50 LAKESIDE TERRACE
CITY OF BARRIE
COUNTY OF SIMCOE

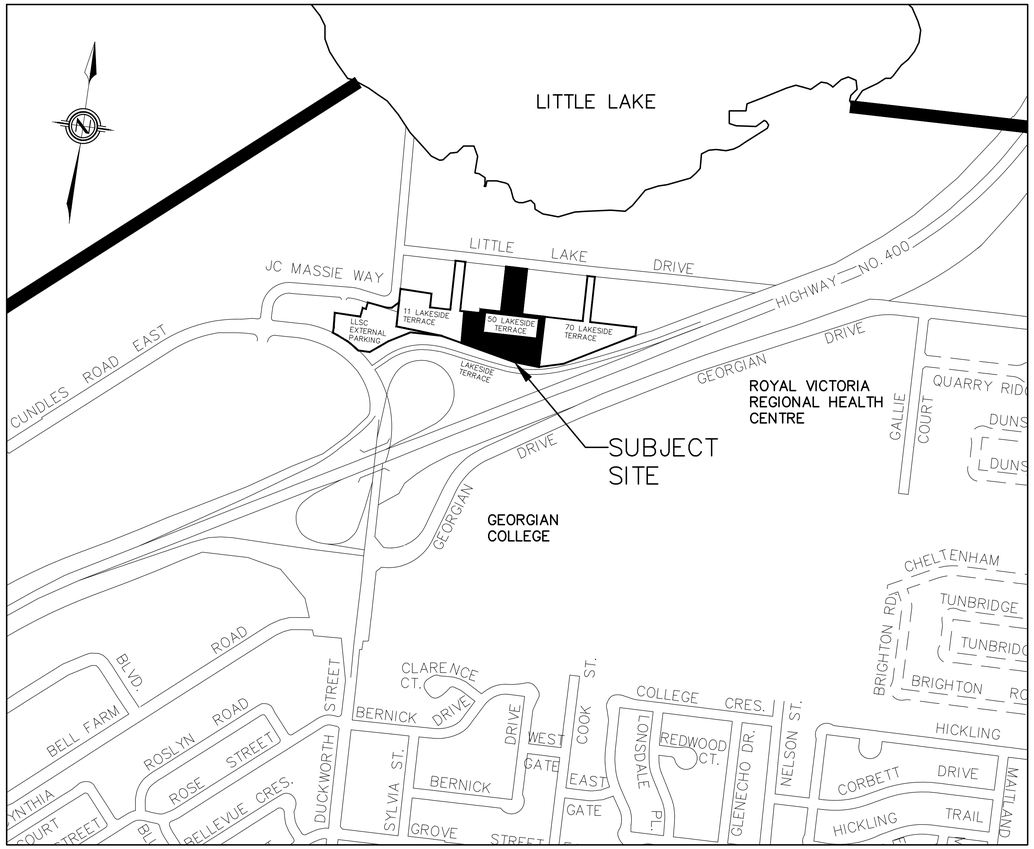
D11-1724

DRAWING LEGEND

TITLE	TITLE PAGE
N–1	GENERAL NOTES
EP–1	ENVIRONMENTAL PROTECTION AND REMOVALS PLAN
EP–2	ENVIRONMENTAL PROTECTION AND REMOVALS DETAILS
SG–1	SITE GRADING PLAN
SS–1	SITE SERVICING PLAN
STM–1	STORM DRAINAGE PLAN
PM–1	PAVEMENT MARKING PLAN
ST–1	STAGE 1 CONSTRUCTION
SEC–1	CROSS SECTION DETAILS
DET–1	STANDARD DETAILS
DET–2	STANDARD DETAILS
DET–3	STANDARD DETAILS

EXTERNAL REFERENCE DRAWINGS
LITTLE LAKE SENIORS COMMUNITY SUBDIVISION

STM–2	POST DEVELOPMENT OVERALL STORM DRAINAGE PLAN
GS–1	SUBDIVISION SERVICING PLAN (WEST)
GS–2	SUBDIVISION SERVICING PLAN (EAST)
EAS–1	SUBDIVISION EASEMENT PLAN–11, 50 & 70 LAKESIDE TERRACE



MUNICIPALITY:

CITY OF BARRIE
70 COLLIER STREET (BOX 400)
BARRIE, ON L4M 4T5
PH 705.726.4242
FAX 705.739.4243

CLIENT:

LAKESIDE TERRACE LTD.
3601 HWY 7 EAST, SUITE 610
MARKHAM, ON L3R 0M3
PH 905.479.9898

DEVELOPER'S ENGINEER:

JONES CONSULTING GROUP LTD.
PLANNERS & ENGINEERS
229 Mapleview Dr. E, Unit 1
Barrie, ON L4N 0W5
P. 705.734.2538
F. 705.734.1056

SITEPLAN EXEMPTION – APR. 2020

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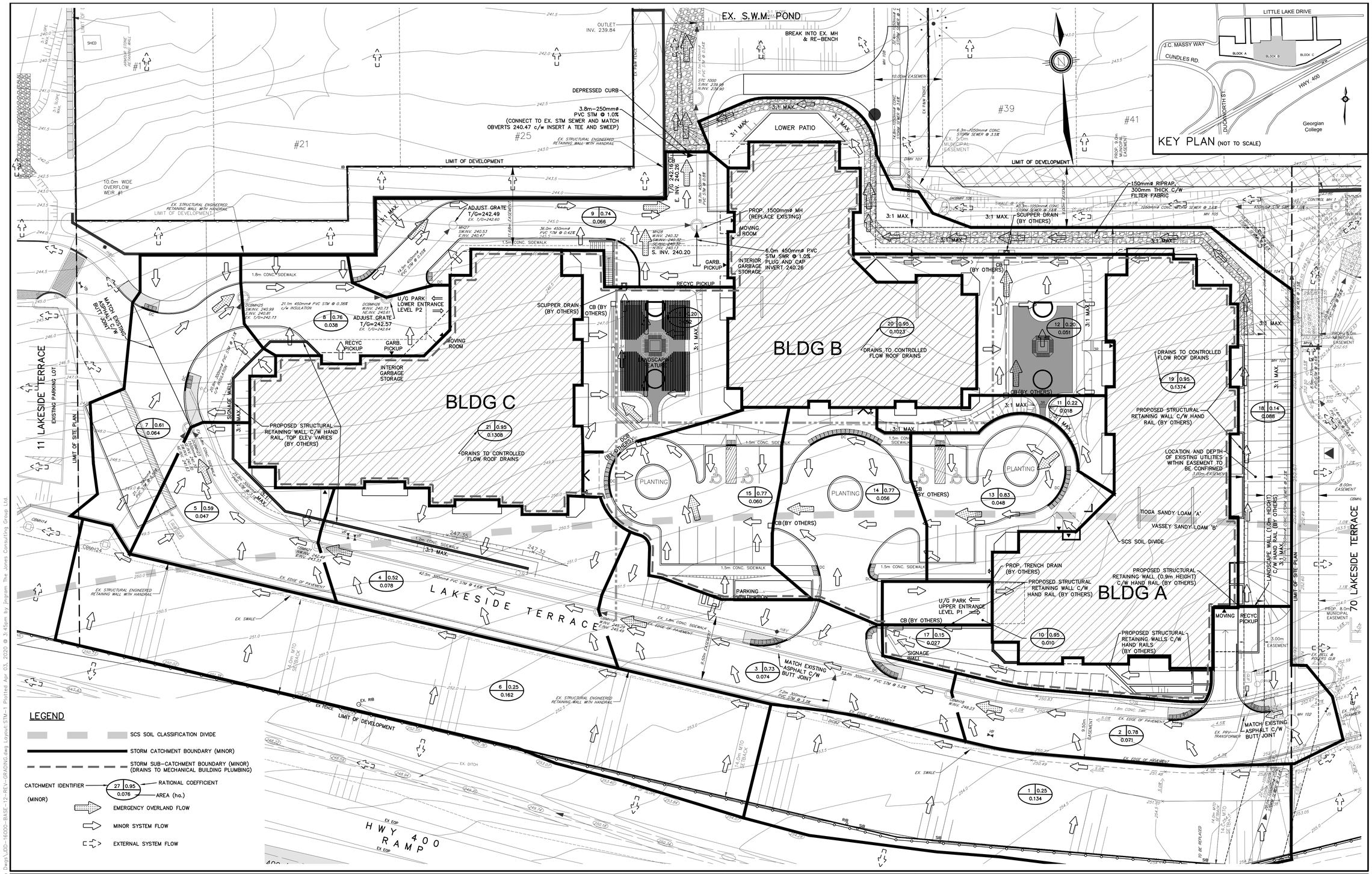

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BENCHMARK:

REFER TO HORIZONTAL & VERTICAL CONTROL MONUMENTS ON DRAWING N-1.

