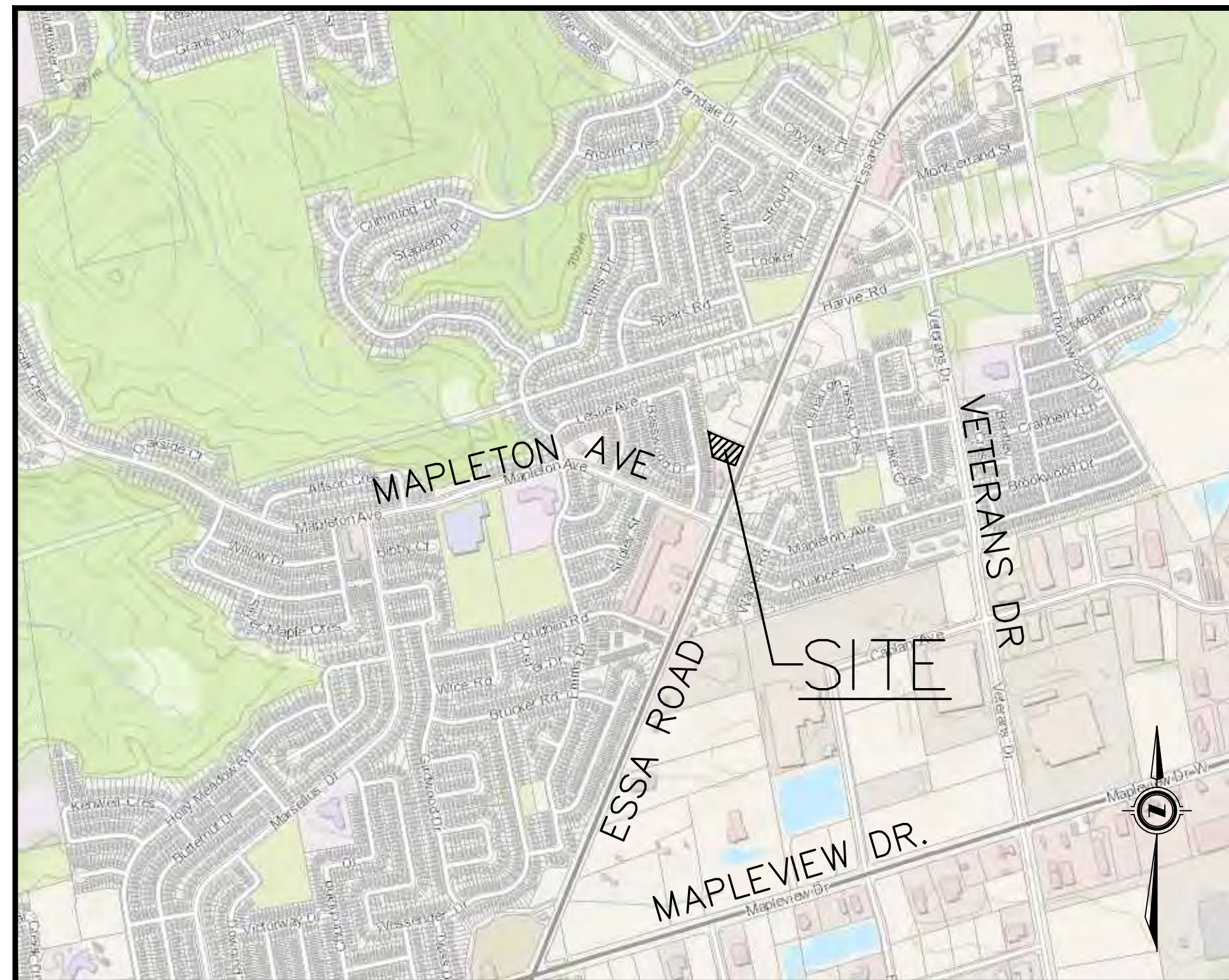




SITE LOCATION

PROPOSED RESIDENTIAL DEVELOPMENT

521-525 ESSA ROAD



PEL

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LIST OF DRAWINGS

RM-1	EXISTING CONDITIONS AND REMOVALS PLAN
ESC-1	EROSION AND SEDIMENT CONTROL PLAN
SERV-1	SITE SERVICING PLAN
GP-1	SITE GRADING PLAN
PM-1	PAVEMENT PAINT MARKINGS AND SIGNAGE PLAN
PRE-1	PRE-DEVELOPMENT CATCHMENT PLAN
POST-1	POST DEVELOPMENT CATCHMENT PLAN
STM-1	STORM SEWER CATCHMENT PLAN
DET-1	STANDARD AND CONSTRUCTION DETAILS
GN-1	GENERAL NOTES AND DETAILS

PROJECT NO. 20-11501-B

FOR APPROVAL
MAY 2021



NOTE: EXISTING WELLS ON THE PROPERTY SHALL BE DECOMMISSIONED IN ACCORDANCE ONTARIO REGULATION 903. CONFIRMATION OF WELL DECOMMISSIONING TO BE PROVIDED TO ENGINEER AND CITY OF BARRIE

LEGEND

- EX. HP/LS
- EX. CATCHBASIN
- EX. HYDRANT
- EX. VALVE AND BOX
- EX. SANITARY MANHOLE
- EX. STORM MANHOLE
- EX. TRAFFIC LIGHT
- EX. SIGN
- CONTOUR
- OVERHEAD HYDRO WIRE
- DITCH CENTERLINE
- EXISTING FENCE
- APPROXIMATE BOREHOLE LOCATION
- EXISTING TREE
- LIMIT OF EXISTING VEGETATION
- EXISTING ASPHALT SURFACE

NOTE: EXISTING SERVICES ARE TO BE REMOVED AS PER THE CITY OF BARRIE ENGINEERING STANDARDS. REFER TO SITE SERVICING DRAWING SERV-1 FOR DETAILS.

HORIZONTAL CONTROL MONUMENTS
U.T.M. (ZONE 17) NAD 83
ELEVATIONS SHOW GEODETIC DRIVEN FROM CITY OF BARRIE BENCHMARK #03120030016 ELEVATION, 314.967.
BEARINGS HERE IN ARE GRID BEARINGS ARE DERIVED FROM CONTROL MONUMENTS 031950003 (N=4910748.411, E=603095.546) AND ARE REFERRED TO CENTRAL MERIDIAN (81 DEGREES OF LONGITUDE IN ZONE, 17 AND ARE BASED ON NAD83)
BENCHMARK V010865470 300.3254 - CONCRETE HEADWALL ON EASTSIDE OF RED FERN AVENUE, 0.15km NORTH OF DYER ROAD. TABLE IS SET HORIZONTALLY IN THE EAST FACE, 16.3m EAST OF CENTERLINE OF ROAD, 52cm WEST OF SOUTH END, 42 cm BELOW THE TOP



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Any errors and/or omissions shall be reported to Pinestone Engineering Ltd. without delay.



KEY MAP

NOTES

1. TOPOGRAPHIC SURVEY AND LEGAL INFORMATION COMPLETED BY AZIZ SURVEYORS INC. APRIL 6 2017.
2. SITE PLAN PROVIDED BY PATRICK MARKUS LUCKIE ARCHITECT.
3. REFER TO SOILS REPORT PREPARED BY PETO MacCALLUM LTD. FOR BOREHOLE DETAILS.
4. REFER TO DRAWING ESC-1 FOR SITE DISTURBANCE LIMITS.
5. EXISTING ON-SITE SEWAGE SYSTEMS TO BE PUMPED PRIOR TO REMOVAL.

BENCHMARK

TBM#1
TOP OF IB IN NORTHWEST CORNER OF PROPERTY
ELEVATION 314.30

6	21.05.20	REVISED PER LSRCA COMMENTS	G.N.
5	21.05.07	REVISED TO ADD FIRE SERVICES	G.N.
4	21.04.29	REVISED TO ADD SIAMESE CONNECTION	G.N.
3	21.03.15	SITE PLAN REVISION	G.N.
2	20.05.13	SITE PLAN REVISION	G.N.
1	19.06.06	REVISED PER CITY COMMENTS	G.N.
NO. YY.MM.DD	REVISION		BY



NORTH ARROW



DESIGN BY:	J.V.
DRAWN BY:	G.N.
CHECKED	J.V.
DATE:	MARCH 2020
SCALE:	1:250

CLIENT/PROJECT

521 AND 525 ESSA ROAD
RESIDENTIAL DEVELOPMENT

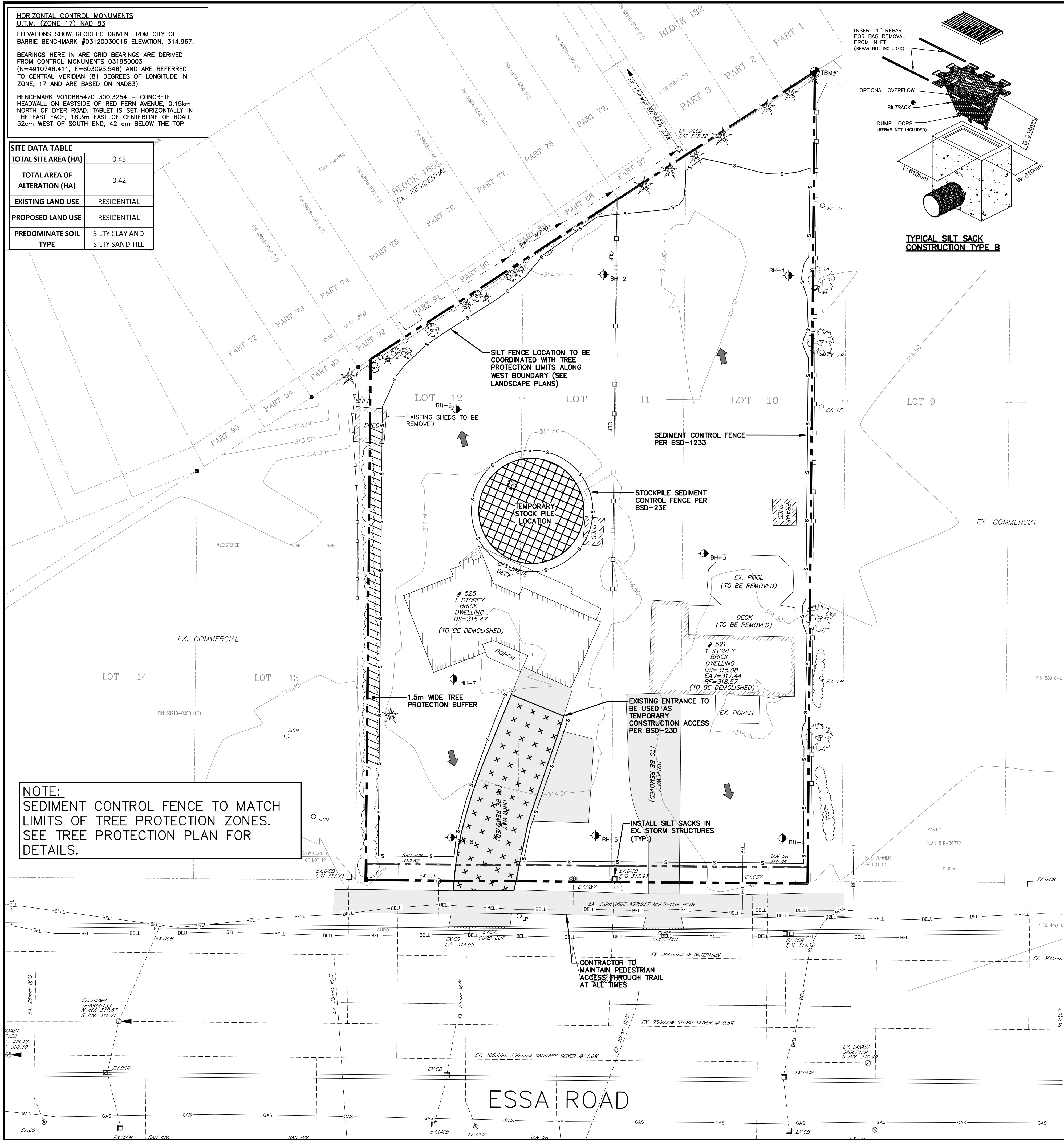
DRAWING TITLE

EXISTING CONDITIONS AND
REMOVALS PLAN

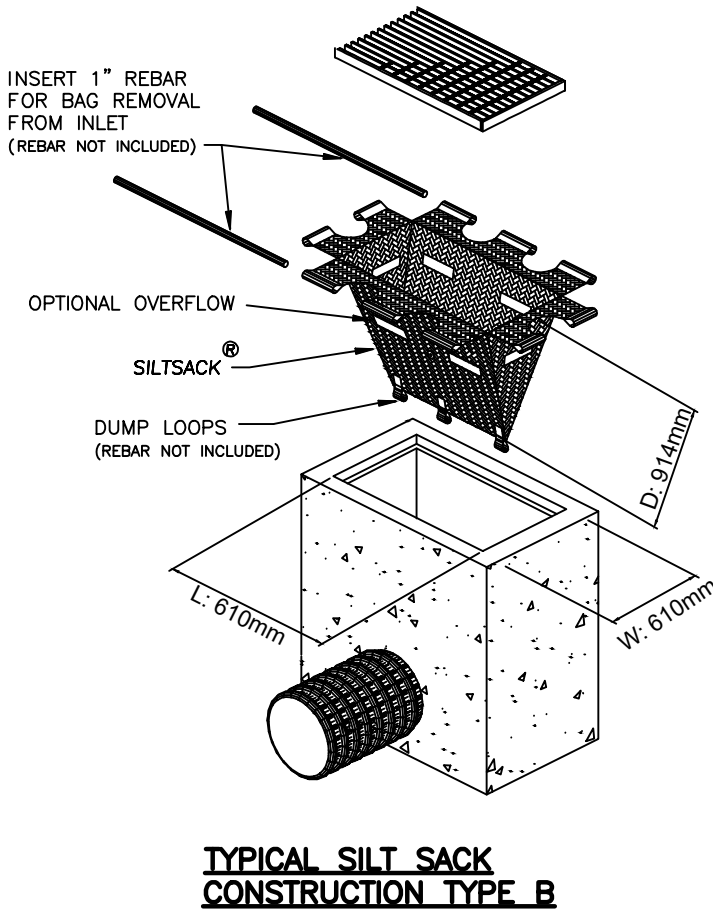
PROJECT NO.	DRAWING NO.	REVISION
20-11501-B	RM-1	6

