

APPENDIX A.5

MAPLE GROVE WETLANDS ASSOCIATION (MGWA)

SUBMISSIONS ON ISSUES/NEWSLETTERS

Maple Grove Wetlands Association

Issues with the HWSS

The Maple Grove Wetlands Association (MGWA) in conjunction with input from the property owners in the Hespeler West Subwatersheds Study (HWSS) area, have noted a few of the concerns which need to be addressed in detail at the Working Committee.

This list was compiled by Erich J. Ritzmann, drawing on the input from the MGWA Steering Committee and property owners in the HWSS area. It represents a general summary of some of the key problems in the March HWSS, as identified thus far by the property owners.

- **Wetland areas misclassified:** Several polygons included in wetland classification, are plainly mistakes.
- **Polygon boundary errors:** Without sufficient ground truthing, these products of air photo interpretation are often inaccurate. A disclaimer to that affect is necessary in the Study report. It is also recommended that boundary issues impacting existing residential properties be addressed before any secondary planning commences.
- **Drainage basin boundaries must be based on an acceptable geographic definition:** Watershed boundaries must accurately reflect topographic, baseflow and low flow runoff factors. The current HWSS does not.
- **Inconsistencies:** There are quite a few of these. Some are likely typographical and editorial in nature, but others are possibly non-trivial.
- **Natural vs Human Heritage:** In several cases the HWSS has identified what it has classified as significant natural heritage features, though the area residents describe them more accurately as having human heritage. Anthropomorphic and cultural features, human features are in some cases misclassified in the HWSS as “significant natural heritage features” without justification.
- **Ditches are of human heritage:** Ditches, should be regarded as anthropogenic features. These human features are in some cases misclassified in the HWSS as “significant natural heritage features” without justification.
- **Wetland buffer applied to non-wetlands:** In the March '03 HWSS the 30m wetland buffer is applied not only to the wetlands, but also to the upland forests. A credible environmental justification for these inappropriate buffers on non-wetlands is not even attempted.
- **Recommendation for removal of online ponds fails to consider existing ecosystem impact:** The HWSS recommendation to remove online ponds does not take into account the habitat removal that this would imply. Existing pond ecosystems need to be preserved.
- **Genuine, naturally occurring wetlands should be buffered:** Wetlands which are

proven to be genuinely provincially significant should be buffered in a context sensitive manner.

- **Linkages:** The intended purpose of “enhancement areas” is to preserve linkages between ecosystems. Many enhancement area recommendations made by the Study do not reflect the research and are unjustified.
- **Stewardships:** The enhancement recommendation when traversing an existing residential area, allowed for a special case called “stewardship area”. This was said to involve “voluntary participation”, yet it fails to consider some simple facts: What of the situation where you voluntarily let your weeds grow, whereas your neighbour is of the manicured lawn persuasion? It fails to consider that noxious weeds contribute to a wide variety of significant human health issues. The stewardship area recommendation is problematic and is not socially and economically responsible.
- **Missing Watershed Hydrology Factors:** The March '03 HWSS watershed hydrology model is incomplete. The affects of licenced pits and quarries extractions aren't considered.
- **Contradictions:** How is an active, licenced pit operation, simultaneously a provincially significant wetland? Is it a pit? Or is it a PSW?
- **Floodplain mapping:** Floodplains need to be reassessed following corrections in watershed boundary definitions, and the other noted issues.
- **Rewriting the recommendations:** Once known issues, errors, omissions, and inconsistencies are corrected, new recommendations need to be made -- recommendations which reflect a solid scientific basis and consider the social and economic fabric existant in the subwatersheds area.
- **Working Closely With Property Owners:** More than just a fine sounding statement in the HWSS Terms of Reference, we need to define what this means for the future. Perhaps, by working together we can avoid repeating history.

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 depressional 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.

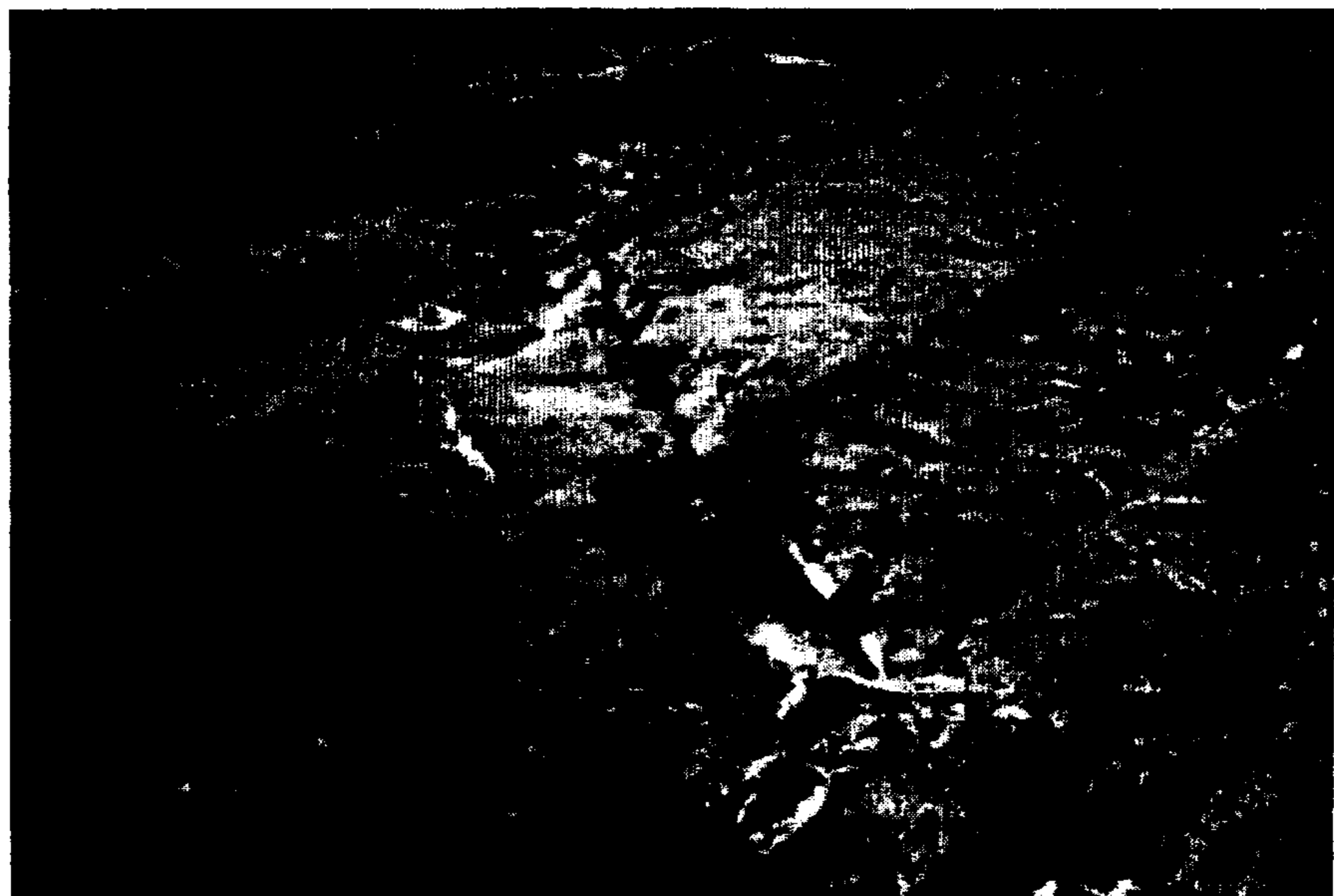


Illustration 2 Municipal Drain severed by the City's Contractor in Maple Grove Industrial Development Phase 1

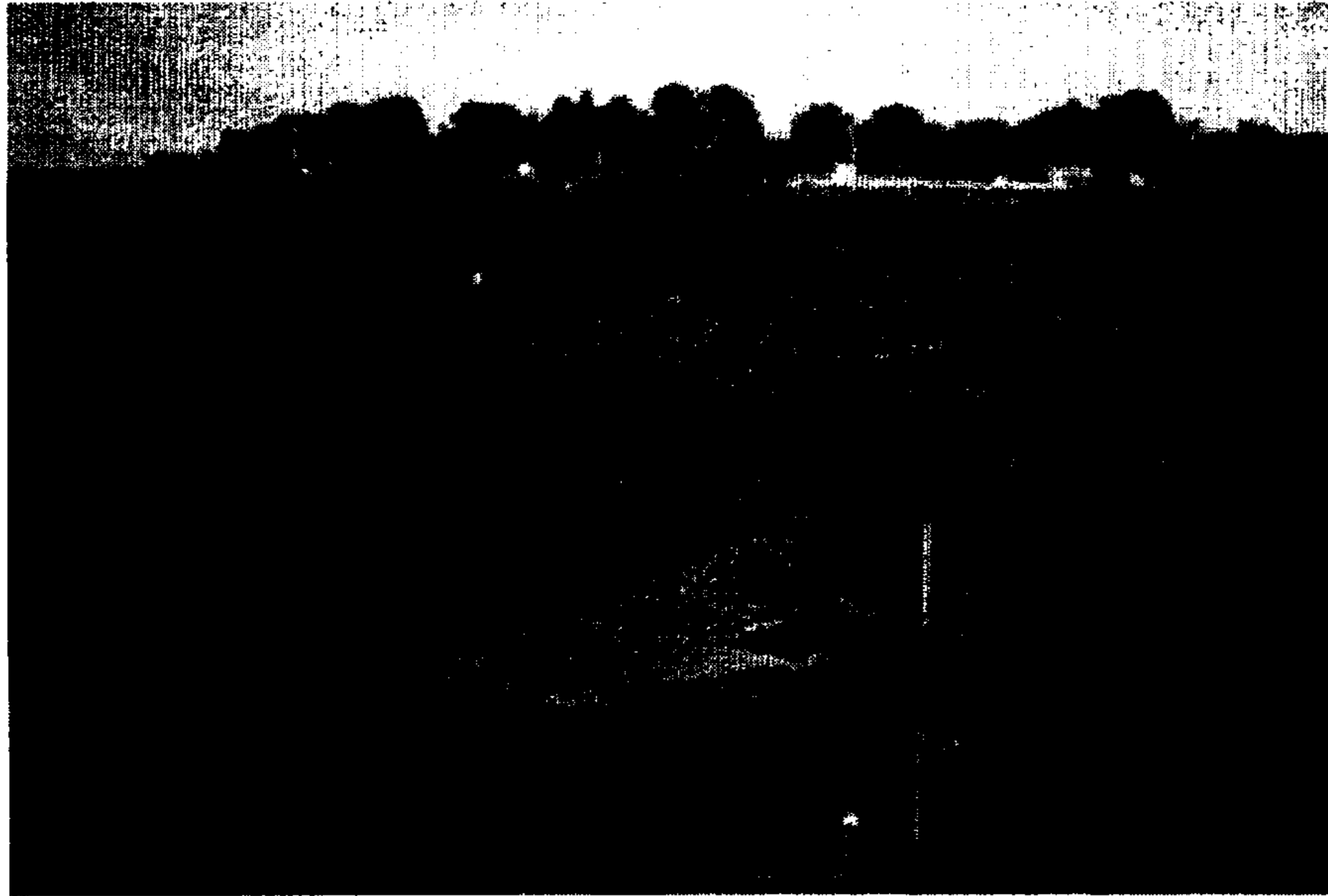


Illustration 3 Severed Municipal Drain contributed flow to West Ck.