NO.	REVISIONS	DATE	INITIAL
7	SITE PLAN EXEMPTION	APR. 2020	JW
6	ISSUED FOR CONSTRUCTION – REV-1	NOV. 2018	JW
5	ISSUED FOR CONSTRUCTION	JUNE 2018	JW
4	BUILDING DEPARTMENT SUBMISSION	NOV. 2017	JW
3	THIRD SUBMISSION	MAY 2017	JW

LICENSED PROFESSIONAL ENGINEER
J. W. INGRAM
100143779
PROVINCE OF ONTARIO
20.04.03

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CITY OF BARRIE

STORM DRAINAGE PLAN

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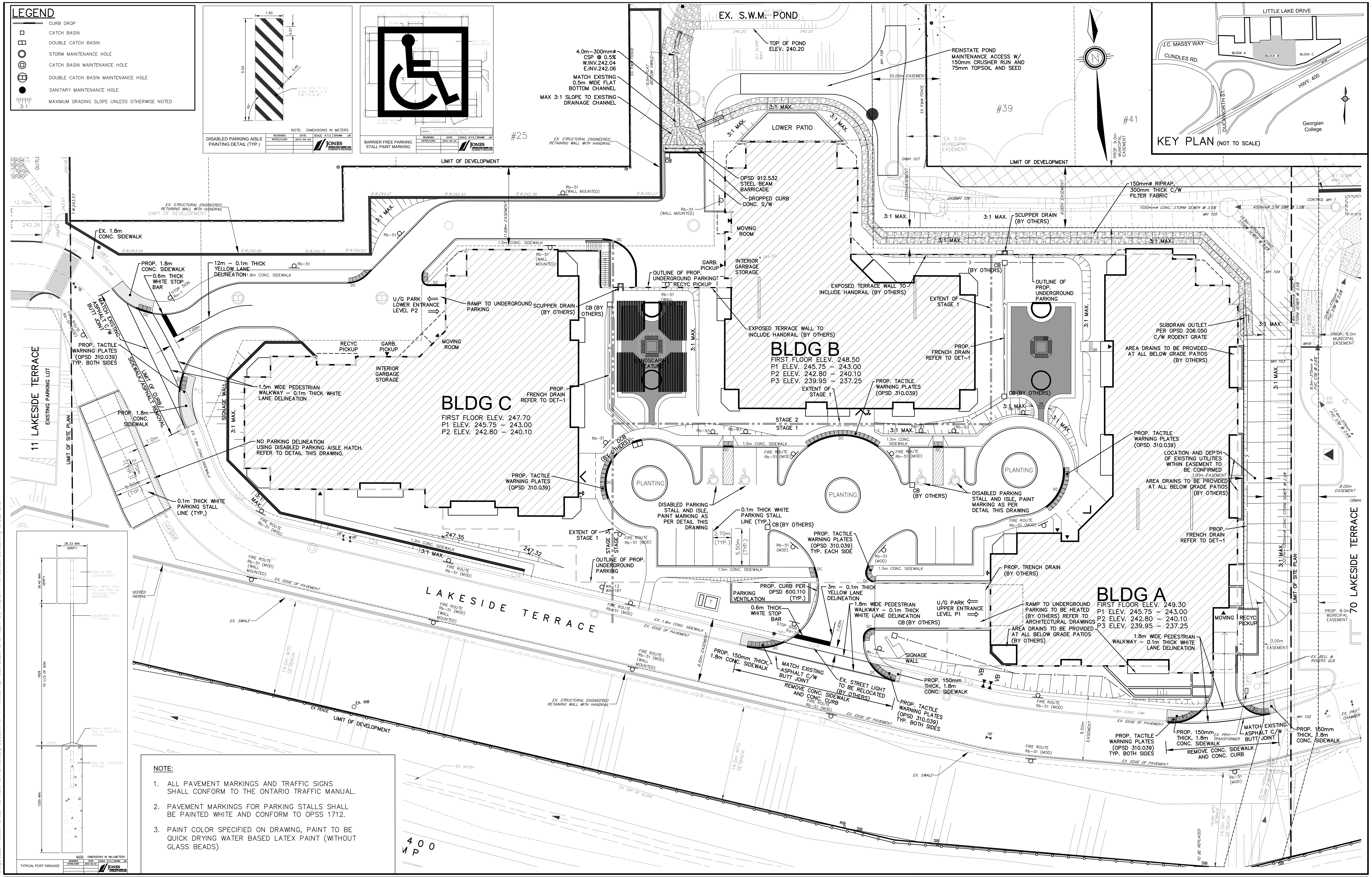
F. 705.734.1056

DESIGN JJH	SCALE: 1:250	DATE NOV. 2016	
DRAWN JJH	PROJECT JDD-16000	DWG. Nº STM-1	
CHECKED DR			



LEGEND

- CURB DROP
- CATCH BASIN
- DOUBLE CATCH BASIN
- STORM MAINTENANCE HOLE
- CATCH BASIN MAINTENANCE HOLE
- DOUBLE CATCH BASIN MAINTENANCE HOLE
- SANITARY MAINTENANCE HOLE
- 3:1 MAXIMUM GRADING SLOPE UNLESS OTHERWISE NOTED

NOTE:

1. ALL PAVEMENT MARKINGS AND TRAFFIC SIGNS SHALL CONFORM TO THE ONTARIO TRAFFIC MANUAL.
2. PAVEMENT MARKINGS FOR PARKING STALLS SHALL BE PAINTED WHITE AND CONFORM TO OPSS 1712.
3. PAINT COLOR SPECIFIED ON DRAWING, PAINT TO BE QUICK DRYING WATER BASED LATEX PAINT (WITHOUT GLASS BEADS)

REFER TO THE ONTARIO TRAFFIC MANUAL FOR ALL SIGNAGE AND PAVEMENT MARKINGS DETAILS UNLESS NOTED OTHERWISE

- Rb-93 PROPOSED SIGN & DESIGNATION
- STOP SIGN Ra-1
- NO PARKING Rb-51
- TEE INTERSECTION WA-13
- HIDDEN WA-18T
- NO PARKING – FIRE ROUTE MODIFIED Rb-51
- PEDESTRIANS AHEAD Wc-7
- DISABLED PARKING BY PERMIT ONLY RB-93

NO.	REVISIONS	DATE	INITIAL
7	SITE PLAN EXEMPTION	APR. 2020	JWI
6	ISSUED FOR CONSTRUCTION – REV–1	NOV. 2018	JWI
5	ISSUED FOR CONSTRUCTION	JUNE 2018	JWI
4	BUILDING DEPARTMENT SUBMISSION	NOV. 2017	JWI
3	THIRD SUBMISSION	MAY 2017	JWI

LICENSED PROFESSIONAL ENGINEER J. W. INGRAM 100143779 20.04.03 PROVINCE OF ONTARIO

LAKESIDE TERRACE LTD.
50 LAKESIDE TERRACE
CITY OF BARRIE

PAVEMENT MARKING AND SIGNAGE PLAN

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DESIGN JJH	SCALE: 1:250	DATE JAN. 2017
DRAWN JJH	PROJECT JDD–16000	DWG. Nº PM–1
CHECKED DR		

