

1. DISTURBED AREAS THAT HAVE FAILED TO HAVE STABLE GROUND COVER ESTABLISHED BY OCTOBER 30TH SHALL BE PROTECTED WITH A SILTATION CONTROL FENCE OR STRAW MULCH ETC. AND MAINTAINED BY THE CONTRACTOR UNTIL VEGETATION BECOMES ESTABLISHED IN THE SUBSEQUENT GROWING SEASON.
2. ANY DEWATERING WASTE SHALL BE DISCHARGED TO A VEGETATED AREA AT LEAST 30 M FROM ANY WATERCOURSE, AND FILTERED. FILTERING METHODS MUST BE APPROVED BY THE SITE ADMINISTRATOR.
3. SILT FENCE SHALL BE PUT IN PLACE PRIOR TO AND MAINTAINED DURING ALL GRADING, SILT FENCE SHALL COMPLY WITH OPSD 219-110 FOR LIGHT DUTY AND OPSD 219-10 FOR HEAVY DUTY, UNLESS NOTED OTHERWISE. SILT FENCE TO BE INSPECTED PRIOR TO COMMENCEMENT OF EARTH GRADING ACTIVITIES. SILT FENCE TO BE INSPECTED AND REPAIRED OR REPLACED IF DAMAGED AS DIRECTED BY THE SITE ADMINISTRATOR. SILT CONTROLS TO BE INSPECTED ON A REGULAR BASIS AND AFTER EVERY RAIN EVENT. INSTALLATION SHALL BE TO THE MANUFACTURER'S SUGGESTED SPECIFICATIONS.
4. THE CONTRACTOR SHALL BE PREPARED FOR UNEXPECTED CONDITIONS AND ACCORDINGLY HAVE STOCKPILED MATERIALS ON SITE FOR NECESSARY REPAIRS AS A RESULT OF FAILED OR INADEQUATE CONTROL MEASURES. ALL SEDIMENT AND EROSION CONTROL MEASURES SHALL BE INSPECTED AT LEAST ONCE A WEEK, AND AFTER EVERY RAINFALL EVENT.
5. MUD MATS WHERE CONSTRUCTION TRAFFIC ENTERS OR LEAVES THE SITE SHALL BE USED. MUD MATS TO BE 300mm IN DEPTH, 8.0m WIDE BY 30.0m LONG, MEETING MUNICIPAL STANDARDS AS IDENTIFIED.
6. CONTRACTOR SHALL OBTAIN A CURRENT COPY AND BECOME FAMILIAR WITH OPSD 805, CONSTRUCTION SPECIFICATION FOR TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES AS WELL AS ALL APPLICABLE MUNICIPAL STANDARDS.
7. THE CONTRACTOR MAY CONSIDER ALTERNATIVE SEDIMENT AND EROSION CONTROL MEASURES. SUCH MEASURES SHOULD BE PRESENTED IN WRITING FOR APPROVAL OF THE SITE ADMINISTRATOR AND MUST BE APPROVED IN WRITING BY THE CONSERVATION AUTHORITY.
8. THE TOPS OF ALL FILTER FABRIC MUST BE A MINIMUM OF 1.0 METRES ABOVE THE TOP OF THE FENCE. FILTER FABRIC MUST BE ATTACHED WITH A CONTINUOUS STEEL WIRE. ALTERNATIVELY, THE FILTER FABRIC MUST BE FOLDED OVER THE TOP OF THE FENCE AND ATTACHED TO THE FENCE WITH WIRE LOOPED THROUGH THE FABRIC ON BOTH SIDES OF THE FENCE. FILTER FABRIC IS TO BE TERRAFIX 270R OR EQUIVALENT.
9. ALL DISTURBED GROUND LEFT INACTIVE SHALL BE STABILIZED BY SEEDING, SODDING, MULCHING, OR COVERING OR OTHER EQUIVALENT CONTROL MEASURES. THIS PERIOD OF STABILIZATION SHALL BE APPROVED IN WRITING BY THE MUNICIPAL DIRECTOR OF ENGINEERING BUT SHALL NOT EXCEED (30) DAYS OR SUCH LONGER PERIOD DEEMED ADVISABLE BY THE MUNICIPAL DIRECTOR OF ENGINEERING.
10. CONTRACTOR SHALL INSTALL AND MAINTAIN CATCHBASIN SEDIMENT BARRIERS THROUGHOUT THE SITE DURING ALL CONSTRUCTION ACTIVITIES IN ORDER TO MITIGATE SEDIMENT ENTERING THE STORM SEWER.
11. NO FUEL TO BE STORED ON SITE. IN CASE OF A SPILL PLACE CONTACT: MOECC SPILLS ACTION CENTER 1-800-268-6060.
12. SEDIMENT CONTROLS ARE TO REMAIN IN PLACE UNTIL WRITTEN DIRECTION IS RECEIVED FROM THE ENGINEER REGARDING THEIR REMOVAL.
13. EROSION AND SEDIMENT CONTROLS WILL BE INSPECTED ON AS PER MUNICIPAL REQUIREMENTS OR AFTER SIGNIFICANT RAINFALL EVENTS.

SEQUENCE OF CONSTRUCTION

1. ENGINEER TO BE NOTIFIED PRIOR TO INITIATION OF ANY ON SITE WORKS.
2. SILT FENCE AND CONSTRUCTION ACCESS MATS TO BE INSTALLED PRIOR TO THE COMMENCEMENT OF ANY WORKS ONSITE.
3. VEGETATION REMOVAL MAY COMMENCE AFTER ALL SILT FENCE IS INSTALLED AND APPROVED BY THE ENGINEER.
4. COMMENCE WITH EARTH EXCAVATION AND SITE SERVICING (TO BE REMOVED FROM SITE – NO STOCKPILE).
5. EROSION CONTROL MEASURES TO BE MAINTAINED AS DIRECTED BY THE ENGINEER DURING THE CONSTRUCTION PERIOD. ADDITIONAL CONTROL MEASURES MAY BE REQUIRED AT THE DISCRETION OF THE ENGINEER.
6. ALL DISTURBED GROUND LEFT INACTIVE FOR MORE THAN 30 DAYS SHALL BE STABILIZED WITH SEED, SOIL, MULCH OR OTHER ADEQUATE COVERING, AS INSTRUCTED BY THE ENGINEER.
7. ALL CONSTRUCTION VEHICLES TO ACCESS THE SITE VIA THE DESIGNATED CONSTRUCTION ENTRANCES AS SHOWN.

HORIZONTAL CONTROL
ID# 031200400303
BLK 1, W. 1/4 COR. CAP. PROTECTED BY A WATER VALVE COVER. LOCATED JUST BEHIND THE SOUTH CORNER OF MAPLEVIEW DRIVE. WEST, EAST OF VETERANS' DRIVE. NORTHING=1960936.12m, EASTING=1960897.740m

HORIZONTAL CONTROL
ID# 031200400202
BLK 1, W. 1/4 COR. CAP. PROTECTED BY A WATER VALVE COVER. LOCATED ON NW CORNER OF MAPLEVIEW DRIVE. BARRE VILLAGE. AT THE SIDEWALK NORTHEAST CORNER OF THE S. E. 1/4 OF SIDEWALK NORTHING=19609907.795m, EASTING=1960458.426m

VERTICAL CONTROL
ID# 031200800810
BLK 1, W. 1/4 COR. CAP. LOCATED ON CULVERT HEADWALL, SW CORNER OF MAPLEVIEW AND VETERANS' DR. SET FLUSH ON E FACE OF HEADWALL 110mm BELOW TOP OF CULVERT. 10m above the S. E. 1/4 CORNER OF THE WALL. ELEVATION=306.588m

VERTICAL CONTROL
ID# 031200300303
BLK 1, W. 1/4 COR. CAP. LOCATED ON CULVERT HEADWALL, SW CORNER OF MAPLEVIEW AND BARRE VILLAGE DR. SET FLUSH ON E FACE OF HEADWALL 100mm BELOW TOP OF CULVERT. 10m above the S. E. 1/4 CORNER OF THE WALL AND 180mm NORTH OF THE S. E. of the WALL. ELEVATION=301.195m

SITE BENCHMARK
TOP OF FACE OF ELECTRIC METER
ELEVATION=305.640

222 Mapleview Drive West, Suite 301
Barrie, ON L4N 9E7 Canada
Tel.: 705.737.3303
Fax.: 705.737.1772
www.gerreng.com

This drawing has been created electronically

Handwritten or manual revisions to the drawing are only valid when accompanied by the design engineer's initials.

Do not scale drawings.
Check and verify all dimensions and information on the drawings and report all errors or omissions to the Consultant before proceeding with the work.
This drawing shall not be reproduced in any manner, in part or in whole, for any project other than that for which it was prepared.
This drawing, and all design concepts it contains, are an instrument of professional service and remain the property of Gerrits Engineering.

This drawing may have been reduced.

0 5 10 20 30 40 50mm

0° 1/4° 1/2° 1° 1 1/2° 2°

No.	Issuance Description	YY/MM/DD
1.	CLIENT REVIEW	23/02/13
2.	SITE PLAN SUBMISSION	23/02/23

Issued For

SITE PLAN SUBMISSION

Client **INSPIRATION GROUP
OF COMPANIES**
218 Export Blvd, Suite 408,
Mississauga, ON L5S 7A7

BARRIE APARTMENTS

582 Essa Road, Barrie
ON L4N 9E6

Drawing

EROSION & SEDIMENT CONTROL PLAN

Project No.	1760-001-22	Designed by: RM	Checked by: KF
Scale:	1:250	Drawn by: RM	Approved by: JDM
Orientation	Stamp		



Drawing No.

1. DRAWINGS

- THE NOTES ON THIS SHEET APPLY TO ALL WORKS UNDER THIS CONTRACT UNLESS OTHERWISE NOTED ON THE SPECIFIC DETAIL DWGS.
- THE STANDARD DRAWINGS OF THE LOCAL MUNICIPALITY, ONTARIO PROVINCIAL STANDARDS AND SPECIFICATIONS (OPSS) AND THE ONTARIO PROVINCIAL STANDARD DRAWINGS (OPSD) CONSTITUTE PART OF THE PLANS OF THIS CONTRACT.
- ORDER OF PRECEDENCE OF STANDARD DRAWINGS IS FIRSTLY THE LOCAL MUNICIPALITY AND SECONDLY ONTARIO PROVINCIAL STANDARD DRAWINGS.

- THE STANDARD DRAWINGS INCLUDED WITH THESE PLANS ARE PROVIDED FOR CONVENIENCE ONLY AND ARE NOT TO BE CONSTRUED TO BE A COMPLETE SET FOR THE PURPOSE OF THE CONTRACT. IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN ALL RELEVANT STANDARD DRAWINGS AND SPECIFICATIONS AS REQUIRED FOR THIS CONTRACT.