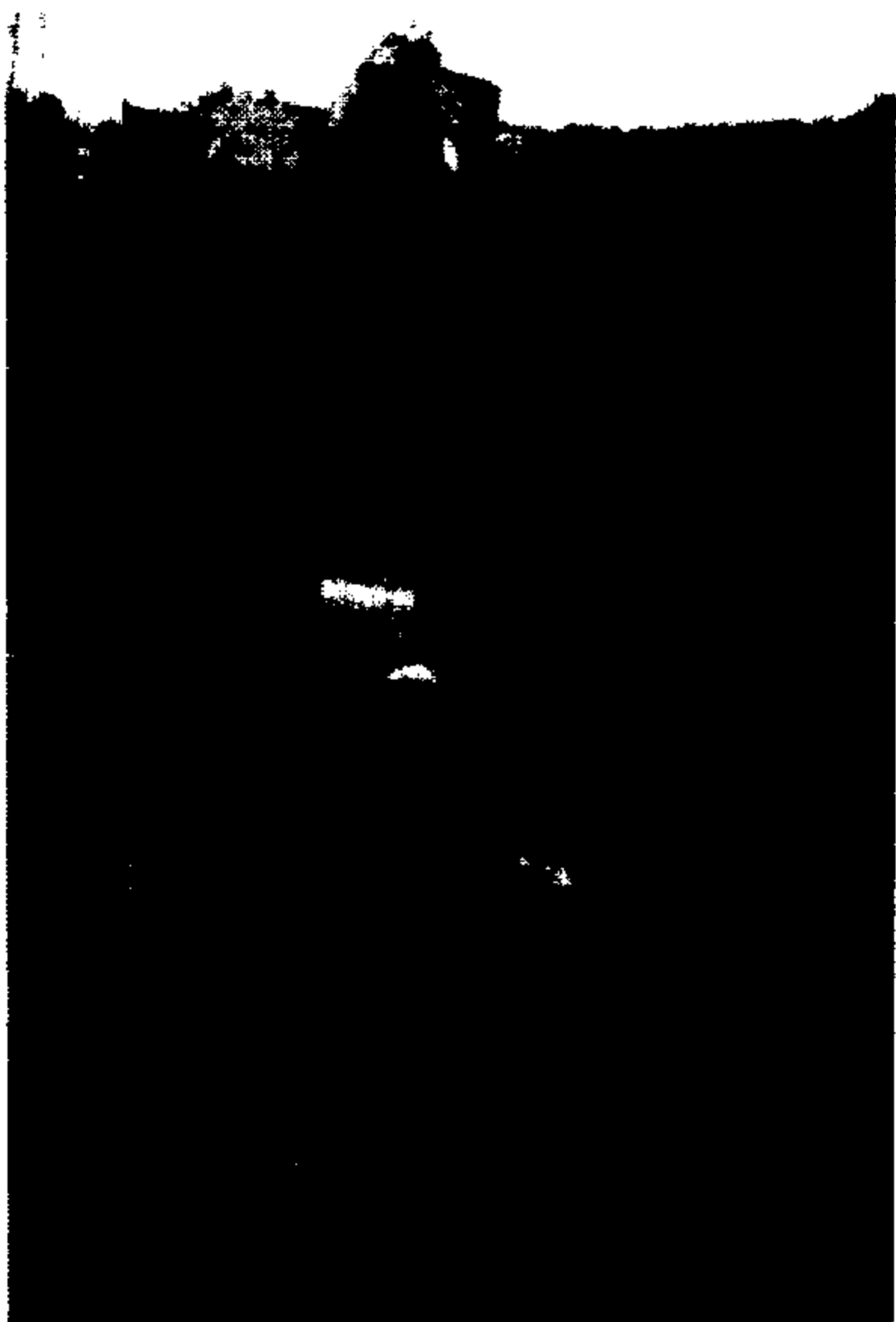


Illustration 4 Municipal Drain replaced with stormwater management system running south on the east side of Fountain St, east and south of Banat Rd.



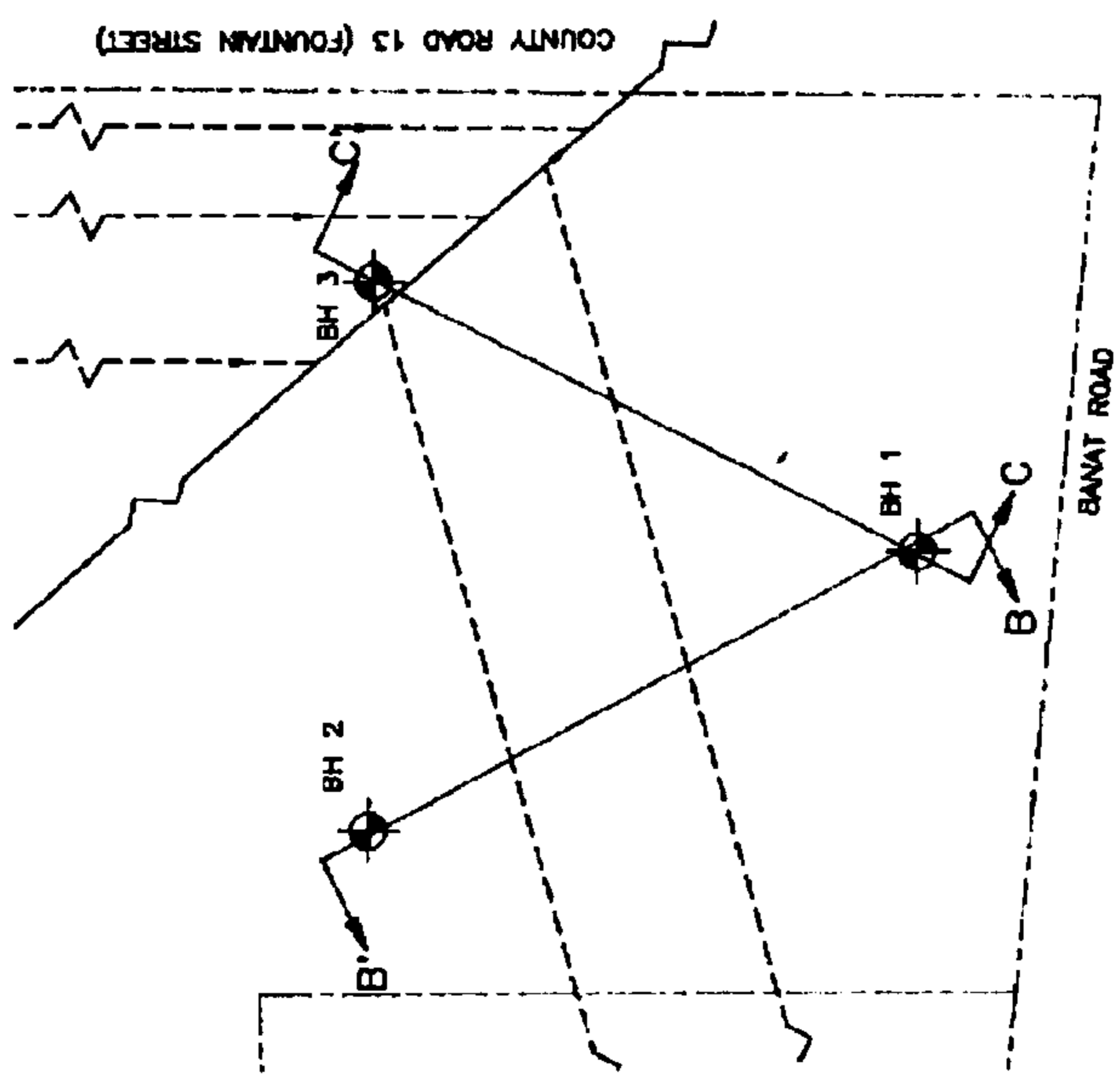
Illustration 5 Replacement stormwater system catchbasin being installed west of Loblaws berm.




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

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?



**Naylor
Engineering
Associates Inc.**
CONSULTING ENGINEERS

355 Bridge Street East
Kitchener, Ontario N2K 2Y5
519-741 1313, Fax 741 5422
www.nayloreng.com

February 17, 2004

Curtis

City of Cambridge
73 Water Street North
P. O. Box 669
Cambridge, Ontario
N1R 5W8

Attention: Mr. Giancarlo Radicioni, P Eng.

Dear Sir:

**Re: Drain Identification
Banat Road and Fountain Street
Cambridge, Ontario**

Further to our recent conversations, we are providing this correspondence regarding identification of a drain located just north of the intersection of Banat Road and Fountain Street, in the City of Cambridge.