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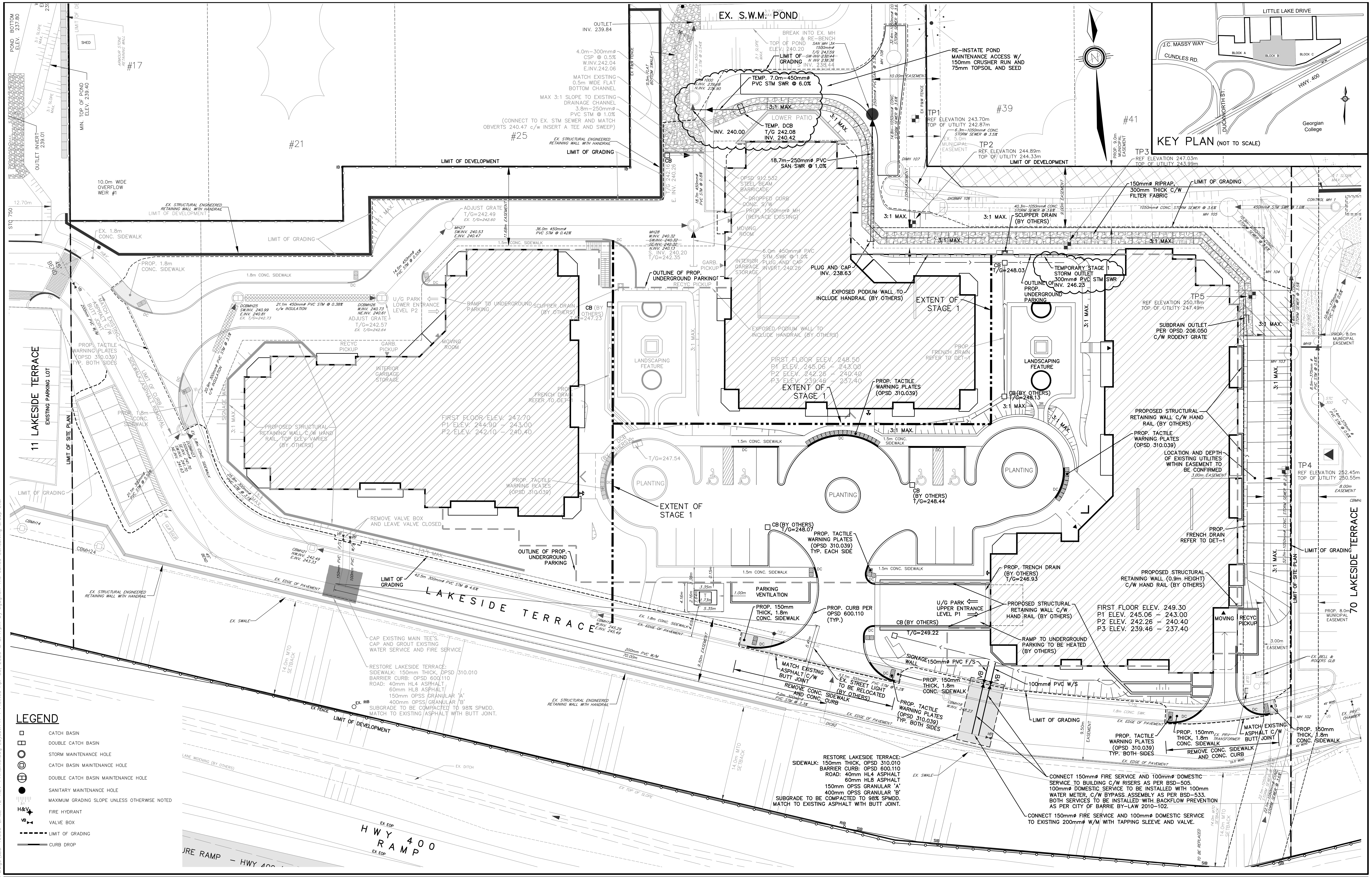

NOTE: DESIGN OF SANITARY SEWER, STORM SEWER, CATCHBASINS, SCUPPER DRAINS AND WATERMAIN WITHIN PARKING GARAGE AND ENVELOPE TO BE COMPLETED BY MECHANICAL ENGINEERING

BENCHMARK:

REFER TO HORIZONTAL & VERTICAL CONTROL MONUMENTS ON DRAWING N-1.

NO.	REVISIONS	DATE	INITIAL
4	SITE PLAN EXEMPTION	APR. 2020	JWI
3	ISSUED FOR CONSTRUCTION – REV-1	NOV. 2018	JWI
2	ISSUED FOR CONSTRUCTION	JUNE 2018	JWI
1	BUILDING DEPARTMENT SUBMISSION	NOV. 2017	JWI

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J. W. INGRAM
100143779
20.04.03
PROVINCE OF ONTARIO

LAKESIDE TERRACE LTD.
50 LAKESIDE TERRACE
CITY OF BARRIE

STAGE 1 CONSTRUCTION

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DESIGN JJH	SCALE: 1:250	DATE OCT. 2017
DRAWN JJH	PROJECT JDD-16000	DWG. № ST-1
CHECKED DR		

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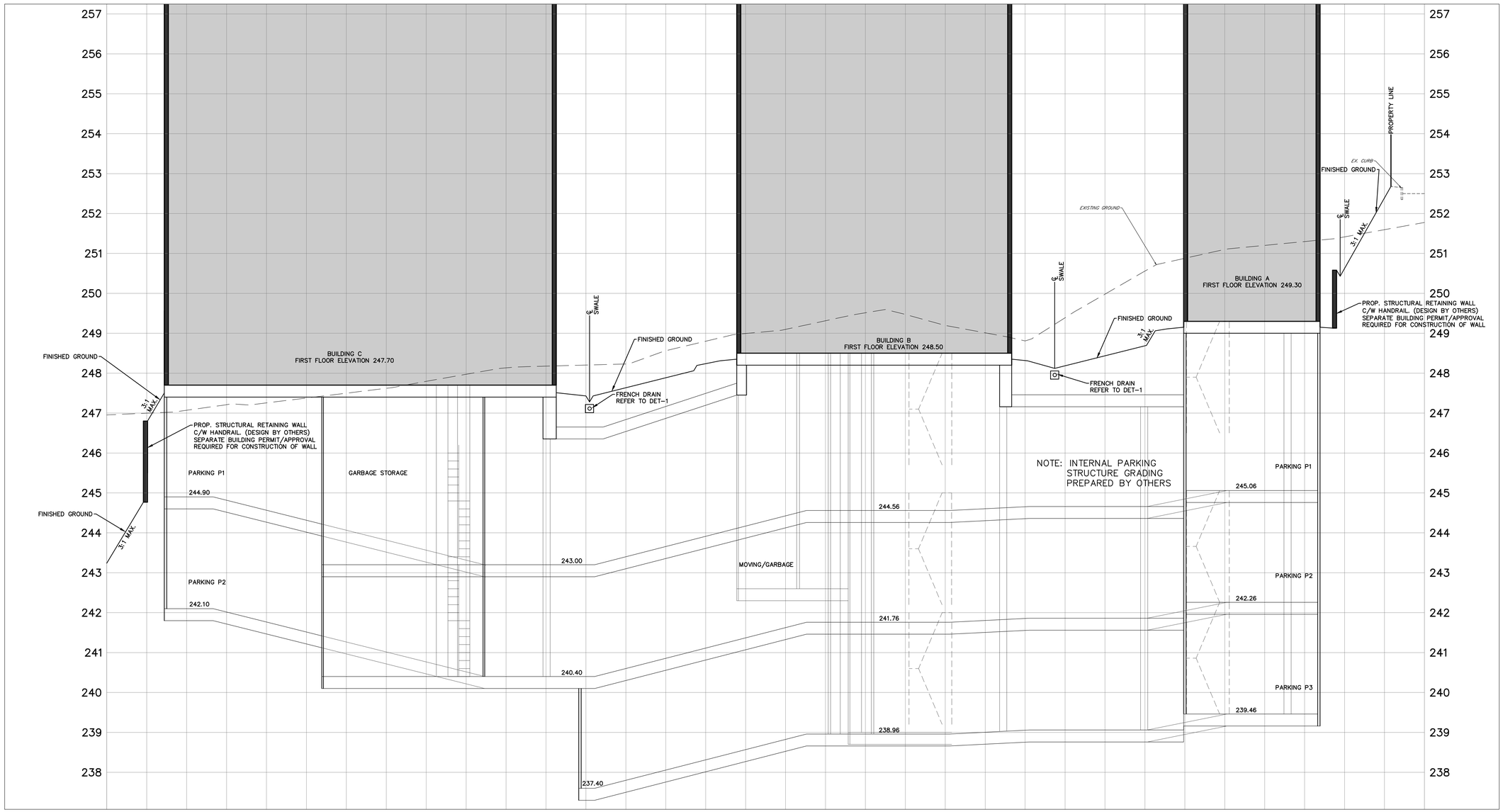

SECTION A–A

NOTE:
REFER TO ARCHITECTURAL DRAWINGS FOR
UNDERGROUND PARKING STRUCTURE DETAILS.
SECTION PROVIDED FOR ABOVEGROUND DETAILS ONLY.

BENCHMARK:

REFER TO HORIZONTAL & VERTICAL CONTROL MONUMENTS ON DRAWING N–1.

NO.	REVISIONS	DATE	INITIAL
7	SITE PLAN EXEMPTION	APR. 2020	JWI
6	ISSUED FOR CONSTRUCTION – REV–1	NOV. 2018	JWI
5	ISSUED FOR CONSTRUCTION	JUNE 2018	JWI
4	BUILDING DEPARTMENT SUBMISSION	NOV. 2017	JWI
3	THIRD SUBMISSION	MAY 2017	JWI

LICENSED PROFESSIONAL ENGINEER
J. W. INGRAM
100143779
20.04.03
PROVINCE OF ONTARIO

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50 LAKESIDE TERRACE
CITY OF BARRIE

CROSS SECTION DETAILS

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PLANNERS & ENGINEERS
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Barrie, ON L4N 0W5
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F. 705.734.1056

