

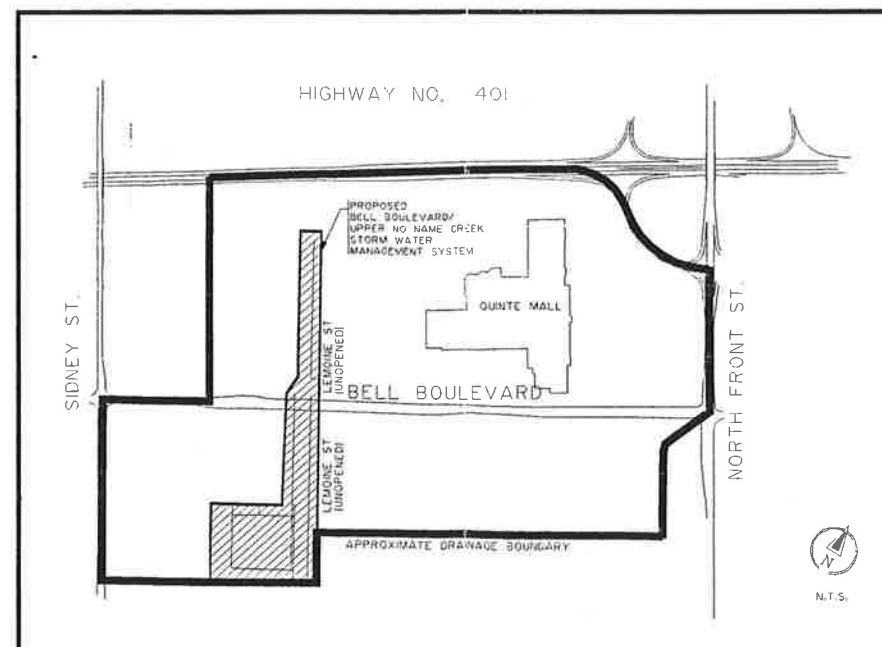
UPPER NO NAME CREEK

CITY OF BELLEVILLE — CONTRACT No. 98—

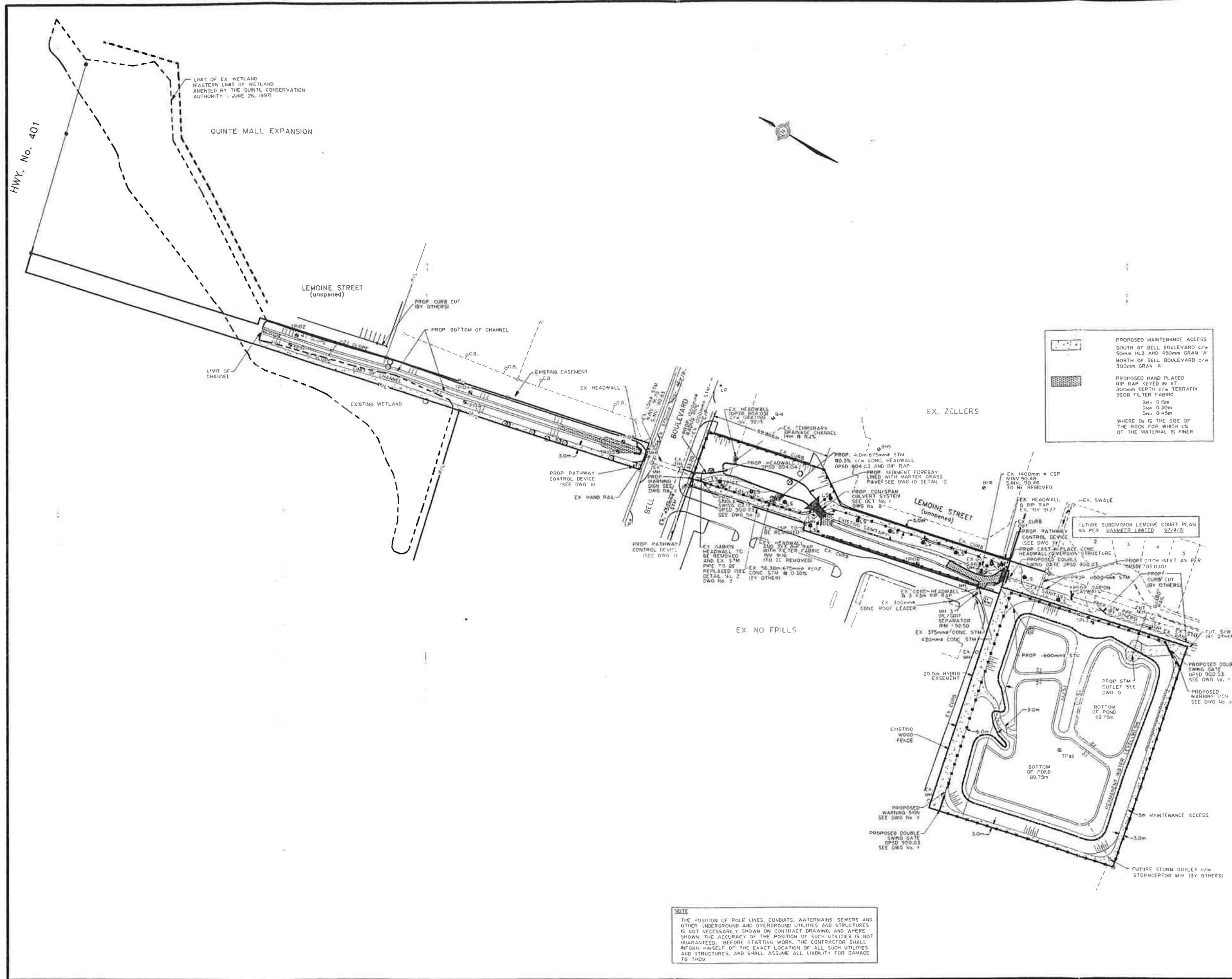
STORMWATER MANAGEMENT SYSTEM

DRAWING LIST

1. GENERAL PLAN OF SERVICES
2. STORM DRAINAGE PLAN
3. CROSS-SECTION LOCATIONS—NORTH OF BELL BOULEVARD
4. GRADING PLAN & CROSS-SECTION LOCATIONS SOUTH OF BELL BOULEVARD
5. CROSS SECTIONS & DETAILS—CHANNEL SOUTH OF BELL BOULEVARD
6. CROSS-SECTIONS — CELL NO. 3
7. PLAN & PROFILE CHANNEL NORTH OF BELL BOULEVARD
8. PLAN & PROFILE — CHANNEL SOUTH OF BELL BOULEVARD
9. HEADWALL DETAILS
10. DETAIL SHEET
11. DETAIL SHEET
- 12-A. LANDSCAPING PLAN SOUTH OF BELL BOULEVARD
- 12-B. LANDSCAPING PLAN NORTH OF BELL BOULEVARD



Consulting Engineer:  WESLAKE INC.



LIMIT OF EX WETLAND
EASTERN LIMIT OF WETLAND
AMENDED BY THE QUINTE CONSERVATION
AUTHORITY - JUNE 26, 1997

QUINTE MALL EXPANSION

HWY. No. 401

LEMOINE STREET
(unopened)

LIMIT OF CHANNEL

EXISTING WETLAND

EXISTING EASEMENT

EX HEADWALL

PROPOSED PATHWAY CONTROL DEVICE

EX HAND RAIL

PROPOSED PATHWAY CONTROL DEVICE

EX NO FRILLS

EX. ZELLERS

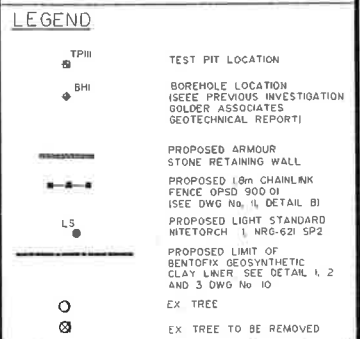
LEMOINE STREET
(unopened)

PROPOSED MAINTENANCE ACCESS
SOUTH OF BELL BOULEVARD c/w
50mm H/L3 AND 450mm GRAN 'A'
NORTH OF BELL BOULEVARD c/w
300mm GRAN 'A'

PROPOSED HAND PLACED
RIP RAP KEVED IN AT
300mm DEPTH c/w TERRAFIX
360R FILTER FABRIC
D₅₀ = 0.15m
D₈₅ = 0.30m
D₁₀₀ = 0.45m

WHERE D_s IS THE SIZE OF
THE ROCK FOR WHICH 5%
OF THE MATERIAL IS FINER

FUTURE SUBDIVISION LEMOINE COURT PLAN
AS PER VANMEER LIMITED 27/8/21



NO.	REVISIONS	DATE	BY
1	AS PER CITY OF BELLEVILLE COMMENTS	MAR/98	C.T.

DRAWN BY: S.M. DESIGNED BY: T.D.B.
DATE: JUNE 20, 1995 CHECKED BY: T.D.B.

DATE OF ISSUE: DATE OF PLOT:
APRIL 2, 1998

SCALE IN METERS: 1:1000
VERTICAL 1:100 HORIZONTAL 1:1000

NOT FOR CONSTRUCTION
UNLESS SHOWN AND SIGNED

OWNER
**THE CORPORATION OF
THE CITY OF BELLEVILLE**

MUNICIPALITY
**CITY OF BELLEVILLE
COUNTY OF HASTINGS**

PROJECT NAME
**UPPER NO NAME
CREEK**

WESLAKE INC.
Civil Engineers, Municipal and Environmental Planners

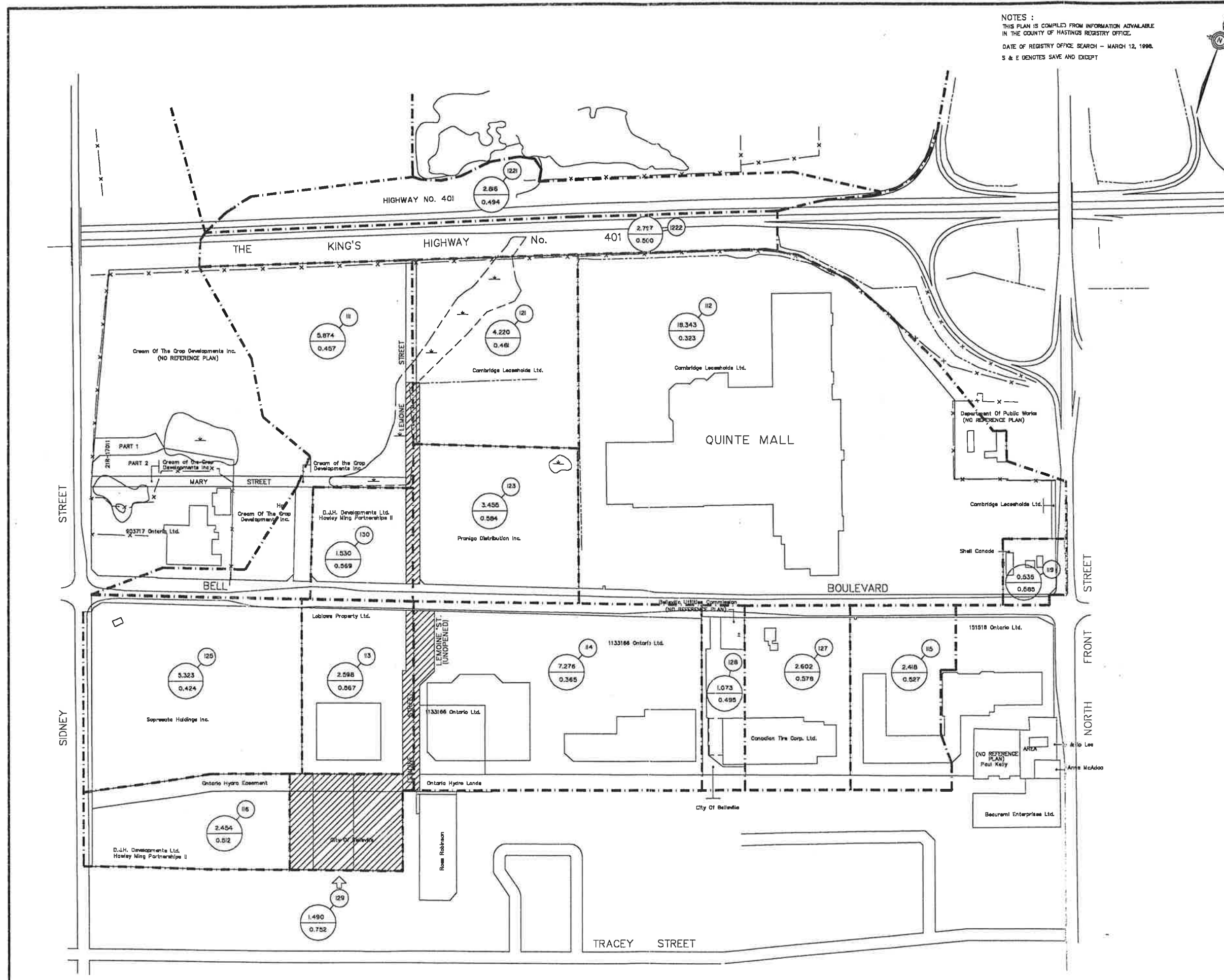
120 LANSING DRIVE
UNIT NO. 10
HAMILTON ONTARIO
L8W 3A1

DRAWING TITLE
**GENERAL PLAN OF
SERVICES**

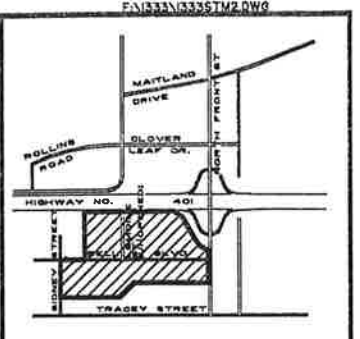
PROJECT NO. **1333** DRAWING NO. **1**

NOTE
THE POSITION OF POLE LINES, CONDUITS, WATERMANS SEWERS AND OTHER UNDERGROUND AND OVERGROUND UTILITIES AND STRUCTURES IS NOT NECESSARILY SHOWN ON CONTRACT DRAWING, AND WHERE SHOWN THE ACCURACY OF THE POSITION OF SUCH UTILITIES IS NOT GUARANTEED. BEFORE STARTING WORK, THE CONTRACTOR SHALL INFORM HIMSELF OF THE EXACT LOCATION OF ALL SUCH UTILITIES AND STRUCTURES, AND SHALL ASSUME ALL LIABILITY FOR DAMAGE TO THEM.