Specifically, we refer to a northwest-trending drain identified as a "200 mm municipal drain" on Drawing 3, Borehole Location Plan, of our November 1996 report entitled "Hydrogeological Investigation – Stage 1 Banat Road and Fountain Street, Cambridge, Ontario", our project number 1594H01.

Our records do not refer to any document identifying this drain as a 'municipal drain'; rather the report text suggests that 'we were told of the existence' of a drain in this general vicinity. As such, as far as can be determined at this time, the location, nature, and origin of this drain was based on hearsay.

We trust that this letter is sufficient for your purposes. If you should require further assistance, please do not hesitate to contact us.

Yours very truly,

Richard Harris, M. Sc.
Senior Hydrogeologist
cw

Wendy Wright

From: Erich J. Ritzmann [ejritz@genema.org]
Sent: September 16, 2004 7:39 AM
To: Wendy Wright
Subject: Fwd: followup notes from yesterday's HWSS WC mtg

Wendy,

I have a note from our call that I should lookup an e-mail memo that TSH had referred to in their study. I think this is the one.

--
Erich

Begin forwarded message:

> From: Erich J. Ritzmann <ejritz@genema.org>
> Date: February 20, 2004 9:49:36 AM EST
> To: Gus Rungis <grungis@grandriver.ca>
> Cc: April Souwand <SouwandA@city.cambridge.on.ca>
> Subject: followup notes from yesterday's HWSS WC mtg
>
>
> DELCAN:
>
> You might like to focus some attention to discrepancies noted between
> DELCAN and PEIL in the areas immediately to the east of Speedsville
> Rd. The landowners in that area, find that DELCAN's mapping seems
> more "reasonable", than the more extensive PEIL mapping.
>
>
> K. SMART ASSOCIATES:
>
> The interesting thing about the recent Smart report, is that it
> provides a historical context regarding drainage in that area. And it
> also provides comments which would have been relevant and should have
> been considered so by the HWSS a year ago. In discussing
> subcatchment 2115:
>
> "...indicates that low flow drainage for the north part of the
> Hammer property would be to the north. Regional Flow could be
> both northerly and southerly since the road height at
> Middleblock is very similar to the laneway height on the
> Windsor
> driveway. There is a high area on the Hammer field 210m+-
> north
> of Middleblock but this divide is slightly lower than the lane
> or the road and would not be a divide in a Regional flow
> event." (p12)
>
> These and certain other observations would have been applicable 12
> months
> previous during the HWSS timeframe.
>
>
> CULVERTS ANON:
>
> HEC-RAS Section 1705.5 in Appendix E lists a single 0.6m culvert. (no
> wonder they have Briardeen over topping every two years?) However,
> on pB-46 Table B 3.2.1 identifies dual 1050mm culverts.
>
> HEC-RAS Section 5194.5 in Appendix E has identified a 0.5m culvert.

> However, on pB-46 Table B 3.2.1, it identifies it as a 1050mm culvert.
> (Can't they make up their mind?! I wonder which ones they are using
> to calculate the floodlines?)
>
> HEC-RAS Sections 2618.5 and 1615.5 are both identified as East Ck at
> Mohawk Rd, in Appendix E.
>
> (Do the pictures look familiar? Similar? They sure look like the
> same picture to me!).
>
> The Appendix also identifies the diameter of 2618.5 as 0.65m --
> however, on pB-46 Table B 3.2.1, 2618.5 is 450mm in diameter. (Can
> both be right?)
>
> The Appendix also identifies the diameter of 1615.5 as 1.2m --
> however, on pB-46 Table B 3.2.1, 1615.5 is 1100mm in diameter.
> (Inconsistent)
>
> Moreover, although Appendix E indicates that there are two culverts
> for East Ck crossing Mohawk Rd, people who have known the area for
> over 35yrs assert that there is only one tiny culvert. A single
> culvert that has yet to over top.
>
> Table B 3.2.1 again is inconsistent with what is indicated by Appendix
> E -- it only shows a single culvert crossing Mohawk Rd, not two.
>
> (I have known the area for over 35years and I only know of a single
> culvert at that location.)
>
> These were the first sections few sections I looked at, how many more
> errors would we find if we looked at the others?
>
> These culverts are important. They need to be factored into the
> floodline calculations. And, it's as plain as day that their data
> are wrong. And as they teach every first year computer science
> student, garbage in, garbage out.
>
>
> STEP CONDITIONS AND DIVERSIONS:
>
> Gus, you were quite rushed in your "answers" yesterday, so perhaps
> were not given the opportunity to present the full in-depth answers
> that might have been appropriate. In particular, what I would ask
> additional details on are with respect to which diversions were
> accounted for and how.
>



The Corporation
of the City
of Cambridge

APPENDIX A.5.6
1922 Freund Drain – Petition for
Drainage Works and Appoint a
Drainage Engineer – March 8, 2004

REPORT

To: General Committee

Date of Meeting: March 8, 2004

Prepared by: Miron Docev, P. Eng.

Department: Transportation & Public Works

Date to Management Committee: March 3, 2004

Report No.: TPW-06/04

File No.:

Ward No.: 1

Subject:

1922 FREUND DRAIN - PETITION
FOR DRAINAGE WORKS AND
APPOINT A DRAINAGE
ENGINEER

Recommendations:

WHEREAS Section [5(1)] of the Drainage Act requires Council to give consideration to a petition whether or not Council will proceed with the filed petition and

WHEREAS Section [8(3)] of the Drainage Act gives Council the authority to appoint a Drainage Engineer to prepare a preliminary report on a drainage work.

THEREFORE, pursuant to The Drainage Act, RSO 1990, Council adopts a resolution to proceed with the filed petition for drainage work in the area of Fountain Street and Middle Block Road and,

THEREFORE, pursuant to The Drainage Act, RSO 1990, Council adopts a resolution to hire K. Smart Associates Limited to be the Drainage Engineer and prepare a preliminary report for required drainage works.

EXECUTIVE SUMMARY

- Property owners within the area outlined on the attached map have submitted a petition (attached) pursuant to the Drainage Act for improvements of drainage in the area.
- Drainage Engineer appointed by Council must ascertain validity of the petition.
- The Drainage Engineer must submit a report to Council outlining solutions to the problem and associated costs.
- Petitioners are financially responsible for all the costs associated with the engineer's report.

- Benefiting owners are financially responsible for construction and future maintenance costs of drainage works constructed under the Drainage Act.

BACKGROUND

A new municipal drain petition has been filed in the Municipality for drainage works required in the area of Fountain Street and Middle Block Road area. The validity of the petition is based on the definition of the "area requiring drainage". The petitioners have defined this area as "The 1922 FREUND DRAIN", however the Act requires that the area must be defined by the engineer at the "onsite meeting" to determine the validity of the petition.

AWARD DRAINS

The Freund Drain is an AWARD drain and Award drains were constructed under The Ditches and Watercourses Act. Under this Act an engineer awarded construction and maintenance of an Award drain to affected landowners. The Ditches and Watercourses Act was repealed in 1963 and the Drainage Act passed. The "old" award drains are still legal under the Drainage Act, however maintenance provisions of old awards were omitted from the Drainage Act after 1963. Therefore when an owner does not comply with a written notice from another owner that the drain is out of repair, there are no statutory provisions for the Municipality to enforce compliance. It is an alternative for affected owners to have the old award agreement changed to come under the Drainage Act.

MUNICIPAL DRAIN

Municipal drains are created under the authority of the Drainage Act. Once a municipal drain has been constructed under the authority of a by-law, it becomes part of the municipal infrastructure. The municipality is responsible for maintaining municipal drains at the expense of all the benefiting owners assessed by the Engineer's report.

VALID PETITION

In order for a petition to be valid or sufficient, the petition must be signed by the majority of the owners in the "area requiring drainage", or by owners that represent at least 60% of the lands in this area. The Engineer must determine if the petition is valid and determine boundary of the "area requiring drainage".

PRELIMINARY ENGINEERING REPORT

Council is instructed to request the preparation of a preliminary report rather than a final report so that the owners get an estimated costs for required drainage work and additional costs for reports/studies that might have to be done if other approvals agencies, such as the Grand River Conservation Authority, request an environmental appraisal of required drainage work. The Act requires the preparation of a preliminary

report, Section [10(1)], if an environmental appraisal is required. The preliminary report will be a less expensive way to provide information to the petitioners who may otherwise not be sure of the extent of work required, the possible alternatives for the construction of a drain or the general costs of the alternatives to be considered.