2. MEASUREMENTS

- ALL DIMENSIONS ARE IN METRES, EXCEPT PIPE DIAMETERS, WHICH ARE IN MILLIMETRES, UNLESS SPECIFIED OTHERWISE.
- ALL DIMENSIONS SHALL BE CHECKED AND VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO ANY CONSTRUCTION, AND ANY DISCREPANCIES SHALL BE REPORTED IMMEDIATELY TO THE ENGINEER.

3. GENERAL

- EXISTING SERVICES AND UTILITIES SHOWN ON THESE CONTRACT DRAWINGS ARE BASED ON THE BEST INFORMATION AVAILABLE AND THEIR LOCATIONS ARE NOT GUARANTEED. THE CONTRACTOR SHALL INTERPRET THIS INFORMATION AS THEY WISH WITH THE UNDERSTANDING THAT THE OWNER DISCLAIMS ALL RESPONSIBILITY FOR ITS ACCURACY AND/OR SUFFICIENCY. THE CONTRACTOR IS REQUIRED TO NOTIFY THE VARIOUS UTILITY COMPANIES 48 HOURS PRIOR TO THE COMMENCEMENT OF ANY WORK.
- NATIVE MATERIAL, SUITABLE FOR BACKFILL, SHALL BE COMPACTED TO 95% STANDARD PROCTOR MAXIMUM DRY DENSITY.
- GRANULAR MATERIAL, USED FOR BACKFILL, SHALL BE PLACED IN LAYERS 150mm IN DEPTH MAXIMUM AND COMPACTED TO 100% STANDARD PROCTOR MAXIMUM DRY DENSITY.
- ALL DISTURBED AREAS ARE TO BE REINSTATED TO THEIR ORIGINAL CONDITION OR BETTER, AS DETERMINED BY THE ENGINEER. ALL GRASS AND VEGETATION COVERED AREAS SHALL BE RESTORED BY PLACING 200mm OF APPROVED TOPSOIL AND NURSERY SOO UNLESS NOTED OTHERWISE.

- NATIVE SUBGRADE TO BE COMPACTED TO MINIMUM 98% STANDARD PROCTOR MAXIMUM DRY DENSITY.
- PAVEMENT STRUCTURE TO BE CONFIRMED BY GEOTECHNICAL ENGINEER PRIOR TO START OF CONSTRUCTION

- THE PARKING LOT PAVEMENT STRUCTURE SHALL CONSIST OF THE FOLLOWING:
 - 40mm HL3/SP12.5
 - 70mm HL8/SP1.5
 - 150mm OPSS 1010 GRANULAR "A"
 - 450mm OPSS 1010 GRANULAR "B"

4. PARKING LOT

- NATIVE SUBGRADE TO BE COMPACTED TO MINIMUM 98% STANDARD PROCTOR MAXIMUM DRY DENSITY.
- PAVEMENT STRUCTURE TO BE CONFIRMED BY GEOTECHNICAL ENGINEER PRIOR TO START OF CONSTRUCTION
- THE PARKING LOT PAVEMENT STRUCTURE SHALL CONSIST OF THE FOLLOWING:
 - 40mm HL3/SP12.5
 - 70mm HL8/SP1.5
 - 150mm OPSS 1010 GRANULAR "A"
 - 450mm OPSS 1010 GRANULAR "B"

PAVEMENT STRUCTURE

- 40mm HL3/SP12.5
- 70mm HL8/SP1.5
- 150mm OPSS 1010 GRANULAR "A"
- 450mm OPSS 1010 GRANULAR "B"

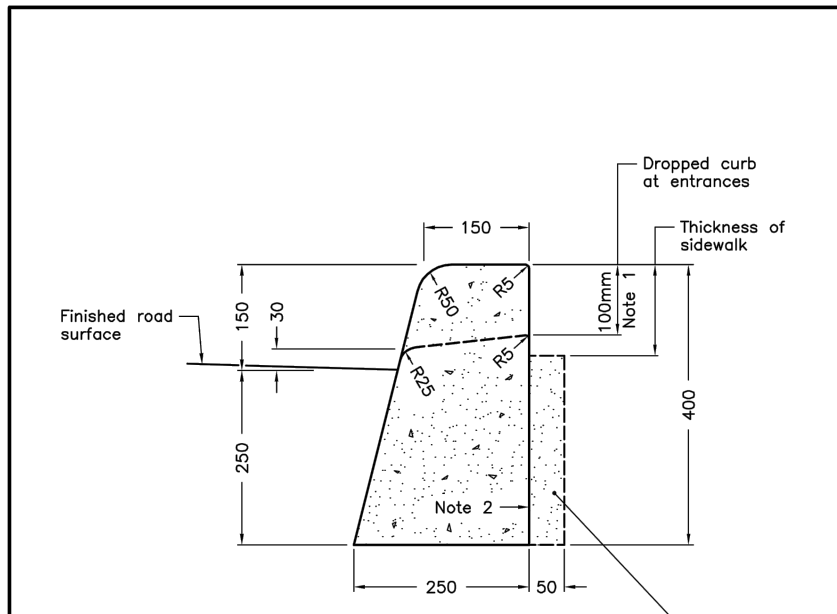
5. SEWERS

- INTERNAL SANITARY SEWERS AND LATERALS TO BE MINIMUM 150mm DIAMETER PVC DR 28 WITH JOINTS CONFORMING TO CSA STANDARD A257.3.
- SEWERS SHALL BE CONSTRUCTED WITH BEDDING AS PER OPSS 802.010 (GRANULAR 'A' EMBEDMENT MATERIAL), UNLESS APPROVED OTHERWISE BY THE ENGINEER.
- PRECAST MANHOLES SHALL BE 1200mm DIAMETER UNLESS OTHERWISE SPECIFIED, AND SHALL BE IN ACCORDANCE WITH OPSP 701.010. FRAME AND GRATE TO BE "TYPE A" CLOSED COVER AND TO CONFORM TO OPSP 401.010.
- MANHOLE TOPS ARE TO BE SET TO FINAL GRADE.

6. WATERMAINS

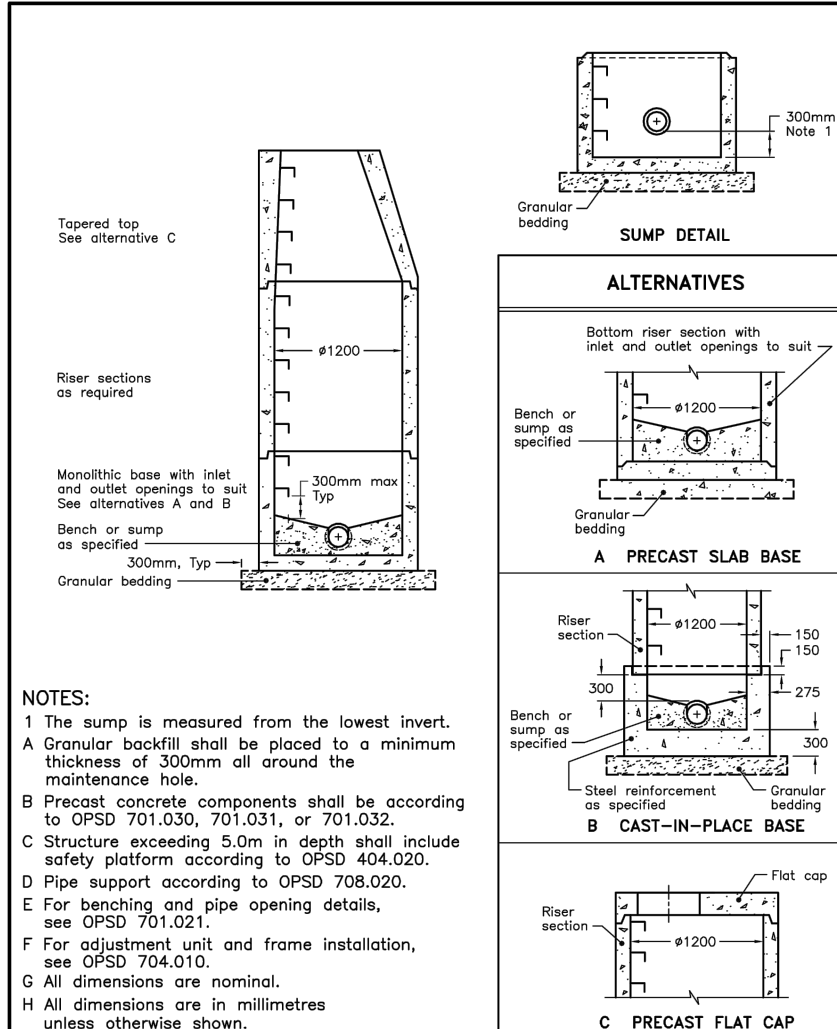
- THE MINIMUM HORIZONTAL SEPARATION BETWEEN THE WATERMAIN AND THE SANITARY/STORM SEWER IS TO BE 2.5 METERS.
- A MINIMUM OF 0.5m VERTICAL CLEARANCE BETWEEN THE WATERMAIN, SANITARY, STORM AND/OR ALL UTILITIES MUST BE KEPT, WHILE STILL MAINTAINING A MINIMUM DEPTH OF COVER AT ALL TIMES. WHERE WATERMAIN CONFLICTS WITH SEWER PIPE, DEFLECT WATERMAIN HORIZONTALLY OR VERTICALLY TO OBTAIN MINIMUM COVER AND VERTICAL CLEARANCE.
- WATERMAINS SHALL BE PVC DR 18 AND INSTALLED WITH A MINIMUM COVER OF 1.7m (MEASURED FROM FINISHED GRADE TO TOP OF WATERMAIN). IF MINIMUM COVER CAN NOT BE ACHIEVED, INSULATION AS PER DETAIL PROVIDED.
- WATERMAIN SHALL BE CONSTRUCTED WITH BEDDING AS PER OPSP 802.010 (GRANULAR 'A' EMBEDMENT MATERIAL) FOR FLEXIBLE PIPES.
- COPPER WATER SERVICES 25mm DIA. SHALL BE EMBEDDED IN SAND 100mm ABOVE AND BELOW TO CONFORM TO OPSS 1104.010.
- WATERMAIN BEDDING SHALL ADHERE TO THE MUNICIPAL STANDARD AND BE PLACED MIN 150mm BELOW AND 300mm ABOVE THE WATERMAIN.
- CONCRETE THRUST BLOCKS ARE TO BE INSTALLED AT ALL TEES, BENDS, HYDRANTS, ENDS OF MAINS AND CONNECTIONS 100mm AND LARGER AS PER STANDARD DRAWINGS. ALL BENDS TO BE MECHANICALLY RESTRAINED.
- ALL JOINTS MUST BE MECHANICALLY RESTRAINED AND THRUST BLOCKED.
- ANY EXISTING, ON SITE, WATER WELLS MUST BE DECOMMISSIONED.
- WHERE A COPPER SERVICE MUST BE JOINED UNDER THE FLOOR, THE COPPER SHALL BE JOINED BY SILVER SOLDER CONNECTION ONLY.
- ALL SERVICE PIPE MATERIAL MUST BE DUCTILE IRON AND MECHANICALLY RESTRAINED FROM THE RESTRAINED FROM THE RESTRAINED FLANGE TO A MINIMUM OF 3 METERS OUTSIDE THE FOUNDATION. ALL DUCTILE SHALL BE POLY WRAPPED FOR ADDED PROTECTION.
- OPERATION OF FIRE HYDRANTS AND VALVES ON POTABLE WATER BY OTHER THAN MUNICIPAL CITY DEPARTMENT IS PROHIBITED.
- THE CITY WILL SWAB, CHLORINATE AND FLUSH ALL NEW SERVICES. THE CONTRACTOR SHALL PERFORM PRESSURE TEST WITH WATER FIELD COORDINATOR WITNESSING.
- EXTERNAL CONTRACTOR TO COORDINATE WITH INTERNAL CONTRACTOR ON ALL INSTALLATION, SWABBING, CHLORINATING AND TESTING WITNESSED BY WATER FIELD SERVICES COORDINATOR.
- MECHANICAL RESTRAINTS WILL BE REQUIRED ON ALL HYDRANTS. A MINIMUM OF TWO PIPE LENGTHS OF EITHER SIDE OF THE HYDRANT TEE CONNECTION. HYDRANTS TO BE PAINTED RED.
- TRACING WIRE (#12 TWU STRANDED COPPER) TO BE INSTALLED ON THE TOTAL LENGTH OF ALL PVC WATERMAINS AND BROUGHT UP AT EACH HYDRANT AND CONNECTED TO FLANGE BOLT.
- SERVICE CONNECTIONS SHALL BE PLACED AT A MINIMUM SEPARATION OF 1.0m AND A MINIMUM OF 0.6m FROM JOINTS.
- CONTRACTOR TO PROVIDE PLAN FOR REMOVING CHLORINATED WATER FROM SITE.
- A CHLORINATION TAIL SHALL BE INSTALLED JUST BEHIND TAPPING VALVE TO FACILITATE CHLORINATING SERVICE, TO BE REMOVED AFTER TESTING.

