NOTES	REVISIONS			CAUTION
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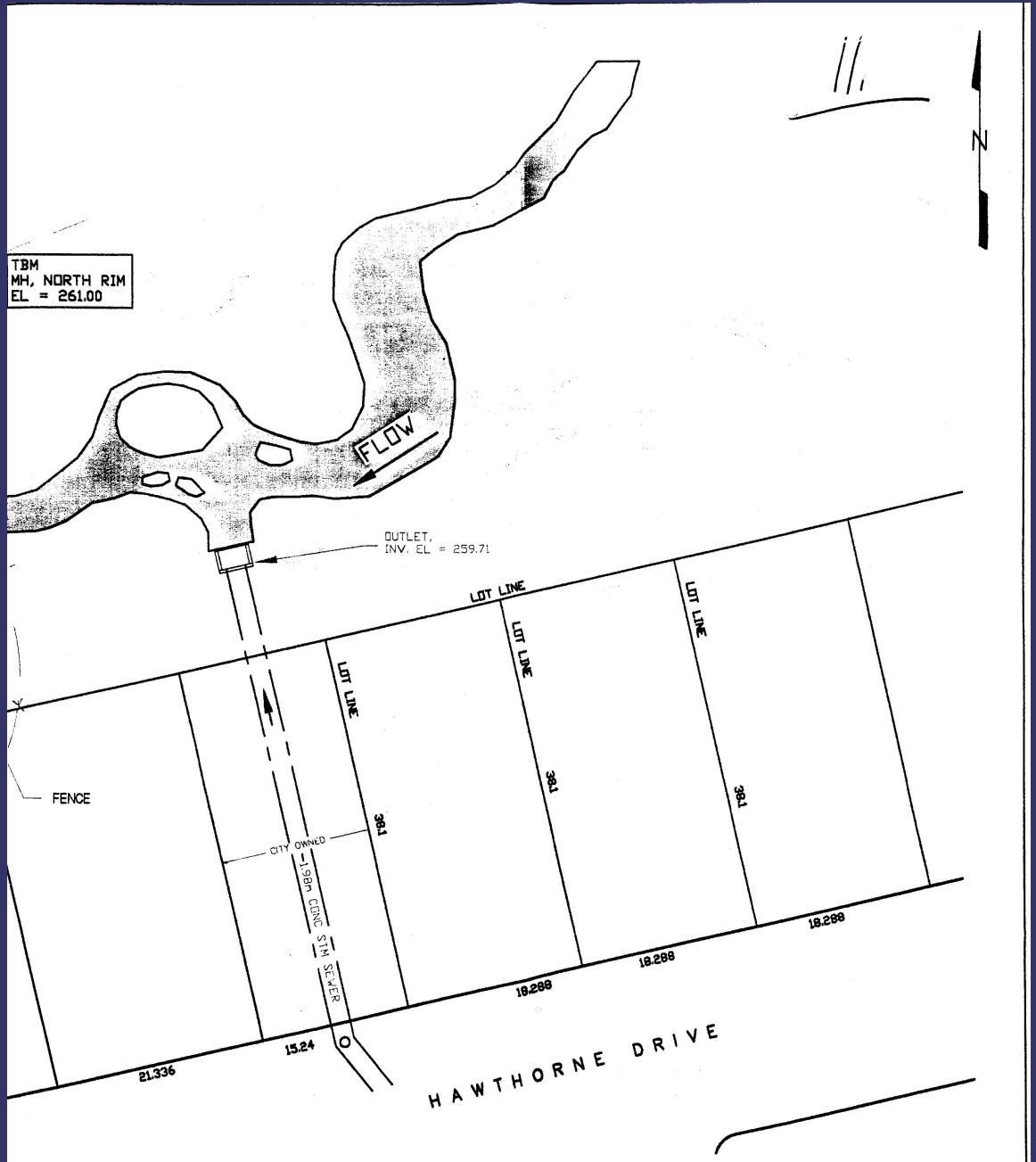
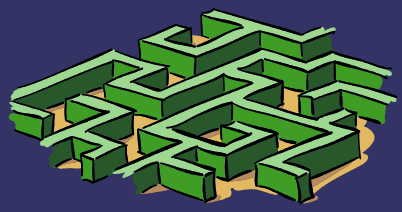
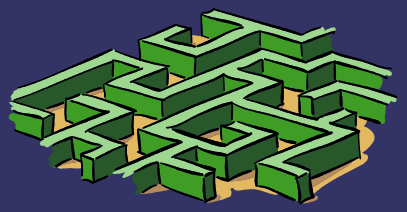


