SEAN MASON HOMES (VET LANE)
339 VETERAN'S DRIVE & 341 VETERAN'S LANE
BARRIE, ON

DRAWING LIST

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ND–2	NOTES AND DETAILS
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SS–1	SITE SERVICING PLAN
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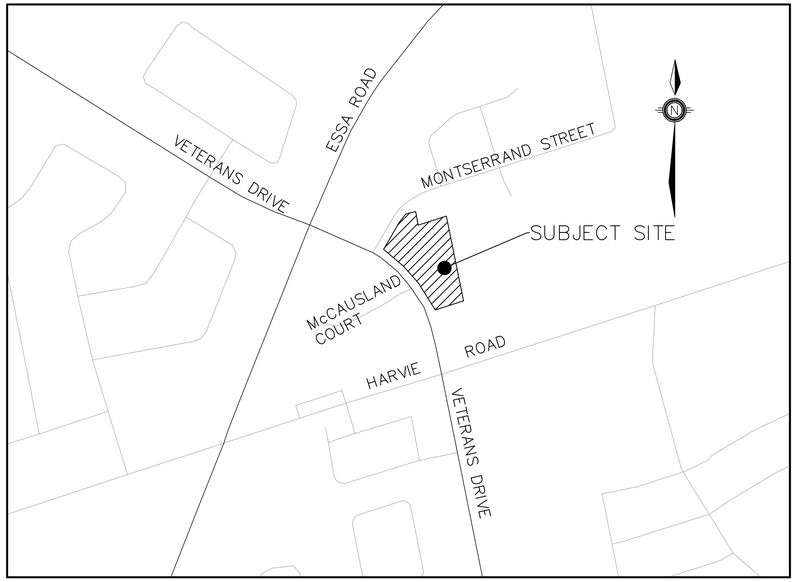


LOCATION PLAN
N.T.S.

CITY OF BARRIE
70 COLLIER STREET
BARRIE, ON
L4M 4T5

SEAN MASON HOMES
240 SNOWDON AVENUE
TORONTO, ON
M4N 2B2

PEARSON ENGINEERING
PEARSONENG.COM PH. 705.719.4785

GENERAL NOTES

1. DRAWINGS

1. ALL DIMENSIONS ARE IN METERS, EXCEPT PIPE DIAMETERS, WHICH ARE IN MILLIMETERS, UNLESS SPECIFIED OTHERWISE.
2. ALL WORK SHALL BE IN ACCORDANCE WITH CURRENT CITY OF BARRIE STANDARD DRAWINGS (BSD) AND ONTARIO PROVINCIAL STANDARD DRAWINGS (OPSD).
3. ORDER OF PRECEDENCE OF STANDARD DRAWINGS IS FIRSTLY CITY OF BARRIE STANDARD DRAWINGS (BSD) AND SECONDLY ONTARIO PROVINCIAL STANDARD DRAWINGS (OPSD).
4. 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.
5. RIGHT-OF-WAY ACTIVITY PERMIT IS REQUIRED FROM THE ENGINEERING DEPARTMENT (OPERATIONS CENTER, 165 FERNDALE DR. NORTH) PRIOR TO THE COMMENCEMENT OF WORK WITHIN ANY CITY RIGHT-OF-WAY.
6. A SITE ALTERATION PERMIT IS REQUIRED FROM THE ENGINEERING DEPARTMENT PRIOR TO THE COMMENCEMENT OF ANY EARTH WORKS ON THE SITE.
7. NATIVE MATERIAL, SUITABLE FOR BACKFILL, SHALL BE COMPACTED TO 95% STANDARD PROCTOR MAXIMUM DRY DENSITY.
8. GRANULAR MATERIAL , USED FOR BACKFILL , SHALL BE PLACED IN LAYERS 150mm IN DEPTH MAXIMUM AND COMPACTED TO 100% STANDARD PROCTOR MAXIMUM DRY DENSITY.
9. ALL DISTURBED AREAS ARE TO BE REINSTATED TO THEIR ORIGINAL CONDITION OR BETTER, AS DETERMINED BY THE CITY ENGINEERING DEPARTMENT.
10. ALL SILT 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.
11. REMOVAL AND SALVAGE OF CITY INFRASTRUCTURE INCLUDING BUT NOT LIMITED TO ROADWAY AND PARKING LOT ILLUMINATION, PAY AND DISPLAY MACHINE, PARKING METERS, PARKING LOT SIGNAGE, ETC. SHALL BE COORDINATED WITH THE APPROPRIATE CITY STAFF.

2. SANITARY

1. SEWERS SHALL BE CONSTRUCTED WITH BEDDINGS AS PER OPSD-802.010, (GRAN. 'A' EMBEDMENT MATERIAL) FOR FLEXIBLE PIPES AND OPSD-802.030 OR 802.031 CLASS B (GRAN. 'A' BEDDING MATERIAL) FOR RIGID PIPE UNLESS OTHERWISE APPROVED BY THE DIRECTOR OF ENGINEERING.
2. MAXIMUM DEFLECTION FROM COMBINED LIVE AND DEAD LOADING SHALL NOT EXCEED ANY C.S.A., O.P.S. OR MANUFACTURERS RECOMMENDED SPECIFICATIONS.
3. 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.
4. CONCRETE SANITARY SEWERS SHALL HAVE A MINIMUM STRENGTH OF 50 N/m/mm CONFORMING TO CSA STANDARD A257.2-1982, CLASS 50-D (PREVIOUSLY C.S.A. STANDARD A257.2-1974, CLASS II).
5. 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 PLACE. ALL ADJUSTMENT WILL BE ACCORDANCE WITH BSD-N2.
6. 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 INSERTA-TEES IN STRICT ACCORDANCE TO MANUFACTURES GUIDELINES.
7. PIPE TO BE MINIMUM 100 mm DIA. PVC SDR28, RUBBER GASKET TYPE JOINTS AND SHALL CONFORM TO C.S.A. (B-182.2.3.4) (COLOURED) FOR A RESIDENTIAL HOUSE AND 150mm MINIMUM DIA. PVC SDR28 FOR INDUSTRIAL/COMMERCIAL DEVELOPMENT.
8. 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 INSERTA-TEES IN STRICT ACCORDANCE TO MANUFACTURES GUIDELINES.

3. WATERMAIN

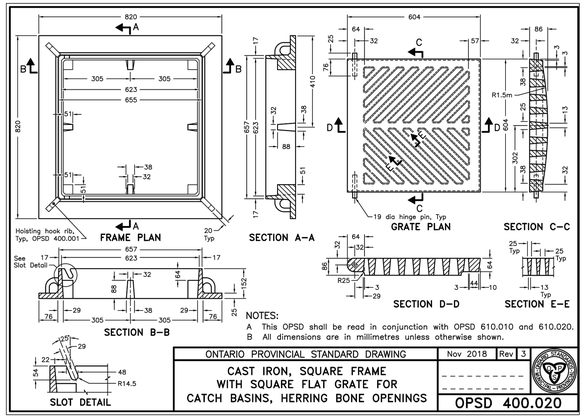
1. CONTRACTORS SHALL INFORM THE CITY OF BARRIE WATER OPERATIONS DEPARTMENT A MINIMUM OF 48 HOURS IN ADVANCE OF THEIR INTENTIONS TO PERFORM WORK ON WATER INFRASTRUCTURE.
2. OPERATION OF HYDRANTS AND VALVES ON THE POTABLE WATER SYSTEM BY OTHER THAN QUALIFIED WATER OPERATIONS STAFF IS PROHIBITED BY CURRENT BY-LAW. CITY SERVICE FEES ARE PER THE CURRENT FEES BY-LAW. THE CITY'S WATER OPERATIONS STAFF WILL SWAB, PRESSURE TEST, CHLORINATE AND FLUSH ALL NEW WATERMAINS.
3. MINIMUM COVER OVER WATERMAIN SHALL BE 1.7m. THE MINIMUM HORIZONTAL SEPARATION BETWEEN WATERMAIN AND SEWERS SHALL BE 2.5m WHERE WATERMAIN CONFLICTS WITH SEWER PIPES, DEFLECT WATERMAIN HORIZONTALLY OR VERTICALLY WHILE PROVIDING A MINIMUM OF 0.5m CLEARANCE BETWEEN WATERMAIN AND SEWERS. MAINTAIN MINIMUM DEPTH OF COVER AT ALL TIMES.
4. WATERMAIN SHALL BE INSTALLED IN BEDDING AS PER OPSD 802.010 (GRANULAR 'A' EMBEDMENT MATERIAL) FOR FLEXIBLE PIPES AND OPSD 802.030 OR 802.031 CLASS 'B' (GRANULAR 'A' BEDDING MATERIAL, GRANULAR 'A' OR SELECT NATIVE COVER MATERIAL) FOR RIGID PIPE UNLESS OTHERWISE APPROVED BY THE DIRECTOR OF WATER OPERATIONS ALTERNATIVE EMBEDMENT MATERIAL – SAND MEETING GRADATION REQUIREMENTS OF OPSS.MUNI1004.05.07 COMPACTED TO 95% STANDARD PROCTOR MAXIMUM DRY DENSITY IS PERMISSIBLE WHERE NOTED IN STANDARD DETAILS. GEOTECHNICAL CERTIFICATION OF MATERIAL AND COMPACTION TESTING MUST BE PROVIDED EVERY 150 METRES. THE COMPACTION TESTING MUST INCLUDE THE ENTIRE EMBEDMENT ENVELOPE (HAUNCHES, BEDDING, TOP OF PIPE AND COVER).
5. COPPER WATER MAINS AND SERVICES 19mm TO 50mm IN DIAMETER SHALL BE EMBEDDED IN SAND 100 mm ABOVE AND BELOW TO CONFORM TO OPSS.MUNI 1004.05.07.
6. RESTRAINING WILL BE REQUIRED ON ALL HYDRANTS. THRUST BLOCKS, AS PER OPSD 1103.010 AND 1103.020. RESTRAINING DEVICES MAY BE REQUIRED IN ADDITION TO STANDARD CONCRETE THRUST BLOCKING WHERE SOIL CONDITIONS WARRANT AT THE CITY'S DISCRETION.
7. NEW WATERMAINS TO BE PVC DR18 CL150 MINIMUM; DUCTILE IRON CL52AS PER THE APPROVED MANUFACTURERS PRODUCTS FOR LINEAR WATER SYSTEMS LIST.
8. TRACING WIRE SHALL BE #12 AWG HIGH STRENGTH COPPER CLAD (HS-CSS) AND SHALL BE INSTALLED ON THE TOTAL LENGTH OF ALL WATERMAIN AND BROUGHT UP AT EACH HYDRANT AND CONNECTED TO FLANGE BOLT. ALL SPLICES TO UTILIZE CONNECTORS AS PER THE APPROVED MANUFACTURERS PRODUCTS FOR LINEAR WATER SYSTEMS LIST.
9. ALL WATER SERVICES SHALL BE MINIMUM 25mm TYPE 'K' COPPER OR 25mm CROSS-LINKED POLYETHYLENE UNLESS OTHERWISE APPROVED BY THE DIRECTOR OF WATER OPERATIONS. WATER SERVICE SADDLES SHALL BE USED WHEN TAPPING INTO PVC WATERMAIN.
10. SERVICE TAPPINGS SHALL BE PLACED AT A MINIMUM SEPARATION OF 1.0m AND A MINIMUM OF 0.6m FROM JOINTS. (ENDS OF PIPE)
11. RISER PIPES ARE TO BE INSTALLED AS PER BSD-510, AND REMOVED AS DIRECTED. SWABBING SCHEDULE TO BE SUPPLIED BY A WATER OPERATIONS FIELD REPRESENTATIVE. ALL RISERS ARE TO BE RESTRAINED OR THRUST BLOCKED.
12. ALL NEW CURB STOPS AND BOXES TO BE LOCATED AT PROPERTY LINE AND OUT OF DRIVEWAYS AND SIDEWALKS.
13. DISCHARGE OF SUPER CHLORINATED WATER MUST BE TREATED WHEN DISINFECTING WATER LINES PRIOR TO DISCHARGING TO THE NATURAL ENVIRONMENT. SAMPLING VERIFICATION MUST BE COMPLETED AND RECORDED TO ENSURE NO RESIDUAL CHLORINE IS DETECTED. RECORD MUST BE RETAINED FOR 1 YEAR AND PROVIDED TO THE CITY UPON REQUEST.