DESIGN KS	SCALE: H=1:250 V=1:50	DATE NOV. 2016	
DRAWN KS	PROJECT JDD–16000	DWG. Nº SEC–1	
CHECKED JWI			

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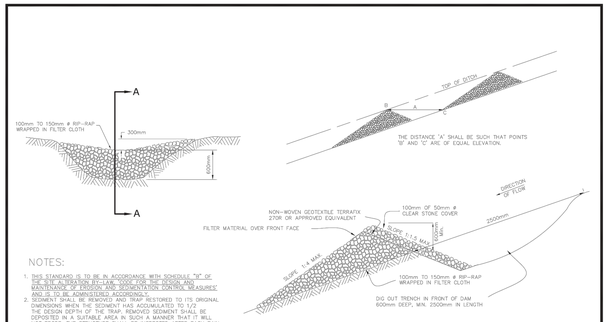
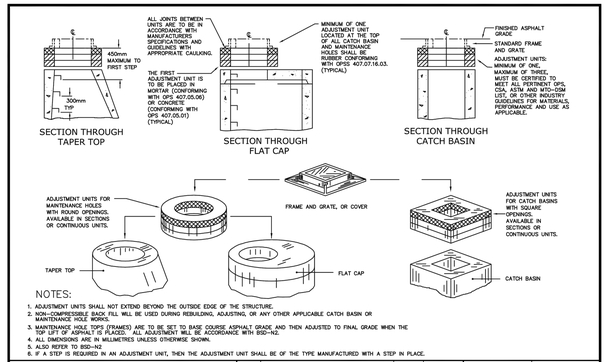


NOTES:

1. THIS STANDARD IS TO BE IN ACCORDANCE WITH SCHEDULE "B" OF THE SITE ALTERATION BY-LAW, 'CODE FOR THE DESIGN AND MAINTENANCE OF EROSION AND SEDIMENTATION CONTROL MEASURES' AND IS TO BE ADMINISTERED ACCORDINGLY.
2. THE SEDIMENT TRAP SHALL BE RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO 1/2 THE DESIGN DEPTH OF THE TRAP. REMOVED SEDIMENT SHALL BE DEPOSITED IN A SUITABLE AREA IN SUCH A MANNER THAT IT WILL NOT ERODE. THE STRUCTURE SHALL BE INSPECTED AFTER EACH RAIN AND REPAIRS SHALL BE MADE AS NEEDED. ALL REPAIRS SHALL BE CARRIED OUT IN SUCH A MANNER THAT EROSION AND WATER POLLUTION IS MINIMIZED.
3. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SHOWN.

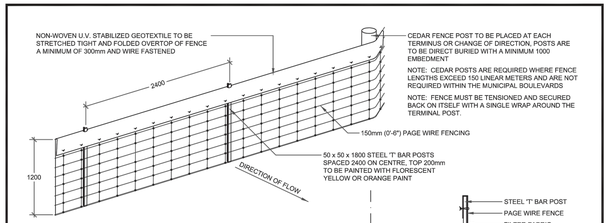
CITY OF BARRIE STANDARD						
TYPICAL GRANULAR EROSION CONTROL DEVICE					APR'D: R.G.N.	DATE: 04.03.16
					DRAWN: L.A.J.	SCALE: N.T.S.
	2	MODIFICATIONS BY ENV. SER.		2004.04.06		
	1	TRENCH ADDED AND FABRIC EXTENDED INTO IT	B.R.	2003.02.19		
	NO.	REVISION	APR'D	DATE	BSD-23B	



NOTES:

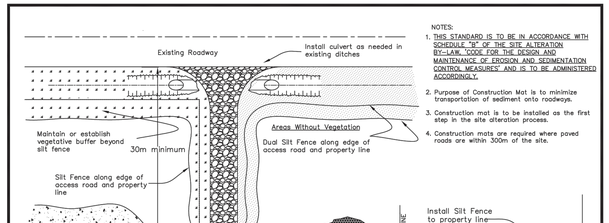
1. ADJUSTMENT UNITS SHALL NOT EXTEND BEYOND THE OUTSIDE EDGE OF THE STRUCTURE.
2. NON-COMPRESSIBLE BACK FILL WILL BE USED DURING REBUILDING, ADJUSTING, OR ANY OTHER APPLICABLE CATCH BASIN OR MAINTENANCE HOLE WORKS.
3. MAINTENANCE HOLE TOPS (FRAMES) ARE TO BE SET TO BASE COURSE ASPHALT GRADE AND THEN ADJUSTED TO FINAL GRADE WHEN THE TOP LIFT OF ASPHALT IS PLACED. ALL ADJUSTMENT WILL BE ACCORDANCE WITH BSD-N2.
4. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SHOWN.
5. ALSO REFER TO BSD-N2
6. IF A STEP IS REQUIRED IN AN ADJUSTMENT UNIT, THEN THE ADJUSTMENT UNIT SHALL BE OF THE TYPE MANUFACTURED WITH A STEP IN PLACE.

CITY OF BARRIE STANDARD						
MAINTENANCE HOLE AND CATCH BASIN ADJUSTMENT UNITS					APR'D: R.G.N.	DATE: 05/11/24
					DRAWN: R.B.R.	SCALE: N.T.S.
	1	CHANGES TO ADJUSTMENT OPTIONS		05/12/14		
	NO.	REVISION	APR'D	DATE	BSD-41	



1. THIS STANDARD IS TO BE USED IN ACCORDANCE WITH THE SITE ALTERATION BY-LAW FOR THE DESIGN AND MAINTENANCE OF EROSION CONTROL MEASURES AND IS TO BE ADMINISTERED ACCORDINGLY
2. SILT / SEDIMENT CONTROL FENCE SHOULD BE ALIGNED WITH CONTOURS FOR SHEET OVERLAND FLOW
3. SILTATION CONTROL FENCE IS TO BE LOCATED IN AREAS OF LOW SEDIMENT YIELD ON SLOPES THAT CONFIRM TO M.T.O. DRAINAGE MANUAL VOLUME 2 "CHART F4-3C TOPOGRAPHIC FACTOR LS BASED ON SLOPE LENGTH AND GRADIENT"
4. SILTATION CONTROL FENCE SHALL BE INSTALLED WITH FILTER MEDIA FABRIC TOED INTO THE SOIL 300mm BE EITHER STATIC SLICING OR TRENCHING METHODS WITH COMPACTION OF TRENCH MATERIAL MEETING 95% S.P.D.
5. USE A MINIMUM OF FOUR (4) 100MM, 16 GAUGE GALVANIZED T-POST CLIPS TO ATTACH PAGE WIRE FENCE TO EACH "T" BAR POST ATTACH PAGE WIRE TO CEDAR POSTS WITH "U" SHAPED GALVANIZED NAILS ON EACH HORIZONTAL STRAND.
6. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SHOWN
7. SILT / SEDIMENT CONTROL FENCE MAY BE UTILIZED FOR TREE PRESERVATION AND IS TO BE USED IN CONJUNCTION WITH BSD-1231, BSD-1232 AND BSD-1235

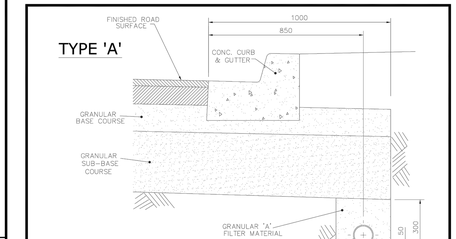
The City of BARRIE STANDARD DETAIL	SILTATION CONTROL FENCING	REV No. 1	DATE: APR 2014	APPROVED
			SCALE: N.T.S.	DATE . . . . .
		BSD-1233	FORMERLY BSD-23A	DIRECTOR OF ENGINEERING



NOTES:

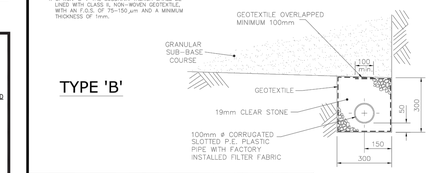
1. THIS STANDARD IS TO BE IN ACCORDANCE WITH SCHEDULE "B" OF THE SITE ALTERATION BY-LAW, 'CODE FOR THE DESIGN AND MAINTENANCE OF EROSION AND SEDIMENTATION CONTROL MEASURES' AND IS TO BE ADMINISTERED ACCORDINGLY.
2. Purpose of Construction Mat is to minimize transportation of sediment onto roadways.
3. Construction mat is to be installed as the first step in the site alteration process.
4. Construction mats are required where paved roads are within 300m of the site.

CITY OF BARRIE STANDARD						
CONSTRUCTION ENTRANCE MAT	1.	Standardized Dimension Text	J.S.	05.10.28	APR'D: R.G.N.	DATE: 04.03.16
					DRAWN: A.S.C	SCALE: N.T.S
	NO.	REVISION	APR'D	DATE	BSD-23D	



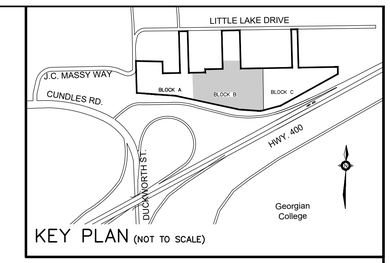
NOTES:

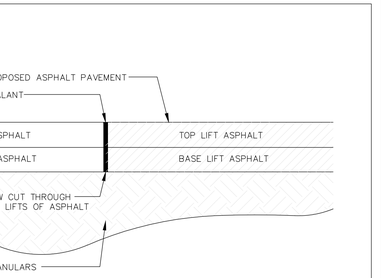
1. ALL CONNECTIONS TO BE MADE ON THE UPSTREAM SIDE OF ALL CATCH BASINS. MORTARED INSIDE AND OUTSIDE.
2. SUBDRAINS TO BE PLUGGED AT THE HIGH END WITH A MANUFACTURED PLUG.
3. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS SHOWN OTHERWISE.
4. OPTION 'B' : THE SUBDRAIN TRENCH SHALL BE LINED WITH CLASS II, NON-WOVEN GEOTEXTILE, WITH AN F.O.S. OF 75–150 µm AND A MINIMUM THICKNESS OF 1mm.