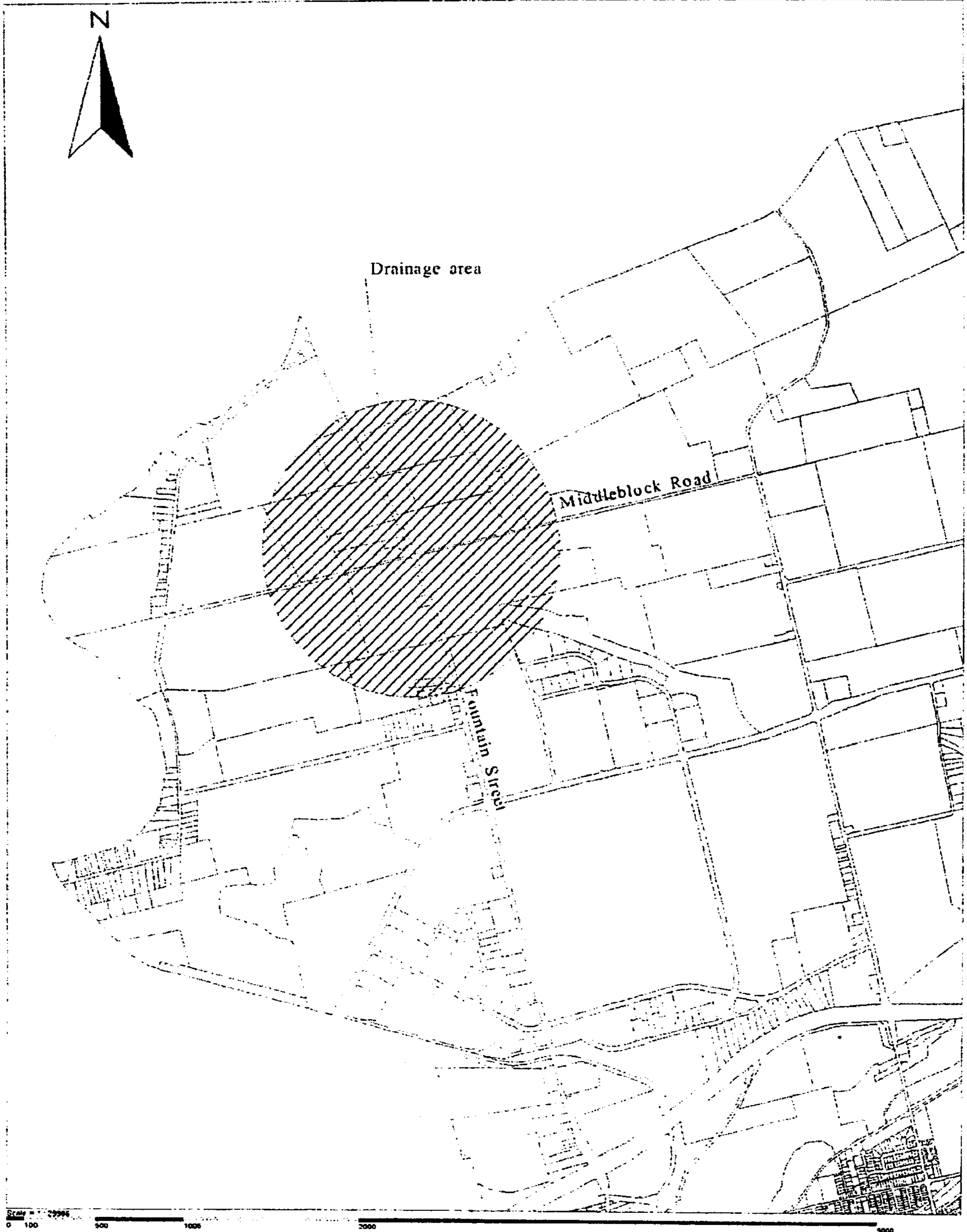
DRAINAGE ENGINEER

A new drain requires the preparation of a drainage report by a registered in the Province Professional Engineer. K. Smart and Associates is a Consulting Engineering Company specializing in work under the Drainage Act and has already done extensive work in the area for the Region (Drainage Investigation Along Regional Road 17 - Fountain Street; Middleblock Road to Kossuth Road - Region of Waterloo Engineer's Report of September 26, 2003) and are the Drainage Engineers, for The Woolwich Township, on the "Randall Drain" that is located near by the area requiring drainage.

FINANCIAL IMPLICATIONS

Interested landowners are financially responsible for costs incurred when Council accepts the petition and an engineer is appointed. Owners that have signed the petition will incur financial obligations and cannot withdraw from the petition till Council meets to consider the Engineer's report. Petitioners are responsible for costs incurred if petition fails. The Engineer's report will also provide an assessment schedule indicating the amount or proportion of the cost of the works to be assessed against every parcel of land for benefit and liability.

Petition for Drainage Works



Scale = 25000

0 100

500

1000

2000

5000

RECEIVED
FEB 12 2004

Drainage Act
Loi sur le drainage

CLERK'S DEPT.

REGULATION 274

FORMS

1. The requisition for a drainage works referred to in subsection 3 (1) of the Act shall be in Form 1. R.R.O. 1980, Reg. 246, s. 1.

2. The notice of the engineer's on-site meeting to examine the area referred to in subsection 3 (7) of the Act shall be in Form 2. R.R.O. 1980, Reg. 246, s. 2.

3. The petition for a drainage works referred to in subsection 4 (2) of the Act.

(a) shall be in Form 3 where it is filed by a person or persons referred to in clause 4 (1) (a) or (b) of the Act;

(b) shall be in Form 4 where it is filed by the Director under clause 4 (1) (d) of the Act; or

(c) shall be in Form 5 where it is filed by a person referred to in clause 4 (1) (c) of the Act. R.R.O. 1980, Reg. 246, s. 3.

4.—(1) The by-law adopting the engineer's report referred to in subsection 45 (1) of the Act shall.

(a) in the case of municipalities not within district or regional municipalities, be in Form 6; and

(b) in the case of municipalities within district or regional municipalities, be in Form 7.

(2) The borrowing by-law for use by district or regional municipalities on behalf of an area municipality shall be in Form 8. R.R.O. 1980, Reg. 246, s. 4.

5. The statement of the amount of compensation paid referred to in section 68 of the Act shall be in Form 9. R.R.O. 1980, Reg. 246, s. 5.

Form 1

Drainage Act

REQUISITION FOR DRAINAGE WORKS

To

Clerk of the of

I am the owner of the following land:

(Describe the land)

and I require the construction (or improvement, as the case may be) of a drainage works, and the following lands and roads will be affected:

(Describe each parcel of land to be affected and state the name of the owner thereof)

and I request that an engineer be appointed by the council of the municipality and that the engineer appoint a time and place at which he or she will attend and examine the area in order to make a report.

Dated this day of 19.....

.....
(Signature of party or parties)

R.R.O. 1980, Reg. 246, Form 1.

Form 2

Drainage Act

NOTICE OF APPOINTMENT FOR EXAMINATION BY ENGINEER

To: *(Name of owner)*

(address)

You are hereby notified that
(name of engineer)

appointed by the council of the

of under the *Drainage Act*

has fixed the hour of o'clock in the

..... noon of the day of

....., 19....., to attend at

.....
(name the place appointed)

and to examine the area and site of the proposed drainage works, being:

(Here describe the area and site)

and you, as an owner of land affected, are requested to attend at such time and place.

Dated this day of 19.....

.....
(Signature of Clerk)

R.R.O. 1980, Reg. 246, Form 2.

Form 3

Drainage Act

PETITION FOR DRAINAGE WORKS

We, being owners, as shown by the last revised assessment roll, of lands in the FOUNTAIN ST. MIDDLEBLOCK Rd area

of City of Cambridge
(Insert name of municipality or names of municipalities)

requiring drainage, hereby petition that the area more particularly described as follows:

(Describe the area)

may be drained by means of a drainage works.

Signature of as per attached Petition
 of as per attached Petition
 Petitioners as per attached Petition
 Part as per attached Petition
 Lot as per attached Petition
 Con. or Plan as per attached Petition
 Municipality as per attached Petition

Form 6

Drainage Act

FORM OF BY-LAW

For Use by Municipalities Not Within District or Regional Municipalities

Petition filed this 12th day of February, 2004
Madeline Grinn
 DEPUTY CLERK
 EX-OFFICIO, COMMISSIONER
 CITY OF CAMBRIDGE
 R.R.O. 1980, Reg. 246, Form 3.

A by-law to provide for a drainage works in the
 of
 in the County of:

Whereas the requisite number of owners have petitioned the council of the
 of in the County of
 in accordance with the provisions of the *Drainage Act* requesting that the following lands and roads be drained by a drainage works:

(set out description of lands and roads or name of drain if repair or improvement to existing drain)

And whereas the council of the
 of in the County of
 has procured a report made by
 and the report is attached hereto and forms part of this by-law.

And whereas the estimated total cost of constructing the drainage works is \$.....

And whereas \$..... is the amount to be contributed by the municipality for construction of the drainage works.

And whereas \$..... is being assessed in the
 of
 in the County of

(set out assessments in any additional municipality)

And whereas the council is of the opinion that the drainage of the area is desirable.

Therefore the council of the of under the *Drainage Act*, enacts as follows:

1. The report dated and attached hereto is hereby adopted and the drainage works as therein indicated and set forth is hereby authorized and shall be completed in accordance therewith.

2.-(1) The Corporation of the of may borrow on the credit of the Corporation the amount of \$..... being the amount necessary for construction of the drainage works.

(2) The Corporation may issue debentures for the amount borrowed less the total amount of:

(a) grants received under section 85 of the Act.

Form 4

Drainage Act

PETITION FOR DRAINAGE WORKS BY DIRECTOR

I, the Director appointed under the *Drainage Act*, hereby petition that the area more particularly described as follows:

(Describe the area)

may be drained by means of a drainage works.

Dated at, this day of, 19.....
 (Director)

R.R.O. 1980, Reg. 246, Form 4.

Form 5

Drainage Act

PETITION FOR DRAINAGE WORKS BY ENGINEER OR ROAD SUPERINTENDENT OR PERSON HAVING JURISDICTION OVER ROAD

I, Engineer or Road Superintendent or Person Having Jurisdiction over Road (as the case may be) for the

of hereby petition that the area more particularly described as follows:

(Describe the area)

may be drained by means of a drainage works.


Dated at this day of, 19.....
 (Engineer or Road Superintendent)

R.R.O. 1980, Reg. 246, Form 5.

We as residents, landowners and concerned family members formally request immediate action be taken under the direction of the drainage act requesting to open the closed, registered, award drain known as The 1922 FREUND DRAIN located under the driveway of Doug Windsor located at 4455 Fountain St N. Cambridge.

NAMES	ADDRESS	DATE
Lathy Murphy	c/o 4070 Fountain St N Cambridge Ont	January 20/04
Seán Murphy	c/o 4070 Fountain St N Cambridge Ont.	JAN 20/04
Mary Hammer	4070 Fountain St N Cambridge Ont.	Jan. 22/04
Doug Hammer	c/o 4070 Fountain St. N. Cambridge Ont.	Jan 24/04
Don Hamma	c/o 1454 Mclean Rd Cambridge ont.	Jan 24/04
Fred Hammer	1374 THORNTON PL. Cam B. Ont. N3H-4K5	JAN 24/04
John Hammer	78 Farr Cres Cambridge Ont N3C1R6	JAN 23 rd /04
Miss Kaye	4425 FOUNTAIN ST N3H 4R7 . 7th fl.	

