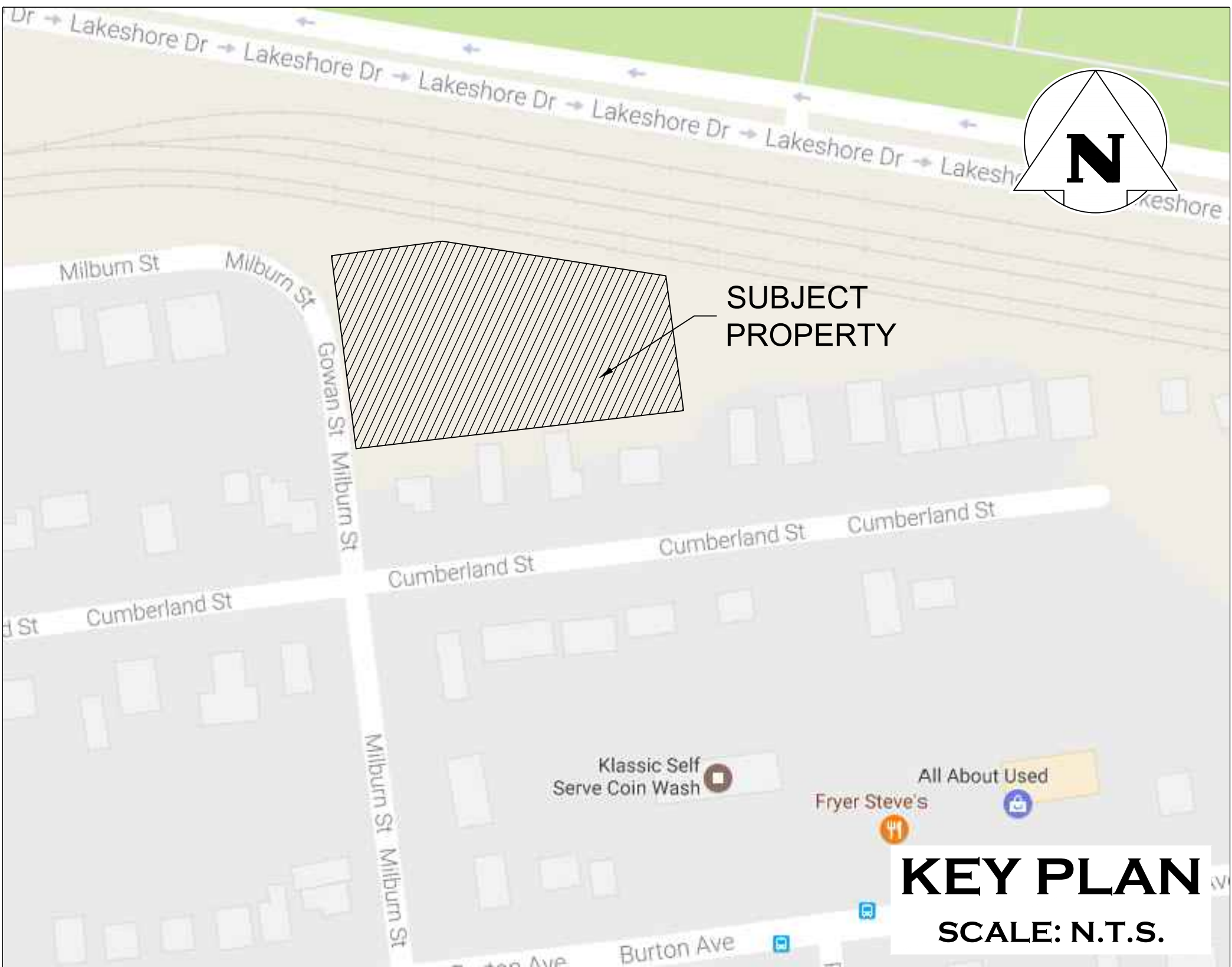


1 MILBURN STREET

CITY OF BARRIE
COUNTY OF SIMCOE



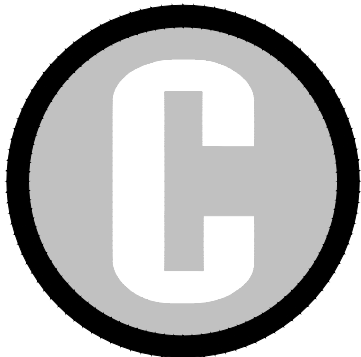
MUNICIPALITY

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

DEVELOPER

ONE MILBURN INC.
10 WANLESS AVENUE, SUITE 201
TORONTO, ONTARIO, M4N 1V6

DEVELOPER'S ENGINEER



CROZIER & ASSOCIATES
Consulting Engineers

THE HARBOUREDGE BUILDING,
40 HURON STREET, SUITE 301,
COLLINGWOOD, ON L9Y 4R3
705 446-3510 T
705 446-3520 F
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LANDSCAPE ARCHITECT

STEFAN BOLLIGER ASSOCIATES INC.
58 MORROW ROAD
BARRIE, ONTARIO, L4N 3V8

MASTER LEGEND

EXISTING FEATURES (EX.)