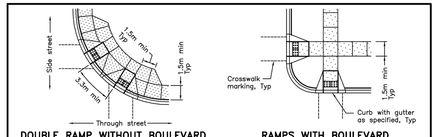
NO.	REVISION	APR'D	DATE
1.	LOCATION OF SUBDRAIN, ADDED CLEAR STONE OPTION	R.J.F.	95.10.17

CITY OF BARRIE STANDARD			
TYPICAL 100mm SUBDRAIN DETAIL	APR'D: R.G.N.	DATE: 92.05.15	
	DRAWN: Z.M.S.	SCALE: N.T.S.	
	BSD-34		



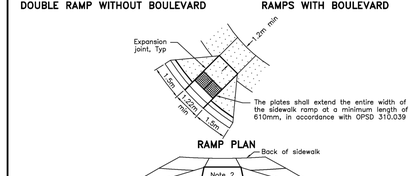


BUTT JOINT DETAIL	REVISIONS	DATE:	SCALE: N.T.S.	DRAWN: JJH
			JONES CONSULTING GROUP LTD. PLANNERS & ENGINEERS	



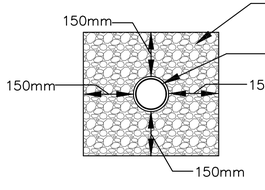
NOTES:
1 Slope of ramp shall not exceed 8%.
2 Cross slope of ramp shall not exceed 2% in either direction.
3 Cross slope of flared side of ramp shall not exceed 8%.
4 Dropped curb at ramp shall be modified to eliminate 30 mm step at gutter line.
5 Minimum thickness of ramp is 200mm. Minimum thickness of sidewalk and flared sides adjacent to ramp is 150mm.
A All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING			
CONCRETE SIDEWALK RAMPS AT UNSIGNALIZED INTERSECTIONS	Nov 2015	Rev 0	
			OPSD 310.033



NOTES:
1 Embedment material shall be 19mm clear stone or granular as specified.
2 Outlet pipe and subdrain trench embedment material shall be wrapped with geotextile.
3 For catch basin connections, outlet pipe trenches backfilled with granular do not require geotextile wrap.
4 Install outlet pipe flush with inside face of catch basin.
A Use compatible manufactured fittings for all connectors and couplings.
B All dimensions are in millimetres unless otherwise shown

ONTARIO PROVINCIAL STANDARD DRAWING			
SUBDRAIN PIPE CONNECTION AND OUTLET RURAL	Nov 2008	Rev 1	
			OPSD 206.050



FRENCH DRAIN DETAIL	REVISIONS	DATE:	SCALE: N.T.S.	DRAWN: J.T.
			JONES CONSULTING GROUP LTD. PLANNERS & ENGINEERS	229 Mapleview Dr. E, Unit 1 Barrie, ON L4N 0W5 P. 705.734.2538 F. 705.734.1056

NOTES:
1 For sump detail, see OPSD 701.010.
A Granular backfill shall be placed to a minimum thickness of 300mm all around the maintenance hole.
B Precast concrete components shall be according to OPSD 701.030, 701.031, 701.040, 701.041, 703.011, 703.021, and 706.010.
C Structures exceeding 5.0m in depth shall include safety platform according to OPSD 404.020 or 404.021.
D Pipe support shall be according to OPSD 708.020.
E For benching and pipe opening details, see OPSD 701.021.
F For adjustment unit and frame installation, see OPSD 704.010.
G All dimensions are nominal.
H All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING			
PRECAST CONCRETE MAINTENANCE HOLE 1500mm DIAMETER	Nov 2014	Rev 5	
			OPSD 701.011

BENCHMARK:	NO.	REVISIONS	DATE	INITIAL
REFER TO HORIZONTAL & VERTICAL CONTROL MONUMENTS ON DRAWING N-1	7	SITE PLAN EXEMPTION	APR. 2020	JW
	6	ISSUED FOR CONSTRUCTION – REV-1	NOV. 2018	JW
	5	ISSUED FOR CONSTRUCTION	JUNE 2018	JW
	4	BUILDING DEPARTMENT SUBMISSION	NOV. 2017	JW
	3	THIRD SUBMISSION	MAY 2017	JW

LICENSED PROFESSIONAL ENGINEER J. W. INGRAM 100143779 20.04.03 PROVINCE OF ONTARIO

LAKESIDE TERRACE LTD.
50 LAKESIDE TERRACE
CITY OF BARRIE

STANDARD DETAILS

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F. 705.734.1056

DESIGN KS	SCALE:	DATE JAN. 2017
DRAWN KS	PROJECT JDD–16000	DWG. Nº DET–1
CHECKED JI		

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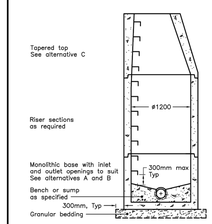
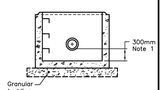
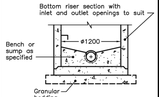


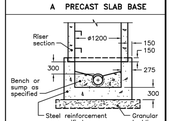


SUMP DETAIL

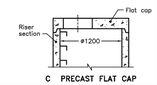
ALTERNATIVES



A PRECAST SLAB BASE



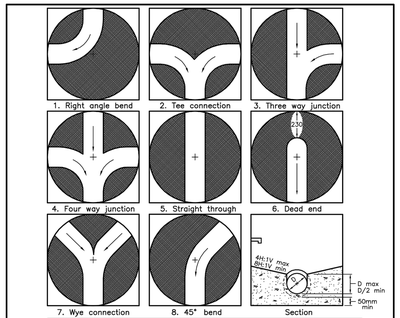
B CAST-IN-PLACE BASE



C PRECAST FLAT CAP

NOTES:
1 The sump is measured from the lowest invert.
A Granular backfill shall be placed to a minimum thickness of 300mm all around the maintenance hole.
B Precast concrete components shall be according to OPSD 701.030, 701.031, or 701.032.
C Structure exceeding 5.0m in depth shall include safety platform according to OPSD 404.020.
D Pipe support according to OPSD 708.020.
E For benching and pipe opening details, see OPSD 701.021.
F For adjustment unit and frame installation, see OPSD 704.010.
G All dimensions are nominal.
H All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2014	Rev 5
PRECAST CONCRETE MAINTENANCE HOLE 1200mm DIAMETER		OPSD 701.010



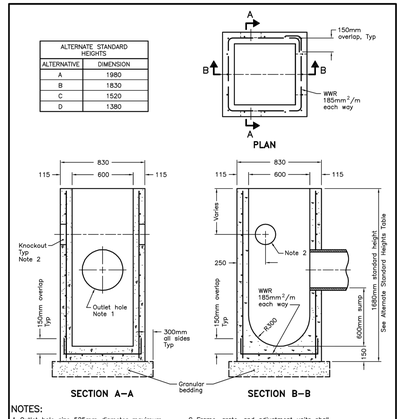
MAXIMUM SIZE HOLE IN THE WALL IN PRECAST RISER SECTIONS

Maintenance Hole Diameter	No. 1–4	No. 5 and 6	No. 8	No.7 Inlet Hole	No.7 Outlet Hole
1200	700	860	780	700	860
1500	860	1220	960	860	1170
1800	1220	1485	1220	1220	1485
2400	1485	2020	1760	1485	2020
3000	1930	2450	2300	1930	2450
3600	2470	3085	2730	2470	3085

NOTES:
1 Slopes shall be maintained from the outlet hole opening for top of benching.
A Concrete for benching shall be 30MPa.
B When benching is hand-finished, it shall be given wood float finish, channel shall be given steel trowel finish.
C Benching slope and height shall be as specified.
D When specified, maintenance holes that are 1200mm in diameter with a uniform channel for 200 or 250mm pipe may be prebenched at the manufacturer with standardized benching slope and channel orientation.
E All dimensions are nominal.
F All dimensions are in millimetres unless otherwise shown.

