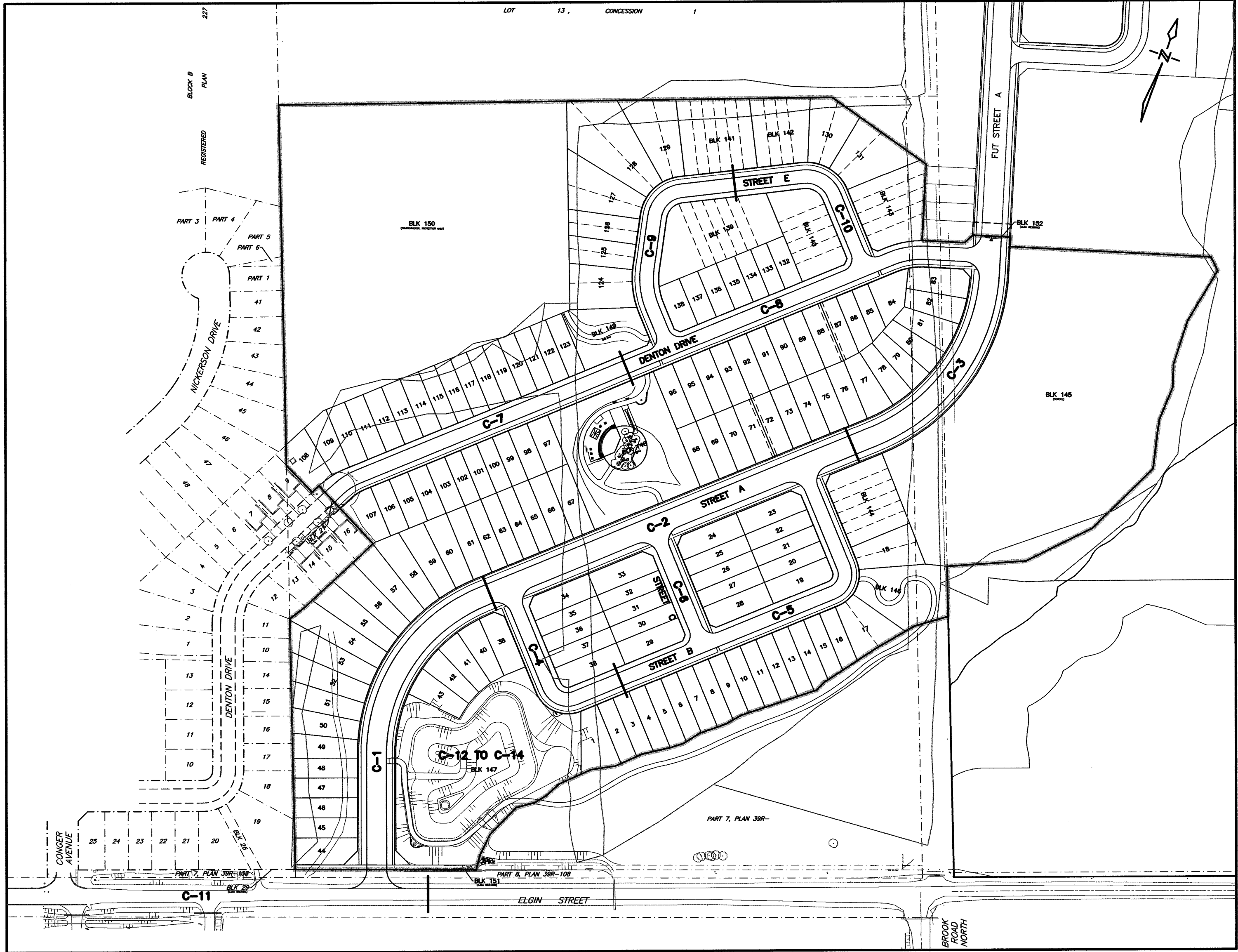
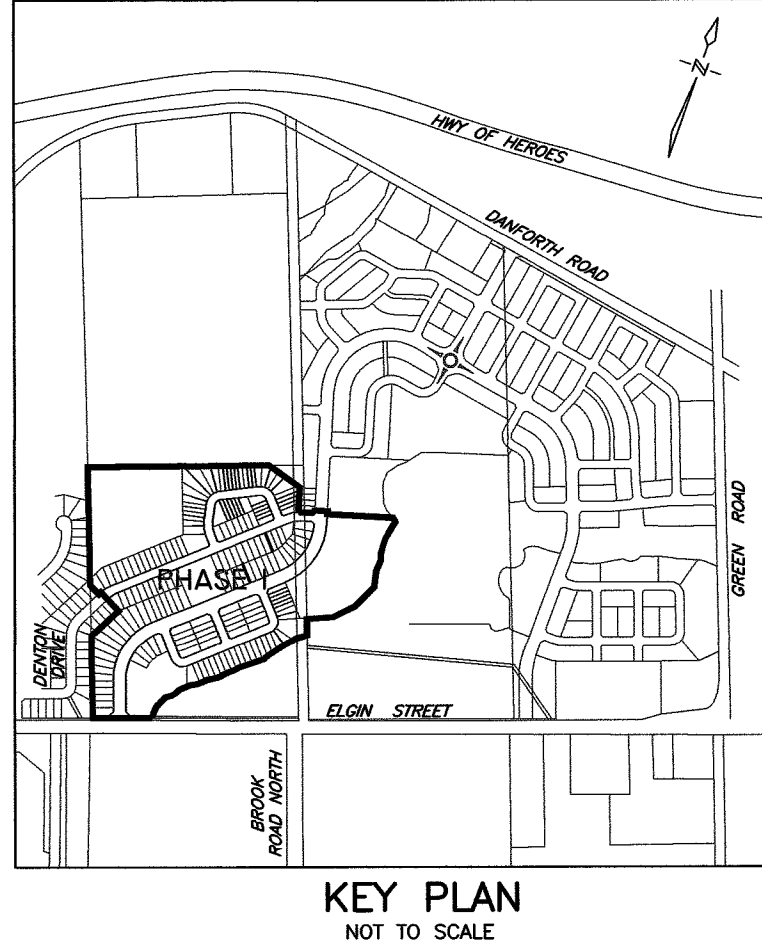


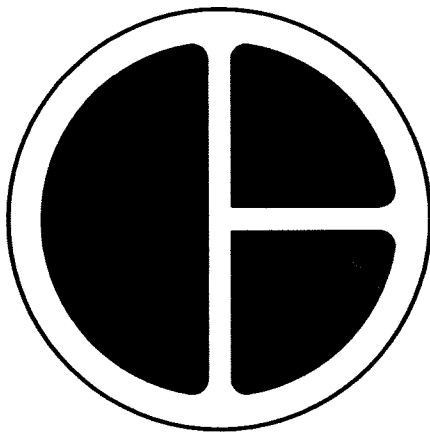
THE CORPORATION OF THE TOWN OF COBOURG
VILLAGES OF CENTRAL PARK
RONDEAU (COBOURG) LTD.
PHASE 1



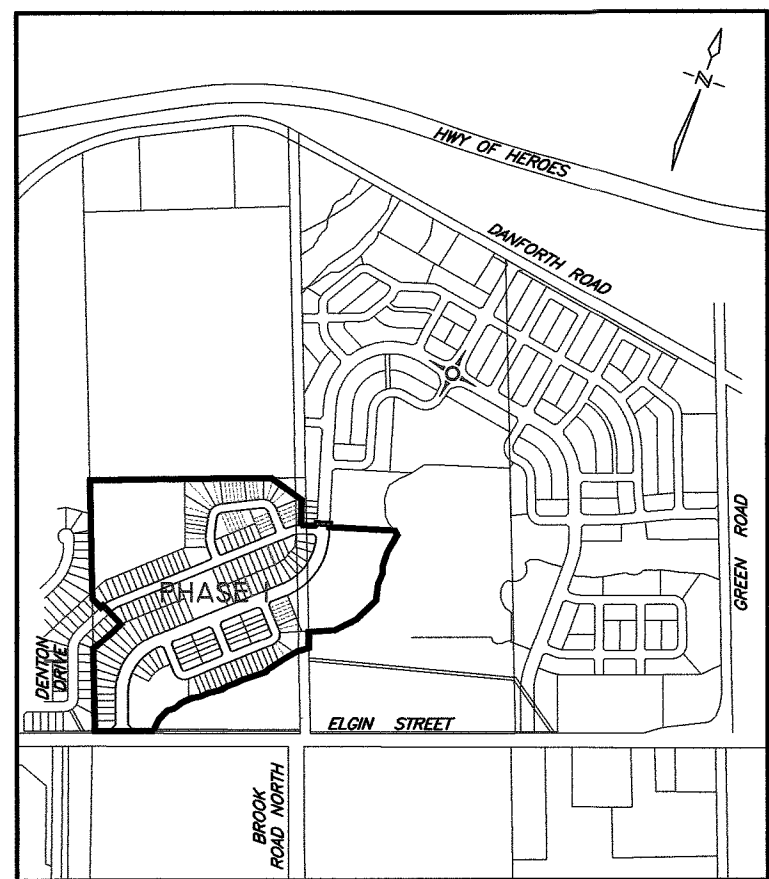
LIST OF DRAWINGS

- D-1 GENERAL SERVICES PLAN
- R-1 STANDARD NOTES AND REFERENCES
- LG-1 LOT GRADING PLAN
- LG-2 LOT GRADING PLAN
- LG-3 LOT GRADING PLAN
- LG-4 LOT GRADING PLAN
- C-1 STREET A
- C-2 STREET A
- C-3 STREET A
- C-4 STREET B
- C-5 STREET B
- C-6 STREET C / BLOCK 148
- C-7 DENTON DRIVE
- C-8 DENTON DRIVE
- C-9 STREET E
- C-10 STREET E
- C-11 ELGIN STREET
- C-12 STORMWATER MANAGEMENT FACILITY - POND D
- C-13 STORMWATER MANAGEMENT FACILITY - SECTIONS
- C-14 STORMWATER MANAGEMENT FACILITY - DETAILS
- D-2 STORM SEWER DRAINAGE SCHEME
- D-3 SANITARY SEWER DRAINAGE SCHEME
- ES-1 EROSION AND SEDIMENT CONTROL PLAN
- TS-1 TRAFFIC SIGNAGE AND DETAIL PLAN

NORTHUMBERLAND COUNTY



D.G. Biddle & Associates Limited
consulting engineers and planners



KEY PLAN
NOT TO SCALE

BENCHMARK No. 234 ELEVATION 100.197m

NAIL AND WASHER IN EAST FACE H.B. POLE NORTH WEST CORNER
ELGIN AND DARC STREET.

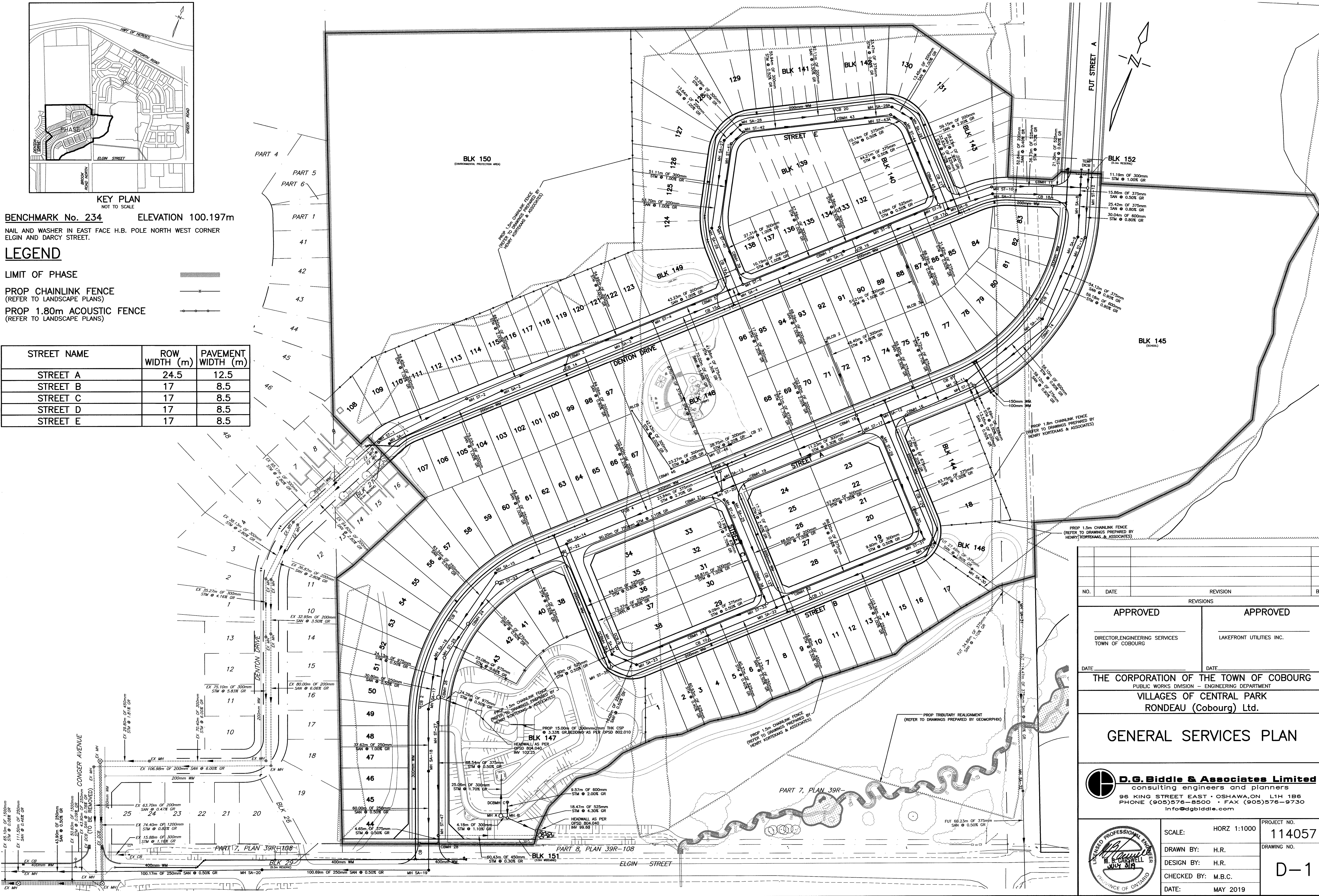
LEGEND

LIMIT OF PHASE

PROP CHAINLINK FENCE
(REFER TO LANDSCAPE PLANS)

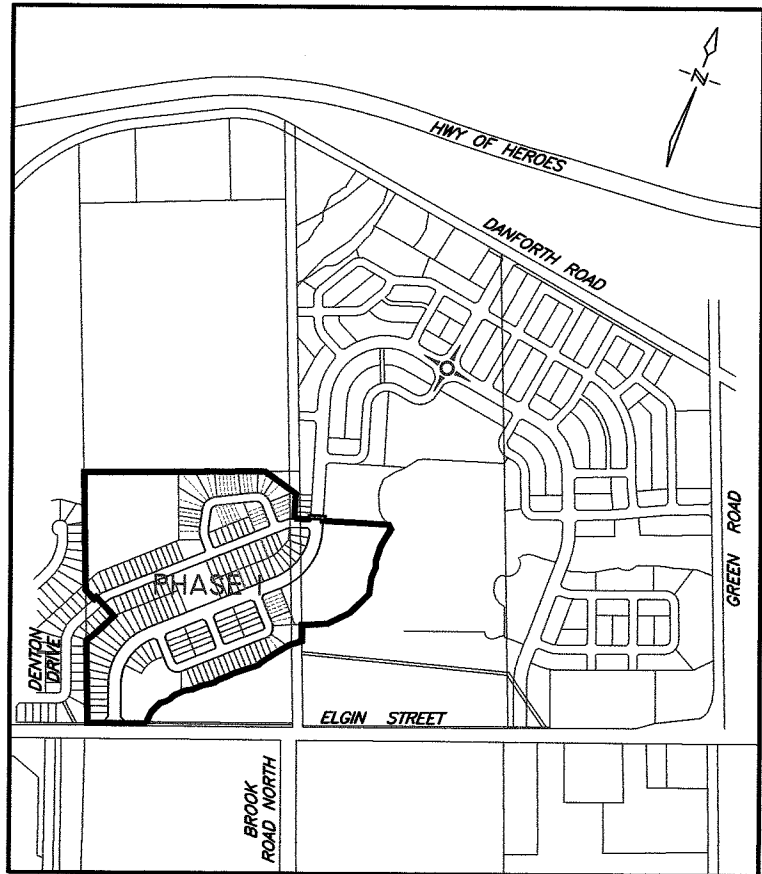
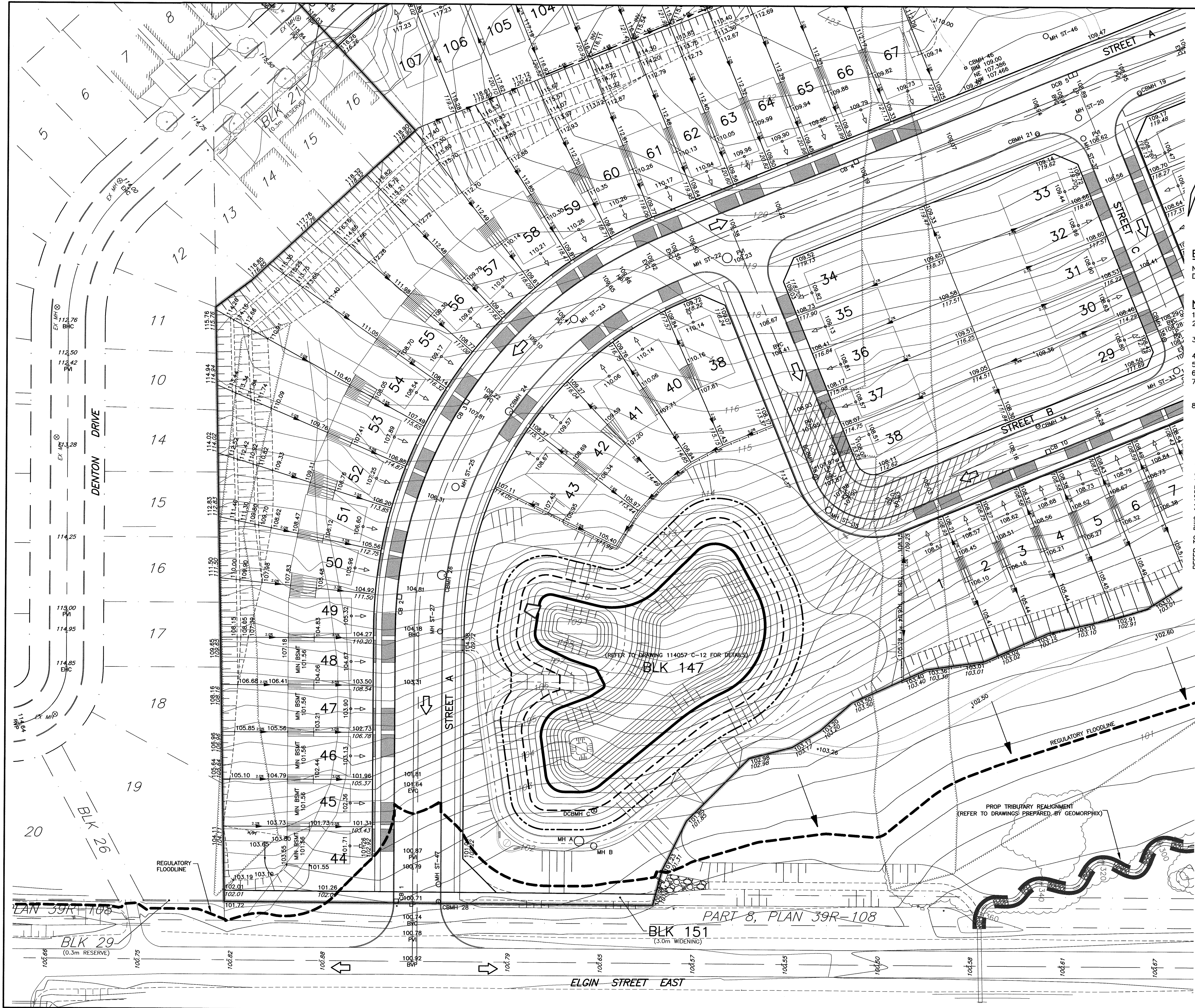
PROP 1.80m ACOUSTIC FENCE
(REFER TO LANDSCAPE PLANS)

STREET NAME	ROW WIDTH (m)	PAVEMENT WIDTH (m)
STREET A	24.5	12.5
STREET B	17	8.5
STREET C	17	8.5
STREET D	17	8.5
STREET E	17	8.5



NO.	DATE	REVISION	BY
REVISIONS			
APPROVED		APPROVED	
DIRECTOR, ENGINEERING SERVICES TOWN OF COBOURG		LAKEFRONT UTILITIES INC.	
DATE		DATE	
THE CORPORATION OF THE TOWN OF COBOURG PUBLIC WORKS DIVISION - ENGINEERING DEPARTMENT VILLAGES OF CENTRAL PARK RONDEAU (Cobourg) Ltd.			
GENERAL SERVICES PLAN			
D.G. Biddle & Associates Limited consulting engineers and planners 96 KING STREET EAST • OSHAWA, ON L1H 1B6 PHONE (905) 576-8500 • FAX (905) 576-9730 info@dgbiddle.com			
		PROJECT NO. 114057	
SCALE: HORZ 1:1000		DRAWING NO. D-1	
DRAWN BY: H.R.		DESIGN BY: H.R.	
CHECKED BY: M.B.C.		DATE: MAY 2019	

\\SHAW\STAFF\JOB FILES\14000\14057 RONDEAU COBOURG\14057 GENERAL SERVICES PLAN.DWG July 2, 2019



KEY PLAN
NOT TO SCALE

BENCHMARK ELEVATION 100.197m

NAIL AND WASHER IN EAST FACE H.B. POLE NORTH WEST CORNER ELGIN AND DARCY STREET.

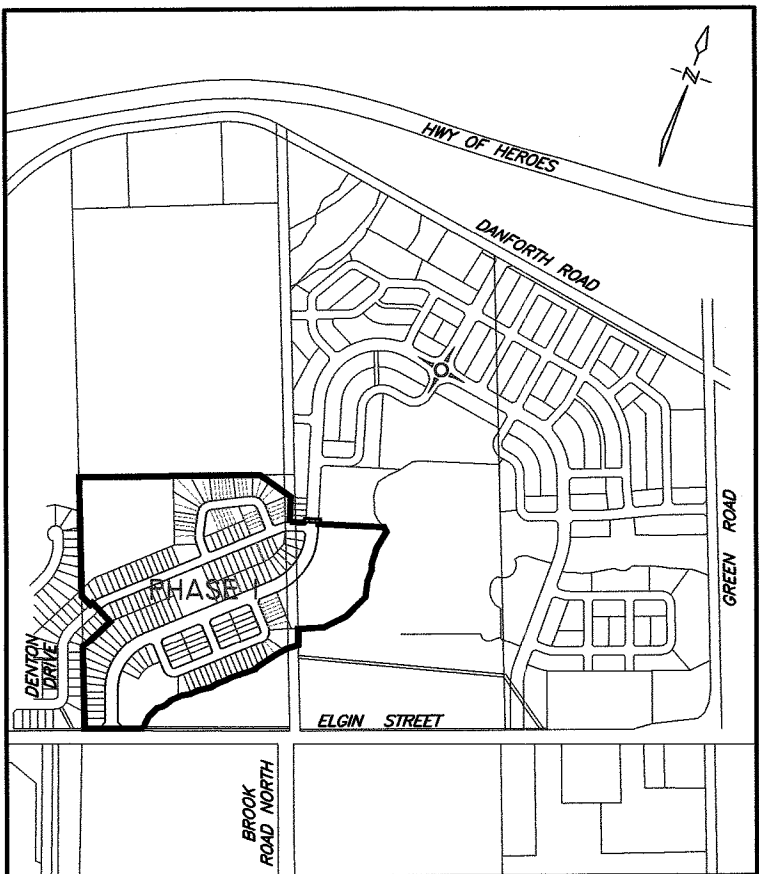
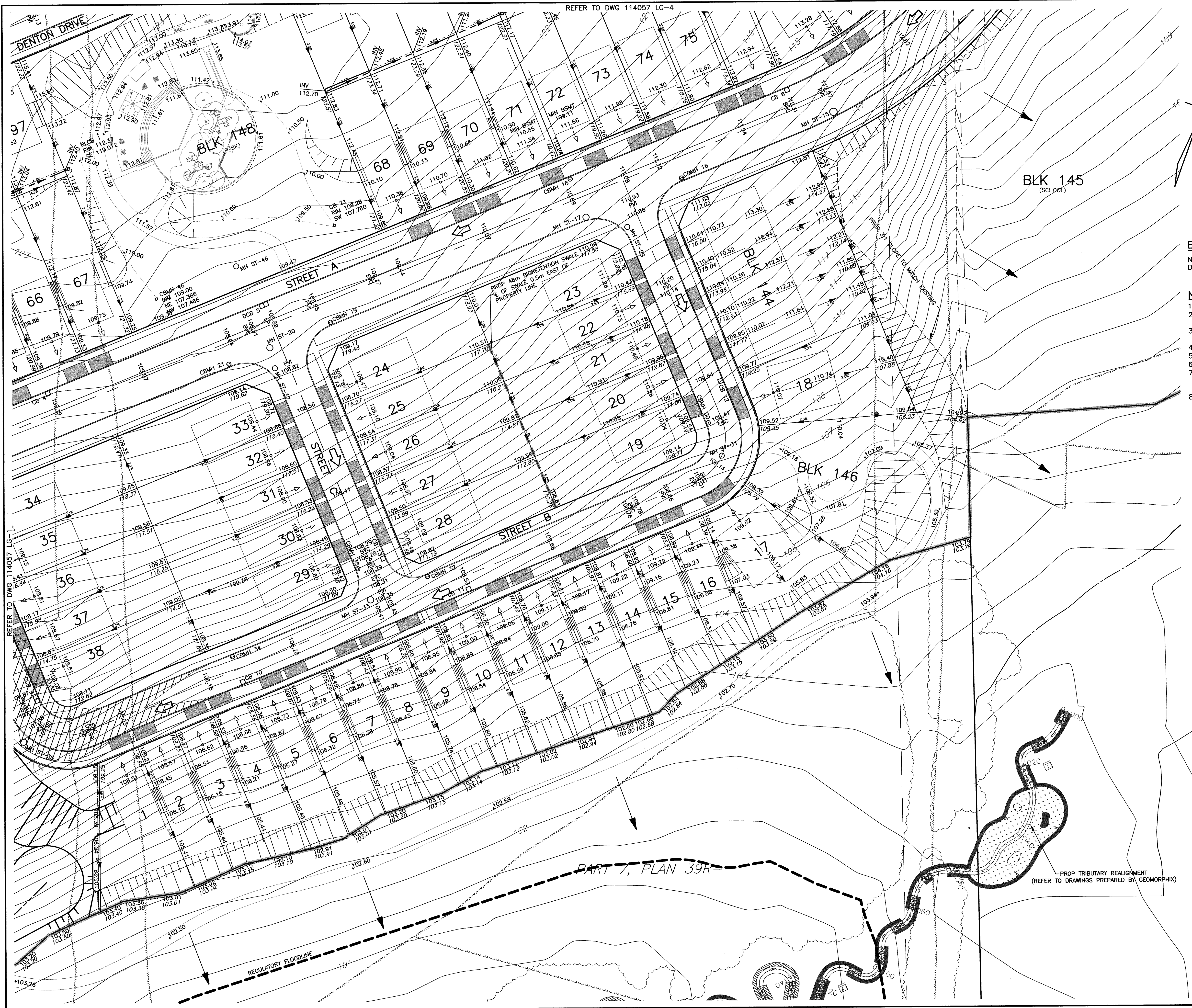
NOTES

- 1) LOT GRADES SHALL BE 2% MIN TO 5% MAX.
- 2) SWALE GRADES SHALL BE 2% (MIN) TO 5% (MAX) UNLESS OTHERWISE NOTED.
- 3) ALL SWALES SHALL HAVE 3:1 SIDE SLOPES (MAX) AND BE SODDED ON 150mm OF TOPSOIL.
- 4) ALL SLOPES SHALL BE 3:1 (MAX) AND BE SODDED ON 150mm OF TOPSOIL.
- 5) REAR YARDS TO BE RESTORED WITH 300mm TOPSOIL AND SOD.
- 6) LIMIT OF ENGINEERED FILL SUBJECT TO ENGINEERED FILL REPORT.
- 7) DISTURBED AREAS AND FUTURE DEVELOPMENT SHALL BE GRADED SUCH THAT THERE IS NO PONDING WATER AND DRAINAGE IS DIRECTED AWAY FROM PROPOSED LOTS.
- 8) ALL VACANT BLOCKS SHALL BE SEEDED ON 150mm TOPSOIL AND MAINTAINED TO THE SATISFACTION OF THE DIRECTOR OF ENGINEERING DEPARTMENT.