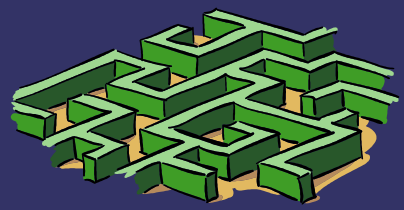
DATE AUGUST 15, 2006	S. A. Kirchhefer Limited	EROSION CONTROL	SCALE HOR. 1:500
DRAWN S.A.K.	Consulting Engineer and Planner		CONTRACT NO. CONT
DESIGNED		OVERVIEW	CAD/FILE NUMBER E:\DRAWS\AUTHOR\HAWTHORNE\04B1.DWG
CHECKED		1550 HAWTHORNE DRIVE, CITY OF GREATER SUDBURY	PAGE NO. 1
ENGINEER			
APPROVED	Sudbury , Ontario		

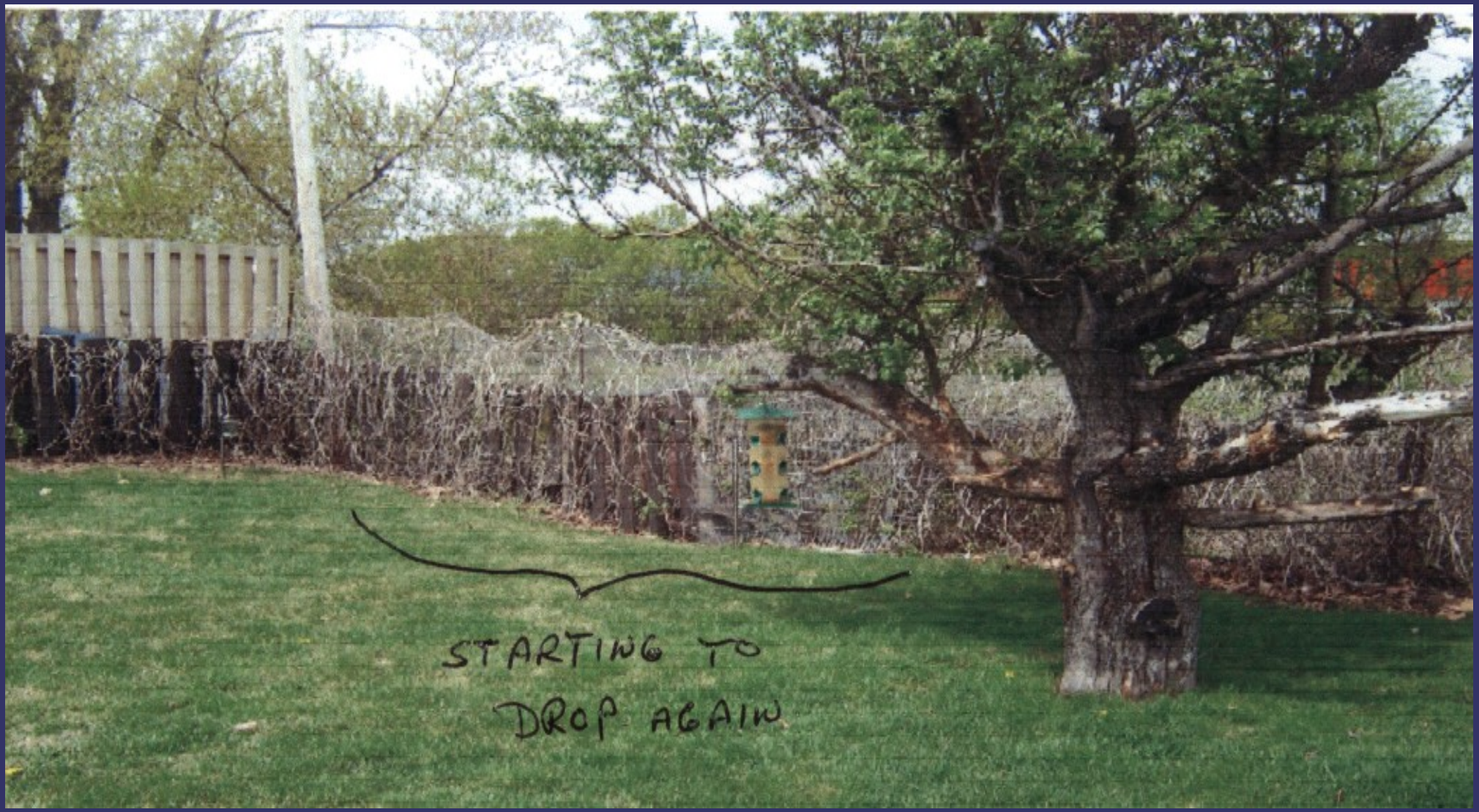

Notice how the fence has dipped
This brush is the creek side

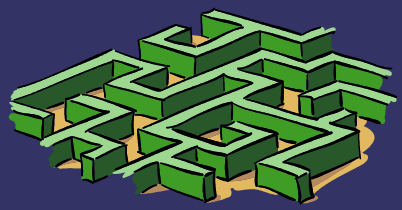


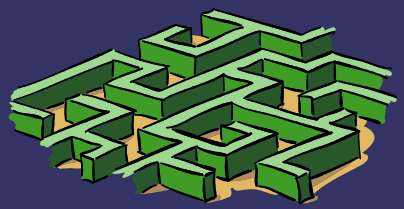



Notice my
nieghbors fence
My yard use to be flat



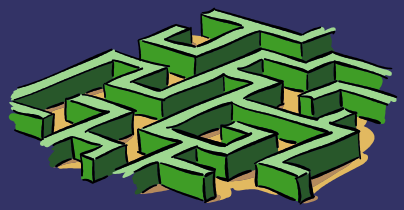

STARTING TO
DROP AGAIN





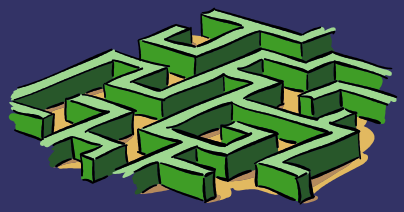

STARTING
TO
DROP
AGAIN!!


Red line represents
where my fence
hieght was before,
dropped nearly 10
inches

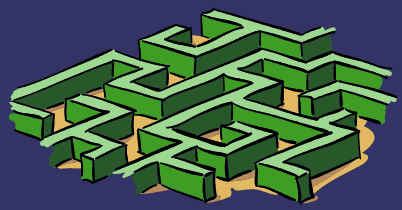



Red line represents water
level early spring
Please notice flow of creek showing
that there is no moreland mass behind
my backyard fence, just fallen debrie
from where my hedges used to be.

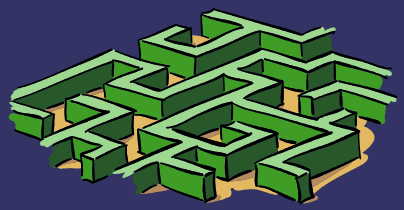

My yard
Notice the flow of the creek right
to the back of my property.




My back fence, and what used
to support my yard




Red line represents original bank
APPROXIMATELY
5 YRS AGO
My fence
POLE
IS
WASHING
OUT




HEDGES THAT WERE WASHED OUT
Erosion around the telephone pole has also taken place