We as residents, landowners and concerned family members formally request immediate action be taken under the direction of the drainage act requesting to open the closed, registered, award drain known as The 1922 FREUND DRAIN located under the driveway of Doug Windsor located at 4455 Fountain St N. Cambridge.

NAMES	ADDRESS	DATE
Vladimir Bar BriGtite Bar	4220 Fountain St. N. Cambridge ON. N3H 4R7 650-3164	Jan. 20, 04 
Bob Clement Fortress Trucking R.A. Hammer	4230 Fountain St Cambridge. 650-3804	Jan 21, 04
	C104070 Fountain St. Cambridge.	Feb 1, 2004
Debbie Coyne	4050 Fountain St. N Cambridge, ON N3H 4R7	Feb. 1, 2004



The Corporation
of the City
of Cambridge

APPENDIX A.5.7
Revised Floodplain Calculation
Process – March 17, 2004

MEMORANDUM

To: Hespeler West Subwatersheds Study Working Committee **Date:** March 17, 2004

From: Wendy Wright,
Commissioner of Planning Services **Our File:**

Re: Revised Floodplain Calculations Process **Your File:**

The comments provided by the MGWA at the February 19, 2004 meeting revealed errors in the data used for calculating the Regulatory Storm floodline for West, Middle and East Creeks.

I have reviewed and discussed several options with Councillor Cowsill, Cambridge Solicitor, Cambridge staff, GRCA staff, MGWA members and PEIL. My objectives are to complete the study in a timely manner and to have confidence in the calculated floodline and the final report.

The following steps need to occur:

1. PEIL to review inputs and explain data errors;
2. PEIL to correct data inputs into the HEC-RAS model and re-run floodplain calculations to correct results in Section B November 2003 Report and Appendices D and E;
3. Data inputs and results to be checked by a water resources engineer hired to assist GRCA in completing a detailed review including verification of model inputs (i.e. field review);
4. Water resources engineer to run additional scenarios to address issues raised by the HWSSWC relating to Subcatchment Areas 2115, 2120 and 2125, as follows:
 - Scenario (i) Removal of Subcatchment Area 2120 from Subwatersheds Areas;
 - Scenario (ii) Model diversion of baseflow from 2125 to Freeport Creek with major flows to Middle Creek (existing conditions);
 - Scenario (iii) Review revisions to boundary of 2115 based on more detailed information from Smart report and MTE report (existing conditions);
 - Scenario (iv) Removal of Subcatchment Areas 2115 and 2120;
 - Scenario (v) Removal of Subcatchment Areas 2125 and 2120; and
 - Scenario (vi) Removal of Subcatchment Areas 2115, 2125 and 2120.

Assumptions for:

Subcatchment Area 2120 – Remove from Subwatershed as the remedial work will be completed Spring 2004 for area to contribute to Randall Drain.

Subcatchment Area 2115 – Await findings of engineer reviewing Freund Drain and/or implementation of results. In the interim, run both options in the model for floodline calculations on Middle Creek, using revised boundary if necessary from Smart report.

Subcatchment Area 2125 – Await findings of Freeport Creek Class EA 2007. In the interim, run both options in the model for floodline calculations on Middle Creek (i.e. worst case scenario). Also, model existing condition with diversion to Freeport Creek.

5. The water resources engineer would be hired by the GRCA and work under the direction of Gus Rungis of the GRCA. The engineer would prepare an Addendum to the Hespeler West Subwatersheds Study reflecting the four scenarios.
6. The Addendum would be reviewed by the HWSS Steering Committee and provided to the HWSS Working Committee for comment and information.

WW/jg



Wendy Wright.

Maple Grove Wetlands Association

Issues With The HWSS Part II

The Maple Grove Wetlands Association (MGWA) in conjunction with input from the property owners in the Hespeler West Subwatersheds Study (HWSS) area, have noted a few of the concerns which still need to be addressed by the City.

This list augments, and in some ways details aspects of, Part I which was issued by the MGWA at the outset of the HWSS WC in October 2003.

1. Rankings of cultural features as high constraint by the HWSS requires an independent review of constraint rankings.
2. Context sensitive buffering which considers the quality of feature being protected and which acknowledge the advanced state of human disturbance existent.
3. Wetland buffers that don't exceed the 15m.
4. Upland forest buffers that don't exceed 3m.
5. Plantations buffered by 1m.
6. No buffering of other cultural features.
7. Enhancement recommendations need to be removed/reduced in cases where core feature already meets the 50m (local) or 200m (primary) width criteria.
8. Enhancement recommendations for areas adjoining or crossing anthropogenic units and major impediments such as roadways must be re-evaluated.
9. Recognition of vital role pond habitat plays to the local ecology, and its contribution to valuable ground water recharge needs to be made, rather than consideration for removal.
10. Consistent application of science.
11. Social and economic factors really considered (not just lip service).
12. Summary report to contain corrected data.
13. HWSS corrections that are recorded in the erratum must also be flagged on any maps and pages of text that are implicated, if the error is permitted to persist.
14. The fact clearly stated publicly and in the summary report, that numerous and serious errors were identified necessitating the WC and the additional report.
15. Everyone needs to be treated equally; not restricted to, though including, city owned industrial developed areas like private owned residential developments.
16. Final review of summary report.
17. Removal of open space designation and OS1 zoning in inappropriate areas.
18. Removal of GRCA scheduling in inappropriate areas.
19. Landowner compensation for expropriation (principles set forth in federal legislation).



CITY OF CAMBRIDGE
Planning Services Department
73 Water Street North, 3rd Floor,
P.O. Box 669,
Cambridge, Ontario N1R 5W8
Telephone: (519) 740-4650 ext: 4601
Fax: (519) 622-6184
Email: souwanda@city.cambridge.on.ca

Memorandum

File No.: D03.01.09.01

Date: April 22, 2004

To: Hespeler West Subwatersheds Study Working Committee

From: April Souwand, Senior Environmental Planner

Re: Greenspace Management Strategy Map

At the April 15, 2004 Hespeler West Subwatersheds Study Working Committee meeting, John Vasiga raised a question regarding the Greenspace Management Strategy map. He referred to an August 2002 version of the map (copy attached) which is substantially different than the map shown in the November 2003 version. The August 2002 map is from the first draft of the Hespeler West Subwatersheds Study. It is the version that was presented at the second Public Open House on September 12, 2002. It was subsequently changed based on public and steering committee members' input and refinement by the consulting team. This refined Greenspace Management Strategy was presented in the October 2002 Public Draft that was presented to Cambridge Council on November 11, 2002 and offered for public review. The Steering Committee also received copies of the October 2002 Public Draft for final review. The refined map is what was presented to Council for approval dated March 2003.

Mr. Vasiga pointed out two areas of concern on the August 2002 Greenspace Management Strategy map which changed from August 2002 to March 2003. The first was the width of the enhancement area recommended along the east side of Boxwood Drive between the large wooded area and the upstream end of West Creek. This was reduced to 50 metres to reflect the 50 metre corridor width recommended for West Creek.

The second area of concern was north and south of Maple Grove Road at East Creek where an enhancement area was added. An excerpt from the response to the landowner made in correspondence dated March 6, 2003 follows:

“Enhancement Area Identified in Subcatchment #1130: You are correct in identifying that this enhancement area along the East Creek Corridor north of Maple Grove Road was added to *Figure C3.3.1 Greenspace Management Strategy* in the October 31, 2002 Public Draft of

the document. Our consultant, Dougan and Associates – Ecological Consulting Services, had provided the following explanation. The identification of wildlife corridors throughout the study area was achieved through aerial photo interpretation of habitats supplemented with seasonal field studies. Wildlife use naturally vegetated corridors more often than areas that do not provide them with adequate cover or food. A naturally vegetated corridor already exists in this area along East Creek. This is an important connection between the headwaters and the Speed River corridor, that will become even more important and also constrained as land uses change in the subwatersheds. The present size, quality and alignment of natural features along East Creek at Maple Grove Road is affected by past impacts from Maple Grove Road and adjoining rural land uses. Regionally significant species were identified in the existing creek corridor immediately north and south of Maple Grove Road. The goals of the proposed enhancement areas here and elsewhere in Hespeler West are to ensure adequate future corridors to sustain existing species and habitats, and ensure the movement of plant and wildlife species through the landscape.”

“In the Subwatershed Plan, Enhancement Areas are intended to guide more careful planning of particular uses when land uses change over time. They do not preclude future development, and they are useful to help guide the stewardship of existing agricultural land uses.”

“Map Figure C3.3.1 Greenspace Management Strategy: There were many refinements made to the entire document from the August 2002 version to the October 31, 2002 Public Draft. The changes reflected public feedback, input from the Technical Steering Committee, and internal review to ensure the consistency of the management approaches across the entire plan. This type of review and adjustment is a normal part of the subwatershed planning process. It would be very difficult to point out each and every change in the document. Instead, a long public review period was made available for people to read and digest the report in its entirety.”

In summary, the map discussed at the April 15, 2004 HWSSWC meeting was not the map recommended to Council. The current map being reviewed for recommendation to council is dated November 2003.



April Souwand

Attach.

Hespeler West Subwatersheds Study



- FLOODLINES
- SUBWATERSHED BOUNDARIES
- STREAMS
- 15 METRE STREAM BUFFERS
- CONTOURS (5 m INTERVAL)
- SIGNIFICANT NATURAL HERITAGE FEATURES
- 30 METRE NATURAL HERITAGE BUFFER
- ENHANCEMENT AREAS
- STEWARDSHIP AREAS
- EXISTING INDUSTRIAL

THE CORPORATION OF THE CITY OF CAMBRIDGE



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ENGINEERING
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DOUGAN &
ASSOCIATES

GREEN SPACE MANAGEMENT STRATEGIES

Scale: 1:16000

Date: August 2002

Project No.: DA01-40A

Figure: C 3.3.1



Wendy Wright

From: Erich J. Ritzmann [ejritz@genema.org]
Sent: Friday, April 30, 2004 10:47 AM
To: Wendy Wright
Cc: Rick Cowsill; April Souwand; Ken Cornelisse; Chris Gosselin
Subject: Enhancements

Wendy,

as previously mentioned, I have produced some doodle cartography which outlines some of our major concerns with the proposed enhancement recommendations. You may find it here:

http://genema.org/MGWA/wc/C_3_3_1_GMS-MGWA-Enhancements.jpg

The number one concern, has to do with enhancements along major roads: Maple Grove Rd, Fountain St, Middleblock Rd, Speedsville Rd, Beaverdale Rd, and Mohawk Rd. These are regarded as major impediments by the community, and even in the text of the HWSS it acknowledges as much.