Figure 2 - Subcatchment Areas



NOTES:
 THIS PLAN IS COMPILED FROM INFORMATION AVAILABLE
 IN THE COUNTY OF HASTINGS REGISTRY OFFICE.
 DATE OF REGISTRY OFFICE SEARCH - MARCH 12, 1998.
 S & E DENOTES SAME AND EXCEPT



- 119 SUB-AREA ID.
- 0.390 AREA - ha
- 0.444 RUNOFF COEFFICIENT
- DRAINAGE BOUNDARY
- - - EXISTING DITCH

NO.	REVISIONS	DATE	BY

SCALE IN METERS:
 HORIZONTAL 1:2000

NOT FOR CONSTRUCTION
 UNTIL SIGNED AND DATED

OWNER:
 THE CORPORATION OF
 THE CITY OF BELLEVILLE

MUNICIPALITY
 CITY OF BELLEVILLE
 COUNTY OF HASTINGS

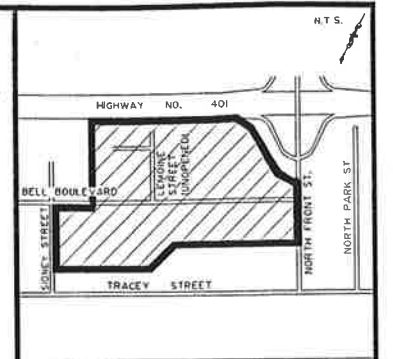
PROJECT NAME:
 UPPER NO NAME CREEK

WESLAKE INC.
 Civil Engineers, Municipal and Environmental Planners
 120 LANSING DRIVE
 HAMILTON, ONTARIO
 L8W 3A1

215 GARDEN STREET
 BELLEVILLE, ONTARIO
WATSON
 LAND SURVEYORS LTD.
 PROJECT NO. 054-W-98

DRAWING TITLE
 OWNERSHIP
 PLAN

PROJECT NO. 1333
 DRAWING NO. 2



LEGEND

- 118 SUB-AREA ID.
- 0.390 AREA - ha
- 0.444 RUNOFF COEFFICIENT
- DRAINAGE BOUNDARY
- ... EXISTING DITCH

NO.	REVISIONS	DATE	BY

DRAWN BY: MMG DESIGNED BY: TDB
 DATE: DEC 1997 CHECKED BY: TDB
 DATE OF ISSUE: DATE OF PLOT: APRIL 2, 1998

SCALE IN METERS
 1:12000
 HORIZONTAL 1:2000

NOT FOR CONSTRUCTION
 UNTIL SIGNED AND DATED

OWNER
THE CORPORATION OF THE CITY OF BELLEVILLE

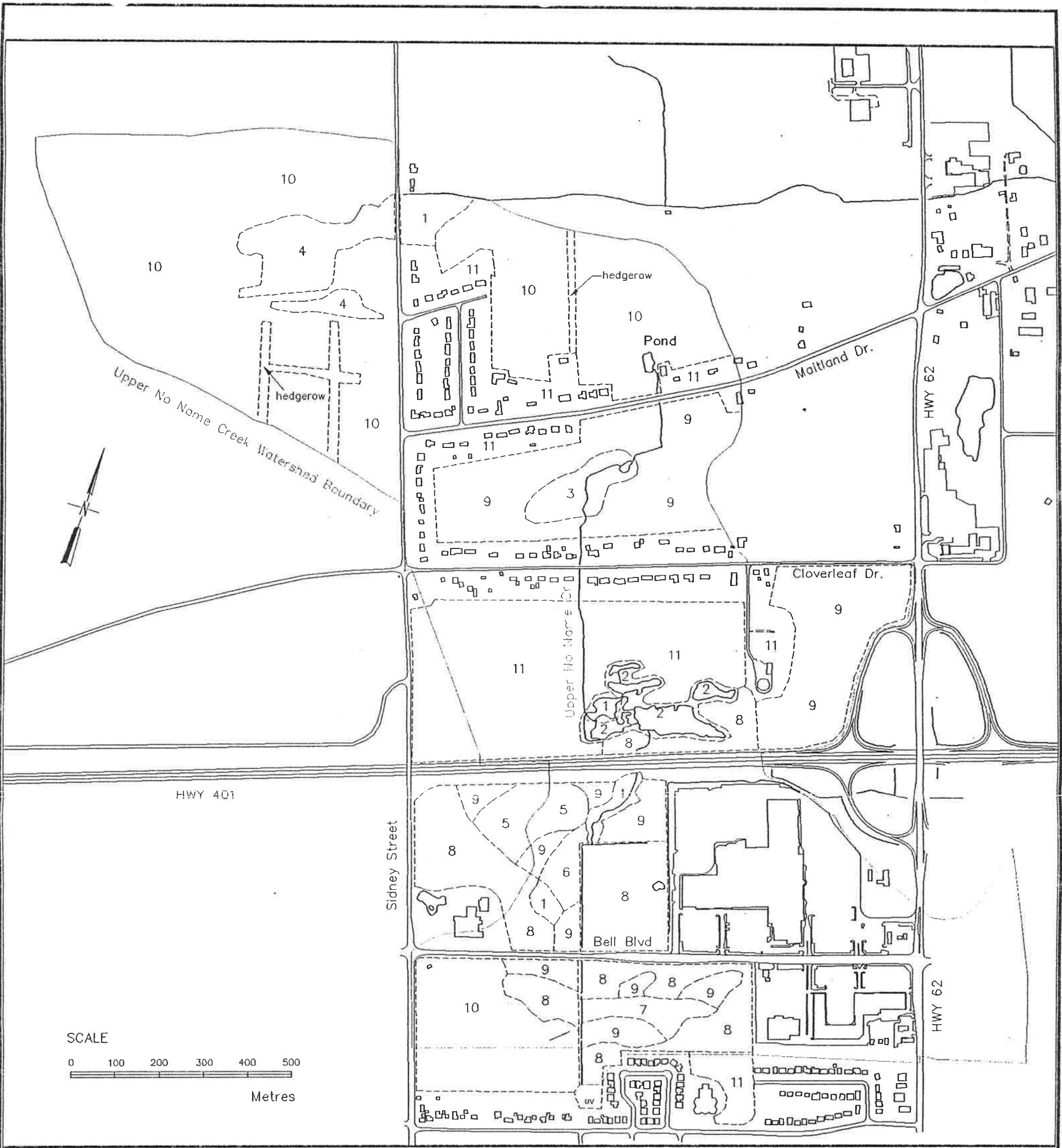
MUNICIPALITY
**CITY OF BELLEVILLE
 COUNTY OF HASTINGS**

PROJECT NAME
UPPER NO NAME CREEK

WESLAKE INC.
 Civil Engineers, Municipal and Environmental Planners
 120 LANSING DRIVE
 UNIT No. 10
 HAMILTON, ONTARIO
 L8W 3A1

DRAWING TITLE
STORM DRAINAGE PLAN

PROJECT NO. **1333** DRAWING NO. **2**



LEGEND

ZONE 1	Water Dominated or Related	ZONE 4	Old Field Regeneration
1	Cattail/Reed Canary-Grass Marsh	8	Buckthorn Dominated Old Field
2	Beaver Impoundment	9	Red Cedar Dominated Old Field
3	Silver Maple/Red Ash Swamp	ZONE 5	Modified Areas
4	Oak/Ash Lowland Forest	10	Agricultural Field or Pasture and Hedgerows
ZONE 2	Special Wooded Areas	11	Anthopogenic Areas
5	White Cedar Forest		
ZONE 3	Wooded Areas		
6	Elm/Buckthorn Woods		
7	White Cedar Forest		



UPPER NO NAME CREEK
VEGETATION COMMUNITIES

Gore & Storrie Limited **GSS**
Consulting Engineers

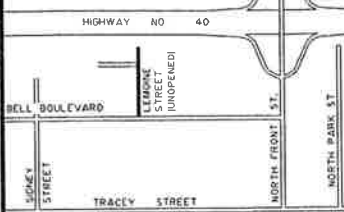
SCALE 1:9000	DATE 11/25/94	FILE: C7644VG	FIG N ^o 2-2
-----------------	------------------	------------------	---------------------------

Adjustment to 100-year Peak Flow for External areas

Area	Owner	Bell Blvd (ha)	%Imp (%)	dQ (c.m/s)	Lemoine (ha)	%Imp (%)	dQ (c.m/s)	Sidney (ha)	%Imp (%)	dQ (c.m/s)	Hydro (ha)	%Imp (%)	dQ (c.m/s)	MTO (ha)	%Imp (%)	dQ (c.m/s)	PUC (ha)	%Imp (%)	dQ (c.m/s)	OPP (ha)	%Imp (%)	dQ (c.m/s)	City (ha)	%Imp (%)	dQ (c.m/s)	
1221	Hwy 401 West													2.816	20.3%											
1222	Hwy 401 East													2.797	21.7%											
121	Cambridge Ext.				0.1195	0.0%	0.00549																			
123	Pronigo Distribution	0.3630	65.0%	0.03525	0.1280	0.0%	0.00588																			
130	DJH Development	0.2380	58.0%	0.02168	0.0880	37.5%	0.00646																			
111	Cream of the Crop	0.3700	44.0%	0.02925	0.2080	17.3%	0.01167																			
112	Quinte Mall	0.7190	63.0%	0.06858										0.1143	0.0%	0.00525				0.4123	95%	0.05067	0.0913	95%	0.01123	
115	151516 Ont. (Loebs)	0.1710	82.2%	0.01913							0.1974	0.0%	0.0091													
127	CTC Phase 1	0.1845	79.0%	0.02014							0.2070	0.0%	0.0095													
128	CTC Phase 2	0.0807	62.0%	0.00763							0.0867	0.0%	0.004				0.0972	100.0%	0.01236				0.1720	50.0%	0.01448	
114	1133166 Ont. (Zellers)	0.4360	77.0%	0.04683	0.2770	9.5%	0.01137				0.6354	0.0%	0.0292													
113	Loblaws	0.1410	90.0%	0.01672	0.2080	24.0%	0.01287																			
125	Sopresata Holdings	0.2209	67.0%	0.02183				0.2100	50.0%	0.01768																
116	DJH Development							0.0766	40.0%	0.00579																
TOTALS		2.9241			1.0285			0.2866			1.1265			5.7273			0.0972						0.2633			

Adjustment to 14mm Volumes for External areas

Area	Owner	Bell Blvd (ha)	%Imp (%)	dV (cub.m)	Lemoine (ha)	%Imp (%)	dV (cub.m)	Sidney (ha)	%Imp (%)	dV (cub.m)	Hydro (ha)	%Imp (%)	dV (cub.m)	MTO (ha)	%Imp (%)	dV (cub.m)	PUC (ha)	%Imp (%)	dV (cub.m)	OPP (ha)	%Imp (%)	dV (cub.m)	City (ha)	%Imp (%)	dV (cub.m)	
1221	Hwy 401 West													2.816	20.3%	71.46										
1222	Hwy 401 East													2.797	21.7%	75.87										
121	Cambridge Ext.				0.1195	0.0%	0.00																			
123	Pronigo Distribution	0.3630	65.0%	29.49	0.1280	0.0%	0.00																			
130	DJH Development	0.2380	58.0%	17.25	0.0880	37.5%	4.13																			
111	Cream of the Crop	0.3700	44.0%	20.35	0.2080	17.3%	4.50																			
112	Quinte Mall	0.7190	63.0%	56.62										0.1143	0.0%	0.00				0.4123	95%	48.96	0.0913	95%	10.84	
115	151516 Ont. (Loebs)	0.1710	82.2%	17.57							0.1974	0.0%	0.00													
127	CTC Phase 1	0.1845	79.0%	18.22							0.2070	0.0%	0.00													
128	CTC Phase 2	0.0807	62.0%	6.25							0.0867	0.0%	0.00				0.0972	100.0%	12.15				0.1720	50.0%	10.75	
114	1133166 Ont. (Zellers)	0.4360	77.0%	41.97	0.2770	9.5%	3.29				0.6354	0.0%	0.00													
113	Loblaws	0.1410	90.0%	15.86	0.2080	24.0%	6.24																			
125	Sopresata Holdings	0.2209	67.0%	18.5				0.2100	50.0%	13.12																
116	DJH Development							0.0766	40.0%	3.83																
TOTALS		2.9241		242.08	1.0285		18.16	0.2866		16.95	1.1265		0.00	5.7273		147.33	0.0972		12.15	0.4123		48.96	0.2633		21.59	



LEGEND

- EXISTING ELEVATION
- PROPOSED ELEVATION
- PROPOSED 1.8m CHANNEL FENCE OPSD 900.01 SEE DWG No. 2
- PROPOSED MAINTENANCE ACCESS c/w 300mm GRAN 'A'
- PROPOSED HAND PLACED RIP RAP KEVED IN AT 300mm DEPTH c/w TERRAZIN 360R FILTER FABRIC
 Do = 0.15m
 Do = 0.30m
 Do = 0.45m
- WHERE D_x IS THE SIZE OF THE ROCK FOR WHICH 1% OF THE MATERIAL IS FINER
- EX. TREE
- EX. TREE TO BE REMOVED

NO.	REVISIONS	DATE	BY

DRAWN BY: S.M.
 DESIGNED BY: T.D.B.
 DATE: JUNE 20, 1995
 CHECKED BY: T.D.B.

DATE OF ISSUE: DATE OF PLOT: APRIL 2, 1998

SCALE IN METERS: 1:500
 VERTICAL 1:100 HORIZONTAL 1:500

NOT FOR CONSTRUCTION UNTIL SIGNED AND DATED

OWNER
THE CORPORATION OF THE CITY OF BELLEVILLE

MUNICIPALITY
CITY OF BELLEVILLE COUNTY OF HASTINGS

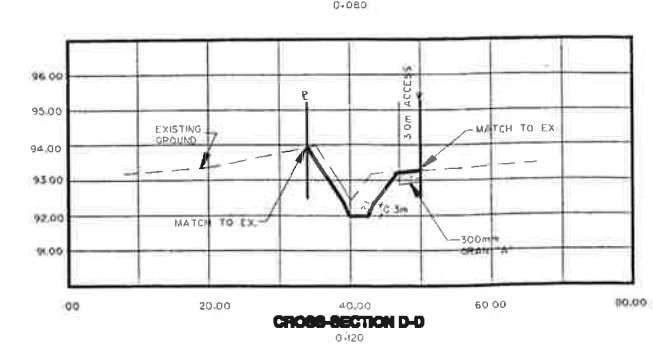
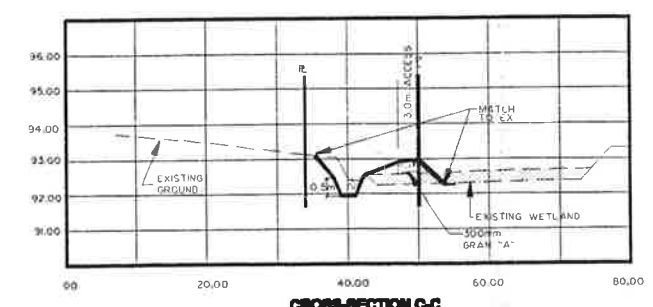
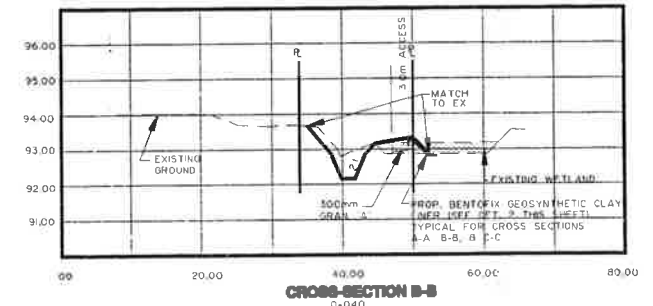
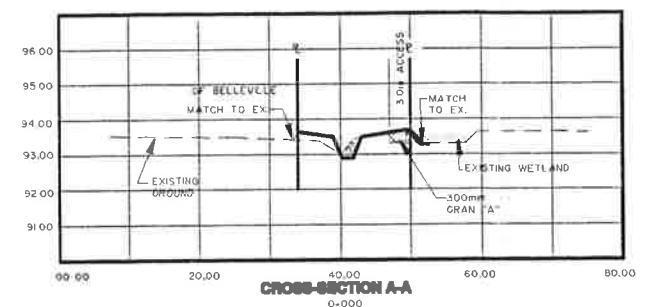
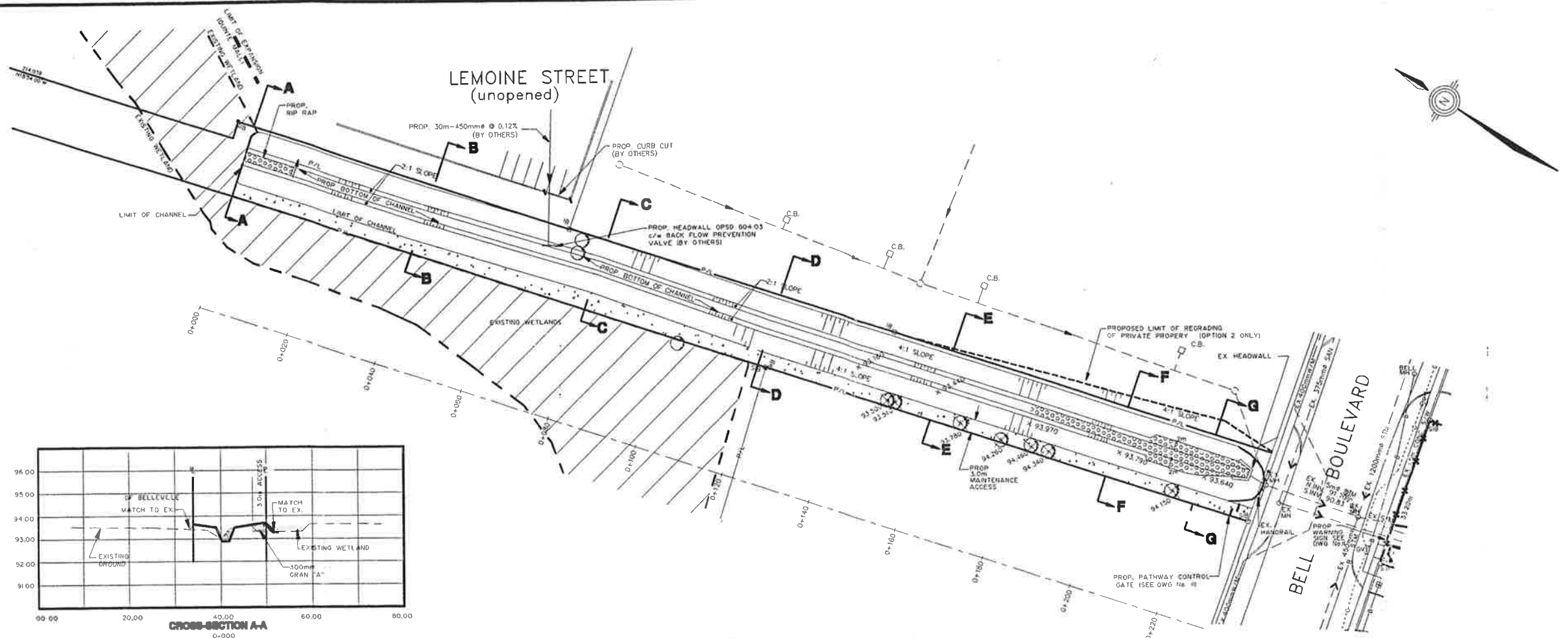
PROJECT NAME:
UPPER NO NAME CREEK