4. STORM

1. STORM SEWERS SHALL BE CONSTRUCTED WITH BEDDING AS PER OPSD-802.010 (GRAN. 'A' EMBEDMENT MATERIAL) FOR FLEXIBLE PIPES AND OPSD-802.030 OR 802.031 CLASS B (GRAN. 'A' BEDDING MATERIAL) FOR RIGID PIPE UNLESS OTHERWISE APPROVED BY THE DIRECTOR OF ENGINEERING.
2. MAINTENANCE HOLE TOPS (FRAMES) AND CATCH BASIN (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.
3. ALL CONNECTIONS TO THE STORM MAIN SHALL BE MADE WITH A STORM MANHOLE OR APPROVED FACTORY TEE CONNECTION AS PER OPSD-708.01 OR 708.03.
4. PIPE MATERIAL TO BE REINFORCED CONCRETE WITH A MINIMUM STRENGTH OF 50 N/m/mm CERTIFIED TO C.S.A. STANDARD A247.2-1982, CLASS 50-D (PREVIOUSLY C.S.A. STANDARD A257.2-1974, CLASS II) OR PVC CERTIFIED TO C.S.A. STANDARDS 182.2 AND 182.4.
5. STORM SEWER TO BE MINIMUM 300 mm DIAMETER WITH JOINTS CONFORMING TO C.S.A. STANDARD A257.3.
6. ALL PIPE BEDDING MUST CONFORM TO OPSD, MAXIMUM COVER TABLE. NO FLEXIBLE PIPE SEWERS WILL BE INSTALLED WITH A DEPTH OF COVER GREATER THAN 6 METERS UNLESS SPECIFICALLY APPROVED BY THE DIRECTOR OF ENGINEERING.
7. ALL PIPE HANDLING INSTALLATIONS MUST BE IN STRICT COMPLIANCE WITH MANUFACTURES INSTALLATION GUIDES AND THE O.C.P.A. OR UNIBELL GUIDELINES.

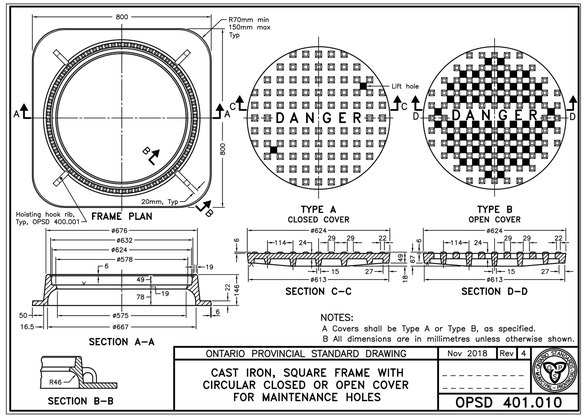
5. OTHER

1. SIDEWALKS TO COMPLY WITH OPSD-310.010 AND ARE TO BE 1.5 m WIDE.
   MINIMUM THICKNESS AS FOLLOWS :
   - RESIDENTIAL DRIVEWAY 150 mm
   - COMMERCIAL/INDUSTRIAL DRIVEWAY 200 mm (REINFORCEMENT AS PER OPSS IF REQUIRED)
   - WHEN NO DRIVEWAY IS PRESENT, 125 mm.
2. THE PAVEMENT AREA STRUCTURE ON THE SITE SHALL BE CONCRETE. DESIGN BY OTHERS.
3. NATIVE SUBGRADE SHALL HAVE A CROSSFALL OF 3% AND THE MATERIAL SHALL BE APPROVED BY A SOILS CONSULTANT AND IS SUBJECT TO APPROVAL BY THE DIRECTOR OF ENGINEERING.
4. ALL CURB RADII TO BE MINIMUM OF 9.0 m AT THE ENTRANCE.
5. NATIVE SUBGRADE TO BE COMPACTED TO MINIMUM 95% STANDARD PROCTOR MAXIMUM DRY DENSITY AND SHALL BE PROOF ROLLED.
6. MORTAR IS USED FOR LEVELING OF PRECAST UNITS ONLY. THE THICKNESS OF MORTAR WILL BE 10mm TO FILL ALL VOIDS CREATED BY IRREGULARITIES IN THE PRECAST UNITS TO ENSURE AN EVEN SURFACE ONLY.
7. NON-COMPRESSIBLE BACK FILL WILL BE USED DURING REBUILDING, ADJUSTING, OR ANY OTHER APPLICABLE CATCH BASIN OR MAINTENANCE HOLE WORKS.



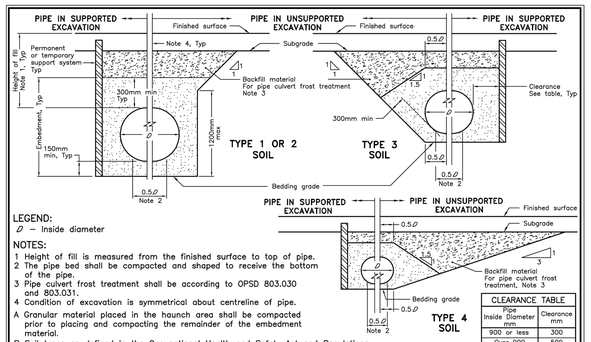
NOTES:
A This OPSD shall be read in conjunction with OPSD 610.010 and 610.020.
B All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2018	Rev 3
CAST IRON, SQUARE FRAME WITH SQUARE FLAT GRATE FOR CATCH BASINS, HERRING BONE OPENINGS		OPSD 400.020



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 2018	Rev 4
CAST IRON, SQUARE FRAME WITH CIRCULAR CLOSED OR OPEN COVER FOR MAINTENANCE HOLES		OPSD 401.010

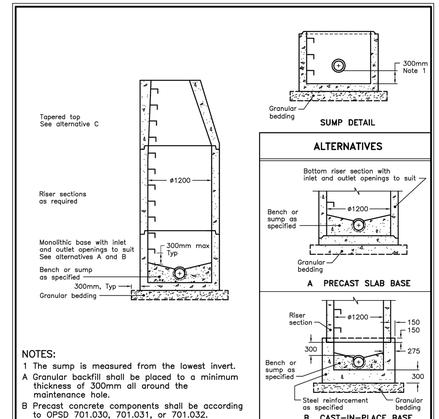


LEGEND:
∅ – Inside diameter

NOTES:
1 Height of fill is measured from the finished surface to top of pipe.
2 The pipe bed shall be compacted and shaped to receive the bottom of the pipe.
3 Pipe culvert frost treatment shall be according to OPSD 803.030 and 803.031.
4 Condition of excavation is symmetrical about centreline of pipe.
A Granular material placed in the haunch area shall be compacted prior to placing and compacting the remainder of the embedment material.
B Soil types as defined in the Occupational Health and Safety Act and Regulations for Construction Projects.
C All dimensions are in metres unless otherwise shown.

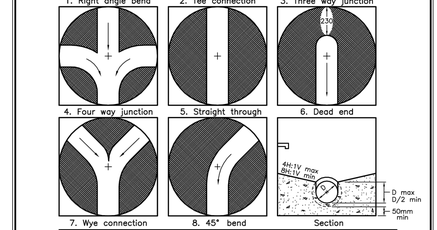
CLEARANCE TABLE	
Pipe Inside Diameter mm	Clearance mm
900 or less	300
Over 900	500

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



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

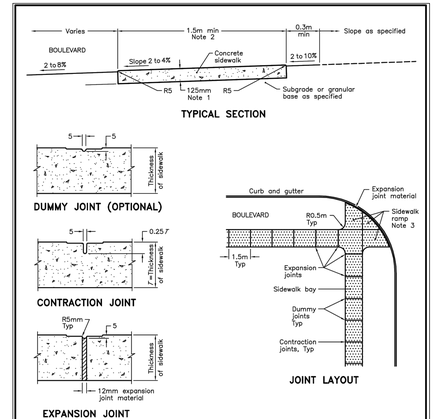


MAXIMUM SIZE HOLE IN THE WALL IN PRECAST RISER SECTIONS

Maintenance Hole Diameter	No. 1-4	No. 5 and 6	No. 8	No.7	
				Inlet Hole	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

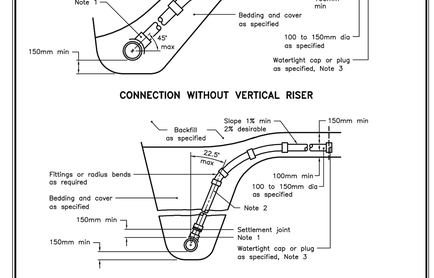
NOTES:
1 Slopes shall be maintained from the outlet hole opening for top of benching.
A Concrete for benching shall be 30MPa.
B When benching is hand-finished, it shall be given wood float finish, channel shall be given steel trowel finish.
C Benching slope and height shall be as specified.
D When specified, 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



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 Sewer service connections to the main pipe sewer shall be made using factory made tees, strap-on-saddles, or other approved saddles.
2 Vertical risers shall be as specified.
3 Cap or plug at property line shall be adequately braced.
A Maintenance holes shall be used at the main sewer to connect service connections greater than or equal to 200mm.
B For new construction, saddles shall be installed on the main pipe before that pipe is laid.
C Approved cut-in tool shall be used for field made connections.
D All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2016	Rev 3
SEWER SERVICE CONNECTIONS FOR MAIN PIPE SEWER		OPSD 1006.010

NO.	REVISION NOTE	DATE	BY
1.	AS PER PRE-CONSULTATION REVIEW	04/22/21	JPE

HORIZONTAL
MNRF MONUMENT 03120040021 MONUMENT IS LOCATED AT THE BACK OF THE SIDEWALK ON THE SOUTHWEST CORNER OF ESSA ROAD AND FERNDALE DRIVE SOUTH. NOTE: A PROTECTIVE WATER VALVE COVER HAS BEEN PLACED OVER MONUMENT CAP.
MNRF MONUMENT 03120040024 MONUMENT IS LOCATED ON THE SOUTH CURB LINE OF FERNDALE DRIVE SOUTH, APPROXIMATELY 150M NORTHWEST OF STROUD PLACE AND OPPOSITE FROM A 'MAXIMUM 50KM' SIGN. NOTE: A PROTECTIVE WATER VALVE COVER HAS BEEN PLACED OVER MONUMENT CAP.