HORIZONTAL CONTROL MONUMENTS
U.T.M. (ZONE 17) NAD 83
ELEVATIONS SHOW GEODETIC DRIVEN FROM CITY OF
BARRIE BENCHMARK #03120030016 ELEVATION, 314.967.
BEARINGS HERE IN ARE GRID BEARINGS ARE DERIVED
FROM CONTROL MONUMENTS 031950003
(N=4910748.411, E=603095.546) AND ARE REFERRED
TO CENTRAL MERIDIAN (81 DEGREES OF LONGITUDE IN
ZONE, 17 AND ARE BASED ON NAD83)
BENCHMARK V010865470 300.3254 - CONCRETE
HEADWALL ON EASTSIDE OF RED FERN AVENUE, 0.15km
NORTH OF DYER ROAD. TABLET IS SET HORIZONTALLY IN
THE EAST FACE, 16.3m EAST OF CENTERLINE OF ROAD,
52cm WEST OF SOUTH END, 42 cm BELOW THE TOP

SITE DATA TABLE	
TOTAL SITE AREA (HA)	0.45
TOTAL AREA OF ALTERATION (HA)	0.42
EXISTING LAND USE	RESIDENTIAL
PROPOSED LAND USE	RESIDENTIAL
PREDOMINATE SOIL TYPE	SILTY CLAY AND SILTY SAND TILL

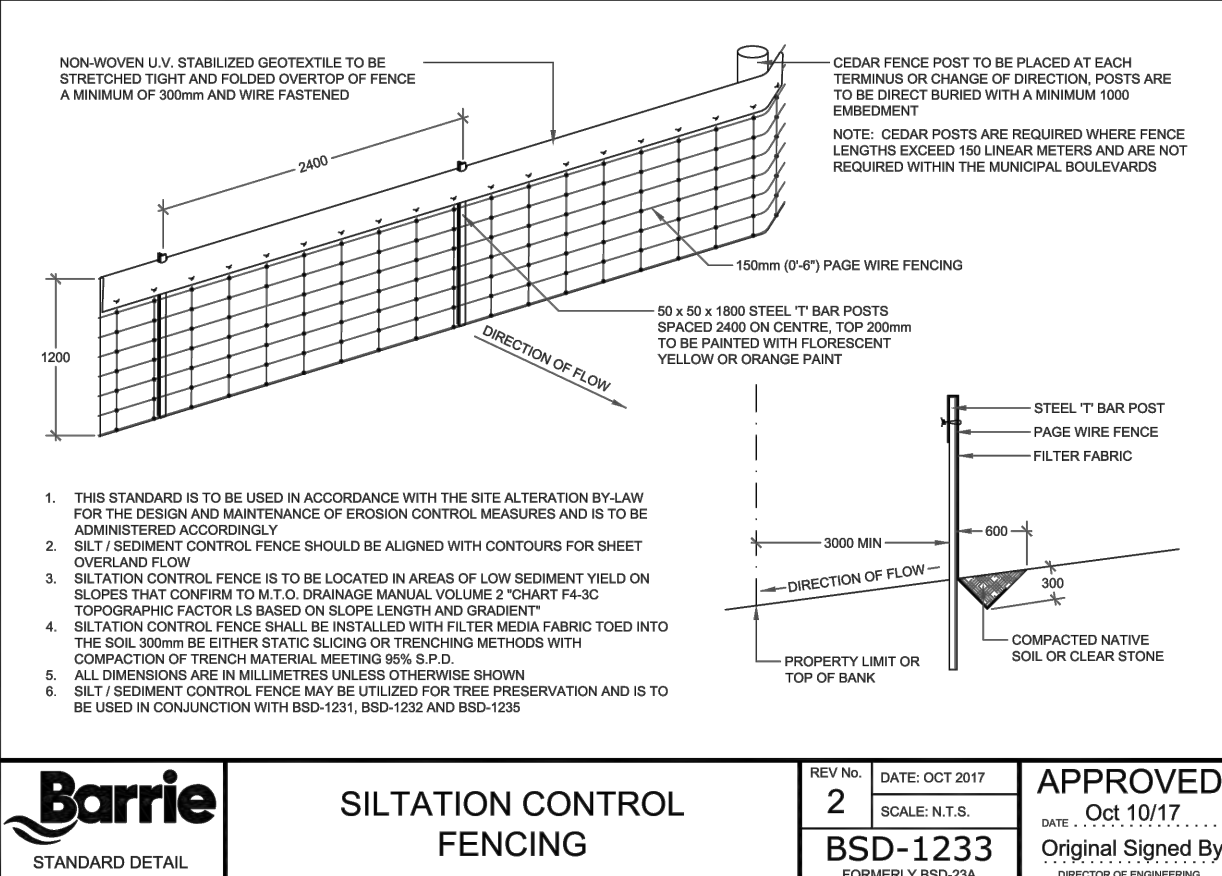
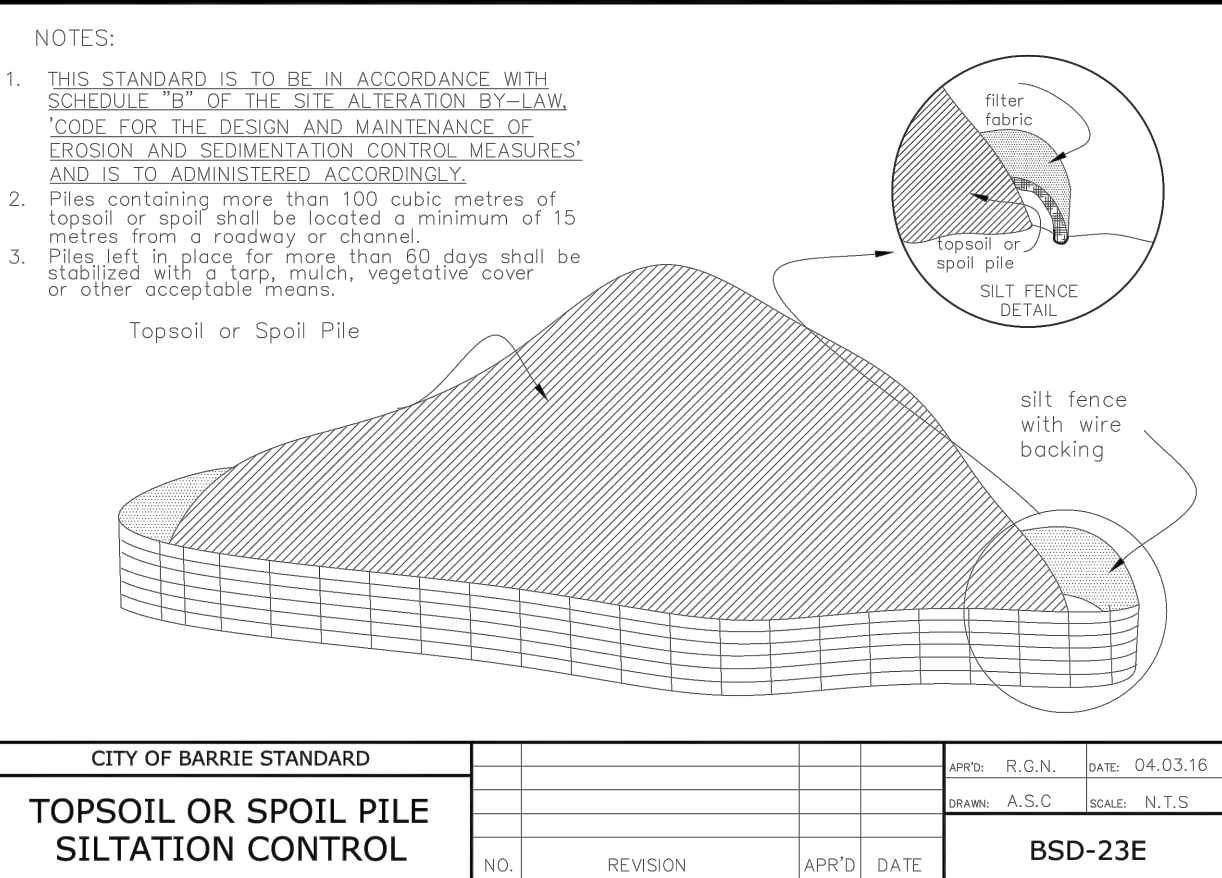
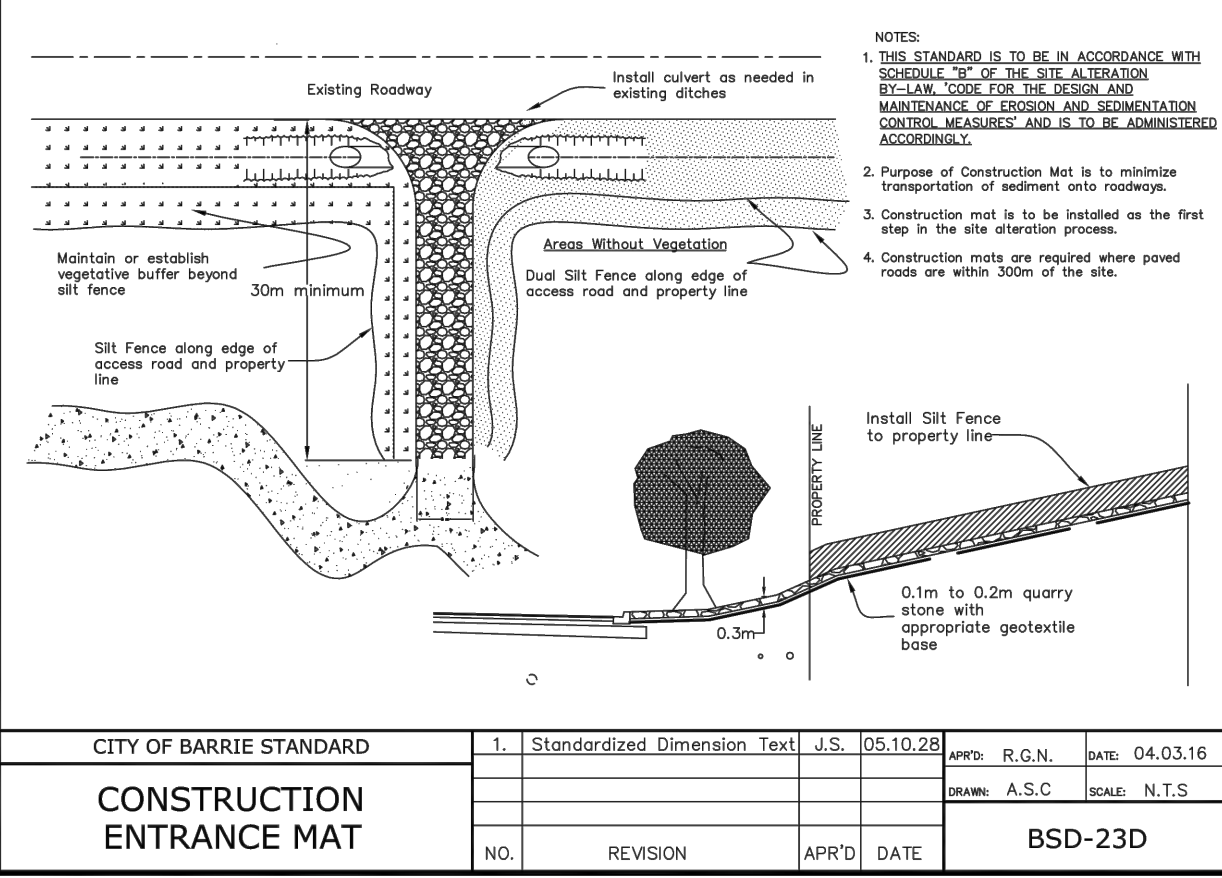


NOTE:
SEDIMENT CONTROL FENCE TO MATCH
LIMITS OF TREE PROTECTION ZONES.
SEE TREE PROTECTION PLAN FOR
DETAILS.