- XXX.X--- EX. CONTOUR
- +XXX.XX EX. GRADE
- ~~~~~ EX. TREELINE
- ===== EX. WATERCOURSE
- - - - - EX. DITCH
- - - - - EX. WATERMAIN
- W EX. WATER SERVICE
- ⊕ EX. FIRE HYDRANT & VALVE
- S--- EX. SANITARY SEWER & MANHOLE
- S--- EX. SANITARY FORCEMAIN
- S--- EX. SANITARY SERVICE
- S--- EX. STORM SEWER & MANHOLE
- EX. STORM CATCHBASIN
- EX. STORM DOUBLE CATCHBASIN
- EX. STORM CATCHBASIN MANHOLE
- EX. STORM DOUBLE CATCHBASIN MANHOLE
- G--- EX. GAS MAIN
- B--- EX. BELL LINE
- EX. BELL PEDESTAL
- EX. CABLE TELEVISION PEDESTAL
- HP EX. HYDRO POLE
- ⊗ EX. LIGHT STANDARD
- S--- EX. SIGN
- ▨ EX. BUILDING
- BM# EX. BENCHMARK NUMBER & LOCATION
- BH# EX. BOREHOLE NUMBER & LOCATION

PROPOSED FEATURES (PR.)

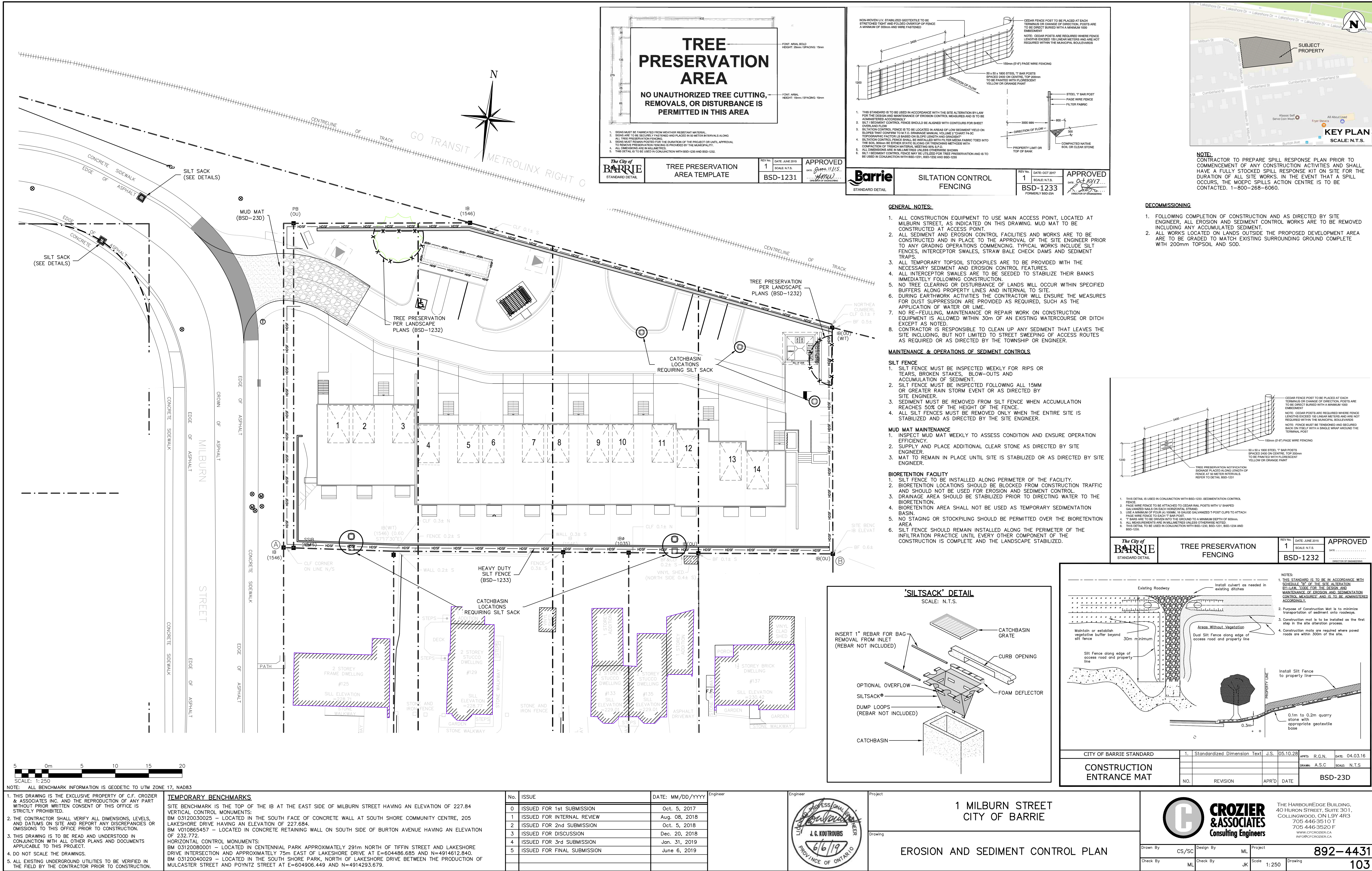
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- +XXX.XX EX. GRADE
- XXX.XX EX. TREELINE
- XXX.XX EX. WATERCOURSE
- XXX.XX EX. DITCH
- XXX.XX EX. WATERMAIN
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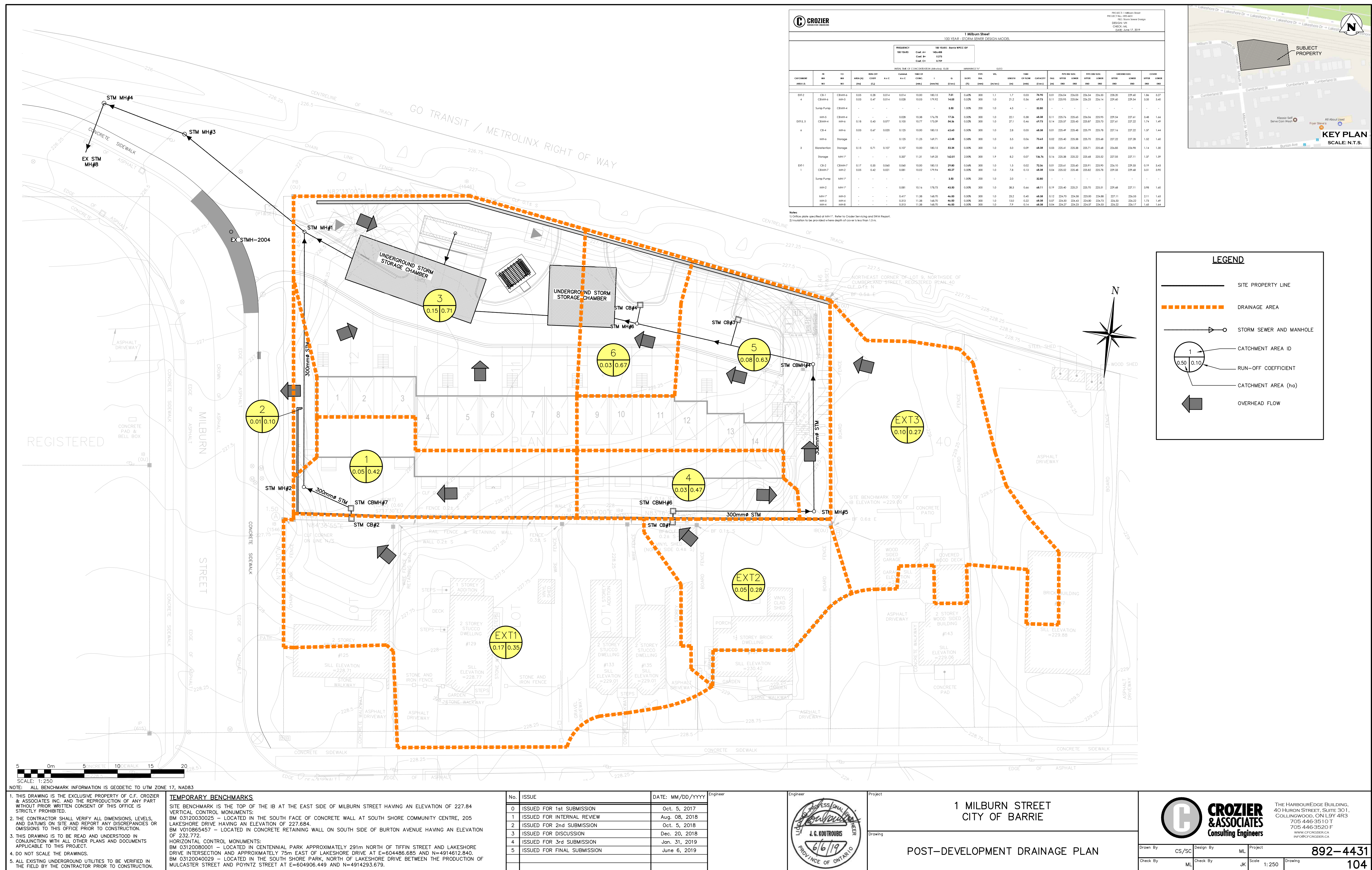
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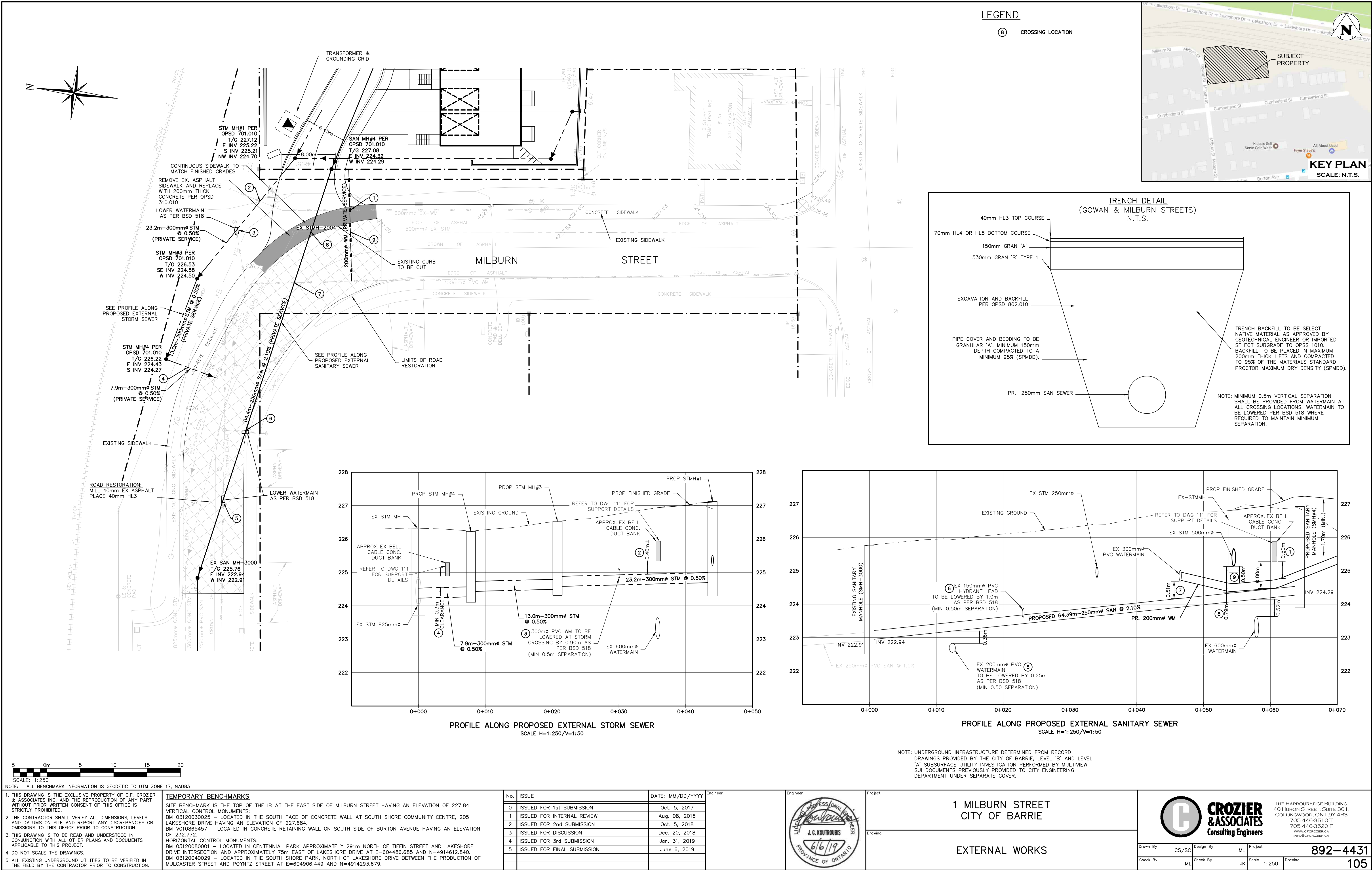
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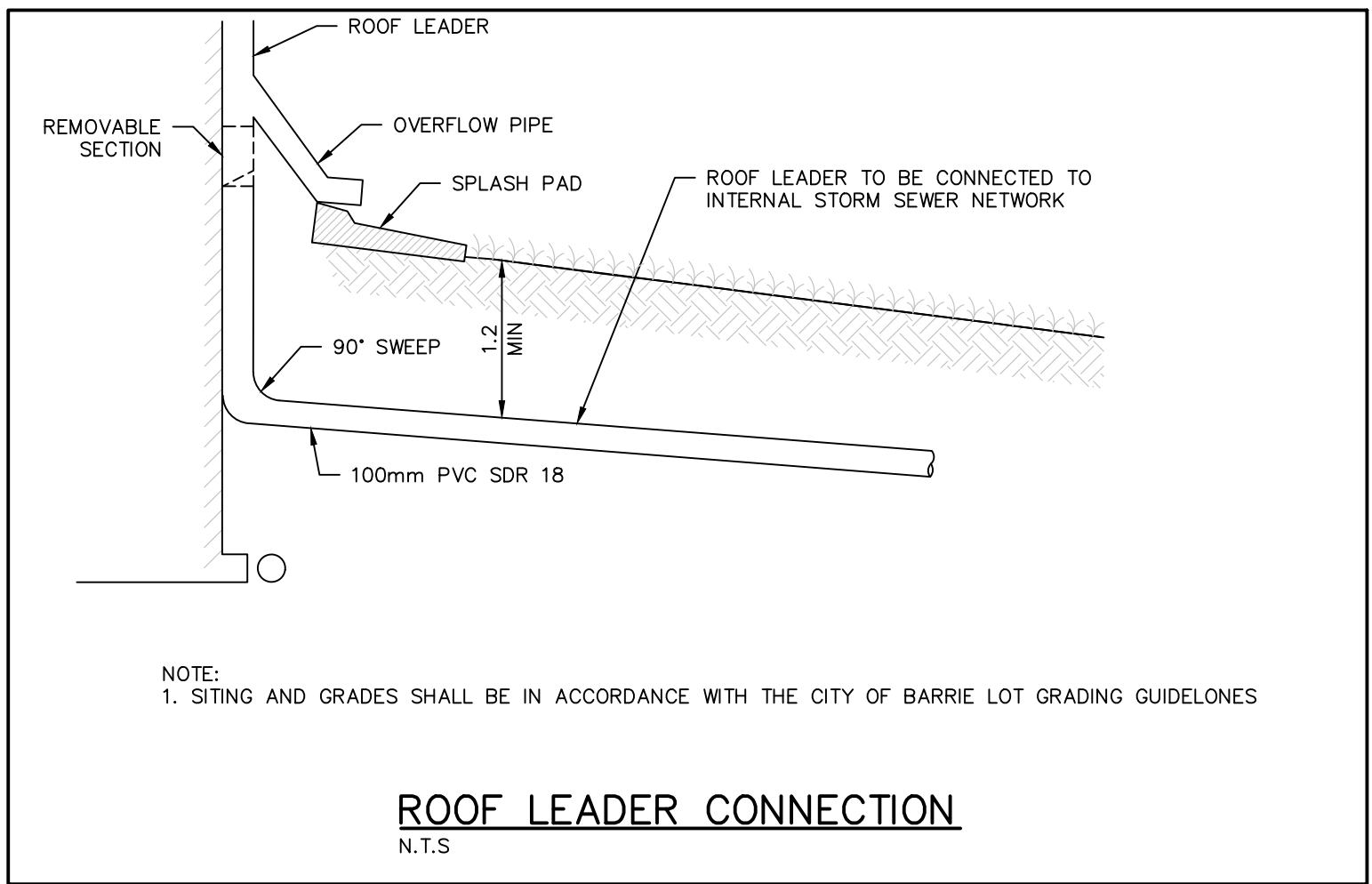
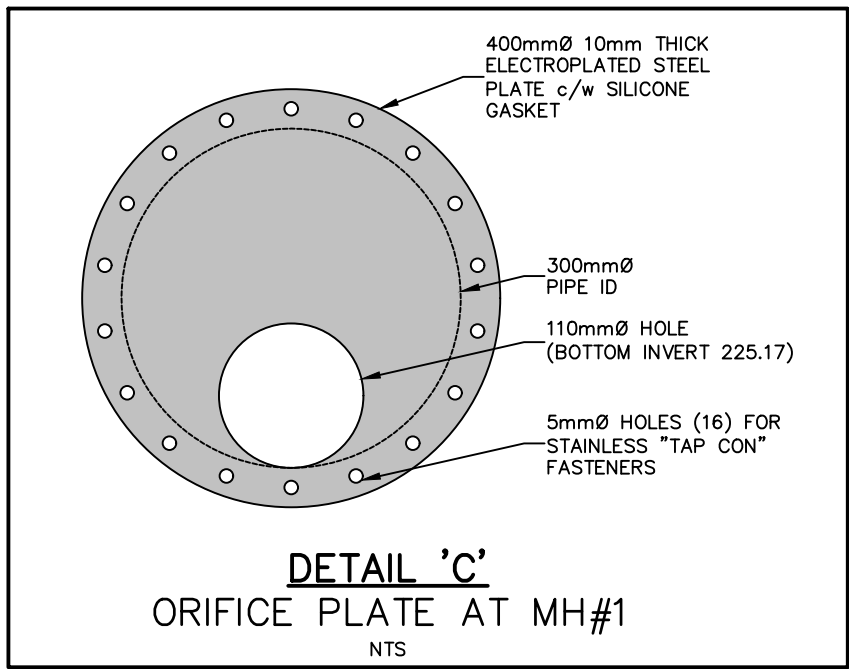
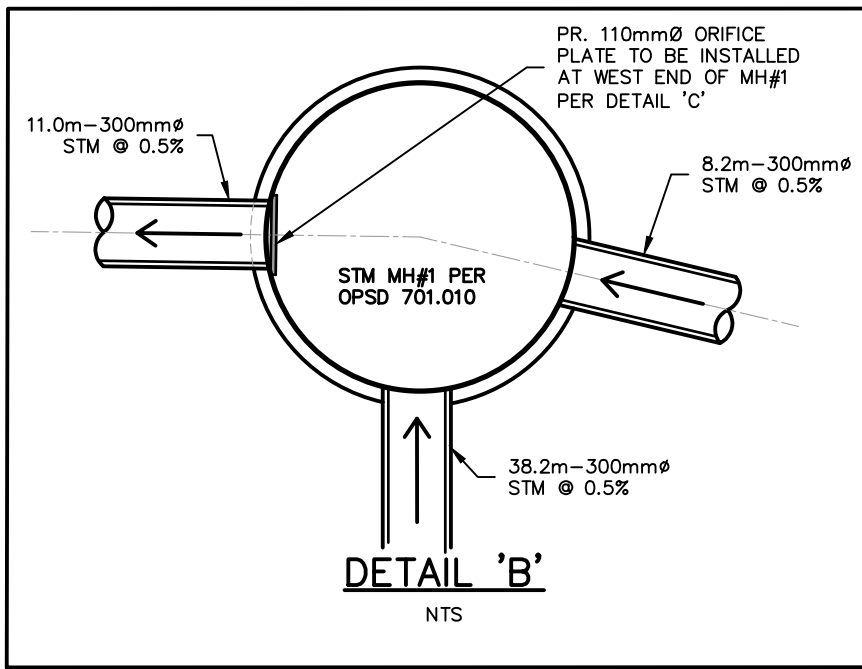
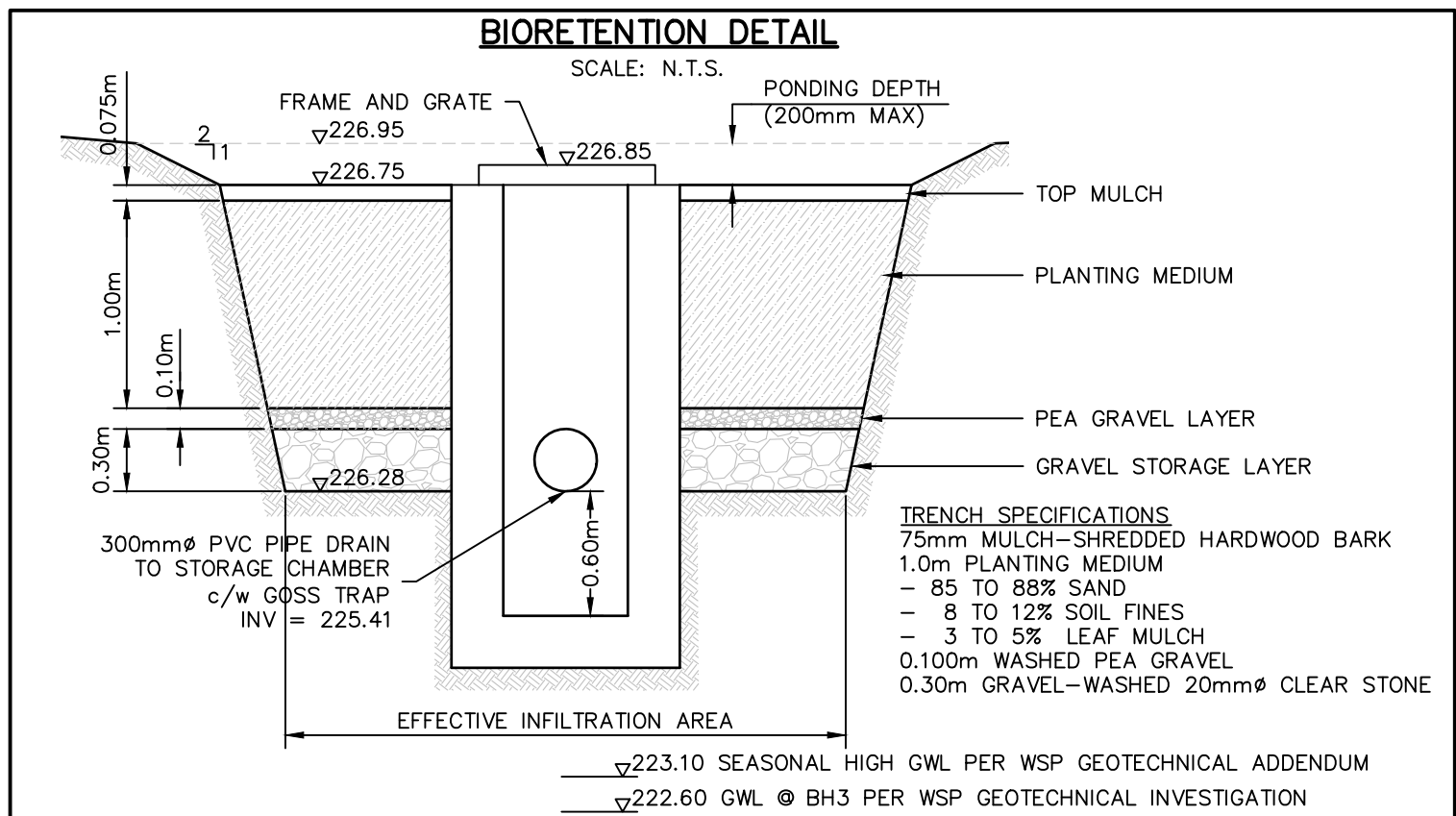