GENERAL NOTES								
1. DRAWINGS								
A. ALL DRAWINGS SHALL BE PRODUCED IN ACCORDANCE WITH CURRENT CITY OF BARRIE STANDARDS & SYMBOLS FOR PLAN & PROFILE DRAWINGS, GENERAL SERVICE PLANS AND LOT GRADING PLANS.								
2. MEASUREMENTS								
A. ALL DIMENSIONS ARE IN METRES, EXCEPT PIPE DIAMETERS, WHICH ARE IN MILLIMETRES, UNLESS SPECIFIED OTHERWISE.								
3. GENERAL								
A. ALL WORK SHALL BE IN ACCORDANCE WITH CURRENT CITY OF BARRIE STANDARD DRAWINGS (BSD) AND ONTARIO PROVINCIAL STANDARD DRAWINGS (OPSD).								
B. ORDER OF PRECEDENCE OF STANDARD DRAWINGS IS FIRSTLY CITY OF BARRIE STANDARD DRAWINGS (BSD) AND SECONDLY ONTARIO PROVINCIAL STANDARD DRAWINGS (OPSD).								
C. LOCATION OF EXISTING SERVICES ARE NOT GUARANTEED. THE CONTRACTOR IS REQUIRED TO NOTIFY THE VARIOUS UTILITY COMPANIES 48 HOURS PRIOR TO THE COMMENCEMENT OF ANY WORK.								
D. A ROAD OCCUPANCY PERMIT IS REQUIRED FROM THE ROADS AND PARKS OPERATIONS BRANCH PRIOR TO THE COMMENCEMENT OF WORK WITHIN ANY CITY RIGHT-OF-WAY.								
E. A SITE ALTERATION PERMIT IS REQUIRED FROM THE ENGINEERING DEPARTMENT PRIOR TO THE COMMENCEMENT OF ANY EARTH WORKS ON THE SITE.								
F. NATIVE MATERIAL, SUITABLE FOR BACKFILL, SHALL BE COMPACTED TO 95% STANDARD PROCTOR MAXIMUM DRY DENSITY.								
G. GRANULAR MATERIAL, USED FOR BACKFILL, SHALL BE PLACED IN LAYERS 150mm IN DEPTH MAXIMUM AND COMPACTED TO 100% STANDARD PROCTOR MAXIMUM DRY DENSITY.								
H. ALL DISTURBED AREAS ARE TO BE REINSTATED TO THEIR ORIGINAL CONDITION OR BETTER, AS DETERMINED BY THE CITY ENGINEERING DEPARTMENT.								
I. ALL SALT CONTROL AND EROSION PROTECTION DEVICES ARE TO BE IN PLACE PRIOR TO THE COMMENCEMENT OF CONSTRUCTION AND SHALL REMAIN IN PLACE AND BE MAINTAINED BY THE CONTRACTOR UNTIL CONSTRUCTION IS COMPLETE AND THE GRASS HAS ESTABLISHED GROWTH, SUBJECT TO APPROVAL BY THE CITY ENGINEERING DEPARTMENT.								
CITY OF BARRIE STANDARD		3	5	NOTE 3.E. REVISED & 3.I. ADDED	J.S.	05.01.10	APPR: R.G.N.	DATE: 02.05.15
GENERAL NOTES		3	5.D.	"ENGINEERING DEPARTMENT"	B.R.	02.10.28	DRWN: L.A.J.	SCALE: N.T.S.
		1	3.E.	TOPSOIL PERMIT		01.12.08		
		NO.	REVISION	APPR'D	DATE			
								BSD-N6