WESLAKE INC.
 Civil Engineers, Municipal and Environmental Planners

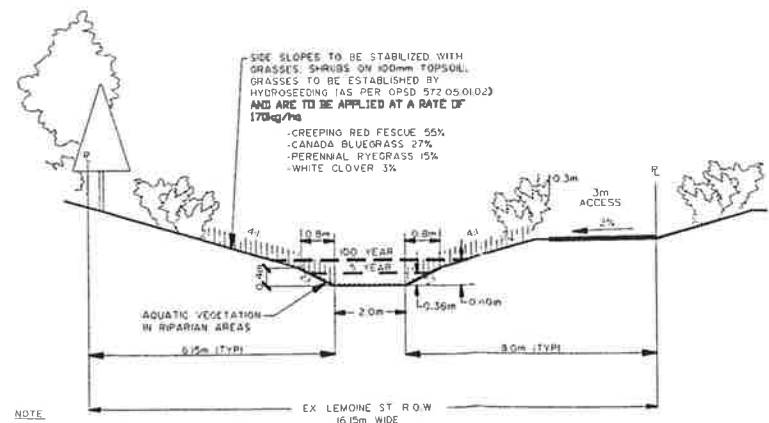
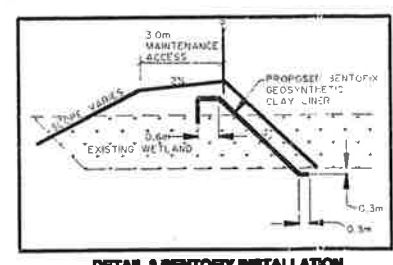
120 LANCING DRIVE
 SUIT NO. 10
 HAMILTON, ONTARIO
 L8W 3A1

DRAWING TITLE
CROSS-SECTION LOCATIONS NORTH OF BELL BOULEVARD

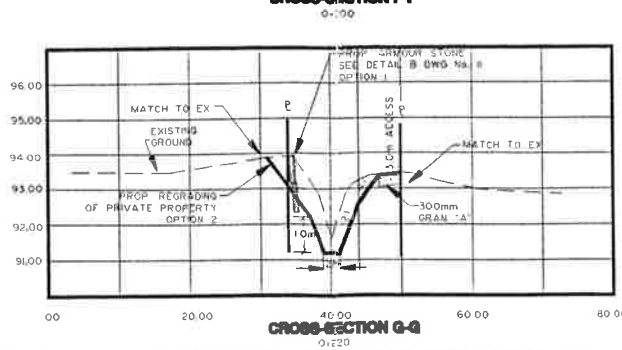
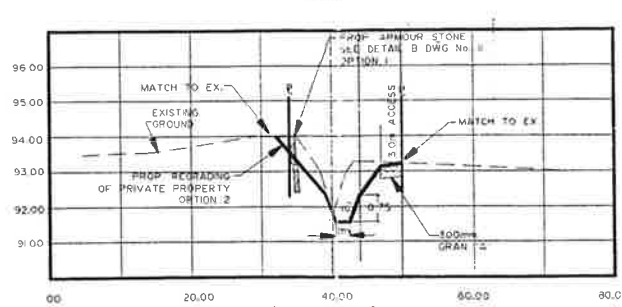
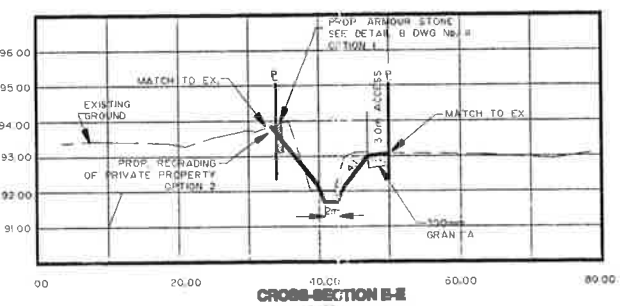
PROJECT NO. **1333** DRAWING NO. **3**

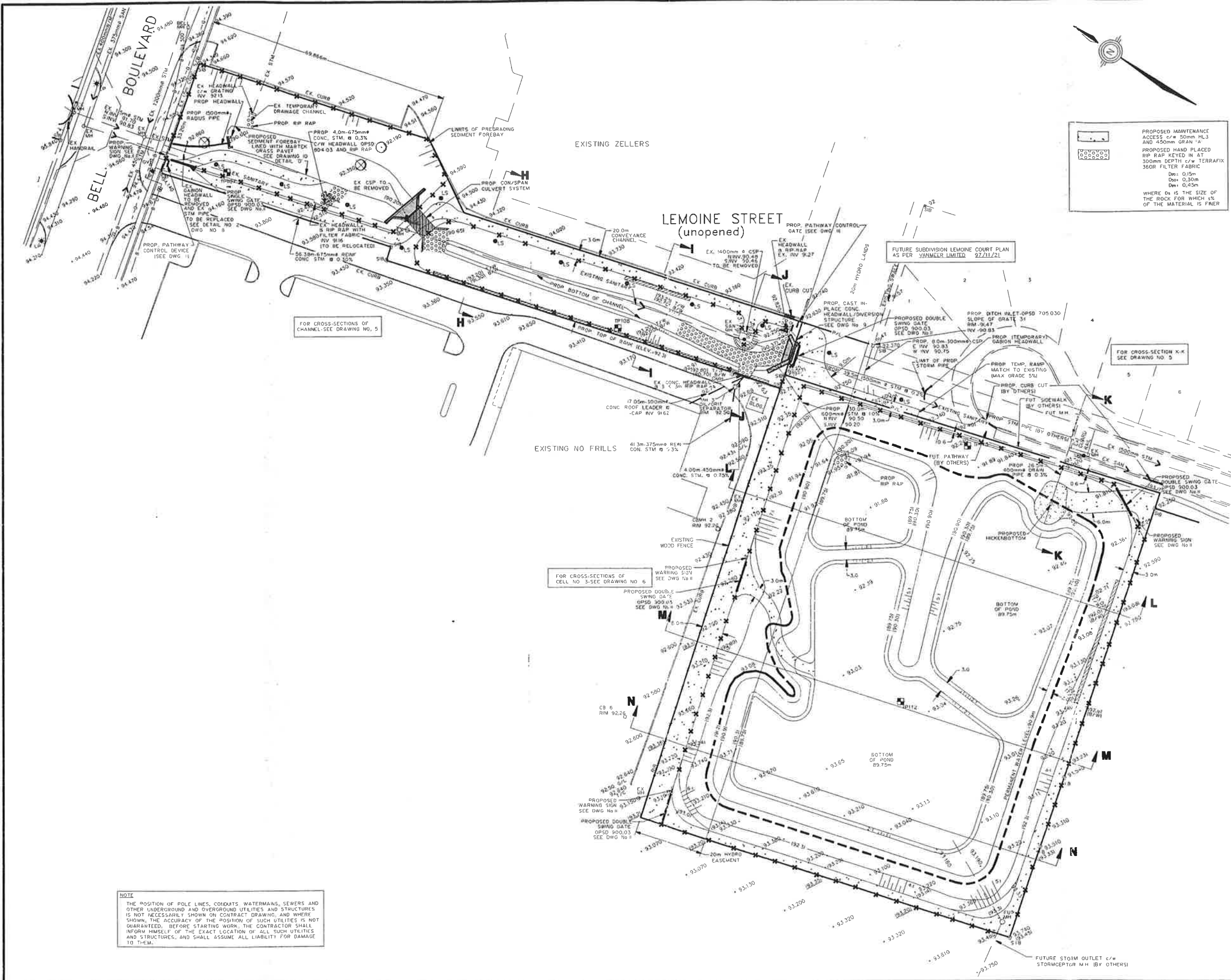


NOTE
 THE POSITION OF POLE LINES, CONDUITS, WATERMANS, SEWERS AND OTHER UNDERGROUND AND OVERGROUND UTILITIES AND STRUCTURES IS NOT NECESSARILY SHOWN ON CONTRACT DRAWING, AND WHERE SHOWN, THE ACCURACY OF THE POSITION OF SUCH UTILITIES IS NOT GUARANTEED. BEFORE STARTING WORK, THE CONTRACTOR SHALL INFORM HIMSELF OF THE EXACT LOCATION OF ALL SUCH UTILITIES AND STRUCTURES, AND SHALL ASSUME ALL LIABILITY FOR DAMAGE TO THEM.



NOTE
 TYPICAL 5 YEAR FLOW DEPTH IS APPROXIMATELY 0.36m
 DESIGN 100 YEAR FLOW DEPTH IS 0.60m





PROPOSED MAINTENANCE ACCESS c/w 50mm HL3 AND 450mm GRAB

PROPOSED HAND PLACED RIP RAP KEVED IN AT 300mm DEPTH c/w TERRAFIX 300R FILTER FABRIC

D₅₀: 0.15m
 D₈₀: 0.30m
 D₁₀₀: 0.50m

WHERE D_x IS THE SIZE OF THE ROCK FOR WHICH 1% OF THE MATERIAL IS FINER

LEGEND

- 93.070
93.0701
- EXISTING ELEVATION
- PROPOSED ELEVATION
- PROPOSED ARMOUR STONE RETAINING WALL (SEE DRAWING NO. 11)
- PROPOSED 1.8m CHAINLINK FENCE OPSD 900.01 (SEE DWG NO. 8)
- PROPOSED LIGHT STANDARD NETTORCH 1, NR0-521 SP2
- PROPOSED LIMIT OF BENTONITE GEOSYNTHETIC CLAY LINER (SEE DETAIL 1, 2 AND 3 DWG NO. 10)
- TEST PIT LOCATION
- BORHOLE LOCATION (SEE PREVIOUS INVESTIGATION GOLDER ASSOCIATES GEOTECHNICAL REPORT)
- EX TREE
- EX TREE TO BE REMOVED

NO.	REVISIONS	DATE	BY

DRAWN BY: SM MG	DESIGNED BY: TDB
DATE	CHECKED BY: TDB
DATE OF ISSUE	DATE OF PLDT.
	APRIL 2, 1998

SCALE IN METERS

VERTICAL: 1:100

HORIZONTAL: 1:500

NOT FOR CONSTRUCTION UNLESS SIGNED AND DATED

OWNER:
THE CORPORATION OF THE CITY OF BELLEVILLE

MUNICIPALITY:
CITY OF BELLEVILLE COUNTY OF HASTINGS

PROJECT NAME:
UPPER NO NAME CREEK

WESLAKE INC.
 Civil Engineers, Municipal and Environmental Planners

120 LANCING DRIVE
 UNIT #6 10
 HAMILTON, ONTARIO
 L8W 3A1

DRAWING TITLE:
GRADING PLAN AND CROSS-SECTION LOCATIONS SOUTH OF BELL BOULEVARD

PROJECT NO: **1333**

DRAWING NO: **4**

NOTE

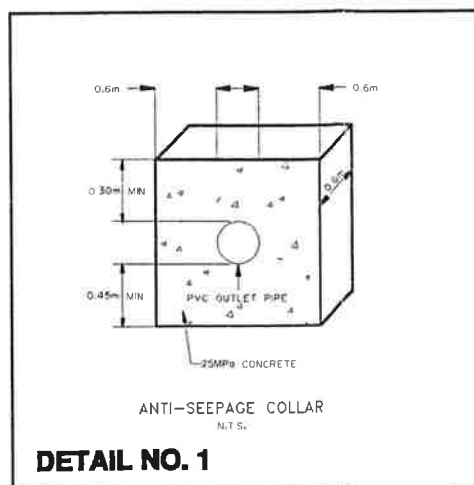
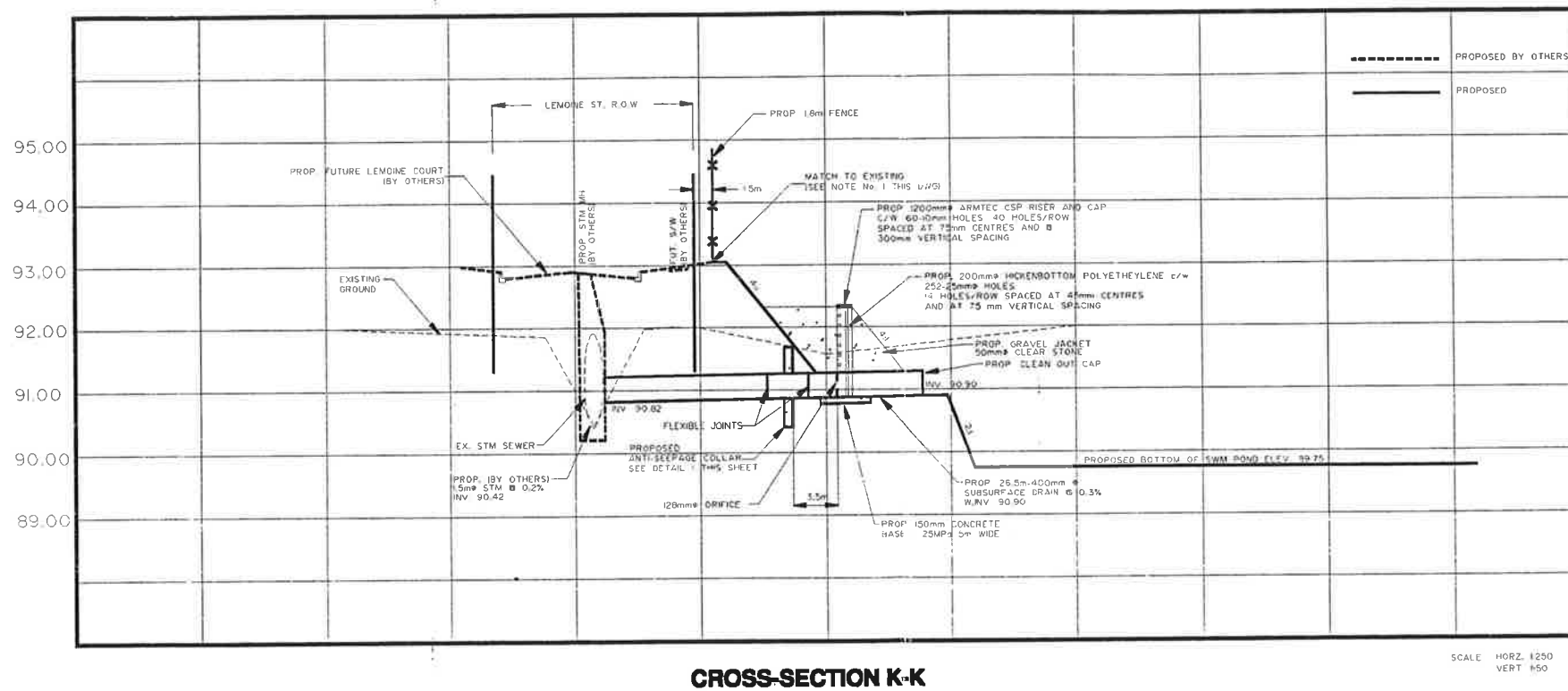
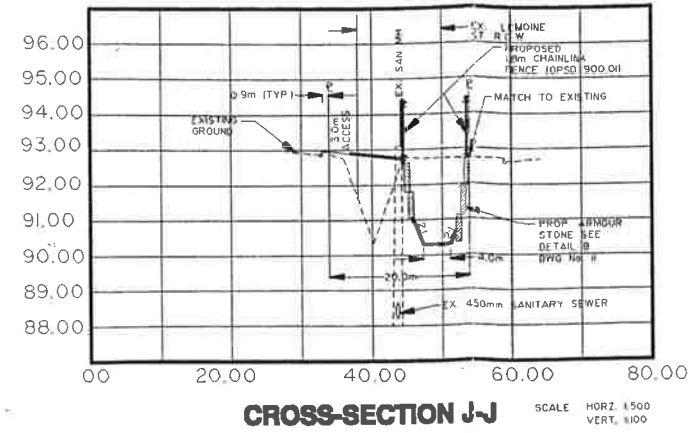
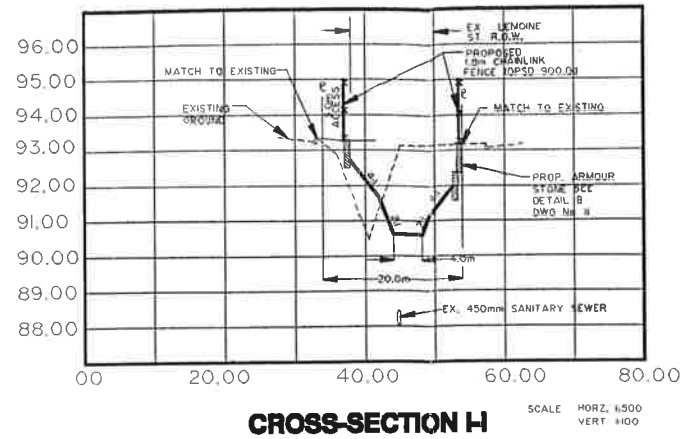
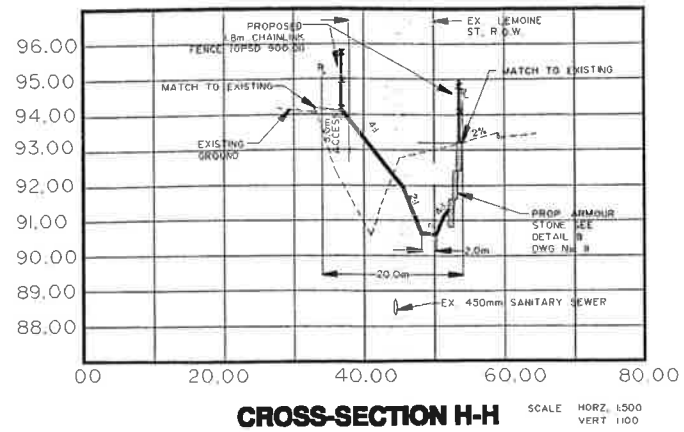
THE POSITION OF POLE LINES, CONDUITS, WATERMANS, SEWERS AND OTHER UNDERGROUND AND OVERGROUND UTILITIES AND STRUCTURES IS NOT NECESSARILY SHOWN ON CONTRACT DRAWING AND WHERE SHOWN, THE ACCURACY OF THE POSITION OF SUCH UTILITIES IS NOT GUARANTEED. BEFORE STARTING WORK, THE CONTRACTOR SHALL INFORM HIMSELF OF THE EXACT LOCATION OF ALL SUCH UTILITIES AND STRUCTURES, AND SHALL ASSUME ALL LIABILITY FOR DAMAGE TO THEM.