A second concern is with respect to crossing significant areas of cultivated field particularly long distances from core features. The longer the distance from core features, the wider the enhancement will need to be, if it is to be realistic -- this however, would go contrary to the social and economic considerations.

A third concern is with respect to anthropogenic units. Several enhancement areas cross anthropogenic units (really should have been purple in the original map). We are proposing to remove the purple on developed properties, and are replacing it with a watershedwide stewardship program. However, the enhancement recommendation can sometimes be achieved by following existing trees and hedgerows around the existing residential areas.

A fourth concern is with respect to enhancement areas which appear on the Greenspace Recommendations map, yet were not recommended per linkage enhancements on C 1.2.1.

So, in addressing these concerns then, we make the following environmentally sound, PPS consistent suggestions:

1) Where there is a red X on the map, the enhancement area needs to be reviewed with respect to reducing, changing shape, and in some cases eliminating them completely. Most of the enhancements near roadways should be eliminated -- promoting roadkill would be contrary to the PPS.

2) Where there is a red S on the map, there has been a review of the Conceptual Linkages recommendation (which we still feel is really weak from a science perspective, mind you). The S marks a suggested alternate approach to addressing the recommendation so that the existing residential areas are not adversely impacted.

3) Where there is a red U/O on the map, there exists a major impediment, to which a proper underpass or overpass must be built.

Note A) We were told that in the Can-Amara situation, walls are being planned to funnel animals into small 1m culverts under the roadway. This means that they are using this to narrow, not widen, the existing linkage. Enhancements along roadways tend to widen the corridor and would work at contrary purposes.

Note B) Walls and small culverts, are regarded as token measures, woefully inadequate for animal corridors from our perspective. A proper solution must be part of the recommendation being made. Having said that, cost is an economic factor, so only proven linkages should be considered for enhancement within 120m of roads.

Note C) Over-sized culverts should continue to be recommended, though they are regarded as woefully inadequate as animal corridors.

Note D) The popsicle sticks to the north and east of the watersheds were not raised as a concern, so I suggest you can leave those as they currently stand.

Please review these points and the accompanying map, and do not hesitate to contact me if you have questions.

--
Erich

Hespeler West Subwatersheds Study



- X** Review with respect to reducing or removing enhancement area.
- S** Conceptual linkage
- U/O** Underpass or Overpass Recommendation
- ?** Not sure, what is rationale?

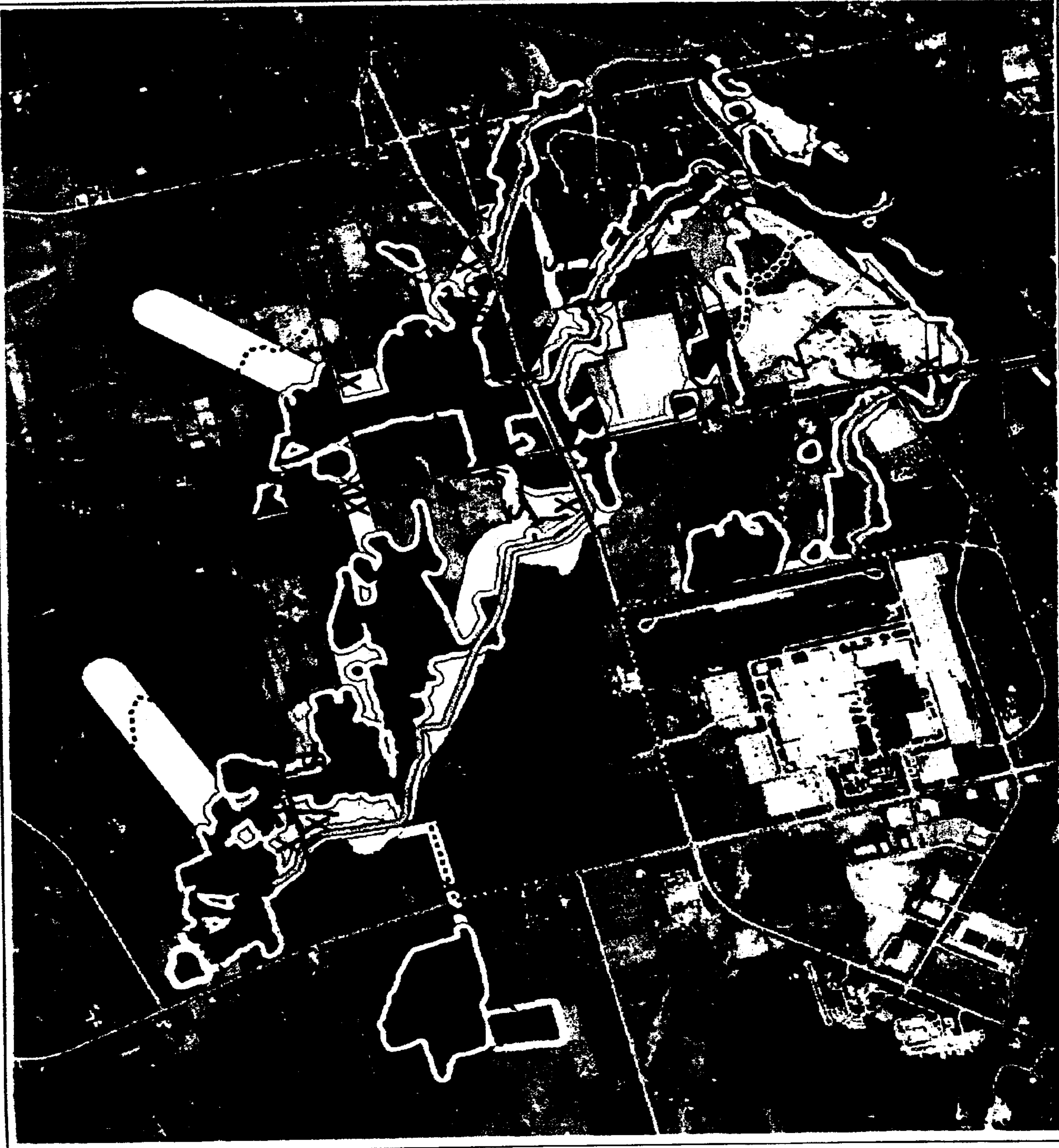
GREENSPACE MANAGEMENT STRATEGY

Scale: 1:17,000

Date: November, 2003

Project No.: DA01-40A

Figure: C.3.3.1



MGWA NEWS

April 2004

Since the last public meeting on the Hespeler West Subwatersheds Study (HWSS) at the Beehive Room, your standing committee has been working with representatives of City Council and staff. This newsletter is being published to bring our supporters up to date on our activities.

You may recall that in response to our suggestion, Cambridge Council established a Working Committee to review the specific areas of community concern. The members of this Committee include:

- Ward Councillor, Rick Cowsill (Chairman)
- Erich Ritzmann MGWA
- Charlene Schiedel MGWA
- John Vasiga MGWA
- Cathy Murphy MGWA
- Ron McKittrick, MGWA alternate
- Brian Cunningham small property owners
- Matt Pugliese small property alternate
- Ian Rawlings large property developers
- Ken Cornelisse Ministry of Natural Resources (MNR)
- Tricia Rosa Grand River Conservation Authority (GRCA)
- Chris Gosselin Regional Municipality of Waterloo (RMoW)
- Wendy Wright City of Cambridge Commissioner of Planning Services
- April Souwand City of Cambridge Senior Environmental Planner

The Working Committee meets the first and third Thursdays of the month and the MGWA Steering Committee meets the alternate Thursdays.

Summary of accomplishments thus far, are:

- Finalizing the mandate, legal requirements and operating rules for the Working Committee.
- Presentations by the Provincial Ministry of Natural Resources and the Grand River Conservation Authority regarding Provincially Significant Wetlands, Floodline Calculations, Regulated Areas and Ponds.
- Review of policies of the various organizations involved.
- Review of technologies involved.
- Agreement on the strengths and limitations of the technologies used.
- Agreement on alteration of several results of the Study.

Next steps are a presentation by the Region regarding Environmentally Sensitive Policy Areas and by the City on Protection of Natural Areas.

Review and discussion of the concerns of the community has occurred following each of the presentations and changes have been made regarding the results of the Study. Some field visits are planned mid-May.

Errors Identified

The presentation from Gus Rungis of the GRCA has confirmed that the HWSS had, in fact, used a "regional storm" model which experts estimate might recur in a two to five hundred year interval. This corrects information presented at the public meeting (Beehive Room, Sept. 2003) where it had been stated that the floodplain analysis was based on the one hundred year storm – that is the storm that might on average occur once every century.

In February, the HWSS WC reviewed the culvert sizes used in the floodplain modeling and found that every one examined had errors. The City has asked the consultant to correct the information and prepare revised floodlines. The subwatershed boundary of Middle Creek is also being adjusted in the area north of Middleblock Road and west of Fountain Street. Wendy Wright, Commissioner of Planning Services for the City of Cambridge commented regarding downstream affects, "it is possible that the floodlines along Middle Creek will be reduced, but until the analysis is complete the extent or significance of the impact is not known."

The MGWA is currently working with the Ontario MNR to correct the boundaries of the wetlands. Certain wetland classifications on areas that were not really wetlands were removed. Some wetland

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boundaries were adjusted to more accurately reflect reality.