LEGEND

- ORIGINAL GROUND CONTOUR
- ORIGINAL SURVEY ELEVATION
- ORIGINAL GROUND ELEVATION
- PROPOSED ELEVATION
- PROPOSED SWALE
- DIRECTION OF DRAINAGE
- DIRECTION OF OVERLAND FLOW
- ENGINEERED FILL LOT
- DRIVEWAY LOCATION
- LIMIT OF SURFACE PONDING
- LIMIT OF PHASE

NO.	DATE	REVISION	BY
REVISIONS			
APPROVED		APPROVED	
DIRECTOR, ENGINEERING SERVICES MUNICIPALITY OF COBOURG		LAKEFRONT UTILITIES INC.	
DATE			
THE CORPORATION OF THE TOWN OF COBOURG PUBLIC WORKS DIVISION - ENGINEERING DEPARTMENT VILLAGES OF CENTRAL PARK RONDEAU (Cobourg) Ltd.			
LOT GRADING PLAN			
D.G. Biddle & Associates Limited consulting engineers and planners 98 KING STREET EAST • OSHAWA, ON L1H 1B6 PHONE (905) 576-8500 • FAX (905) 576-9730 info@dgbiddle.com			
PROFESSIONAL ENGINEER M. B. C.		PROJECT NO. 114057	
SCALE: HORZ 1:500 VERT 1:50		DRAWING NO. LG-1	
DRAWN BY: H.R.		DESIGN BY: H.R.	
CHECKED BY: M.B.C.		DATE: FEB 2019	



KEY PLAN
NOT TO SCALE

BENCHMARK ELEVATION 100.197m

NAIL AND WASHER IN EAST FACE H.B. POLE NORTH WEST CORNER ELGIN AND DARCY STREET.

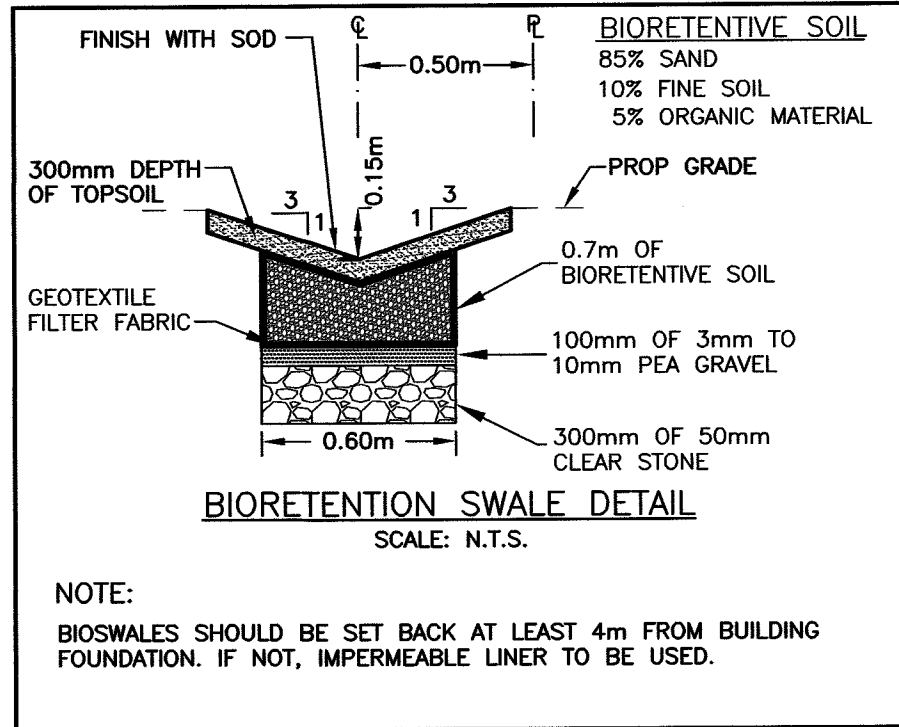
- NOTES**
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LEGEND

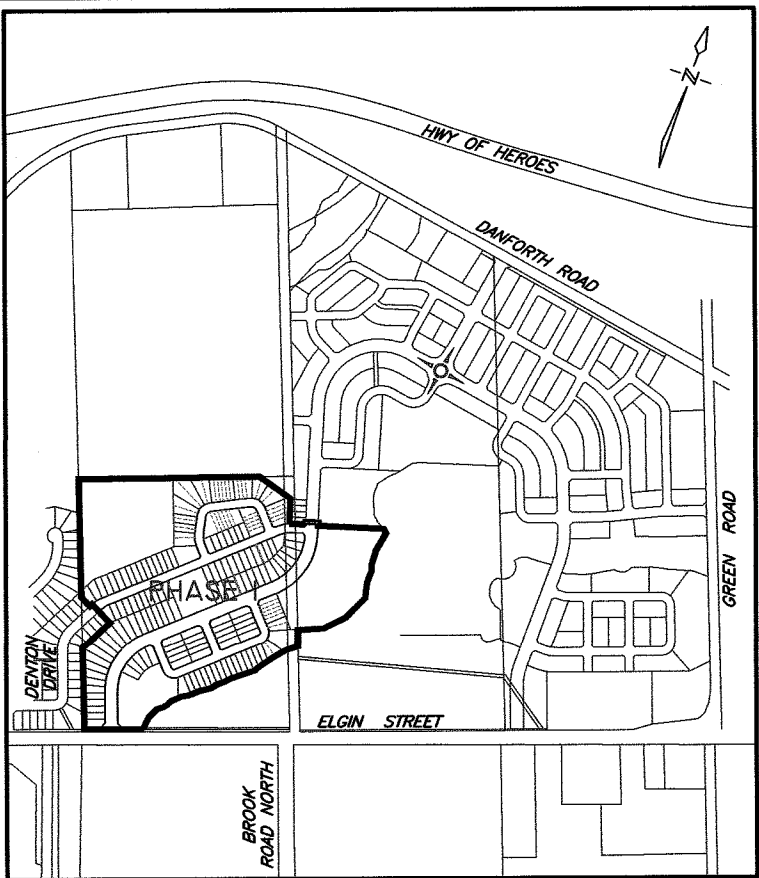
- ORIGINAL GROUND CONTOUR
- ORIGINAL SURVEY ELEVATION
- ORIGINAL GROUND ELEVATION
- PROPOSED ELEVATION
- PROPOSED SWALE
- DIRECTION OF DRAINAGE
- DIRECTION OF OVERLAND FLOW
- ENGINEERED FILL LOT
- DRIVEWAY LOCATION
- LIMIT OF SURFACE PONDING
- LIMIT OF PHASE

NO.	DATE	REVISION	BY
REVISIONS			
APPROVED		APPROVED	
DIRECTOR,ENGINEERING SERVICES MUNICIPALITY OF COBOURG		LAKEFRONT UTILITIES INC.	
DATE		DATE	
THE CORPORATION OF THE TOWN OF COBOURG PUBLIC WORKS DIVISION – ENGINEERING DEPARTMENT VILLAGES OF CENTRAL PARK RONDEAU (Cobourg) Ltd.			
LOT GRADING PLAN			
D.G. Biddle & Associates Limited consulting engineers and planners 96 KING STREET EAST • OSHAWA, ON L1H 1B6 PHONE (905)576-8500 • FAX (905)576-9730 info@dgbiddle.com			
	SCALE:	HORZ 1:500 VERT 1:50	PROJECT NO. 114057
	DRAWN BY:	H.R.	DRAWING NO.
	DESIGN BY:	H.R.	LG-2
	CHECKED BY:	M.B.C.	
DATE:		FEB 2019	

V:\COB\STAFF\KAB\FILES\114057\114057_RONDEAU_COB\DWG\114057-3D-LG-GRADING_PLAN.DWG
July 2, 2019



BLK 150
(ENVIRONMENTAL PROTECTION AREA)



KEY PLAN
NOT TO SCALE

BENCHMARK ELEVATION 100.197m

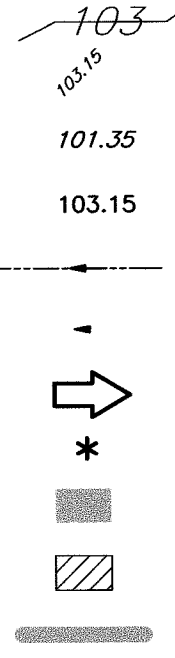
NAIL AND WASHER IN EAST FACE H.B. POLE NORTH WEST CORNER ELGIN AND DARCY STREET.

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LEGEND

ORIGINAL GROUND CONTOUR
ORIGINAL SURVEY ELEVATION
ORIGINAL GROUND ELEVATION
PROPOSED ELEVATION
PROPOSED SWALE
DIRECTION OF DRAINAGE
DIRECTION OF OVERLAND FLOW
ENGINEERED FILL LOT
DRIVEWAY LOCATION
LIMIT OF SURFACE PONDING
LIMIT OF PHASE



NO.	DATE	REVISION	BY

APPROVED	APPROVED
DIRECTOR, ENGINEERING SERVICES MUNICIPALITY OF COBOURG	LAKEFRONT UTILITIES INC.
DATE:	DATE:

THE CORPORATION OF THE TOWN OF COBOURG
PUBLIC WORKS DIVISION - ENGINEERING DEPARTMENT
VILLAGES OF CENTRAL PARK
RONDEAU (Cobourg) Ltd.

LOT GRADING PLAN

D.G. Biddle & Associates Limited
consulting engineers and planners
96 KING STREET EAST • OSHAWA, ON L1H 1B6
PHONE (905) 576-8500 • FAX (905) 576-9730
info@dgbiddle.com

	SCALE: HORIZ 1:500 VERT 1:50	PROJECT NO. 114057
	DRAWN BY: H.R.	DRAWING NO.
	DESIGN BY: H.R.	LG-3
	CHECKED BY: M.B.C.	
DATE: FEB 2019		

PART 5

RT 6

PART 1

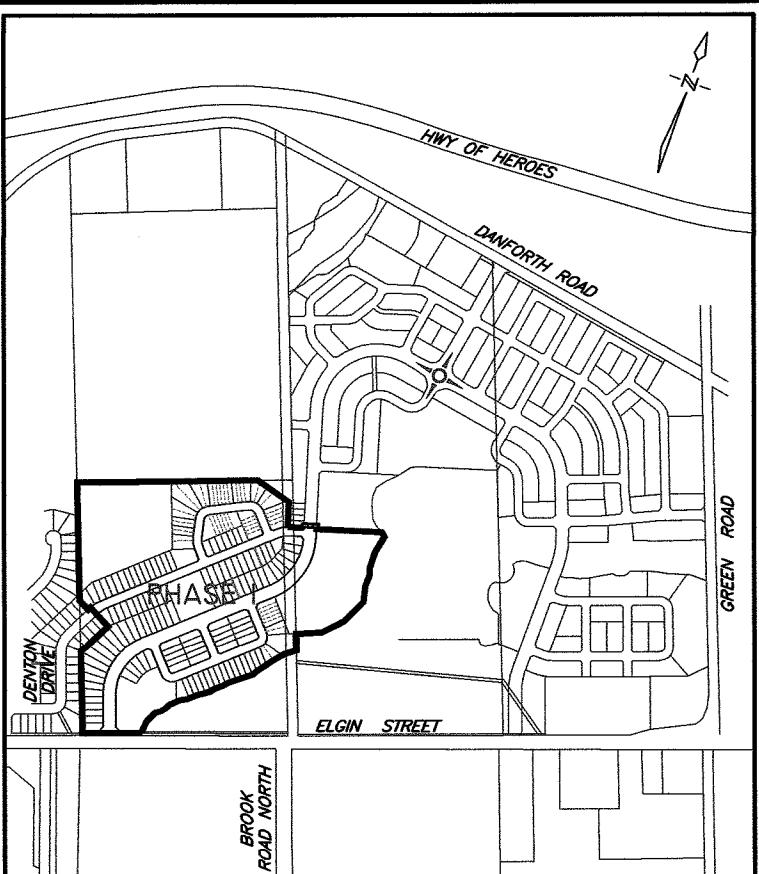
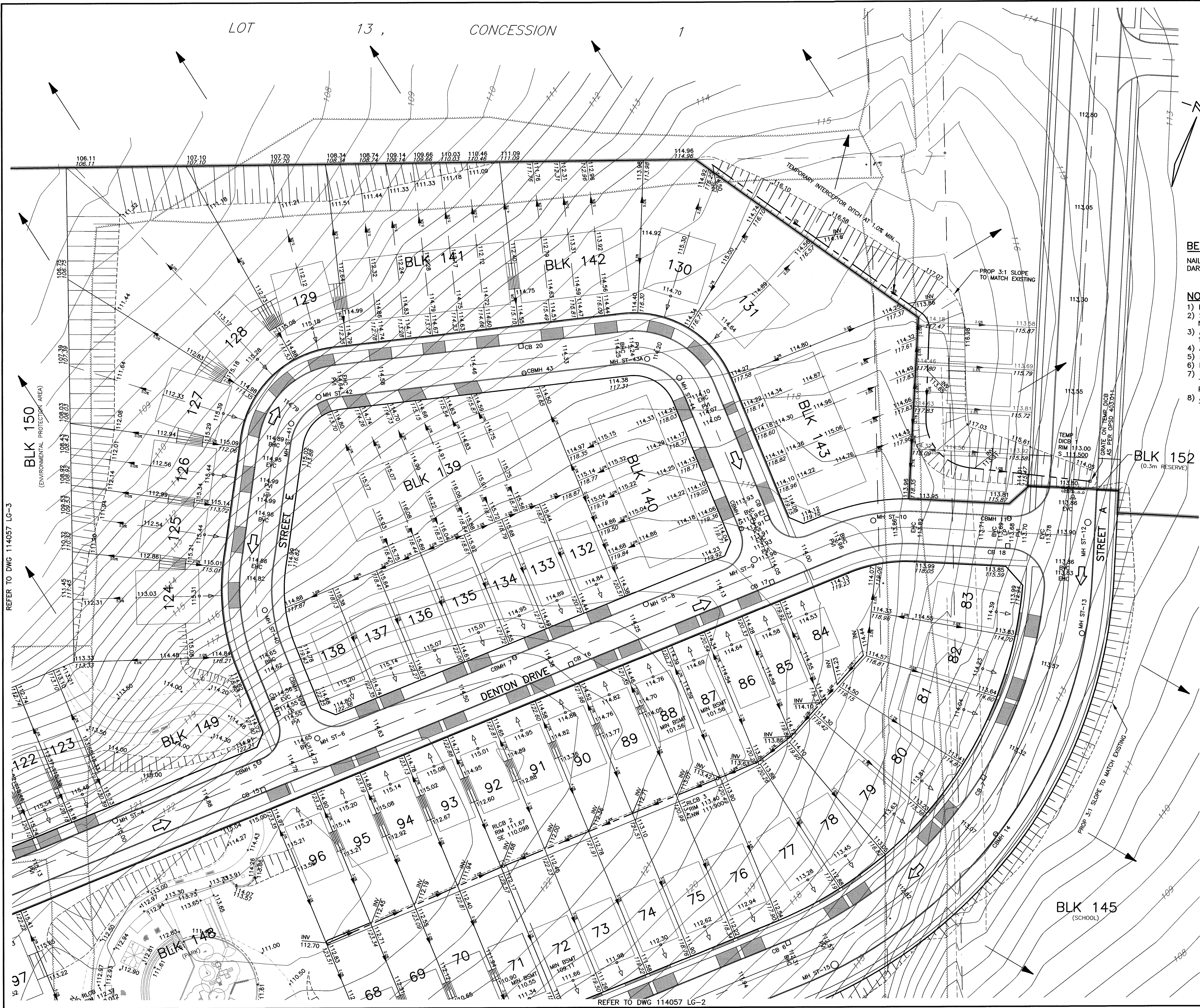
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42

43

44

REFER TO DWG 114057 LG-1



KEY PLAN
NOT TO SCALE

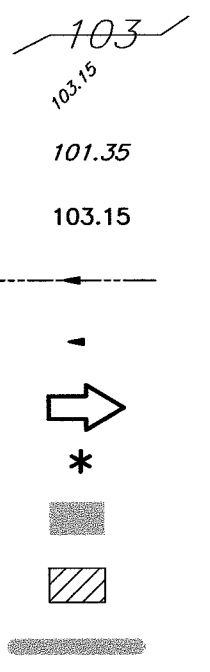
BENCHMARK ELEVATION 100.197m

NAIL AND WASHER IN EAST FACE H.B. POLE NORTH WEST CORNER ELGIN AND DARCY STREET.

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LEGEND

- ORIGINAL GROUND CONTOUR
- ORIGINAL SURVEY ELEVATION
- ORIGINAL GROUND ELEVATION
- PROPOSED ELEVATION
- PROPOSED SWALE
- DIRECTION OF DRAINAGE
- DIRECTION OF OVERLAND FLOW
- ENGINEERED FILL LOT
- DRIVEWAY LOCATION
- LIMIT OF SURFACE PONDING
- LIMIT OF PHASE

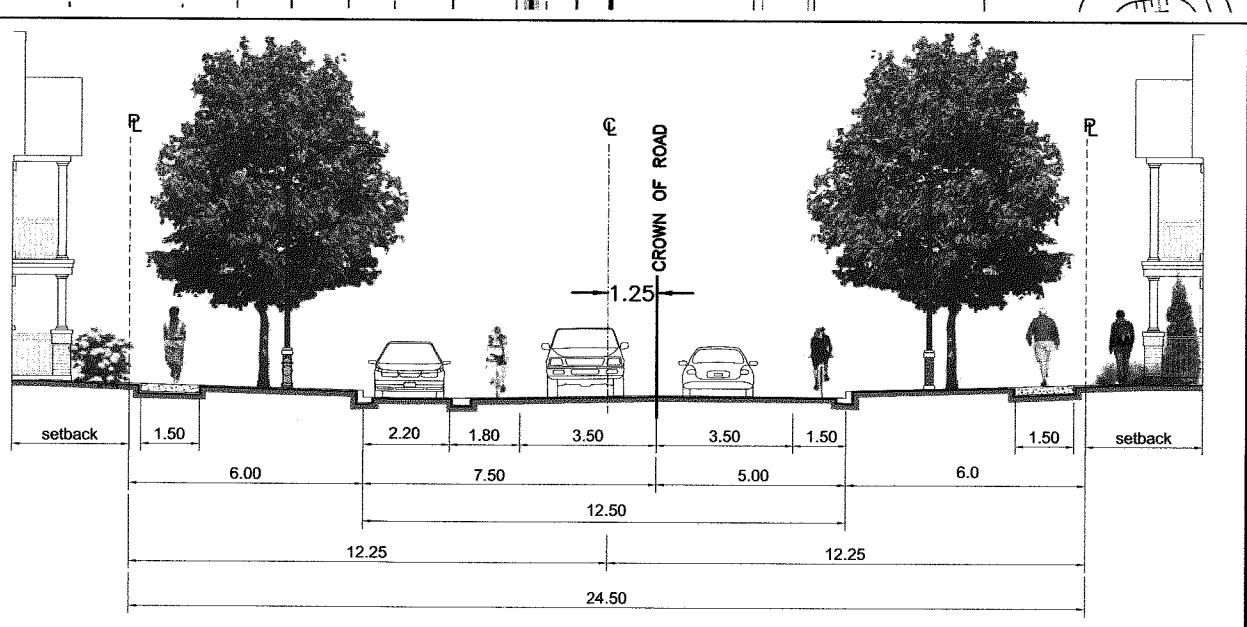
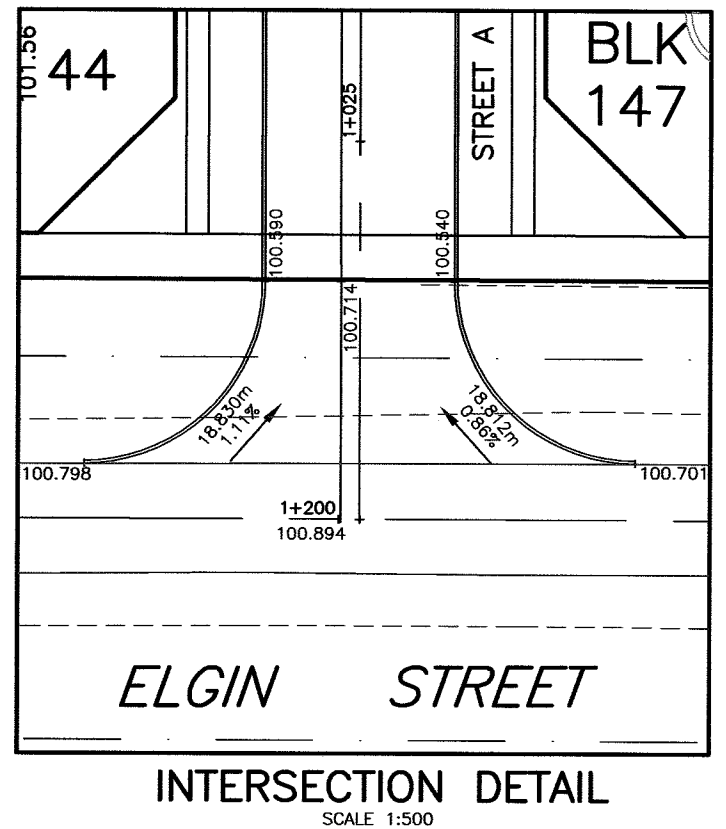
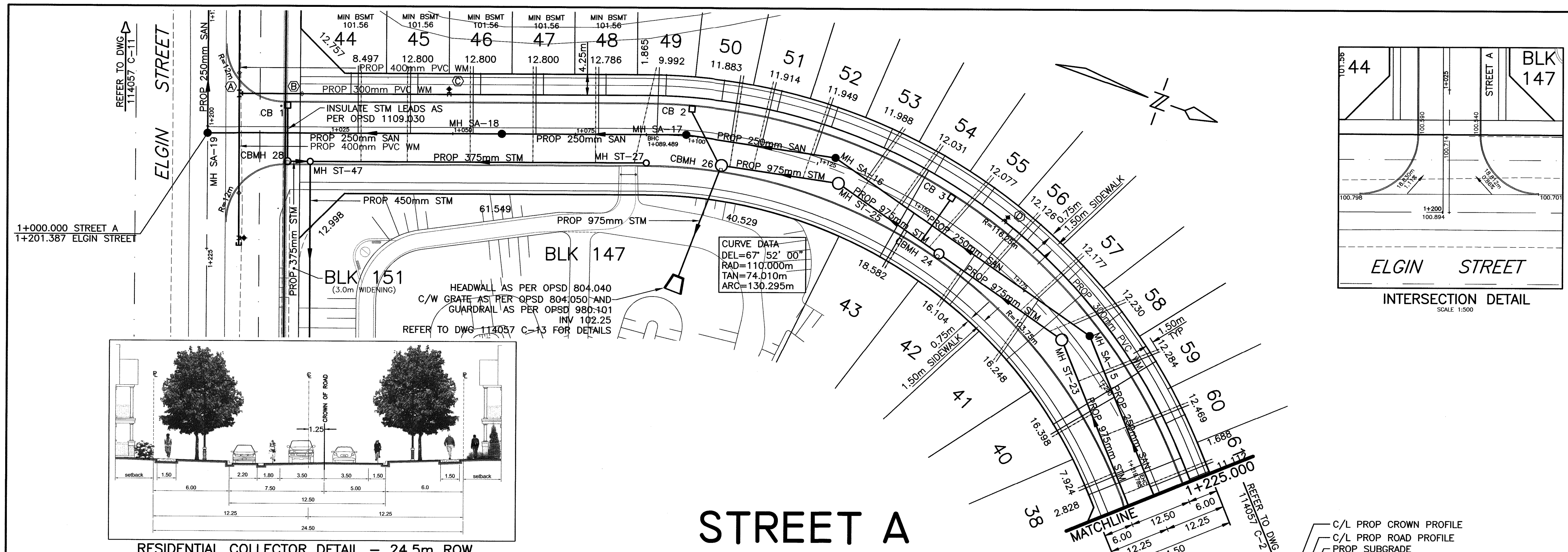


NO.	DATE	REVISION	BY
REVISIONS			
APPROVED		APPROVED	
DIRECTOR, ENGINEERING SERVICES MUNICIPALITY OF COBOURG		LAKEFRONT UTILITIES INC.	
DATE		DATE	
THE CORPORATION OF THE TOWN OF COBOURG PUBLIC WORKS DIVISION - ENGINEERING DEPARTMENT VILLAGES OF CENTRAL PARK RONDEAU (Cobourg) Ltd.			
LOT GRADING PLAN			
		PROJECT NO. 114057	
D.G. Biddle & Associates Limited consulting engineers and planners 96 KING STREET EAST • OSHAWA, ON L1H 1B6 PHONE (905) 576-8500 • FAX (905) 576-9730 info@dgbiddle.com		DRAWN BY: H.R.	
		DESIGN BY: H.R.	
SCALE: HORZ 1:500 VERT 1:50		CHECKED BY: M.B.C.	
DATE: FEB 2019		DATE: FEB 2019	

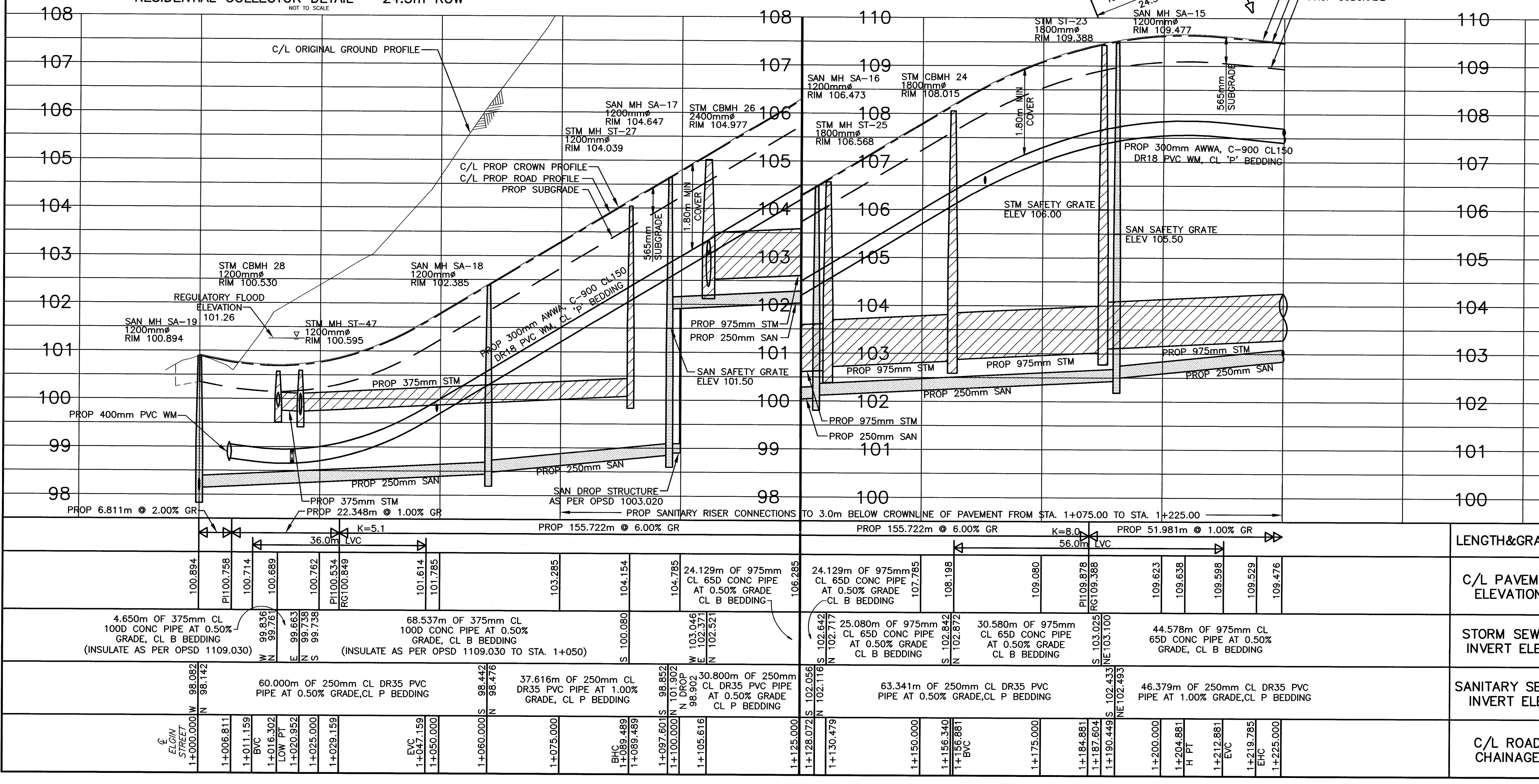
REFER TO DWG 114057 LG-3

REFER TO DWG 114057 LG-2

\\FSR\STAFF\JOB FILES\114057\RONDEAU COB\DWG\114057 ENGINEERING DRAWINGS\114057-3D-LOT GRADING PLAN.DWG
July 2, 2019

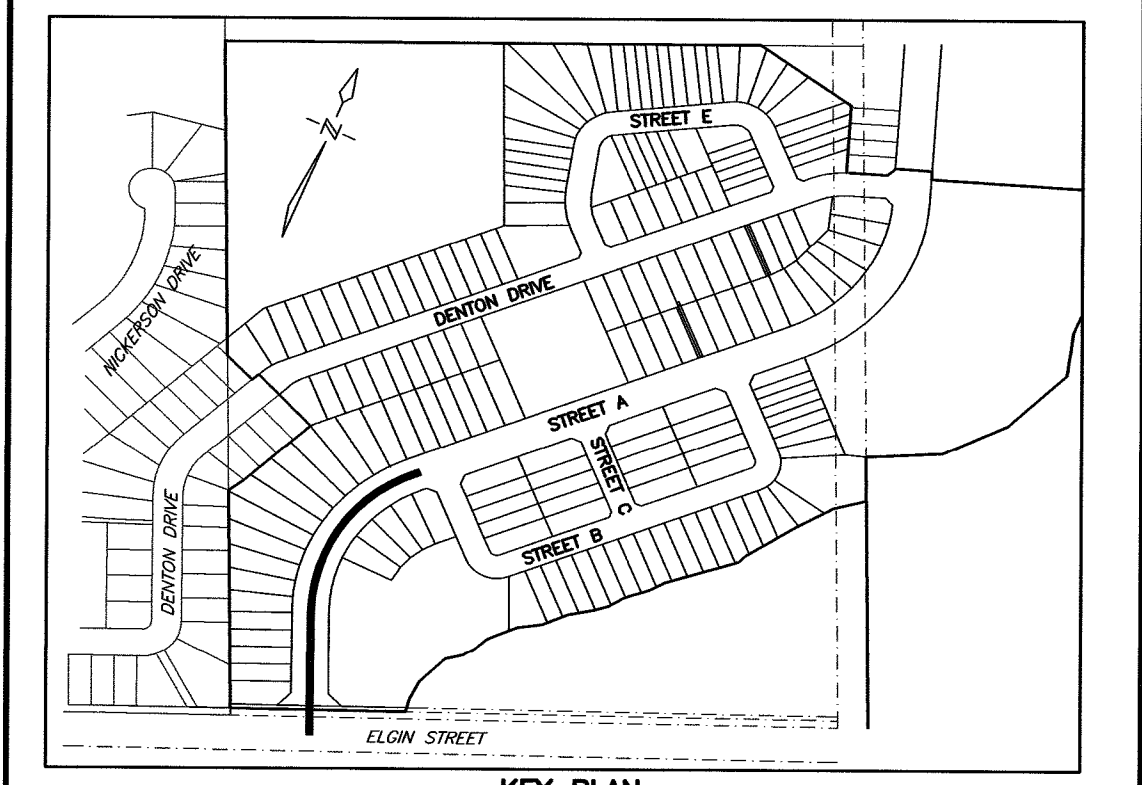


STREET A



CATCH BASIN DATA					CATCH BASIN DATA				
CB No.	CHAINAGE	FINAL RIM ELEV	PROP RIM ELEV	PROP INVERT ELEV	LEN m	DIA. mm	CLASS OF PIPE	GRADE	CLASS OF BED G
1	1+016.302	100.580	100.540	99.943	10.7	300	DR35	1.0	P
2	1+098.362	104.582	104.542	103.164	11.8	300	DR35	1.0	P
3	1+152.045	107.799	107.759	106.259	9.7	300	DR35		P