FOR CROSS-SECTIONS OF CHANNEL SEE DRAWING NO. 5

FOR CROSS-SECTIONS OF CELL NO 3-SEE DRAWING NO 6

FOR CROSS-SECTION X-K SEE DRAWING NO 5

FUTURE SUBDIVISION LEMOINE COURT PLAN AS PER VANMEER LIMITED 97/11/21



NO.	REVISIONS	DATE	BY

DRAWN BY: M.M.G. DESIGNED BY: T.D.B.
DATE: CHECKED BY: T.D.B.

DATE OF ISSUE: DATE OF PLOT:
APRIL 2, 1998

SCALE IN METRES VARIES
VERTICAL HORIZONTAL

NOT FOR CONSTRUCTION
UNLESS SIGNED AND DATED

OWNER
**THE CORPORATION OF
THE CITY OF BELLEVILLE**

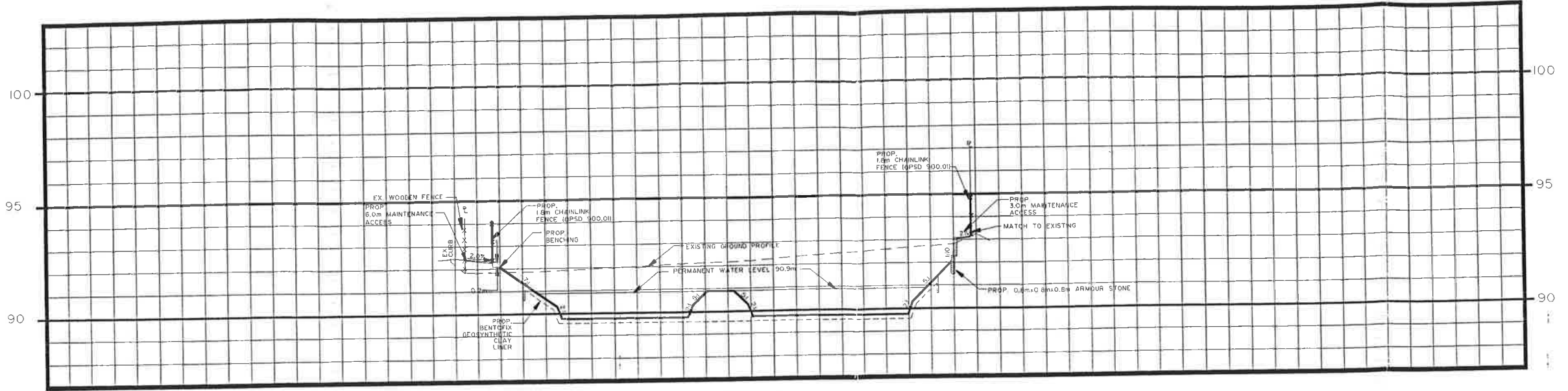
MUNICIPALITY
**CITY OF BELLEVILLE
COUNTY OF HASTINGS**

PROJECT NAME
**UPPER NO NAME
CREEK**

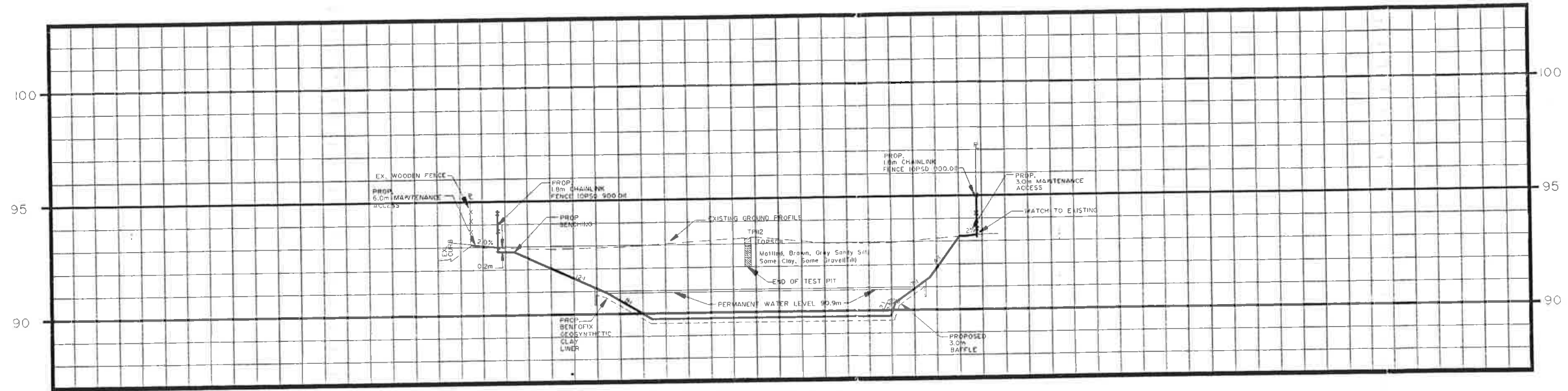
WESLAKE INC.
Civil Engineers, Municipal and Environmental Planners
120 LANSING DRIVE
UNIT NO. 10
HAMILTON ONTARIO
L8W 3A1

DRAWING TITLE
**CROSS-SECTIONS &
DETAILS
CHANNEL SOUTH OF
BELL BOULEVARD**

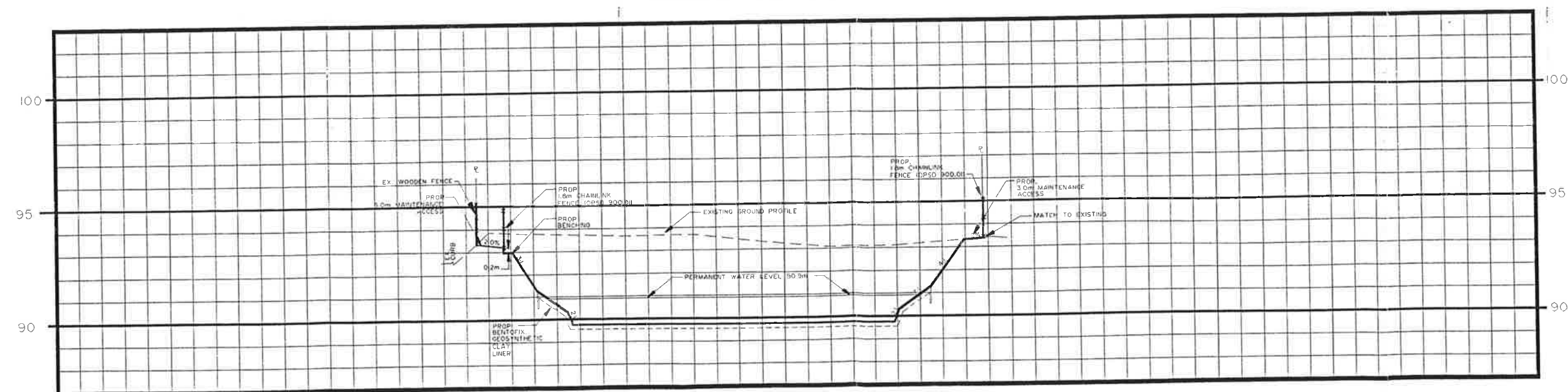
PROJECT NO. 1333 DRAWING NO. 5



CROSS SECTION L-L



CROSS SECTION M-M



CROSS SECTION N-N

- NOTES:
- FOR INSTALLATION DETAILS OF BENTONITE GEOSYNTHETIC CLAY LINER SEE DETAILS 1,2,3 DRAWING No. 10
 - FOR INSTALLATION DETAIL OF ARMOUR STONE SEE DETAIL 'B' DRAWING No. 11

AS PER CITY OF BELLEVILLE COMMENTS/MAR/98 C.T.

NO. REVISIONS DATE BY

DRAWN BY: M.G. DESIGNED BY: T.O.B.

DATE: AUG. 30, 1995 CHECKED BY: T.O.B.

DATE OF ISSUE: DATE OF PLOT: APRIL 2, 1998

SCALE IN METERS:
 VERTICAL 1:100 HORIZONTAL 1:500

NOT FOR CONSTRUCTION UNTIL SIGNED & DATED

OWNER:
THE CORPORATION OF THE CITY OF BELLEVILLE

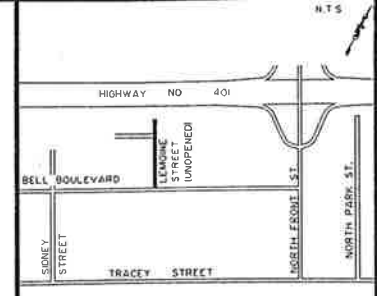
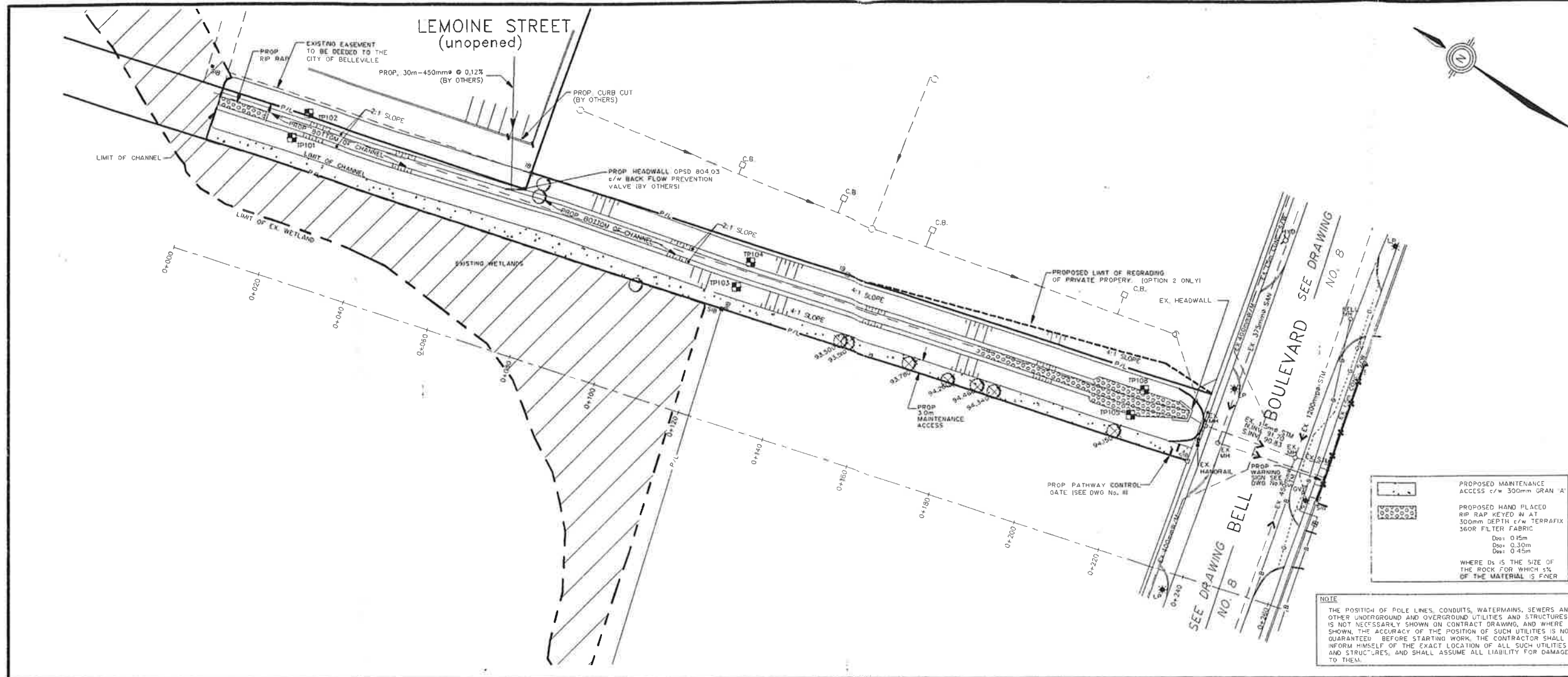
MUNICIPALITY:
CITY OF BELLEVILLE COUNTY OF HASTINGS

PROJECT NAME:
UPPER NO NAME CREEK

WESLAKE INC.
 Civil Engineers, Municipal and Environmental Planners
 120 LANSING DRIVE
 UNIT No. 10
 HAMILTON, ONTARIO
 L8W 3A1

DRAWING TITLE:
CROSS-SECTIONS CELL NO. 3

PROJECT NO. **1333** DRAWING NO. **6**



- LEGEND**
- PROPOSED 1.8m CHAINLINK FENCE OPSD 90.0.1 SEE DWG No. 11
 - TEST PIT LOCATION
 - BOREHOLE LOCATION
 - SEE PREVIOUS INVESTIGATION GOLDER ASSOCIATES GEOTECHNICAL REPORT
 - EX TREE
 - EX TREE TO BE REMOVED

PROPOSED MAINTENANCE ACCESS c/w 300mm GRAN A

PROPOSED HAND PLACED RIP RAP KEYS AT 300mm DEPTH c/w TERRAFIX 360R FILTER FABRIC

Do: 0.15m
Do: 0.30m
Do: 0.45m

WHERE Do IS THE SIZE OF THE ROCK FOR WHICH 1% OF THE MATERIAL IS FINER

NOTE

THE POSITION OF POLE LINES, CONDUITS, WATERMANS, SEWERS AND OTHER UNDERGROUND AND OVERGROUND UTILITIES AND STRUCTURES IS NOT NECESSARILY SHOWN ON CONTRACT DRAWING, AND WHERE SHOWN, THE ACCURACY OF THE POSITION OF SUCH UTILITIES IS NOT GUARANTEED. BEFORE STARTING WORK, THE CONTRACTOR SHALL INFORM HIMSELF OF THE EXACT LOCATION OF ALL SUCH UTILITIES AND STRUCTURES, AND SHALL ASSUME ALL LIABILITY FOR DAMAGE TO THEM.