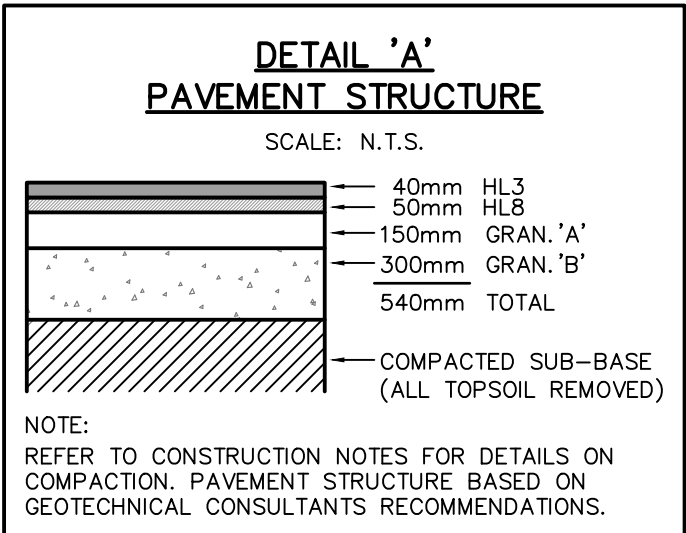
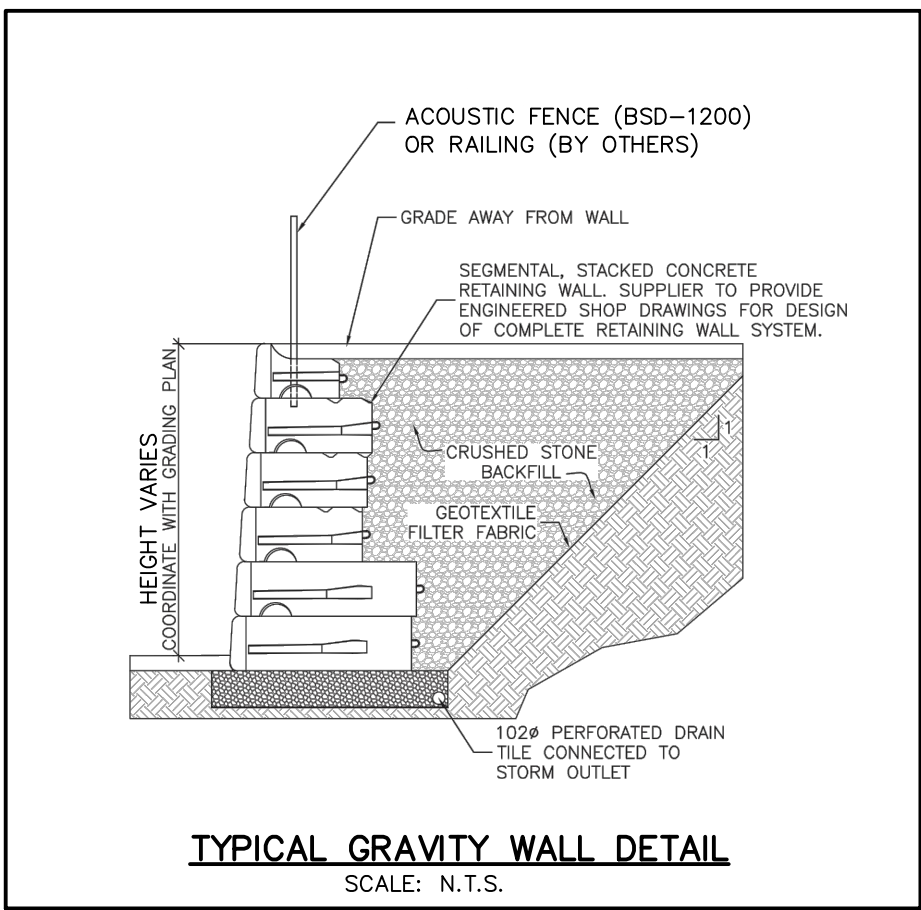
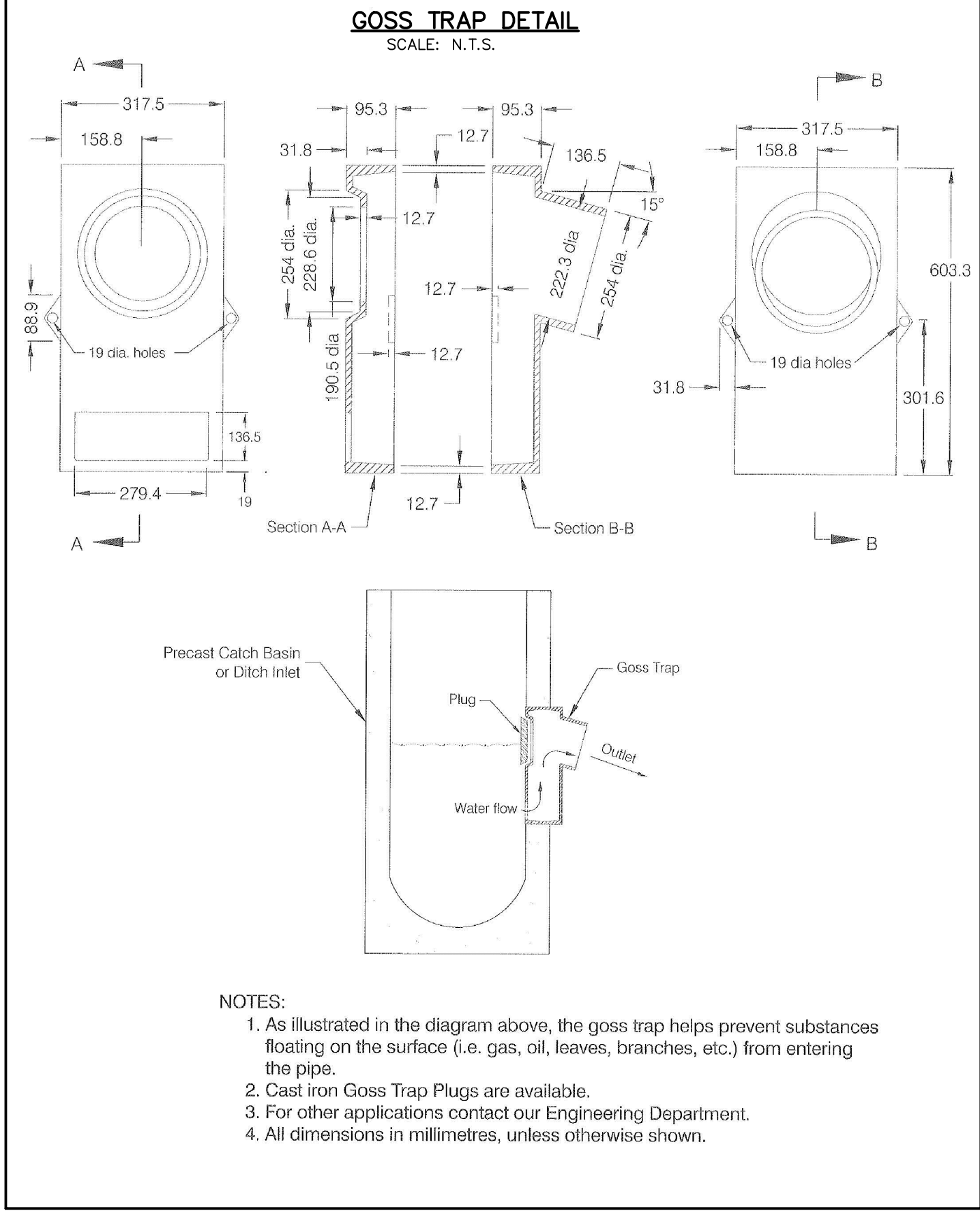
- 101 GENERAL SITE SERVICING PLAN
- 102 OVERALL SITE GRADING PLAN
- 103 EROSION AND SEDIMENT CONTROL PLAN
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- 302 DISPOSAL TRACK TURNING MOVEMENT
PAVEMENT MARKING AND SIGNAGE PLAN
- E100 SITE PLAN – PHOTOMETRIC
- E101 LIGHTING DETAILS

PROJECT No.: 892-4431









CONSTRUCTION NOTES

A) GENERAL - CONSTRUCTION

1. ALL WORK TO BE CARRIED OUT IN ACCORDANCE WITH CITY OF BARRIE STANDARDS, OPSSD AND OPSS. WHERE CONFLICT OCCURS, CITY OF BARRIE STANDARDS TO GOVERN.