WM DATA CHART			
MARK	DESCRIPTION	STATION	ELEVATION
A	400x400x300mm TEE	1+006.423	99.05
B	300mm GATE VALVE	1+019.237	98.95
C	300x300x150mm ANCHOR TEE, VALVE, BOX AND HYDRANT	1+049.238	99.96
D	300x300x150mm ANCHOR TEE, VALVE, BOX AND HYDRANT	1+162.966	106.76



- NOTES**
- REFER TO DWG 114057 R-1 FOR STANDARD NOTES AND REFERENCES.
 - CHANGES IN HORIZONTAL OR VERTICAL ALIGNMENT OF THE WATERMAIN SHALL BE MADE THROUGH DEFLECTION OF THE PIPE UNLESS OTHERWISE NOTED AS A BEND.
 - MINIMUM BASEMENT FLOOR ELEVATIONS SHALL BE 0.50m ABOVE THE 100 YEAR HYDRAULIC GRADE LINE.
 - CONSULTANT TO VERIFY PROPER TRENCH COMPACTION UNDER SIDEWALKS ON 18m ROW'S AND FOR JOINT USE TRENCH INSTALLATION OF UTILITIES.
 - SUFFICIENT EXISTING PAVEMENT, CURB AND BOULEVARD WORKS TO BE REMOVED AND RESTORED TO PROVIDE A SMOOTH TRANSITION TO EXISTING. EXTENT OF REMOVAL AND RESTORATION TO BE AS DIRECTED BY MUNICIPAL FIELD STAFF.
 - STREET A SUBGRADE SHALL CONSIST OF THE FOLLOWING:
 - 150mm GRANULAR 'A'
 - 300mm GRANULAR 'B'
 - 40mm HL3 ASPHALT
 - 75mm HL8 ASPHALT

LEGEND

LIMIT OF PHASE 1

NO.	DATE	REVISION	BY
REVISIONS			
APPROVED		APPROVED	
DIRECTOR, ENGINEERING SERVICES TOWN OF COBOURG		LAKEFRONT UTILITIES INC.	
DATE		DATE	

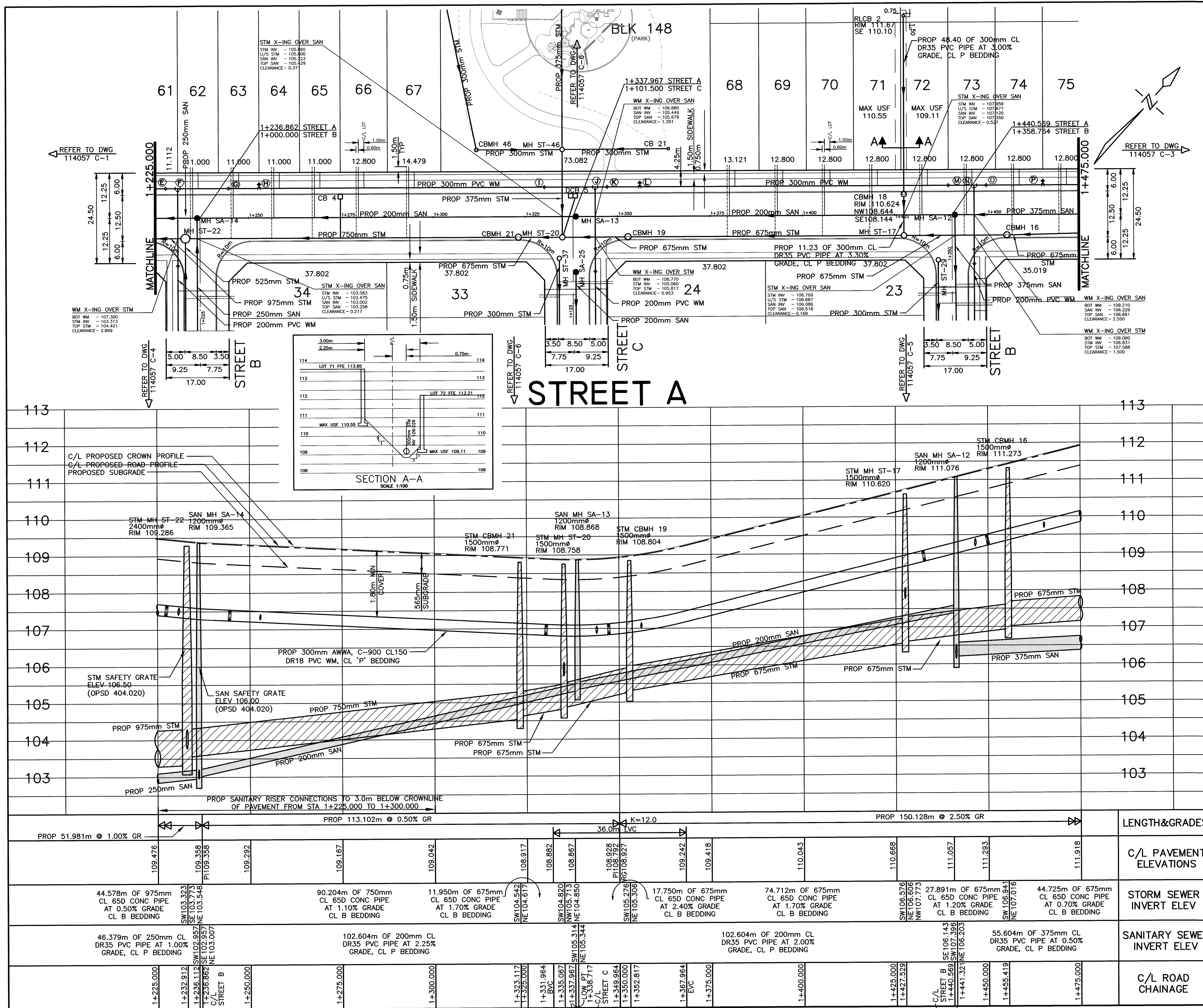
THE CORPORATION OF THE TOWN OF COBOURG
PUBLIC WORKS DIVISION - ENGINEERING DEPARTMENT
VILLAGES OF CENTRAL PARK
RONDEAU (COBOURG) LTD.
UNDERGROUND SERVICES AND ROAD WORK
STREET A

FROM: ELGIN STREET
TO: 225m NORTH OF ELGIN STREET

D.G. Biddle & Associates Limited
consulting engineers and planners
96 KING STREET EAST • OSHAWA, ON L1H 1B6
PHONE (905) 576-8500 • FAX (905) 576-9730
info@dgibiddle.com

	SCALE:	HORIZ 1:500 VERT 1:50	PROJECT NO. 114057
	DRAWN BY:	H.R.	DRAWING NO. C-1
	DESIGN BY:	H.R.	
	CHECKED BY:	M.B.C.	
DATE:		MAY 2019	

\\FSHR\STAFF\JOB FILES\114057\114057_RONDEAU COBOURG\114057 DRAWINGS\DWG\114057-30 C-1 STREET A.DWG
July 3, 2019



CATCH BASIN DATA					CATCH BASIN DATA				
CB No.	CHAINAGE	FINAL RIM ELEV	PROP RIM ELEV	PROP INVERT ELEV	LEN m	DIA. mm	CLASS OF PIPE	GRADE	CLASS OF BED G
4	1+274.897	109.059	109.019	107.559	10.6	300	DR35		P
5	1+337.967	108.758	108.718	107.258	11.3	300	DR35		P
WM DATA CHART									
MARK	DESCRIPTION						STATION	ELEVATION	
E	300mm GATE VALVE						1+227.612	107.68	
F	300x300x200mm TEE						1+230.897	107.64	
G	300mm GATE VALVE						1+244.612	107.54	
H	300x300x150mm ANCHOR TEE, VALVE, BOX AND HYDRANT						1+252.897	107.50	
I	300mm GATE VALVE						1+330.217	107.12	
J	300x300x200mm TEE						1+343.967	107.11	
K	300mm GATE VALVE						1+347.217	107.13	
L	300x300x150mm ANCHOR TEE, VALVE, BOX AND HYDRANT						1+356.072	107.23	
M	300mm GATE VALVE						1+439.579	109.26	
N	300x300x200mm TEE						1+446.569	109.43	
O	300mm GATE VALVE						1+449.820	109.51	
P	300x300x150mm ANCHOR TEE, VALVE, BOX AND HYDRANT						1+465.179	109.90	

KEY PLAN
NOT TO SCALE

NOTES

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 - 150mm GRANULAR 'A'
 - 300mm GRANULAR 'B'
 - 40mm HL3 ASPHALT
 - 75mm HLB ASPHALT

NO.	DATE	REVISION	BY

APPROVED

DIRECTOR, ENGINEERING SERVICES
TOWN OF COBOURG

DATE: _____

APPROVED

LAKEFRONT UTILITIES INC.

DATE: _____

THE CORPORATION OF THE TOWN OF COBOURG

PUBLIC WORKS DIVISION – ENGINEERING DEPARTMENT

VILLAGES OF CENTRAL PARK
RONDEAU (COBOURG) LTD.

UNDERGROUND SERVICES AND ROAD WORK
STREET A

FROM: 10m SOUTHWEST OF STREET B
TO: 35m NORTHEAST OF STREET B

D.G. Biddle & Associates Limited

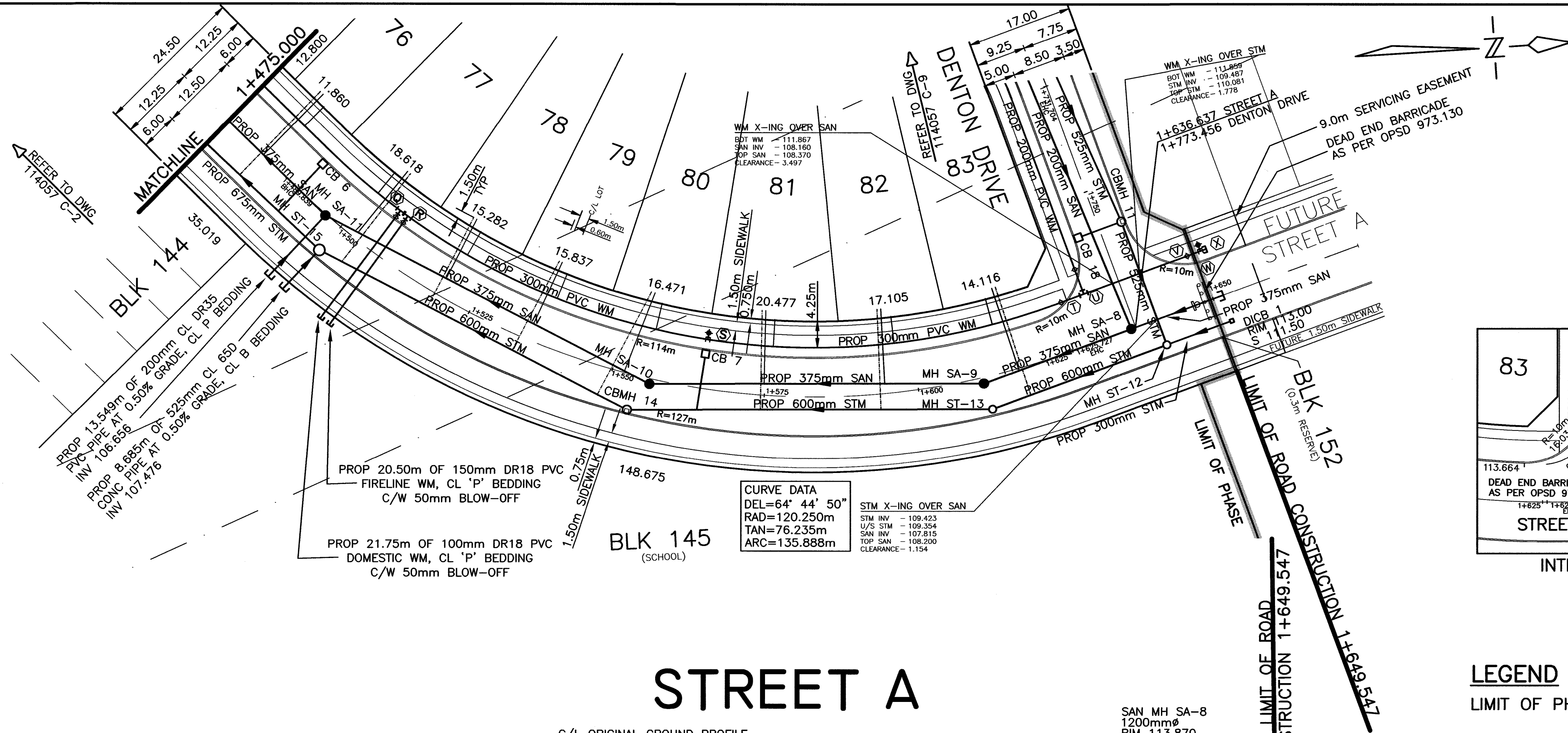
consulting engineers and planners

96 KING STREET EAST • OSHAWA, ON L1H 1B6

PHONE (905) 576-8500 • FAX (905) 576-9730

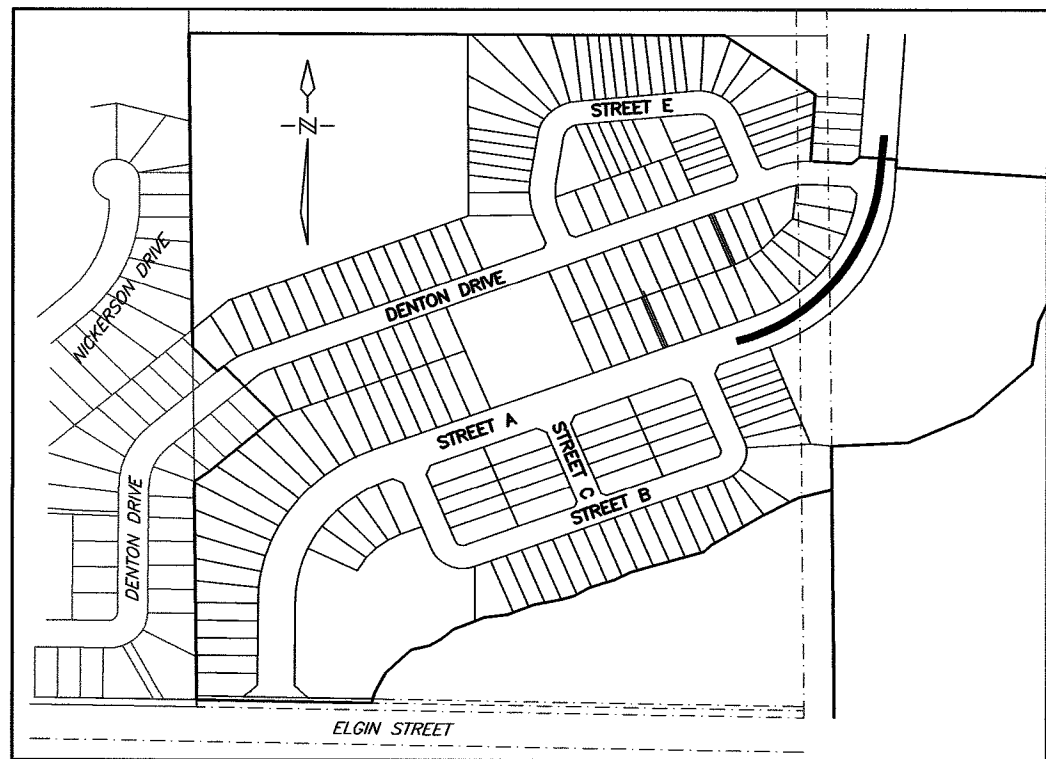
info@dgbbiddle.com

	SCALE: HORZ 1:500 VERT 1:50	PROJECT NO. 114057
	DRAWN BY: J.J.G	DRAWING NO.
	DESIGN BY: H.R	C-2
	CHECKED BY: M.B.C	
DATE: MAY 2019		



CATCH BASIN DATA						CATCH BASIN DATA			
CB No.	CHAINAGE	FINAL RIM ELEV	PROP RIM ELEV	PROP INVERT ELEV	LEN m	DIA. mm	CLASS OF PIPE	GRADE	CLASS OF BED G
6	1+490.830	112.205	112.165	110.705	10.5	300	DR35		P
7	1+564.570	113.081	113.041	111.581	9.2	300	DR35		P

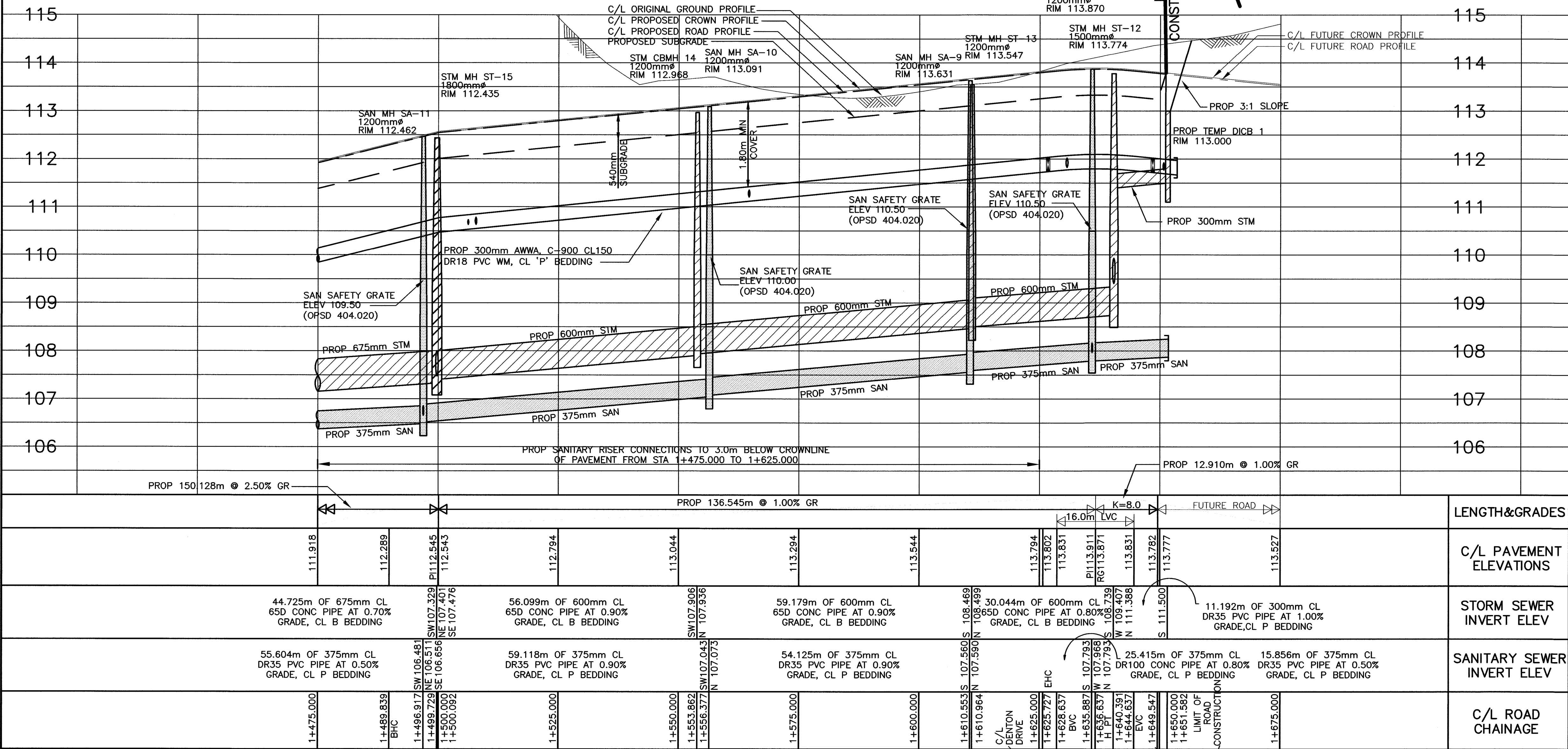
WM DATA CHART			
MARK	DESCRIPTION	STATION	ELEVATION
Q	300x300x100mm TEE C/W 100mm GATE VALVE	1+506.197	110.83
R	300x300x150mm TEE C/W 150mm GATE VALVE	1+507.804	110.85
S	300x300x150mm ANCHOR TEE, VALVE, BOX AND HYDRANT	1+564.603	111.42
T	300mm GATE VALVE	1+626.700	112.04
U	300x300x200mm TEE	1+630.640	112.07
V	300mm GATE VALVE	1+648.440	112.02
W	300x300x150mm ANCHOR TEE, VALVE, BOX AND HYDRANT	1+650.743	111.99
X	300mm PLUG	1+651.743	111.99



STREET A

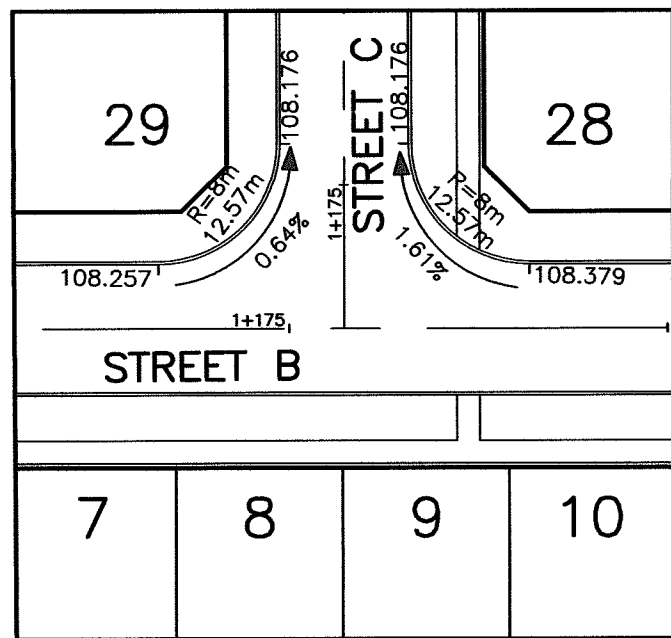
LEGEND

LIMIT OF PHASE 1

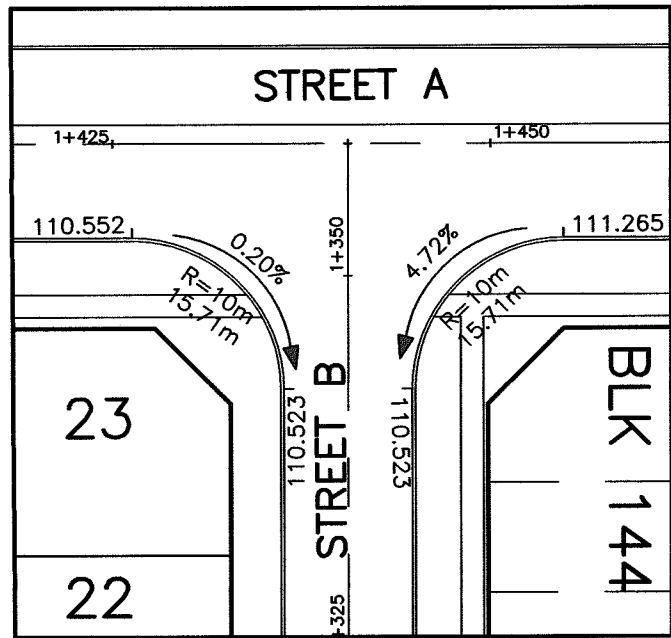


- NOTES
- REFER TO DWG 114057 R-1 FOR STANDARD NOTES AND REFERENCES.
 - CHANGES IN HORIZONTAL OR VERTICAL ALIGNMENT OF THE WATERMAIN SHALL BE MADE THROUGH DEFLECTION OF THE PIPE UNLESS OTHERWISE NOTED AS A BEND.
 - MINIMUM BASEMENT FLOOR ELEVATIONS SHALL BE 0.50m ABOVE THE 100 YEAR HYDRAULIC GRADE LINE.
 - CONSULTANT TO VERIFY PROPER TRENCH COMPACTION UNDER SIDEWALKS ON 18m ROW'S AND FOR JOINT USE TRENCH INSTALLATION OF UTILITIES.
 - SUFFICIENT EXISTING PAVEMENT, CURB AND BOULEVARD WORKS TO BE REMOVED AND RESTORED TO PROVIDE A SMOOTH TRANSITION TO EXISTING. EXTENT OF REMOVAL AND RESTORATION TO BE AS DIRECTED BY MUNICIPAL FIELD STAFF.
 - STREET A SUBGRADE SHALL CONSIST OF THE FOLLOWING:
 - 150mm GRANULAR 'A'
 - 300mm GRANULAR 'B'
 - 40mm HL3 ASPHALT
 - 75mm HL8 ASPHALT

NO.	DATE	REVISION	BY
REVISIONS			
APPROVED		APPROVED	
DIRECTOR, ENGINEERING SERVICES TOWN OF COBOURG		LAKEFRONT UTILITIES INC.	
DATE		DATE	
THE CORPORATION OF THE TOWN OF SCUGOG PUBLIC WORKS DIVISION- ENGINEERING DEPARTMENT			
VILLAGES OF CENTRAL PARK RONDEAU (COBOURG) LTD.			
UNDERGROUND SERVICES AND ROAD WORK STREET A			
FROM: 162m SOUTH OF DENTON DRIVE TO: 38m NORTH OF DENTON DRIVE			
D.G. Biddle & Associates Limited consulting engineers and planners 96 KING STREET EAST - OSHAWA, ON L1H 1B6 PHONE (905) 576-8500 • FAX (905) 576-9730 info@dgibiddle.com			
		PROJECT NO. 114075	
SCALE: HORZ 1:500 VERT 1:50		DRAWING NO. C-3	
DRAWN BY: J.J.G		DESIGN BY: H.R	
CHECKED BY: M.B.C		DATE: MAY 2019	