VERTICAL
MNRF MONUMENT 03120030023 MONUMENT IS LOCATED AT WATER RESEVOR ON HARVIE RD 0.5KM EAST OF VETERANS DRIVE. MONUMENT IS SET FLUSH IN THE SOUTH END OF THE EAST WING ALL TO ENTER THE RESERVOIR. THE TABLET IS CENTERED IN THE WALL AND 90CM BELOW THE TOP OF WALL.
ELEV: 303.862
MNRF MONUMENT 03120080048 LOCATED APPROXIMATELY 11M EAST OF THE CENTERLINE OF THRUSHWOOD DRIVE BETWEEN CRANBERRY AND BLUEBERRY LANES. NOTE, A PROTECTIVE WATER VALVE COVER HAS BEEN PLACED OVER MONUMENT CAP.
ELEV: 302.524

SEAN HOMES
341 VETERANS LANE
BARRIE, ON

NOTES AND DETAILS

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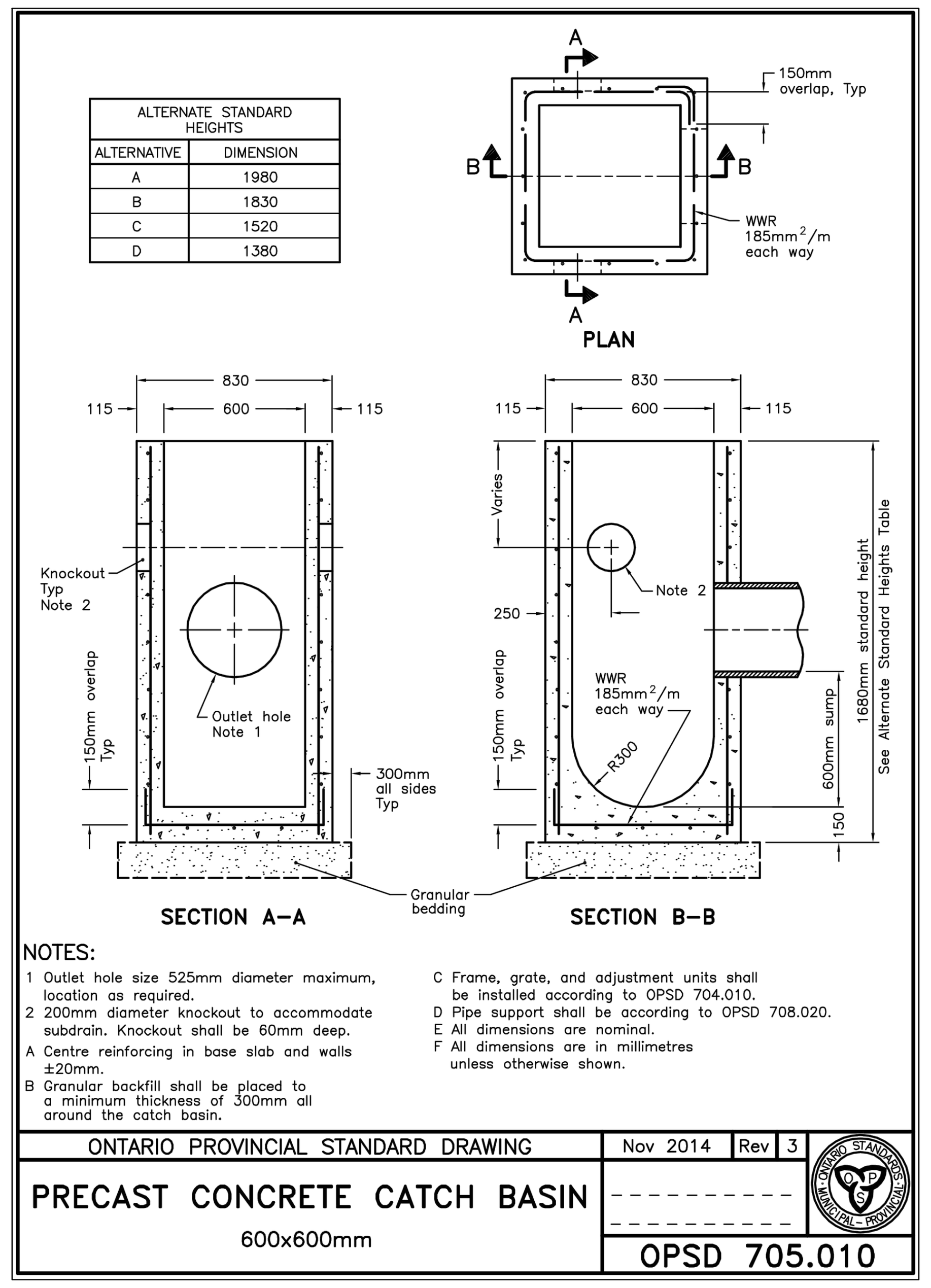
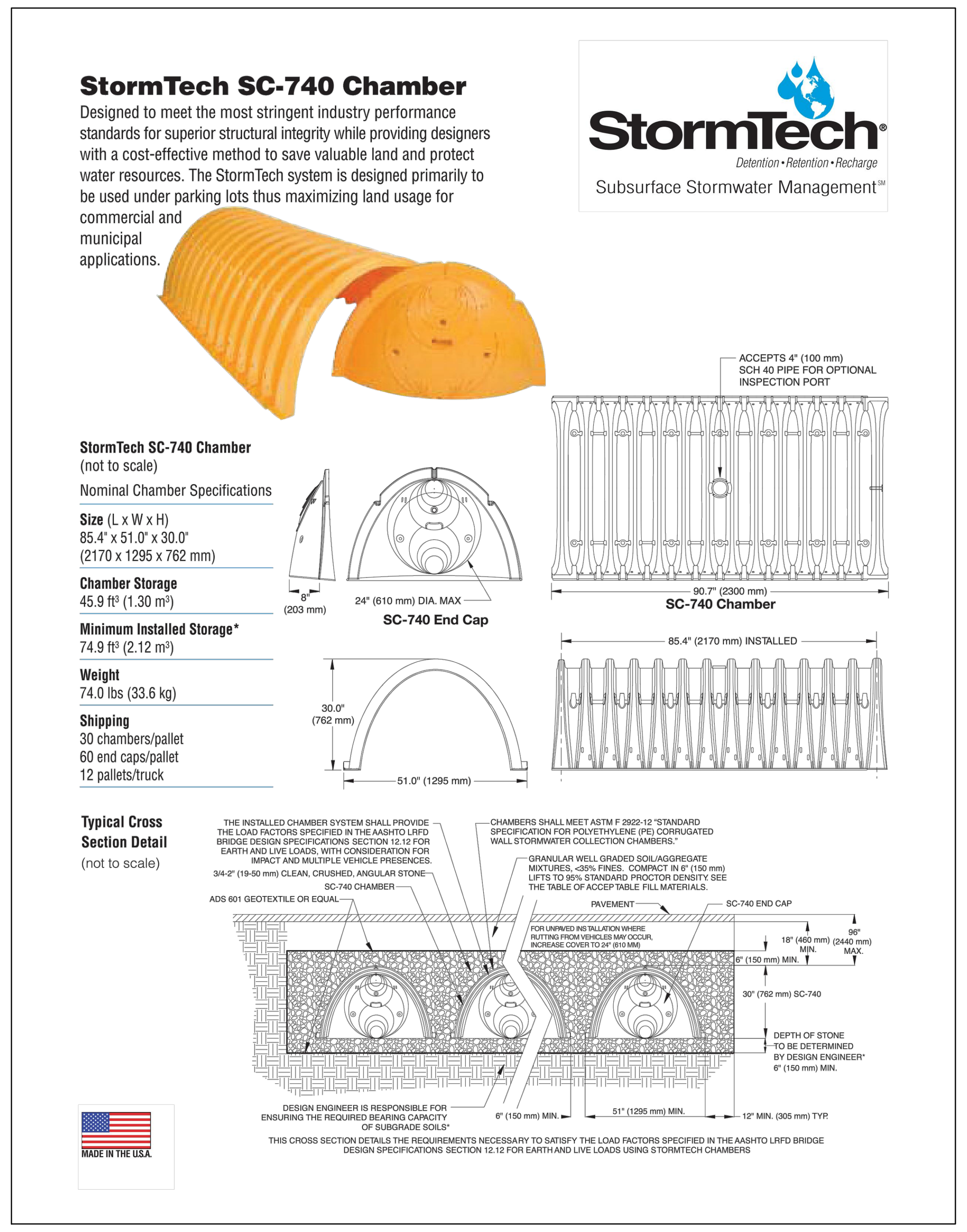
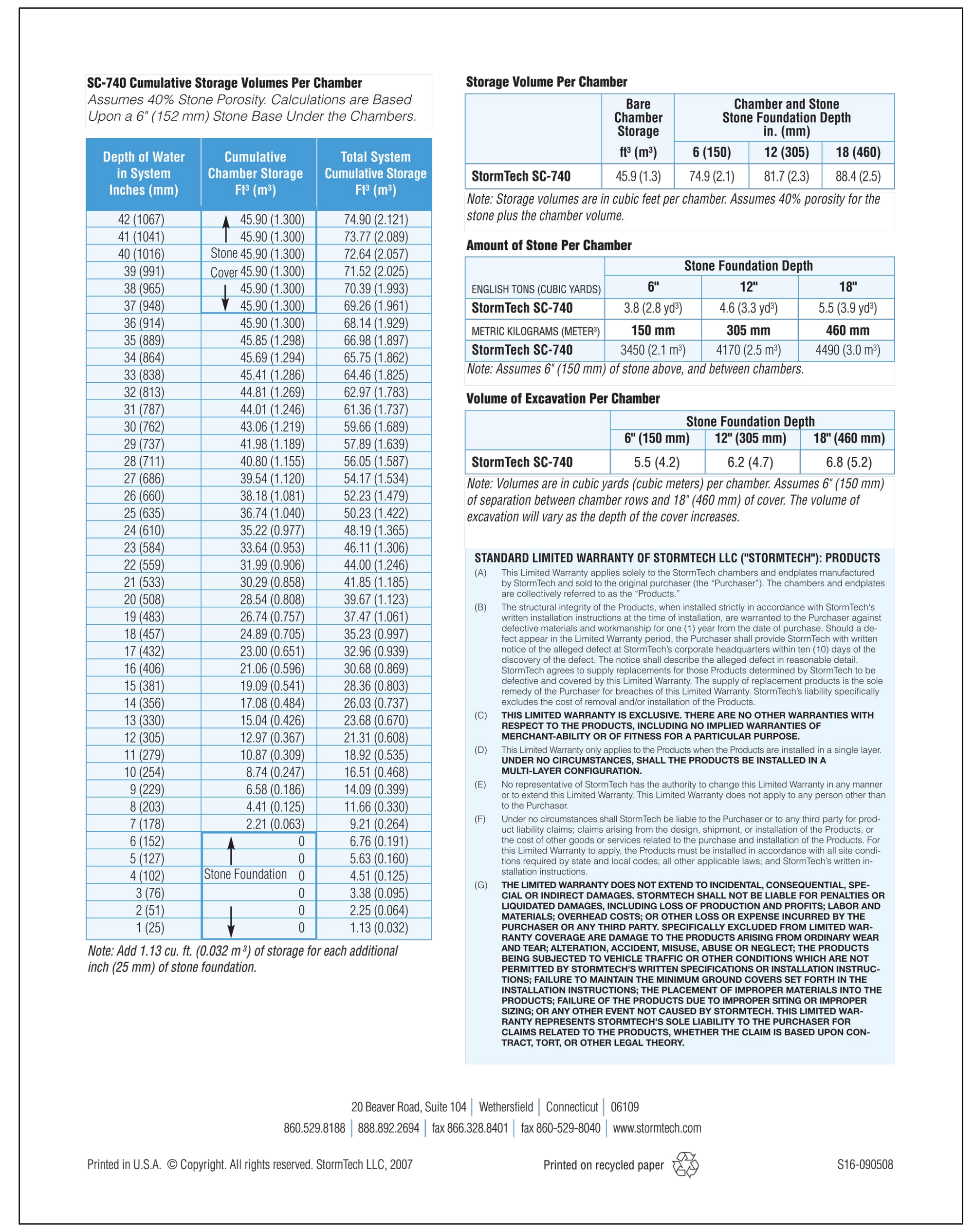
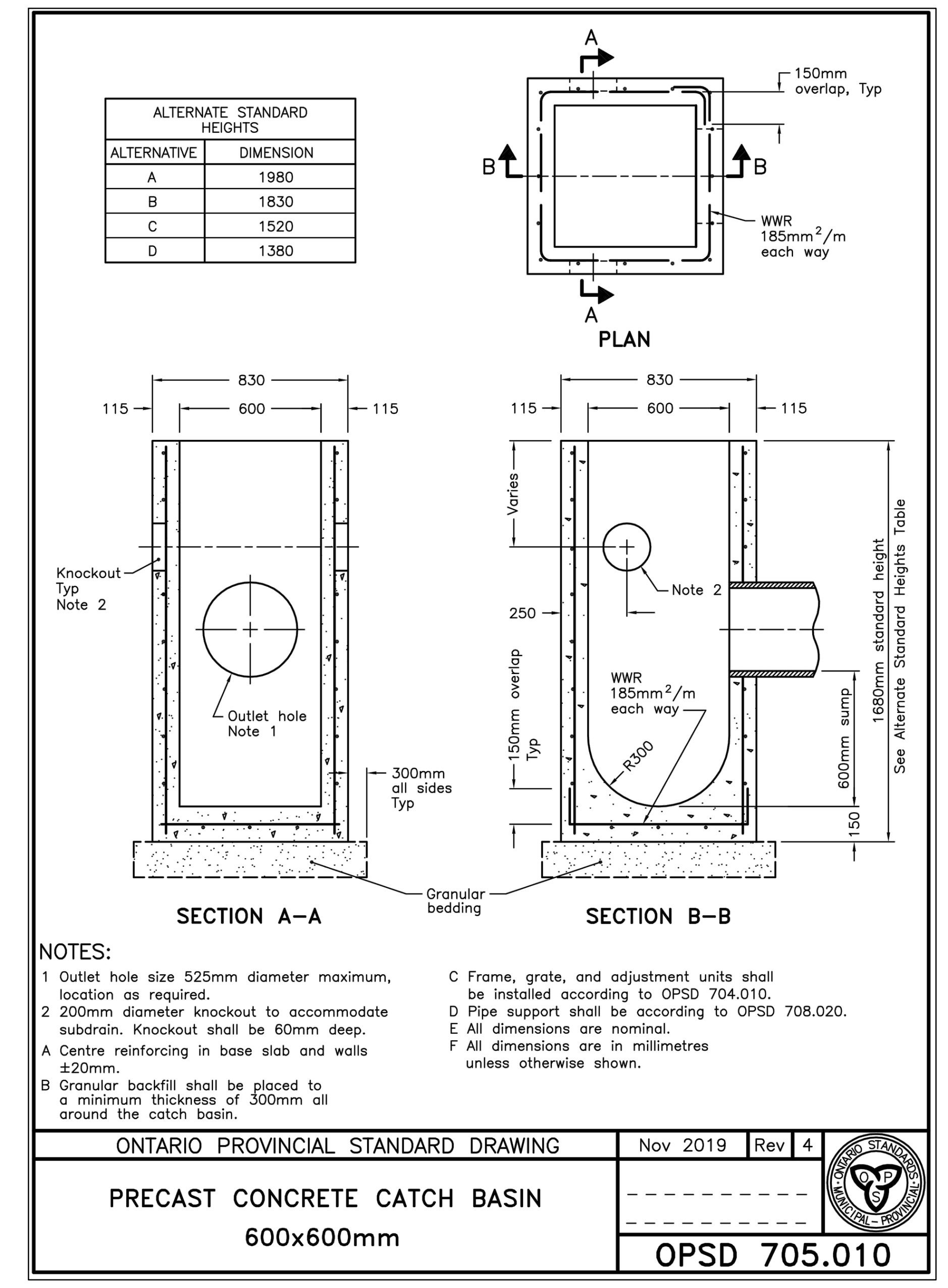
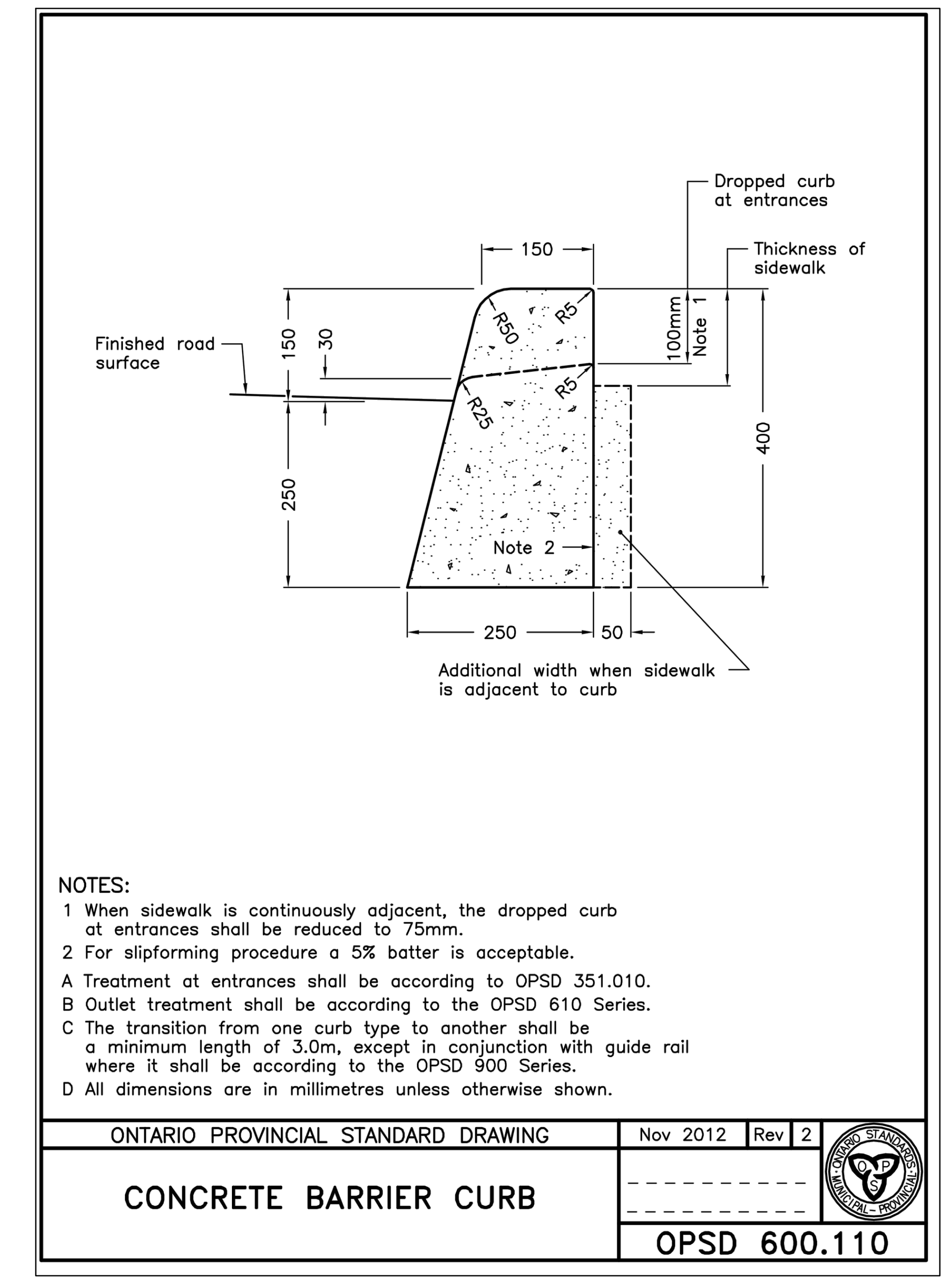
DESIGNED BY	MWD	HORIZ SCALE	1 : 250
DRAWN BY	JPE	VERT SCALE	N/A
CHECKED BY	GMP	DATE	OCTOBER 2020
PROJECT #	18079		
DRAWING #	ND-1		
REVISION #	1		