NO.	AS PER CITY OF BELLEVILLE COMMENTS	DATE	BY

DRAWN BY: S.M. M.G. DESIGNED BY: T.D.B.
 DATE: JUNE 20, 1995 CHECKED BY: T.D.B.

DATE OF ISSUE DATE OF PLOT
 APRIL 2, 1998

SCALE IN METERS: 1:500

VERTICAL 1:100 HORIZONTAL 1:500

NOT FOR CONSTRUCTION UNTIL SIGNED AND DATED

OWNER
THE CORPORATION OF THE CITY OF BELLEVILLE

MUNICIPALITY
CITY OF BELLEVILLE COUNTY OF HASTINGS

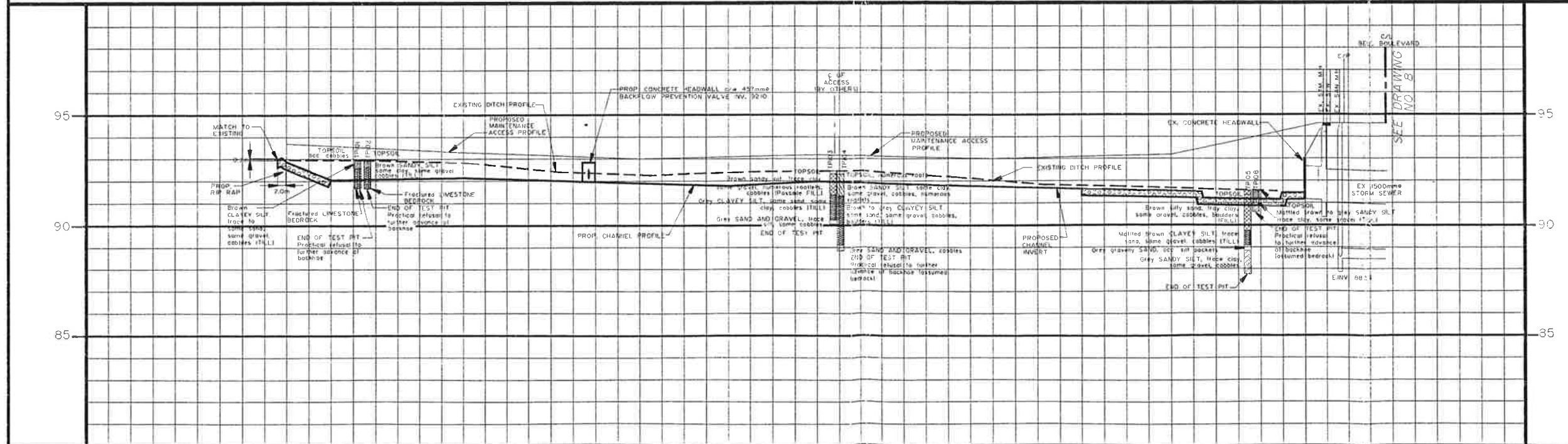
PROJECT NAME
UPPER NO NAME CREEK

WESLAKE INC.
 Civil Engineers, Municipal and Environmental Planners

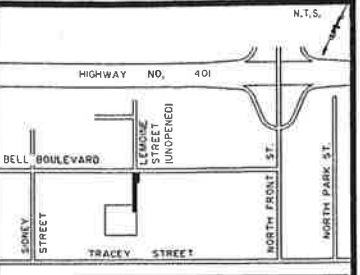
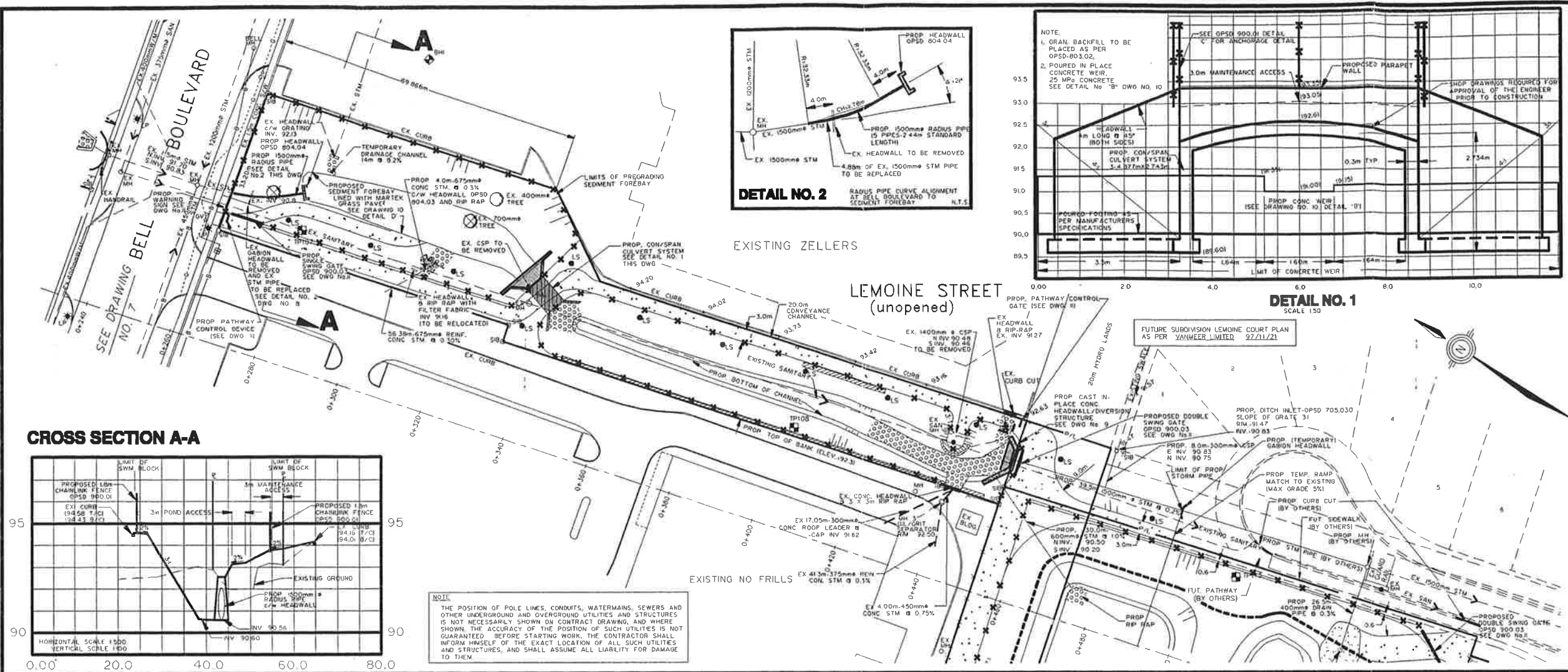
120 LANCING DRIVE
 UNIT No 10
 HAMILTON, ONTARIO
 L9W 3A1

DRAWING TITLE
PLAN AND PROFILE CHANNEL NORTH OF BELL BOULEVARD

PROJECT NO. **1333** DRAWING NO. **7**



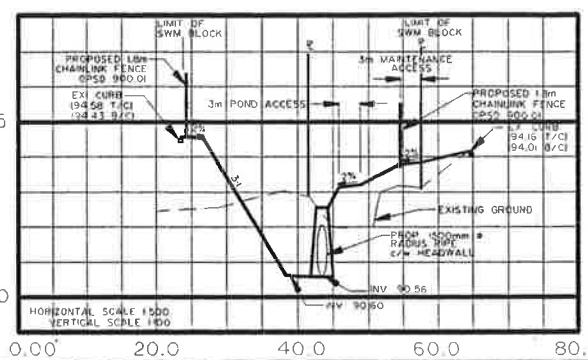
SANITARY DATA	MAINTENANCE ACCESS	STORM DATA	ROAD HORIZONTAL	SANITARY DATA	MAINTENANCE ACCESS	STORM DATA	ROAD HORIZONTAL
			0+000				0+000
			0+020				0+020
			0+040				0+040
			0+060				0+060
			0+080				0+080
			0+100				0+100
			0+120				0+120
			0+140				0+140
			0+160				0+160
			0+180				0+180
			0+200				0+200
			0+220				0+220
			0+240				0+240
			0+260				0+260
			0+280				0+280
			0+300				0+300
			0+320				0+320
			0+340				0+340
			0+360				0+360
			0+380				0+380
			0+400				0+400
			0+420				0+420
			0+440				0+440
			0+460				0+460
			0+480				0+480
			0+500				0+500



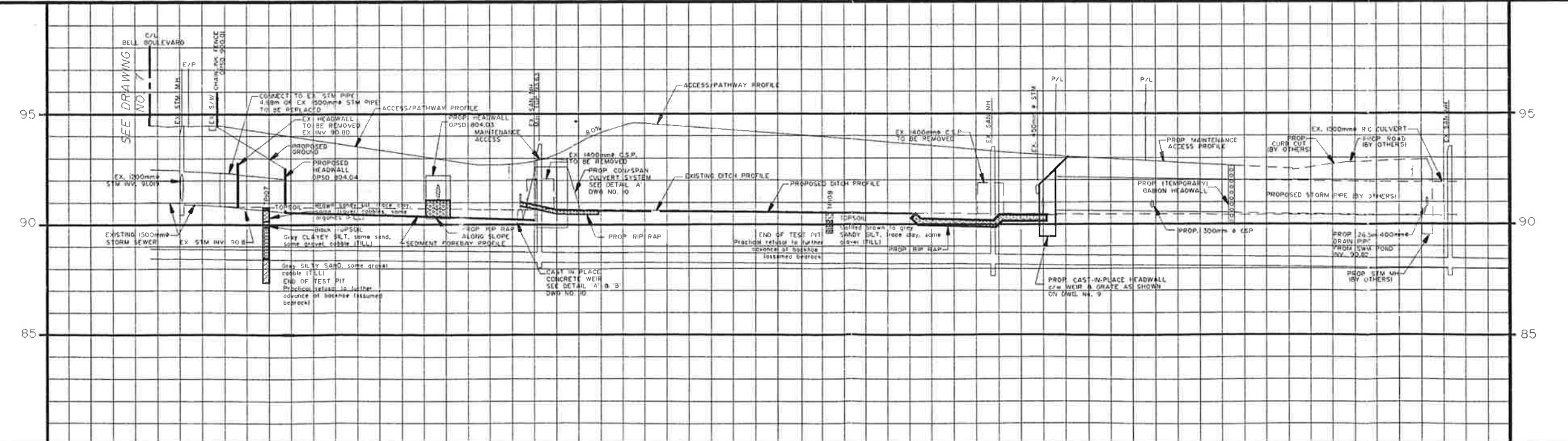
LEGEND

- EXISTING ELEVATION
- PROPOSED ELEVATION
- PROPOSED ARMOUR STONE RETAINING WALL SEE DET 'B' DWG NO. 11
- PROPOSED 1.8m CHAINLINK FENCE OPSD 900.01 SEE DWG NO. 11
- PROPOSED LIMIT OF BENTONITE GEOSYNTHETIC CLAY LNER SEE DETAIL I, 2 AND 3 DWG NO. 10
- PROPOSED MAINTENANCE ACCESS C/W 300mm HL3 AND 450mm GRAN 'A'
- PROPOSED HAND PLACED RIP RAP KEVED IN AT 300mm DEPTH C/W TERRAFIX 360R FILTER FABRIC
- De: 0.15m
- De: 0.30m
- De: 0.45m
- WHERE Ds IS THE SIZE OF THE ROCK FOR WHICH 5% OF THE MATERIAL IS FINER
- EX TREE
- EX TREE TO BE REMOVED
- TEST PIT LOCATION
- BORHOLE LOCATION (SEE PREVIOUS INVESTIGATION GOLDER ASSOCIATES GEOTECHNICAL REPORT)

CROSS SECTION A-A



NOTE
 THE POSITION OF POLE LINES, CONDUITS, WATERMANS, SEWERS AND OTHER UNDERGROUND AND OVERGROUND UTILITIES AND STRUCTURES IS NOT NECESSARILY SHOWN ON CONTRACT DRAWING, AND WHERE SHOWN THE ACCURACY OF THE POSITION OF SUCH UTILITIES IS NOT GUARANTEED. BEFORE STARTING WORK, THE CONTRACTOR SHALL INFORM HIMSELF OF THE EXACT LOCATION OF ALL SUCH UTILITIES AND STRUCTURES, AND SHALL ASSUME ALL LIABILITY FOR DAMAGE TO THEM.



SANITARY DATA	80.47	EXISTING 987m-450mm SAN 0.16%	88.3	EXISTING 102.63m-450mm SAN 0.16%	88.8	EXISTING 102.85m-450mm SAN 0.14%	89.0	EXISTING 100.40m-450mm SAN 0.20%	SANITARY DATA
MAINTENANCE ACCESS	91.46	58.47m @ 3.0%	92.73	16.16m @ 16.7%	93.00	19.78m @ 8.0%	94.58	95.28m @ 1.53%	MAINTENANCE ACCESS
STORM DATA	90.92	56.5m @ 0.70% SEDIMENT FOREBAY	90.20	79.2m @ 0.2%	90.95	15m @ 0.5%	91.0	PROP. 39.5m-1500 STM @ 0.2%, CSA 257.2 100-D R.G.T. TYPE 50 CEMENT, CL. B BEDDING	STORM DATA
ROAD HORIZONTAL	0.248.5	0.248.5	0.248.5	0.248.5	0.248.5	0.248.5	0.248.5	0.248.5	ROAD HORIZONTAL