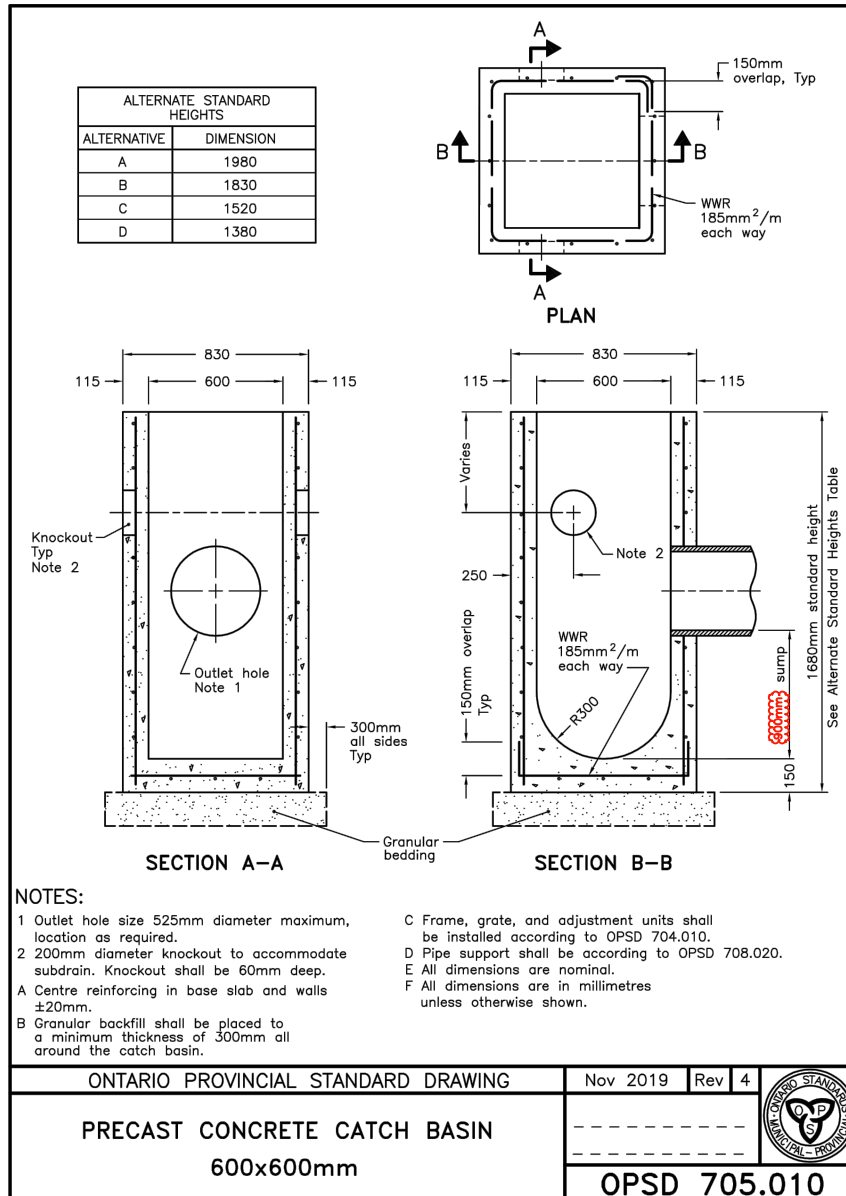


ONTARIO PROVINCIAL STANDARD DRAWING			
Nov 2012 Rev 2			
CONCRETE BARRIER CURB			
OPSD 600.110			

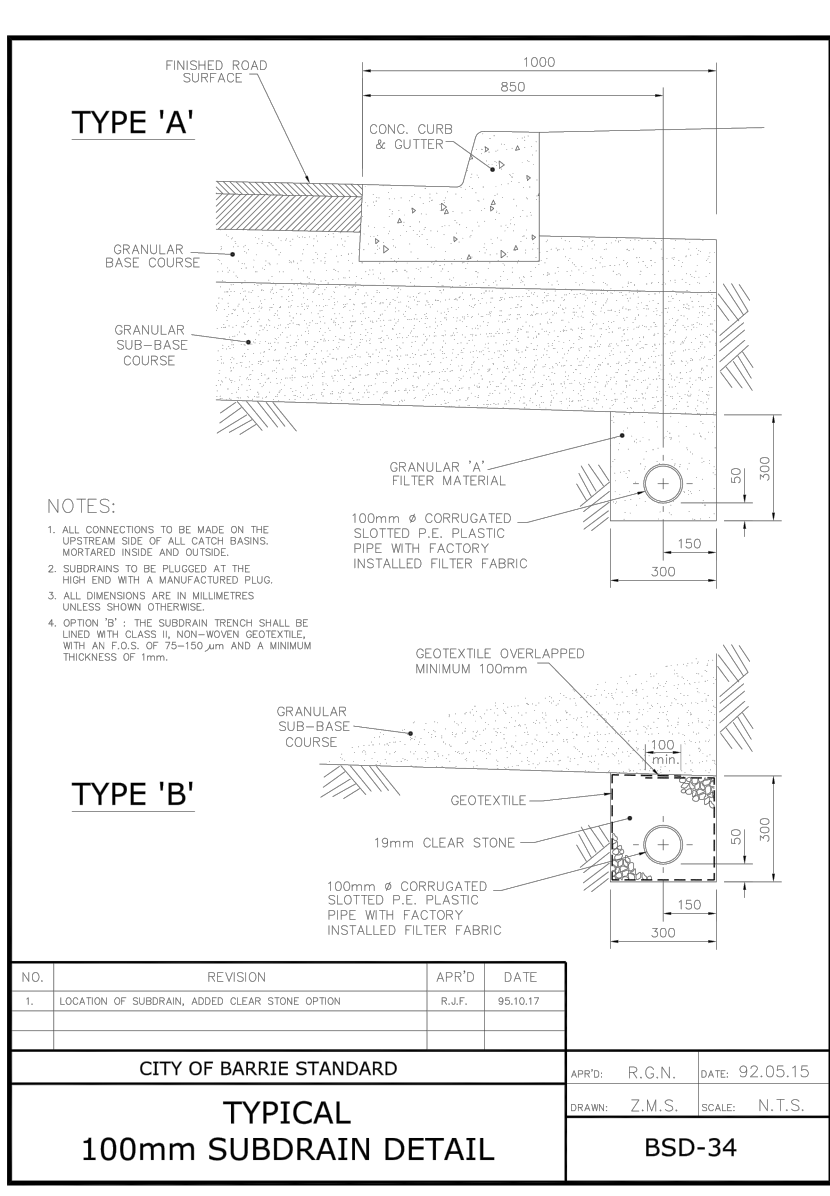
GENERAL NOTES – SANITARY SEWER								
SANITARY SEWERS								
A. SANITARY SEWER TO BE LOCATED AT THE CENTRELINE OF THE ROAD.								
B. SEWERS SHALL BE CONSTRUCTED WITH BEDDINGS AS PER OPSP-802.010, (GRAN. 'A' EMBEDMENT MATERIAL) FOR FLEXIBLE PIPES AND OPSP-802.050 OR 802.051 CLASS B (GRAN. 'A' BEDDING MATERIAL) FOR RIGID PIPE UNLESS OTHERWISE APPROVED BY THE DIRECTOR OF ENGINEERING.								
C. MAXIMUM DEFLECTION FROM COMBINED LIVE AND DEAD LOADING SHALL NOT EXCEED ANY C.S.A., O.P.S. OR MANUFACTURER'S RECOMMENDED SPECIFICATIONS.								
D. PVC, CONCRETE AND PROFILE WALL PVC SEWERS SHALL HAVE RUBBER GASKET TYPE JOINTS AND SHALL BE CERTIFIED TO CONFORM TO ALL APPLICABLE CURRENT C.S.A. SPECIFICATIONS.								
E. CONCRETE SANITARY SEWERS SHALL HAVE A MINIMUM STRENGTH OF 50 N/m ² (CONFORMING TO CSA STANDARD A257.2-1982, CLASS 50-D (PREVIOUSLY C.S.A. STANDARD A257.2-1974, CLASS 50).								
F. 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 BS5-N2.								
G. ALL CONNECTIONS TO NEW SANITARY MAINS SHALL BE PRE-MANUFACTURED, FABRICATED TEES, CONNECTIONS TO EXISTING SANITARY SEWER SHALL BE MADE WITH APPROVED FACTORY MADE TEES OR INSERT-A-TEES IN STRICT ACCORDANCE TO MANUFACTURER'S GUIDELINES.								
CITY OF BARRIE STANDARD		4	NOTE 9	"ENGINEERING"	B.R.	2002.10.28	APPR: R.G.N.	DATE: 02.05.15
GENERAL NOTES SANITARY SEWERS		3	NOTE 9	"OPSP NUMBER REVISION"	K.C.	2000.03.16		
		2	NOTE 9	"CHANGED"	K.C.	08.03.30	DRWN: L.A.J.	SCALE: N.T.S.
		1	CHANGES TO B. TO G.	G.C.	05.04.24			
		NO.	REVISION	APPR'D	DATE	BSD-N3		




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




ONTARIO PROVINCIAL STANDARD DRAWING			
Nov 2019 Rev 4			
PRECAST CONCRETE CATCH BASIN			
600x600mm			
OPSD 705.010			



CITY OF BARRIE STANDARD			
Nov 2012 Rev 2			
TYPICAL 100mm SUBDRAIN DETAIL			
BSD-34			



CDS ESTIMATED NET ANNUAL SOLIDS LOAD REDUCTION BASED ON THE RATIONAL RAINFALL METHOD BASED ON A FINE PARTICLE SIZE DISTRIBUTION



Project Name:

582 Essa Rd.

Location:

Barrie, ON

OGS #:

OGS

Engineer:

Gerrits Engineering

Contact:

McCaughey, P.Eng.

Report Date:

23-Feb-23

Area

0.39

ha

Weighted C

0.71

CDS Model

2015-4

Rainfall Station #

203

Particle Size Distribution

FINE

CDS Treatment Capacity

20

l/s

Rainfall Intensity (mm/hr)	Percent Rainfall Volume ¹	Cumulative Rainfall Volume	Total Flowrate (l/s)	Treated Flowrate (l/s)	Operating Rate (%)	Removal Efficiency (%)	Incremental Removal (%)
0.5	8.7%	8.7%	0.4	0.4	1.9	98.3	8.6
1.0	10.6%	19.3%	0.8	0.8	3.9	97.7	10.6
1.5	9.5%	29.0%	1.2	1.2	5.8	97.2	9.2
2.0	8.4%	37.4%	1.5	1.5	7.8	96.6	8.1
2.5	6.6%	44.2%	1.9	1.9	9.7	96.1	6.5
3.0	5.6%	49.8%	2.3	2.3	11.6	95.5	5.3
3.5	5.1%	54.9%	2.7	2.7	13.6	95.0	4.8
4.0	4.0%	59.8%	3.1	3.1	15.5	94.4	4.6
4.5	4.1%	63.9%	3.5	3.5	17.5	93.8	3.8
5.0	3.5%	67.4%	3.8	3.8	19.4	93.3	3.2
6.0	4.9%	72.3%	4.6	4.6	23.3	92.2	4.5
7.0	4.0%	76.3%	5.4	5.4	27.2	91.1	3.6
8.0	3.2%	79.5%	6.2	6.2	31.1	90.0	2.9
9.0	2.2%	81.7%	6.9	6.9	34.9	89.6	2.0
10.0	2.0%	83.7%	7.7	7.7	38.8	87.7	1.7
15.0	8.2%	91.9%	11.5	11.5	58.2	82.2	6.7
20.0	3.4%	95.2%	15.4	15.4	77.4	78.6	2.6
25.0	2.5%	97.7%	19.2	19.2	97.1	71.0	1.8
30.0	1.4%	99.1%	23.1	19.8	100.0	60.3	0.9
35.0	0.3%	99.4%	26.9	19.8	100.0	51.6	0.1
40.0	0.6%	100.0%	30.8	19.8	100.0	45.2	0.3
45.0	0.0%	100.0%	34.6	19.8	100.0	40.2	0.0
50.0	0.0%	100.0%	38.5	19.8	100.0	36.2	0.0

Removal Efficiency Adjustment² =

6.5%

Predicted Net Annual Load Removal Efficiency =

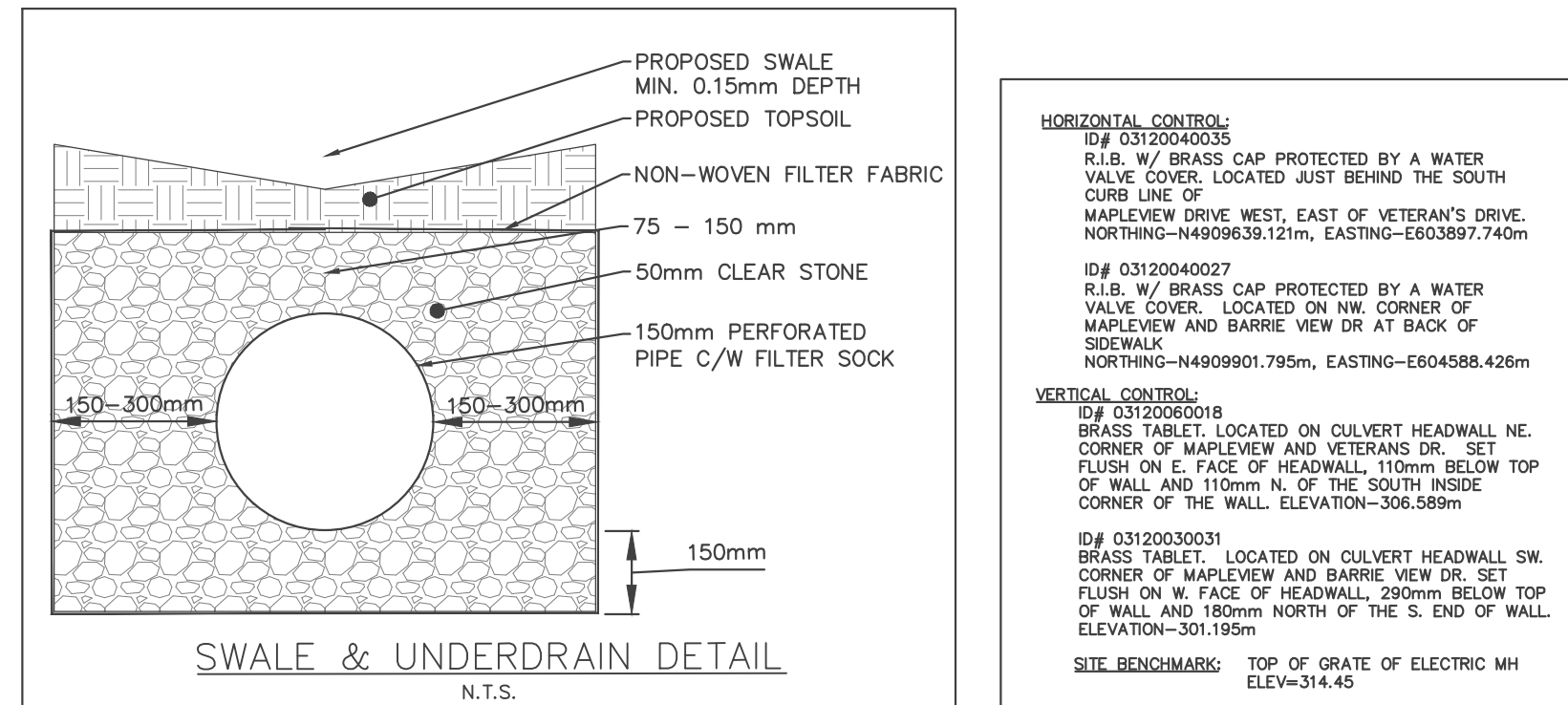
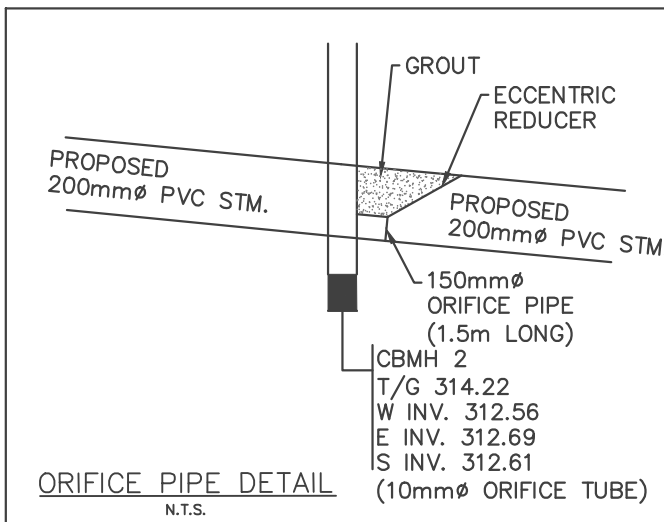
99.5%

Predicted Annual Rainfall Treated =

99.5%

1 - Based on 27 years of hourly rainfall data from Canadian Station 6110557, Barrie ON

2 - Reduction due to use of 60-minute data for a site that has a time of concentration less than 30-minutes.