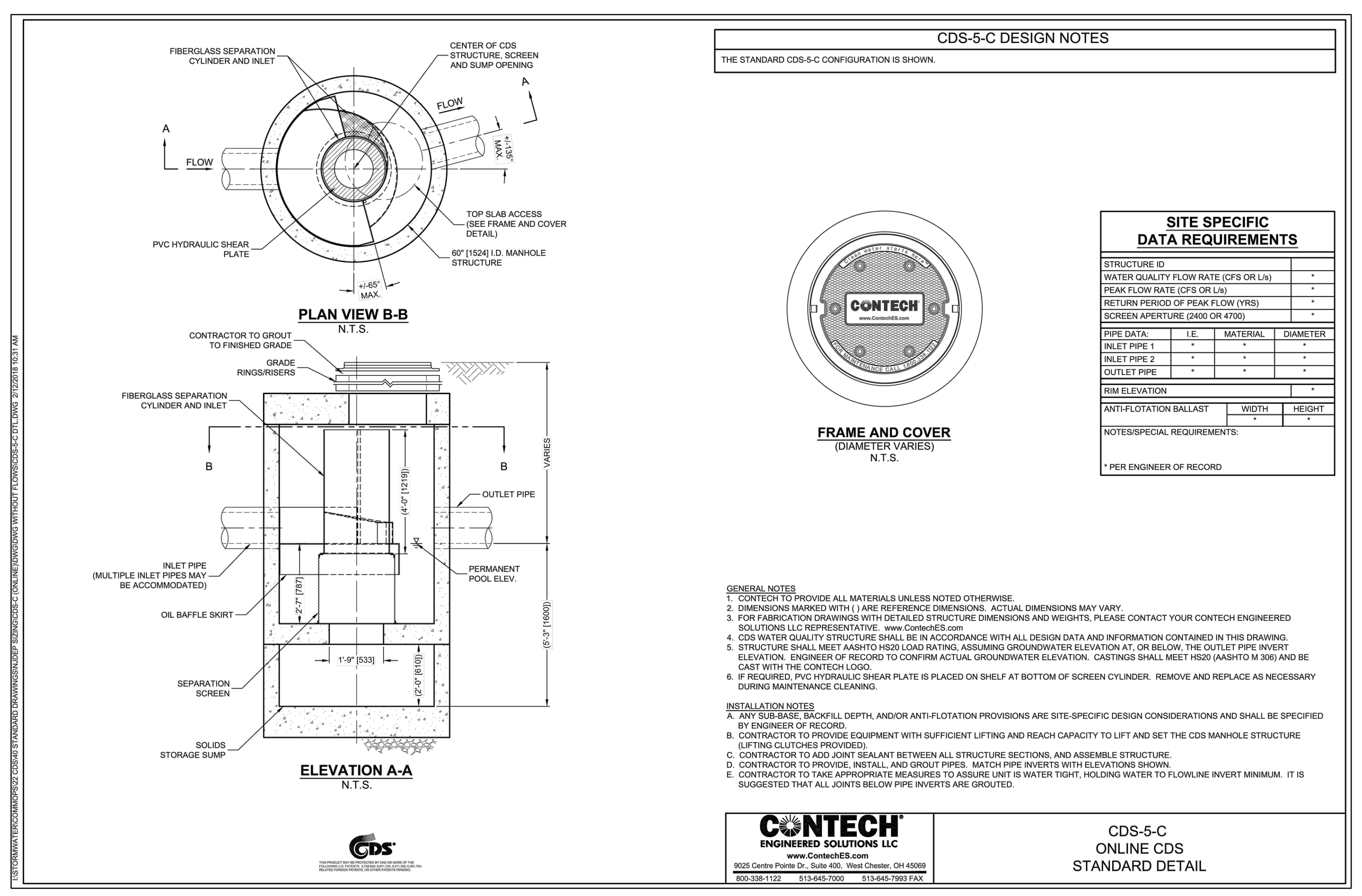












NO.	REVISION NOTE	DATE	BY
1.	AS PER PRE-CONSULTATION REVIEW	04/22/21	JPE

HORIZONTAL
MNRF MONUMENT 03120040021 MONUMENT IS LOCATED AT THE BACK OF THE SIDEWALK ON THE SOUTHWEST CORNER OF ESSA ROAD AND FERNDALE DRIVE SOUTH. NOTE: A PROTECTIVE WATER VALVE COVER HAS BEEN PLACED OVER MONUMENT CAP.
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NOTES AND DETAILS