AS PER CITY OF BELLEVILLE COMMENTARIES/REV. C.1

NO.	REVISIONS	DATE	BY

DRAWN BY: S.M. DESIGNED BY: T.D.B.
 DATE: JUNE 20, 1995 CHECKED BY: T.D.B.
 DATE OF PLOT: APRIL 2, 1996

SCALE IN METERS: 1:500
 HORIZONTAL 1:500

NOT FOR CONSTRUCTION UNTIL SIGNED AND DATED

OWNER:
THE CORPORATION OF THE CITY OF BELLEVILLE

MUNICIPALITY:
CITY OF BELLEVILLE COUNTY OF HASTINGS

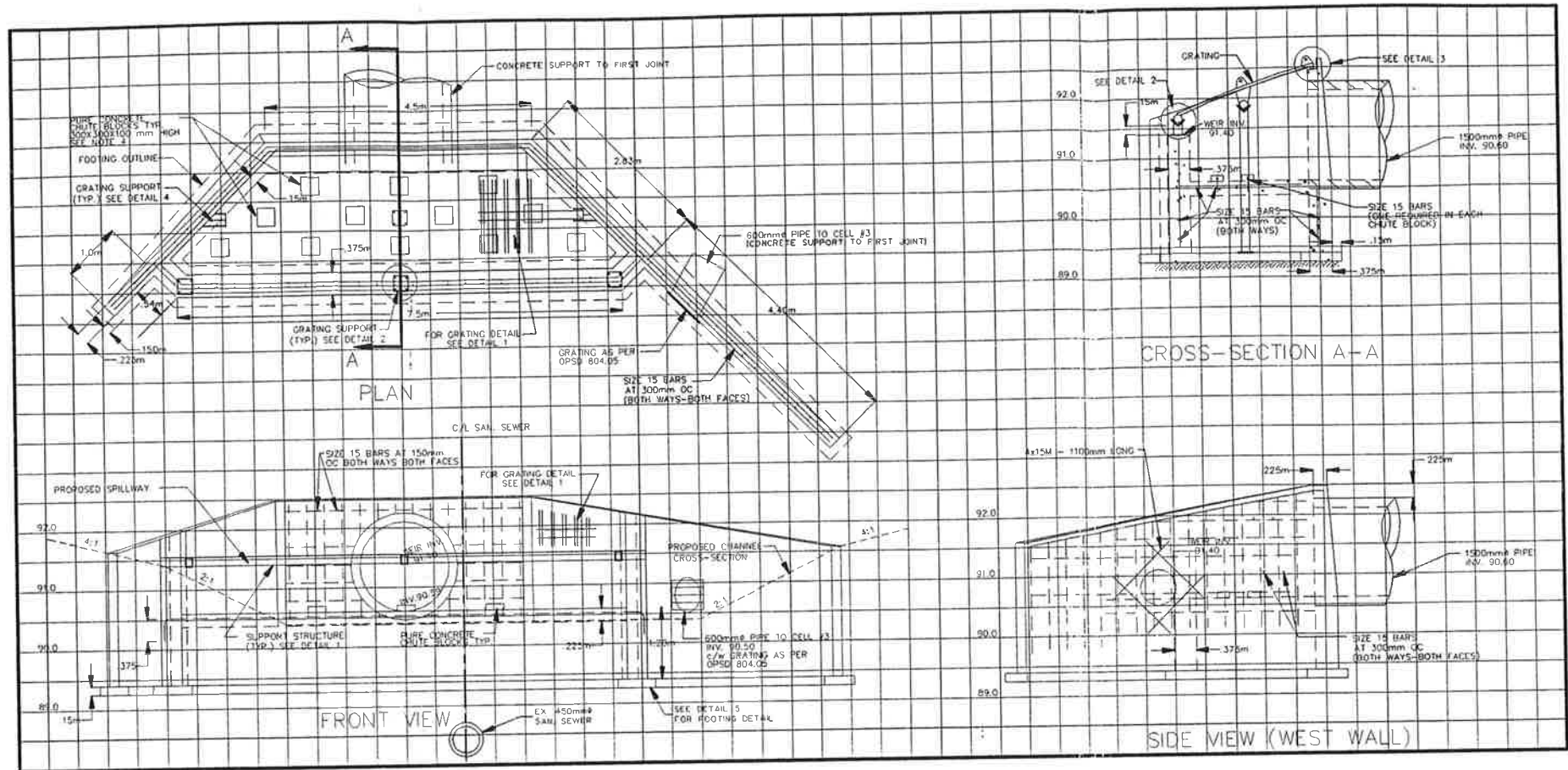
PROJECT NAME:
UPPER NO NAME CREEK

WESLAKE INC.
 Civil Engineers, Municipal and Environmental Planners

120 LANCING DRIVE
 UNIT No. 10
 HAMILTON, ONTARIO
 L8W 3A1

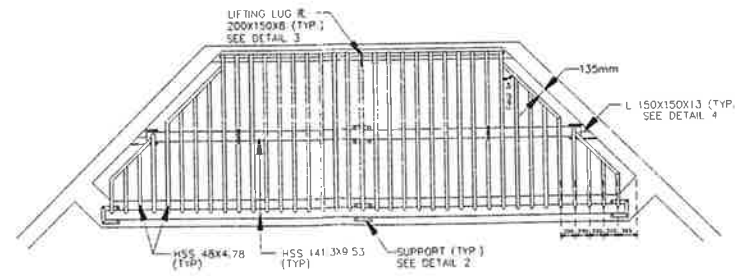
DRAWING TITLE:
PLAN AND PROFILE CHANNEL SOUTH OF BELL BOULEVARD

PROJECT NO. **1333** DRAWING NO. **8**

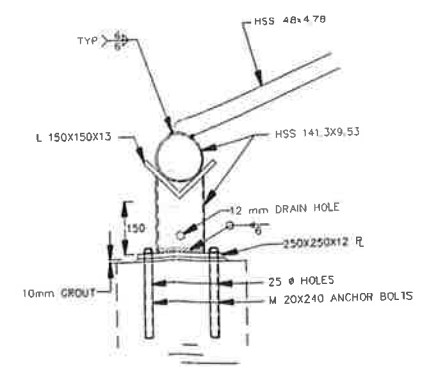


CAST IN PLACE CONCRETE HEADWALL
SCALE 1:50

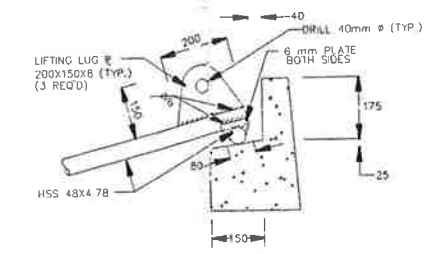
- NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN.
 2. ALL STEEL INCLUDING ANCHOR BOLTS, NUTS, BASE PLATES AND SUPPORTS SHALL BE HOT DIPPED GALVANIZED TO C.S.A. STANDARD G164. TOUCH UP IN THE FIELD WITH GALVICON PAINT AFTER ERECTION.
 3. ALL HSS SECTION SHALL BE TO C.S.A. STANDARD G40.21 M CLASS H 350 W OR APPROVED EQUIVALENT. ALL PLATES TO BE 300 W.
 4. CONCRETE TO BE 25 MPa COMPRESSIVE STRENGTH AT 28 DAYS WITH 5% TO 7% AIR ENTRAINMENT.
 5. REINFORCING BARS TO HAVE 75 mm COVER.
 6. GRANULAR BACKFILL TO BE PLACED TO 300 mm MIN THICKNESS ON ALL SIDES.



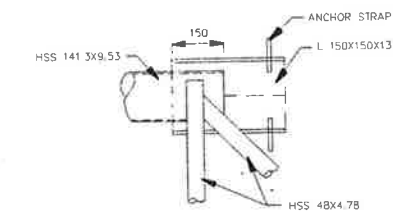
DETAIL 1
GRATING
SCALE 1:50



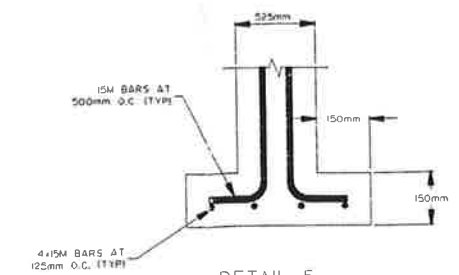
DETAIL 2
SCALE 1:10



DETAIL 3
SCALE 1:10



DETAIL 4
SCALE 1:10



DETAIL 5
SCALE 1:10

NO.	REVISIONS	DATE	BY

DRAWN BY: B.B. DESIGNED BY: T.B.
DATE: AUGUST 1995 CHECKED BY: T.B.

DATE OF ISSUE: DATE OF PLOT:
APRIL 2, 1998

SCALE IN METRES: VARIES
0 1 2 3 4 5 6 7 8 9 10

NOT FOR CONSTRUCTION
UNLESS SIGNED AND DATED

OWNER:
**THE CORPORATION OF
THE CITY OF BELLEVILLE**

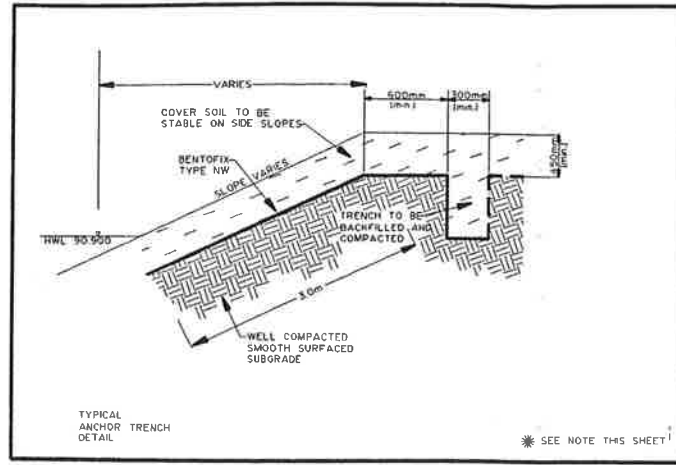
MUNICIPALITY:
**CITY OF BELLEVILLE
COUNTY OF HASTINGS**

PROJECT NAME:
**UPPER NO NAME
CREEK**

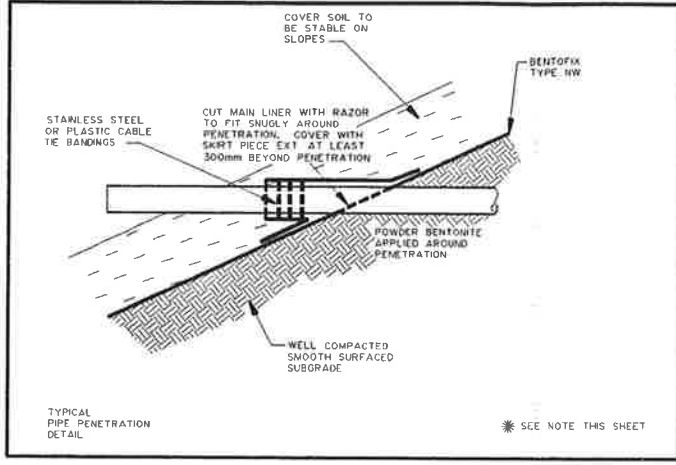
WESLAKE INC.
Civil Engineers, Municipal and Environmental Planners
120 LANSING DRIVE
UNIT No. 10
HAMILTON, ONTARIO
L8W 3A1

DRAWING TITLE:
**HEADWALL
DETAILS**

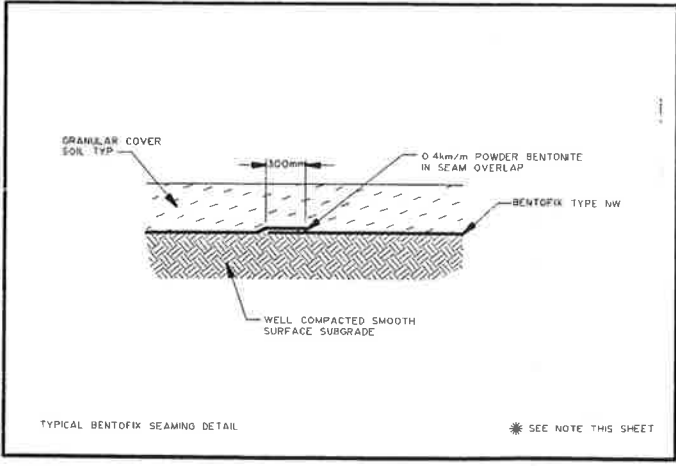
PROJECT NO. DRAWING NO.
1333 9



DETAIL '1'



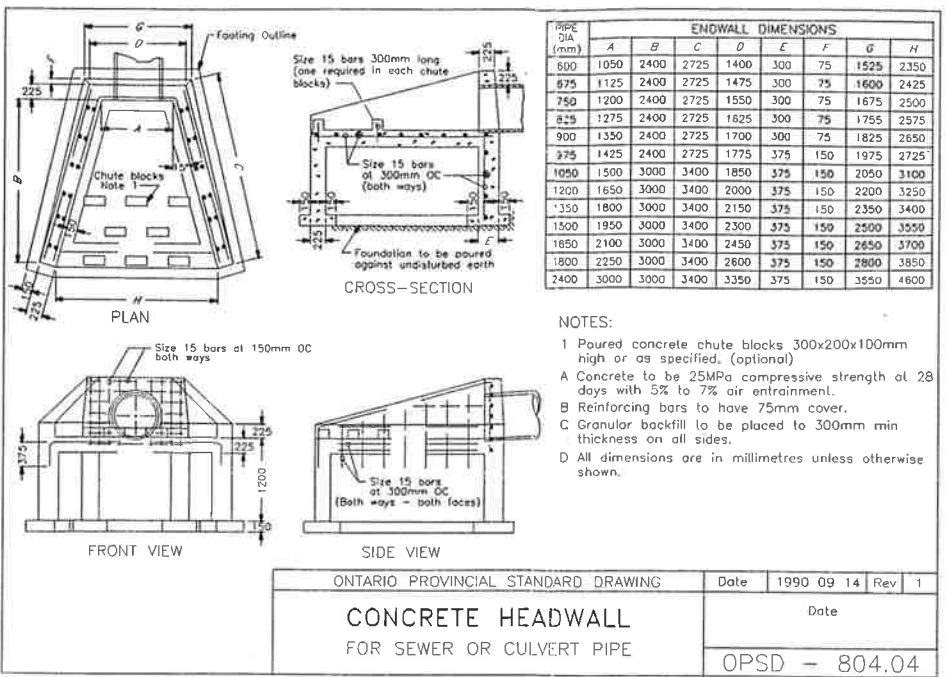
DETAIL '2'



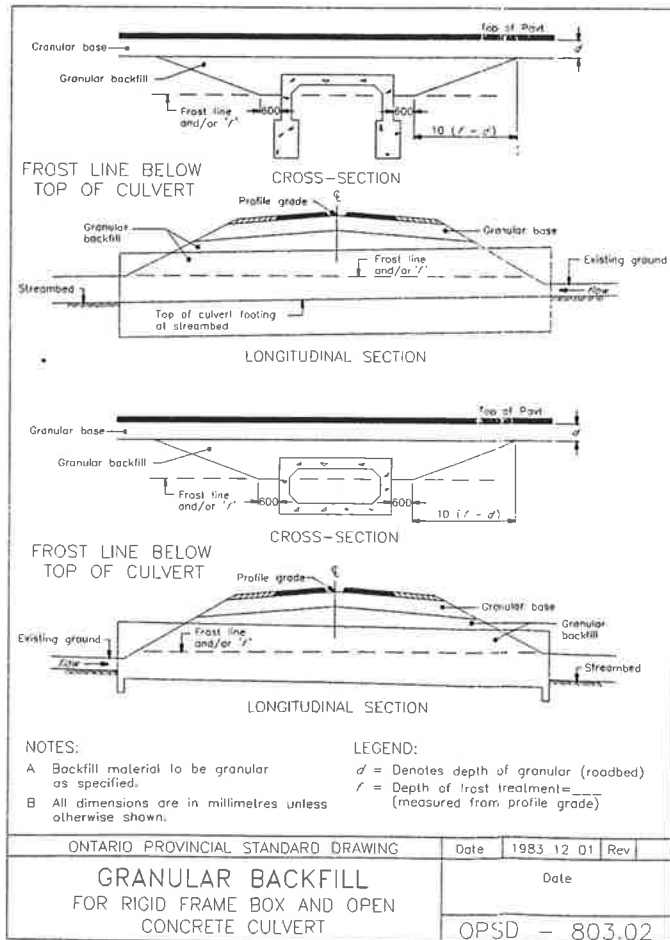
DETAIL '3'

BENTOFIX INSTALLATION DETAILS

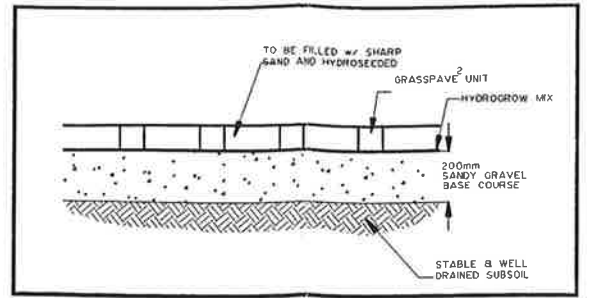
* NOTE THE EARTHWORK CONTRACTOR SHALL BE RESPONSIBLE FOR PREPARING AND MAINTAINING THE SUBGRADE SURFACE AND ANCHOR TRENCHES IN GOOD CONDITION SUITABLE FOR LAYING OF THE GEOMEMBRANE. PREPARED SURFACES SHALL BE SMOOTH AND FREE OF SHARP OBJECTS, ROCKS AND ORGANICS (ROOTS). IF A SUITABLE SUBGRADE IS NOT AVAILABLE THEN 100mm OF CLEAN SAND SHALL BE PLACED PRIOR TO LINER INSTALLATION.