EROSION CONTROL NOTES:

1. ALL SILT FENCING TO BE INSTALLED PRIOR TO ANY GRADING OR EXCAVATION.
2. EROSION CONTROL FENCING TO BE INSTALLED AROUND THE BASE OF ALL STOCKPILES. ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED AS SITE DEVELOPMENT PROGRESSES. CONTRACTOR TO PROVIDE ALL ADDITIONAL EROSION CONTROL STRUCTURES.
3. PINESTONE ENGINEERING LTD. TO MONITOR EROSION CONTROL STRUCTURES TO ENSURE FENCING IS INSTALLED AND MAINTENANCE IS PERFORMED TO CITY REQUIREMENTS.
4. EROSION CONTROL STRUCTURES TO BE MONITORED AT LEAST ONCE A WEEK AND AFTER EVERY RAINFALL AND DAMAGE REPAIRED IMMEDIATELY.
5. SEDIMENTS TO BE REMOVED WHEN ACCUMULATIONS REACH A MAXIMUM OF 1/2 THE HEIGHT OF THE FENCE.
6. ALL EROSION CONTROL STRUCTURES TO REMAIN IN PLACE UNTIL ALL DISTURBED GROUND HAVE BEEN RESTABLISHED EITHER BY PAVING OR RESTORATION OF VEGETATIVE GROUND COVER.
7. NO ALTERNATE METHODS OF EROSION PROTECTION SHALL BE PERMITTED UNLESS APPROVED BY PINESTONE ENGINEERING LTD. AND THE CITY OF BARRIE DEPARTMENT OF PUBLIC WORKS.
8. CONTRACTOR IS RESPONSIBLE FOR MUNICIPAL ROADWAY AND SIDEWALK TO BE CLEARED OF ALL SEDIMENTS FROM VEHICULAR TRACKING ETC. AT THE END OF EACH DAY.



BENCHMARK

TBM #1
TOP OF IB IN NORTHWEST CORNER OF PROPERTY
ELEVATION 314.30



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KEY MAP

- NOTES
1. TOPOGRAPHIC SURVEY AND LEGAL INFORMATION COMPLETED BY AZIZ SURVEYORS INC. APRIL 6 2017.
 2. SITE PLAN PROVIDED BY PATRICK MARKUS LUCKIE ARCHITECT.
 3. REFER TO SOLS REPORT PREPARED BY PETO MacCALLUM LTD. FOR BOREHOLE DETAILS.

LEGEND

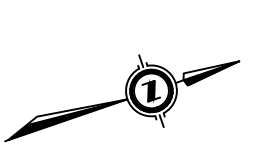
- 246.00 CONTOUR
- OH OH OVERHEAD HYDRO WIRE
- DITCH CENTERLINE
- DIRECTION OF OVERLAND FLOW
- EXISTING FENCE
- S S SILT FENCE
- CONSTRUCTION ENTRANCE MAT
- TEMPORARY STOCKPILE LOCATION
- BH-2 APPROXIMATE BOREHOLE LOCATION

6	21.05.20	REVISED PER LSRCA COMMENTS	G.N.
5	21.05.07	REVISED TO ADD FIRE SERVICES	G.N.
4	21.04.29	REVISED TO ADD SIAMESE CONNECTION	G.N.
3	21.03.15	SITE PLAN REVISION	G.N.
2	20.05.13	SITE PLAN REVISION	G.N.
1	19.06.06	REVISED PER CITY COMMENTS	G.N.
NO.	YY.MM.DD	REVISION	BY

SEAL



NORTH ARROW



DESIGN BY: J.V.
DRAWN BY: G.N.
CHECKED: J.V.
DATE: MARCH 2020
SCALE: 1:250

CLIENT/PROJECT

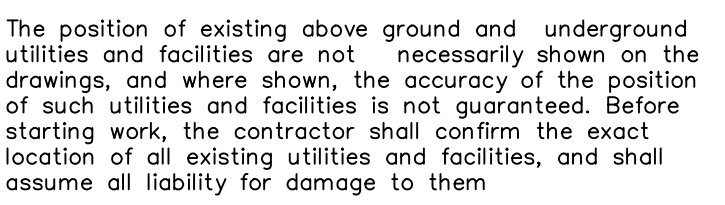
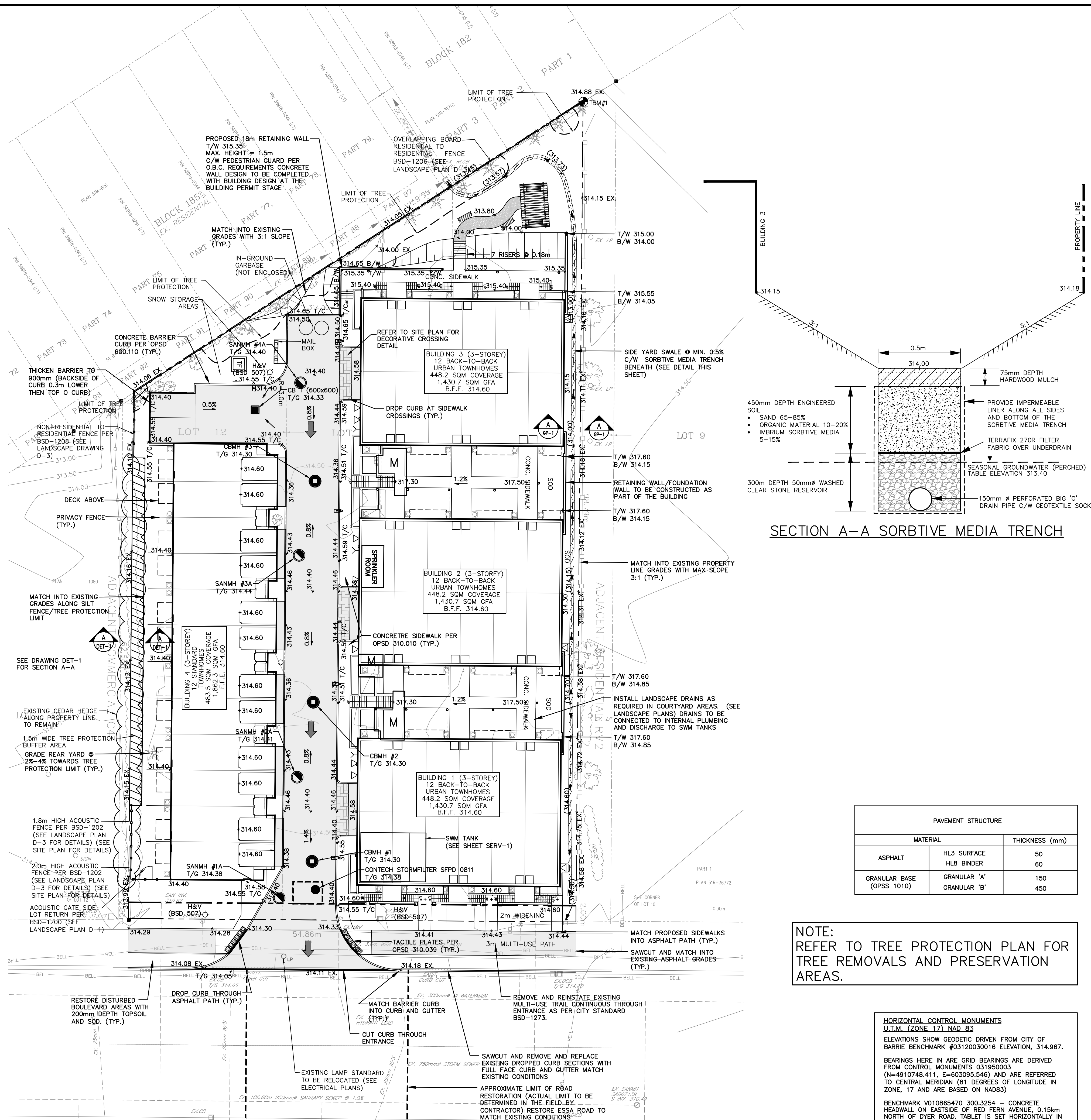
521 AND 525 ESSA ROAD
RESIDENTIAL DEVELOPMENT

DRAWING TITLE

EROSION AND SEDIMENT
CONTROL PLAN

PROJECT NO. 20-11501-B	DRAWING NO. ESC-1	REVISION 6
---------------------------	----------------------	---------------

	PROPOSED CATCHBASIN
	PROPOSED CONTECH STORMFILTER MODEL NO. SFPD0811
	PROPOSED CATCHBASIN MANHOLE
	PROPOSED SANITARY MANHOLE
	CURB STOP VALVE
	PROPOSED HYDRANT
	EX. SANITARY MANHOLE
	EX. CATCH BASIN
	EX. CATCH BASIN MANHOLE
	EXISTING HYDRANT
	EXISTING WATER VALVE
	EXISTING ELEVATION
	EXISTING ELEVATION
	DIRECTION OF MAJOR OVERLAND FLOW
	STAMPED ASPHALT
	LIGHT STANDARDS
	DROP CURB
	PROPOSED TRANSFORMER LOCATION
	SORPTIVE MEDIA TRENCH
	SIDE YARD SWALE



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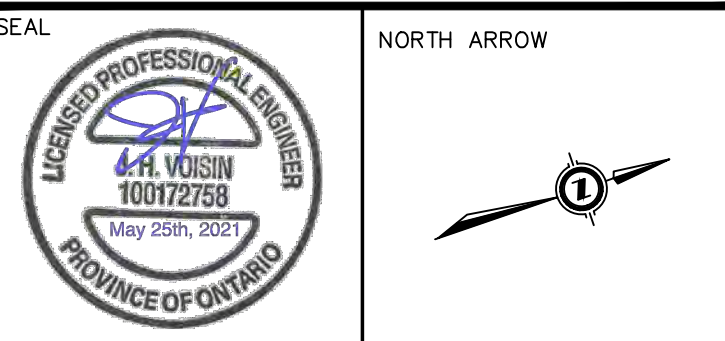
NOTES

1. TOPOGRAPHIC SURVEY AND LEGAL INFORMATION COMPLETED BY AZIZ SURVEYORS INC. APRIL 6 2017,
2. SITE PLAN PREPARED BY PATRICK MARCUS LUCKIE, ARCHITECT.
3. ESSA ROAD TO BE RESTORED TO CITY OF BARRIE STANDARDS.

TBM#1
TOP OF IB IN NORTHWEST CORNER OF PROPERTY
ELEVATION 314.30

6	21.05.20	REVISED PER LSRCA COMMENTS	G.N.
5	21.05.07	REVISED TO ADD FIRE SERVICES	G.N.
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2	20.05.13	SITE PLAN REVISION	G.N.
1	19.06.06	REVISED PER CITY COMMENTS	G.N.