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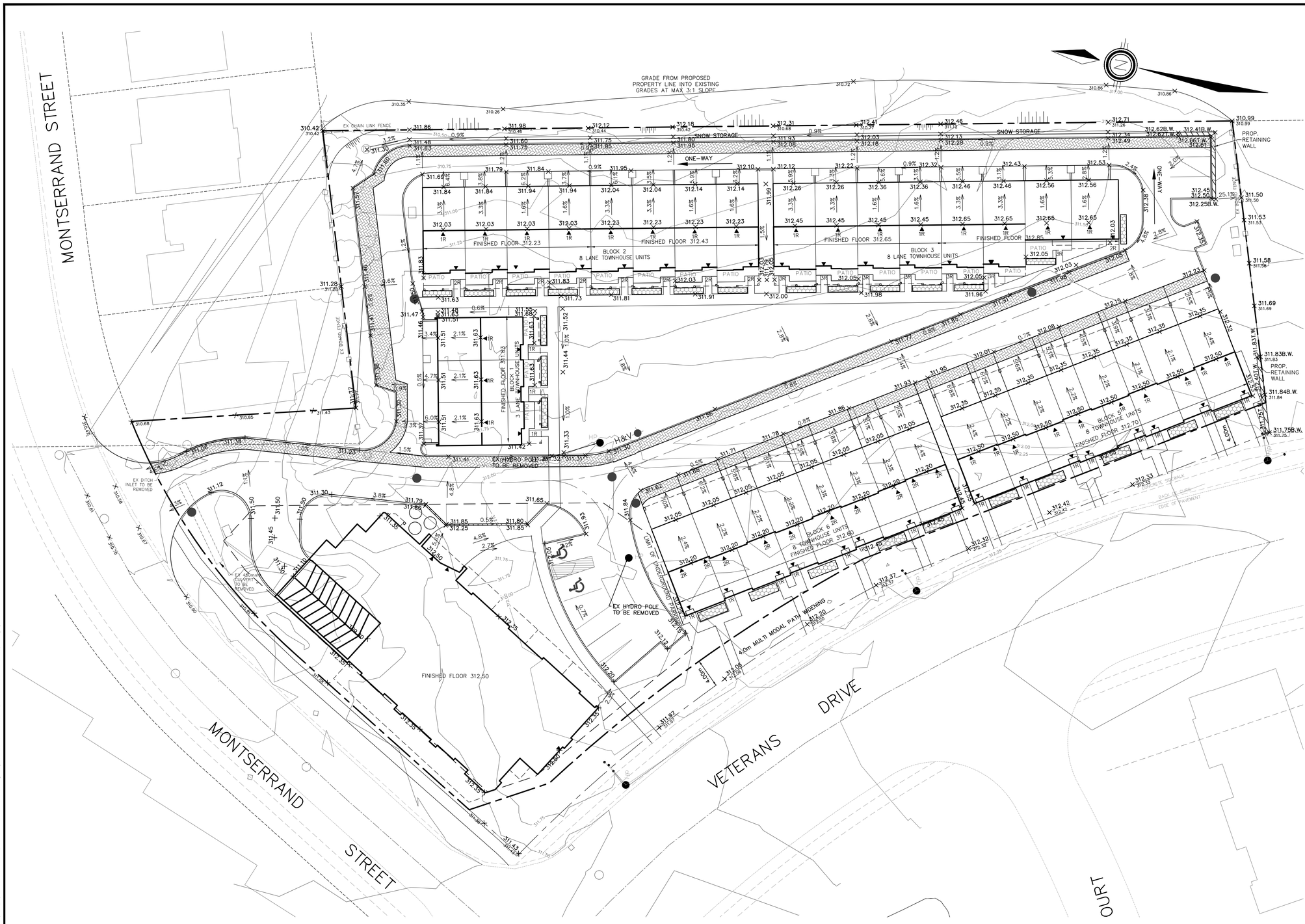
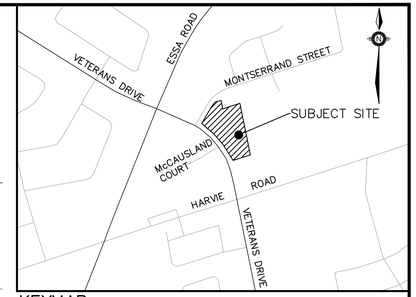
DESIGNED BY	MWD	HORIZ SCALE	1 : 250	PROJECT #	18079
DRAWN BY	JPE	VERT SCALE	N/A	DRAWING #	ND-2
CHECKED BY	GMP	DATE	OCTOBER 2020	REVISION #	1





KEYMAP

LEGEND

- CB — CATCH BASIN
- DCB — DOUBLE CATCH BASIN
- CBMH — CATCH BASIN
- MH — STORM MANHOLE
- MH — SANITARY MANHOLE
- SERVICE CAP
- HYD. — FIRE HYDRANT
- VB — WATER VALVE
- CS — CURB STOP W/ SERVICE
- 254.63 / 254.09 — PROPOSED ELEVATION / EXISTING ELEVATION
- 2.0% — PROPOSED DIRECTION AND GRADE
- BACK OF CURB
- EDGE OF PAVEMENT
- CURB CUT LOCATION
-) (— HIGH POINT
- — — — LIMITS OF UNDERGROUND PARKING
- - - - - - ABOVE GRADE BALCONY
- BH/MW101 — BOREHOLE/MONITORING WELL
- PROP. RAIN GARDENS (3.2m² TYP.)
- PROP. RAIN GARDENS (4.8m² TYP.)
- PERMEABLE PAVERS

WELL ID	SEASONAL HIGH GROUNDWATER DEPTH	GROUNDWATER ELEVATION
BM/MW 101	1.30 m	310.79
BM/MW 102	1.44 m	310.03
BM/MW 103	1.31 m	310.65

ELEVATIONS FROM SEASONAL GROUNDWATER LEVEL MONITORING LETTER BY SOIL ENGINEERS LTD. SEPTEMBER 15, 2020

NO.	REVISION NOTE	DATE	BY
1.	AS PER PRE-CONSULTATION REVIEW	04/22/21	JPE

HORIZONTAL
MNRF MONUMENT 03120040021 MONUMENT IS LOCATED AT THE BACK OF THE SIDEWALK ON THE SOUTHWEST CORNER OF ESSA ROAD AND FERNDALE DRIVE SOUTH. NOTE: A PROTECTIVE WATER VALVE COVER HAS BEEN PLACED OVER MONUMENT CAP.
MNRF MONUMENT 03120040024 MONUMENT IS LOCATED ON THE SOUTH CURB LINE OF FERNDALE DRIVE SOUTH, APPROXIMATELY 150M NORTHWEST OF STROUD PLACE AND OPPOSITE FROM A "MAXIMUM 50KM" SIGN. NOTE: A PROTECTIVE WATER VALVE COVER HAS BEEN PLACED OVER MONUMENT CAP.

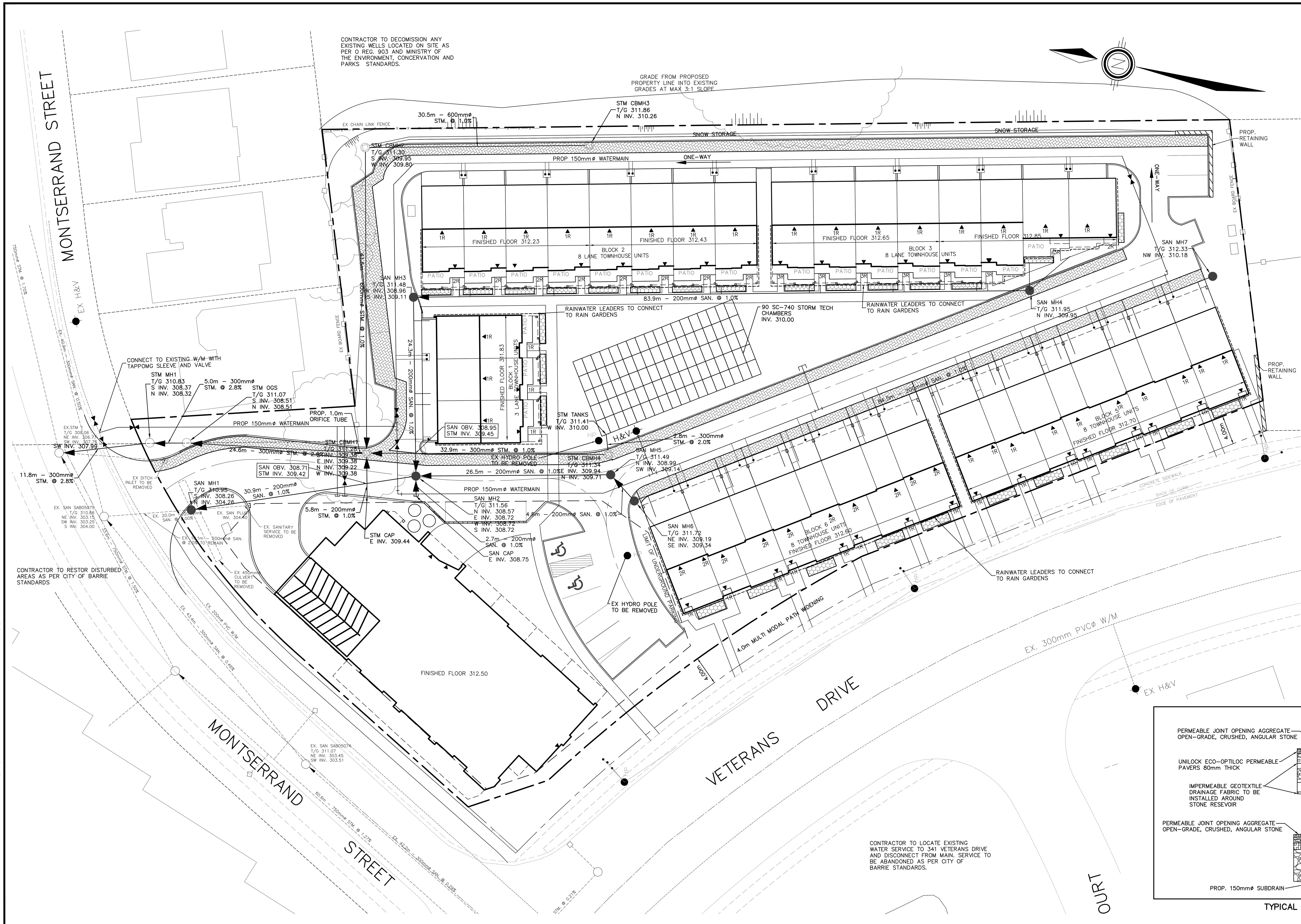
VERTICAL
MNRF MONUMENT 03120030023 MONUMENT IS LOCATED AT WATER RESEVIOR ON HARVIE RD 0.5KM EAST OF VETERANS DRIVE. MONUMENT IS SET FLUSH IN THE SOUTH END OF THE EAST WING ALL TO ENTER THE RESERVOIR. THE TABLET IS CENTERED IN THE WALL AND 90CM BELOW THE TOP OF WALL.
ELEV: 303.862
MNRF MONUMENT 03120080048 LOCATED APPROXIMATELY 11M EAST OF THE CENTERLINE OF THRUSHWOOD DRIVE BETWEEN CRANBERRY AND BLUEBERRY LANES. NOTE, A PROTECTIVE WATER VALVE COVER HAS BEEN PLACED OVER MONUMENT CAP.
ELEV: 302.524