Gerrits
ENGINEERING

222 Mapleview Drive West, Suite 300
Barrie, ON L4N 9E7 Canada
Tel: 705.737.3303
Fax: 705.737.1772
www.gerrits.com

This drawing has been created electronically.

Handwritten or manual revisions to the drawing are only valid when accompanied by the design engineer's initials.

Do not scale drawings. Check and verify all dimensions and information on the drawings and report all errors or omissions to the Consultant before proceeding with the work. This drawing shall not be reproduced in any manner, in part or in whole, for any project other than that for which it was prepared. This drawing, and all design concepts it contains, are an instrument of professional service and remain the property of Gerrits Engineering.

This drawing may have been reduced.



No.	Issuance Description	YY/MM/DD
1.	CLIENT REVIEW	23/02/13
2.	SITE PLAN SUBMISSION	23/02/23

Issued For:

SITE PLAN SUBMISSION

Client **INSPIRATION GROUP OF COMPANIES**
218 Export Blvd, Suite 408,
Mississauga, ON L5S 7A7

Project **BARRIE APPARTMENTS**

582 Essa Road, Barrie,
ON L4N 9E6

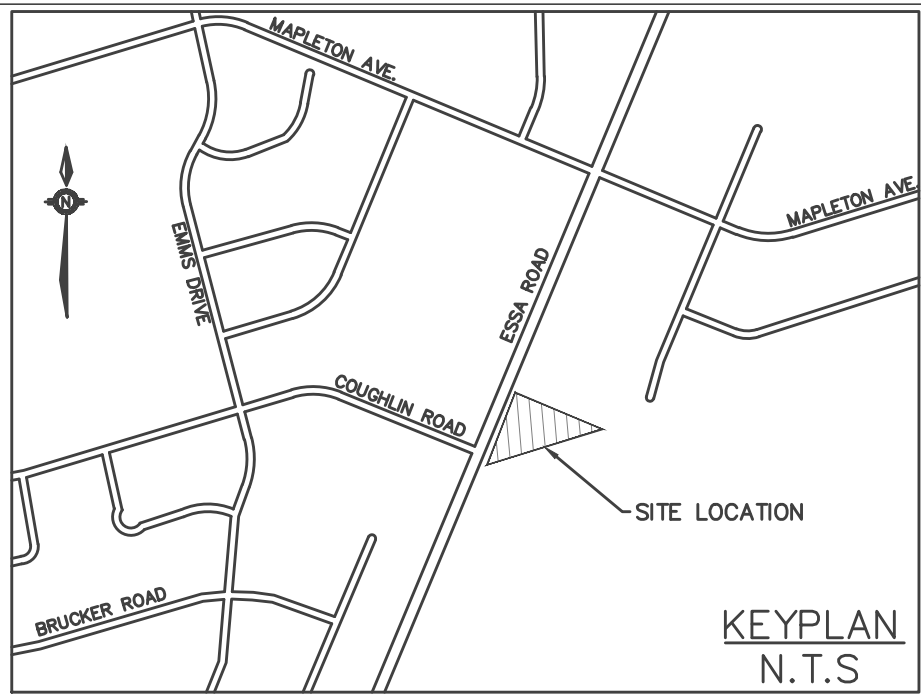
Drawing:

NOTES & DETAILS

Project No.	1760-001-22	Designed by:	RM	Checked by:	KF
Scale:		Drawn by:	RM	Approved by:	JDM
Orientation					Stamp

Drawing No.

ND-1



LEGEND

- PRIVACY FENCE
- ACOUSTIC FENCE
- CHAIN LINK FENCE
- SILT FENCE
- GAS LINE
- HYDRO LINE
- BELL LINE
- UNDERGROUND PARKING
- 2nd FLOOR
- 8th FLOOR
- EXISTING SANITARY MAINTENANCE HOLE
- PROPOSED SANITARY MAINTENANCE HOLE
- EXISTING CATCH BASIN
- PROPOSED CATCH BASIN
- EXISTING STORM MAINTENANCE HOLE
- PROPOSED STORM MAINTENANCE HOLE
- SERVICE CAP
- EXISTING FIRE HYDRANT
- PROPOSED FIRE HYDRANT
- EXISTING VALVE BOX
- PROPOSED VALVE BOX
- PROPOSED SIGN
- EXISTING LIGHT POLE
- MANDOOR
- OVERHEAD DOOR
- FIRE DEPT CONNECTION
- MECHANICAL ROOM
- ELECTRICAL ROOM

- LANDSCAPE AREA
- ASPHALT AREA
- CONCRETE AREA
- INTERLOCKING AREA

HORIZONTAL CONTROL
ID# 03120040003
R.L.B. W/ BRASS CAP PROTECTED BY A WATER VALVE COVER, LOCATED JUST BEHIND THE SOUTH CURB LINE OF MAPLEVIEW DRIVE WEST, EAST OF VETERAN'S DRIVE, NORTHING=N4909839.121m, EASTING=E603897.740m
ID# 03120040027
R.L.B. W/ BRASS CAP PROTECTED BY A WATER VALVE COVER, LOCATED ON NW CORNER OF MAPLEVIEW AND BARRIE VIEW DR AT BACK OF SIDEWALK, NORTHING=N4909901.795m, EASTING=E604588.426m
VERTICAL CONTROL
ID# 03120060018
BRASS TABLET, LOCATED ON CULVERT HEADWALL NE CORNER OF MAPLEVIEW AND VETERANS DR, SET FLUSH ON E. FACE OF HEADWALL, 110mm BELOW TOP OF WALL AND 110mm N. OF THE SOUTH INSIDE CORNER OF THE WALL. ELEVATION=306.589m
ID# 03120030031
BRASS TABLET, LOCATED ON CULVERT HEADWALL SW CORNER OF MAPLEVIEW AND BARRIE VIEW DR, SET FLUSH ON W. FACE OF HEADWALL, 290mm BELOW TOP OF WALL AND 180mm NORTH OF THE S. END OF WALL. ELEVATION=301.195m
SITE BENCHMARK
TOP OF GRATE OF ELECTRIC MH ELEV=314.45

Gerrits
ENGINEERING

222 Mapleview Drive West, Suite 300
Barrie, ON L4N 9E7 Canada
Tel: 705.737.3303
Fax: 705.737.1772
www.gerrits.com

This drawing has been created electronically.

Handwritten or manual revisions to the drawing are only valid when accompanied by the design engineer's initials.

Do not scale drawings.
Check and verify all dimensions and information on the drawings and report all errors or omissions to the Consultant before proceeding with the work.
This drawing shall not be reproduced in any manner, in part or in whole, for any project other than that for which it was prepared.
This drawing, and all design concepts it contains, are an instrument of professional service and remain the property of Gerrits Engineering.

This drawing may have been reduced.
0 5 10 20 30 40 50mm
0" 1/4" 1/2" 1" 1 1/2" 2"

No.	Issuance Description	YYMMDD
1.	CLIENT REVIEW	23/02/13
2.	SITE PLAN SUBMISSION	23/02/23

Issued For:

SITE PLAN SUBMISSION

Client **INSPIRATION GROUP OF COMPANIES**
218 Export Blvd, Suite 408,
Mississauga, ON L5S 7A7

Project **BARRIE APPARTMENTS**

582 Essa Road, Barrie,
ON L4N 9E6

Drawing:

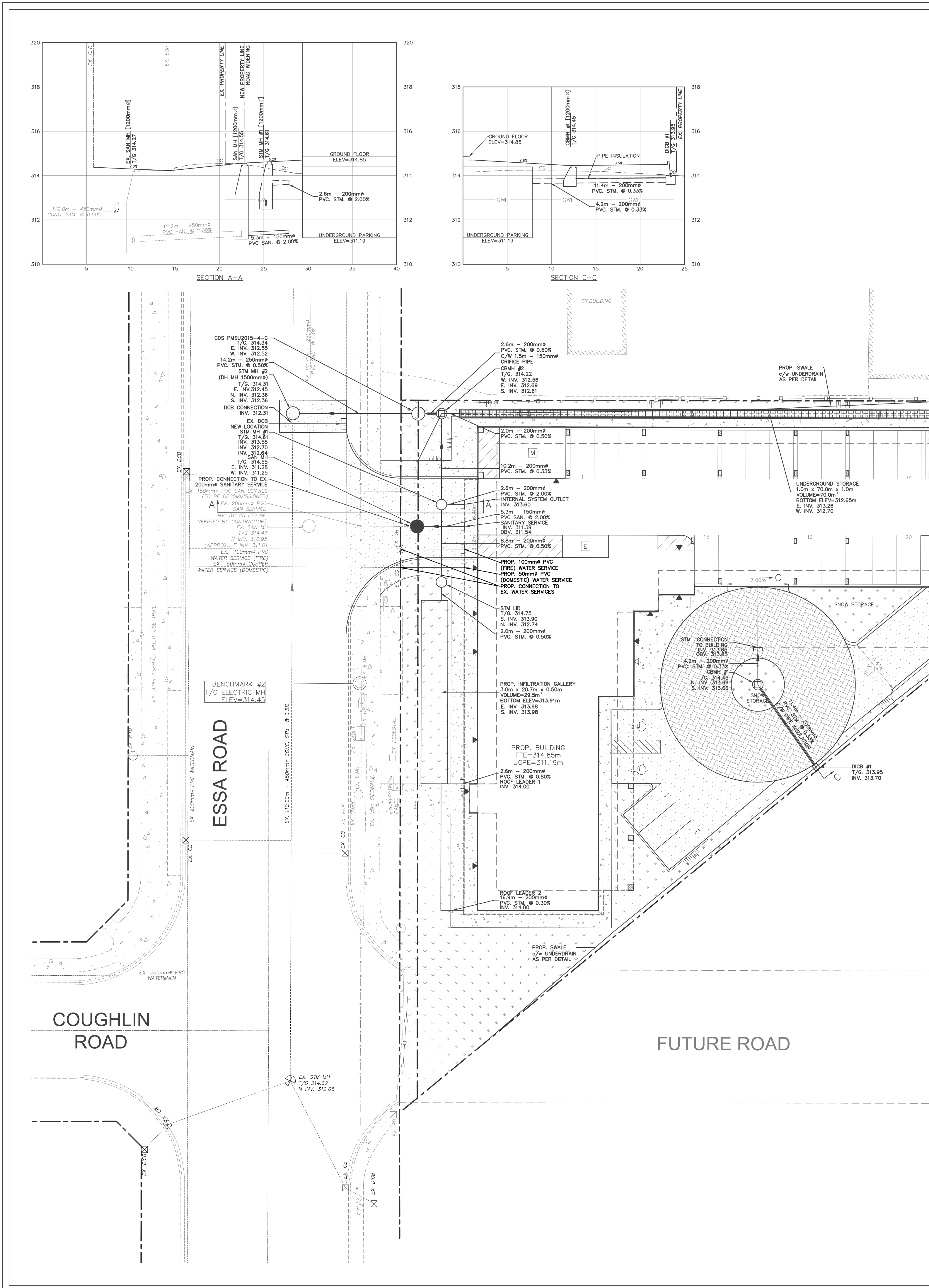
SITE SERVICING PLAN

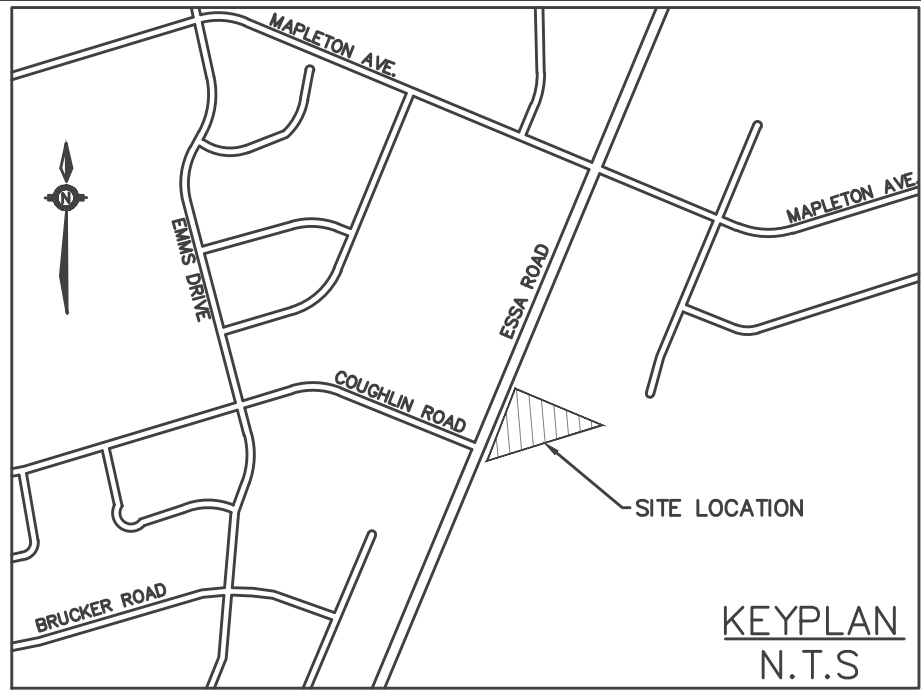
Project No.	1760-001-22	Designed by: RM	Checked by: KF
Scale:	1:250	Drawn by: RM	Approved by: JDM
Orientation	Stamp		



Drawing No.

SS-1





LEGEND

- PRIVACY FENCE
- ACOUSTIC FENCE
- CHAIN LINK FENCE
- SILT FENCE
- GAS LINE
- HYDRO LINE
- BELL LINE
- UNDERGROUND PARKING
- 2nd FLOOR
- 8th FLOOR
- EXISTING SANITARY MAINTENANCE HOLE
- PROPOSED SANITARY MAINTENANCE HOLE
- EXISTING CATCH BASIN
- PROPOSED CATCH BASIN
- EXISTING STORM MAINTENANCE HOLE
- PROPOSED STORM MAINTENANCE HOLE
- SERVICE CAP
- EXISTING FIRE HYDRANT
- PROPOSED FIRE HYDRANT
- EXISTING VALVE BOX
- PROPOSED VALVE BOX
- PROPOSED SIGN
- EXISTING LIGHT POLE
- MANDOOR
- OVERHEAD DOOR
- FIRE DEPT CONNECTION
- MECHANICAL ROOM
- ELECTRICAL ROOM
- LANDSCAPE AREA
- ASPHALT AREA
- CONCRETE AREA
- INTERLOCKING AREA

Gerrits
ENGINEERING

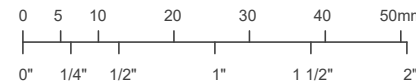
222 Mapleview Drive West, Suite 300
Barrie, ON L4N 9E7 Canada
Tel: 705.737.3303
Fax: 705.737.1772
www.gerritseng.com

This drawing has been created electronically.

Handwritten or manual revisions to the drawing are only valid when accompanied by the design engineer's initials.

Do not scale drawings.
Check and verify all dimensions and information on the drawings and report all errors or omissions to the Consultant before proceeding with the work.
This drawing shall not be reproduced in any manner, in part or in whole, for any project other than that for which it was prepared.
This drawing, and all design concepts it contains, are an instrument of professional service and remain the property of Gerrits Engineering.

This drawing may have been reduced.



No.	Issuance Description	YYMMDD
1.	CLIENT REVIEW	23/02/13
2.	SITE PLAN SUBMISSION	23/02/23

Issued For:

SITE PLAN SUBMISSION

Client **INSPIRATION GROUP OF COMPANIES**
218 Export Blvd, Suite 408,
Mississauga, ON L5S 7A7

Project **BARRIE APPARTMENTS**

582 Essa Road, Barrie,
ON L4N 9E6

Drawing:

SITE GRADING PLAN

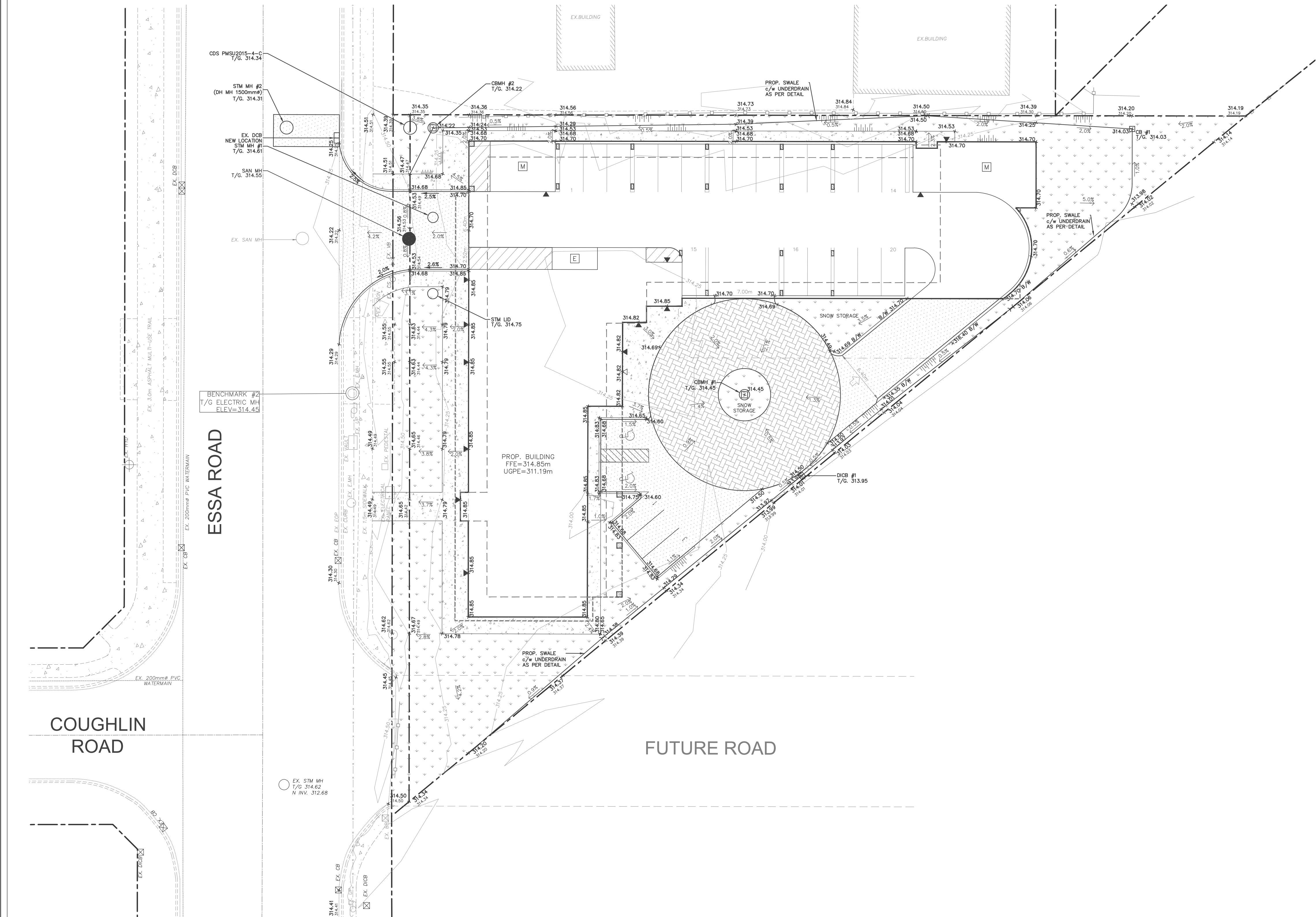
Project No.	1760-001-22	Designed by: RM	Checked by: KF
Scale:	1:250	Drawn by: RM	Approved by: JDM
Orientation	Stamp		

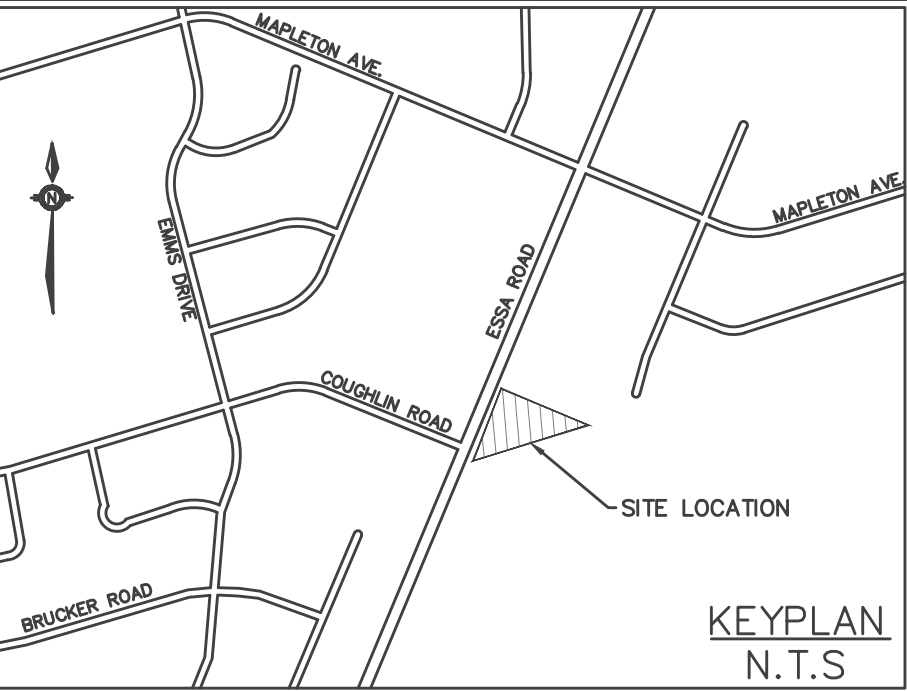


Drawing No.