NO.	YY.MM.DD	REVISION	BY
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DESIGN BY:	J.V.
DRAWN BY:	G.N.
CHECKED	J.V.
DATE:	MARCH 2020
SCALE:	1: 250

CLIENT/PROJECT

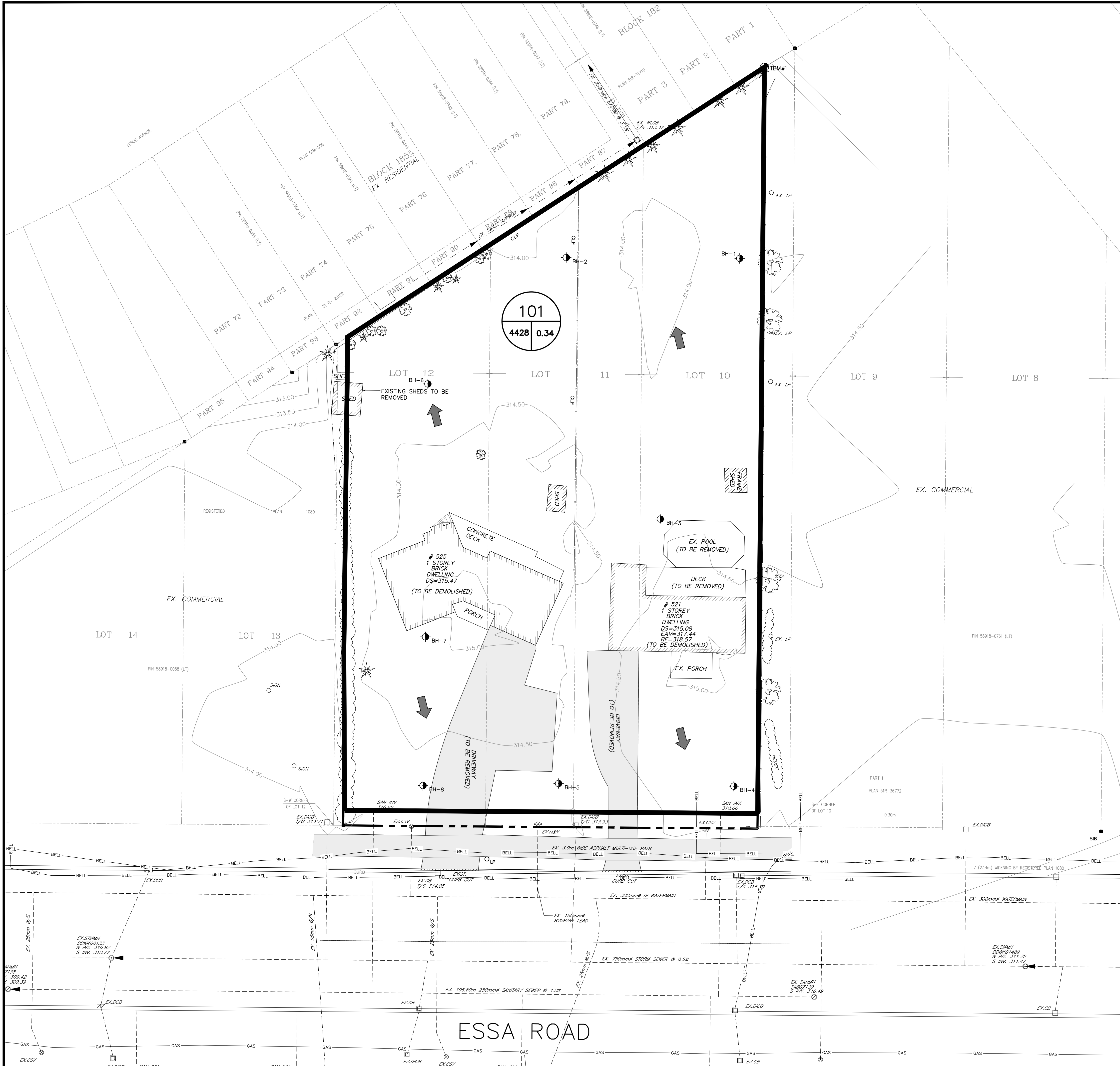
521 AND 525 ESSA ROAD
RESIDENTIAL DEVELOPMENT

DRAWING TITLE

GRADING PLAN

PROJECT NO. 20-11501-B	DRAWING NO. GP-1	REVISION 6
----------------------------------	----------------------------	----------------------

PROJECT NO. 20-11501-B	DRAWING NO. PM-1	REVISION 6
----------------------------------	----------------------------	----------------------



LEGEND

- EX. HP/LS
- EX. CATCHBASIN
- EX. HYDRANT
- EX. VALVE AND BOX
- EX. SANITARY MANHOLE
- EX. STORM MANHOLE
- EX. TRAFFIC LIGHT
- EX. SIGN
- CONTOUR
- EXISTING ASPHALT
- EXISTING FENCE
- APPROXIMATE BOREHOLE LOCATION
- EXISTING TREE
- LIMIT OF EXISTING VEGETATION
- PRE-DEVELOPMENT CATCHMENT BOUNDARY
- PRE-DEVELOPMENT CATCHMENT NUMBER
- COEFFICIENT
- PRE-DEVELOPMENT CATCHMENT AREA(m)
- DIRECTION OF OVERLAND FLOW

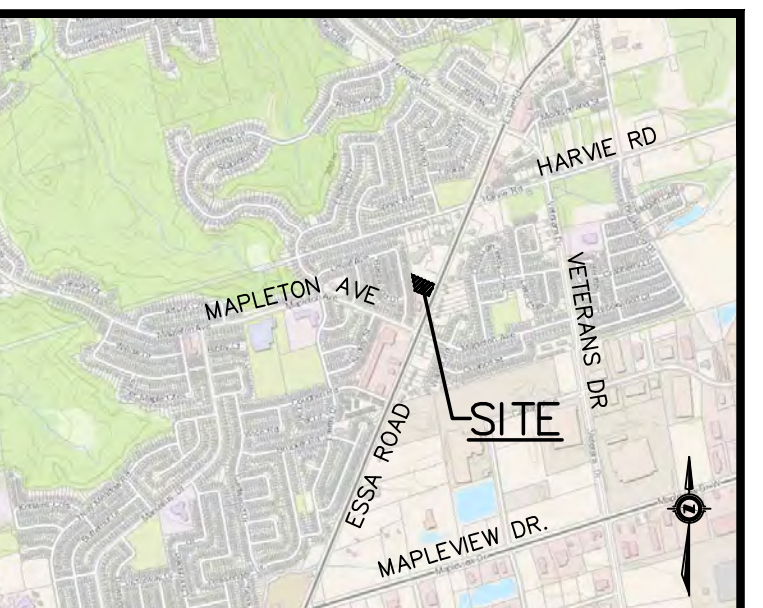


PEL
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- KEY MAP**
- NOTES**
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 - SITE PLAN PROVIDED BY PATRICK MARKUS LUCKIE ARCHITECT.
 - REFER TO SOILS REPORT PREPARED BY PETO MacCALLUM LTD. FOR BOREHOLE DETAILS.
 - REFER TO DRAWING ESC-1 FOR SITE DISTURBANCE LIMITS.

BENCHMARK

TBM#1

TOP OF IB IN NORTHWEST CORNER OF PROPERTY
ELEVATION 314.30

6	21.05.20	REVISED PER LSRCA COMMENTS	G.N.
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2	20.05.13	SITE PLAN REVISION	G.N.
1	19.06.06	REVISED PER CITY COMMENTS	G.N.

NO.

YY.MM.DD

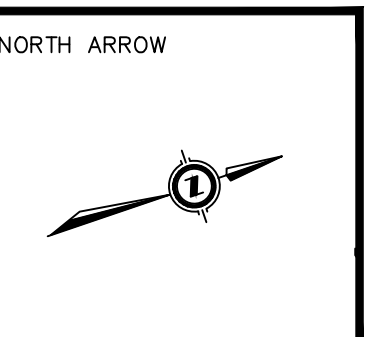
REVISION

BY

SEAL



NORTH ARROW



DESIGN BY:	J.V.
DRAWN BY:	G.N.
CHECKED	J.V.
DATE:	MARCH 2020
SCALE:	1:250

CLIENT/PROJECT

**521 AND 525 ESSA ROAD
RESIDENTIAL DEVELOPMENT**

DRAWING TITLE

**PRE-DEVELOPMENT CATCHMENT
PLAN**

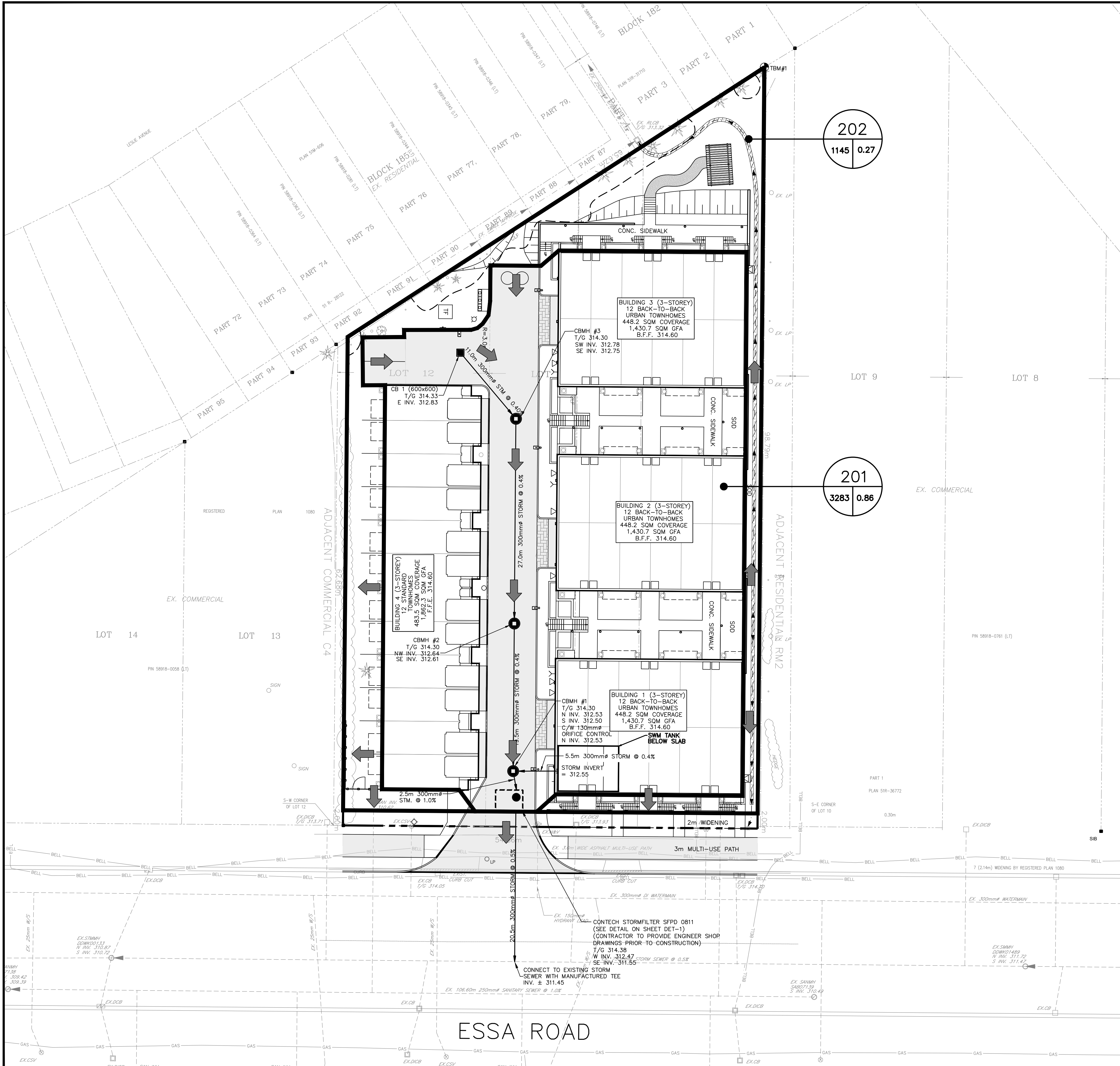
PROJECT NO. 20-11501-B	DRAWING NO. PRE-1	REVISION 6
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HORIZONTAL CONTROL MONUMENTS
U.T.M. (ZONE 17) NAD 83

ELEVATIONS SHOW GEODETIC DRIVEN FROM CITY OF BARRIE BENCHMARK #03120030016 ELEVATION, 314.967.

BEARINGS HERE IN ARE GRID BEARINGS ARE DERIVED FROM CONTROL MONUMENTS 031950003 (N=4910748.411, E=603095.546) AND ARE REFERRED TO CENTRAL MERIDIAN (81 DEGREES OF LONGITUDE IN ZONE, 17 AND ARE BASED ON NAD83)

BENCHMARK V010865470 300.3254 - CONCRETE HEADWALL ON EASTSIDE OF RED FERN AVENUE, 0.15km NORTH OF DYER ROAD. TABLET IS SET HORIZONTALLY IN THE EAST FACE, 16.3m EAST OF CENTERLINE OF ROAD, 52cm WEST OF SOUTH END, 42 cm BELOW THE TOP



LEGEND

- PROPOSED CATCHBASIN
- PROPOSED CONTECH STORMFILTER
MODEL NO. SFPD0811
- PROPOSED CATCHBASIN MANHOLE
- DIRECTION OF OVERLAND FLOW
- 201
1145 0.27
3283 0.86
- POST-DEVELOPMENT CATCHMENT NUMBER
- COEFFICIENT
- POST-DEVELOPMENT CATCHMENT AREA(A)

HORIZONTAL CONTROL MONUMENTS
U.T.M. (ZONE 17) NAD 83
ELEVATIONS SHOW GEODETIC DRIVEN FROM CITY OF
BARRIE BENCHMARK #03120030016 ELEVATION, 314.967.
BEARINGS HERE IN ARE GRID BEARINGS ARE DERIVED
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ZONE, 17 AND ARE BASED ON NAD83)
BENCHMARK V010865470 300.3254 - CONCRETE
HEADWALL ON EASTSIDE OF RED FERN AVENUE, 0.15km
NORTH OF DYER ROAD. TABLET IS SET HORIZONTALLY IN
THE EAST FACE, 16.3m EAST OF CENTERLINE OF ROAD,
52cm WEST OF SOUTH END, 42 cm BELOW THE TOP

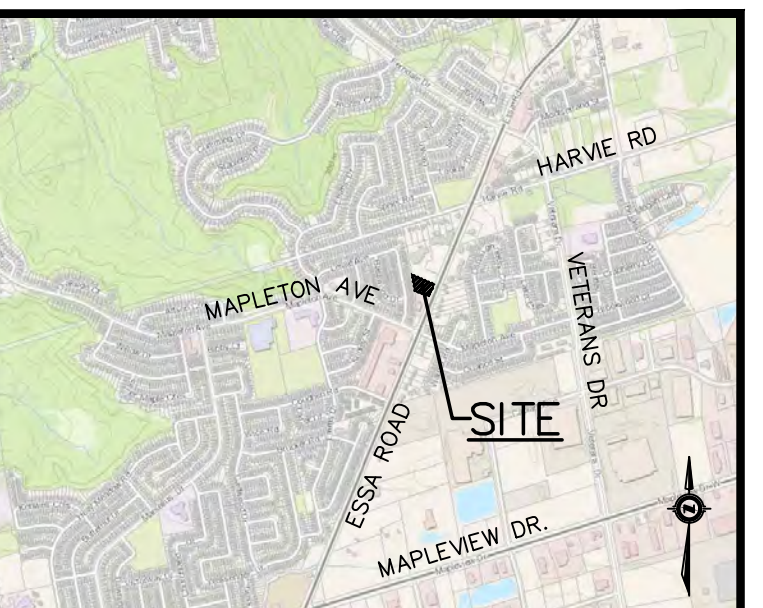


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- NOTES**
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 2. SITE PLAN PROVIDED BY PATRICK MARCUS LUCKIE ARCHITECT.
 3. REFER TO SOILS REPORT PREPARED BY PETO MacCALLUM LTD. FOR BOREHOLE DETAILS.
 4. REFER TO DRAWING ESC-1 FOR SITE DISTURBANCE LIMITS.