2. TRENCH BACKFILL (OPSSD 802.010 & 802.013) TO BE SELECT NATIVE MATERIAL OR IMPORTED SELECT SUBGRADE TO OPSS 1010. BACKFILL TO BE PLACED IN MAXIMUM 200mm THICK LIFTS AND COMPACTED TO 95% OF THE MATERIAL'S STANDARD PROCTOR MAXIMUM DRY DENSITY (SPMD).
3. PIPE COVER AND BEDDING TO BE GRANULAR 'A'. MINIMUM 150mm DEPTH COMPACTED TO A MINIMUM 95% SPMD.
4. ALL TOPSOIL AND EARTH EXCAVATION TO BE STOCK PILED OR REMOVED TO AN APPROPRIATE SITE AS DIRECTED BY ENGINEER.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DETAILED LAYOUT OF THE WORK. THE OWNER'S ENGINEER WILL CONFIRM ALL BENCH MARK ELEVATIONS AND HORIZONTAL ALIGNMENT FOR THE CONTRACTOR.
6. ALL PROPERTY BARS TO BE PRESERVED AND REPLACED BY O.L.S. AT CONTRACTOR'S EXPENSE IF REMOVED DURING CONSTRUCTION.
7. THE CONTRACTOR SHALL MAKE HIS OWN ARRANGEMENTS FOR THE SUPPLY OF TEMPORARY WATER AND POWER.
8. DEWATERING TO BE CARRIED OUT IN ACCORDANCE WITH OPSS-517 AND 518 TO MAINTAIN ALL TRENCHES IN A DRY CONDITION.
11. ALL ENGINE DRIVEN PUMPS TO BE ADEQUATELY SILENCED, SUITABLE FOR OPERATION IN A RESIDENTIAL DISTRICT.
12. DISTURBED AREAS OUTSIDE THE PROJECT LIMITS TO BE REINSTATED TO PREVIOUS CONDITION OR BETTER.
12. THE CONTRACTOR IS RESPONSIBLE TO NOTIFY ALL UTILITY COMPANIES PRIOR TO COMMENCING WORK AND CO-ORDINATE CONSTRUCTION ACCORDINGLY.
13. ALL ROCK EXCAVATION PER OPSS-206.
14. ALL EXCAVATION MUST BE CARRIED OUT IN FULL COMPLIANCE WITH MOST RECENT GUIDELINES OF OHSA.

B) PARKING LOT AND ENTRANCES

1. SUBGRADE TO BE COMPACTED TO A MINIMUM DRY DENSITY OF AT LEAST 95% SPMD.
2. SUBGRADE TO BE PROOF ROLLED AND CERTIFIED PRIOR TO PLACING GRANULAR 'B'.
3. GRANULAR 'A' AND 'B' BASE MATERIALS TO BE COMPACTED TO 100% OF THE MATERIAL'S RESPECTIVE SPMD AND PLACED IN MAX 150mm LIFTS. REFER TO DETAILS 'A' FOR PROPOSED STRUCTURE OF INTERNAL ROADWAY AND PARKING AREAS.
5. SELECT SUBGRADE MATERIAL, OR IMPORTED GRANULAR MATERIAL APPROVED BY THE ENGINEER. COMPACTED TO 95% SPMD TO BE USED AS FILL IN ALL AREAS WHERE PROPOSED PIPE INVERTS ARE HIGHER THAN EXISTING GRADE OR AS INSTRUCTED BY THE ENGINEER.
6. ALL GRANULARS AND ASPHALT MATERIALS PLACEMENT TO BE IN ACCORDANCE WITH OPSS 314 AND OPSS 310.
7. JOINTS WITH EXISTING ASPHALT TO BE SAW CUT STRAIGHT PRIOR TO PLACING NEW ASPHALT AND TACK COAT APPLIED TO EXISTING ASPHALT.

C) SIDEWALKS

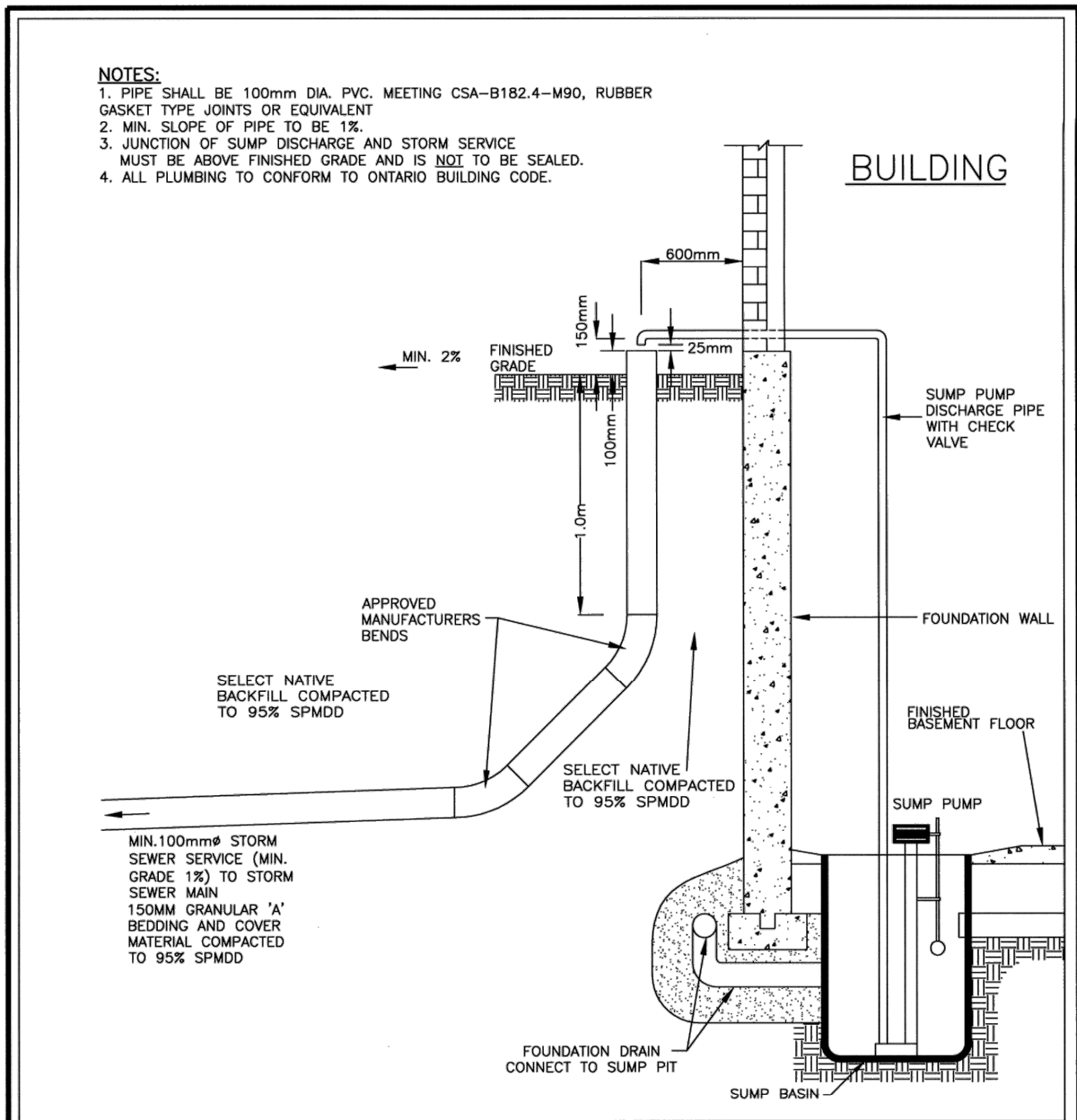
1. ALL SIDEWALKS ARE TO BE CONSTRUCTED AS PER OPSS 310.010. ALL INTERSECTIONS OF ROAD AND SIDEWALK SHALL BE AS PER OPSS 310.030.
1. M.H.'S TO OPSSD - 701.010, 701.030 & 704.010.
2. BENCHING TO OPSSD - 701.021.
3. STEPS TO OPSSD - 405.010.
4. BACKFILL AND EMBEDMENT TO OPSSD - 802.010, GRANULAR 'A' BEDDING.
5. TRENCH BACKFILL TO BE SELECT NATIVE MATERIAL AS APPROVED BY ENGINEER OR IMPORTED GRANULAR MATERIAL.
6. FRAMES AND COVERS TO OPSSD - 401.010 TYPE 'A' (CLOSED COVER).
7. MANHOLES FRAMES TO BE SET TO EXISTING ELEVATION AND RAISED BY ADDING RISER RINGS AS REQUIRED.
8. PIPE SUPPORT AT MAINTENANCE HOLES AS PER OPSS 708.020.
9. GENERAL INSTALLATION AND TESTING OF SEWERS AND APPURTENANCES TO BE IN ACCORDANCE WITH OPSS 407, 408, 409 (CCTV), 410, 421 AND ALL SPECIFICATIONS REFERENCED WITHIN THESE SECTIONS. CONTRACTOR SHALL BE REQUIRED TO PERFORM LEAKAGE & DEFLECTION TESTING ACCORDING TO THE APPROPRIATE OPSS.