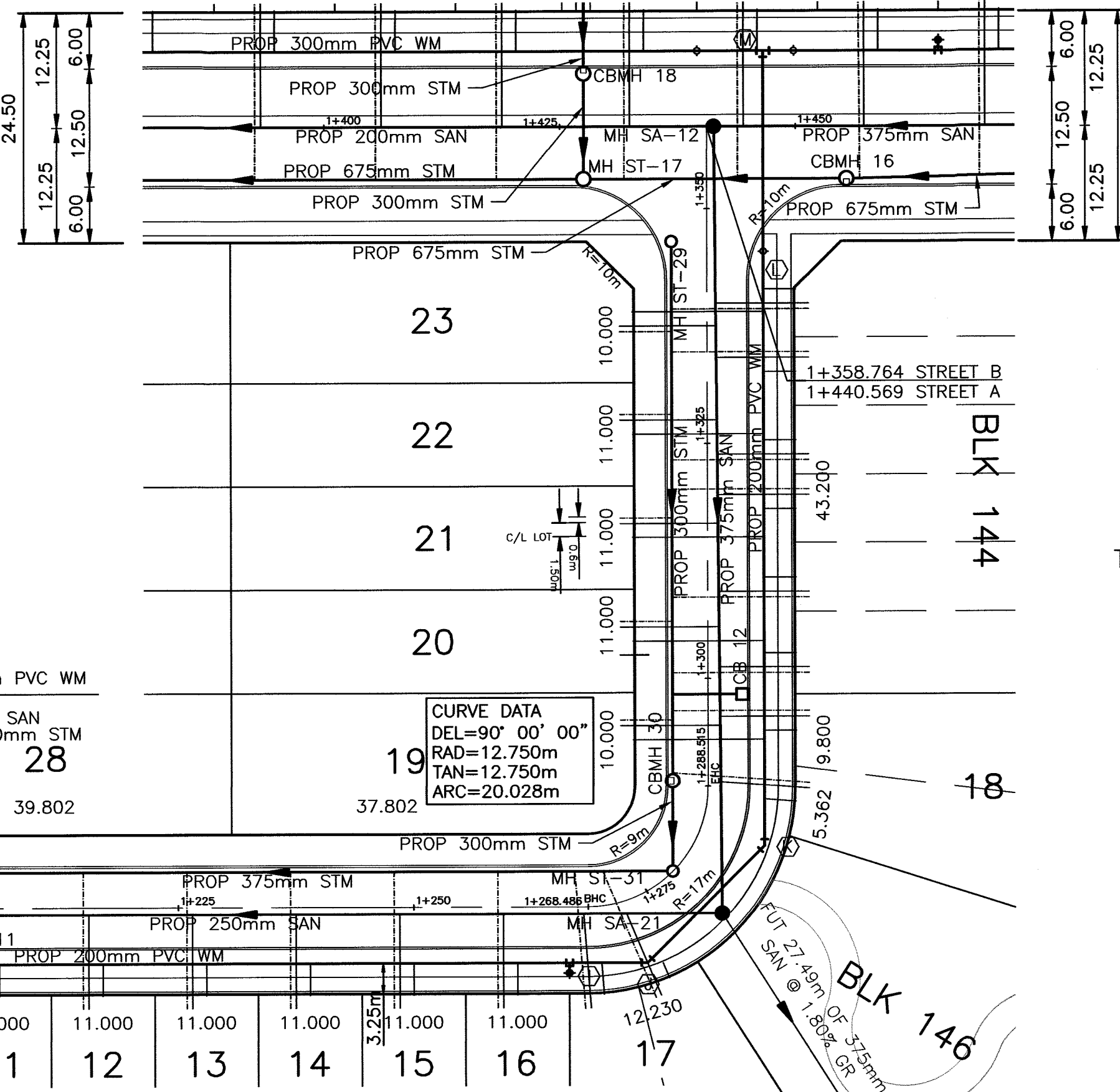
INTERSECTION DETAIL
SCALE 1:500



INTERSECTION DETAIL
SCALE 1:500

REFER TO DWG
114057 C-2

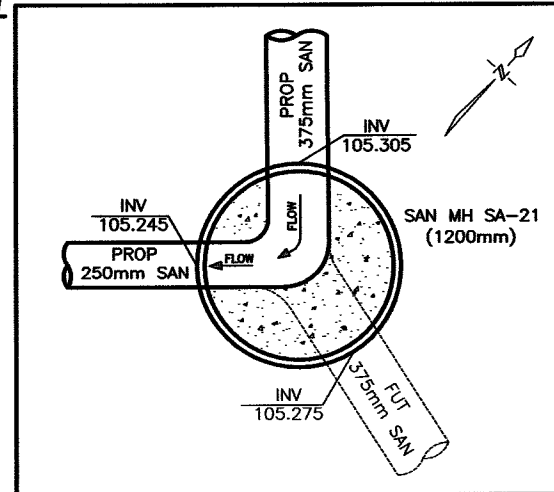
STREET A



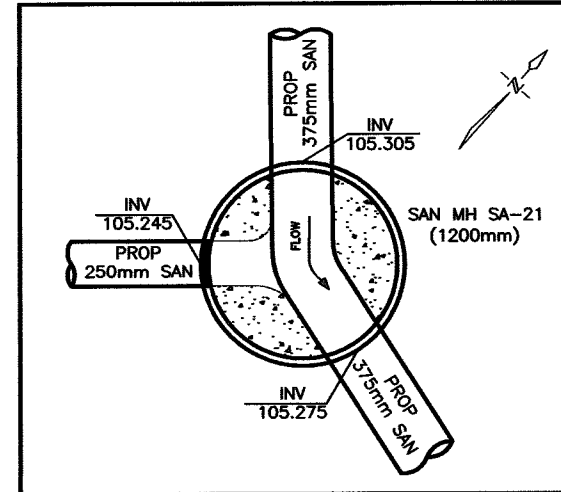
STREET B

REFER TO DWG
114057 C-3

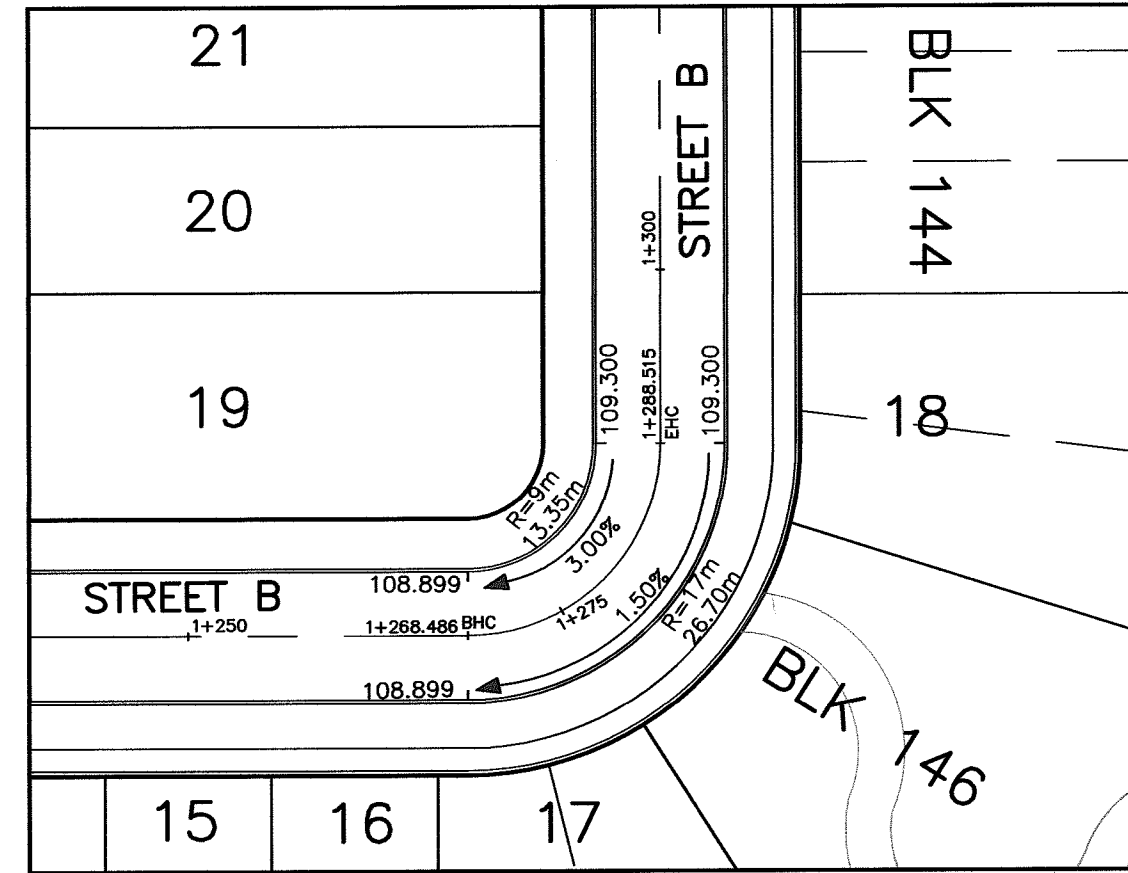
STREET A



TEMPORARY BENCHING DETAIL
NOT TO SCALE



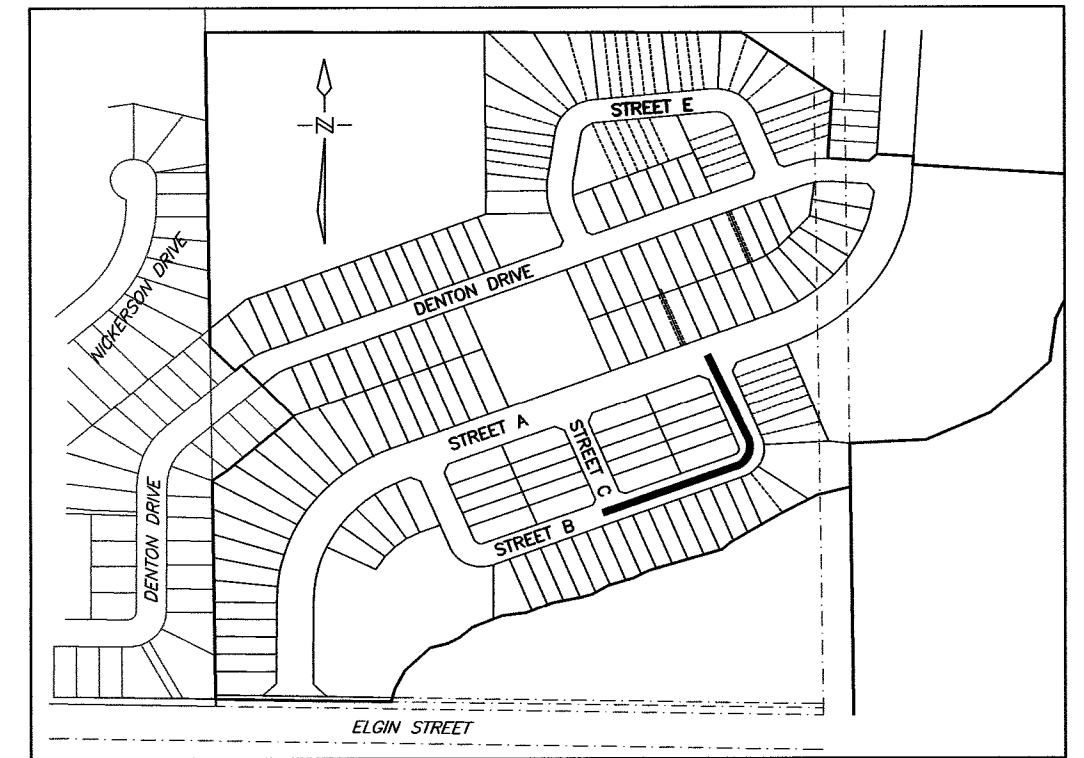
FUTURE BENCHING DETAIL
NOT TO SCALE



ELBOW GRADING DETAIL
SCALE 1:500

CATCH BASIN DATA						CATCH BASIN DATA			
CB No.	CHAINAGE	FINAL RIM ELEV	PROP RIM ELEV	PROP INVERT ELEV	LEN m	DIA. mm	CLASS OF PIPE	GRADE	CLASS OF BED G
10	1+134.507	108.088	108.048	105.148	7.40	300	DR35		P
11	1+200.507	108.417	108.377	105.477	7.40	300	DR35		P
12	1+298.314	109.486	109.446	106.546	7.40	300	DR35		P

WM DATA CHART			
MARK	DESCRIPTION	STATION	ELEVATION
E	200x200x150mm ANCHOR TEE, VALVE, BOX AND HYDRANT	1+134.507	106.41
F	200mm GATE VALVE	1+170.882	106.59
G	200x200x200mm TEE	1+184.632	106.66
H	200mm GATE VALVE	1+187.882	106.67
I	200x200x150mm ANCHOR TEE, VALVE, BOX AND HYDRANT	1+266.507	107.17
J	45° HORIZONTAL BEND	1+272.628	107.29
K	45° HORIZONTAL BEND	1+284.373	107.53
L	200mm GATE VALVE	1+345.437	108.86
M	300x300x200mm TEE	1+366.764	109.43



KEY PLAN
NOT TO SCALE

- NOTES
- REFER TO DWG 114057 R-1 FOR STANDARD NOTES AND REFERENCES.
 - CHANGES IN HORIZONTAL OR VERTICAL ALIGNMENT OF THE WATERMAIN SHALL BE MADE THROUGH DEFLECTION OF THE PIPE UNLESS OTHERWISE NOTED AS A BEND.
 - MINIMUM BASEMENT FLOOR ELEVATIONS SHALL BE 0.50m ABOVE THE 100 YEAR HYDRAULIC GRADE LINE.
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 - SUFFICIENT EXISTING PAVEMENT, CURB AND BOULEVARD WORKS TO BE REMOVED AND RESTORED TO PROVIDE A SMOOTH TRANSITION TO EXISTING. EXTENT OF REMOVAL AND RESTORATION TO BE AS DIRECTED BY MUNICIPAL FIELD STAFF.
 - STREET A SUBGRADE SHALL CONSIST OF THE FOLLOWING:
 - 150mm GRANULAR 'A'
 - 300mm GRANULAR 'B'
 - 40mm HL3 ASPHALT
 - 75mm HL8 ASPHALT

NO.	DATE	REVISION	BY

APPROVED		APPROVED	
DIRECTOR, ENGINEERING SERVICES TOWN OF COBOURG		LAKEFRONT UTILITIES INC.	
DATE:		DATE:	

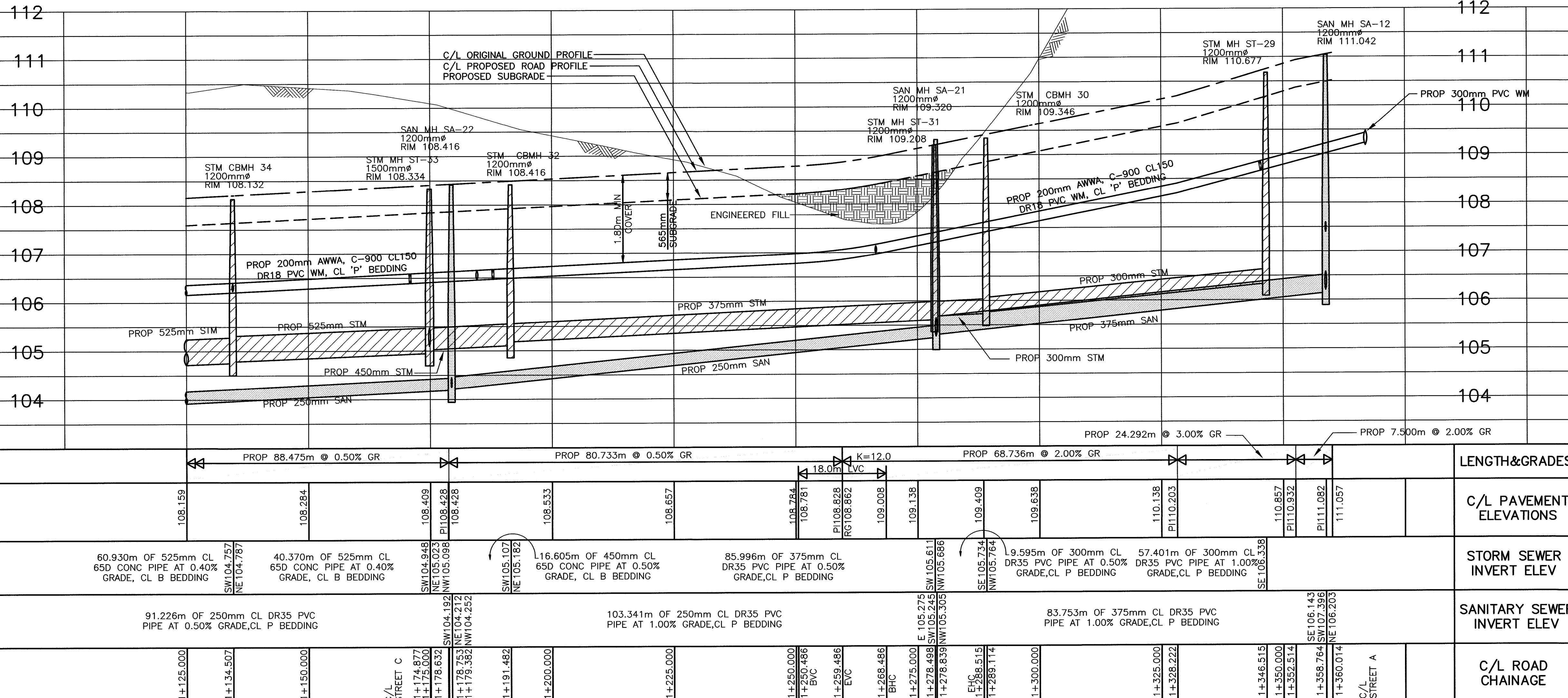
THE CORPORATION OF THE TOWN OF COBOURG
PUBLIC WORKS DIVISION - ENGINEERING DEPARTMENT
VILLAGES OF CENTRAL PARK
RONDEAU (COBOURG) LTD.

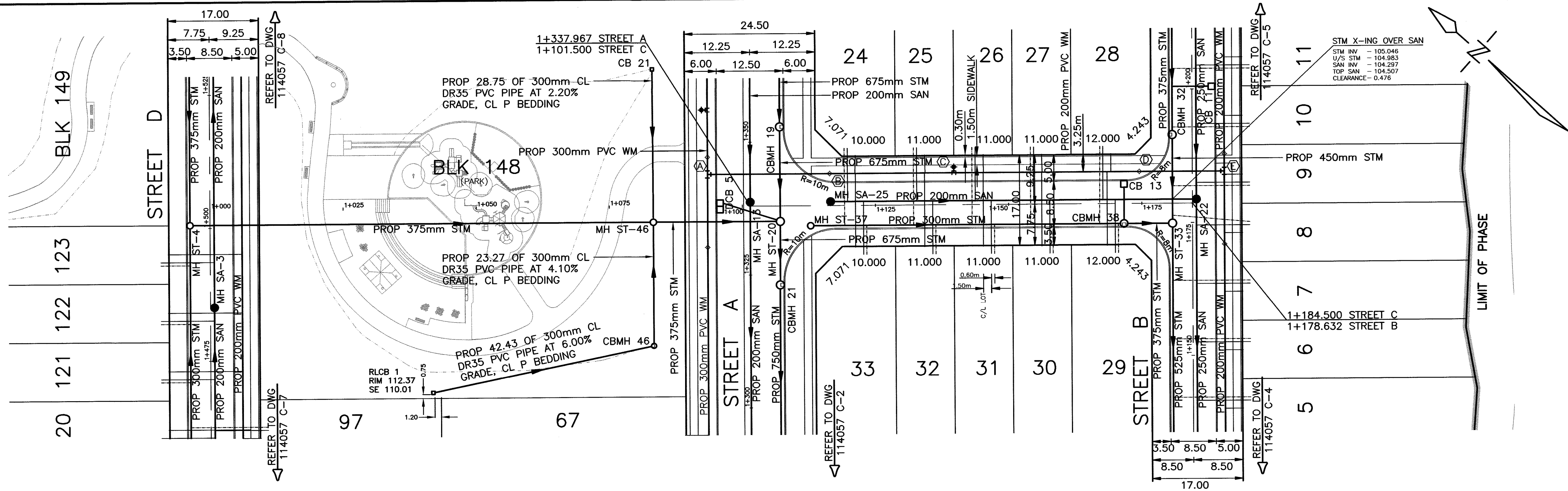
UNDERGROUND SERVICES AND ROAD WORK
STREET B

FROM: 54m SOUTH WEST OF STREET C
TO: STREET A

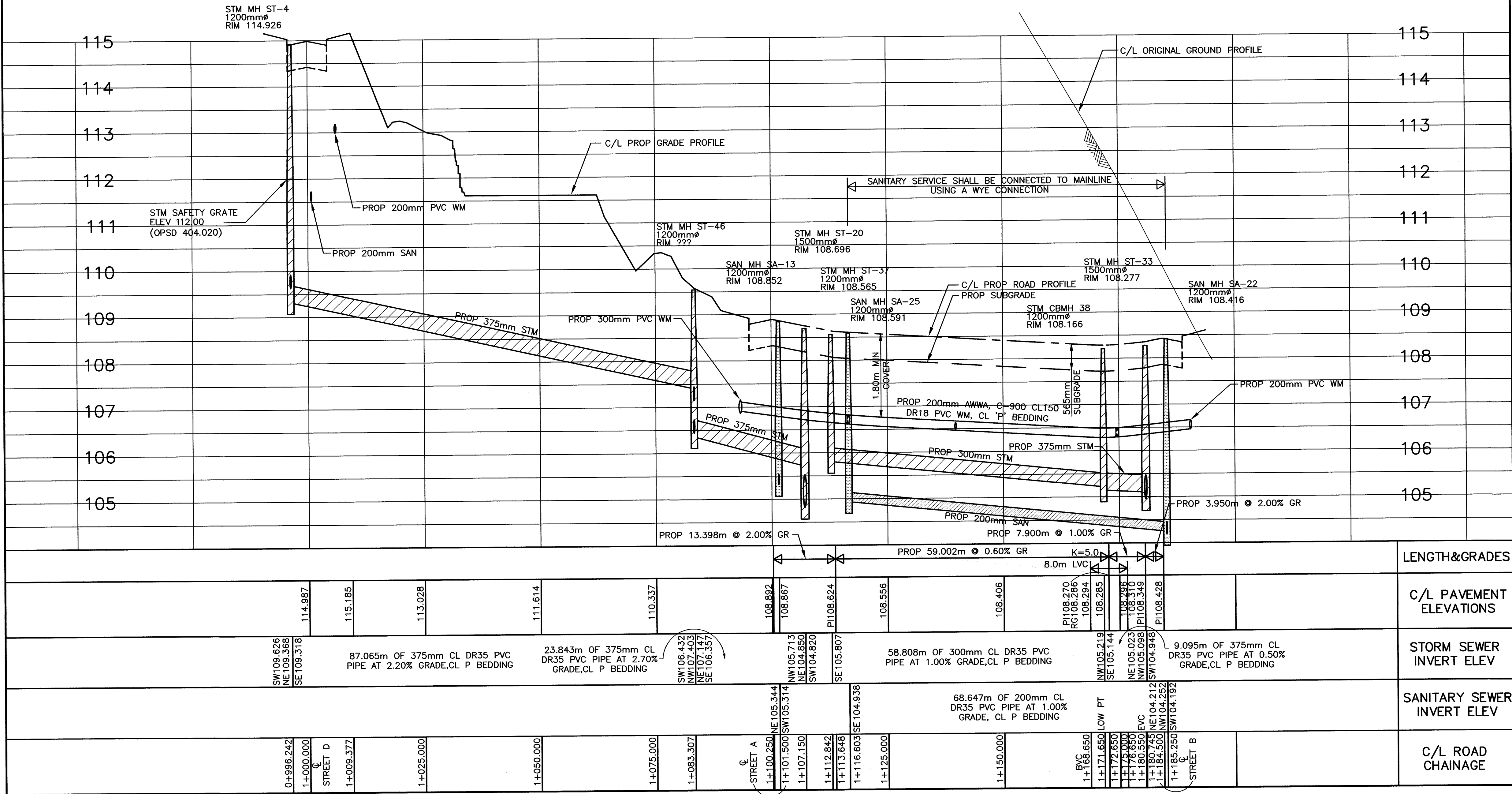
D.G. Biddle & Associates Limited
consulting engineers and planners
96 KING STREET EAST • OSHAWA, ON L1H 1B6
PHONE (905) 576-8500 • FAX (905) 576-9730
info@dgbiddle.com

	SCALE:	HORZ 1:500 VERT 1:50	PROJECT NO.
	DRAWN BY:	J.J.G	114057
	DESIGN BY:	H.R	DRAWING NO.
	CHECKED BY:	M.B.C	C-5
	DATE:	MAY 2019	





STREET C



CATCH BASIN DATA					CATCH BASIN DATA				
CB No.	CHAINAGE	FINAL RIM ELEV	PROP RIM ELEV	PROP INVERT ELEV	LEN m	DIA. mm	CLASS OF PIPE	GRADE	CLASS OF BED G
13	1+171.650	108.166	108.126	106.626	6.7	300	DR35		P

WM DATA CHART			
MARK	DESCRIPTION	STATION	ELEVATION
A	300x300x200mm TEE	1+093.500	107.11
B	200mm GATE VALVE	1+116.444	106.82
C	200x200x150mm ANCHOR TEE, VALVE, BOX AND HYDRANT	1+139.750	106.67
D	200mm GATE VALVE	1+174.556	106.49
E	200x200x200mm TEE	1+190.500	106.66

KEY PLAN
NOT TO SCALE

NOTES

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- MINIMUM BASEMENT FLOOR ELEVATIONS SHALL BE 0.50m ABOVE THE 100 YEAR HYDRAULIC GRADE LINE.
- CONSULTANT TO VERIFY PROPER TRENCH COMPACTION UNDER SIDEWALKS ON 18m ROW'S AND FOR JOINT USE TRENCH INSTALLATION OF UTILITIES.
- SUFFICIENT EXISTING PAVEMENT, CURB AND BOULEVARD WORKS TO BE REMOVED AND RESTORED TO PROVIDE A SMOOTH TRANSITION TO EXISTING. EXTENT OF REMOVAL AND RESTORATION TO BE AS DIRECTED BY MUNICIPAL FIELD STAFF.
- STREET C SUBGRADE SHALL CONSIST OF THE FOLLOWING:
 - 150mm GRANULAR 'A'
 - 300mm GRANULAR 'B'
 - 40mm HL3 ASPHALT
 - 75mm HL8 ASPHALT

LEGEND

LIMIT OF PHASE 1

NO.	DATE	REVISION	BY

APPROVED

DIRECTOR, ENGINEERING SERVICES
TOWN OF COBOURG

DATE: _____

APPROVED

LAKEFRONT UTILITIES INC.

DATE: _____

THE CORPORATION OF THE TOWN OF COBOURG
ENGINEERING SERVICES DEPARTMENT

**VILLAGES OF CENTRAL PARK
RONDEAU (COBOURG) LTD.**

**UNDERGROUND SERVICES AND ROAD WORK
STREET C / BLOCK 148**

FROM: STREET D
TO: STREET B

D.G. Biddle & Associates Limited
consulting engineers and planners
96 KING STREET EAST • OSHAWA, ON L1H 1B6
PHONE (905) 576-8500 • FAX (905) 576-9730
info@dgbbiddle.com

SCALE: HORZ 1:500
 VERT 1:50

DRAWN BY: H.R.

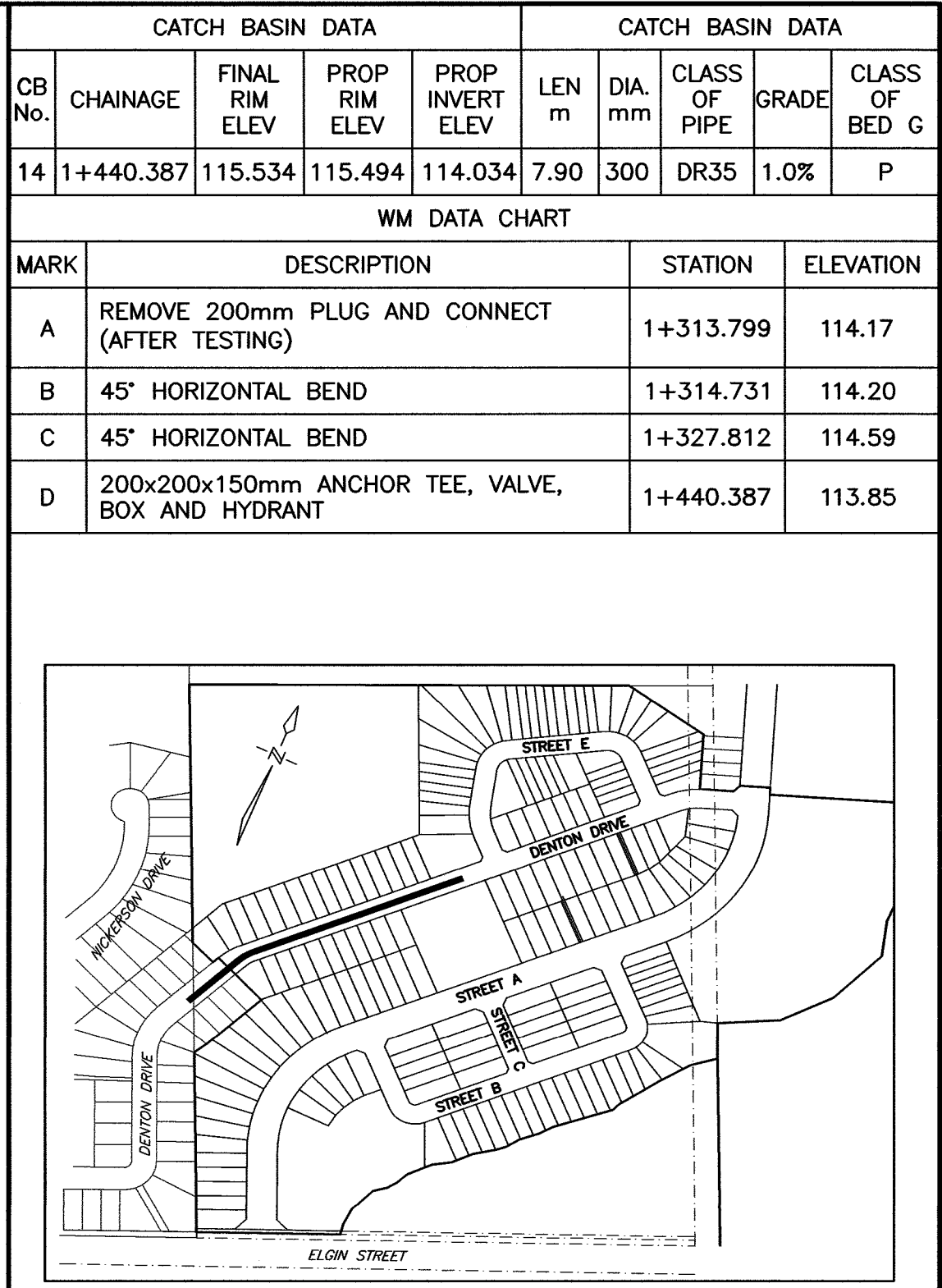
DESIGN BY: H.R.