Wetlands preservation is important for flood prevention, for groundwater quality, as well as for ecological preservation. Moreover, it is important that these features be accurately reflected in the City's inventory, as they may then be used to place land use restrictions on your properties.

Concerns expressed by property owners yet to be addressed, include buffers and the enhancement/ stewardship areas, among others. If the errors identified by representatives of the MGWA and acknowledged in the Working Committee of the HWSS are adopted or corrected, these

items should have an impact on the outcomes and the recommendations. MGWA members, Councillor Cowsill and staff of the City, RMoW, GRCA and MNR have been working in a cooperative manner, and overall, we are cautiously optimistic that we will be making substantial progress in the near future.

Several people have indicated that they would like to follow our progress in more detail and so we have been making an extra effort to ensure detailed minutes are produced for each meeting. You may find the HWSS WC agendas and minutes posted on the City's web site at:

<http://www.city.cambridge.on.ca/section.php?sid=25>

About the MGWA News

The *MGWA News* is published four times a year by the Maple Grove Wetlands Association, in Cambridge, Ontario. It is made possible by the generous contributions of members like you. Opinions expressed herein are the author's, and may or may not reflect those of the Association. For more information please contact the Maple Grove Wetlands Association at:



MGWA
Box 24092
209 Pinebush Rd
Cambridge, ON
N1R 7H0

E-mail: mgwa@genema.org

MGWA: Buffers in the Subwatersheds

04-05-18

Introduction

We've heard these recent weeks that what the Hespeler West Subwatersheds Study (HWSS) recommended in terms of natural features protection, probably exceeded the requirements of the Provincial Policy Statement (PPS). What we would like to do as a part of the Working Committee (WC), is arrive at justifiable recommendations which not only meet the PPS and agency objectives, but also seem reasonable to the constituents of the area.

While it might be agreed that a ubiquitous, 'blind' 30m buffer, together with generous enhancement area recommendations, might provide adequately enough for preservation and enhancement of existing natural heritage features, not to mention a wonderful system of community trails, it also raises the very real question of whether 15m wetland buffers together with more judicious enhancements might have achieved as much.

While the data presented by the HWSS might suggest that 15m wetland buffers would protect the natural features, it neglects to consider this option. The process of the Working Committee needs to provide this consideration.

Provincial Policy Statement

The Provincial Policy Statement would be met with a combination of protection and enhancement objectives, not necessarily only those outlined within the HWSS. We feel that the Working Committee has improved on the HWSS recommendations on buffers and enhancements, in the following ways:

1. It has been recognized that the nature of the feature being protected should have some bearing on the buffer size, i.e. wetlands are more critically dependent on the adjacent areas for such factors as infiltration than other features.
2. It has been recognized that while enhancement areas help sustain linkage corridors, providing these across major impediments may be contrary to the PPS, in as much as they can become recipes for roadkill if not mitigated with an underpass or overpass of sufficient size. Enhancement areas near roads need to be minimized and safe passage for the animals ensured in order for the PPS objectives to be met.

GRCA Wetlands Policy

The HWSS was conducted under the old "Interim Wetland Buffer Policy" (Res. No. 169-92), which states:

1. A 30 m buffer will be applied to all wetlands, Classes 1 through 7. It may be possible to provide some flexibility to this buffer if an Environmental Impact Statement is completed to the satisfaction of Authority staff.

MGWA: Buffers in the Subwatersheds

04-05-18

Since the completion of the HWSS (October 2002), the GRCA has adopted a new policy in March 2003 (Res. No. 40-03), and this policy states:

6.2.10 Where a comprehensive plan is available, the GRCA, in consultation with the affected municipalities, will request a more detailed site-specific study (i.e. a Scoped Environmental Impact Study) to determine the wetland boundary using the most recent OMNR Wetland Evaluation System, appropriate buffers and setbacks using the prescribed guidelines identified in the comprehensive plan, and how the form and functions of the wetlands will be sustained, improved or restored.

What is clear, is that when the interim 30m policy was in place, some flexibility was anticipated.

Under the new policy, many of the buffer decisions need to be made up front, though there is nothing that dictates a general one-size-fits-all buffer strip magnitude.

For the constituents of the HWSS area, this means that the recommendations made by a "flawed" Study, under the interim policy assumptions, are going to be implemented in the future using the newer, perhaps less flexible, policy guidelines.

Rather than hazard a 'worst of both worlds' approach, it is suggested that the buffer recommendations be reviewed by the WC using data which may be regarded by all as trustworthy, and a protection rationale that most reasonably balances natural objectives with human uses. And, with the recognition that these new recommendations would be the ones to be used under the new GRCA wetland policy when it comes to implementation.

Best Buffers

We would further suggest, that in meeting a 30m wetland buffer policy we must not overlook the overall buffering affect of adjacent forests. These are extensive, in many cases much more than the 30m, and provide unsurpassed quality in terms of wetland buffering functions. Adjacent natural areas are often also quality habitat areas, all of which suggests a reduced need for extensive wide buffer strips on disturbed lands.

For example, it may be observed that in some cases, the HWSS recommended buffers fall unto pre-existing developments, parking lots and building structures, suggesting that narrower buffer strips would probably be just as effective.

Infiltration

We would note, that the subwatersheds exist on a substantial base of overburden, 25 to 50 meters (about 80 to 160 ft deep) in the areas of most of the significant natural features. Overburden, consisting of permeable till and outwash sands. These conditions are quite conducive to high rates of infiltration. This represent an ideal scenario.

Generally, the subwatersheds are tablelands, that is they are relatively flat and slopes tend

MGWA: Buffers in the Subwatersheds

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to be gradual. This further favours infiltration on these rather permeable soils.

In such a context, even we might suggest ideal conditions, the incremental benefit of wide buffer strips around wetlands would be characterized by diminishing returns. That is to say that most of the significant buffering benefit is probably provided within the first few meters of the buffer strip nearest the wetland itself. The incremental additional benefit diminishes with distance with such permeable soils.

Unmitigated Noise

The HWSS cites noise as being a key factor in favouring wide buffers.

Buffer strips of any width would be entirely ineffective in terms of their mitigating affect on one of the very significant noise problems of the area – the subwatersheds are on the approach path to the international airport a couple kilometers to the north. And with air traffic on the increase, so too the corresponding levels of overhead noise. No amount of buffer strip will serve to alleviate this very significant noise problem.

Temperature

The HWSS cites temperature as a key factor favouring its large buffer recommendation. And in general, urban heat island affects are considered a problem which will influence the current equilibrium. However, it is not clear that its big buffers would be the panacea.

Localized heating causes energy to rise in an associated convective cell, when there is little wind. This affect is primarily vertical, not horizontal. In fact, it would draw out cool air from the nearby forest. So rather than a net energy sink, the nearby natural areas would in fact serve to help mitigate the affects of the urban heating.

When there is a wind, energy gets dispersed laterally, mixing with the other unheated air. Again, it is unclear whether larger buffer strips would help.

Whether a 30m distance is sufficiently superior to 15m in this context, remains very much a question. Unfortunately, the HWSS provides no evidence or proof to substantiate its recommendation.

Light

While it is true that light diminishes in intensity by the inverse square, it is also true that many modern beams, such as aircraft landing lights, are very intense and focused, designed to reach ranges of more than a kilometer. Land-based vehicles are no exception. Buildings and facilities of all types use directional lighting these days. And if the forest is dark, it will tend get illuminated, especially if there are trails.

New lighting standards such as those recently placed along the Conestoga Parkway at 200m intervals have virtually eliminated the need for residential streetlights within 500m.

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In the context of the HWSS it remained entirely unsubstantiated whether distances from 15m to 30m, would make any difference at all on light sensitive species breeding patterns.

Habitat

According to the HWSS over 18% of the subwatersheds area is forested. Beyond this some percentage must be added for marshes, riparian, open aquatic, buffer and enhancement habitat which were not included in the tally. This all is further complemented by substantial forested areas nearby, such as the Kossuth Swamp. All in all, this adds up to a higher than average percentage of quality habitat in the general area.

Within the subwatersheds the contiguous natural areas tend to be substantial. For example, south of Middleblock Rd, the Middle Ck natural area is about 1.4km wide in the west-east direction, and about 1km north-south direction (discounting the spurs).

The East Ck natural area extends 1.2km north-west from Maple Grove Rd, through to the headwaters with little interruption. At its widest point, just north of Maple Grove Rd, it has a 900m width in the west-east direction.

These are an extensive mix of habitat types ranging from upland, mature forest, early successional forest, swamp, marsh, open water and riparian. In my recent field trip with the OMNR, it was stated that there was found to be a great deal of interspersion. And notably, these areas also include forest interior ecosystems.

Forest clearings, in this context, far from the potential development opportunities, ensure that high quality, relatively low noise/light/wind/temperature edges already exist in the complex. These are probably better than the best buffered edges that we can create, and they are available to those species that really need to avoid impacts of urbanization in the complex.

To sum up, for species that are sensitive, even wide urban buffer strips would likely be inadequate. Yet, wide natural buffer function is already provided for by extents of the surrounding forest, a fact which probably addresses this situation more suitably.

Nearby Approvals

Smaller buffers have suited agency objectives very recently in the Challenger Motorfreight development.

In this development, aquatic buffers of 15m were used, and adjacent upland forest has 3m dripline buffers. At this particular site, the quality of the upland forest is fairly high – mature sugar maples which reach 0.5m DBH can be observed.

The nearby swamp on the other hand, near the Regional Headquarters, has seen considerable fill, salinization, and sedimentation. The degradation of the Region's wetland and corresponding poor fill and runoff retention practices are among other problems that may be noted. With the little remedial action that has been taken to date, it

MGWA: Buffers in the Subwatersheds

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can be regarded as an unfortunate situation which merits consideration.

In other approvals, Forbes Ck used 50m buffers, largely because of the shallow overburden and the nearby bedrock conditions, conditions which don't apply to the Hespeler West Subwatersheds area, where the diametric opposite holds true.

In other approvals with adjacent LSW or PSW, often 15m wetland buffer strips have suited agency objectives, when combined with other buffering functions of adjacent areas.