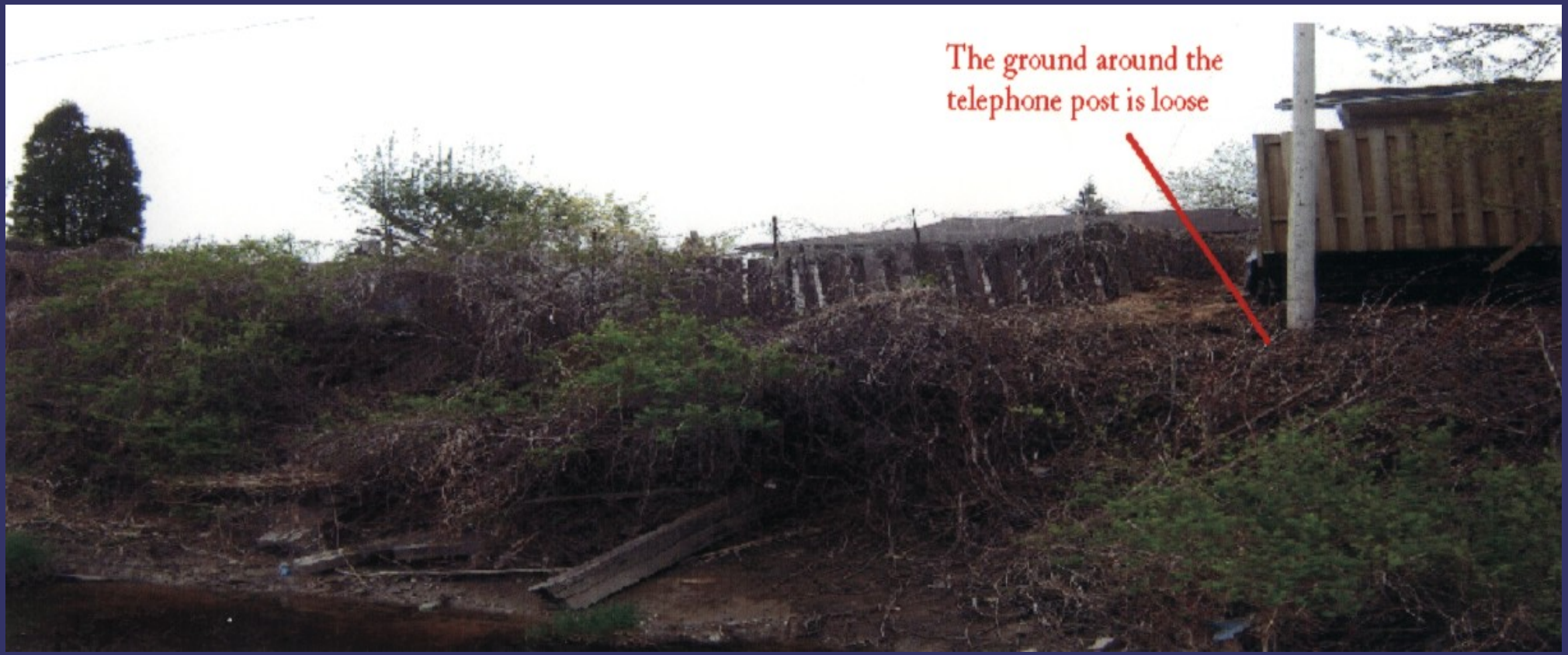

WATER LEVEL IN
SPRING.

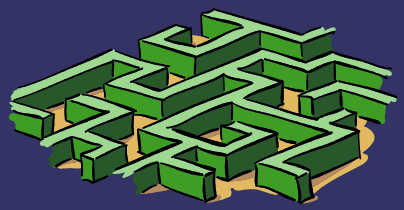

NEIGHBOURS YARD STARTING TO DROP.

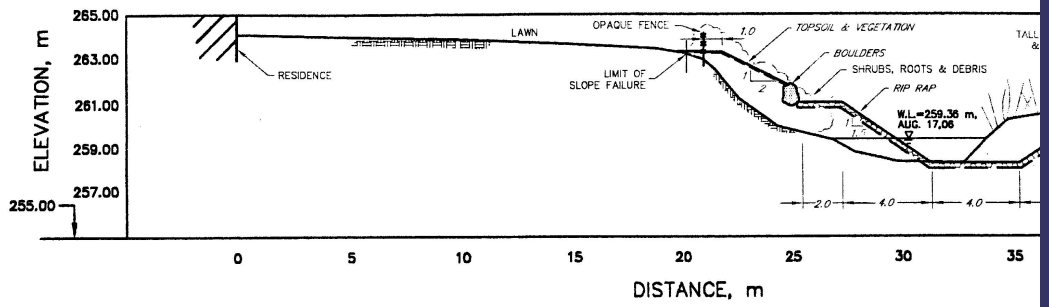

SPRING WATER
LEVEL


This is aproximately where the old bank was
This area has dropped
Notice the erosion of the ground around the post