BENCHMARK

TBM#1

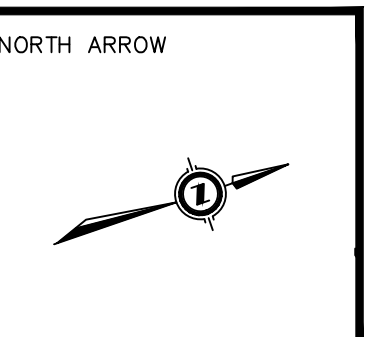
TOP OF IB IN NORTHWEST CORNER OF PROPERTY

ELEVATION 314.30

6	21.05.20	REVISED PER LSRCA COMMENTS	G.N.
5	21.05.07	REVISED TO ADD FIRE SERVICES	G.N.
4	21.04.29	REVISED TO ADD SIAMESE CONNECTION	G.N.
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2	20.05.13	SITE PLAN REVISION	G.N.
1	19.06.06	REVISED PER CITY COMMENTS	G.N.
NO.	YY.MM.DD	REVISION	BY



SEAL



NORTH ARROW

DESIGN BY:	J.V.
DRAWN BY:	G.N.
CHECKED:	J.V.
DATE:	MARCH 2020
SCALE:	1:250

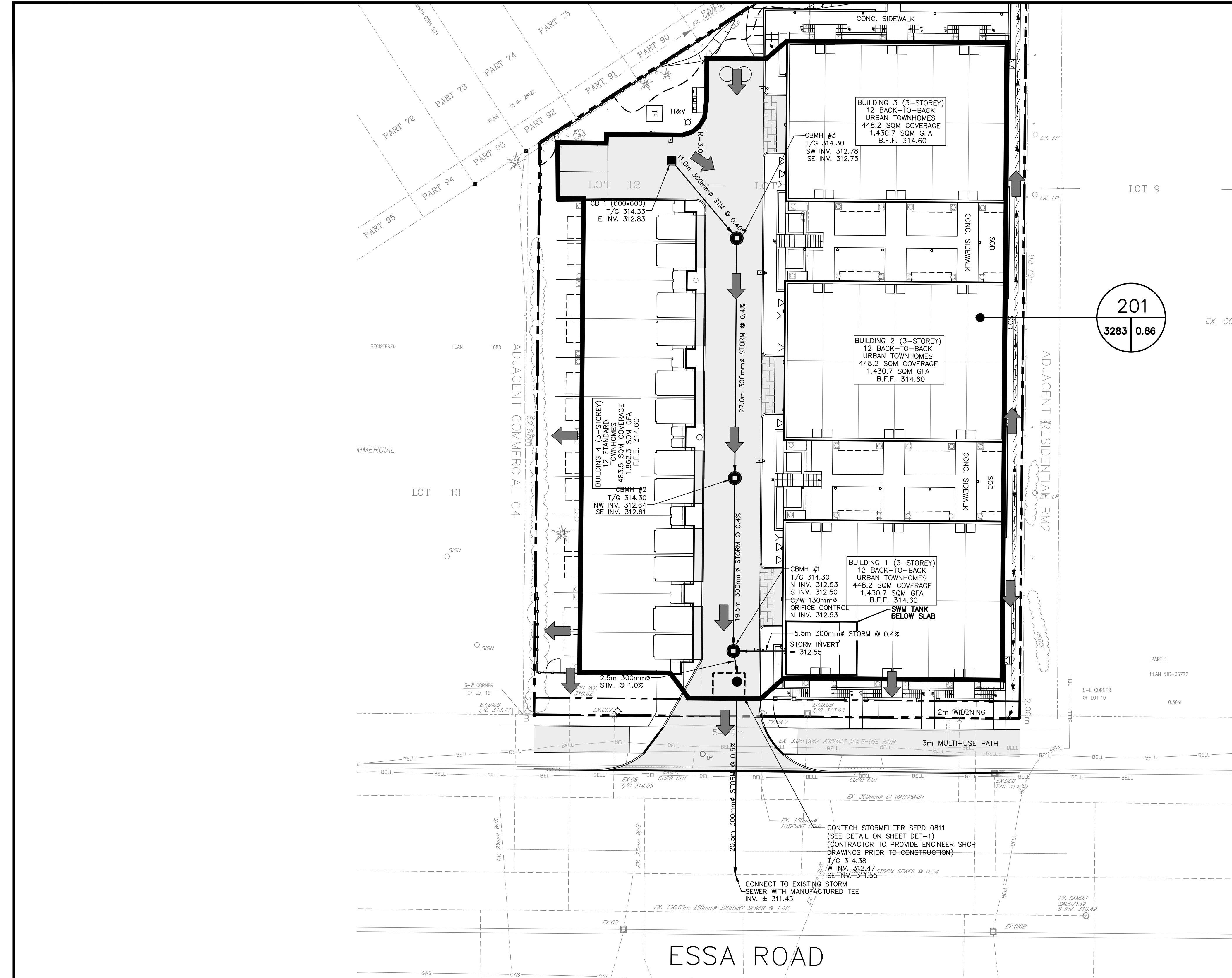
CLIENT/PROJECT

**521 AND 525 ESSA ROAD
RESIDENTIAL DEVELOPMENT**

DRAWING TITLE

**POST DEVELOPMENT CATCHMENT
PLAN**

PROJECT NO. 20-11501-B	DRAWING NO. POST-1	REVISION 6
---------------------------	-----------------------	---------------



LEGEND

- PROPOSED CATCHBASIN
- PROPOSED CONTECH STORMFILTER MODEL NO. SFPD0811
- PROPOSED CATCHBASIN MANHOLE
- DIRECTION OF OVERLAND FLOW
- 201 STORM CATCHMENT NUMBER
- 3283 0.00 COEFFICIENT
- 3283 0.86 STORM CATCHMENT AREA(A_{RI})



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BENCHMARK

TBM#1
TOP OF 18 IN NORTHWEST CORNER OF PROPERTY
ELEVATION 314.30

6	21.05.20	REVISED PER LSRCA COMMENTS	G.N.
5	21.05.07	REVISED TO ADD FIRE SERVICES	G.N.
4	21.04.29	REVISED TO ADD SIAMESE CONNECTION	G.N.
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2	20.05.13	SITE PLAN REVISION	G.N.
1	19.06.06	REVISED PER CITY COMMENTS	G.N.

NO.	YY.MM.DD	REVISION	BY
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SEAL



NORTH ARROW



521 & 525 Essa Road Residential Development				STORM SEWER DESIGN SHEET ENGINEERING AND PUBLIC WORKS				Design Parameters										
City of Barrie								100 YEAR STORM										
Project Number: 20-11501B Date: May 6, 2020 Design By: DPH Checked By: JHV File: Z:\Project Documents\11501B 521-525 Essa Road Townhomes\SWM Rev 2, April 2020\Storm Sewer Design Sheet (Barrie IDF).xls				Drainage Area Plan No: N/A				Q=kAIR, k=0.00278 Manning's "n" 0.013 Intensity (I) = a/(tc+b) ⁿ Min. Velocity 0.800 m/s a = 1426.408 Max. Velocity 6.000 m/s b = 5.273 c = 0.759										
LOCATION				STORMWATER FLOW												DESIGN		
STREET	AREA NUMBER	MANHOLE LOCATION		AREA (A)	RUNOFF COEFF. (C)	A x C	CUMUL. A x C	CONCENTRATION TIME		RAIN INTENSITY (I)	FLOW (Q)	PIPE SIZE	LENGTH	SLOPE	CAPACITY	FULL FLOW VELOCITY	ACTUAL VELOCITY	
		FROM MH	TO MH					TOTAL	IN PIPE									
		ha	ha					min	min									mm/hr
Catchment 201	201	SFPD 0811	Ex. Storm Sewer	100 YEAR CONTROLLED DESIGN FLOW FROM MODIFIED RATIONAL METHOD CALCULATIONS								47.00000	300	20.5	0.50	68.37776	0.9673	1.0424

HORIZONTAL CONTROL MONUMENTS
U.T.M. (ZONE 17) NAD 83
ELEVATIONS SHOW GEODETIC DRIVEN FROM CITY OF BARRIE BENCHMARK #03120030016 ELEVATION, 314.967.
BEARINGS HERE IN ARE GRID BEARINGS ARE DERIVED FROM CONTROL MONUMENTS 031950003 (N=4910748.411, E=603095.546) AND ARE REFERRED TO CENTRAL MERIDIAN (81 DEGREES OF LONGITUDE IN ZONE, 17 AND ARE BASED ON NAD83)
BENCHMARK V010865470 300.3254 - CONCRETE HEADWALL ON EASTSIDE OF RED FERN AVENUE, 0.15km NORTH OF DYER ROAD. TABLE IS SET HORIZONTALLY IN THE EAST FACE, 16.3m EAST OF CENTERLINE OF ROAD, 52cm WEST OF SOUTH END, 42 cm BELOW THE TOP