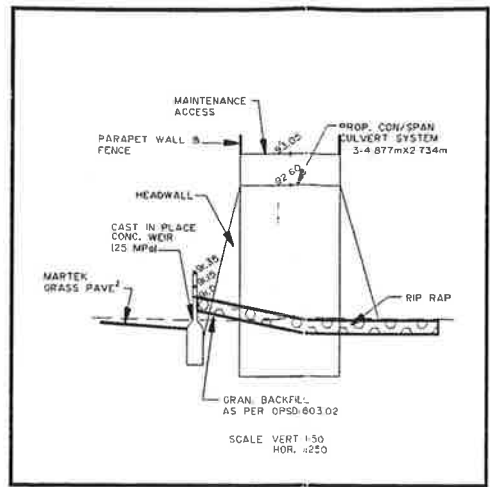
ONTARIO PROVINCIAL STANDARD DRAWING Date 1990 09 14 Rev 1
CONCRETE HEADWALL FOR SEWER OR CULVERT PIPE
 Date
 OPSD - 804.04



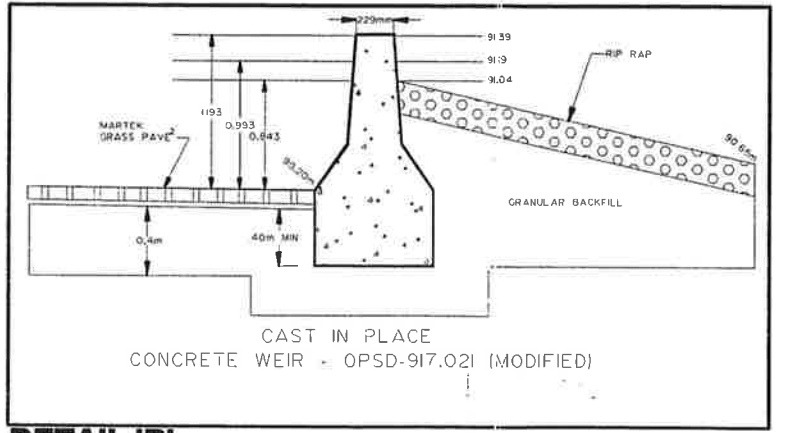
ONTARIO PROVINCIAL STANDARD DRAWING Date 1983 12 01 Rev
GRANULAR BACKFILL FOR RIGID FRAME BOX AND OPEN CONCRETE CULVERT
 Date
 OPSD - 803.02



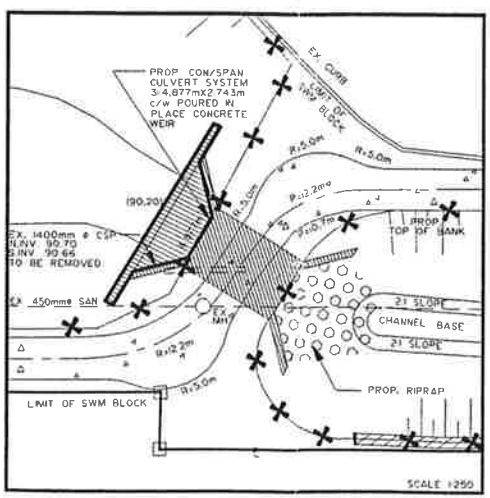
DETAIL 'D'



DETAIL 'A'



DETAIL 'B'



DETAIL 'C'

AS PER CITY OF BELLEVILLE COMMENTS	DATE	BY
NO.	REVISIONS	DATE

DRAWN BY: B.B. DESIGNED BY:
 DATE CHECKED BY:

DATE OF ISSUE: DATE OF PLOT:
 APRIL 2, 1998

SCALE IN METRES: VARIES

NOT FOR CONSTRUCTION UNTIL SIGNED AND DATED

OWNER:
THE CORPORATION OF THE CITY OF BELLEVILLE

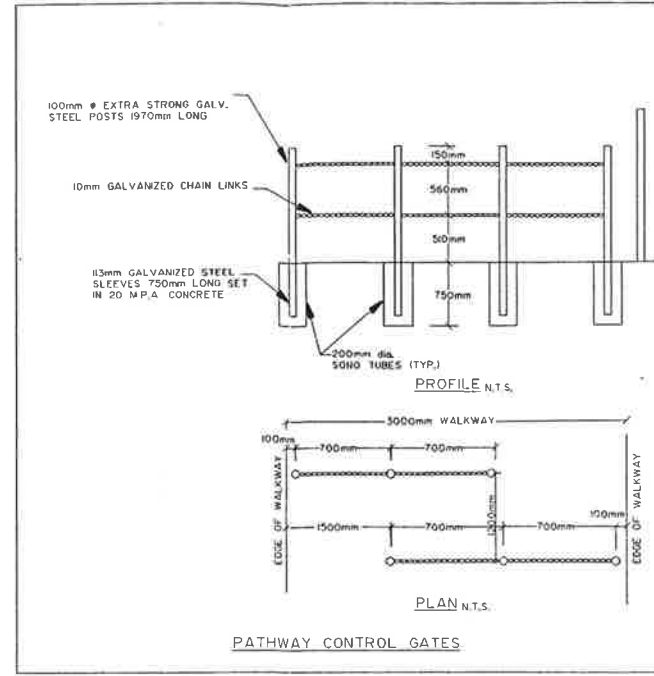
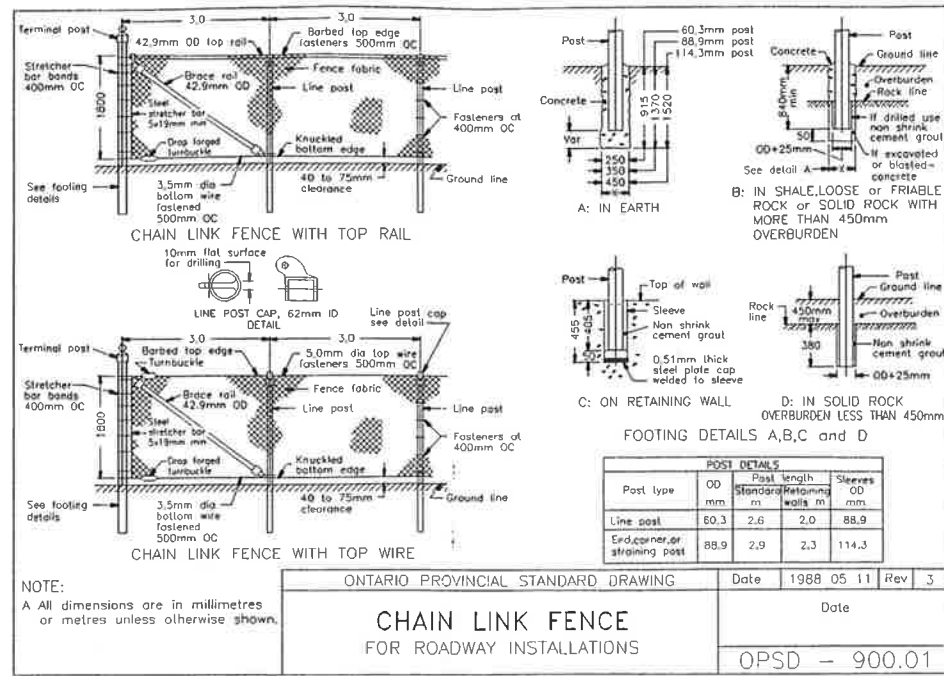
MUNICIPALITY:
CITY OF BELLEVILLE COUNTY OF HASTINGS

PROJECT NAME:
UPPER NO NAME CREEK

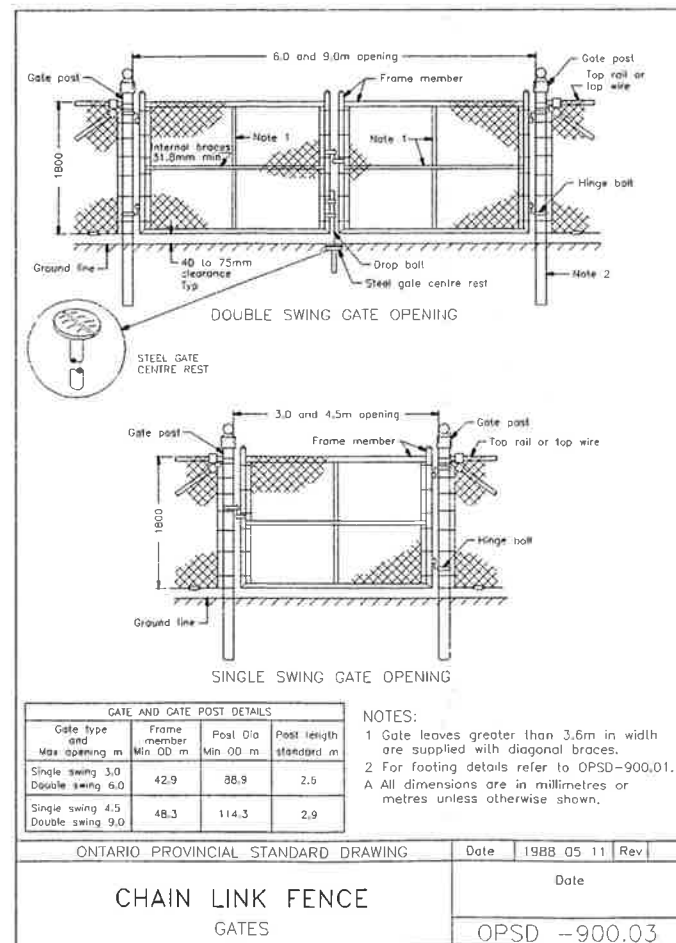
WESLAKE INC.
 Civil Engineers, Municipal and Environmental Planners
 120 LANCING DRIVE
 UNIT No. 10
 HAMILTON, ONTARIO
 L8W 3A1

DRAWING TITLE
DETAIL SHEET

PROJECT NO. **1333** DRAWING NO. **10**



DETAIL 'C'



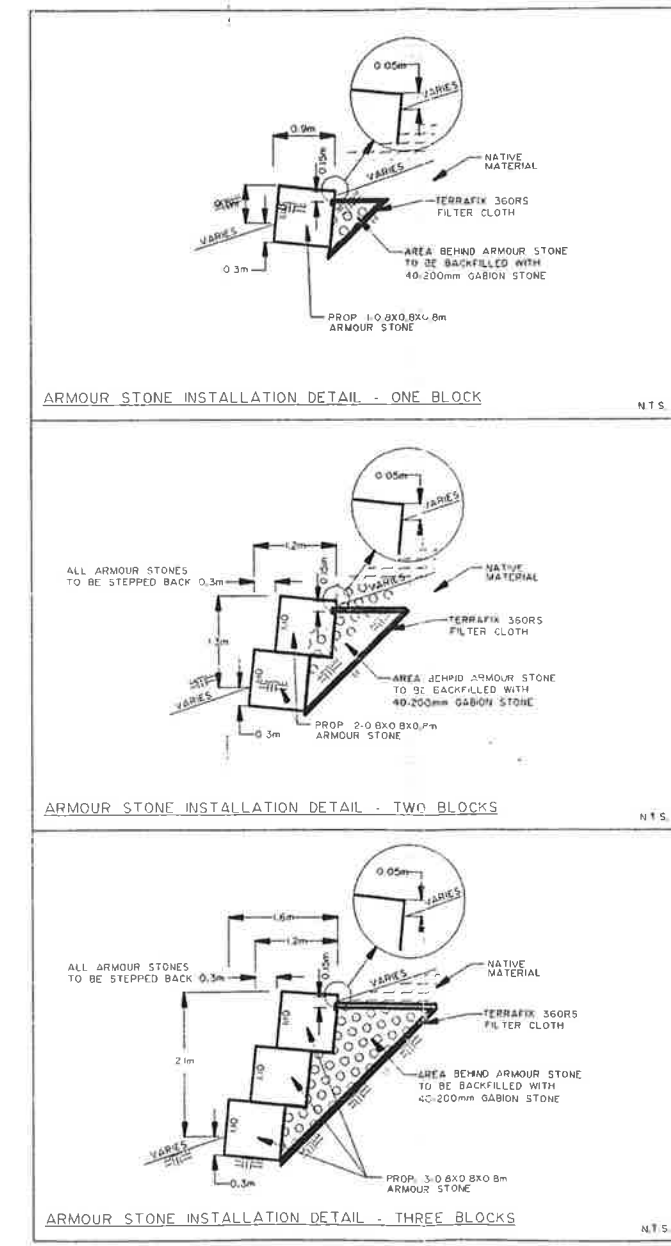
WARNING

THESE LANDS MAY FLOOD DURING EXTREME STORM EVENTS

NOTES:

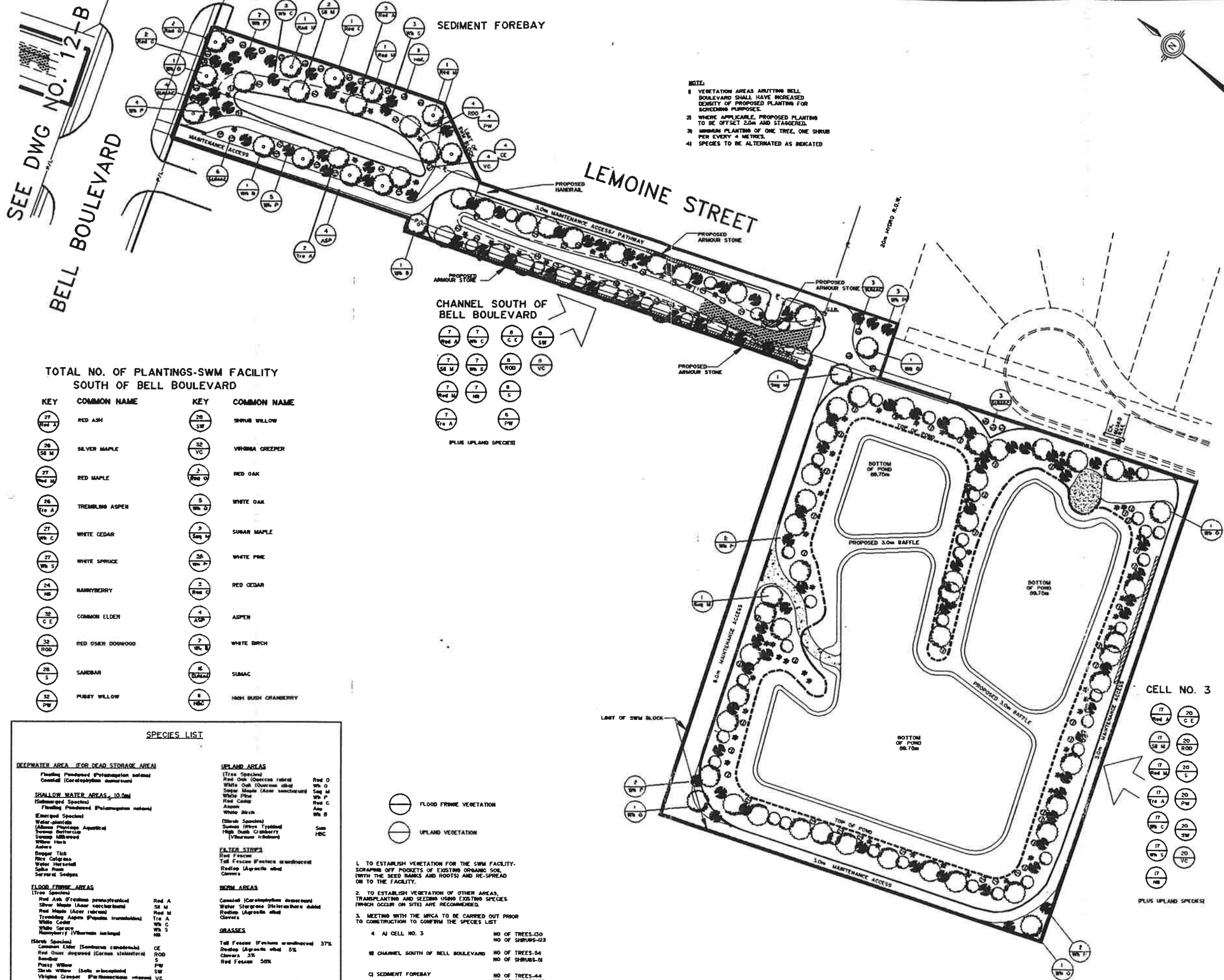
- Sign is to be made zinc protected steel with yellow engineering grade background and non-fading black lettering and border.
- Lettering shall be done using Helvetica Medium letters or a similar block type style.
- A proof of the sign and name of the sign maker shall be submitted to the Town Engineer for approval prior to erection.
- The sign shall be erected to a minimum height of 2.6m above finished grade, mounted on a standard galvanized channel iron plate post.
- All measurements are in millimetres unless otherwise specified.