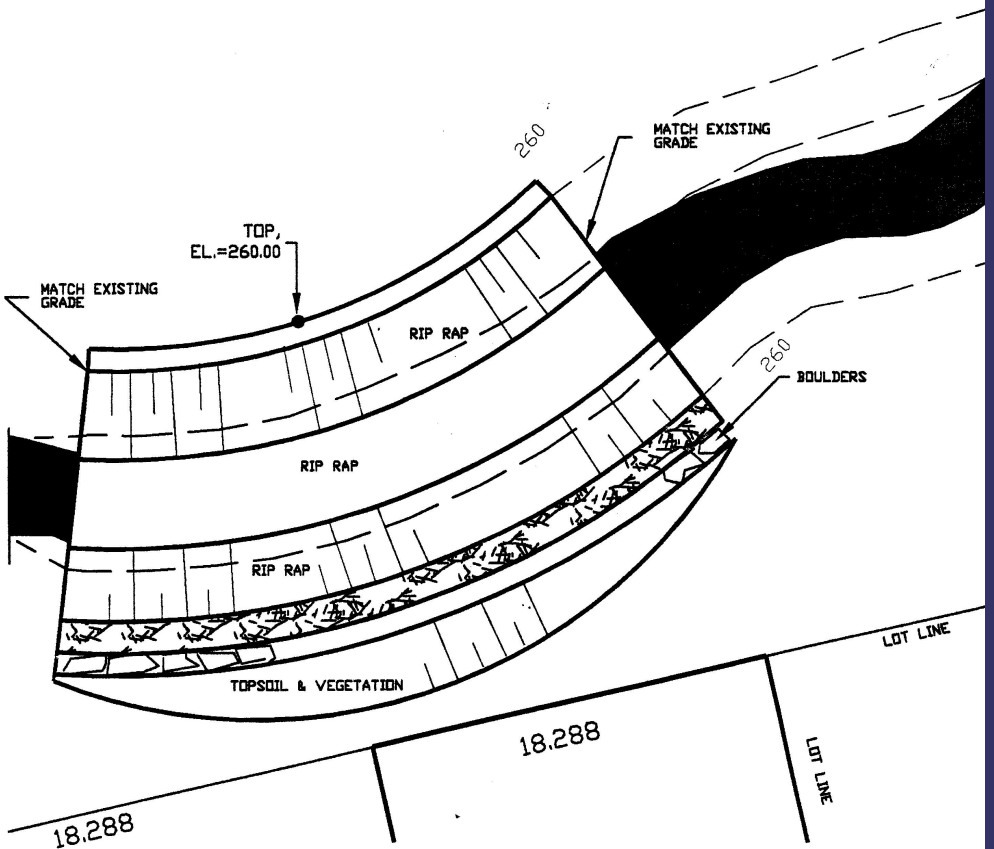

TAKEN MAY


The ground around the
telephone post is loose





SECTION A - A , SCALE 1:250



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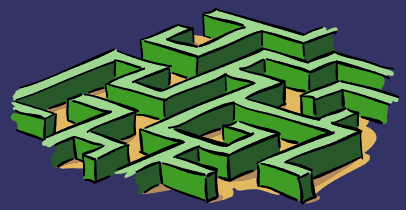
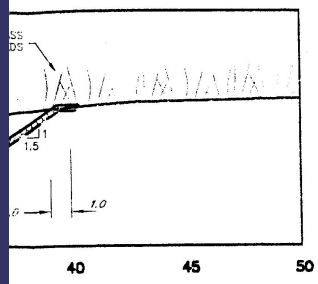
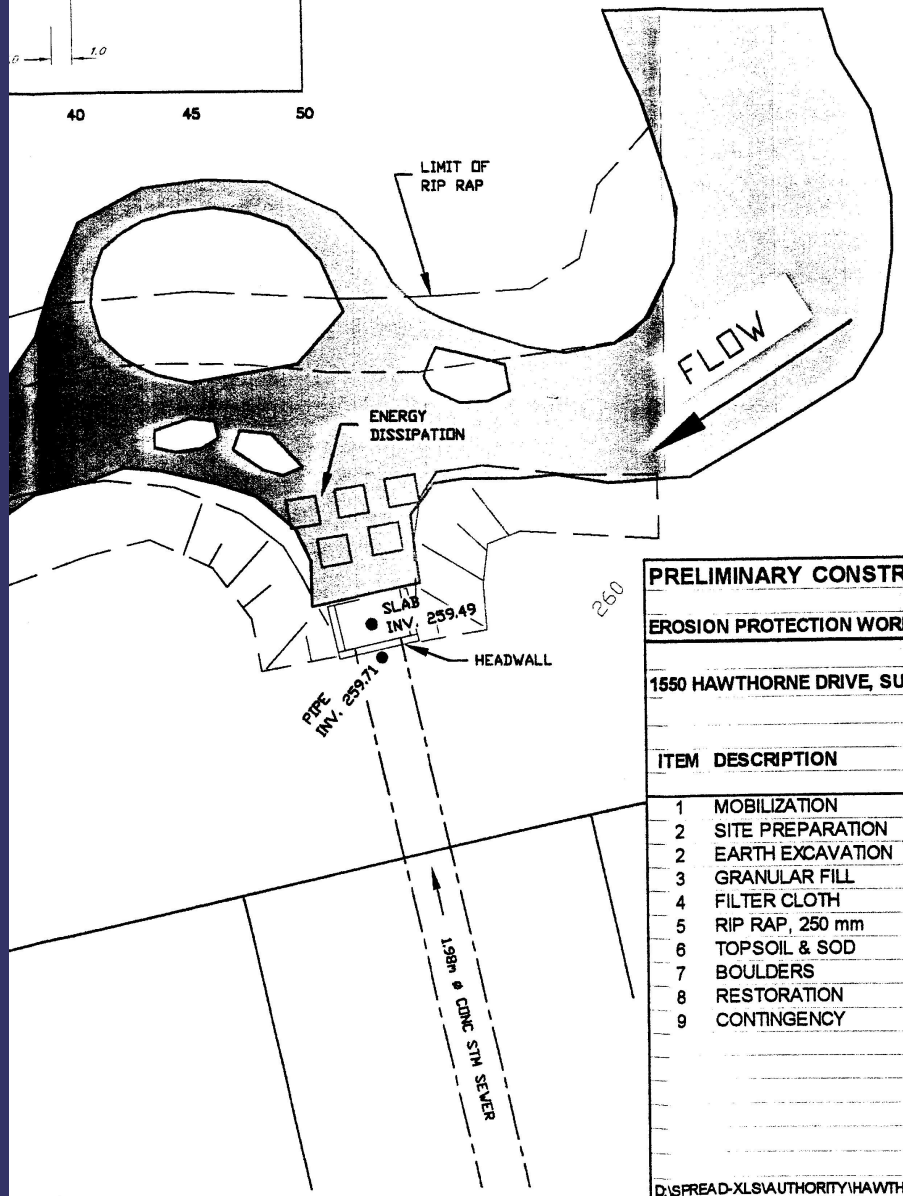




12.

N

260



PRELIMINARY CONSTRUCTION COST ESTIMATE

AUG. 17, 200

EROSION PROTECTION WORK

1550 HAWTHORNE DRIVE, SUDBURY

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL $
1	MOBILIZATION	l.s	1	2,000.00	2,000.0
2	SITE PREPARATION	l.s	1	2,500.00	2,500.0
2	EARTH EXCAVATION	cu.m	200	7.50	1,500.0
3	GRANULAR FILL	tonne	375	13.50	5,062.5
4	FILTER CLOTH	sq.m	400	3.00	1,200.0
5	RIP RAP, 250 mm	sq.m	375	55.00	20,625.0
6	TOPSOIL & SOD	sq.m	750	6.50	4,875.0
7	BOULDERS	m	25	125.00	3,125.0
8	RESTORATION	l.s	1	3,000.00	3,000.0
9	CONTINGENCY	l.s	1	2,000.00	2,000.0
				SUB-TOTAL:	**$ 45,887.5**
				GST: 6%	$ 2,753.2
				TOTAL COST:	**$ 48,640.7**
				ENGINEERING 10%	$ 4,864.0
				PROJECT COST: $	**$ 53,504.8**