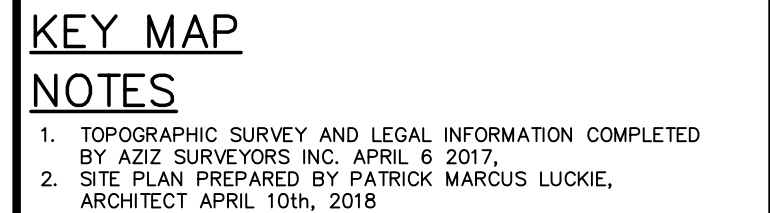
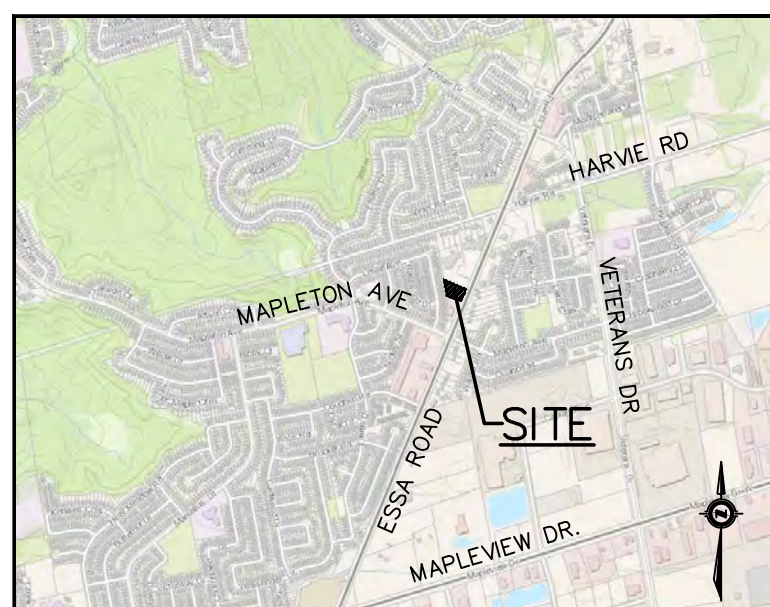
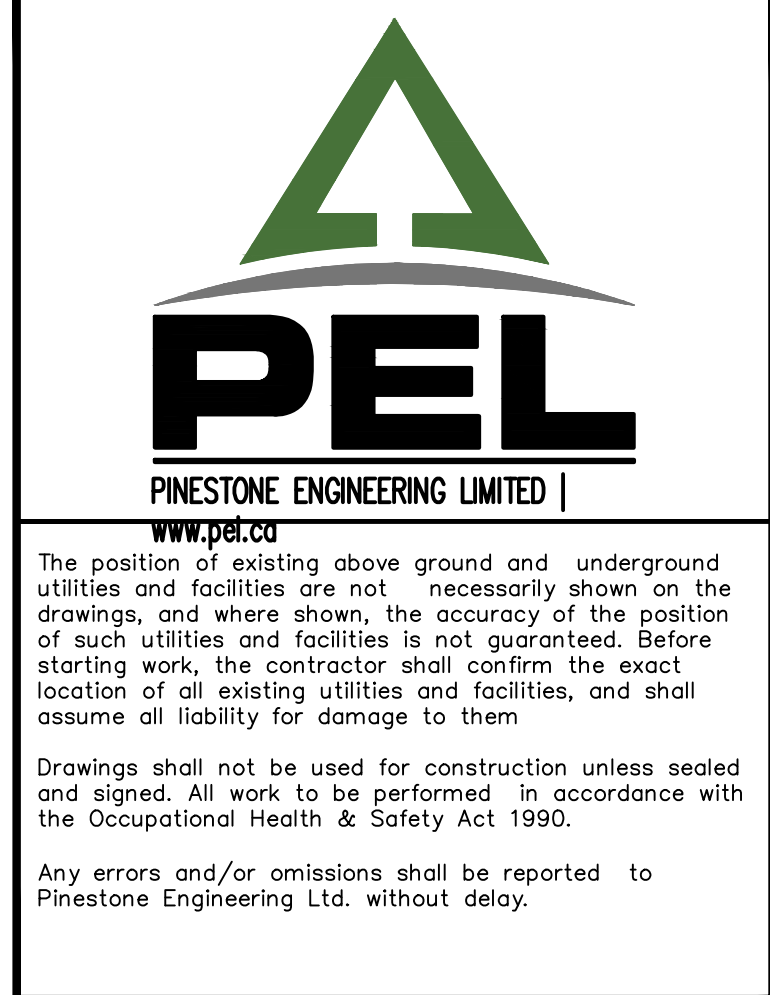
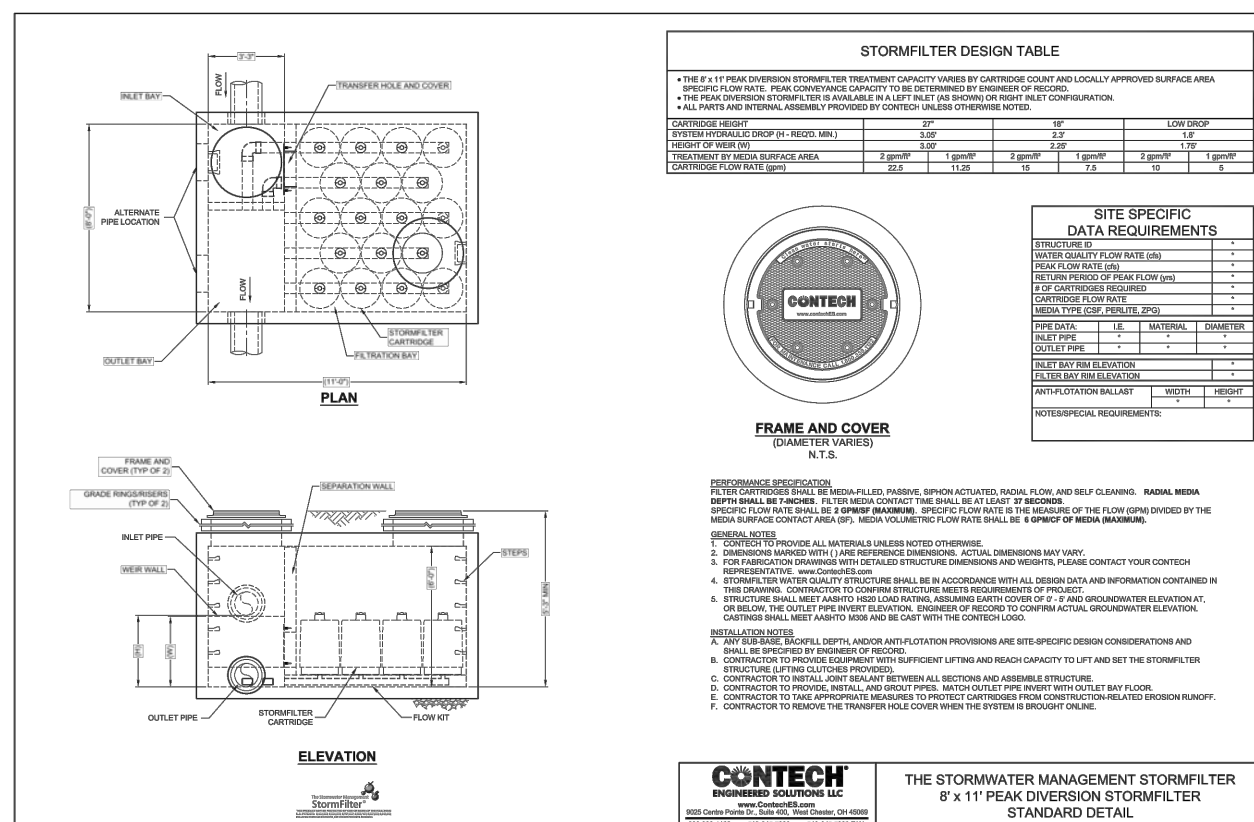
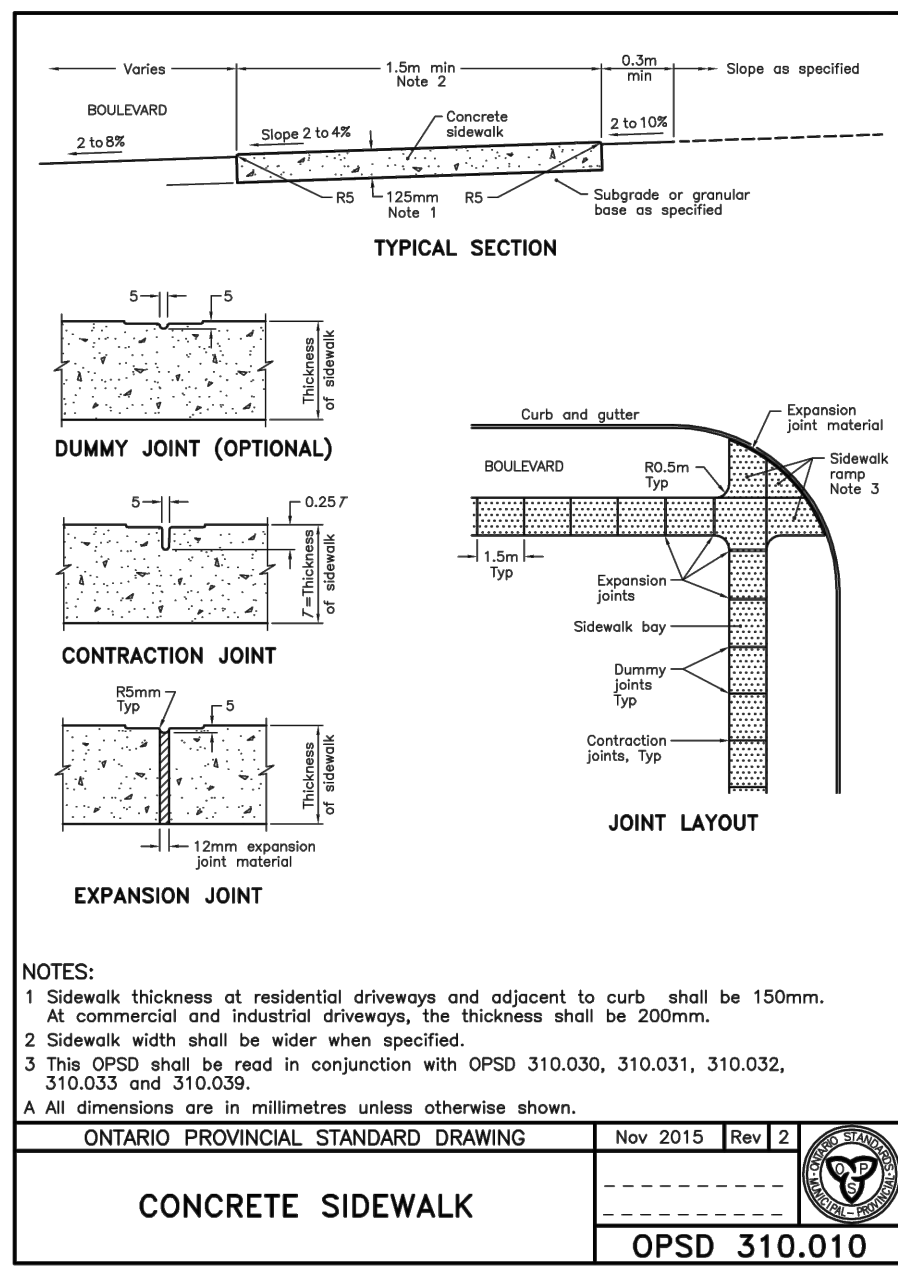
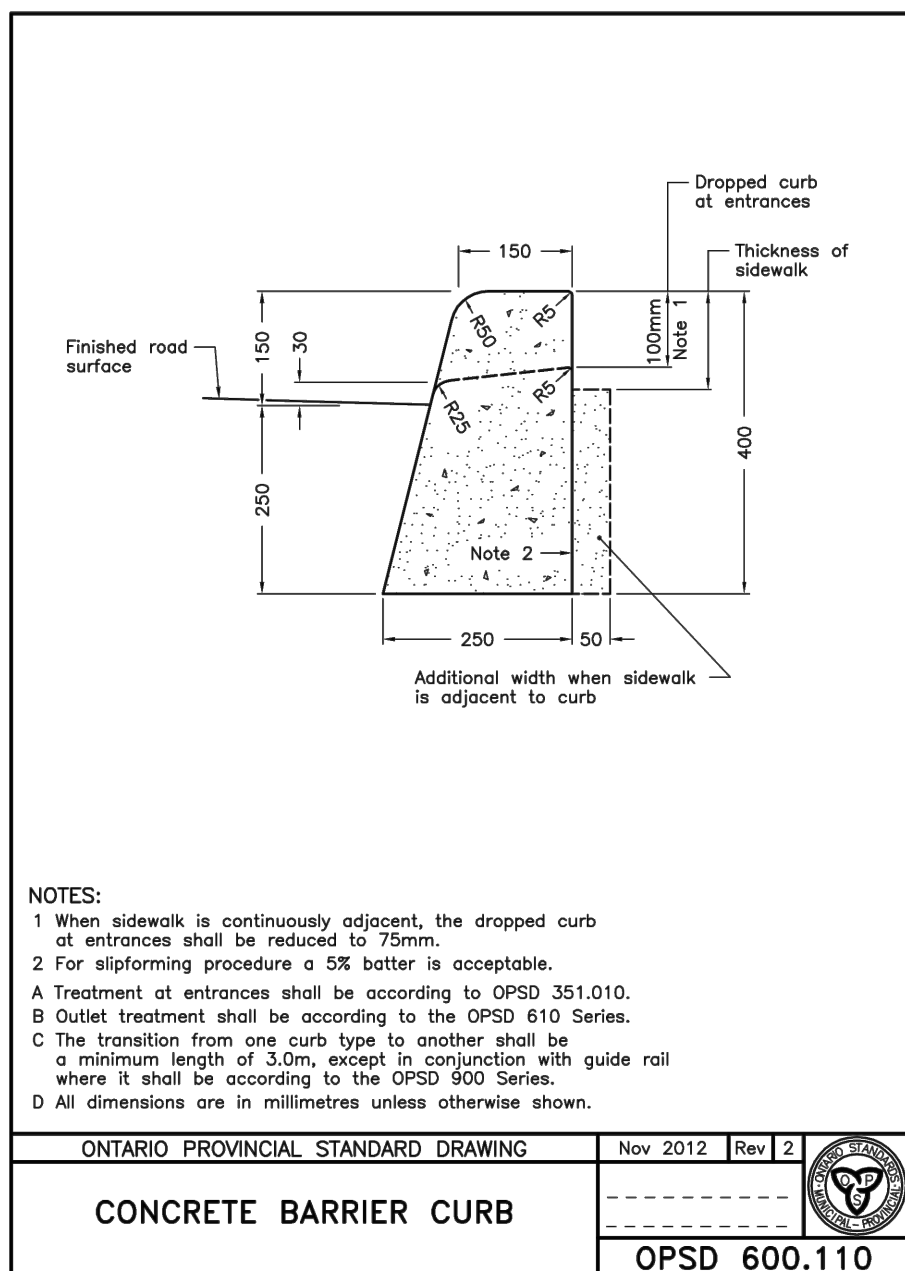
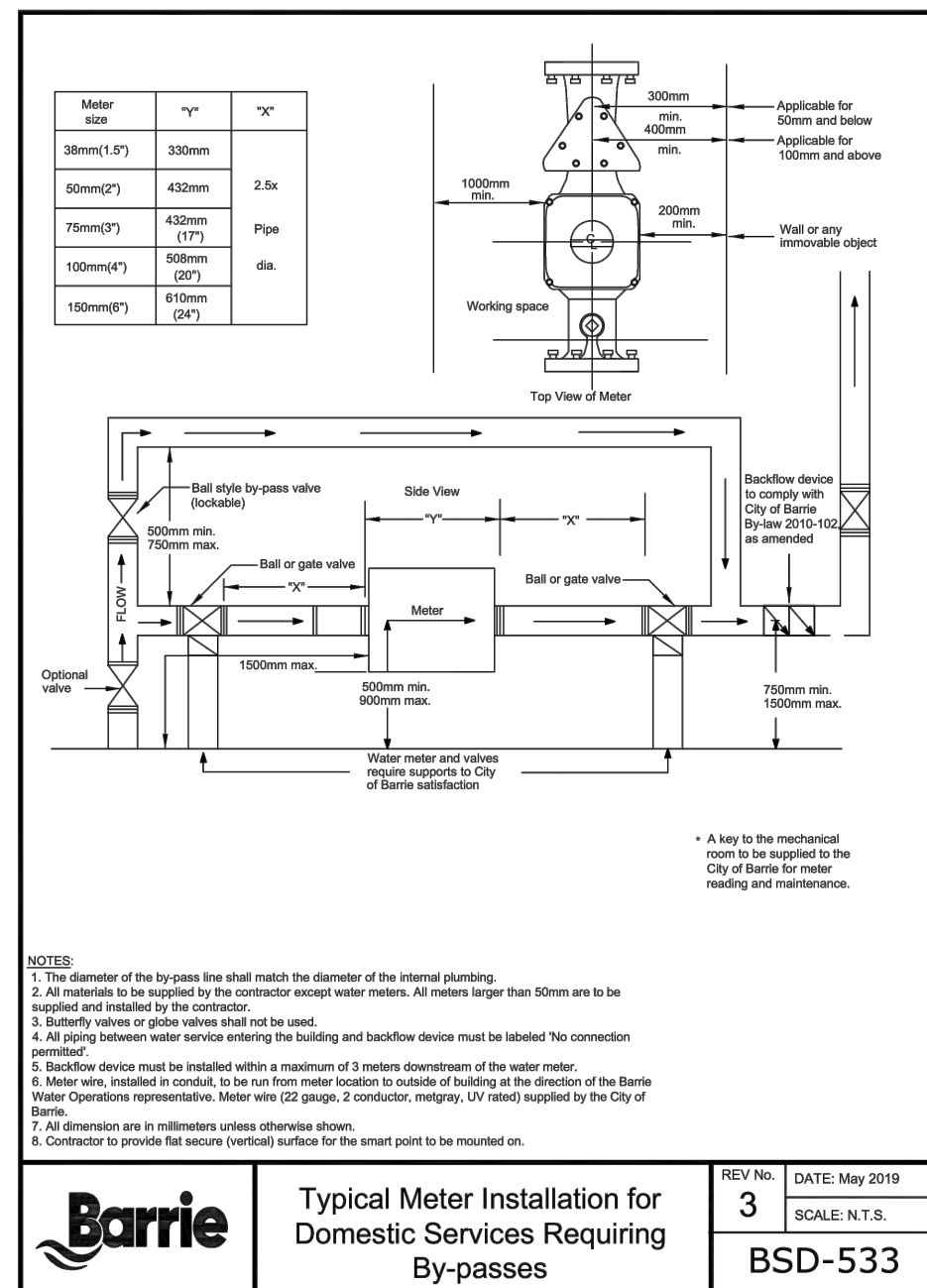