CHECKED BY: M.B.C.

DATE: MAY 2019

PROJECT NO. **114057**

DRAWING NO. **C-6**



NOTES

1. REFER TO DWG 114057 R-1 FOR STANDARD NOTES AND REFERENCES.
2. CHANGES IN HORIZONTAL OR VERTICAL ALIGNMENT OF THE WATERMAIN SHALL BE MADE THROUGH DEFLECTION OF THE PIPE UNLESS OTHERWISE NOTED AS A BEND.
3. MINIMUM BASEMENT FLOOR ELEVATIONS SHALL BE 0.50m ABOVE THE 100 YEAR HYDRAULIC GRADE LINE.
4. CONSULTANT TO VERIFY PROPER TRENCH COMPACTION UNDER SIDEWALKS ON 18m ROW'S AND FOR JOINT USE TRENCH INSTALLATION OF UTILITIES.
5. SUFFICIENT EXISTING PAVEMENT, CURB AND BOULEVARD WORKS TO BE REMOVED AND RESTORED TO PROVIDE A SMOOTH TRANSITION TO EXISTING. EXTENT OF REMOVAL AND RESTORATION TO BE AS DIRECTED BY MUNICIPAL FIELD STAFF.
6. STREET D SUBGRADE SHALL CONSIST OF THE FOLLOWING:
 - 150mm GRANULAR 'A'
 - 300mm GRANULAR 'B'
 - 40mm HL3 ASPHALT
 - 75mm HL8 ASPHALT

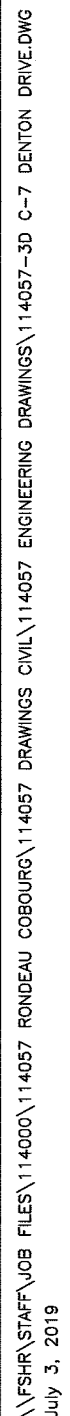
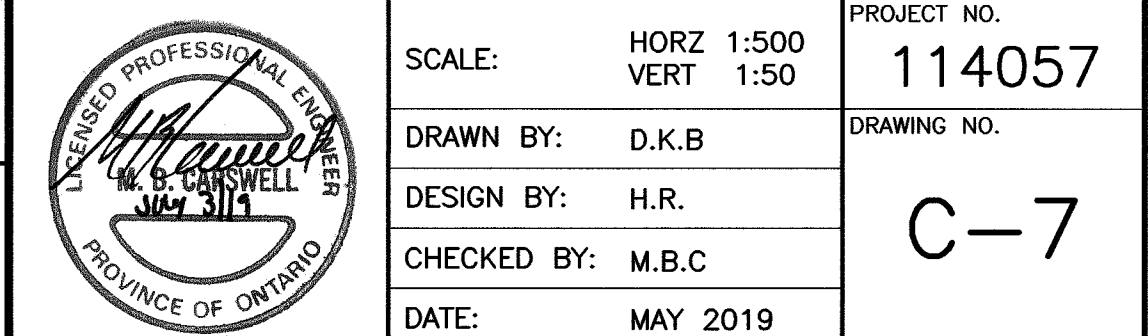
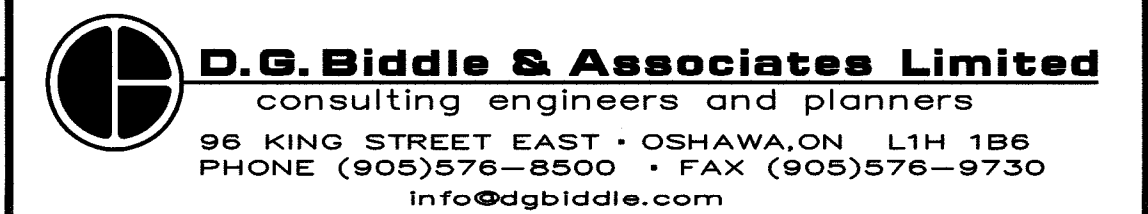
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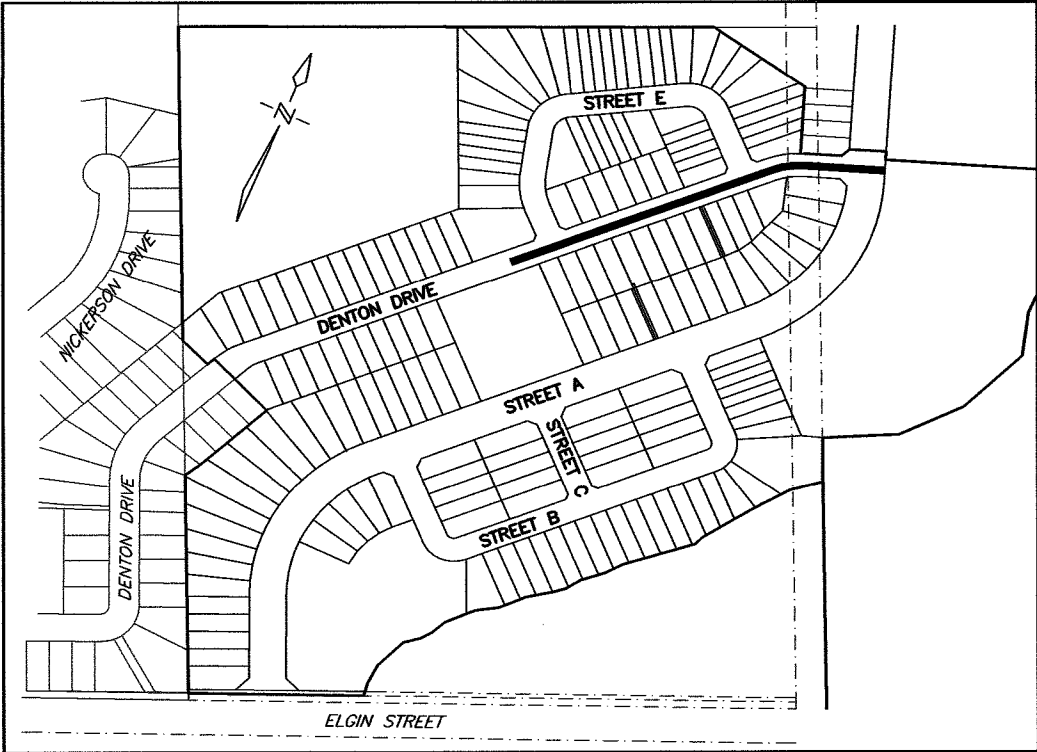
NO.	DATE	REVISION	BY
REVISIONS			

<p align="center">APPROVED</p> <hr/> <p align="center">DIRECTOR, ENGINEERING SERVICES TOWN OF COBOURG</p>	<p align="center">APPROVED</p> <hr/> <p align="center">LAKEFRONT UTILITIES INC.</p>
<p>DATE _____</p>	<p>DATE _____</p>

<p>THE CORPORATION OF THE TOWN OF COBOURG</p> <p>PUBLIC WORKS DIVISION – ENGINEERING DEPARTMENT</p> <p>VILLAGES OF CENTRAL PARK</p> <p>RONDEAU (COBOURG) LTD.</p>

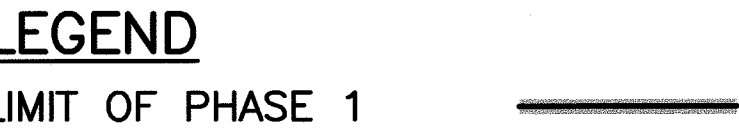
UNDERGROUND SERVICES AND ROAD WORK
DENTON DRIVE
FROM: EXISTING DENTON DRIVE
TO: 208m NORTHEAST OF EXISTING DENTON DRIVE





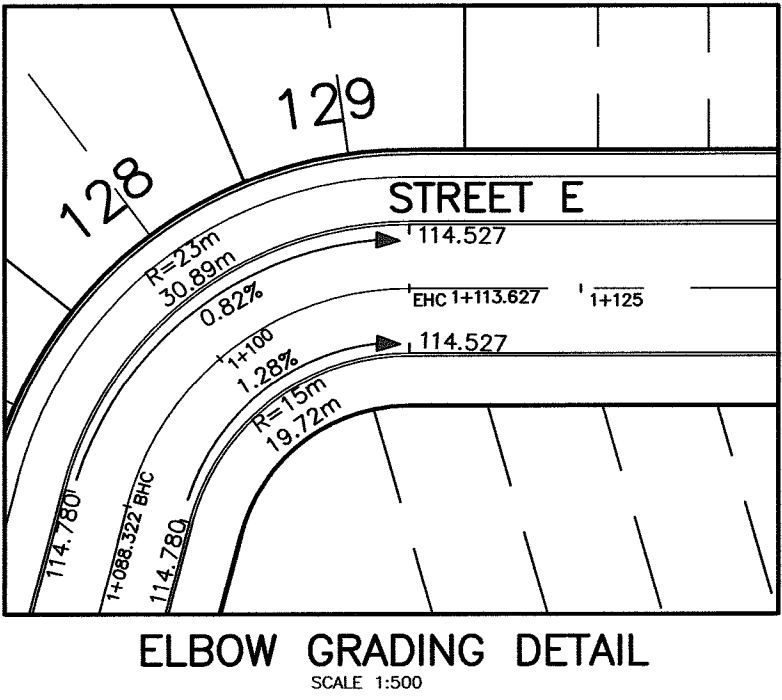
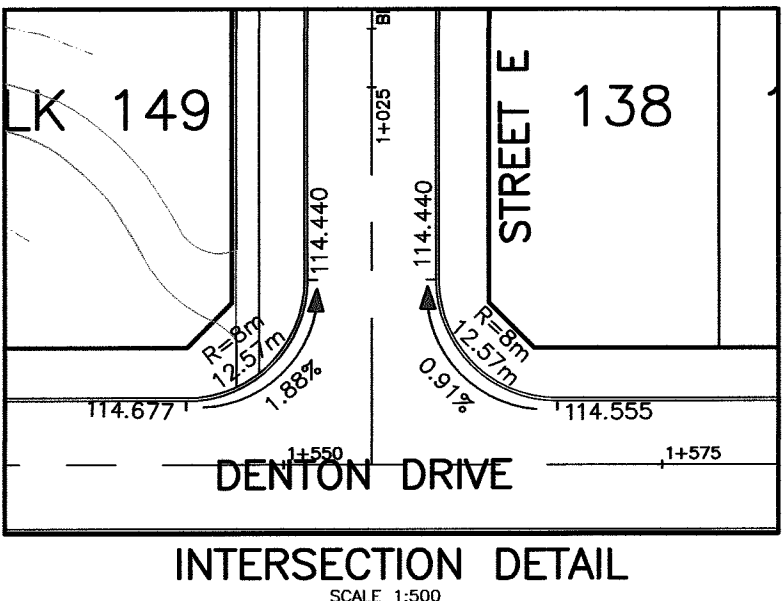
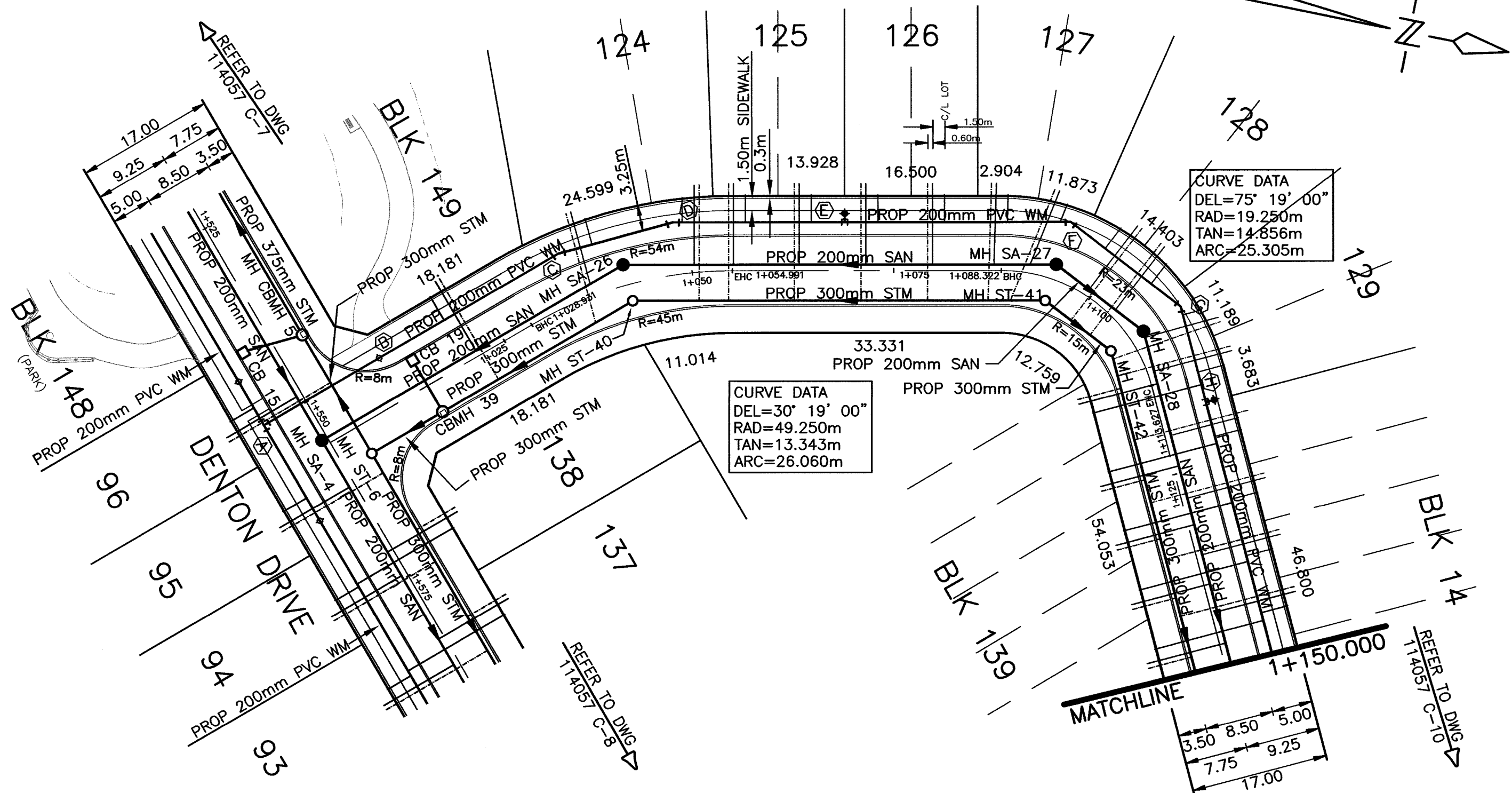


WM DATA CHART			
MARK	DESCRIPTION	STATION	ELEVATION
E	200mm GATE VALVE	1+543.549	112.99
F	200x200x200mm TEE	1+549.812	112.95
G	200mm GATE VALVE	1+563.562	112.89
H	200x200x150mm ANCHOR TEE, VALVE, BOX AND HYDRANT	1+592.269	112.74
I	200mm GATE VALVE	1+680.142	112.30
J	200x200x200mm TEE	1+696.892	112.22
K	200mm GATE VALVE	1+703.142	112.19
L	200x200x150mm ANCHOR TEE, VALVE, BOX AND HYDRANT	1+720.511	112.09
M	200mm GATE VALVE	1+761.202	111.96
N	300x300x200mm TEE	1+765.458	112.07

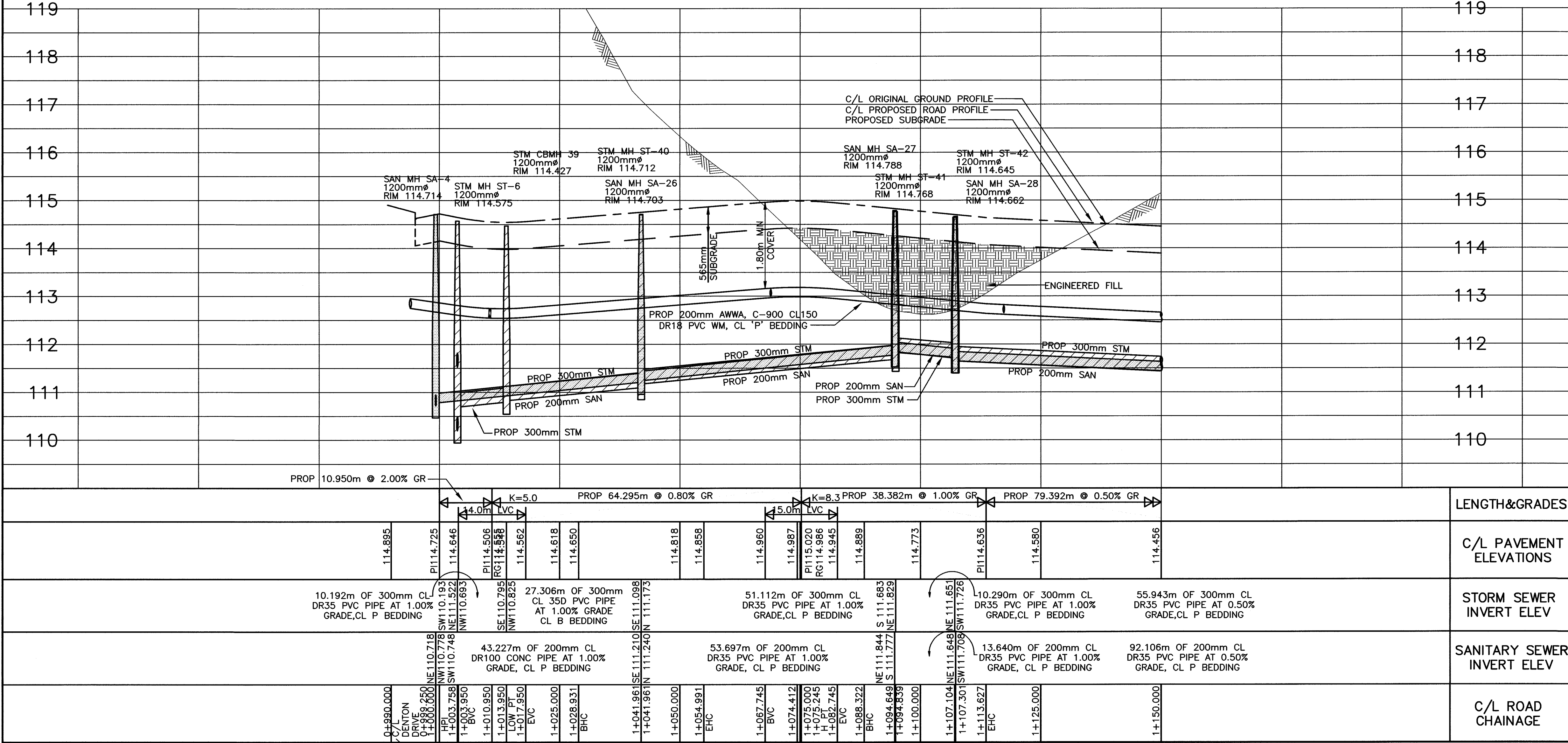
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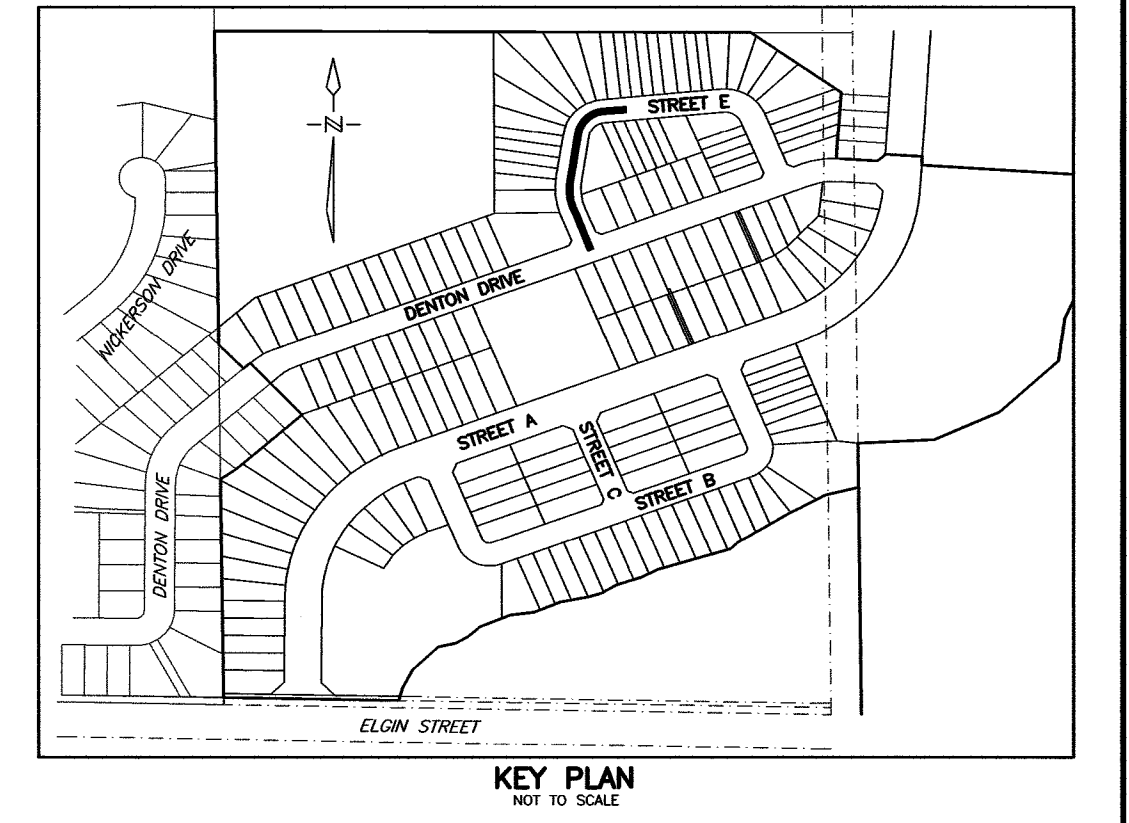
NO.	DATE	REVISIONS	NO.	DATE
APPROVED			APPROVED	
_____ DIRECTOR, ENGINEERING SERVICES TOWN OF COBOURG			_____ LAKEFRONT UTILITIES INC.	
DATE: _____			DATE: _____	
THE CORPORATION OF THE TOWN OF COBOURG PUBLIC WORKS DIVISION – ENGINEERING DEPARTMENT				
VILLAGES OF CENTRAL PARK RONDEAU (COBOURG) LTD.				
UNDERGROUND SERVICES AND ROAD WORK DENTON DRIVE				
FROM: 30m SOUTHWEST OF STREET E TO: STREET A				
 D.G. Biddle & Associates Limited consulting engineers and planners 96 KING STREET EAST • OSHAWA, ON L1H 1B6 PHONE (905) 576-8500 • FAX (905) 576-9730 info@dgbiddle.com				
		SCALE: HORZ 1:500 VERT 1:50		
		PROJECT NO. 114057		
		DRAWING NO.		
		DRAWN BY: D.K.B. CHECKED BY: H.R. DESIGN BY: M.B.C.		
		DATE: MAY 2019		
		C-8		



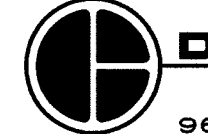
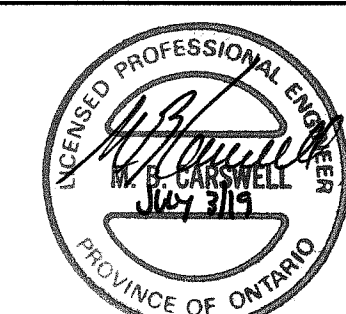
STREET E

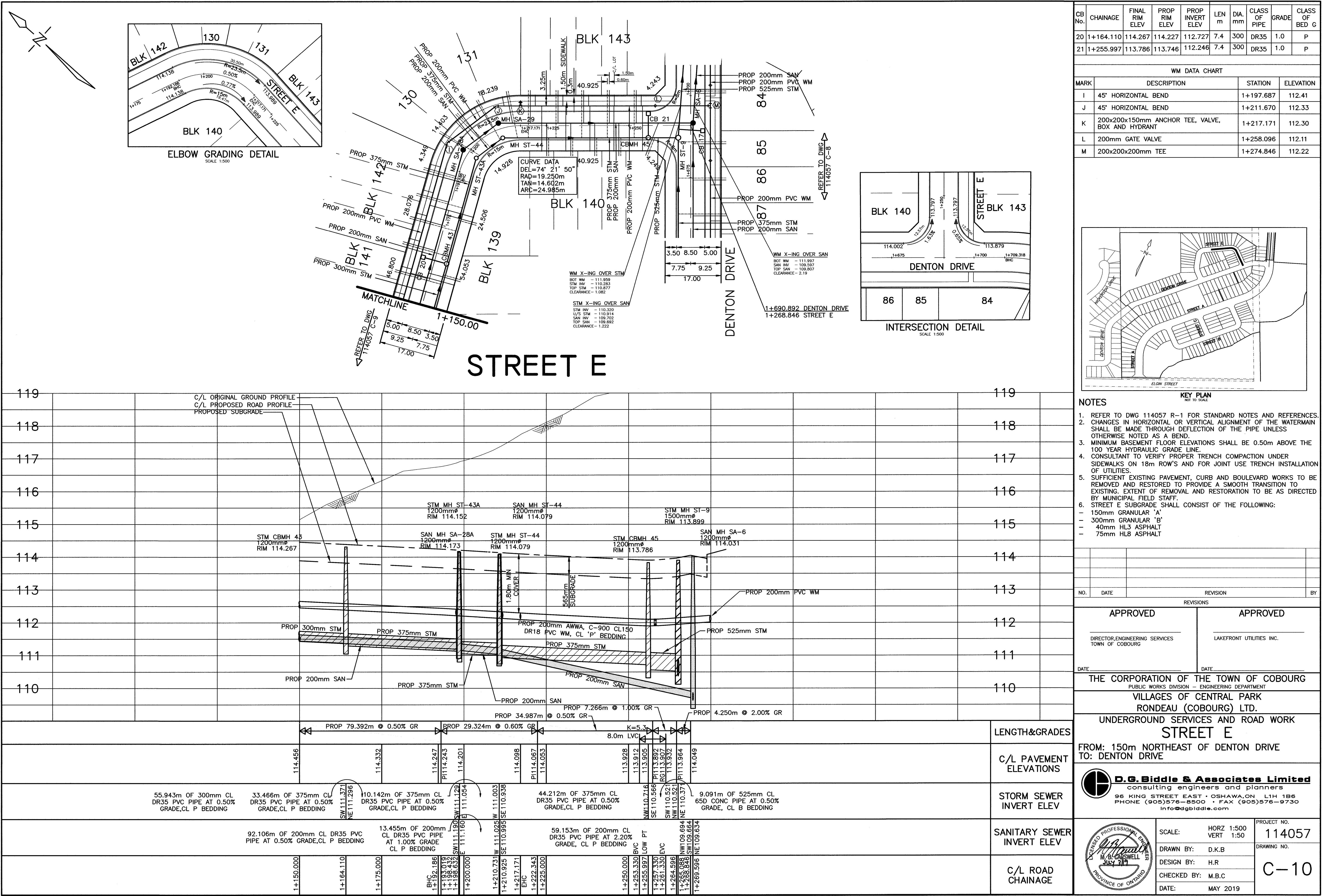


CATCH BASIN DATA					CATCH BASIN DATA				
CB No.	CHAINAGE	FINAL RIM ELEV	PROP RIM ELEV	PROP INVERT ELEV	LEN m	DIA. mm	CLASS OF PIPE	GRADE	CLASS OF BED G
19	1+013.950	114.427	114.387	112.987	7.30	300	DR35		P
WM DATA CHART									
MARK	DESCRIPTION					STATION		ELEVATION	
A	200x200x200mm TEE					0+994.000		112.95	
B	200mm GATE VALVE					1+010.519		112.75	
C	22.5' HORIZONTAL BEND					1+035.446		112.90	
D	22.5' HORIZONTAL BEND					1+048.476		113.01	
E	200x200x150mm ANCHOR TEE, VALVE, BOX AND HYDRANT					1+068.919		113.17	
F	45' HORIZONTAL BEND					1+094.649		113.03	
G	45' HORIZONTAL BEND					1+107.301		112.90	
H	200x200x150mm ANCHOR TEE, VALVE, BOX AND HYDRANT					1+117.310		112.82	



- NOTES
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 - 150mm GRANULAR 'A'
 - 300mm GRANULAR 'B'
 - 40mm HL3 ASPHALT
 - 75mm HL8 ASPHALT