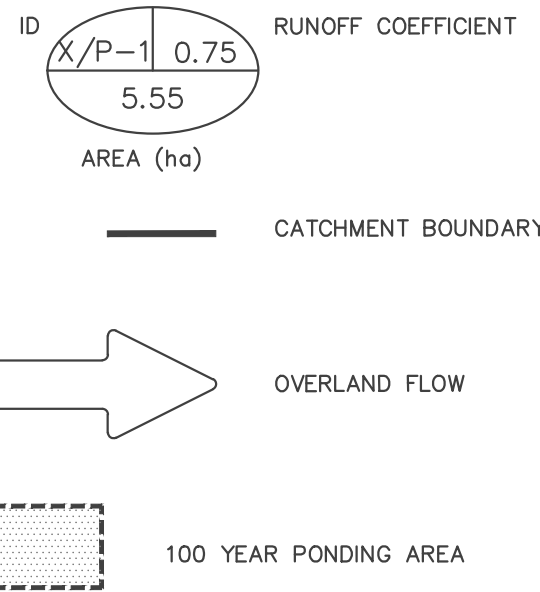
SG-1

HORIZONTAL CONTROL
ID# 03120040003
R.L.B. W/ BRASS CAP PROTECTED BY A WATER VALVE COVER, LOCATED JUST BEHIND THE SOUTH CURB LINE OF MAPLEVIEW DRIVE WEST, EAST OF VETERAN'S DRIVE, NORTHING=N4909839.121m, EASTING=E603897.740m
ID# 03120040027
R.L.B. W/ BRASS CAP PROTECTED BY A WATER VALVE COVER, LOCATED ON NW CORNER OF MAPLEVIEW AND BARRIE VIEW DR AT BACK OF SIDEWALK, NORTHING=N4909901.795m, EASTING=E604588.426m
VERTICAL CONTROL
ID# 03120060018
BRASS TABLET, LOCATED ON CULVERT HEADWALL NE CORNER OF MAPLEVIEW AND VETERAN'S DR, SET FLUSH ON E. FACE OF HEADWALL, 110mm BELOW TOP OF WALL AND 110mm N. OF THE SOUTH INSIDE CORNER OF THE WALL. ELEVATION=306.589m
ID# 03120030031
BRASS TABLET, LOCATED ON CULVERT HEADWALL SW CORNER OF MAPLEVIEW AND BARRIE VIEW DR, SET FLUSH ON W. FACE OF HEADWALL, 290mm BELOW TOP OF WALL AND 180mm NORTH OF THE S. END OF WALL. ELEVATION=301.195m
SITE BENCHMARK
TOP OF GRATE OF ELECTRIC MH
ELEV=314.45





LEGEND



Gerrits
ENGINEERING

222 Mapleview Drive West, Suite 300
Barrie, ON L4N 9E7 Canada
Tel: 705.737.3303
Fax: 705.737.1772
www.gerritg.com

This drawing has been created electronically.
Handwritten or manual revisions to the drawing are only valid when accompanied by the design engineer's initials.

Do not scale drawings.
Check and verify all dimensions and information on the drawings and report all errors or omissions to the Consultant before proceeding with the work.
This drawing shall not be reproduced in any manner, in part or in whole, for any project other than that for which it was prepared.
This drawing, and all design concepts it contains, are an instrument of professional service and remain the property of Gerrits Engineering.

This drawing may have been reduced.
0 5 10 20 30 40 50mm
0" 1/4" 1/2" 1" 1 1/2" 2"

No.	Issuance Description	YYMMDD
1.	CLIENT REVIEW	23/02/13
2.	SITE PLAN SUBMISSION	23/02/23

Issued For:

SITE PLAN SUBMISSION

Client **INSPIRATION GROUP OF COMPANIES**
218 Export Blvd, Suite 408,
Mississauga, ON L5S 7A7

Project **BARRIE APPARTMENTS**
582 Essa Road, Barrie,
ON L4N 9E6

Drawing: **PRE-DEVELOPMENT
STORMWATER
DRAINAGE PLAN**

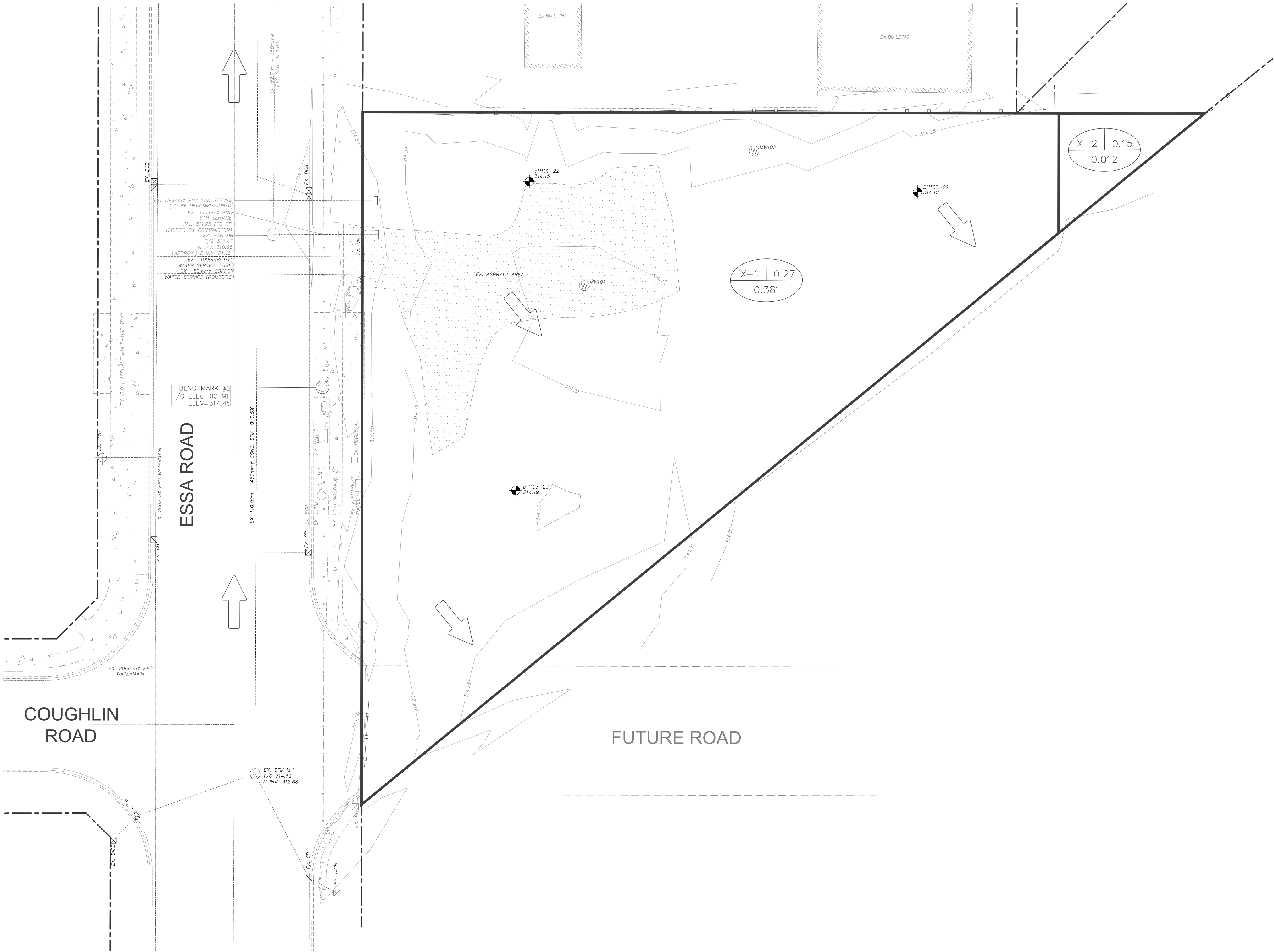
Project No.	1760-001-22	Designed by: RM	Checked by: KF
Scale:	1:250	Drawn by: RM	Approved by: JDM
Orientation	Stamp		

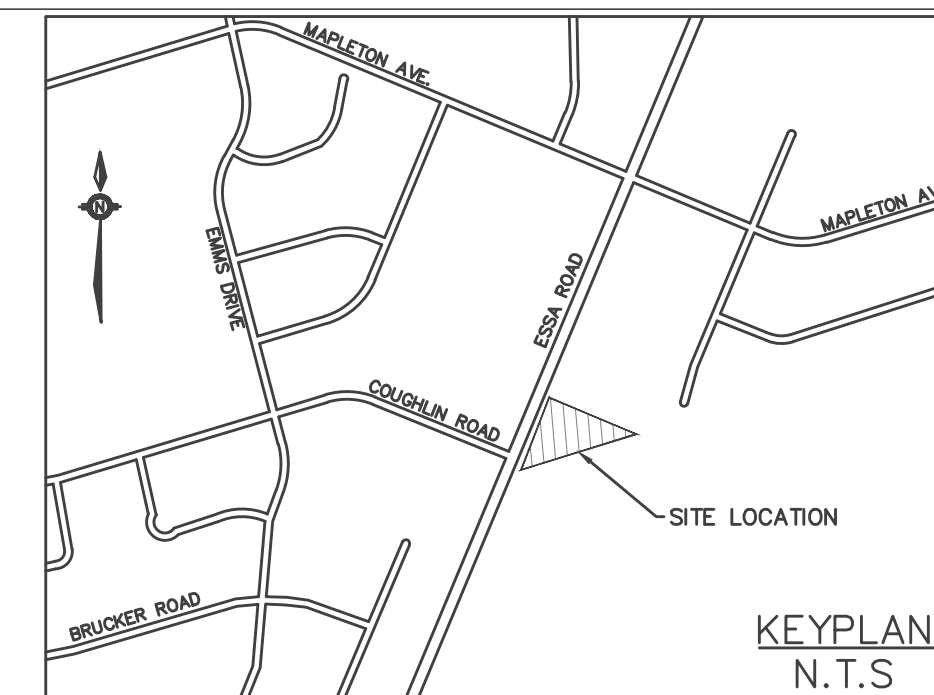


Drawing No.