Social and Economic Considerations

In balancing the environmental objectives with social and economic considerations, it becomes apparent that narrower wetland buffer strips together with enhancement areas when combined with existing interspersion and other existent attributes would also protect and enhance the natural features of the area as required by the PPS.

In many cases the wetlands are buffered by the natural buffering of upland forests which provide hundreds of meters of adjacent buffer, and habitat suitable for ducks and turtles and such species that depend on it. These other features in turn are also further protected by buffering strips beyond the driplines. This meets or exceeds "best management practices" of 30m wetland buffers, in many cases.

This adjacent area buffering provided by the forests, plantations and woodlands, also reduces the need to extend a 30m wide strip onto disturbed areas. The need for wide buffer strips had not been made beyond a shadow of a doubt within the HWSS. While wide buffer strips might provide some benefit, over and above what 15m could, these additional benefits, must then be weighed against the significant costs in terms of disturbed areas, and their associated human benefit and economic potential. The social and economic factors were said to be considered by the HWSS, but few landowners agree that that had been the case.

Economic compensation is a topic which is accounted for in federal legislation, for lands diverted to wildlife habitat, however, analogous consideration might be regarded a deficiency in provincial counterparts. This should not be deemed an excuse to expropriate economically valuable lands at the expense of the 'small guy', at no cost to the public purse. If more than 15m buffer strips are desired, various landowners would be publicly minded enough to sell these to the municipality at a fair price for the community trails that benefit the general public.

Conclusion

In general, best practices suggests a 30m buffer strip is required when a wetland is identified on the landscape, perhaps in relative isolation. In the Maple Grove Wetlands Complex, the significant wetlands have considerable adjacent natural areas and treed habitat. The natural buffering affects of these are already providing more than 30m of buffer in these areas. These natural buffers are superior also in quality, to artificial buffer

MGWA: Buffers in the Subwatersheds

04-05-18

strips.

The area consists of sufficiently deep overburden, highly permeable soils and tablelands with generally gentle slopes. It is highly probable that in this context, the management objectives of the agencies would be achieved through the use of 15m wetland buffer strips, 3m forest dripline buffers, together with sensible enhancement recommendations.

Certainly, a subwatersheds study which among other errors omits consideration of this option would not be credible in the view of the constituents, for many of the reasons that have been outlined in this paper.

Maple Grove Wetlands Association

Ponds Discussion

The presentation by Ken Cornelisse explained many aspects of the ecology of ponds and was very useful. However, time was too short to allow for a discussion. Our intention here is to raise some points that should have been part of such a discussion.

The *Dam Removal Success Stories* referred to in the presentation contains some points that need to be highlighted:

- It was prepared by American Rivers, Friends of the Earth, and Trout Unlimited rather than an unbiased US government agency.
- The average height of the dams studied was 21 ft. with 40 being over 40 ft. and 4 over 120 ft. Average length was 224 ft. The issue here is relevance.
- Main reasons for removal could generally be summarized as to restore a damaged ecosystem, safety concerns, and taxpayer expense to repair and maintain the dams.
- Detailed case histories reported relied heavily on the following reasons for removal:
 - Sport fisheries- salmon, trout, tidal smelt runs were mentioned several times as examples.
 - Structural safety hazards
 - Canoeing, recreation
 - Taxpayer costs and liability
 - Water quality
 - Create waterfowl habitat
 - Improve surrounding aesthetics

In conclusion, the summary paragraph states:

“Removal is not appropriate for all, or even most, of these (tens of thousands of smaller) dams. Far less than one percent of all dams in the United States are even under consideration for removal.”

Comments on the Presentation

Although sediment transport is impeded by dams, erosion is not necessarily a good thing.

The sediment will eventually be deposited somewhere even if not behind a dam.

Destruction of ponds would not necessarily be a completely good thing for water quality. A pond expert examined one Middle Creek pond and determined that it *contained plants vital to improving water quality*.

In the case of Middle Creek ponds, all maintenance has been carried out by residents, so no burden is imposed in the taxpayers or government bodies.

There is no canoeing on Middle Creek but residents have cleared skating rinks on a pond.

It is difficult, if not impossible, to imagine a situation where a safety hazard might exist.

Although removal of some dams might improve fish mobility, when a stream totally dries up, as Middle Creek sometimes does, the wildlife has no refuge nor water if the ponds are not there.

On the other hand, these ponds are home to, or often visited by, a variety of wildlife (including several Regionally Significant Species):

- Frogs (including Bullfrogs)
- Herons (Great Blue, and a grey variety)
- Geese
- Ducks
- Turtles
- Crayfish
- Deer
- Minnows
- Otter
- Groundhogs
- Raccoons
- Opossums
- Skunks
- among others

The removal of the ponds would certainly not benefit the area wildlife.

The ponds have beneficial affects on ground water recharge.

At a meeting held to present the industrial development plans north of Maple Grove to area residents, Miron Docev said emphatically that the flow variations in Middle Creek would be *less variable* (i.e. less flooding, less drying up) after development, due to the construction of retention ponds. This positive aspect of ponds contradicts recent statements denying the moderating influence of ponds.

Although there may have been some specific locations where dam removal helped surrounding aesthetics, it would be devastating in the case of the Middle Creek ponds in residential areas.

In the often inconsistent HWSS, it simultaneously makes the recommendation with respect to aquatic enhancements, to include:

“... the creation of specific habitats such as small ponds ...” (p C-35)

Could it be suggested that it is rather pointless to remove and then recreate the small ponds, disrupting the lives of the wildlife which call this home.

In summary, from an environmental standpoint, the case for pond removal has not been demonstrated. The outrage caused by the social and economic impacts on the residents is an additional consideration.

Treatment of ponds in the HWSS could and should have been more even-handed.

MGWA News

July 2004

Maple Grove Road Expansion

The Maple Grove Road will soon be four lanes wide, plus turning lanes. Many of the Maple Grove Wetlands Association (MGWA) members provided comments to the Region regarding the proposed widening. On behalf of the Association, we suggested more extensive sound attenuation barriers be considered, and that proper bridges be built along the creeks where wildlife crossings are substantiated.

HWSS Working Committee Update

Enhancement & Stewardship

You may recall that the Hespeler West Subwatersheds Study (HWSS) had made recommendations as to “enhancement” areas in which naturalization efforts should be focussed. Some of these, if implemented, would have lured wildlife dangerously near to major roads, and ultimately to their demise.

The MGWA has suggested that these recommendations be removed or reduced near roadways, a point to which the HWSS Working Committee was agreed.

And, rather than singling out individual properties for “stewardship” areas the City will be offering opportunities for all the people of the Subwatersheds as a whole, to learn about the natural systems and how they might be enhanced. Insofar as it truly makes all aspects voluntary, the Association is in agreement with this approach.

Buffers

You might also recall that the HWSS recommended 30m (~100ft) buffers around any area which it considered of importance from a natural heritage perspective. In many cases these buffers fell on cultivated fields, residential properties, buildings, even driveways and parking lots. In every case, this was regarded as unacceptable to the people who have raised their concerns with us.

Based on information we had collected, the MGWA has suggested to the Working Committee that buffers around wetlands could be equally effective at 15m. Also, that upland forest buffers could be effective with as little as three meters. And, that the Association does not want any residential areas adversely impacted by the buffers.

What City staff returned with, is that the 30m buffers remain for now, but that they may be rolled back pending the acceptance of an Environmental Impact Study (EIS). This allows for the possibility of reducing the buffer strips to the sizes that the Association suggested at later date.

While this is an important improvement over what had been previously recommended by the Study, the MGWA still has some concern with this approach. An EIS is performed by expensive consultants, and may be required in certain circumstances when building, when altering grade, or when severing a property. The advanced state of human disturbance should be recognized and a smaller buffer strip should be considered as the starting point at which an EIS may be required.

Also, in response to our concerns, the MGWA is pleased that the City has suggested in some cases, buffers might be reduced or eliminated under the auspices of the community plan. The community plan is expected to commence shortly. The additional analysis would be paid for by the City, in those cases.

Wendy Wright, Commissioner of Planning Services, stressed that the buffers would get implemented whenever serviced urban development occurs, and in other circumstances they would not get implemented.

All we can say at this juncture is that that is the subject of continued discussions.

Numerous Errors Corrected

Ron McKittrick comments, that one of the very significant benefits to MGWA members has been the removal of incorrect wetland "designations" by working with the Ontario MNR, thereby avoiding the onerous restrictions.

Additionally, watershed boundaries were corrected, and floodlines are in the process of being adjusted.

Almost Done

At the point of this writing, we have just three more scheduled meetings of the HWSS Working Committee. In

these meetings we hope to get answers to many outstanding questions, such as:

- What will be the affects of the licenced sand extraction on local wetlands and on our wells?
- What will be the affects of the watershed and wetland boundary changes on the Maple Grove Wetland Complex itself?
- What will be the affects of the missed Middle Ck. culvert on floodlines?

Upcoming Events

A number of events are being planned for the coming weeks. Mark your calendars and plan on attending these.

An *Open House* is being held on September 9th at the Wanner Mennonite Church at Beaverdale and Old Maple Grove Rd. The doors open at 6PM, with a presentation at 7PM. This will be subject to confirmation by City staff, so look for a letter in your mailbox in the coming weeks.

If all goes according to plan, the revised HWSS will be considered by *Cambridge City Council* at a special meeting on Tuesday, September 14th. Council meetings are held in the top floor of the Old Galt City Hall and start at 7PM. Again, watch for the letter from the City announcing this.

About the MGWA News

The MGWA News is published four times a year by the Maple Grove Wetlands Association, in Cambridge, Ontario. It is made possible by the generous contributions of members like you. Opinions expressed herein are the authors', and may or may not reflect those of the Association. For more information please contact the Maple Grove Wetlands Association (new mailing address):

Maple Grove Wetlands Association
685 Briardean Rd, RR 31
Cambridge, ON N3H 4R6

E-mail: mgwa@genema.org

Web site: <http://genema.org/MGWA/>