NO.	DATE	REVISION	BY
REVISIONS			
APPROVED		APPROVED	
DIRECTOR, ENGINEERING SERVICES TOWN OF COBOURG		LAKEFRONT UTILITIES INC.	
DATE		DATE	
THE CORPORATION OF THE TOWN OF COBOURG PUBLIC WORKS DIVISION - ENGINEERING DEPARTMENT			
VILLAGES OF CENTRAL PARK RONDEAU (COBOURG) LTD.			
UNDERGROUND SERVICES AND ROAD WORK STREET E			
FROM: DENTON DRIVE TO: 150m NORTH OF DENTON DRIVE			
 D.G. Biddle & Associates Limited consulting engineers and planners 96 KING STREET EAST • OSHAWA, ON L1H 1B6 PHONE (905) 576-8500 • FAX (905) 576-9730 info@dgibiddle.com			
		PROJECT NO. 114057	
SCALE: HORIZ 1:500 VERT 1:50		DRAWING NO. C-9	
DRAWN BY: J.J.G.			
DESIGN BY: H.R.			
CHECKED BY: M.B.C.			
DATE: MAY 2019			



CB No.	CHAINAGE	FINAL RIM ELEV	PROP RIM ELEV	PROP INVERT ELEV	LEN m	DIA. mm	CLASS OF PIPE	GRADE	CLASS OF BED G
20	1+164.110	114.267	114.227	112.727	7.4	300	DR35	1.0	P
21	1+255.997	113.786	113.746	112.246	7.4	300	DR35	1.0	P

WM DATA CHART			
MARK	DESCRIPTION	STATION	ELEVATION
I	45° HORIZONTAL BEND	1+197.687	112.41
J	45° HORIZONTAL BEND	1+211.670	112.33
K	200x200x150mm ANCHOR TEE, VALVE, BOX AND HYDRANT	1+217.171	112.30
L	200mm GATE VALVE	1+258.096	112.11
M	200x200x200mm TEE	1+274.846	112.22

KEY PLAN
NOT TO SCALE

NOTES

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- STREET E SUBGRADE SHALL CONSIST OF THE FOLLOWING:
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 - 300mm GRANULAR 'B'
 - 40mm HL3 ASPHALT
 - 75mm HL8 ASPHALT

NO.	DATE	REVISION	BY

APPROVED		APPROVED	
DIRECTOR, ENGINEERING SERVICES TOWN OF COBOURG		LAKEFRONT UTILITIES INC.	
DATE		DATE	

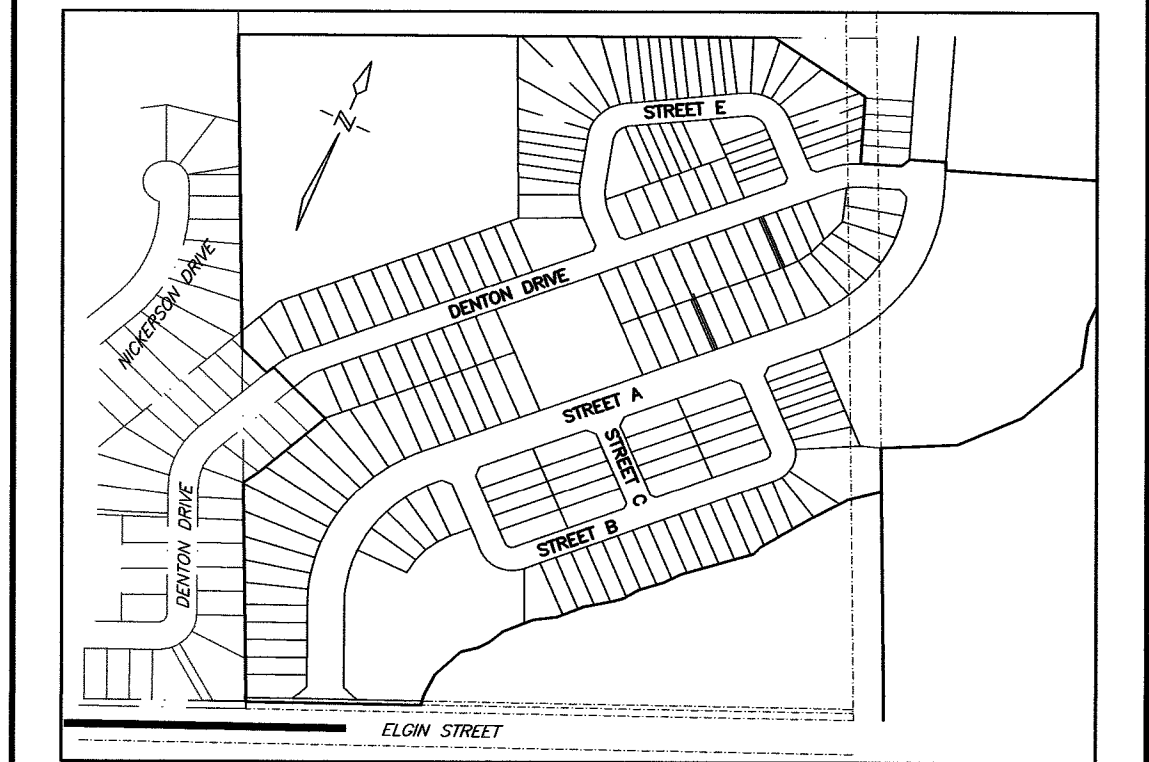
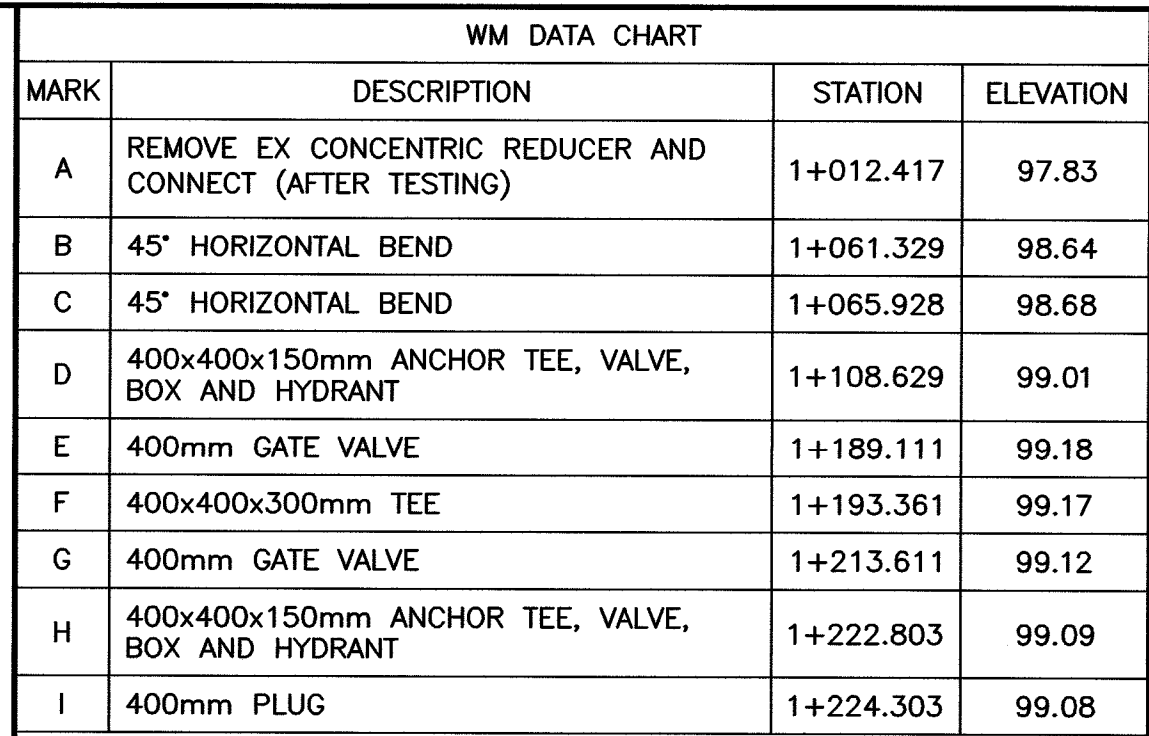
THE CORPORATION OF THE TOWN OF COBOURG
PUBLIC WORKS DIVISION - ENGINEERING DEPARTMENT
VILLAGES OF CENTRAL PARK
RONDEAU (COBOURG) LTD.
UNDERGROUND SERVICES AND ROAD WORK
STREET E
FROM: 150m NORTHEAST OF DENTON DRIVE
TO: DENTON DRIVE

D.G. Biddle & Associates Limited
consulting engineers and planners
96 KING STREET EAST • OSHAWA, ON L1H 1B6
PHONE (905) 576-8500 • FAX (905) 576-9730
info@dgbiddle.com

PROFESSIONAL ENGINEER
D.G. BIDDLE
JULY 31, 2019
PROVINCE OF ONTARIO

SCALE:	HORZ 1:500 VERT 1:50	PROJECT NO. 114057
DRAWN BY:	D.K.B	DRAWING NO. C-10
DESIGN BY:	H.R	
CHECKED BY:	M.B.C	
DATE:	MAY 2019	

\\SRH\SRH\PROJECT FILES\11400\114057 ROND... COB...C\114057 DRAWINGS ONLY\114057 ENGINEERING DRAWINGS\114057-30 C-10 STREET E.DWG
July 2, 2019



NOTES

1. REFER TO DWG 114057 R-1 FOR STANDARD NOTES AND REFERENCES.
2. ELGIN STREET SHALL BE RESTORED WITH THE FOLLOWING:
 - 150mm GRANULAR 'A'
 - 300mm GRANULAR 'B'
 - 40mm HL8 ASPHALT
 - 40mm HL3 ASPHALT
3. ALL DISTURBED DITCHES AND BOULEVARD AREAS WITHIN ELGIN STREET RIGHT-OF-WAY TO BE RESTORED WITH SOD ON 150mm OF TOPSOIL AND 100mm OF MATURED STRAW MULCH.
4. ALL ABOVEGROUND INFRASTRUCTURE TO BE MAINTAINED IN EXISTING CONDITION.
5. CHANGES IN HORIZONTAL OR VERTICAL ALIGNMENT OF THE WATERMAIN SHALL BE MADE THROUGH DEFLECTION OF THE PIPE UNLESS OTHERWISE NOTED AS A BEND.
6. APPROXIMATE EXTENT OF REMOVAL AND RESTORATION AS PER OPSD 802.030 UNBURIED EXCAVATION, CLASS B BEDDING.
7. REMOVE EXISTING PAVEMENT, CURB AND BOULEVARD WORKS TO BE REMOVED AND RESTORED TO PROVIDE A SMOOTH TRANSITION TO EXISTING. EXTENT OF REMOVAL AND RESTORATION TO BE AS DIRECTED BY MUNICIPAL FIELD STAFF.

LEGEND

LIMIT OF PHASE 1

NO.	DATE	REVISION	BY

REVISIONS	
APPROVED	APPROVED
<hr/> DIRECTOR,ENGINEERING SERVICES TOWN OF COBOURG	<hr/> LAKEFRONT UTILITIES INC.
DATE _____	DATE _____

THE CORPORATION OF THE TOWN OF COBOURG
PUBLIC WORKS DIVISION – ENGINEERING DEPARTMENT

VILLAGES OF CENTRAL PARK
RONDEAU (COBOURG) LTD.

UNDERGROUND SERVICES AND ROAD WORK
ELGIN STREET

FROM: 45m WEST OF CONGER AVENUE
TO: 25m EAST OF STREET A

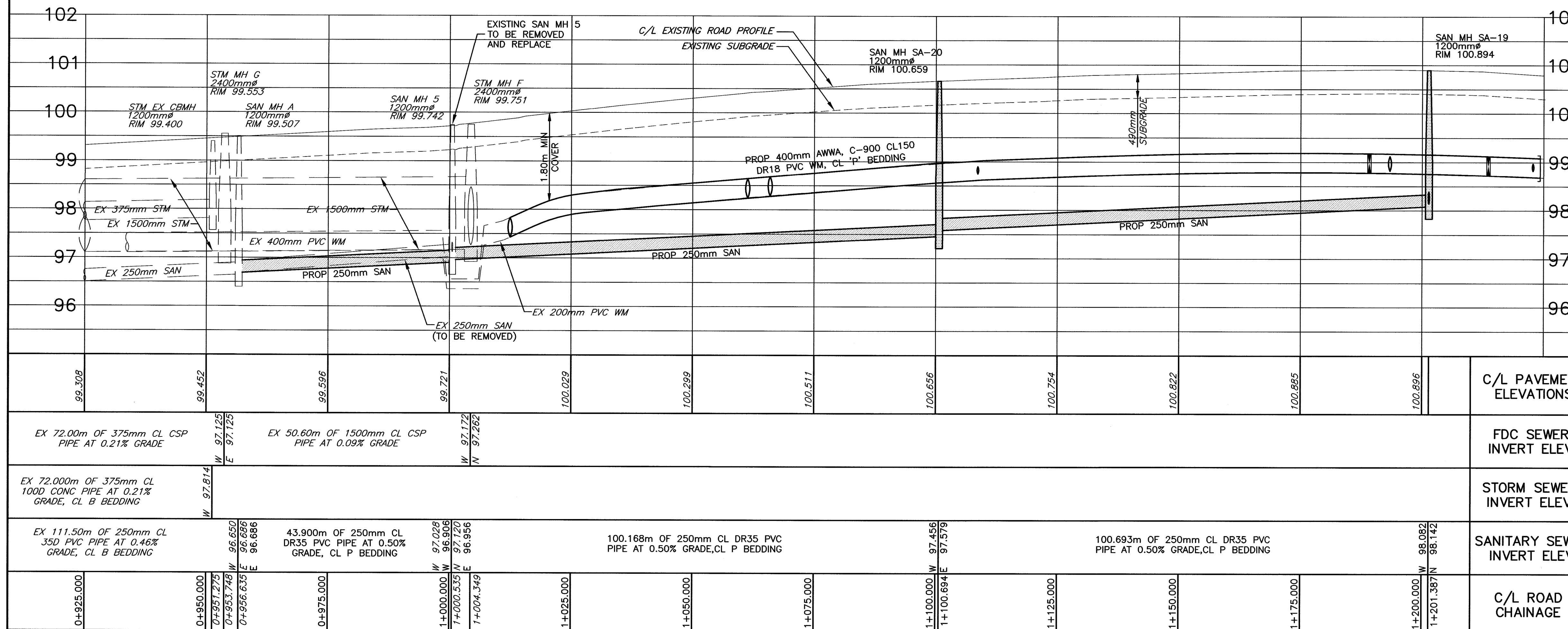


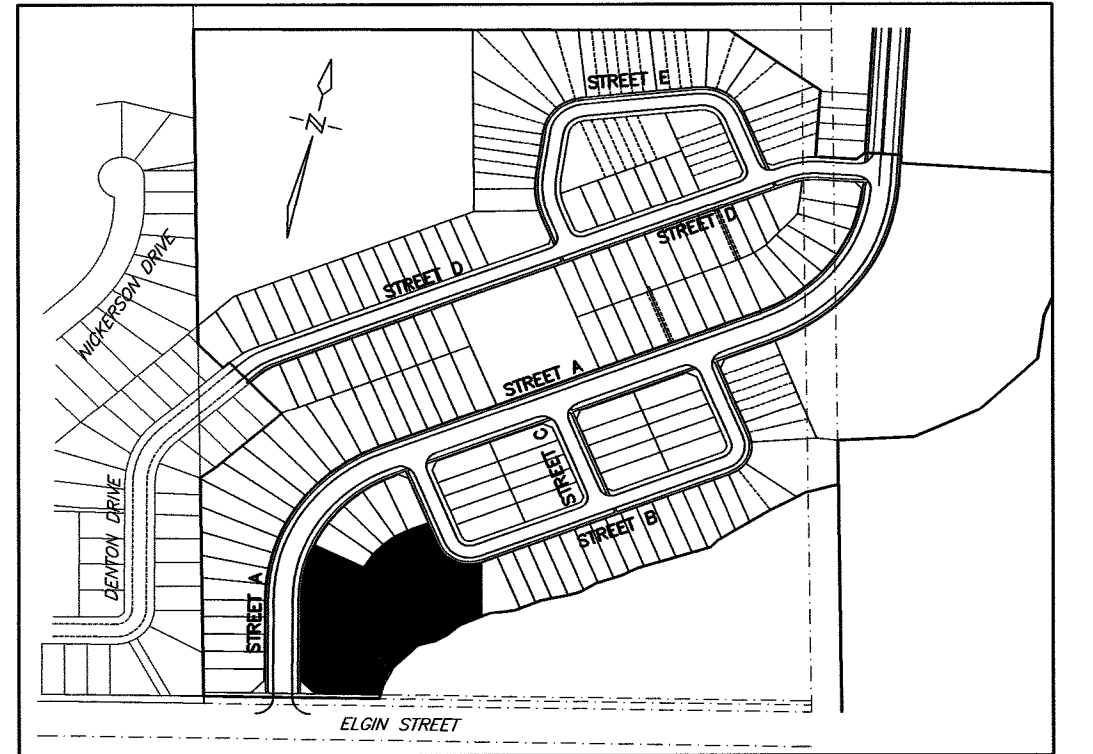
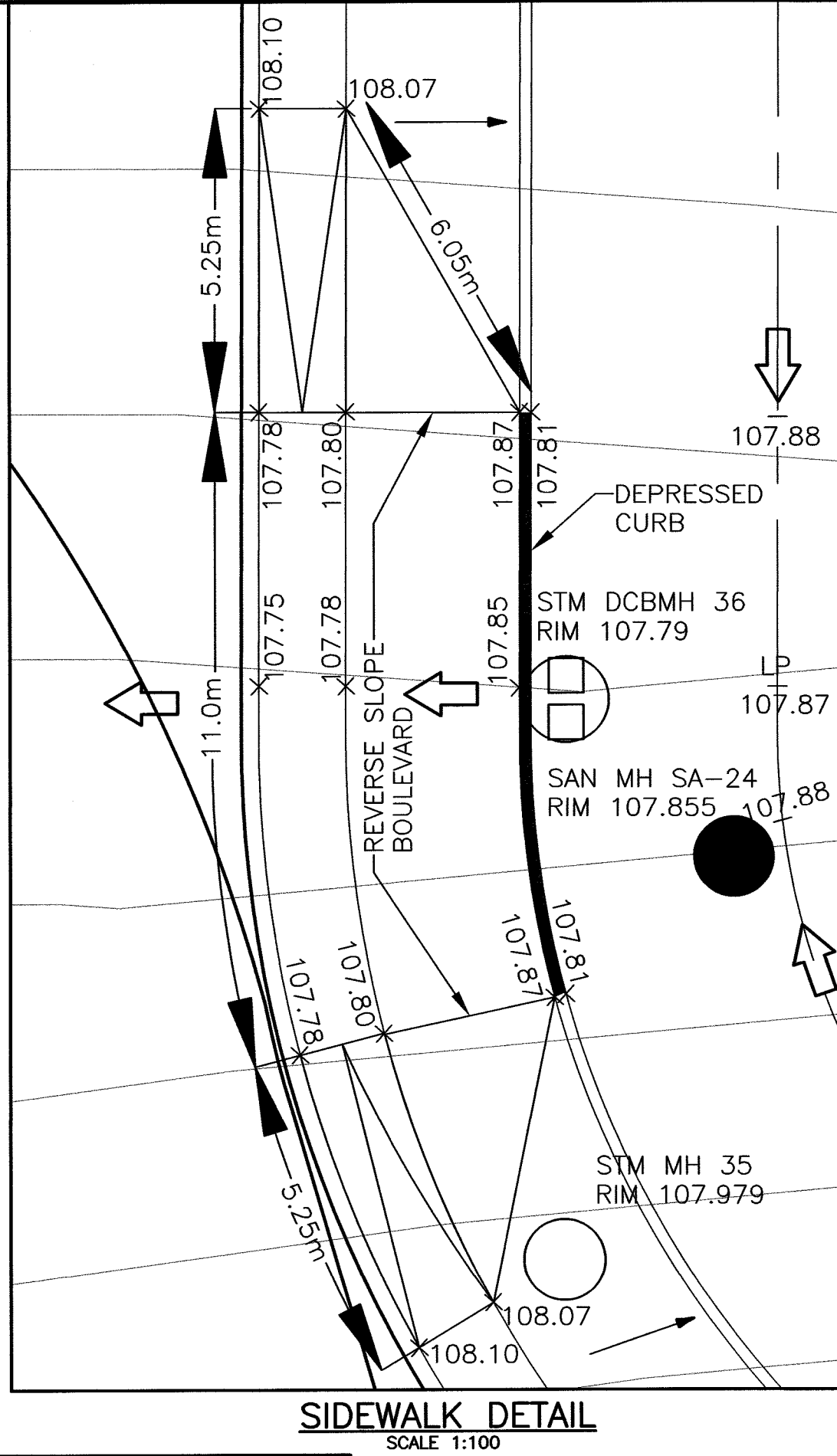
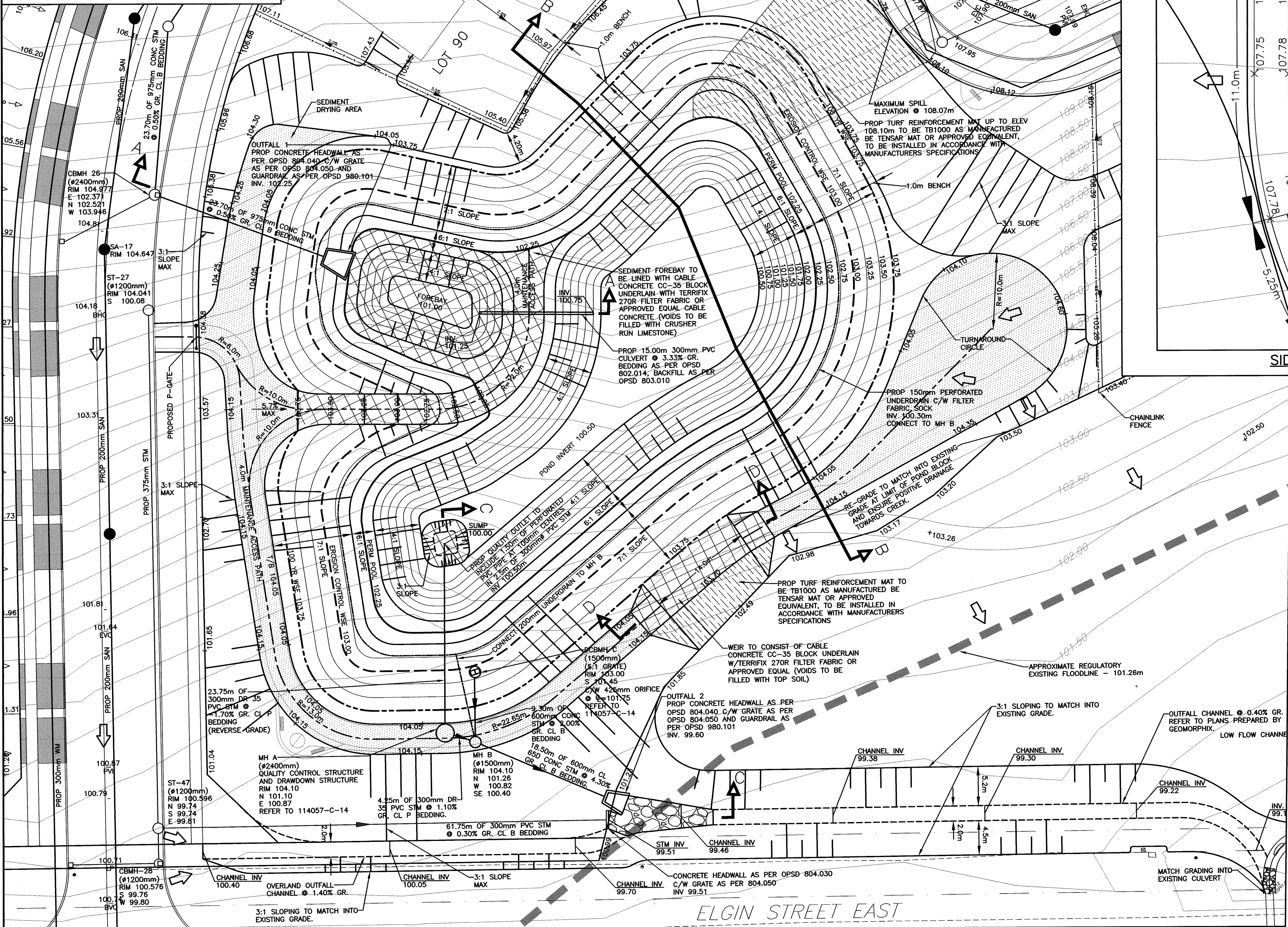
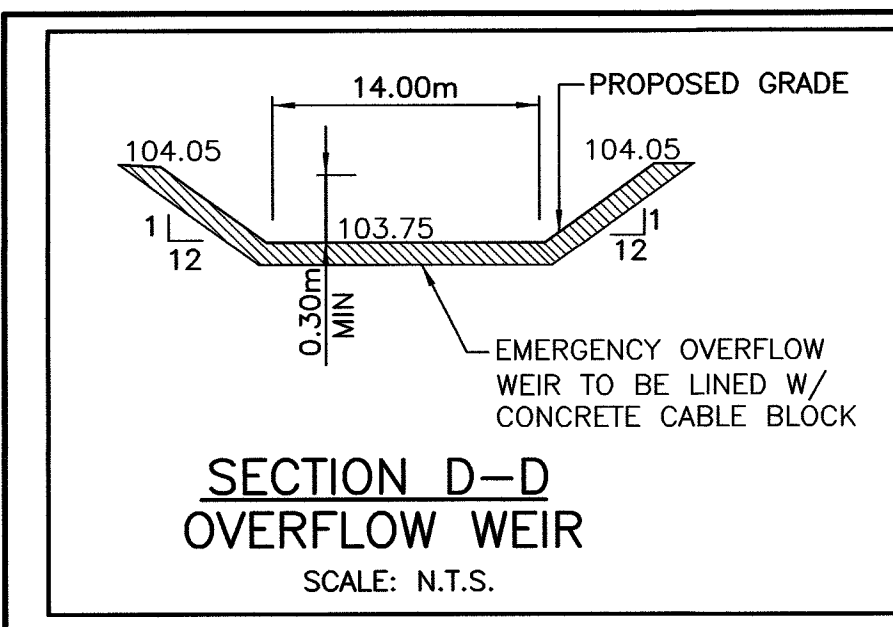
D.G. Biddle & Associates Limited
consulting engineers and planners
96 KING STREET EAST • OSHAWA, ON L1H 1B6
PHONE (905) 576-8500 • FAX (905) 576-9730
Info@dgbiddle.com



SCALE:	HORZ 1:500 VERT 1:50
DRAWN BY:	H.R.
DESIGN BY:	H.R.
CHECKED BY:	M.B.C
DATE:	MAY 2019

PROJECT NO.	114057
DRAWING NO.	C-11





MONITORING/MAINTENANCE

THE FOLLOWING MONITORING AND INSPECTION PROGRAM IS RECOMMENDED FOR THE WET POND FACILITY:

- MONITORING AND INSPECTION AFTER EVERY SIGNIFICANT RAINFALL. EVEN DURING THE FIRST TWO YEARS OF OPERATION (APPROXIMATELY 4 INSPECTIONS PER YEAR). ANNUAL INSPECTIONS AFTER THE INITIAL TWO YEARS.
- THE MONITORING AND INSPECTION SHOULD INCLUDE OBSERVATIONS OF THE HYDRAULIC OPERATION (DRAW DOWN TIME, INLET AND OUTLET FUNCTION), CONDITION OF VEGETATION IN ALL ZONES OF THE POND (WET AND DRY); EVIDENCE OF GREASE/OIL CONTAMINATION; TRASH BUILD UP. TABLE 6.1 OF THE MOE STORMWATER MANAGEMENT FACILITY DESIGN BRIEF) DESCRIBES HOW TO ASSESS THE FACILITY'S HYDRAULIC OPERATION.

THE FOLLOWING MAINTENANCE PROGRAM IS RECOMMENDED FOR THE WET POND FACILITY:

- GRASS CUTTING AND WEED CONTROL IN NOT RECOMMENDED.
- ONCE THE UPLAND PLANTING ARE STABILIZED THERE WILL BE LITTLE NEED OF MAINTENANCE IN THIS AREA. SHORELINE PLANTINGS AND AQUATIC THERE WILL BE LITTLE NEED FOR MAINTENANCE IN THIS AREA. SHORELINE PLANTING AND AQUATIC PLANTINGS MAY REQUIRE RE-ESTABLISHMENT EVERY 2-5 YEARS AS OBSERVATION DICTATES.
- SEDIMENT REMOVAL FREQUENCY IS DEPENDENT ON A NUMBER OF FACTORS FROM UPSTREAM LAND USE AND DEVELOPMENT ACTIVITIES TO MUNICIPAL STREET SANDING PRACTICES. WE HAVE RECOMMENDED AN ANNUAL MEASUREMENTS OF SEDIMENT DEPTH ACCUMULATION AND REMOVAL FREQUENCY OF EVERY 10 YEARS.
- INLET AND OUTLET STRUCTURES SHOULD BE MAINTAINED TO CLEAR BLOCKAGE AS REQUIRED BY OBSERVATIONS. MAINTENANCE REPLACEMENT OF THESE STRUCTURES IS BASED ON A LIFE SPAN OF THE MATERIALS.
- TRASH REMOVAL IS RECOMMENDED ON A YEARLY BASIS OD AS OBSERVATION REQUIRES BASED ON SURROUNDING AIRBORNE TRASH ACCUMULATION.