SEAN HOMES
341 VETERANS LANE
BARRIE, ON

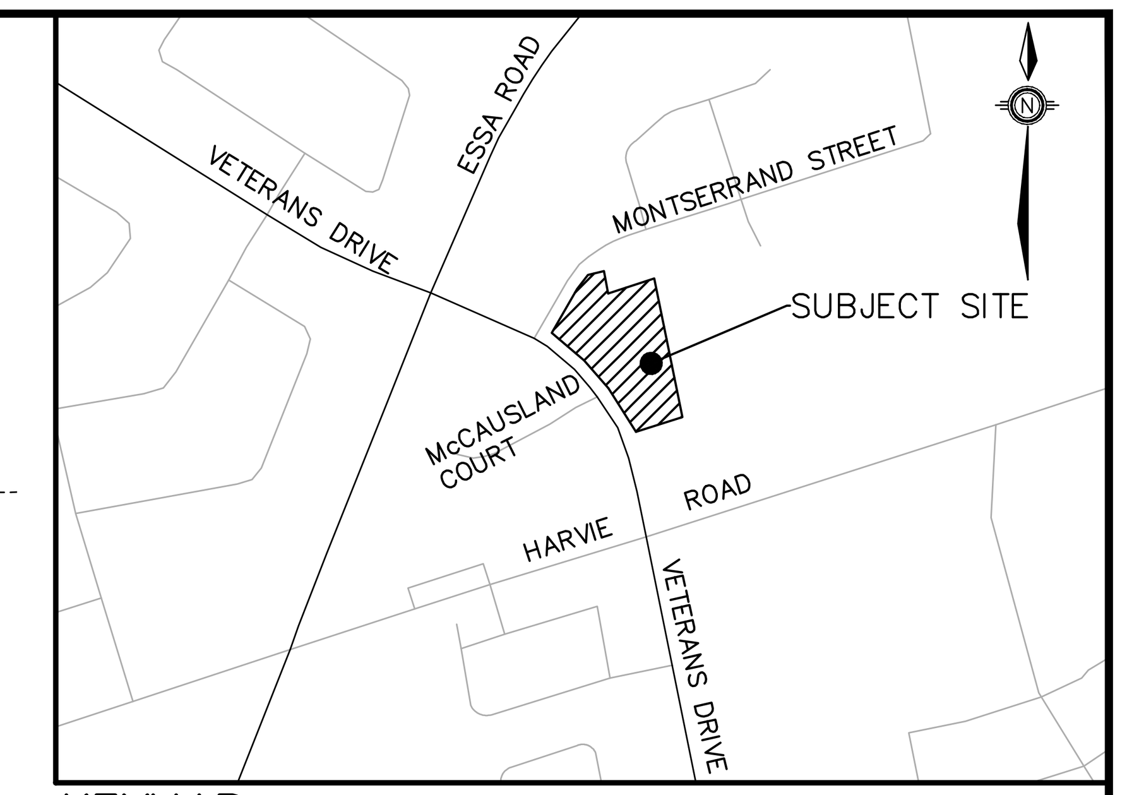
SITE GRADING PLAN

PEARSON ENGINEERING
PEARSONENG.COM PH. 705.719.4785

DESIGNED BY	MWD	HORIZ SCALE 1 : 250	PROJECT # 18079
DRAWN BY	JPE	VERT SCALE N/A	DRAWING # SG-1
CHECKED BY	GMP	DATE OCTOBER 2020	REVISION # 1



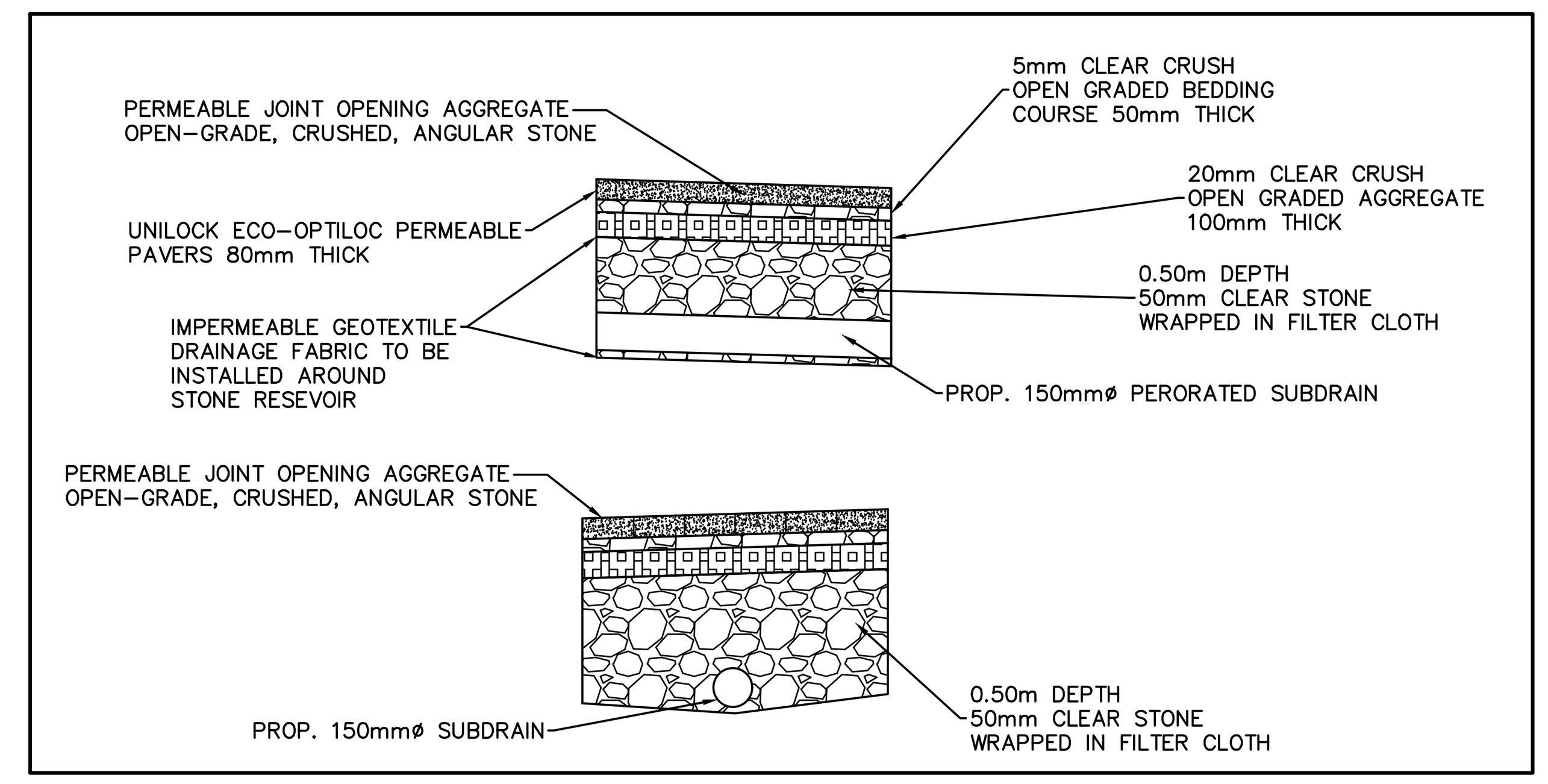
CONTRACTOR TO DECOMMISSION ANY EXISTING WELLS LOCATED ON SITE AS PER O REG. 903 AND MINISTRY OF THE ENVIRONMENT, CONCERVATION AND PARKS STANDARDS.
GRADE FROM PROPOSED PROPERTY LINE INTO EXISTING GRADES AT MAX 3:1 SLOPE
MONTSERRAND STREET
SNOW STORAGE
ONE-WAY
PROP 150mmø WATERMAIN
PROP. RETAINING WALL
FINISHED FLOOR 312.23
FINISHED FLOOR 312.43
BLOCK 2
8 LANE TOWNHOUSE UNITS
FINISHED FLOOR 312.65
BLOCK 3
8 LANE TOWNHOUSE UNITS
FINISHED FLOOR 312.85
83.9m – 200mmø SAN. @ 1.0%
RAINWATER LEADERS TO CONNECT TO RAIN GARDENS
90 SC-740 STORM TECH CHAMBERS
INV. 310.00
FINISHED FLOOR 311.83
BLOCK 1
3 LANE TOWNHOUSE UNITS
CONNECT TO EXISTING W/M WITH TAPPOMG SLEEVE AND VALVE
PROP. 1.0m ORIFICE TUBE
BLOCK 5
8 TOWNHOUSE UNITS
FINISHED FLOOR 312.70
BLOCK 6
8 TOWNHOUSE UNITS
FINISHED FLOOR 312.60
EX HYDRO POLE TO BE REMOVED
PROP 150mmø WATERMAIN
LIMIT OF UNDERGROUND PARKING
CONTRACTOR TO RESTOR DISTURBED AREAS AS PER CITY OF BARRIE STANDARDS
FINISHED FLOOR 312.50
4.0m MULTI MODAL PATH WIDENING
EX. 300mm PVCø W/M
VETERANS DRIVE
MONTSERRAND STREET
CONTRACTOR TO LOCATE EXISTING WATER SERVICE TO 341 VETERANS DRIVE AND DISCONNECT FROM MAIN. SERVICE TO BE ABANDONED AS PER CITY OF BARRIE STANDARDS.



KEYMAP

LEGEND

- CB — CATCH BASIN
- DCB — DOUBLE CATCH BASIN
- CBMH — CATCH BASIN
- MH — STORM MANHOLE
- MH — SANITARY MANHOLE
- SERVICE CAP
- HYD. — FIRE HYDRANT
- VB — WATER VALVE
- CS — CURB STOP W/ SERVICE
- 254.63 — PROPOSED ELEVATION
- 254.09 — EXISTING ELEVATION
- 2.0% — PROPOSED DIRECTION AND GRADE
- BACK OF CURB
- EDGE OF PAVEMENT
- CURB CUT LOCATION
- HIGH POINT
- LIMITS OF UNDERGROUND PARKING
- ABOVE GRADE BALCONY
- RAIN GARDEN
- RAIN WATER LEADER



PERMEABLE JOINT OPENING AGGREGATE– OPEN-GRADE, CRUSHED, ANGULAR STONE
UNILOCK ECO-OPTILOC PERMEABLE PAVERS 80mm THICK
IMPERMEABLE GEOTEXTILE DRAINAGE FABRIC TO BE INSTALLED AROUND STONE RESEVOIR
5mm CLEAR CRUSH OPEN GRADED BEDDING COURSE 50mm THICK
20mm CLEAR CRUSH OPEN GRADED AGGREGATE 100mm THICK
0.50m DEPTH 50mm CLEAR STONE WRAPPED IN FILTER CLOTH
PROP. 150mmø PERORATED SUBDRAIN
PERMEABLE JOINT OPENING AGGREGATE– OPEN-GRADE, CRUSHED, ANGULAR STONE
PROP. 150mmø SUBDRAIN
0.50m DEPTH 50mm CLEAR STONE WRAPPED IN FILTER CLOTH