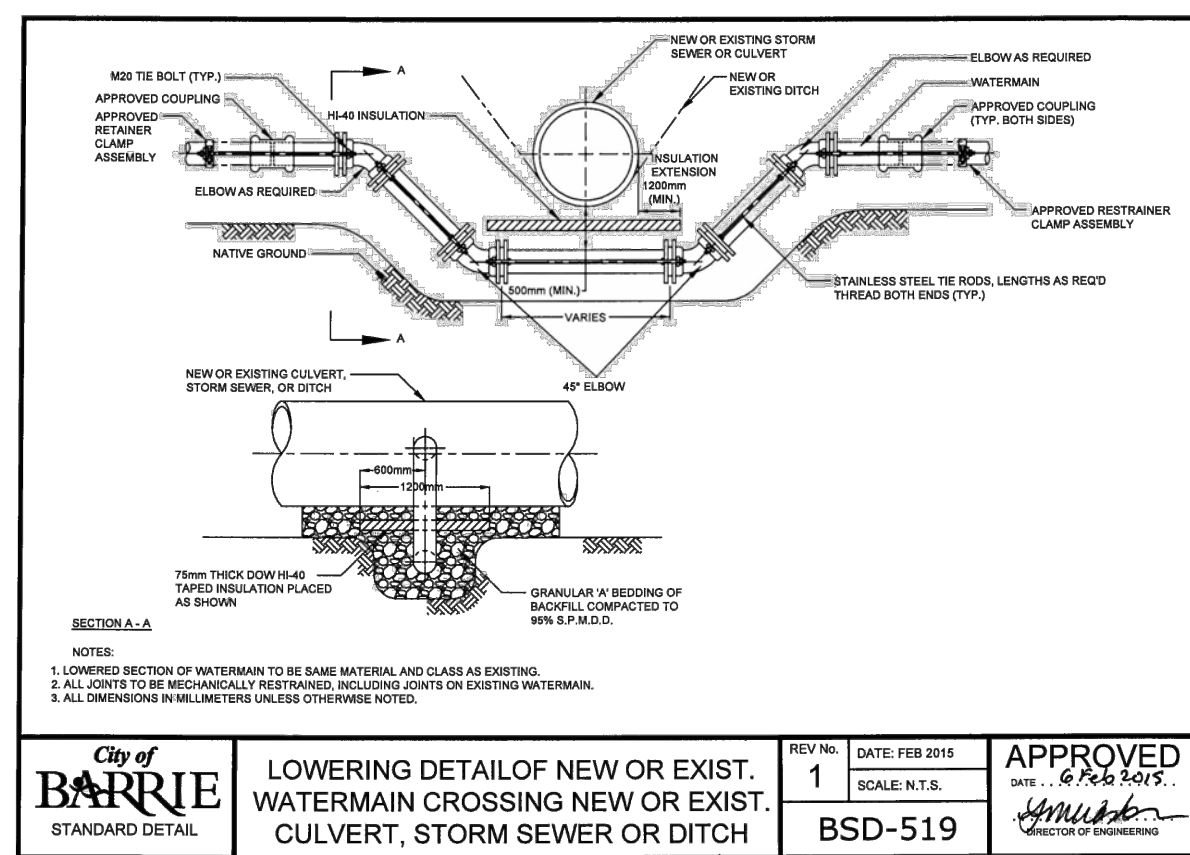
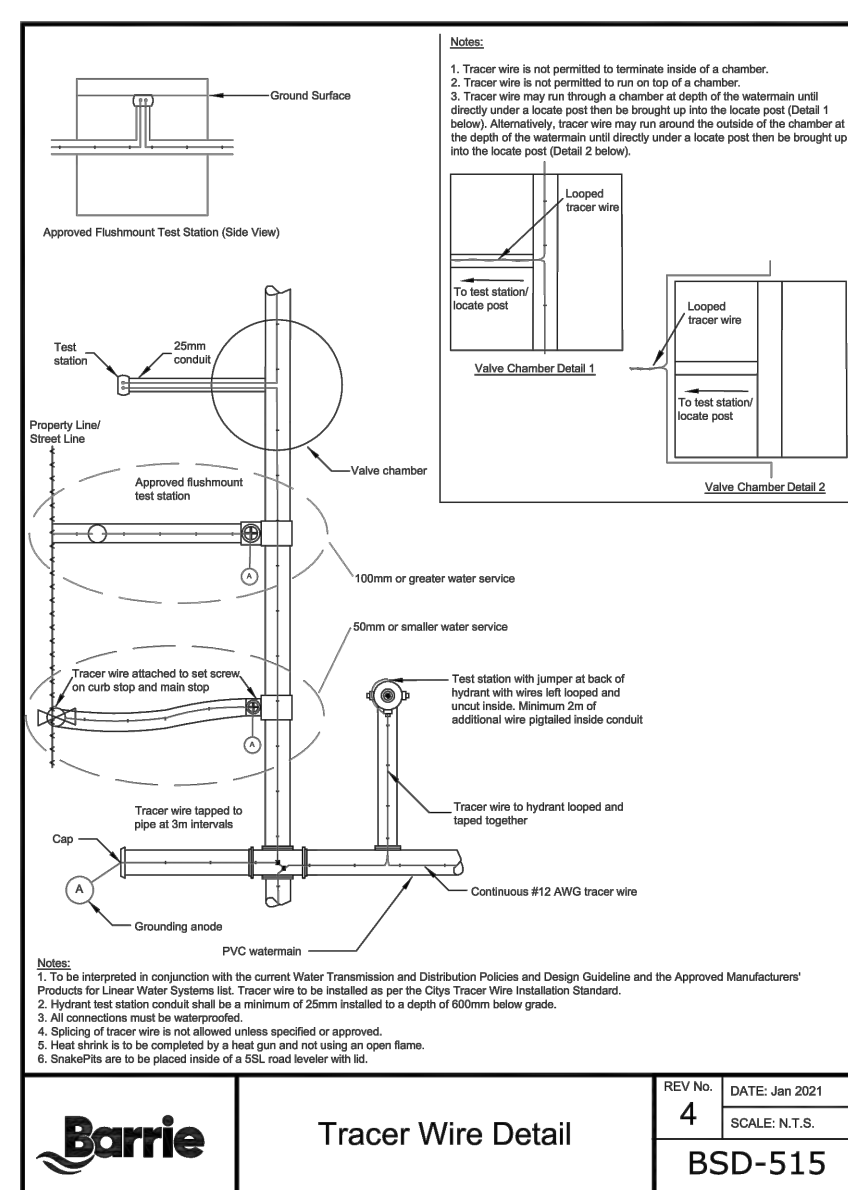
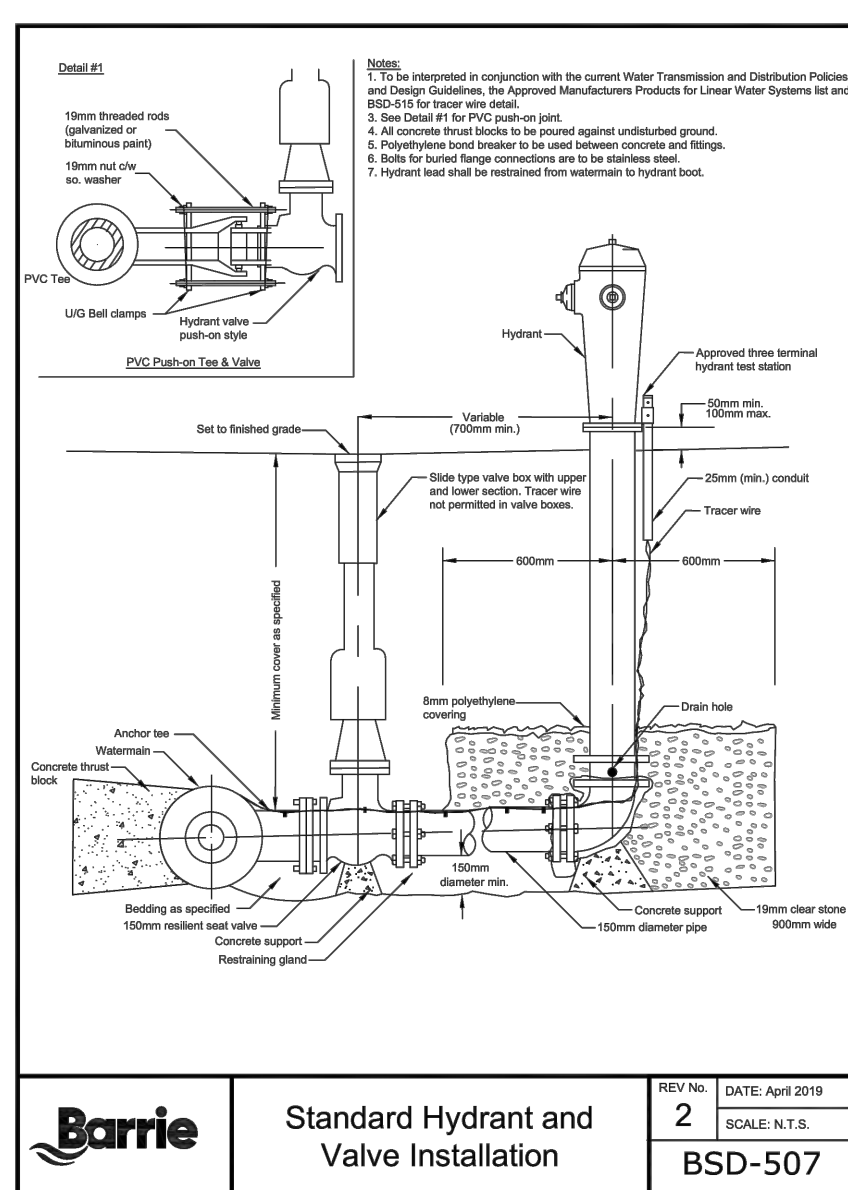
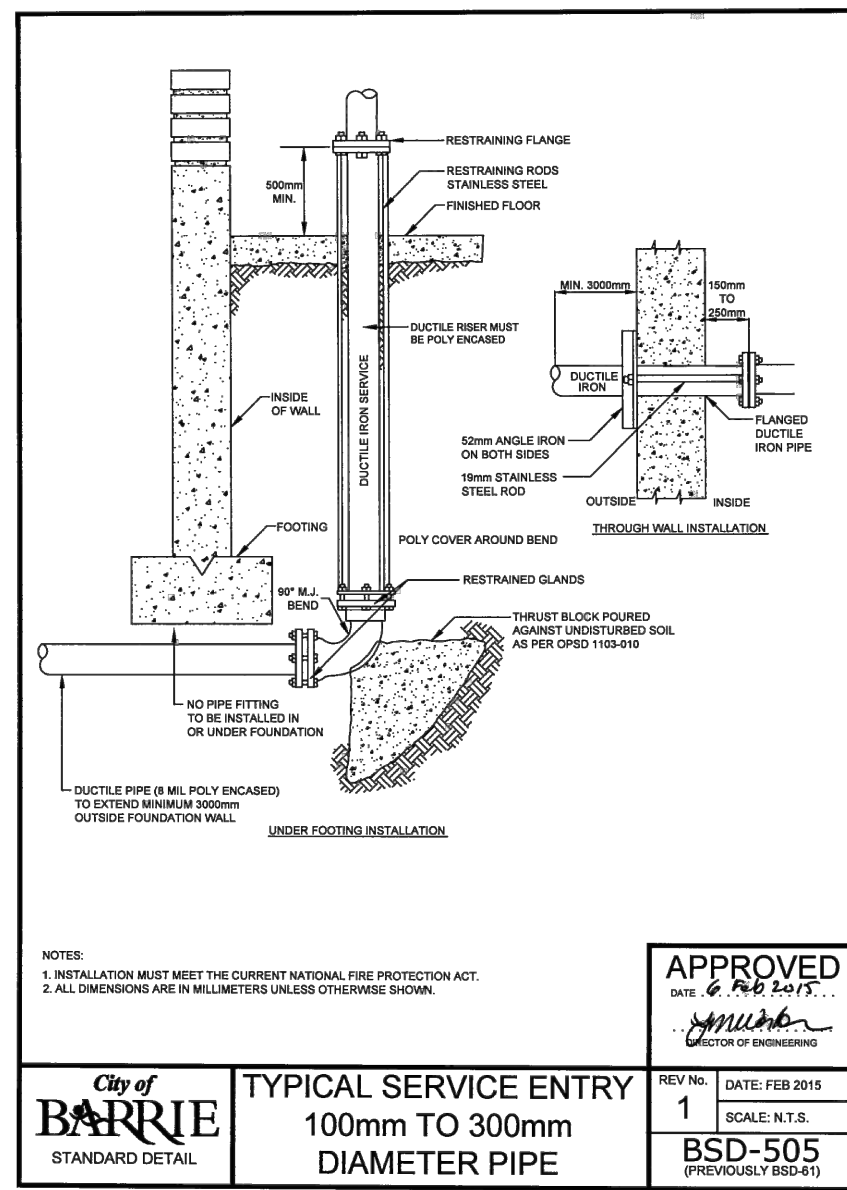
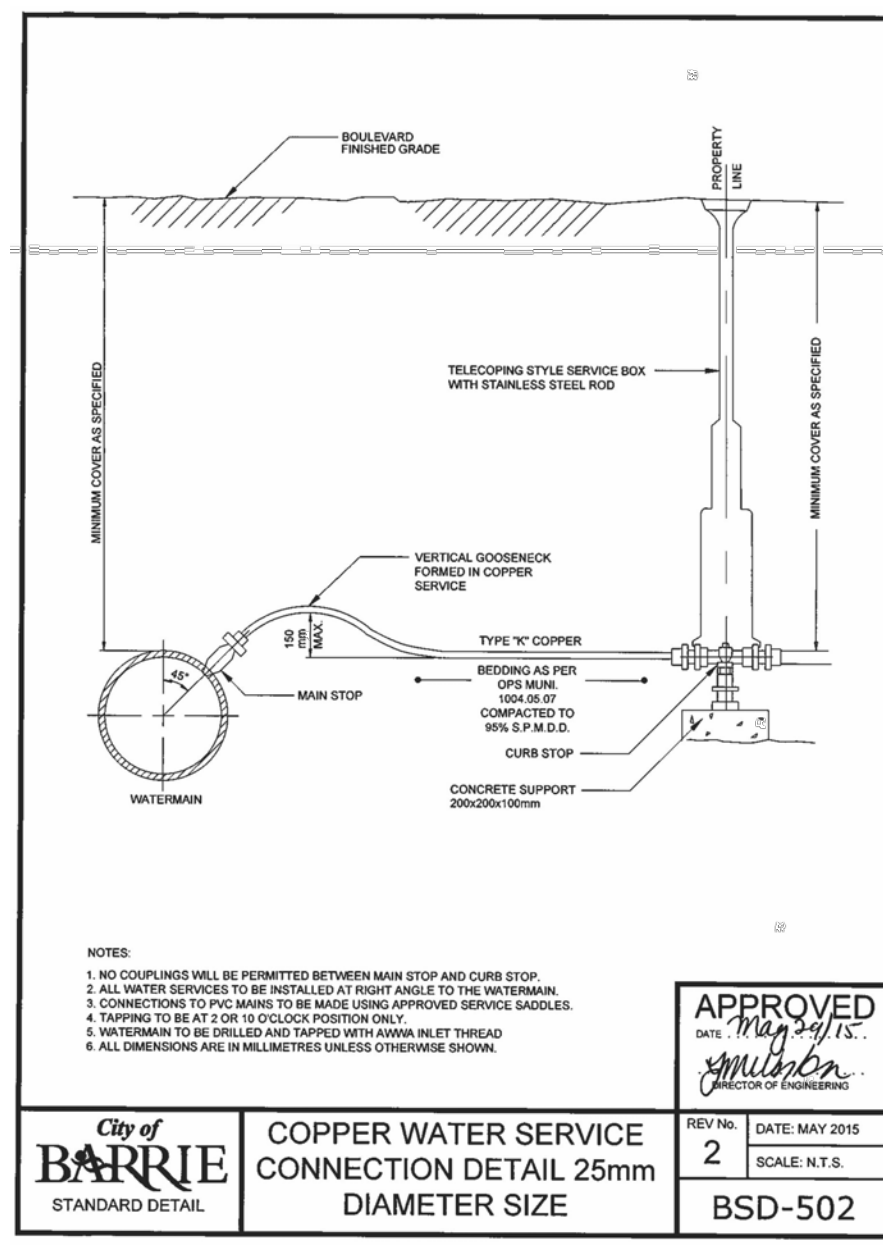
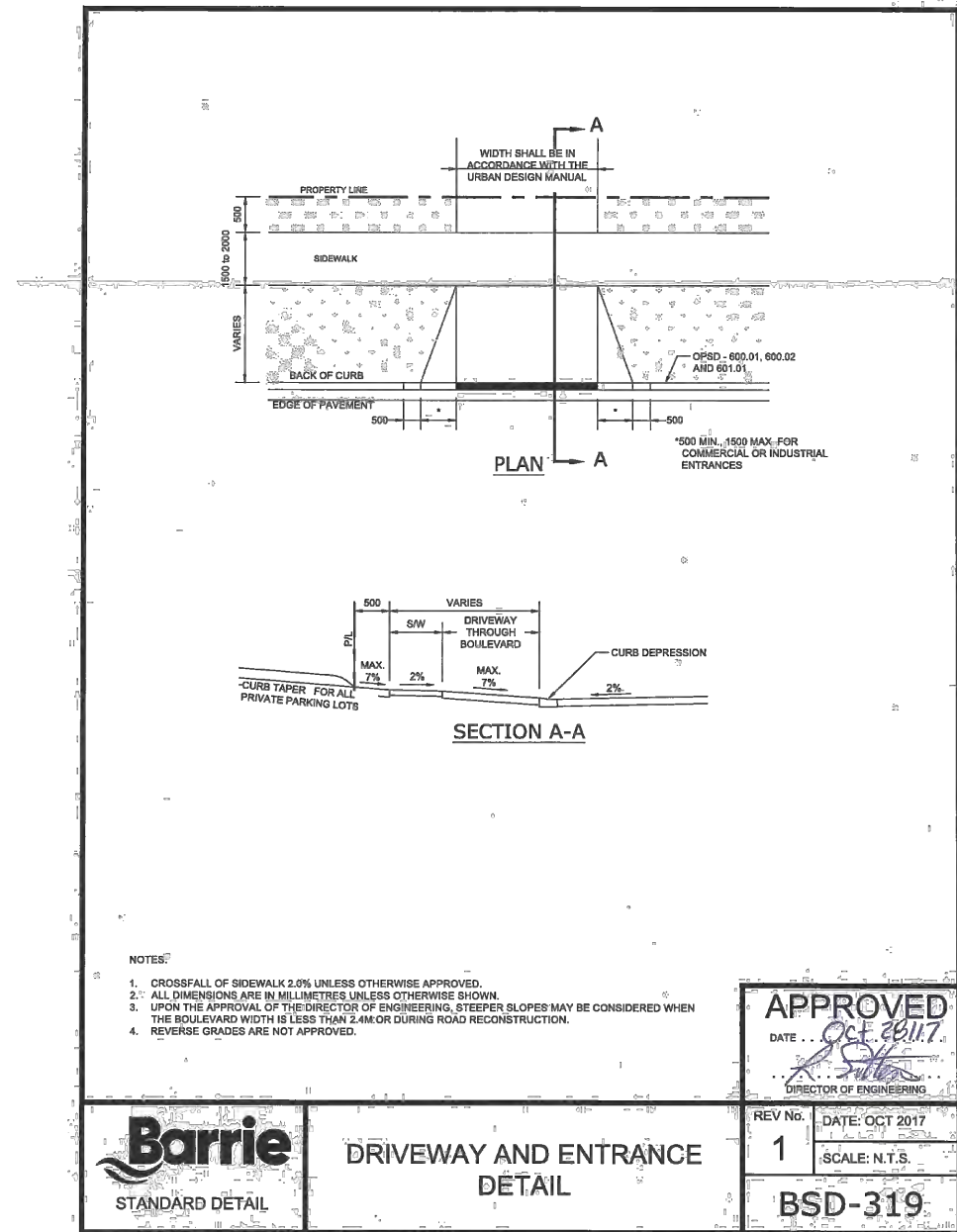
CLIENT/PROJECT