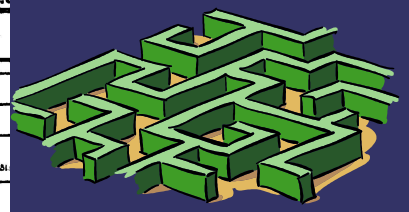
D:\SPREAD-XLS\AUTHORITY\HAWTHORNE\COST ESTIMATE.XLS

DATE: AUGUST 15, 2006
DRAWN: S.A.K.
DESIGNED:
CHECKED:
ENGINEER:
APPROVED:

S. A. Kirchhefer Limited
Consulting Engineer and Planner
Sudbury, Ontario

EROSION CONTROL
SCOPE OF WORK
1550 HAWTHORNE DRIVE, CITY OF GREATER SUDBURY

SCALE: HOR.1:250
CONTRACT NO.: CONT
CAD/FILE NUMBER: E:\DRAWS\AUTHO\HAWTHORNE\04S1...
PAGE NO. 2



S.A. Kirchhefer Limited
Consulting Engineer and Planner

364 Lloyd Street
Sudbury, Ontario P3B 1P3
(705) 673-0594

F 705.673.0832 email: sig1@bellnetca

Mr. Arnould 9.

August 18, 2006

Mr. A. C. Bonnis, P. Eng.,
Manager,
Nickel District Conservation Authority,
200 Brady Street,
Sudbury, Ontario
P3E 5K3

Re: Erosion Protection Work, 1550 Hawthorne Drive

Dear Mr. Bonnis:

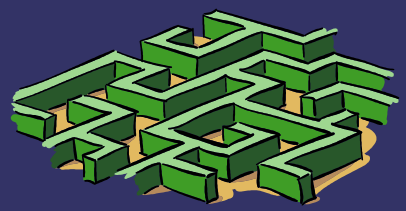
Following your authorization, we inspected Junction Creek in the general area of 1550 Hawthorne Drive. It is our understanding that the home owner expressed concerns regarding eroding conditions at the rear of his property, next to Junction Creek.

The inspection was carried out on August 17, 2006, and the findings of the inspection are twofold. First, the bank of the creek at the owner's property is subject to failure. The bank erosion has advanced over the years and is currently progressing into the back yard.

Secondly, a huge storm sewer outlet was found about 50 m further upstream. The flow in the 1.95 m ∅ pipe is discharged into Junction Creek without any significant energy dissipation and, therefore, bank erosion is prevalent in the area. It seems that the free discharge of the storm sewer flow has the effect of producing alternate bars. This in turn, causes the downstream section of the creek to meander and, subsequently, to initiate bank erosion. An overview of the site conditions is given in **Figure 1**.

For the protection of the property at 1550 Hawthorne Drive, we designed erosion protection work. In addition, a preliminary estimate of the construction costs is prepared. Further details are shown in **Figure 2**.

Concerning the outlet of the storm sewer, it is our recommendation that proper energy dissipation be provided. Further, the bed of the creek



S.A. Kirchhefer Ltd.

Mr. A. C. Bonnis, P.Eng.,
Manager,
Nickel District Conservation Authority,

10.

Re. Erosion Protection Work, 1550 Hawthorne Drive

needs to be re-defined, and a hydraulicly smooth junction of the flow in both Junction Creek and the storm sewer should be established.

We trust that our submission is helpful, and we remain,

Yours very truly,

S. A. KIRCHHEFER LIMITED

S. A. Kirchhefer, Ph.D., P. Eng.

SAK.d.
Fn \\DELL\c\D\L\Miscellaneous\2006\Aug.18'06 Bonnis.doc