10. SANITARY SEWER - SDR 28 PVC GREEN COLOUR.
11. FROST STRAPS PER OPSSD 701.100.
12. INTERNAL DROP STRUCTURE FOR EXISTING MANHOLES PER OPSS 1003.030.
13. 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.
14. 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.
15. MINIMUM PIPE SLOPE TO BE 2.0%, MAXIMUM 8.0% (SEE OPSSD-1006.010, 1006.020).

D) SANITARY SEWERS

1. M.H.'S TO OPSSD - 701.010, 701.030 & 704.010.
2. BENCHING TO OPSSD - 701.021.
3. STEPS TO OPSSD - 405.010.
4. BACKFILL AND EMBEDMENT TO OPSSD - 802.010, GRANULAR 'A' BEDDING.
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15. MINIMUM PIPE SLOPE TO BE 2.0%, MAXIMUM 8.0% (SEE OPSSD-1006.010, 1006.020).

E) WATERMAINS

1. WATERMAIN SHALL BE INSTALLED IN BEDDING AS PER OPSSD 802.010 (GRANULAR 'A' EMBEDMENT MATERIAL) FOR FLEXIBLE PIPES AND OPSSD 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.
2. TRENCH BACKFILL TO BE SELECT NATIVE MATERIAL AS APPROVED BY ENGINEER OR IMPORTED GRANULAR MATERIAL.
3. THRUST BLOCKS TO OPSSD - 1103.010 AND 1103.020 WHERE SUITABLE SOILS ARE ENCOUNTERED.
4. SERVICE CONNECTIONS TO OPSSD - 1104.010, 100mm GRANULAR 'A' EMBEDMENT AND COVER OVER PIPE.
5. 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.
6. GATE VALVES, BENDS AND FITTINGS TO BE CONNECTED WITH ROMAC GRIPPER RING RESTRAINING CLAMP.