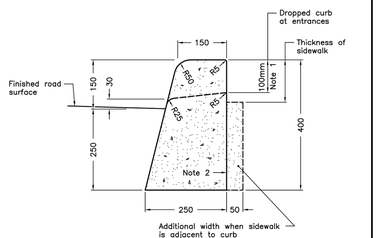
ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2014	Rev 4
MAINTENANCE HOLE BENCHING AND PIPE OPENING ALTERNATIVES		OPSD 701.021

ALTERNATE STANDARD HEIGHTS	
ALTERNATIVE	DIMENSION
A	1980
B	1830
C	1520
D	1380



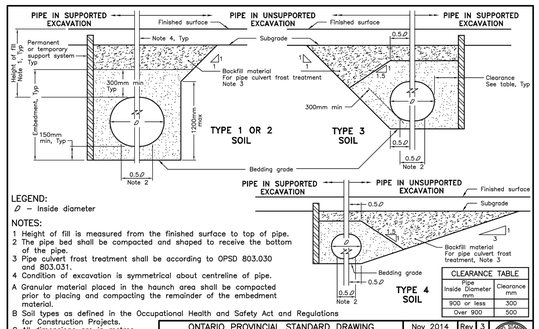
NOTES:
1 Outlet hole size 525mm diameter maximum, location as required.
2 200mm diameter knockout to accommodate subdrain. Knockout shall be 60mm deep.
A Centre reinforcing in base slab and walls ±20mm.
B Granular backfill shall be placed to a minimum thickness of 300mm all around the catch basin.
C Frame, grate, and adjustment units shall be installed according to OPSD 704.010.
D Pipe support shall be according to OPSD 708.020.
E All dimensions are nominal.
F All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2014	Rev 3
PRECAST CONCRETE CATCH BASIN 600x600mm		OPSD 705.010



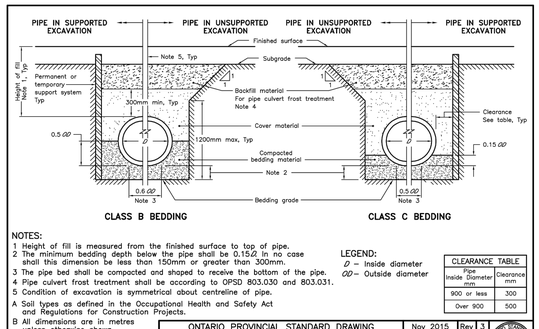
NOTES:
1 When sidewalk is continuously adjacent, the dropped curb at entrances shall be reduced to 75mm.
2 For slipforming procedure a 5% batter is acceptable.
A Treatment at entrances shall be according to OPSD 351.010.
B Outlet treatment shall be according to the OPSD 610 Series.
C The transition from one curb type to another shall be a minimum length of 3.0m, except in conjunction with guide rail where it shall be according to the OPSD 900 Series.
D All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2012	Rev 2
CONCRETE BARRIER CURB		OPSD 600.110



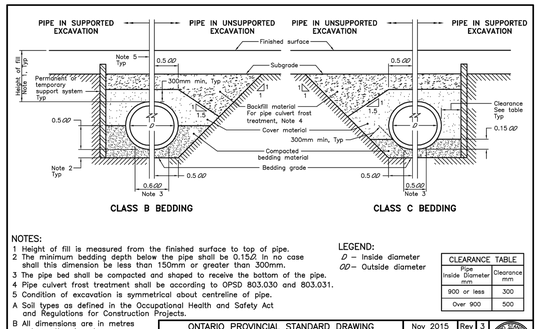
CLEARANCE TABLE	
Pipe Inside Diameter mm	Clearance mm
900 or less	300
Over 900	500

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2014	Rev 3
FLEXIBLE PIPE EMBEDMENT AND BACKFILL EARTH EXCAVATION		OPSD 802.010



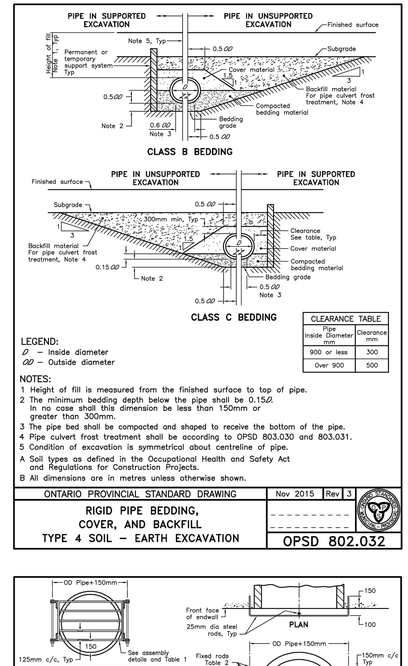
CLEARANCE TABLE	
Pipe Inside Diameter mm	Clearance mm
900 or less	300
Over 900	500

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2015	Rev 3
RIGID PIPE BEDDING, COVER, AND BACKFILL TYPE 1 OR 2 SOIL – EARTH EXCAVATION		OPSD 802.030



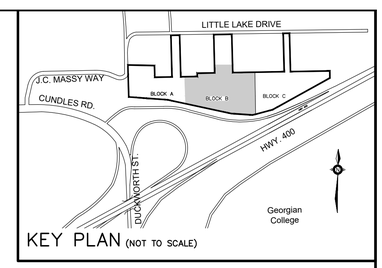
CLEARANCE TABLE	
Pipe Inside Diameter mm	Clearance mm
900 or less	300
Over 900	500

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2015	Rev 3
RIGID PIPE BEDDING, COVER, AND BACKFILL TYPE 3 SOIL – EARTH EXCAVATION		OPSD 802.031



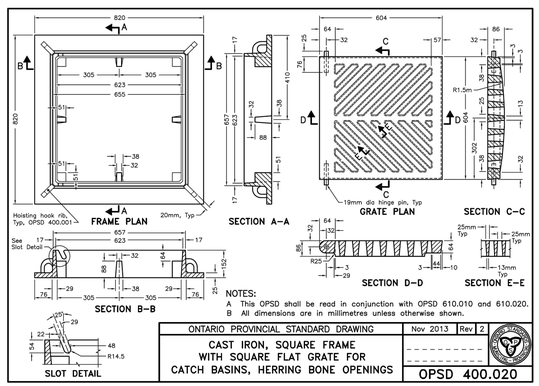
CLEARANCE TABLE	
Pipe Inside Diameter mm	Clearance mm
900 or less	300
Over 900	500

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2015	Rev 3
RIGID PIPE BEDDING, COVER, AND BACKFILL TYPE 4 SOIL – EARTH EXCAVATION		OPSD 802.032



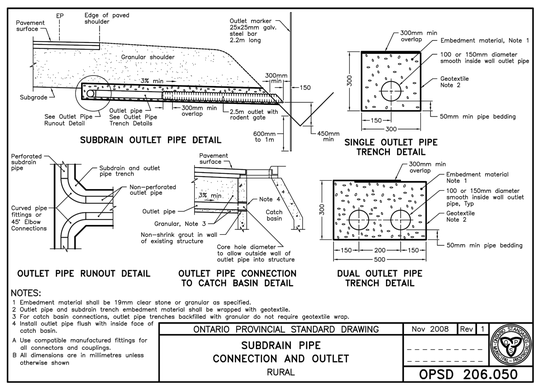
CLEARANCE TABLE	
Pipe Inside Diameter mm	Clearance mm
900 or less	300
Over 900	500

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2015	Rev 3
RIGID PIPE BEDDING, COVER, AND BACKFILL TYPE 4 SOIL – EARTH EXCAVATION		OPSD 802.032



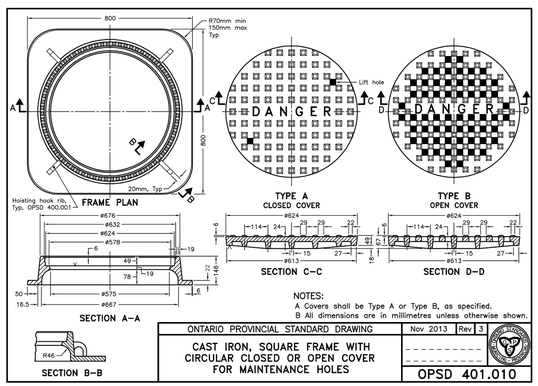
NOTES:
A This OPSD shall be read in conjunction with OPSD 610.010 and 610.020.
B All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2013	Rev 2
CAST IRON, SQUARE FRAME WITH SQUARE FLAT GRATE FOR CATCH BASINS, HERRING BONE OPENINGS		OPSD 400.020



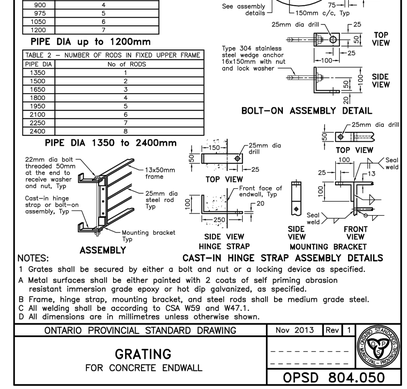
NOTES:
1 Embedment material shall be 19mm clear stone or equivalent.
2 Outlet pipe and subdrain trench embedment material shall be wrapped with geotextile.
3 For catch basin connections, outlet pipe trenches backfilled with granular do not require geotextile wrap.
4 Install outlet pipe flush with inside face of catch basin.
A Use compatible manufactured fittings for all connectors and couplings.
B All dimensions are in millimetres unless otherwise shown