DETAIL 'A'



DETAIL 'B'

NO. 1 AS PER CITY OF BELLEVILLE COMMENTS MAR 28/03	
NO.	REVISIONS
DATE	BY
DRAWN BY: B.B.	DESIGNED BY:
DATE	CHECKED BY:
DATE OF ISSUE:	DATE OF PLOT:
	APRIL 2, 1998
SCALE IN METRES VARIES	
NOT FOR CONSTRUCTION UNTIL SIGNED AND DATED	
OWNER: THE CORPORATION OF THE CITY OF BELLEVILLE	
MUNICIPALITY: CITY OF BELLEVILLE COUNTY OF HASTINGS	
PROJECT NAME: UPPER NO NAME CREEK	
WESLAKE INC. Civil Engineers, Municipal and Environmental Planners	
120 LAUNCE DRIVE UNIT No. 10 HAMILTON, ONTARIO L9W 3A1	
DRAWING TITLE DETAIL SHEET	
PROJECT NO 1333	DRAWING NO II



NOTE:
 1 VEGETATION AREAS ADJACENT BELL BOULEVARD SHALL HAVE INCREASED DENSITY OF PROPOSED PLANTING FOR SCREENING PURPOSES.
 2 WHERE APPLICABLE, PROPOSED PLANTING TO BE OFFSET 2.0m AND STAGGERED.
 3 MINIMUM PLANTING OF ONE TREE, ONE SHRUB PER EVERY 4 METRES.
 4 SPECIES TO BE ALTERNATED AS INDICATED

- PROPOSED DECIDUOUS TREES
- PROPOSED CONIFEROUS TREES
- PROPOSED CONIFEROUS SHRUBS
- PROPOSED DECIDUOUS SHRUBS

TOTAL NO. OF PLANTINGS-SWM FACILITY SOUTH OF BELL BOULEVARD

KEY	COMMON NAME	KEY	COMMON NAME
	RED ASH		SHRUB WILLOW
	SILVER MAPLE		VIRGINIA CREEPER
	RED MAPLE		RED OAK
	TREMBLING ASPEN		WHITE OAK
	WHITE CEDAR		SUGAR MAPLE
	WHITE SPRUCE		WHITE PINE
	HANDBERRY		RED CEDAR
	COMMON ELDER		ASPEN
	RED OSER DOGWOOD		WHITE BIRCH
	SANDBAR		SIBAC
	FURBY WILLOW		HIGH BUSH CRANBERRY

CHANNEL SOUTH OF BELL BOULEVARD

PLUS UPLAND SPECIES

SPECIES LIST

DEEPWATER AREA (FOR DEAD STORAGE AREA)	SHALLOW WATER AREAS (10.0m)	FLOOD FRINGE AREAS	UPLAND AREAS	FLOOD FRINGE VEGETATION	UPLAND VEGETATION
Floating Plantweed (Potamogeton nodosus) Coastal (Ceratophyllum demersum)	Water Hyacinth (Eichhornia crassipes) Water Lettuce (Pistia stratiotes) Water Hyacinth (Eichhornia crassipes) Water Lettuce (Pistia stratiotes) Water Hyacinth (Eichhornia crassipes) Water Lettuce (Pistia stratiotes)	Red Ash (Fraxinus pennsylvanica) Silver Maple (Acer saccharinum) Red Maple (Acer rubrum) Trembling Aspen (Populus tremuloides) White Cedar (Thuja occidentalis) White Spruce (Picea canadensis) Handberry (Viburnum lentago)	(Tree Species) Red Oak (Quercus rubra) White Oak (Quercus alba) Sugar Maple (Acer saccharum) White Pine (Pinus strobus) Red Cedar (Juniperus horizontalis) White Birch (Betula papyrifera) Summit (Vitis typhalea) High Bush Cranberry (Viburnum corymbosum)	Red Ash (Fraxinus pennsylvanica) Silver Maple (Acer saccharinum) Red Maple (Acer rubrum) Trembling Aspen (Populus tremuloides) White Cedar (Thuja occidentalis) White Spruce (Picea canadensis) Handberry (Viburnum lentago)	(Tree Species) Red Oak (Quercus rubra) White Oak (Quercus alba) Sugar Maple (Acer saccharum) White Pine (Pinus strobus) Red Cedar (Juniperus horizontalis) White Birch (Betula papyrifera) Summit (Vitis typhalea) High Bush Cranberry (Viburnum corymbosum)

- TO ESTABLISH VEGETATION FOR THE SWM FACILITY. SCRAPING OFF PORTIONS OF EXISTING ORGANIC SOIL (WITH THE SEED BANKS AND ROOTS) AND RE-SPREAD ON TO THE FACILITY.
- TO ESTABLISH VEGETATION OF OTHER AREAS, TRANSPLANTING AND SEEDING USING EXISTING SPECIES (WHICH OCCUR ON SITE) ARE RECOMMENDED.
- MEETING WITH THE MRCA TO BE CARRIED OUT PRIOR TO CONSTRUCTION TO CONFIRM THE SPECIES LIST

4 A1 CELL NO. 3	NO OF TREES-00 NO OF SHRUBS-23
88 CHANNEL SOUTH OF BELL BOULEVARD	NO OF TREES-54 NO OF SHRUBS-01
01 SEDIMENT FOREBAY	NO OF TREES-44 NO OF SHRUBS-37

NO.	REVISIONS	DATE	BY
1	AS PER MRCA COMMENTS	OCT 16/93	TB
2	AS PER CITY OF BELLEVILLE COMMENTS	MAR/98	CT

DRAWN BY: MMB
 DATE: JULY 8, 1990

DESIGNED BY:
 CHECKED BY:

DATE OF ISSUE:
 DATE OF PLOT:
 APRIL 2, 1998

SCALE IN METERS:
 VERTICAL: 1:1000
 HORIZONTAL: 1:1000

OWNER:
 THE CORPORATION OF
 THE CITY OF BELLEVILLE

MUNICIPALITY
 CITY OF BELLEVILLE
 COUNTY OF HASTINGS

PROJECT NAME:
 UPPER NO NAME
 CREEK

WESLAKE INC.
 Civil Engineers, Municipal and Environmental Planners
 120 LAING DRIVE
 UNIT No. 10
 HAMILTON, ONTARIO
 L9W 3A1

DRAWING TITLE
 LANDSCAPING PLAN
 SOUTH OF BELL BOULEVARD

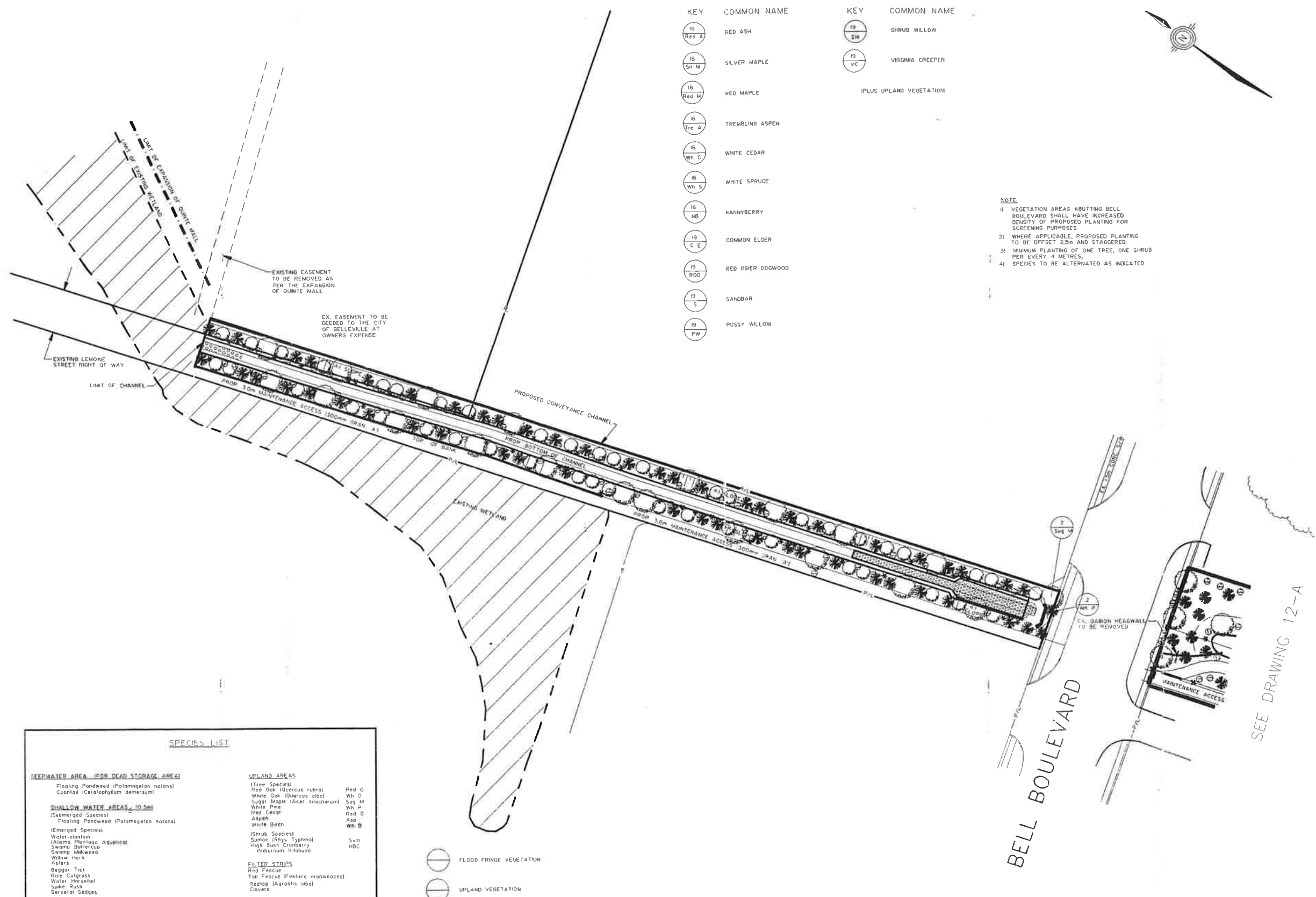
PROJECT NO. 1333
 DRAWING NO. 12-A

CHANNEL NORTH OF BELL BOULEVARD



KEY	COMMON NAME	KEY	COMMON NAME
16 Red A	RED ASH	19 SW	SHRUB WILLOW
16 Sl M	SILVER MAPLE	19 VC	VIRGINIA CREEPER
16 Red M	RED MAPLE	IPLUS UPLAND VEGETATION	
16 Tre A	TREMBLING ASPEN		
16 Wh C	WHITE CEDAR		
16 Wh S	WHITE SPRUCE		
16 NB	NANNYBERRY		
19 C E	COMMON ELDER		
19 ROD	RED OSIER DOGWOOD		
19 S	SANDBAR		
19 PW	PUSSY WILLOW		

NOTE:
 0 VEGETATION AREAS ABUTTING BELL BOULEVARD SHALL HAVE INCREASED DENSITY OF PROPOSED PLANTING FOR SCREENING PURPOSES.
 2) WHERE APPLICABLE, PROPOSED PLANTING TO BE OFFSET 2.5m AND STAGGERED.
 3) MINIMUM PLANTING OF ONE TREE, ONE SHRUB PER EVERY 4 METRES.
 4) SPECIES TO BE ALTERNATED AS INDICATED

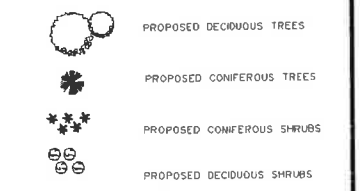


SPECIES LIST

DEEPWATER AREA (FOR DEAD STORAGE AREA)	SHALLOW WATER AREAS (10.5m)	FLOOD FRINGE AREAS	UPLAND AREAS	FILTER STRIPS	BERM AREAS	GRASSES
Floating Pondweed (Potamogeton natans) Coontail (Ceratophyllum demersum)	Floating Pondweed (Potamogeton natans) (Swamped Species)	(Tree Species) Red Ash (Fraxinus pennsylvanica) Silver Maple (Acer saccharinum) Red Maple (Acer rubrum) Trembling Aspen (Populus tremuloides) White Cedar White Spruce Nannyberry (Viburnum lentago)	(Tree Species) Red Oak (Quercus rubra) White Oak (Quercus alba) Sugar Maple (Acer saccharum) White Pine Red Cedar Asp White Birch (Shrub Species) Sumac (Rhus typhina) High Bush Cranberry Viburnum trilobum)	Red Fescue Tall Fescue (Festuca arundinacea) Redtop (Agrostis alba) Clovers	Coontail (Ceratophyllum demersum) Water Smartgrass (Sagittaria arifolia) Redtop (Agrostis alba) Clovers	Tall Fescue (Festuca arundinacea) 37% Redtop (Agrostis alba) 5% Clovers 3% Red Fescue 55%
(Emerged Species) Water-plantain Lizard Tail (Sagittaria arifolia) Swamp Buttercup Swamp Milkweed Willow Herb Asters Begon Tick Rice Cutgrass Water Horseail Spike Rush Servalent Sedges	(Emerged Species) Water-plantain Lizard Tail (Sagittaria arifolia) Swamp Buttercup Swamp Milkweed Willow Herb Asters Begon Tick Rice Cutgrass Water Horseail Spike Rush Servalent Sedges	(Tree Species) Red Ash (Fraxinus pennsylvanica) Silver Maple (Acer saccharinum) Red Maple (Acer rubrum) Trembling Aspen (Populus tremuloides) White Cedar White Spruce Nannyberry (Viburnum lentago)	(Tree Species) Red Oak (Quercus rubra) White Oak (Quercus alba) Sugar Maple (Acer saccharum) White Pine Red Cedar Asp White Birch (Shrub Species) Sumac (Rhus typhina) High Bush Cranberry Viburnum trilobum)	Red Fescue Tall Fescue (Festuca arundinacea) Redtop (Agrostis alba) Clovers	Coontail (Ceratophyllum demersum) Water Smartgrass (Sagittaria arifolia) Redtop (Agrostis alba) Clovers	Tall Fescue (Festuca arundinacea) 37% Redtop (Agrostis alba) 5% Clovers 3% Red Fescue 55%

HYDROSEEDING TO BE APPLIED AT THE RATE OF 170kg PER Ha

- 1 TO ESTABLISH VEGETATION FOR THE SWM FACILITY. SCRAPING OFF POCKETS OF EXISTING ORGANIC SOIL (WITH THE SEED BANKS AND ROOTS) AND RE-SPREAD ON TO THE FACILITY.
- 2 TO ESTABLISH VEGETATION OF OTHER AREAS. TRANSPLANTING AND SEEDING USING EXISTING SPECIES (WHICH OCCUR ON SITE) ARE RECOMMENDED.
- 3. MEETING WITH THE MRCA TO BE CARRIED OUT PRIOR TO CONSTRUCTION TO CONFIRM THE SPECIES LIST.
- 4. NO. OF TREES IN NO. OF SHRUBS IN



1 AS PER MRCA COMMENTS	OCT 16/98	TB
2 AS PER CITY OF BELLEVILLE COMMENTS	MAR/98	CT
NO	REVISIONS	DATE
		BY

DRAWN BY: MMG
 DATE: JULY 11, 1995
 DESIGNED BY:
 CHECKED BY:

DATE OF ISSUE:
 DATE OF PLOT:
 APRIL 2, 1998

SCALE IN METERS:
 VERTICAL: 1:100
 HORIZONTAL: 1:500

OWNER:
 THE CORPORATION OF THE CITY OF BELLEVILLE

MUNICIPALITY:
 CITY OF BELLEVILLE
 COUNTY OF HASTINGS

PROJECT NAME:
 UPPER NO NAME CREEK

WESLAKE INC.
 Civil Engineers, Municipal and Environmental Planners
 120 LANCING DRIVE
 UNIT NO 10
 HAMILTON, ONTARIO
 L8W 3A1

DRAWING TITLE:
**LANDSCAPING PLAN
 CHANNEL NORTH OF
 BELL BOULEVARD**

PROJECT NO. 1333
 DRAWING NO. 12-B