TYPICAL PERMEABLE PAVERS DETAIL
NTS

NO.	REVISION NOTE	DATE	BY
1.	AS PER PRE-CONSULTATION REVIEW	04/22/21	JPE

HORIZONTAL
MNRF MONUMENT 03120040021 MONUMENT IS LOCATED AT THE BACK OF THE SIDEWALK ON THE SOUTHWEST CORNER OF ESSA ROAD AND FERNDALE DRIVE SOUTH. NOTE: A PROTECTIVE WATER VALVE COVER HAS BEEN PLACED OVER MONUMENT CAP.
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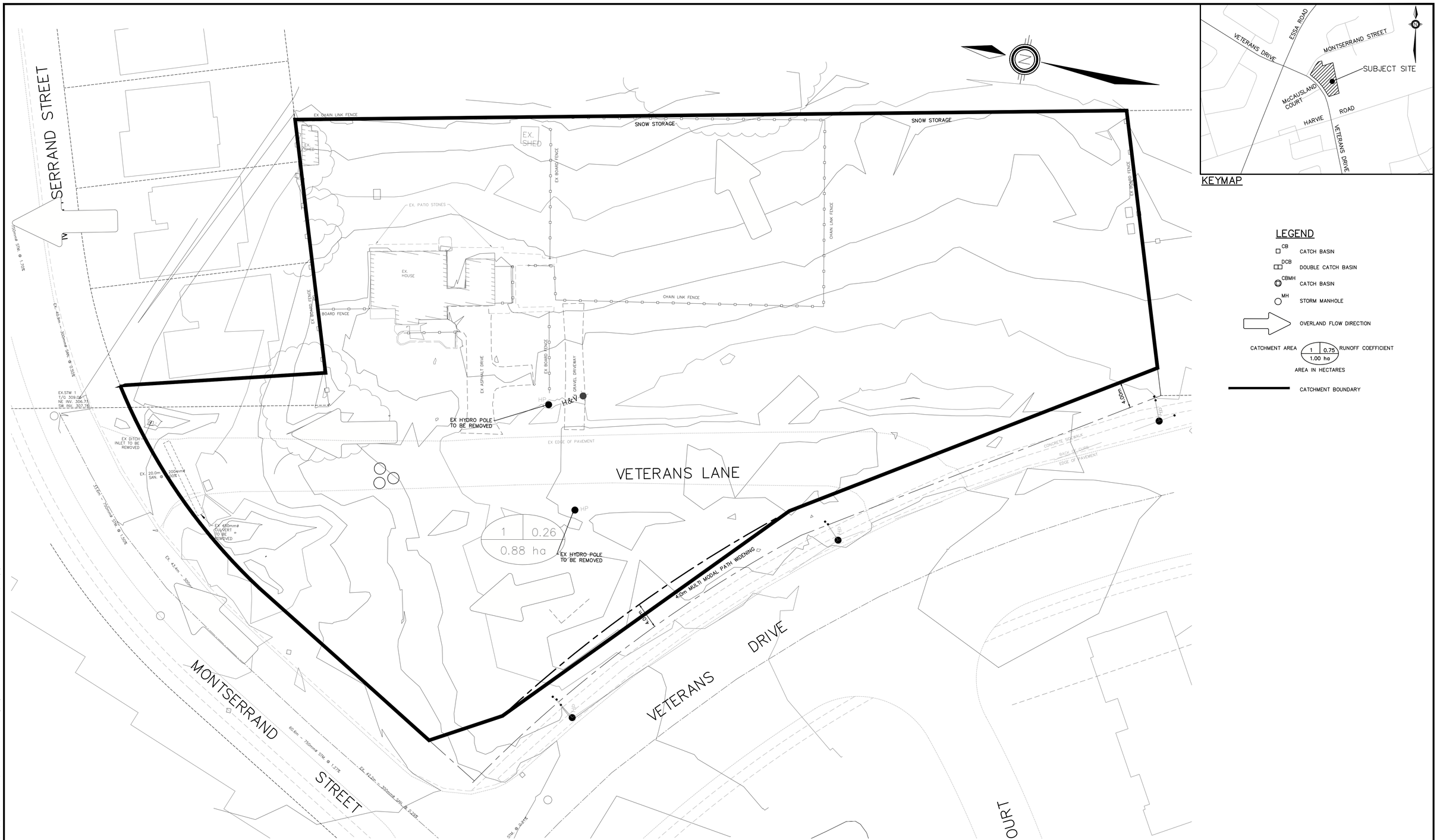
VERTICAL
MNRF MONUMENT 03120030023 MONUMENT IS LOCATED AT WATER RESEVIOR ON HARVIE RD 0.5KM EAST OF VETERANS DRIVE. MONUMENT IS SET FLUSH IN THE SOUTH END OF THE EAST WING ALL TO ENTER THE RESERVOIR. THE TABLET IS CENTERED IN THE WALL AND 90CM BELOW THE TOP OF WALL.
ELEV: 303.862
MNRF MONUMENT 03120080048 LOCATED APPROXIMATELY 11M EAST OF THE CENTERLINE OF THRUSHWOOD DRIVE BETWEEN CRANBERRY AND BLUEBERRY LANES. NOTE, A PROTECTIVE WATER VALVE COVER HAS BEEN PLACED OVER MONUMENT CAP.
ELEV: 302.524

SEAN HOMES
341 VETERANS LANE
BARRIE, ON

SITE SERVICING PLAN

PEARSON ENGINEERING
PEARSONENG.COM PH. 705.719.4785

DESIGNED BY	MWD	HORIZ SCALE	1 : 250	PROJECT #	18079
DRAWN BY	JPE	VERT SCALE	N/A	DRAWING #	SS-1
CHECKED BY	GMP	DATE	OCTOBER 2020	REVISION #	1



NO.	REVISION NOTE	DATE	BY
1.	AS PER PRE-CONSULTATION REVIEW	04/22/21	JPE

HORIZONTAL
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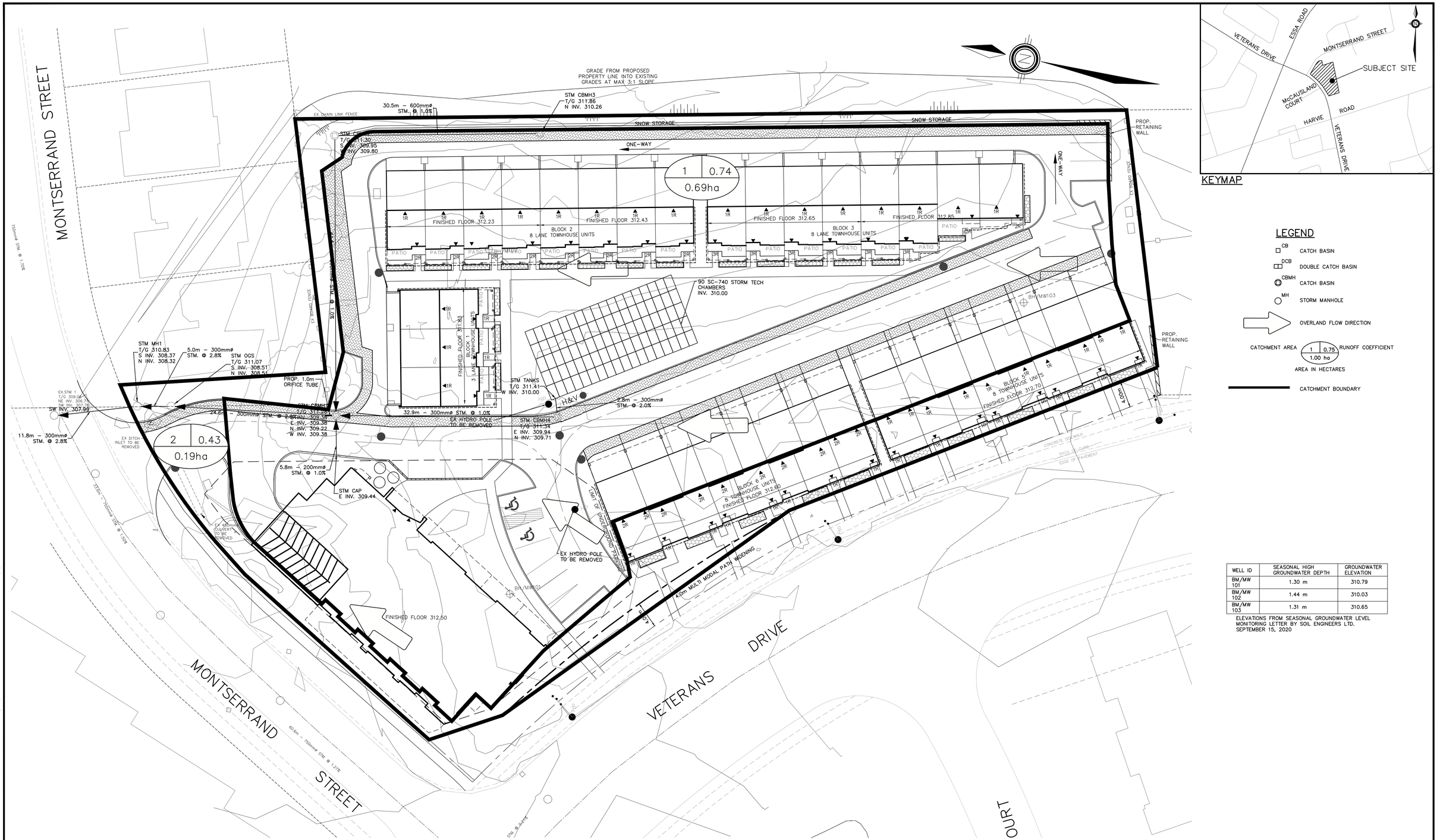
ELEV: 302.524

SEAN HOMES
341 VETERANS LANE
BARRIE, ON

PRE-DEVELOPMENT STORM CATCHMENT PLAN

PEARSON ENGINEERING
PEARSONENG.COM PH. 705.719.4785

DESIGNED BY	MWD	HORIZ SCALE	1 : 250
DRAWN BY	JPE	VERT SCALE	N/A
CHECKED BY	GMP	DATE	OCTOBER 2020
PROJECT #	18079		
DRAWING #	STM-1		
REVISION #	1		



KEYMAP

LEGEND

- CB — CATCH BASIN
- DCB — DOUBLE CATCH BASIN
- CBMH — CATCH BASIN
- MH — STORM MANHOLE
- OVERLAND FLOW DIRECTION
- CATCHMENT AREA (1 | 0.75 | 1.00 ha) — RUNOFF COEFFICIENT; AREA IN HECTARES
- CATCHMENT BOUNDARY

WELL ID	SEASONAL HIGH GROUNDWATER DEPTH	GROUNDWATER ELEVATION
BM/MW 101	1.30 m	310.79
BM/MW 102	1.44 m	310.03
BM/MW 103	1.31 m	310.65

ELEVATIONS FROM SEASONAL GROUNDWATER LEVEL MONITORING LETTER BY SOIL ENGINEERS LTD. SEPTEMBER 15, 2020

NO.	REVISION NOTE	DATE	BY
1.	AS PER PRE-CONSULTATION REVIEW	04/22/21	JPE

HORIZONTAL
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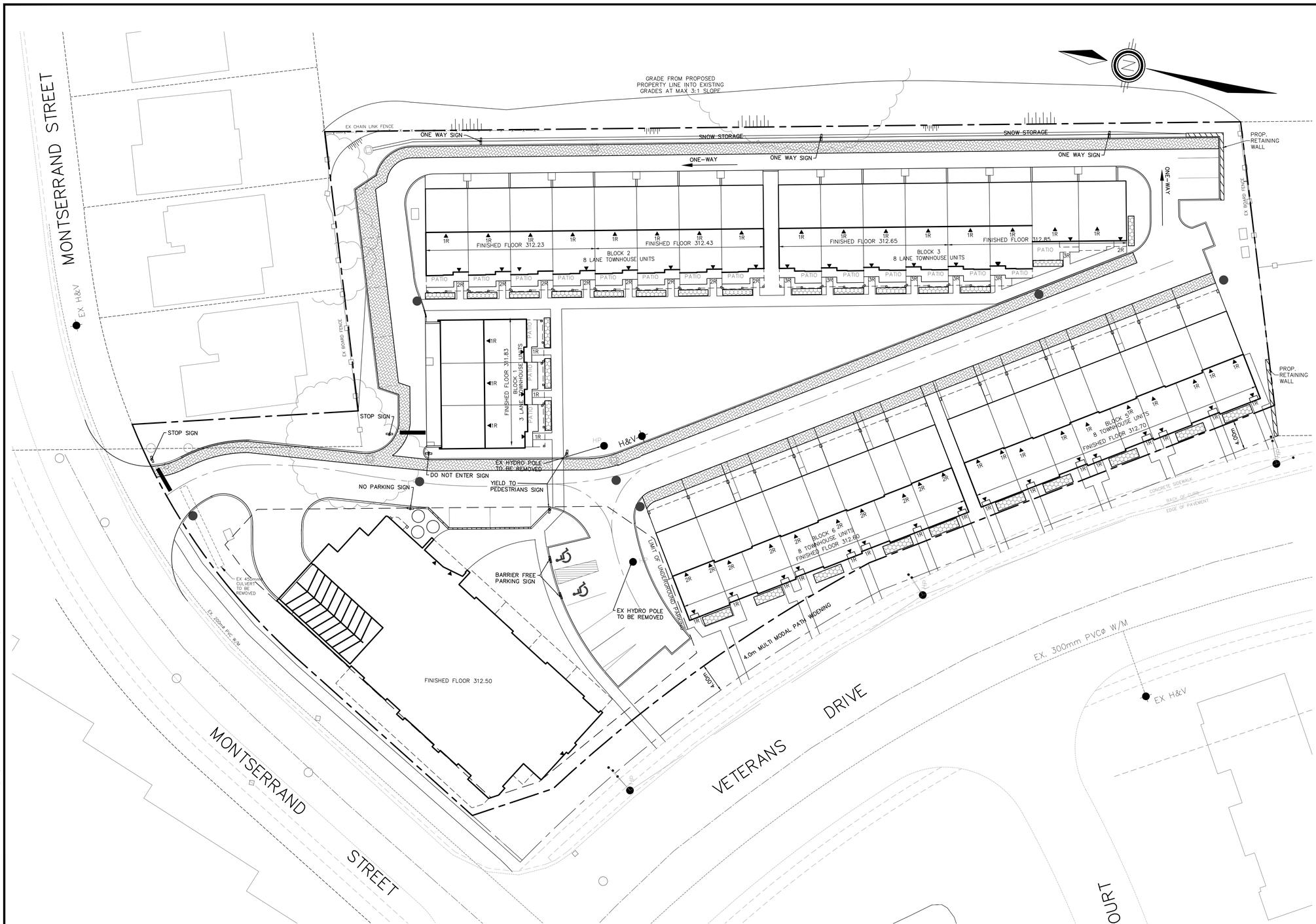
ELEV: 302.524