**521 AND 525 ESSA ROAD
RESIDENTIAL DEVELOPMENT**

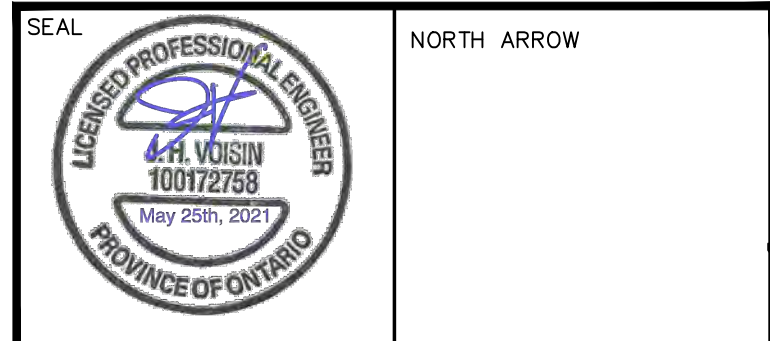
DRAWING TITLE

STORM SEWER CATCHMENT PLAN

PROJECT NO. 20-11501-B	DRAWING NO. STM-1	REVISION 6
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6	21.05.20	REVISED PER LSRCA COMMENTS	G.N.
5	21.05.07	REVISED TO ADD FIRE SERVICES	G.N.
4	21.04.29	REVISED TO ADD SIAMESE CONNECTION	G.N.
3	21.03.15	SITE PLAN REVISION	G.N.
2	20.05.13	SITE PLAN REVISION	G.N.
1	19.06.06	REVISED PER CITY COMMENTS	G.N.
NO.	YY.MM.DD	REVISION	BY



DESIGN BY:	J.V.
DRAWN BY:	G.N.
CHECKED:	J.V.
DATE:	MARCH 2020
SCALE:	1:250

CLIENT/PROJECT		
521 AND 525 ESSA ROAD RESIDENTIAL DEVELOPMENT		
DRAWING TITLE		
STANDARD AND CONSTRUCTION DETAILS		
PROJECT NO.	DRAWING NO.	REVISION
20-11501-B	DET-1	6