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2008	Rev 1
SUBDRAIN PIPE CONNECTION AND OUTLET RURAL		OPSD 206.050



NOTES:
A Covers shall be Type A or Type B, as specified.
B All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2013	Rev 3
CAST IRON, SQUARE FRAME WITH CIRCULAR CLOSED OR OPEN COVER FOR MAINTENANCE HOLES		OPSD 401.010



NOTES:
1 Grates shall be secured by either a bolt and nut or a locking device as specified.
A Metal surfaces shall be either painted with 2 coats of self priming abrasion resistant immersion grade epoxy or hot dip galvanized, as specified.
B Frame, hinge strap, mounting bracket, and steel rods shall be medium grade steel.
C All welding shall be according to CSA W59 and W47.1.
D All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2013	Rev 1
GRATING FOR CONCRETE ENDWALL		OPSD 804.050

BENCHMARK:

REFER TO HORIZONTAL & VERTICAL CONTROL MONUMENTS ON DRAWING N–1

NO.	REVISIONS	DATE	INITIAL
7	SITE PLAN EXEMPTION	APR. 2020	JW
5	ISSUED FOR CONSTRUCTION	JUNE 2018	JW
4	BUILDING DEPARTMENT SUBMISSION	NOV. 2017	JW
3	THIRD SUBMISSION	MAY 2017	JW
2	SECOND SUBMISSION	APR. 2017	JW

LAKESIDE TERRACE LTD.
50 LAKESIDE TERRACE
CITY OF BARRIE

STANDARD DETAILS

JONES CONSULTING GROUP LTD.
PLANNERS & ENGINEERS
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Barrie, ON L4N 0W5
P. 705.734.2538
F. 705.734.1056

DESIGN	KS	SCALE:	DATE JAN. 2017
DRAWN	KS	PROJECT JDD–16000	DWG. Nº DET–2
CHECKED	JI		

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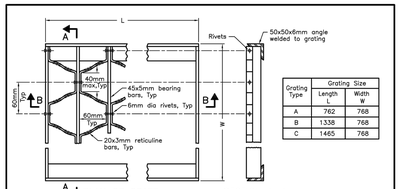


Grating Type	Grating Size	
	Length L	Width W
A	762	768
B	1338	768
C	1465	768

NOTES:
A Fastener shall be inserted to maintain minimum concrete cover requirements.
B All steel components and rivets shall be galvanized.
C All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2013	Rev 2
GALVANIZED STEEL HONEYCOMB GRATING FOR DITCH INLETS		OPSD 403.010

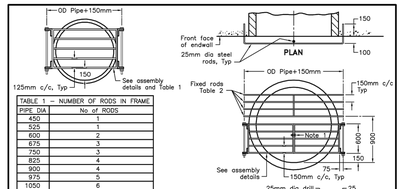
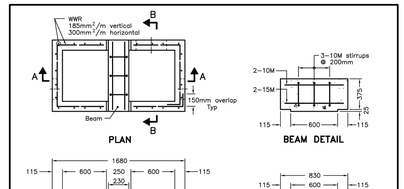


TABLE 1 – NUMBER OF RODS IN FRAME	
PIPE DIA	No. of RODS
450	1
525	1
600	2
675	3
750	3
825	4
900	4
975	5
1050	6
1200	6

TABLE 2 – NUMBER OF RODS IN FIXED UPPER FRAME	
PIPE DIA	No of RODS
1350	1
1500	2
1650	3
1800	4
1950	5
2100	6
2250	7
2400	8

NOTES:
1 Grates shall be secured by either a bolt and nut or a locking device as specified.
A Metal surfaces shall be either painted with 2 coats of self priming abrasion resistant immersion grade epoxy or hot dip galvanized, as specified.
B Frame, hinge strap, mounting bracket, and steel rods shall be medium grade steel.
C All welding shall be according to CSA W59 and W47.1.
D All dimensions are in millimetres unless otherwise shown.

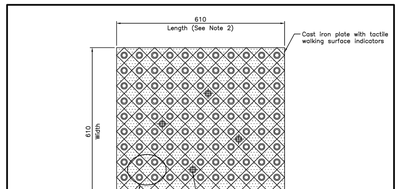
ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2013	Rev 1
GRATING FOR CONCRETE ENDWALL		OPSD 804.050



NOTES:
1 Outlet hole size 525mm diameter maximum, location as required.
2 200mm diameter knockout to accommodate subdrain. Knockout shall be 60mm deep.
3 Minimum clearance between beam recess and hole for pipe shall be 300mm or minimum clearance can be 150mm with addition of two 15M size rebar on 45 degree diagonal.
A Centre reinforcing in base slab and walls ±20mm.
B Granular backfill shall be placed to a minimum thickness of 300mm all around the catch basin.
C Frame, grate, and adjustment units shall be installed according to OPSD 704.010.
D Pipe support shall be according to OPSD 708.020.
E All dimensions are nominal.
F All dimensions are in millimetres unless otherwise shown.

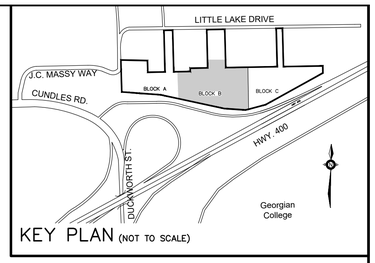
ALTERNATE STANDARD HEIGHTS	
ALTERNATIVE	DIMENSION
A	1980
B	1830
C	1680

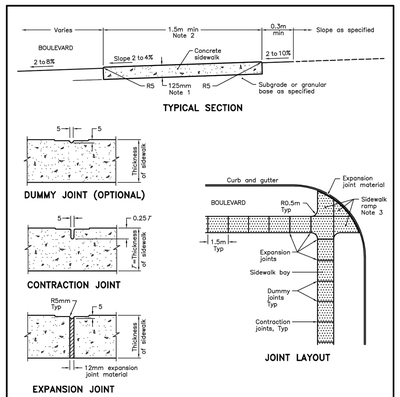
ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2014	Rev 3
PRECAST CONCRETE TWIN INLET CATCH BASIN 600 x 1450mm		OPSD 705.020



NOTES:
1 Vents shall be as specified by the manufacturer.
2 Length of plate may be increased to suit the curb depression width.
A Adjacent cast iron plates shall be permanently connected using a locking mechanism and any hardware shall be hot dipped galvanized.
B All dimensions are in millimetres unless otherwise shown.

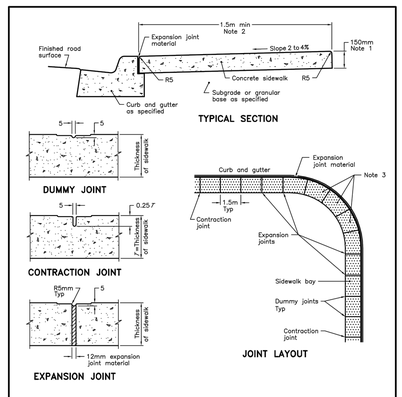
ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2015	Rev 0
CONCRETE SIDEWALK RAMPS TACTILE WALKING SURFACE INDICATORS COMPONENT		OPSD 310.039