LEGEND

ORIGINAL GROUND CONTOUR
ORIGINAL ELEVATION
PROPOSED ELEVATIONS
DIRECTION OF OVERLAND FLOW
MAINTENANCE ACCESS
CONCRETE CABLE BLOCK
SOD REINFORCEMENT MAT

NO.	DATE	REVISION	BY

APPROVED	APPROVED
DIRECTOR, ENGINEERING SERVICES TOWN OF COBOURG	LAKEFRONT UTILITIES INC.
DATE	DATE

THE CORPORATION OF THE TOWN OF COBOURG
PUBLIC WORKS DIVISION - ENGINEERING DEPARTMENT
VILLAGES OF CENTRAL PARK
RONDEAU (Cobourg) Ltd.

STORMWATER MANAGEMENT FACILITY - POND D

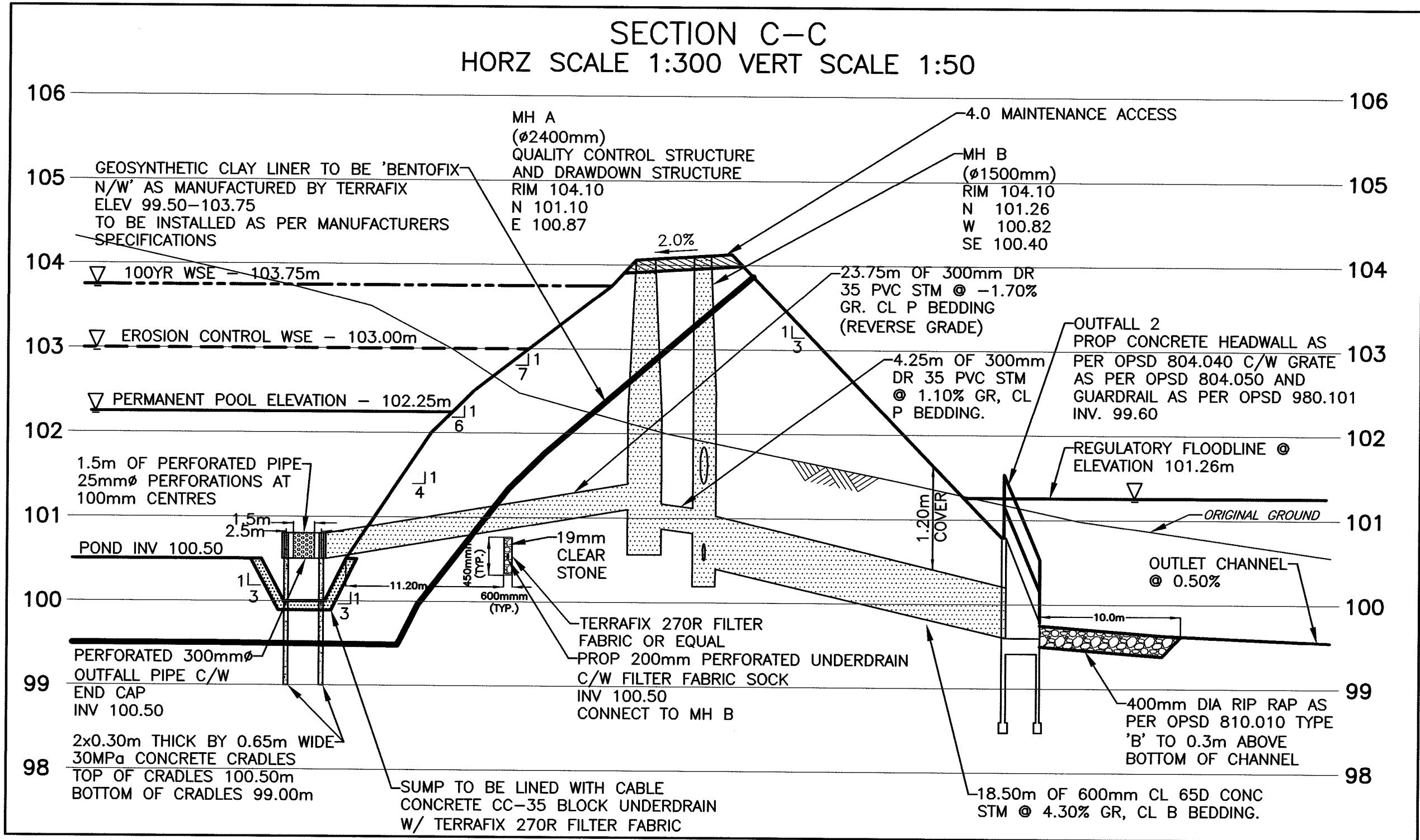
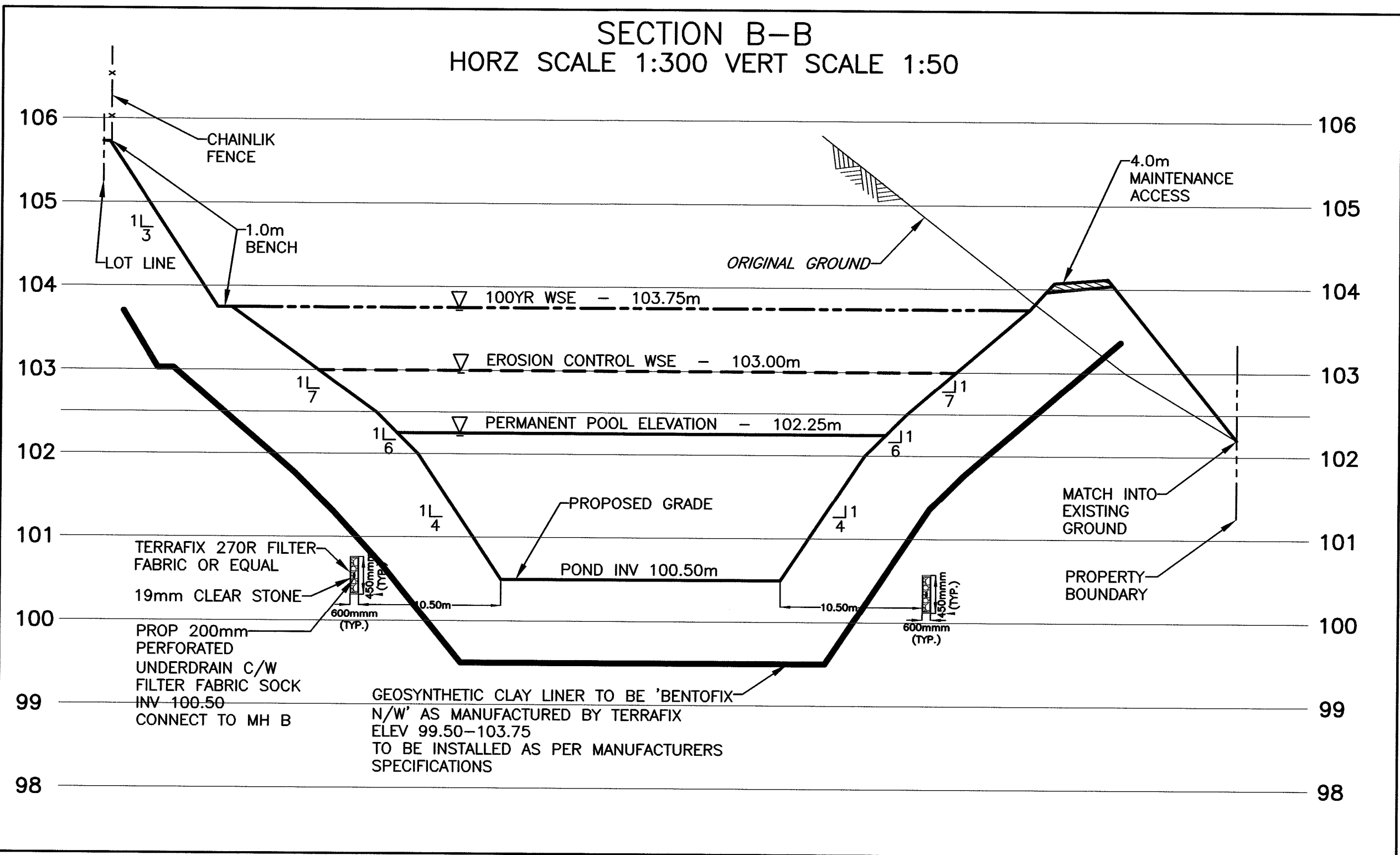
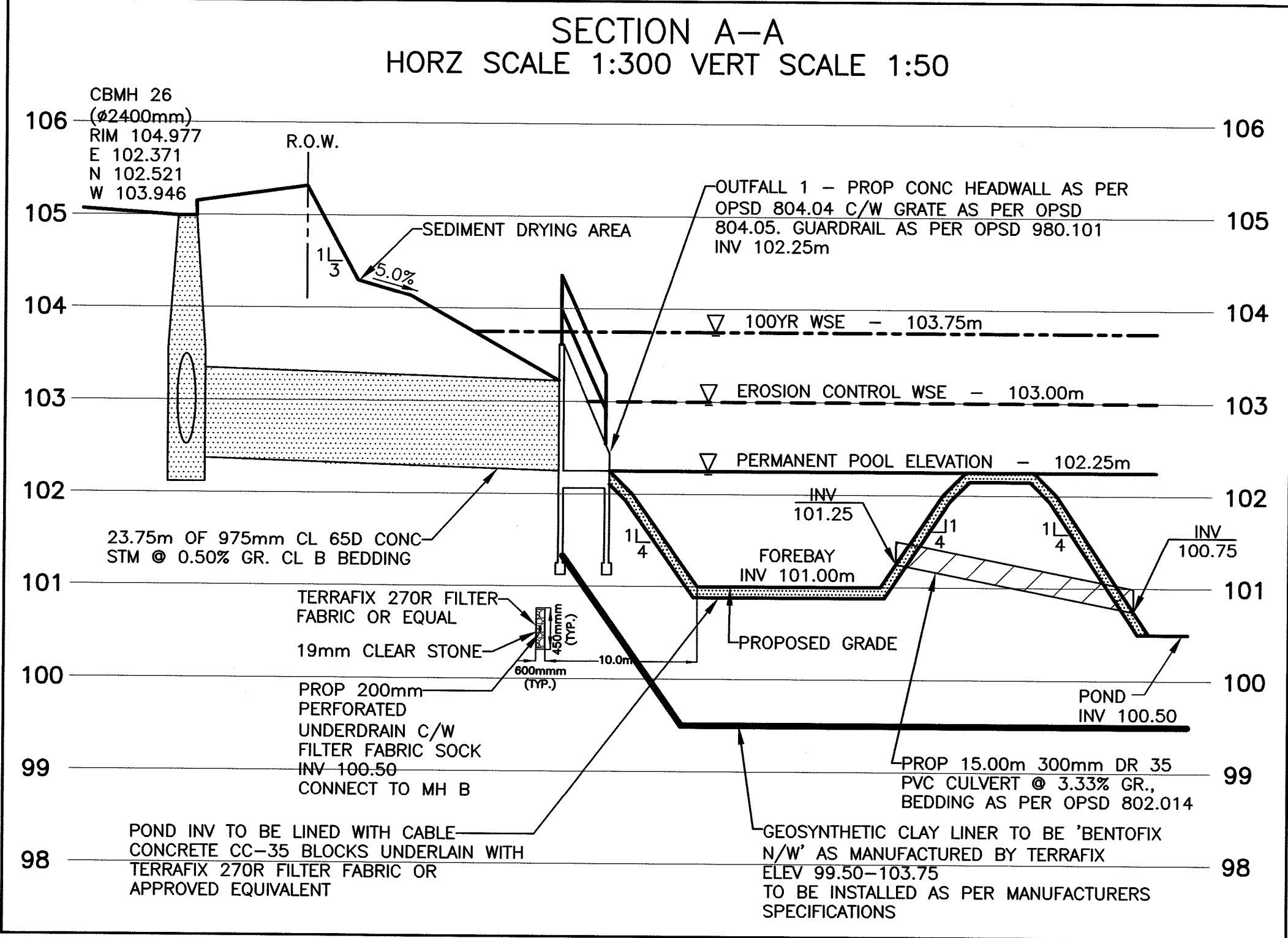
D.G. Biddle & Associates Limited
consulting engineers and planners
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SCALE: 1:300	PROJECT NO. 114057
DRAWN BY: D.D.M.	DRAWING NO. C-12
DESIGN BY: D.D.M.	
CHECKED BY: M.B.C.	
DATE: JUNE 2019	

NOTES

1. REFER TO DRAWING 114057 C-13 AND C-14 FOR SECTIONS AND DETAILS
2. POND SLOPES TO BE SODDED ON 600mm OF TOPSOIL FROM ELEVATION 102.00m TO ELEVATION 102.50m. ALL REMAINING DISTURBED AREAS TO BE SEEDDED ON 600mm OF TOPSOIL. REFER TO LANDSCAPE PLAN FOR SEED MIXTURE.
3. 4.0m MAINTENANCE ACCESS SHALL CONSIST OF THE FOLLOWING:
BELOW 103.75m - CABLE CONCRETE CC-35 BLOCKS UNDERLAIN WITH 450mm OF 50mm C.R.L. AND TERRAFIX 270R FILTER FABRIC (VOIDS TO BE FILLED WITH CRUSHER RUN LIMESTONE)

4. ALL PVC CULVERTS SHALL BE DR35, BEDDING AS PER OPSD 802.014
5. POND WARNING SIGNS SHALL BE PURCHASED FROM THE TOWN OF COBOURG. LOCATION OF POND SIGNS WILL BE DETERMINED BY THE TOWN.
6. ALL MANHOLES WITHIN THE POND BLOCK TO HAVE BOLT DOWN LIDS AS PER OPSD 401.060.
7. A QUALIFIED GEOTECHNICAL ENGINEER SHALL BE ON SITE DURING CONSTRUCTION OF THE POND TO ENSURE THAT EITHER THE NATIVE SOILS ARE ADEQUATE OR SUITABLE ALTERNATIVES BE PUT IN PLACE DURING CONSTRUCTION.
8. ALL POND WORKS SHALL BE SUPERVISED FULL TIME AND WILL REQUIRE CERTIFICATION FROM THE GEOTECHNICAL ENGINEER AND CONSULTING ENGINEER FOR INSTALLATION, MATERIALS AND FINAL ELEVATIONS, TO THE SATISFACTION OF THE DIRECTOR OF ENGINEERING.



NO.	DATE	REVISION	BY

APPROVED		APPROVED	
DIRECTOR, ENGINEERING SERVICES TOWN OF COBOURG		LAKEFRONT UTILITIES INC.	
DATE		DATE	

THE CORPORATION OF THE TOWN OF COBOURG
PUBLIC WORKS DIVISION - ENGINEERING DEPARTMENT

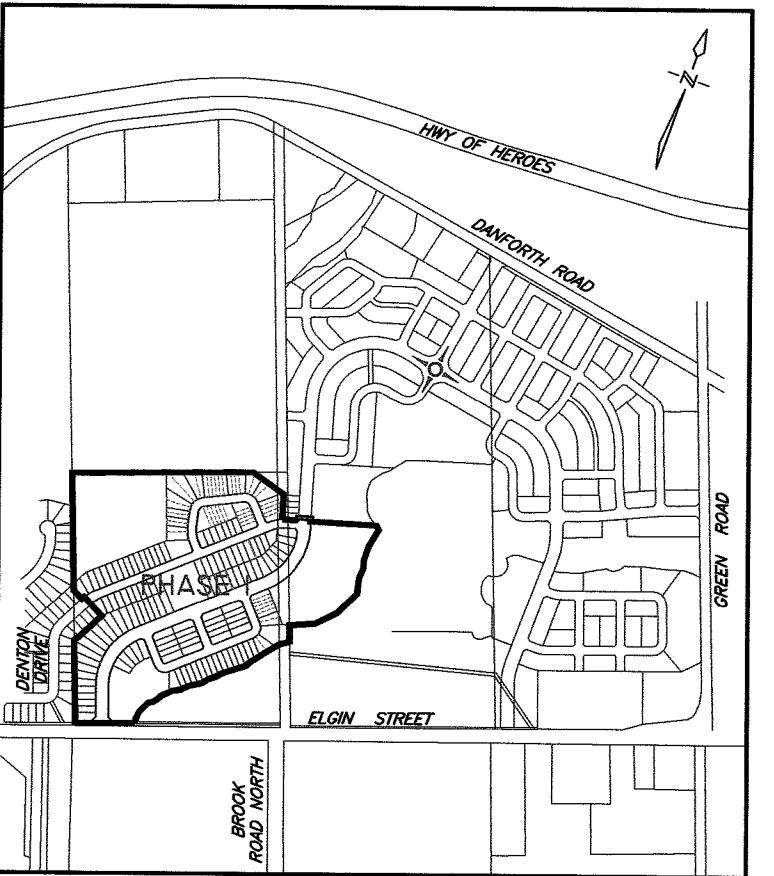
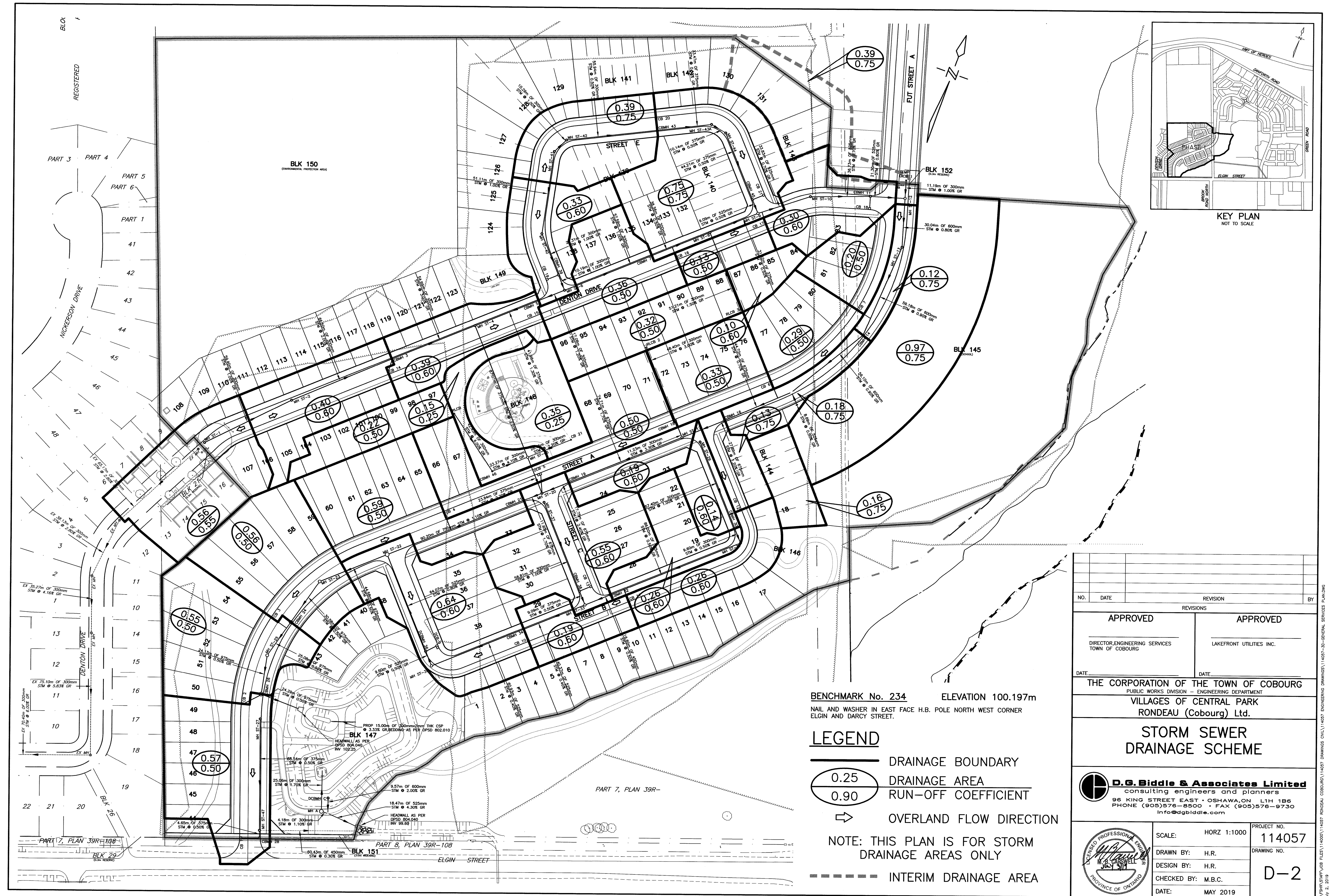
VILLAGES OF CENTRAL PARK
RONDEAU (Cobourg) Ltd.

STORMWATER MANAGEMENT
FACILITY - SECTIONS

D.G. Biddle & Associates Limited
consulting engineers and planners
96 KING STREET EAST • OSHAWA, ON L1H 1B6
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SCALE:	AS NOTED	PROJECT NO.
DRAWN BY:	D.D.M.	114057
DESIGN BY:	D.D.M.	DRAWING NO.
CHECKED BY:	M.B.C.	C-13
DATE:	JUNE 2019	

PROVINCE OF ONTARIO
REGISTERED PROFESSIONAL ENGINEER
M. B. CARSWELL
114057



BENCHMARK No. 234 ELEVATION 100.197m
 NAIL AND WASHER IN EAST FACE H.B. POLE NORTH WEST CORNER
 ELGIN AND DARCY STREET.

- LEGEND**
- DRAINAGE BOUNDARY
 - 0.25 DRAINAGE AREA
 - 0.90 RUN-OFF COEFFICIENT
 - OVERLAND FLOW DIRECTION
 - INTERIM DRAINAGE AREA

NOTE: THIS PLAN IS FOR STORM DRAINAGE AREAS ONLY

NO.	DATE	REVISION	BY
REVISIONS			
APPROVED		APPROVED	
DIRECTOR, ENGINEERING SERVICES TOWN OF COBOURG		LAKEFRONT UTILITIES INC.	
DATE		DATE	
THE CORPORATION OF THE TOWN OF COBOURG PUBLIC WORKS DIVISION - ENGINEERING DEPARTMENT VILLAGES OF CENTRAL PARK RONDEAU (Cobourg) Ltd.			
STORM SEWER DRAINAGE SCHEME			
D.G. Biddle & Associates Limited consulting engineers and planners 96 KING STREET EAST • OSHAWA, ON L1H 1B6 PHONE (905) 576-8500 • FAX (905) 576-9730 info@dgbbiddle.com			
M.B. C. PASWELL JUN 24 2019 PROVINCE OF ONTARIO		PROJECT NO. 114057 DRAWING NO. D-2	
SCALE: HORZ 1:1000		DATE: MAY 2019	
DRAWN BY: H.R.		DESIGN BY: H.R.	
CHECKED BY: M.B.C.			

\\VSHR\STAFF\JOB FILES\114057\114057_RONDEAU COBOURG\114057 DRAWINGS\CH\114057-30-GENERAL SERVICES PLAN.DWG July 2, 2019



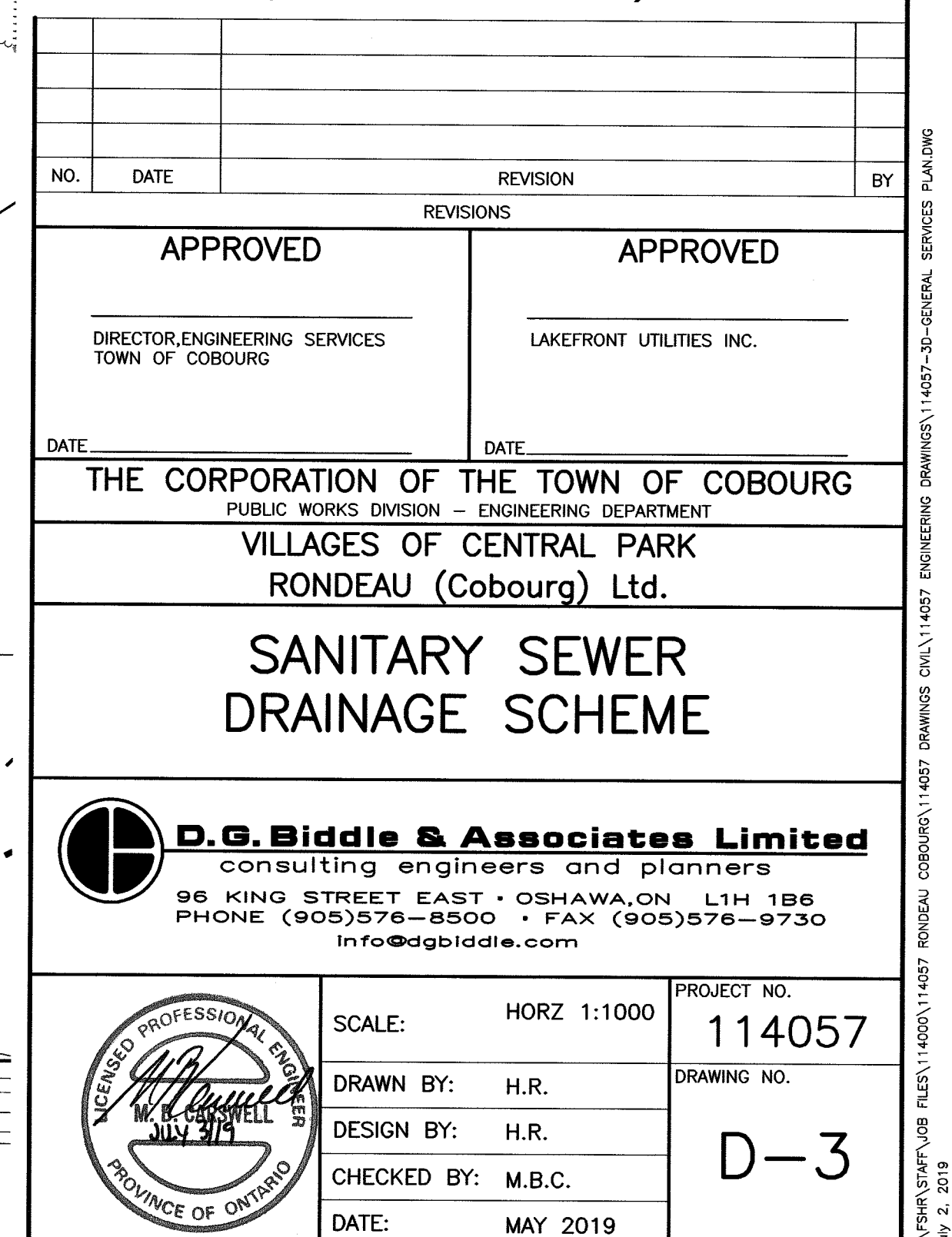
NAIL AND WASHER IN EAST FACE H.B. POLE NORTH WEST CORNER
ELGIN AND DARCY STREET.

# OF CONNECTIONS	11	0.56	AREA (ha)
PEOPLE / UNIT	3.23	36	POPULATION OR USE

NOTE: THIS PLAN IS FOR SANITARY
DRAINAGE AREAS ONLY

The diagram illustrates the proposed alignment of Conger Avenue. It shows a horizontal section with various stationing points and vertical curve details. Key features include:

- Stationing:** Points are marked along the alignment, such as Sta 1+00, Sta 2+00, Sta 3+00, Sta 4+00, Sta 5+00, Sta 6+00, Sta 7+00, Sta 8+00, Sta 9+00, Sta 10+00, Sta 11+00, Sta 12+00, Sta 13+00, Sta 14+00, Sta 15+00, Sta 16+00, Sta 17+00, Sta 18+00, Sta 19+00, Sta 20+00, Sta 21+00, Sta 22+00, Sta 23+00, Sta 24+00, Sta 25+00, Sta 26+00, Sta 27+00, Sta 28+00, Sta 29+00, Sta 30+00, Sta 31+00, Sta 32+00, Sta 33+00, Sta 34+00, Sta 35+00, Sta 36+00, Sta 37+00, Sta 38+00, Sta 39+00, Sta 40+00, Sta 41+00, Sta 42+00, Sta 43+00, Sta 44+00, Sta 45+00, Sta 46+00, Sta 47+00, Sta 48+00, Sta 49+00, Sta 50+00.
- Vertical Curve Data:**
 - EX 111.50m OF 250mm SAN @ 0.48% GR
 - 43.80m OF 250mm SAN @ 0.50% GR
 - Ex 43.80m OF 250mm
- Intersections:** The alignment starts at the intersection with Highway 101 and ends at the intersection with Highway 97.