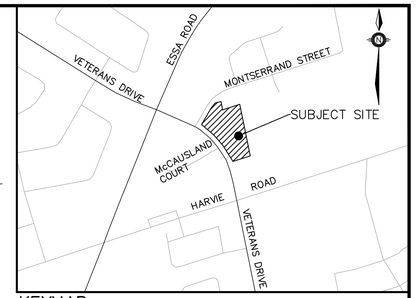
SEAN HOMES
341 VETERANS LANE
BARRIE, ON

POST-DEVELOPMENT STORM CATCHMENT PLAN

PEARSON ENGINEERING
PEARSONENG.COM PH. 705.719.4785

DESIGNED BY	MWD	HORIZ SCALE	1 : 250
DRAWN BY	JPE	VERT SCALE	N/A
CHECKED BY	GMP	DATE	OCTOBER 2020
PROJECT #	18079		
DRAWING #	STM-2		
REVISION #	1		





KEYMAP

LEGEND

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- × 254.63 / 254.09 — PROPOSED ELEVATION / EXISTING ELEVATION
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- BACK OF CURB
- EDGE OF PAVEMENT
- CURB CUT LOCATION
-) (— HIGH POINT
- — — — LIMITS OF UNDERGROUND PARKING
- - - - - - ABOVE GRADE BALCONY

0.50m / 0.10m

0.5m STOP BAR (WHITE): INTERSECTION STOP LINES

SOLID WHITE: EDGE LINES, LANE LINES, PARKING LINES

Rb-1 – STOP SIGN

Rb-93 – BARRIER FREE PARKING

Rb-51 – NO PARKING SIGN

Rb-19 – DO NOT ENTER SIGN

Rb-21 – ONE-WAY SIGN

YEILD TO PEDESTRIAN SIGN

NO.	REVISION NOTE	DATE	BY
1.	AS PER PRE-CONSULTATION REVIEW	04/22/21	JPE

HORIZONTAL
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ELEV: 302.524

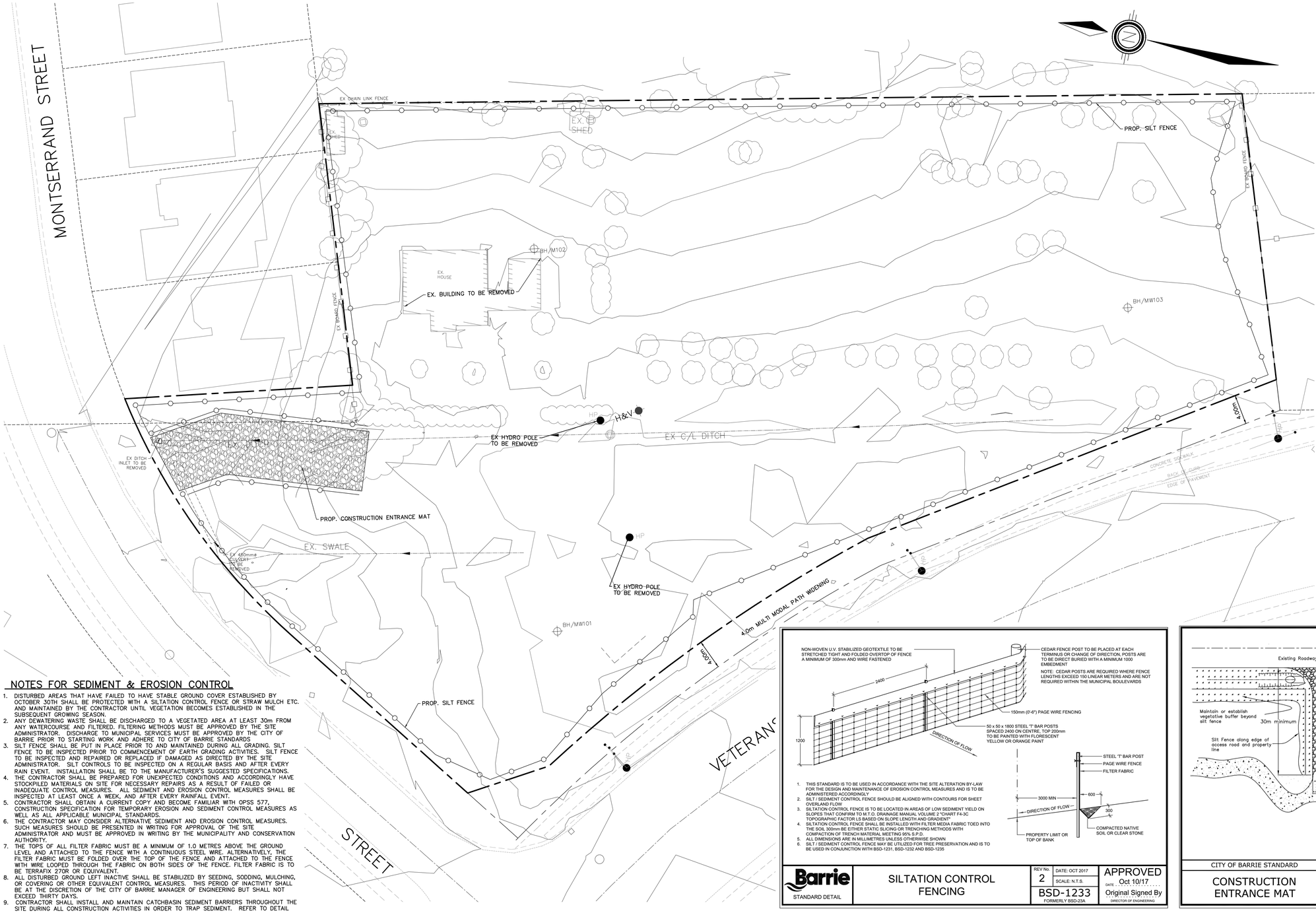
SEAN HOMES
341 VETERANS LANE
BARRIE, ON

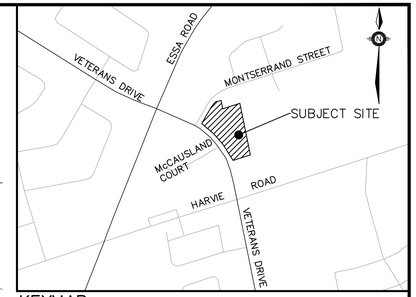
PAVEMENT MARKING AND SIGNAGE PLAN

PEARSON ENGINEERING
PEARSONENG.COM PH. 705.719.4785

DESIGNED BY	MWD	HORIZ SCALE	1 : 250
DRAWN BY	JPE	VERT SCALE	N/A
CHECKED BY	GMP	DATE	OCTOBER 2020

PROJECT # 18079
DRAWING # PAV-1
REVISION # 1





KEYMAP

LEGEND

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- DCB — DOUBLE CATCH BASIN
- CBMH — CATCH BASIN
- MH — STORM MANHOLE
- MH — SANITARY MANHOLE
- BH/MW101 — BOREHOLE/MONITORING WELL

NOTES FOR SEDIMENT & EROSION CONTROL

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 30m FROM ANY WATERCOURSE AND FILTERED. FILTERING METHODS MUST BE APPROVED BY THE SITE ADMINISTRATOR. DISCHARGE TO MUNICIPAL SERVICES MUST BE APPROVED BY THE CITY OF BARRIE PRIOR TO STARTING WORK AND ADHERE TO CITY OF BARRIE STANDARDS
3. SILT FENCE SHALL BE PUT IN PLACE PRIOR TO AND MAINTAINED DURING ALL GRADING. 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. CONTRACTOR SHALL OBTAIN A CURRENT COPY AND BECOME FAMILIAR WITH OPSS 577, CONSTRUCTION SPECIFICATION FOR TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES AS WELL AS ALL APPLICABLE MUNICIPAL STANDARDS.
6. 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 MUNICIPALITY AND CONSERVATION AUTHORITY.
7. THE TOPS OF ALL FILTER FABRIC MUST BE A MINIMUM OF 1.0 METRES ABOVE THE GROUND LEVEL AND ATTACHED TO THE FENCE 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.
8. ALL DISTURBED GROUND LEFT INACTIVE SHALL BE STABILIZED BY SEEDING, SODDING, MULCHING, OR COVERING OR OTHER EQUIVALENT CONTROL MEASURES. THIS PERIOD OF INACTIVITY SHALL BE AT THE DISCRETION OF THE CITY OF BARRIE MANAGER OF ENGINEERING BUT SHALL NOT EXCEED THIRTY DAYS.
9. CONTRACTOR SHALL INSTALL AND MAINTAIN CATCHBASIN SEDIMENT BARRIERS THROUGHOUT THE SITE DURING ALL CONSTRUCTION ACTIVITIES IN ORDER TO TRAP SEDIMENT. REFER TO DETAIL

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. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SHOWN
6. 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

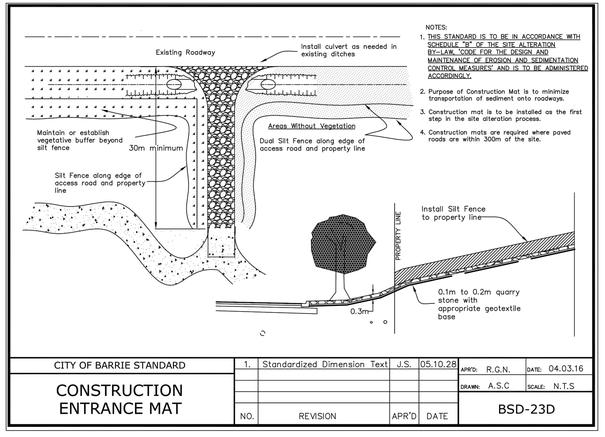
Barrie STANDARD DETAIL

SILTATION CONTROL FENCING

REV No. 2 | DATE: OCT 2017 | SCALE: N.T.S.

BSD-1233 FORMERLY BSD-25A

APPROVED Oct 10/17 DATE Original Signed By DIRECTOR OF ENGINEERING



CITY OF BARRIE STANDARD

CONSTRUCTION ENTRANCE MAT

NO.	REVISION	APR'D	DATE
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

BSD-23D

SEQUENCE OF CONSTRUCTION

1. ENGINEER TO BE NOTIFIED PRIOR TO INITIATION OF ANY ON SITE WORKS.
2. SILT FENCE AND MUD MAT CONSTRUCTION ENTRANCE IS 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. 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.
5. ALL DISTURBED GROUND LEFT INACTIVE FOR MORE THAN 30 DAYS SHALL BE STABILIZED WITH SEED, SOD, MULCH OR OTHER ADEQUATE COVERING, AS INSTRUCTED BY THE ENGINEER.

NO.	REVISION NOTE	DATE	BY
1.	AS PER PRE-CONSULTATION REVIEW	04/22/21	JPE

HORIZONTAL
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VERTICAL
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ELEV: 302.524

SEAN HOMES
341 VETERANS LANE
BARRIE, ON

ENVIRONMENTAL PROTECTION AND REMOVALS PLAN

PEARSON ENGINEERING
PEARSONENG.COM PH. 705.719.4785

DESIGNED BY	MWD	HORIZ SCALE	1 : 250
DRAWN BY	JPE	VERT SCALE	N/A
CHECKED BY	GMP	DATE	OCTOBER 2020
PROJECT #	18079		
DRAWING #	EPR-1		
REVISION #	1		