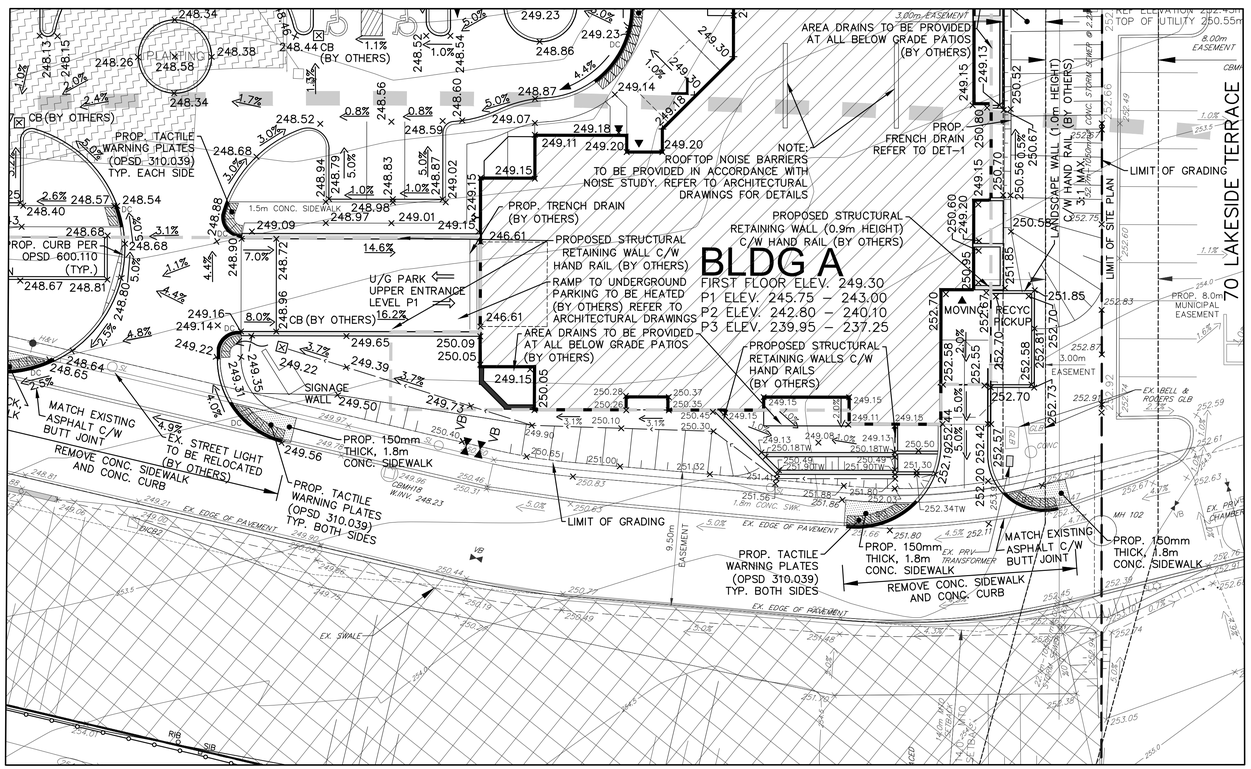
NOTES:
1 Sidewalk thickness at residential driveways and adjacent to curb shall be 150mm. At commercial and industrial driveways, the thickness shall be 200mm.
2 Sidewalk width shall be wider when specified.
3 This OPSD shall be read in conjunction with OPSD 310.030, 310.031, 310.032, 310.033 and 310.039.
A All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2015	Rev 2
CONCRETE SIDEWALK		OPSD 310.010



NOTES:
1 At commercial and industrial driveways, the thickness shall be 200mm.
2 Sidewalk width shall be wider when specified.
3 This OPSD shall be read in conjunction with OPSD 310.030, 310.031, 310.032, 310.033 and 310.039.
A All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2015	Rev 2
CONCRETE SIDEWALK ADJACENT TO CURB AND GUTTER		OPSD 310.020



GRADING DETAIL
1:200

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BENCHMARK:
REFER TO HORIZONTAL & VERTICAL CONTROL MONUMENTS ON DRAWING N-1

NO.	REVISIONS	DATE	INITIAL
7	SITE PLAN EXEMPTION	APR. 2020	JW
6	ISSUED FOR CONSTRUCTION – REV–1	NOV. 2018	JW
5	ISSUED FOR CONSTRUCTION	JUNE 2018	JW
4	BUILDING DEPARTMENT SUBMISSION	NOV. 2017	JW
3	THIRD SUBMISSION	MAY 2017	JW

LICENSED PROFESSIONAL ENGINEER
J. W. INGRAM
100143779
20.04.03
PROVINCE OF ONTARIO

LAKESIDE TERRACE LTD.
50 LAKESIDE TERRACE
CITY OF BARRIE

STANDARD DETAILS

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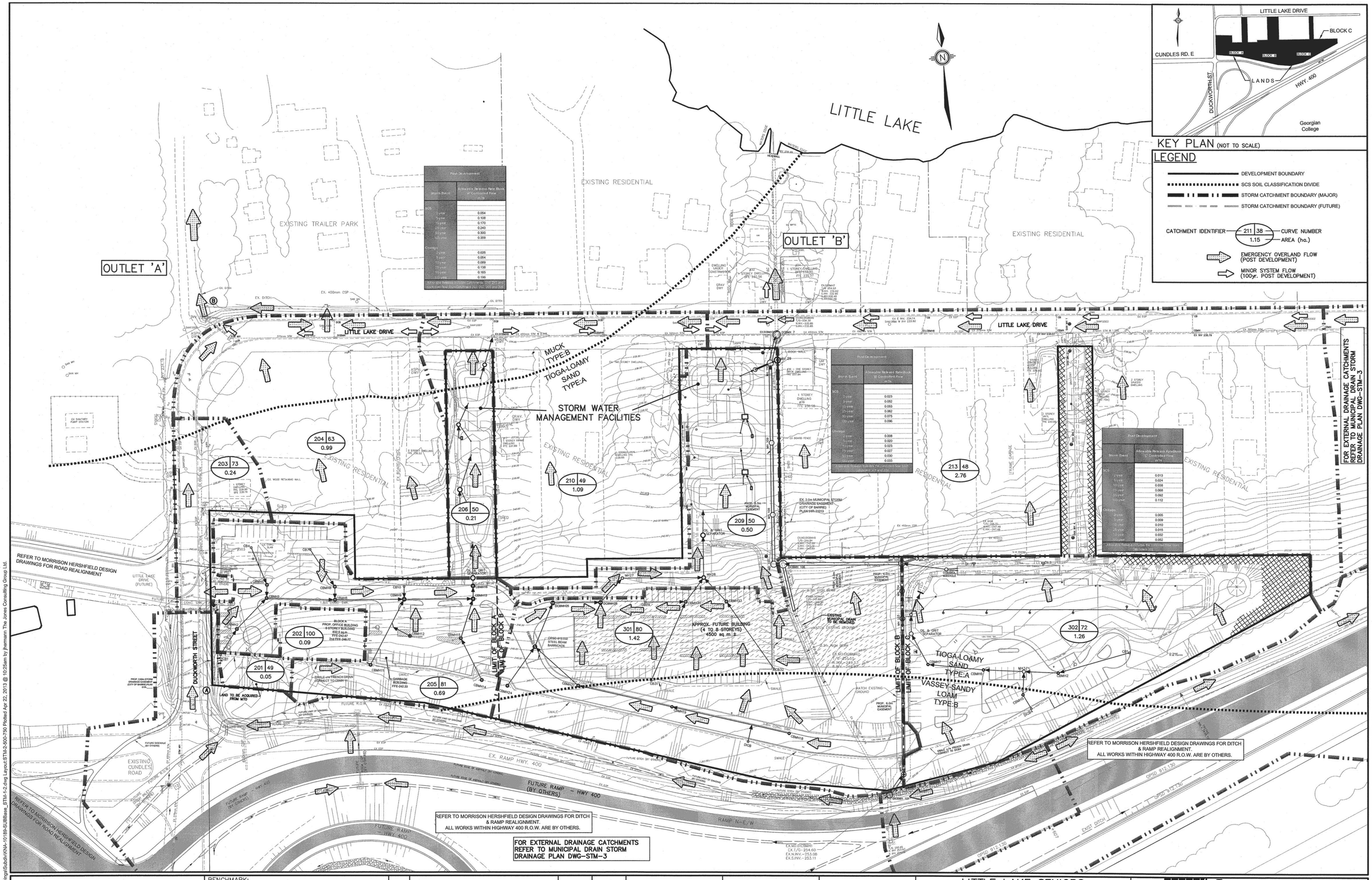
DESIGN	KS	SCALE:	DATE	JAN. 2017
DRAWN	KS	PROJECT JDD–16000	DWG. Nº	DET–3
CHECKED	JI			



KEY PLAN (NOT TO SCALE)

LEGEND

- DEVELOPMENT BOUNDARY
- SCS SOIL CLASSIFICATION DIVIDE
- STORM CATCHMENT BOUNDARY (MAJOR)
- STORM CATCHMENT BOUNDARY (FUTURE)
- CATCHMENT IDENTIFIER — 211 / 38 — CURVE NUMBER; 1.15 — AREA (ha.)
- EMERGENCY OVERLAND FLOW (POST DEVELOPMENT)
- MINOR SYSTEM FLOW (100yr. POST DEVELOPMENT)

BENCHMARK:

REFER TO TITLE DRAWING FOR BENCHMARK INFORMATION

NO.	REVISIONS	DATE	INITIAL

CITY OF BARRIE APPROVED

DATE .....

DIRECTOR OF ENGINEERING

LICENSED PROFESSIONAL ENGINEER D. F. RICHARDSON 100112707 Apr 22/13 PROVINCE OF ONTARIO

LITTLE LAKE SENIORS COMMUNITY SUBDIVISION DUCKWORTH AND HWY 400 CITY OF BARRIE

POST DEVELOPMENT OVERALL STORM DRAINAGE PLAN

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Phone: 705-734-2538 Fax: 705-734-1056
www.jonesconsulting.com

DESIGN RJW/JWI	SCALE: 1:750	DATE APRIL 2013	
DRAWN JJH	PROJECT KNA-10189	DWG. № STM-2	
CHECKED RJL			

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