LEGEND

PERIMETER ENVIRO FENCE

PERIMETER SWALE

SEDIMENT POND DRAINAGE AREA

DIRECTION OF OVERLAND FLOW

CATCHBASIN FILTRATION

CONSTRUCTION VEHICLE ACCESS

40x12.9x0.50m OF 100mm# CLEAR STONE

RIP RAP CHECKDAM

AS PER OPSD 219.210

TOTAL AREA DISTURBED

1.05ha

DUST CONTROL MEASURES:

A. PRE-GRADING PLANNING

- 1) THE SITE SERVICING FOR THE SITE SHALL BE SCHEDULED SUCH THAT THE OVERALL TIME THE AREAS ARE LEFT OPEN TO WIND THAT CREATE BLOWING DUST FROM THE EARTHWORK OPERATIONS IS MINIMIZED, LEANED.
- 2) THE TOPSOIL STOCKPILE (IF APPLIES) SHALL BE STABILIZED WITHIN 30 DAYS OF STOCKPILING MATERIALS IN ACCORDANCE WITH CITY'S CRITERIA. ALL DISTURBED LANDS OUTSIDE THE PHASE OF WORK SHALL BE STABILIZED/VEGETATED.
- 3) THE CONTRACTOR SHALL APPLY WATER TO HAUL ROADS AND STOCKPILES (IF APPLIES) BY WAY OF WATER TRUCK.

B. WATERING (POST-GRADING)

- 4) WITHIN AREAS WHERE EARTHWORKS AND OR UNDERGROUND MUNICIPAL SERVICING IS ON-GOING, WATER IS TO BE UTILIZED AT SUFFICIENT QUANTITY TO PREVENT VISIBLE EMISSIONS FROM EXTENDING MORE THAN 30m FROM THE POINT OF ORIGIN.

C. REDUCE VEHICLE SPEED

- 5) THE ON-SITE SPEED LIMIT FOR CONSTRUCTION VEHICLES SHALL BE MINIMIZED AND TO BE USED IN CONJUNCTION WITH WATERING TO PREVENT VISIBLE DUST EMISSIONS.

D. RESTRICT ACTIVITIES DURING HIGH WIND PERIODS

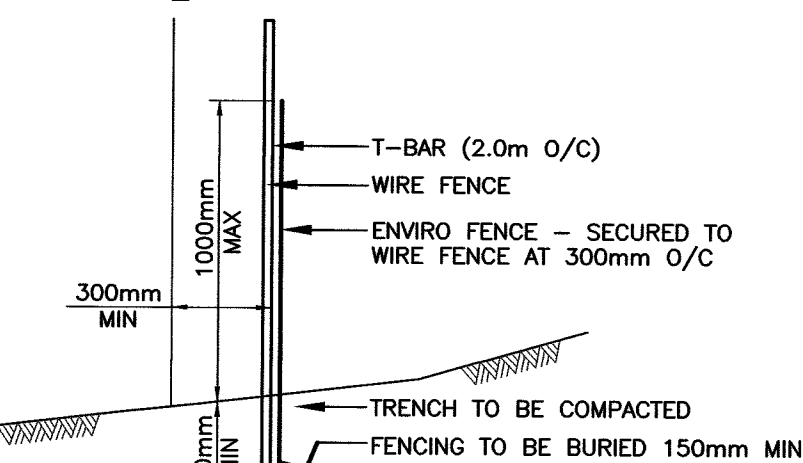
- 6) THE HIGH VISIBILITY OF CERTAIN WORKS AND THE CLOSE PROXIMITY AND POPULATION IMPACT SHOULD BE TAKEN INTO CONSIDERATION WHEN SCHEDULING DUST-PRODUCING WORK. APPROPRIATE DUST CONTROL MEASURES SHALL BE IN PLACE IN SUCH SITUATIONS.

E. ROAD CLEANING

- 7) SPILLAGE, EROSION OR MATERIALS "TRACKED OUT" ON A ROAD TO BE CLEANED USING MECHANICAL STREET SWEEPERS OR FLUSHER TRUCK AT LEAST BY THE END OF THE WORK DAY. HOWEVER, IF SPILLAGE EXTENDS MORE THAN 15m ALONG A PAVED PUBLIC ROADWAY, IT MUST BE CLEANED UP IMMEDIATELY.
- 8) IMPORTING AND EXPORTING OF MATERIALS ON AND OFF-SITE WILL BE SHUT DOWN DURING AND FOLLOWING INCLEMENT WEATHER UNTIL THE ROAD SURFACES HAVE BEEN CLEANED.

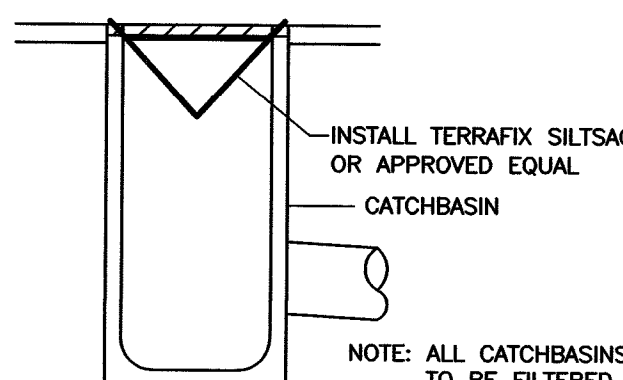
SEDIMENT CONTROL CONSTRUCTION SCHEDULE

- 1) INSTALL PERIMETER ENVIRO FENCE AND CONSTRUCTION VEHICLE ACCESS.
- 2) EXCAVATE PERIMETER SWALES AS REQUIRED.
- 3) STRIP SITE OF TOPSOIL AND REMOVE OFF SITE OR STOCK PILE AND PROVIDE ENVIRO FENCE AROUND BOTTOM OF PILE.
- 4) EXCAVATE TEMPORARY SEDIMENT PONDS. PONDS ARE TO BE MONITORED AND PUMPED UNTIL THE MINOR STORM SYSTEM IS IN PLACE. MAINTENANCE OF THE PONDS IS TO BE DONE UNDER THE DIRECTIONS OF D.G. BIDDLE AND ASSOCIATES AND THE CONSERVATION AUTHORITY. TEMPORARY SEDIMENT CONTROL PONDS ARE TO BE KEPT IN OPERATION UNTIL FINE GRADING AND SODDING OF DISTURBED AREAS IS COMPLETED. AS THE DEVELOPMENT NEARS COMPLETION WITH SURFACE STABILIZATION CONSISTING OF PAVEMENT, DWELLING UNITS AND SODDING TEMPORARY PONDS CAN BE REDUCED PROPORTIONALLY.
- 5) INSTALL STORM SEWER SYSTEM ALONG WITH OTHER SERVICES.
- 6) INSTALL CATCHBASIN FILTRATION ON ALL CATCHBASINS AND CATCHBASIN MANHOLES.
- 7) SEDIMENT CONTROL MEASURES ARE TO BE MAINTAINED UNTIL SUCH TIME AS FOLLOWS:
MUD MAT - SITE IS BEING PREPARED FOR ROAD CONSTRUCTION
CHECK DAMS - SWALES/DITCHES HAVE BEEN VEGETATED
ENVIRO FENCE - AREAS ADJUTING THE FENCE HAVE BEEN SODDED
RUBB CATCHBASIN FILTRATION - LOTS ADJUTING TO THE RUBB HAVE BEEN SODDED
ROADWAY CATCHBASIN FILTRATION - ROADWAY IS BEING PREPARED FOR STAGE 2 WORKS
TEMPORARY SEDIMENT TRAPS - TRIBUTARY DRAINAGE AREA HAS BEEN SODDED



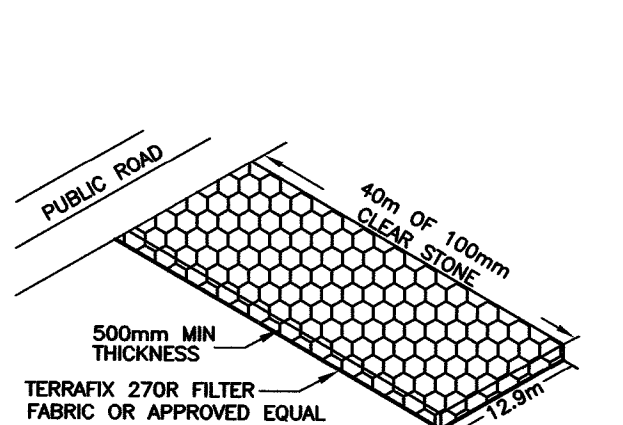
PERIMETER ENVIRO FENCE DETAIL

NOT TO SCALE



CATCHBASIN FILTRATION DETAIL

NOT TO SCALE

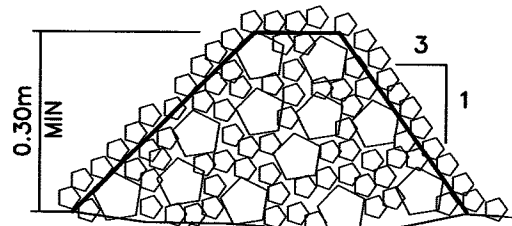


CONSTRUCTION VEHICLE ACCESS TYPICAL PERIMETER SWALE DETAIL

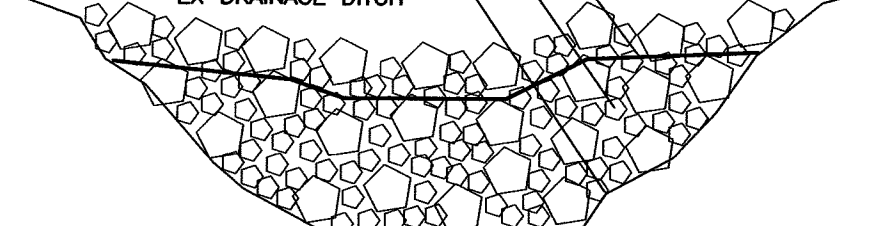
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NOT TO SCALE

CHECK DAM DETAIL



LATERAL SECTION



LONGITUDINAL SECTION

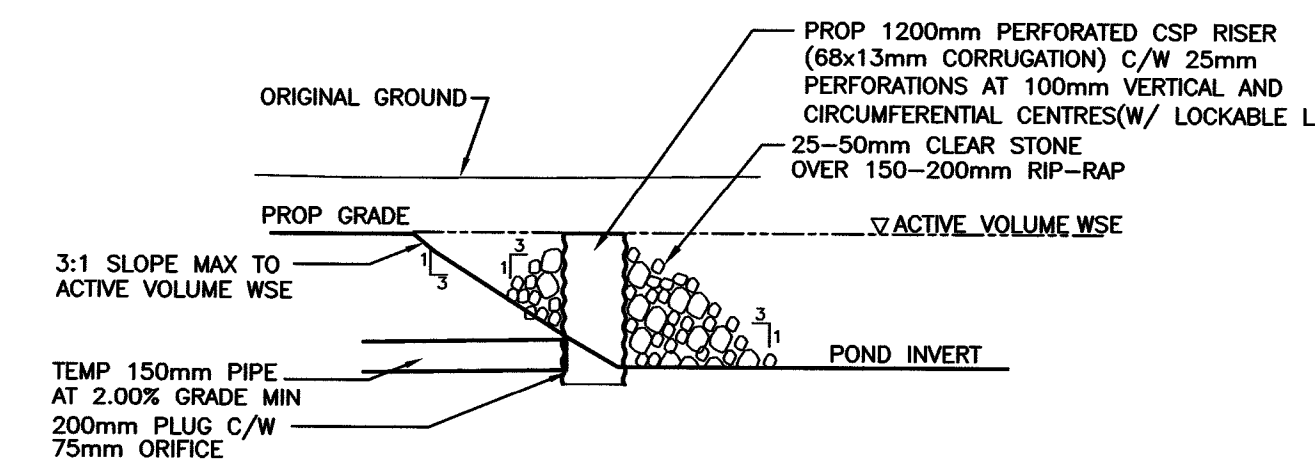
BLK 150

(CONFORMED PROTECTION AREA)



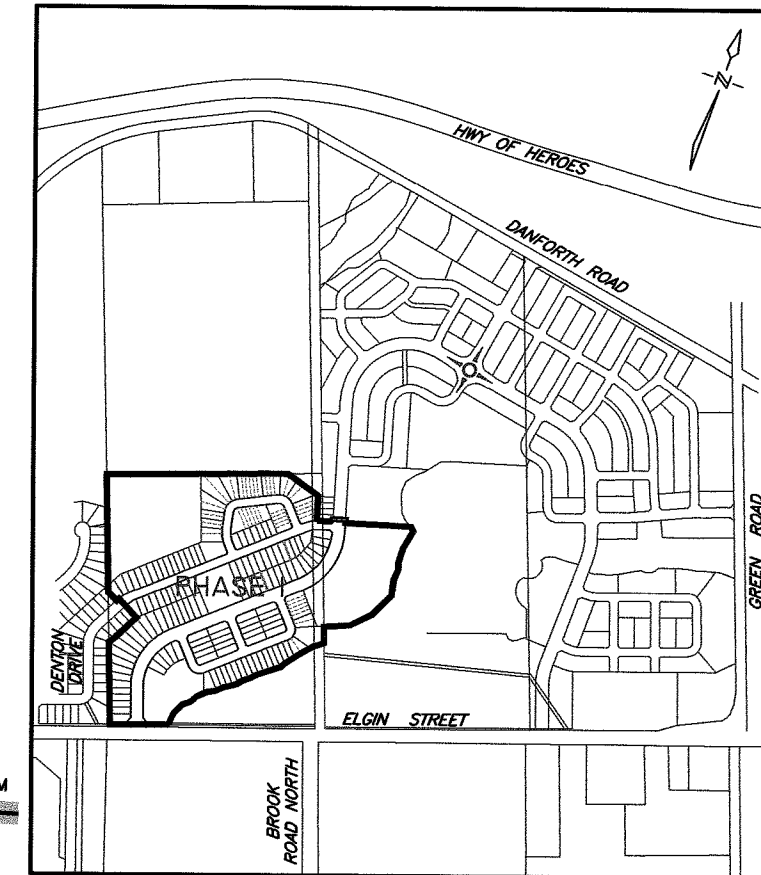
NOTE

- 1) THE CONTRACTOR MUST INSTALL ALL SEDIMENT CONTROL DEVICES PRIOR TO THE COMMENCEMENT OF SITE GRADING WORKS. SILT LADEN WATER MUST NOT BE PERMITTED TO ENTER INTO ANY EXISTING CATCH BASINS, INLET STRUCTURES AND WATERCOURSES. ADDITIONAL CONTROLS AS DEEMED REQUIRED BY THE CONSERVATION AUTHORITY OR ENGINEER DURING CONSTRUCTION ACTIVITIES SHALL BE PROVIDED BY THE CONTRACTOR. THE CONTRACTOR MUST INSPECT SEDIMENT CONTROLS ON A REGULAR BASIS. REPAIRS MUST BE DONE IMMEDIATELY TO PREVENT SEDIMENT FROM ENTERING ANY WATER SYSTEMS. ADDITIONAL SILT FENCING MUST BE AVAILABLE IN CASE IMMEDIATE REPAIR IS REQUIRED.



TEMPORARY SEDIMENT CONTROL OUTFLOW STRUCTURE

NTS



KEY PLAN

NOT TO SCALE

SILT TRAP	DRAINAGE AREA	VOLUME REQUIRED	VOLUME PROVIDED	INVERT	WATER SURFACE ELEVATION	STM SERVICE CONNECTION
A	1.59 Ha	198.75m³	224.8m³	100.00m	101.00m	LOT 44
B	1.15 Ha	143.75m³	203.6m³	107.00m	108.00m	LOT 38
C	1.36 Ha	170.00m³	223.1m³	107.46m	108.46m	LOT 28
D	1.23 Ha	153.75m³	178.9m³	108.10m	109.10m	MH ST-46
E	1.71 Ha	213.75m³	261.4m³	108.09m	109.09m	MH ST-46
F	1.16 Ha	145.00m³	208.6m³	112.83m	113.83m	LOT 83
G	2.00 Ha	250.00m³	292.8m³	112.84m	114.04m	BLK 140

BENCHMARK No. 234 ELEVATION 100.197m

NAIL AND WASHER IN EAST FACE H.B. POLE NORTH WEST CORNER ELGIN AND DARCY STREET.

NO.	DATE	REVISION	BY

APPROVED	APPROVED
DIRECTOR/ENGINEERING SERVICES TOWN OF COBOURG	LAKEFRONT UTILITIES INC.
DATE: _____	DATE: _____

THE CORPORATION OF THE TOWN OF COBOURG
PUBLIC WORKS DIVISION - ENGINEERING DEPARTMENT
VILLAGES OF CENTRAL PARK
RONDEAU (Cobourg) Ltd.

EROSION AND SEDIMENT CONTROL PLAN

D.G. Biddle & Associates Limited
consulting engineers and planners
96 KING STREET EAST • OSHAWA, ON L1H 1B6
PHONE (905) 576-8500 • FAX (905) 576-9730
info@dgibiddle.com

SCALE: HORZ 1:1000	PROJECT NO. 114057
DRAWN BY: H.R.	DRAWING NO. ES-1
DESIGN BY: H.R.	
CHECKED BY: M.B.C.	
DATE: MAY 2019	

STREET NAMES SIGNS

ALL STREET NAME SIGNS SHALL BE PURCHASED AND INSTALLED BY THE TOWN OF COBOURG AT THE DEVELOPER'S EXPENSE.

LOCATION

STREET NAME SIGNS SHALL BE PLACED AT EACH INTERSECTION AND SHALL IDENTIFY EACH STREET AT THE INTERSECTION.

TYPE

THE STREET NAME SIGNS SHALL BE TWO-WAY, AND SHALL BE REFLECTORIZED WITH HIGH INTENSITY SCOTCHLITE FOR STOP SIGNS AND MEDIUM REFLECTIVITY FOR ALL OTHER SIGNS. ALL LETTERING SHALL BE WHITE [BLACK], UPPER CASE, ON BLUE [WHITE] REFLECTORIZED BACKGROUND. ABBREVIATIONS FOR AVE. (AVENUE), BLVD. (BOULEVARD), CR. (CRESCENT), CT. (COURT), DR. (DRIVE), PL. (PLACE), RD. (ROAD), ST. (STREET), TO BE 2-1/2" (65MM) IN HEIGHT AND LETTERING FOR THE STREET NAME AND THE NORTH, SOUTH, EAST OR WEST DESIGNATION BE 4" (100MM) IN HEIGHT. CORRECT SPACING MUST BE ADHERED TO IN ORDER THAT THE MESSAGE WILL BE AESTHETICALLY CORRECT. SIGNS SHALL BE MADE OF UTILITY GRADE 5052 HALF HARD ALUMINUM, ALODINE TREATED. ACID EDGING ONLY IS NOT ACCEPTABLE.

METAL GAUGE

IF FOR SIGNS UNDER 24" TO BE 0.064
IF FOR SIGNS OVER 24" TO BE 0.81

REGULATORY SIGNS SHALL BE REFLECTORIZED, AND OF SHAPE AND COLOUR AS RECOMMENDED BY THE CANADIAN GOVERNMENT SPECIFICATION BOARD AND APPROVED BY THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES OF CANADA. WARNING SIGNS SHALL BE OF BLACK LETTERING ON YELLOW REFLECTORIZED BACKGROUND OF STANDARDIZED SHAPE, AS APPROVED BY THE CANADIAN GOVERNMENT SPECIFICATION BOARD.

TEMPORARY STREET NAME SIGNS

TO PROMOTE GUIDANCE OF EMERGENCY VEHICLES WITHIN NEWLY DEVELOPED AREAS, WHILE LIMITING POTENTIAL LOSSES DUE TO ONGOING CONSTRUCTION ACTIVITIES, THE DEVELOPER MAY CHOOSE TO INSTALL TEMPORARY STREET NAME SIGNAGE IN LIEU OF THE FORMAL SIGNS. TEMPORARY STREET NAME SIGNS, CONSISTING OF A PAINTED AND LEGIBLE SIGN ON WOOD BACKING, FASTENED SECURELY ON A POST 2.1M ABOVE GROUND LEVEL, SHALL BE ERRECTED ON ALL STREET INTERSECTIONS IN THE SUBDIVISION AS SOON AS BASE COURSE ASPHALT ROAD CONSTRUCTION IS COMPLETE, AND SHOULD BE VISIBLE FROM BOTH DIRECTIONS (i.e. DOUBLE SIGNED). THE STREET NAME SIGNS SHALL BE MAINTAINED UNTIL SUCH TIME AS ALL GRADING OF ROADS AND BOULEVARDS HAS BEEN COMPLETED TO THE SATISFACTION OF THE DIRECTOR OF PUBLIC WORKS. HOUSE NUMBERS WILL BE ALLOTTED BY THE CHIEF BUILDING OFFICIAL FOR THE TOWN OF COBOURG.

TRAFFIC CONTROL SIGNS

ALL TRAFFIC CONTROL SIGNS SHALL BE PURCHASED AND INSTALLED BY THE TOWN OF COBOURG, AFTER THE PLACEMENT OF THE WEAR COURSE AS APPROVED BY THE DIRECTOR OF PUBLIC WORKS AT THE DEVELOPER'S EXPENSE.

LOCATION

THE LOCATION MUST BE IN CONFORMANCE WITH THE ROADS AND TRANSPORTATION ASSOCIATION MANUAL FOR UNIFORM TRAFFIC CONTROL DEVICES IN CANADA, THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR ONTARIO, OR THE HIGHWAY TRAFFIC ACT REGULATIONS FOR ONTARIO. ALL SIGNS SHALL BE MOUNTED APPROXIMATELY AT RIGHT ANGLES TO THE DIRECTION OF AND FACING THE TRAFFIC THAT THEY ARE INTENDED TO SERVE EXCEPT PARKING CONTROL SIGNS WHICH SHALL BE INSTALLED AT 45°. ON CURVED ALIGNMENTS, THE ANGLE OF PLACEMENT SHALL BE DETERMINED BY THE COURSE OF THE APPROACHING TRAFFIC RATHER THAN BY THE ROADWAY EDGE AT THE POINT WHERE THE SIGN IS LOCATED. SIGNS FOR DIFFERENT PURPOSES SHALL NOT BE PLACED CLOSER TOGETHER THAN 30M IF IT CAN BE AVOIDED.

TYPE

ALL TRAFFIC CONTROL SIGNS SHALL CONFORM TO THE CURRENT REVISED STANDARDS OF THE MINISTRY OF TRANSPORTATION OF ONTARIO, ROADS AND TRANSPORTATION ASSOCIATION MANUAL FOR UNIFORM TRAFFIC CONTROL DEVICES FOR ONTARIO. UNLESS OTHERWISE DIRECTED BY MUNICIPAL STAFF, ALL TRAFFIC CONTROL SIGNS MUST BE ERRECTED UPON COMPLETION OF THE PLACEMENT OF BASE COURSE ASPHALT AND MUST BE MAINTAINED IN A LEGIBLE CONDITION UNTIL THE SUBDIVISION IS FORMALLY ACCEPTED BY THE TOWN OF COBOURG. ALL TRAFFIC CONTROL SIGNS SHALL BE MOUNTED ON A 75MM DIAMETER GALVANIZED STEEL POST, 10 GAUGE MINIMUM, 3.65M IN LENGTH. SIGNS SHALL BE MADE OF A MINIMUM H34 ALUMINUM WITH THE FOLLOWING THICKNESS:

METAL GAUGE

IF FOR SIGNS UNDER 600 MM - 64 MM
IF FOR SIGNS OVER 600 MM - 81 MM

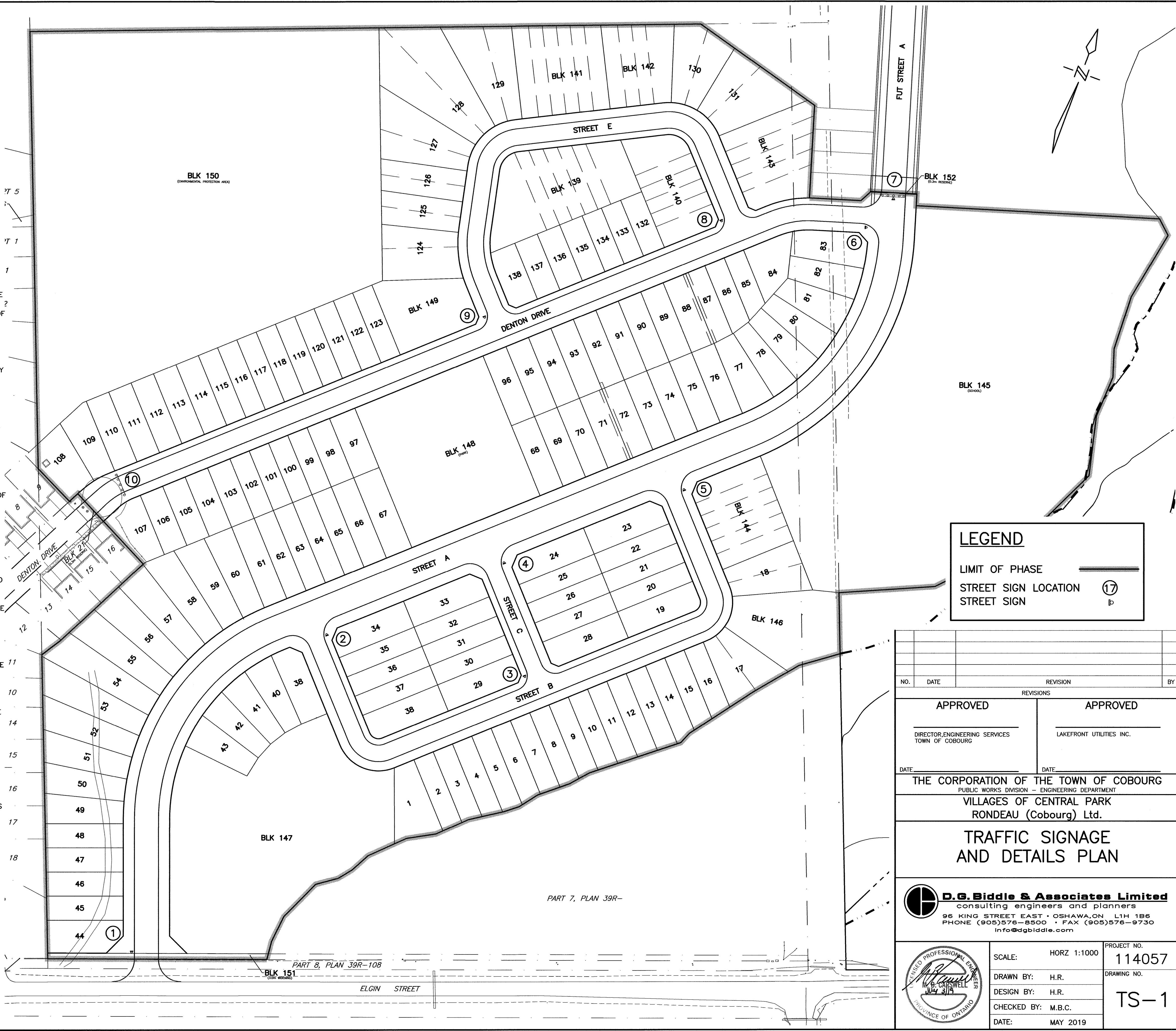
ALL SIGNS SHALL HAVE A MINIMUM REFLECTIVITY CONFORMING TO THE LATEST REQUIREMENTS OF THE AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM) SPECIFICATION D4956-90 FOR TYPE III MATERIALS.

COMBINED STREET NAME SIGN AND COUNTY ROAD ROUTE MARKER

FOR COMBINED STREET NAME SIGNS AND THE NORTHHUMBERLAND COUNTY ROAD ROUTE MARKER, THE COUNTY'S SPECIFICATIONS FOR BLADES, METAL TREATMENT, REFLECTIVE MATERIAL AND REQUIREMENTS SHALL APPLY.

STREET SIGN SCHEDULE

LOCATION	TYPE	STANDARD	SIZE(cm)	MESSAGE	STREET NAME BLADES
1	Ra101	OTF	75x75	STOP	STREET A/ELGIN STREET
2	Ra1	OTF	60x60	STOP	STREET B/STREET A
3	Ra1	OTF	60x60	STOP	STREET C/STREET B
4	Ra1	OTF	60x60	STOP	STREET C/STREET A
5	Ra1	OTF	60x60	STOP	STREET B/STREE A
6	Ra1	OTF	60x60	STOP	DENTON DRIVE/STREET A
7	Wa108	OTF	90x90	FACING SOUTH	STREET A
8	Ra1	OTF	60x60	STOP	STREET E/DENTON DRIVE
9	Ra1	OTF	60x60	STOP	STREET E/DENTON DRIVE
10	Wa108	OTF	90x90	FACING WEST	DENTON DRIVE



NO.	DATE	REVISION	BY

APPROVED	
DIRECTOR,ENGINEERING SERVICES TOWN OF COBOURG	LAKEFRONT UTILITIES INC.
DATE:	DATE:

THE CORPORATION OF THE TOWN OF COBOURG
PUBLIC WORKS DIVISION – ENGINEERING DEPARTMENT

VILLAGES OF CENTRAL PARK
RONDEAU (Cobourg) Ltd.

TRAFFIC SIGNAGE
AND DETAILS PLAN

D.G. Biddle & Associates Limited
consulting engineers and planners
96 KING STREET EAST • OSHAWA, ON L1H 1B6
PHONE (905)576-8500 • FAX (905)576-9730
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SCALE: HORZ 1:1000
DRAWN BY: H.R.
DESIGN BY: H.R.
CHECKED BY: M.B.C.
DATE: MAY 2019

PROJECT NO.
114057

DRAWING NO.
TS-1

\\SRH\SRH\WORK FILES\114000\114057 RONDEAU COBOURG\114057 ENGINEERING DRAWINGS\114057-TRAFFIC SIGNAGE AND DETAIL PLAN.DWG
July 31, 2019