7. FOLLOWING TESTING, CONTRACTOR SHALL OPERATE EACH WATER SERVICE TO VERIFY FULL FLOW AND PRESSURE AT THE GATE VALVE AND/OR CURB STOP TO THE SATISFACTION OF THE ENGINEER.
8. GENERAL INSTALLATION AND TESTING OF WATERMAIN AND APPURTENANCES TO BE IN ACCORDANCE WITH OPSS 701 AND ALL SPECIFICATIONS REFERENCED WITHIN THESE SECTIONS. WORK MUST BE PREFORMED IN ACCORDANCE WITH THE LATEST EDITION OF THE ONTARIO BUILDING CODE, ONTARIO FIRE CODE AND LOCAL CODES. WATER LINES ARE TO BE TESTED TO THE SATISFACTION OF THE LOCAL PLUMBING INSPECTOR. COMPLETE WATER SYSTEM SHALL BE DISINFECTED IN ACCORDANCE WITH REQUIREMENTS OF AWWA STANDARD C651-99. ALL WATERMAIN TESTING & CHLORINATION WILL BE CONDUCTED BY CPU AT CONTRACTORS COST. WATERMAINS ARE NOT TO BE CONNECTED TO EXISTING WATERMAINS UNTIL BACTERIOLOGICAL TESTING HAS BEEN SUCCESSFULLY COMPLETED & CERTIFIED BY TOWN.
9. COMPLETE WATER SERVICE SHALL BE DISINFECTED IN ACCORDANCE WITH REQUIREMENTS OF O. REG. 459/00 & SATISFACTION OF TOWN.
10. NEW WATERMAINS TO BE PVC DRIER CL52 MINIMUM, DUCTILE IRON CL52 AS PER THE APPROVED MANUFACTURERS PRODUCTS FOR LINEAR WATER SYSTEMS LIST.
11. 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.



No.	REVISION	APR'D	DATE
CITY OF BARRIE STANDARD		APPROVED	DATE: 09 11 05
FOUNDATION DRAIN OUTLET		R. W. M. K. K.	SCALE: N.T.S.
SUMP PUMP TO STORM SEWER		BSD-75A	
AT SURFACE			

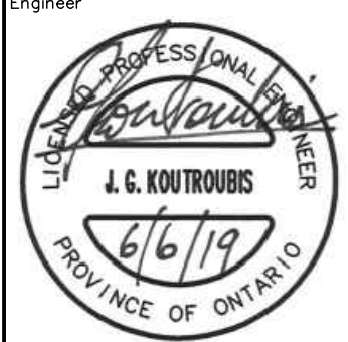
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TEMPORARY BENCHMARKS

