheduled area? Can fill be removed in a scheduled area?
13. What exceptions does the GRCA extend to landowners, with respect to fill?
14. What exceptions does the GRCA extend to farmers, with respect to fill?
15. What rules apply to feature such as driveways, right of ways, and laneways, which fall within a scheduled area?
16. Have the fill rules changed in the history of the Conservation Authority? If so, when? and why?
17. There exists considerable "scheduling" on farmers properties. In discussing these with the farmer, it seems like that they were placed there without notification. Is there an OMB or avenue for appeal that the farmers can turn to, in order to get an impartial hearing?
18. Would you normally "schedule" PSW as a matter of course? Or, would the fill rules automatically pertain to PSW? Or, might you exclude some PSW from scheduling?

19. How about LSW? Would there be automatic protection for evaluated LSW? Would you schedule LSW?
20. In the Maple Grove Industrial Subdivision there are retention ponds. Some feed into Middle Ck. Are these scheduled by the GRCA?

Watershed Boundaries and Floodlines

1. Are the retention ponds in the Maple Grove Industrial Subdivision designed to contain Regional storm event runoff?
2. Are the retention ponds factored into the future conditions hydrographs, or does the model assume that runoff contributes directly to the channel flow?
3. What step conditions were allowed for in the HEC-RAS modelling?
4. With the findings of MTE and K. Smart Associates indicating regional flows out of subcatchment 2115 going north and south, and with low flows going north, what impact will this have on the HWSS?
5. With the re-opening of the historical drain in subcatchment 2120 by the Region, what impact is this expected to have on the HWSS?
6. How do the data for GAWSER and HEC-RAS dovetail?
7. What is the expected accuracy of the hydrologic/hydraulic components?
8. Gus mentioned that the drainage basin boundaries can change between low flow and regional flow. Calibration ensures that the summer time storm events match the baseflow and low flow models. But if the boundaries can change between the low flow and the regional flow, how can we be confident in the regional modeling?
9. DELCAN mapped the post-development floodlines for the Hunsperger Drain system about a year before PEIL. In some areas the HWSS shows considerably more floodplain than did the DELCAN Study. What is the reason for this?
10. What is the process by which the regulatory floodplain is established?
11. When two studies performed within a year of each other, are inconsistent, how does the Conservation Authority decide which to accept?
12. With several redefinitions of the watershed boundary, will the Middle Ck watershed be re-evaluated with respect to hydrologic/hydraulic factors?

Wetlands and Ponds

1. We've been hearing about the hydrological buffering

affects that wetlands have on runoff. We also have heard that wetlands support amazing biodiversity and wildlife habitat. That the plants purify the water. That they promote infiltration and ground water recharge, a very important quality in this Region of groundwater dependence. These factors, plus plenty of social factors make the wetlands and the ponds in the area, highly desirable. In light of all these environmental benefits, the HWSS recommendation for removal of online ponds, is either not credible, or completely undermines the credibility of the similar arguments made in favour of preserving the wetlands. What alternatives are there, to the HWSS recommendation of online pond removal?