STM-1

HORIZONTAL CONTROL
ID# 03120040035
R.L.B. W/ BRASS CAP PROTECTED BY A WATER VALVE COVER, LOCATED JUST BEHIND THE SOUTH CURB LINE OF MAPLEVIEW DRIVE WEST, EAST OF VETERAN'S DRIVE, NORTHING=N4909839.121m, EASTING=E603897.740m
ID# 03120040027
R.L.B. W/ BRASS CAP PROTECTED BY A WATER VALVE COVER, LOCATED ON NW CORNER OF MAPLEVIEW AND BARRIE VIEW DR AT BACK OF SIDEWALK, NORTHING=N4909901.795m, EASTING=E604588.426m
VERTICAL CONTROL
ID# 03120060018
BRASS TABLET, LOCATED ON CULVERT HEADWALL NE CORNER OF MAPLEVIEW AND VETERANS DR, SET FLUSH ON E. FACE OF HEADWALL, 110mm BELOW TOP OF WALL AND 110mm N. OF THE SOUTH INSIDE CORNER OF THE WALL. ELEVATION=306.589m
ID# 03120030031
BRASS TABLET, LOCATED ON CULVERT HEADWALL SW CORNER OF MAPLEVIEW AND BARRIE VIEW DR, SET FLUSH ON W. FACE OF HEADWALL, 290mm BELOW TOP OF WALL AND 180mm NORTH OF THE S. END OF WALL. ELEVATION=301.195m
SITE BENCHMARK TOP OF GRATE OF ELECTRIC MH ELEV=314.45





OVERLAND FLOW

100 YEAR PONDING AREA

222 Mapleview Drive West, Suite 300
Barrie, ON L4N 9E7 Canada
Tel.: 705.737.3303
Fax.: 705.737.1772
www.gerrens.com

This drawing has been created electronically.

Handwritten or manual revisions to the drawing are only valid when accompanied by the design engineer's initials.

Do not scale drawings.
Check and verify all dimensions and information on the drawings and report all errors or omissions to the Consultant before proceeding with the work.
This drawing shall not be reproduced in any manner, in part or in whole, for any project other than that for which it was prepared.
This drawing, and all design concepts it contains, are an instrument of professional service and remain the property of Gerrits Engineering.

This drawing may have been reduced.

0 5 10 20 30 40 50mm
0" 1/4" 1/2" 1" 1 1/2" 2"

No.	Issuance Description	YY/MM/DD
1.	CLIENT REVIEW	23/02/13
2.	SITE PLAN SUBMISSION	23/02/23

Issued For:

SITE PLAN SUBMISSION

Client **INSPIRATION GROUP
OF COMPANIES**
218 Export Blvd, Suite 408,
Mississauga, ON L5S 7A7

Project
BARRIE APARTMENTS

582 Essa Road, Barrie,
ON L4N 9E6

Drawing:

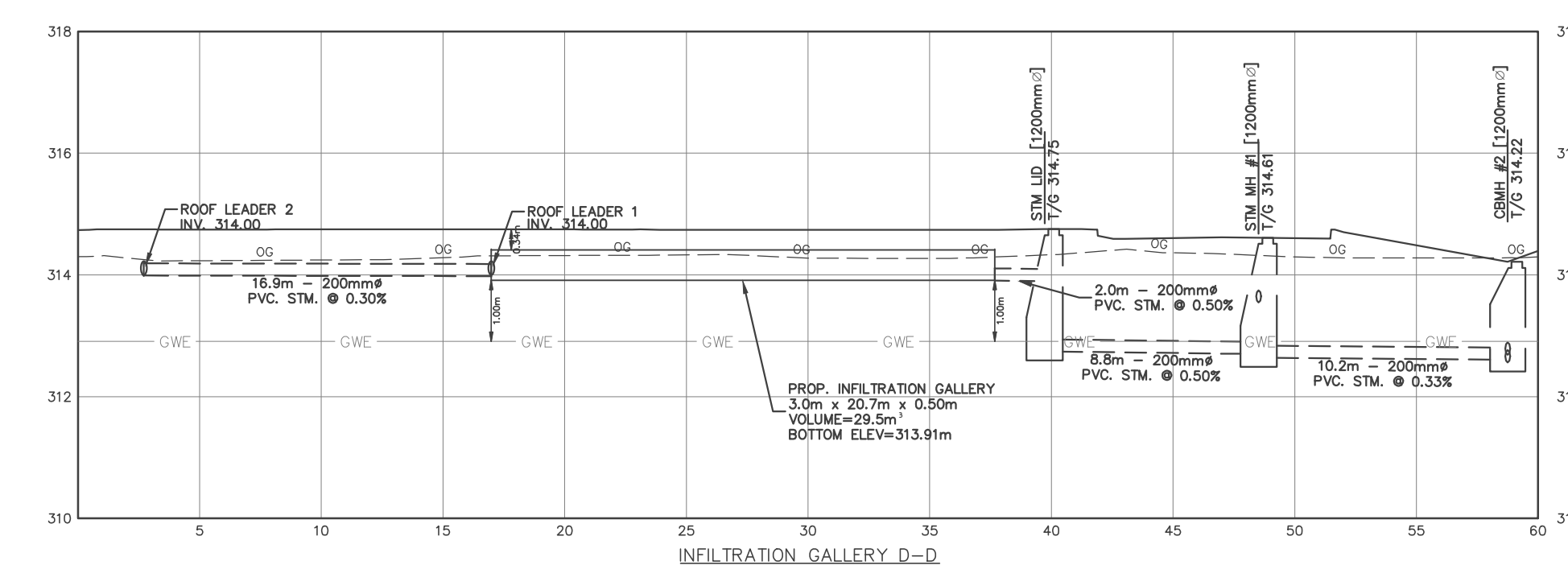
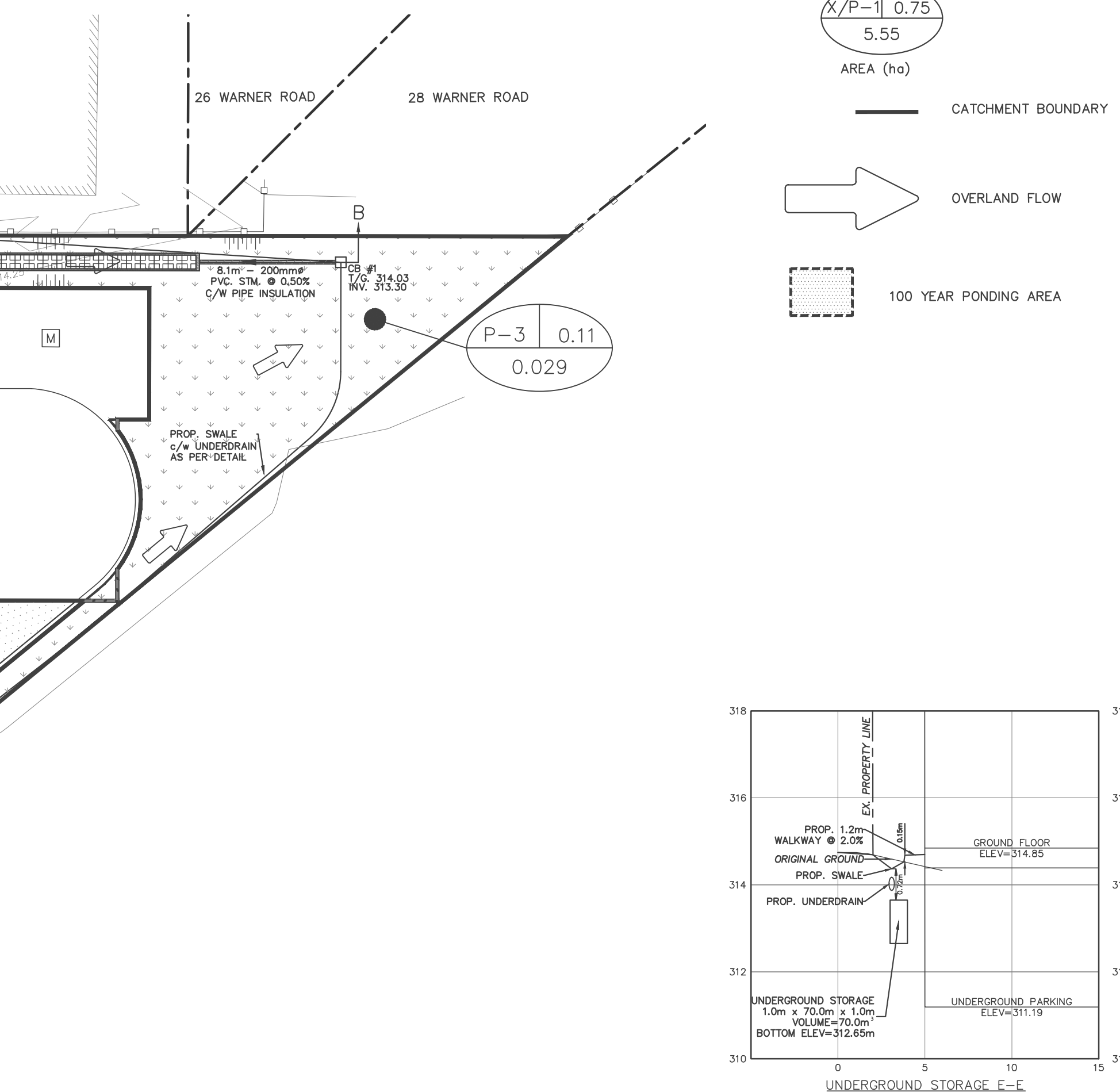
POST DEVELOPMENT STORMWATER DRAINAGE PLAN

Project No.	1760-001-22	Designed by: RM	Checked by: KF
Scale:	1:250	Drawn by: RM	Approved by: JDM
Orientation	Stamp		



Drawing No.

STM-2



HORIZONTAL CONTROL
 ID# 03120040035
 R.I.B. W/ BRASS CAP PROTECTED BY A WATER
 PIPE. LOCATED JUST BESIDE THE SOUTH
 CURB LINE OF
 MAPLEVIEW DRIVE WEST, EAST OF VETERANS DRIVE
 NORTH-
 NAD9803693.121m, Easting=603897.740m

ID# 03120040027
 R.I.B. W/ BRASS CAP PROTECTED BY A WATER
 PIPE COVER. LOCATED ON NW CORNER
 OF MAPLEVIEW AND BARRE W/ BACK OF
 SIGN
 NORTH-
 NAD980917.95m, Easting=604588.426m

VERTICAL CONTROL
 ID# 03120040018
 BRASS TABELT LOCATED ON CULVERT HEADWALL NE
 CORNER OF MAPLEVIEW AND VETERANS DR. SET
 FLUSH ON E FACE OF HEADWALL 110MM BELOW TOP
 OF WALL 110MM FROM THE SOUTH EAST
 CORNER OF THE WALL. LOCATION 30.589m

ID# 03120030031
 BRASS TABELT LOCATED ON CULVERT HEADWALL SW
 CORNER OF MAPLEVIEW AND BARRE W/ DR. SET
 FLUSH ON E FACE OF HEADWALL 110MM BELOW
 TOP OF WALL 180MM NORTH OF THE S. END OF WALL
 LOCATION 30.105m

SITE BENCHMARK
 TOP OF SPIRE OF CHURCH OF ELECTRIC HW
 ELEV=314.4