SITE BENCHMARK IS THE TOP OF THE IB AT THE EAST SIDE OF MILBURN STREET HAVING AN ELEVATION OF 227.84
VERTICAL CONTROL MONUMENTS:
BM 03120030025 - LOCATED IN THE SOUTH FACE OF CONCRETE WALL AT SOUTH SHORE COMMUNITY CENTRE, 205 LAKESHORE DRIVE HAVING AN ELEVATION OF 227.84.
BM V010685457 - LOCATED IN CONCRETE RETAINING WALL ON SOUTH SIDE OF BURTON AVENUE HAVING AN ELEVATION OF 232.772.
HORIZONTAL CONTROL MONUMENTS:
BM 03120080001 - LOCATED IN CENTENNIAL PARK APPROXIMATELY 291m NORTH OF TIFFIN STREET AND LAKESHORE DRIVE INTERSECTION AND APPROXIMATELY 75m EAST OF LAKESHORE DRIVE AT E=604486.685 AND N=4914612.840.
BM 03120040029 - LOCATED IN THE SOUTH SHORE OF LAKESHORE DRIVE BETWEEN THE PRODUCTION OF MULCASTER STREET AND POYNITZ STREET AT E=604906.449 AND N=4914293.679.

No.	ISSUE	DATE: MM/DD/YYYY	Engineer
0	ISSUED FOR 1st SUBMISSION	Oct. 5, 2017	
1	ISSUED FOR INTERNAL REVIEW	Aug. 08, 2018	
2	ISSUED FOR 2nd SUBMISSION	Oct. 5, 2018	
3	ISSUED FOR DISCUSSION	Dec. 20, 2018	
4	ISSUED FOR 3rd SUBMISSION	Jan. 31, 2019	
5	ISSUED FOR FINAL SUBMISSION	June 6, 2019	



Project
Drawing

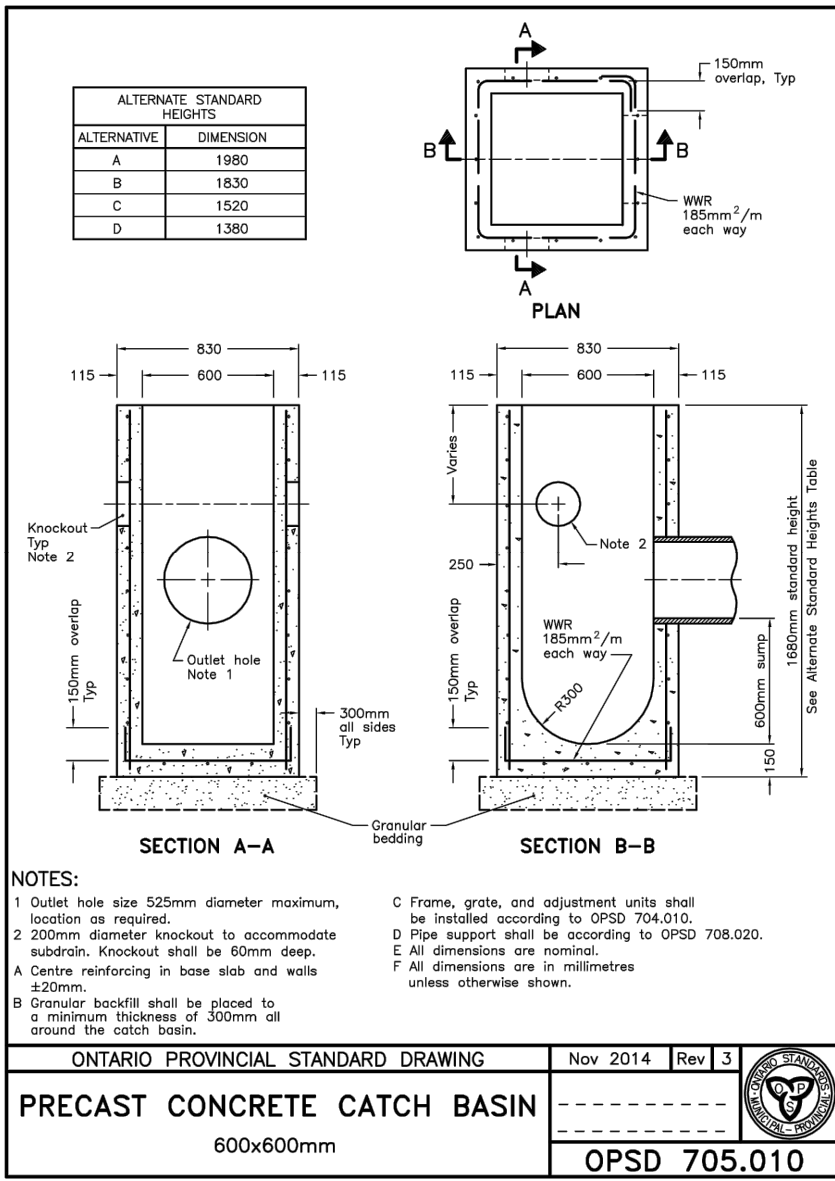
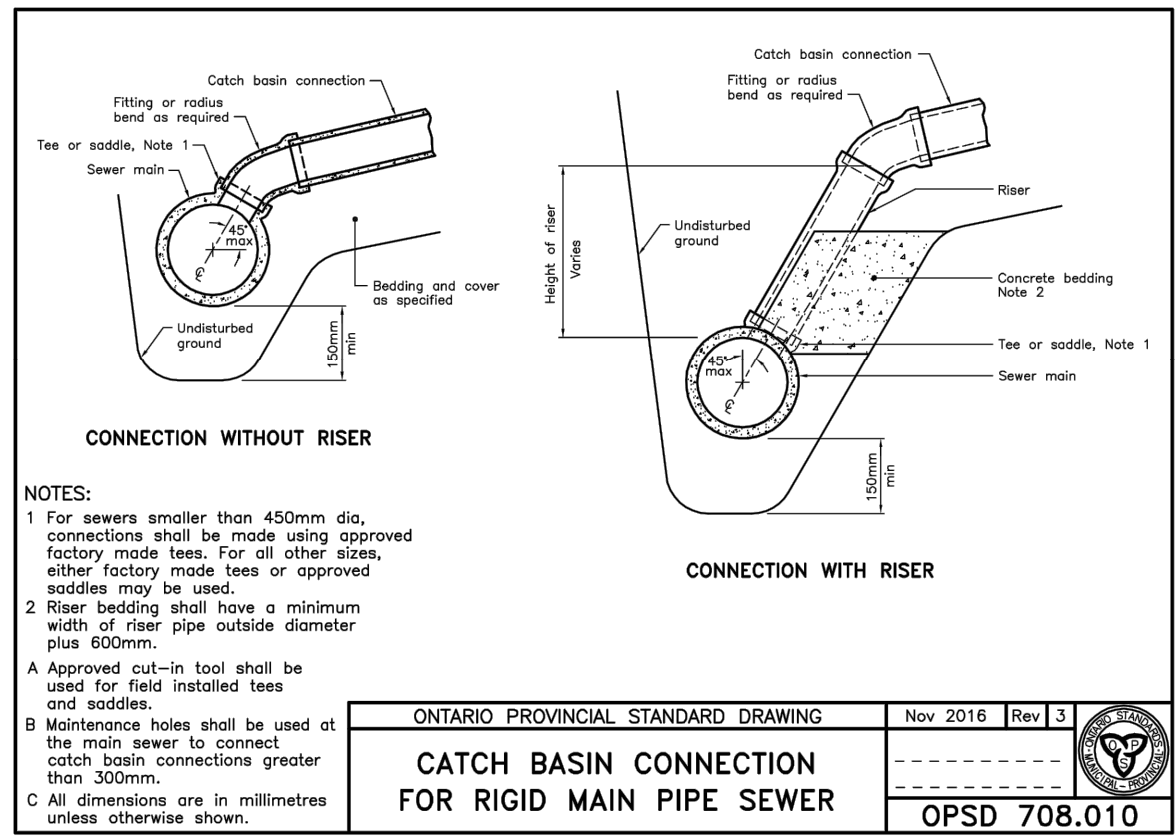
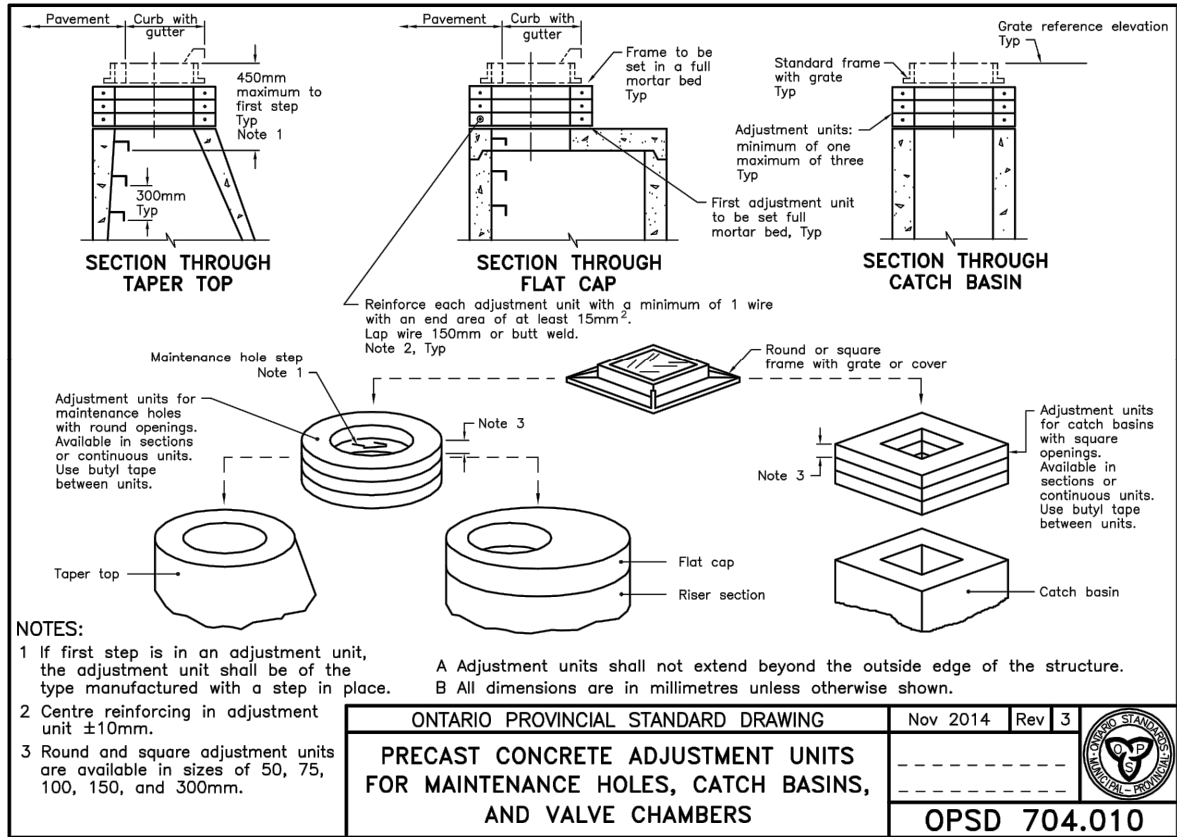
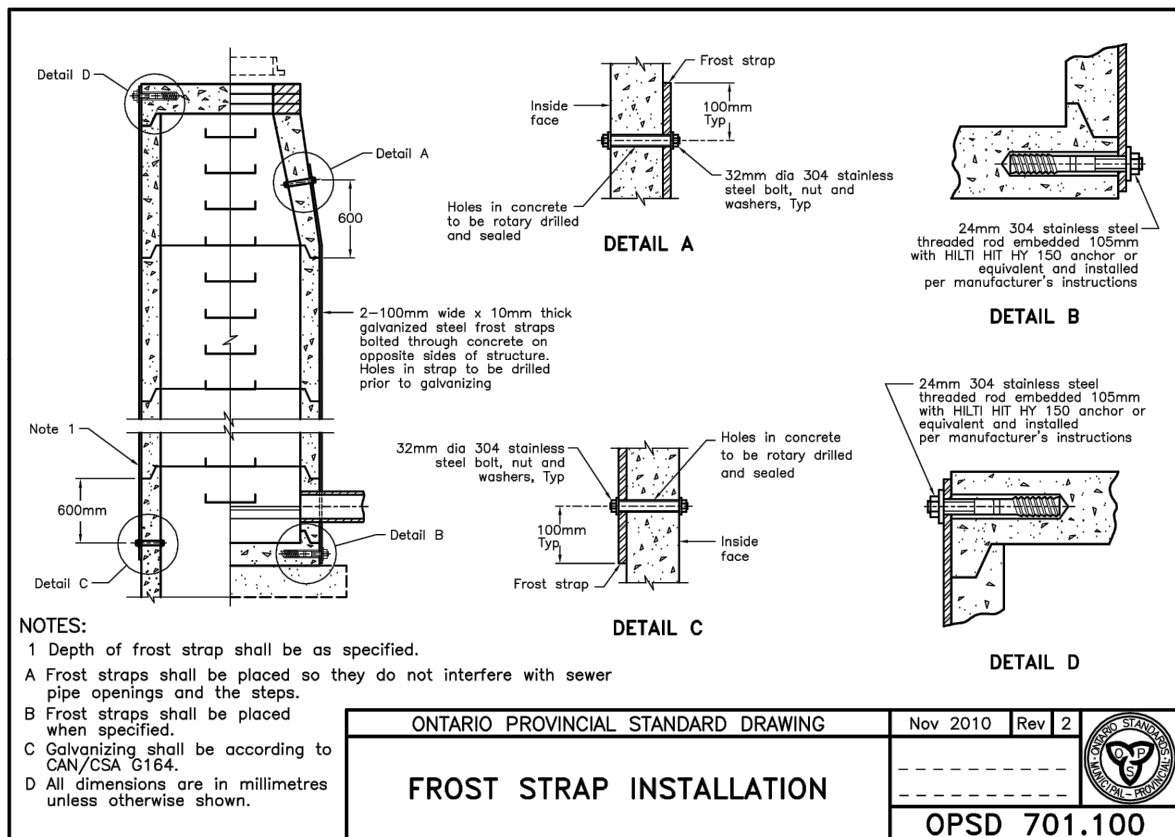
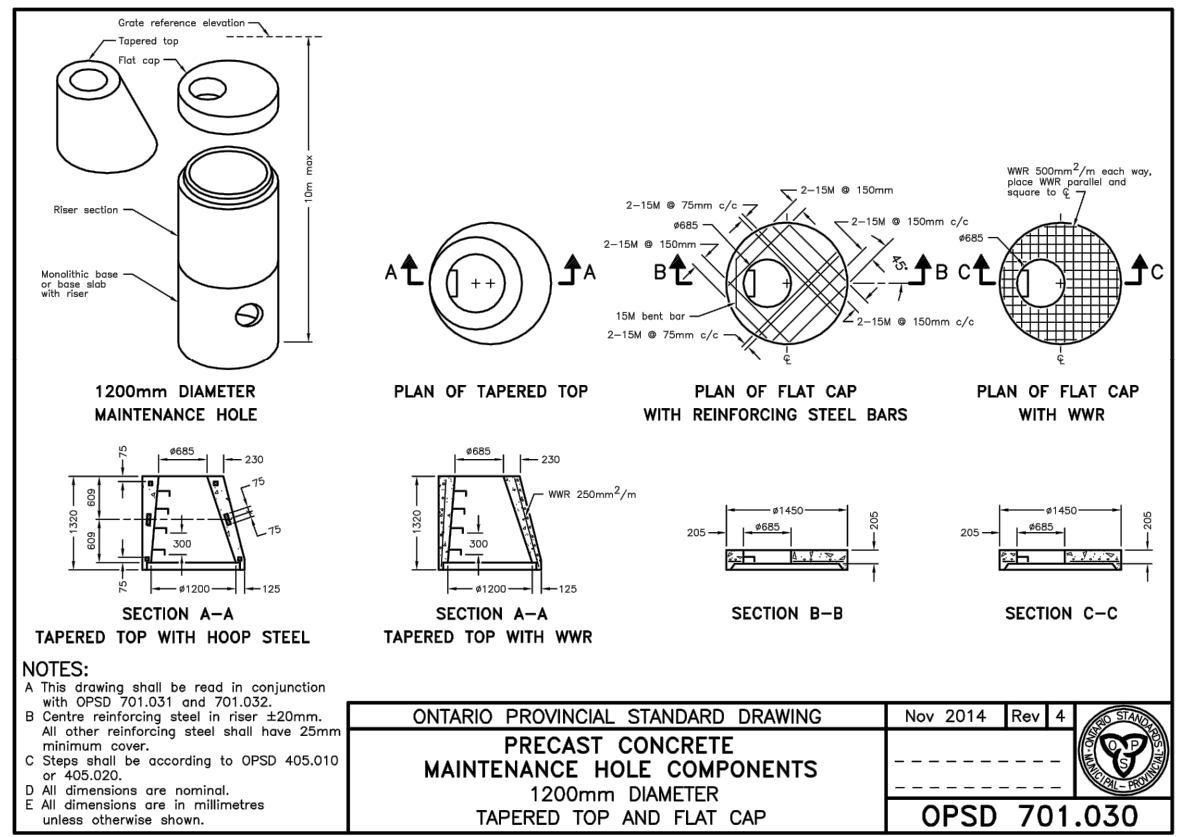
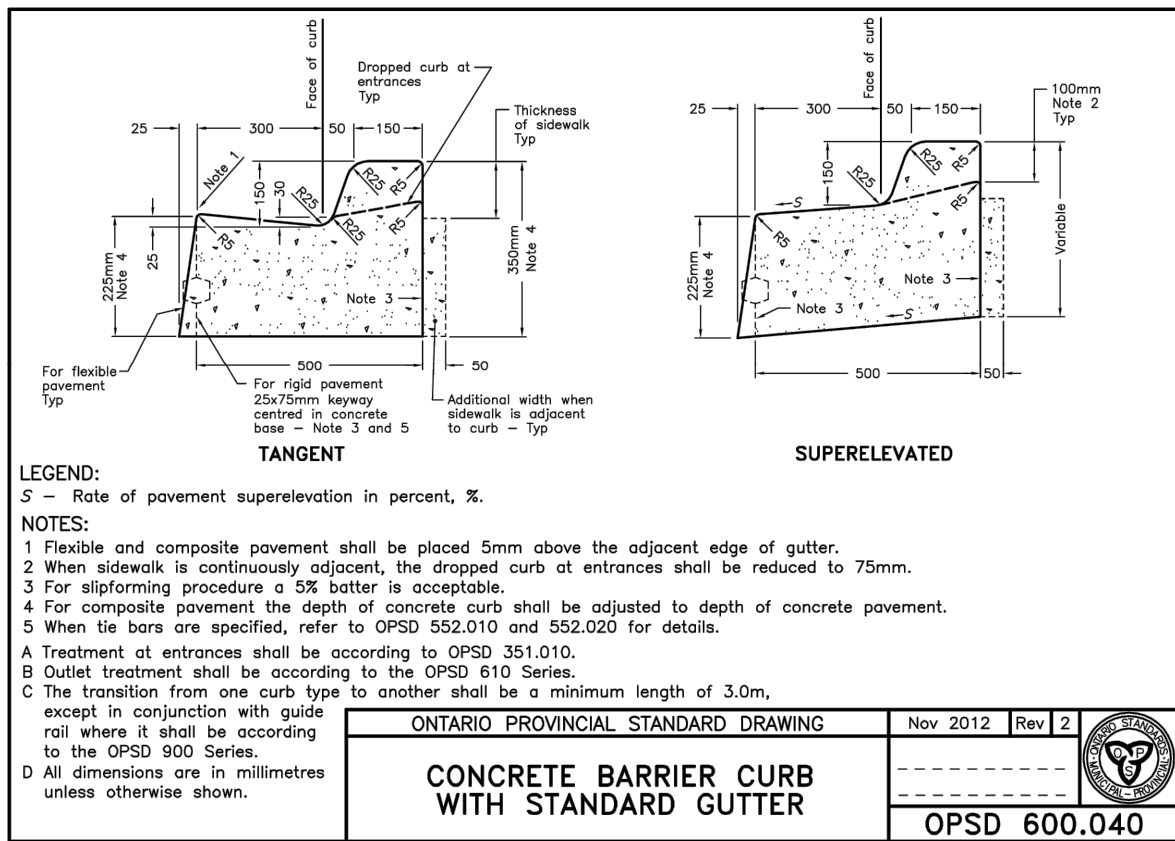
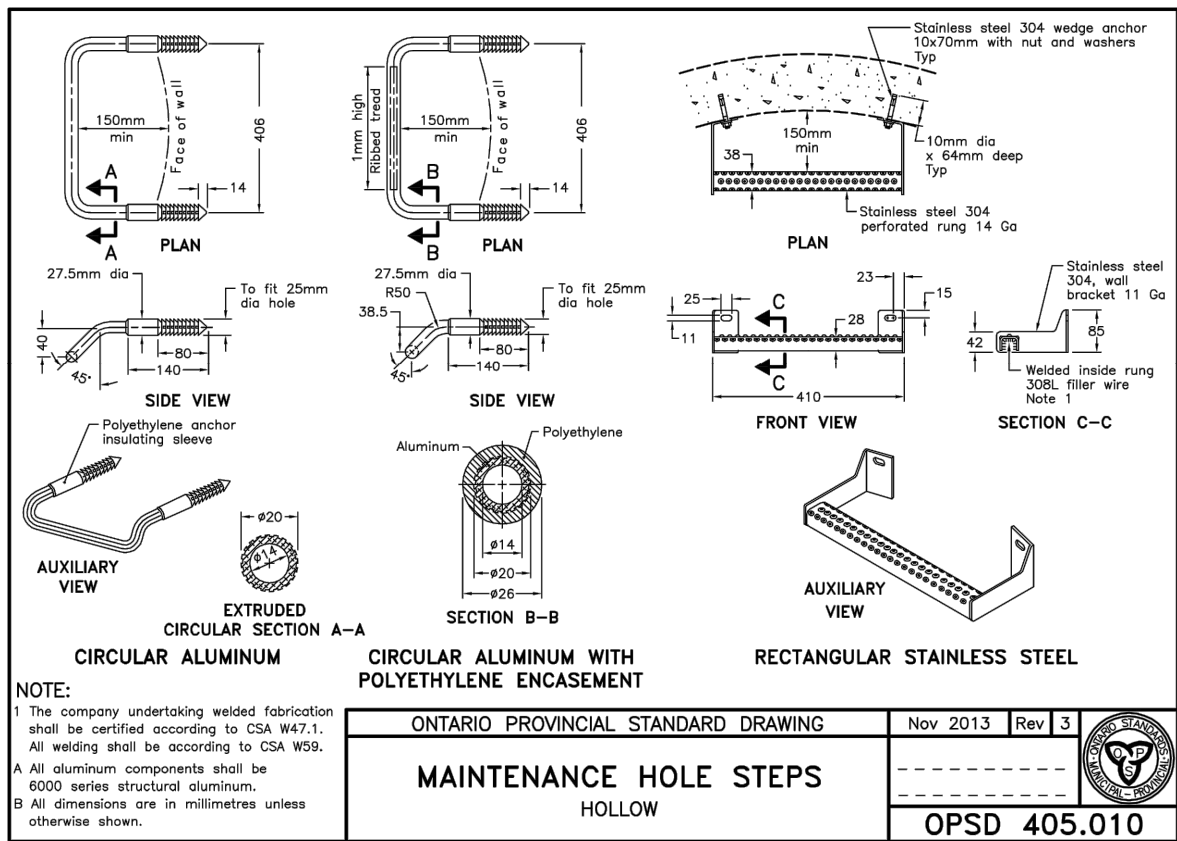
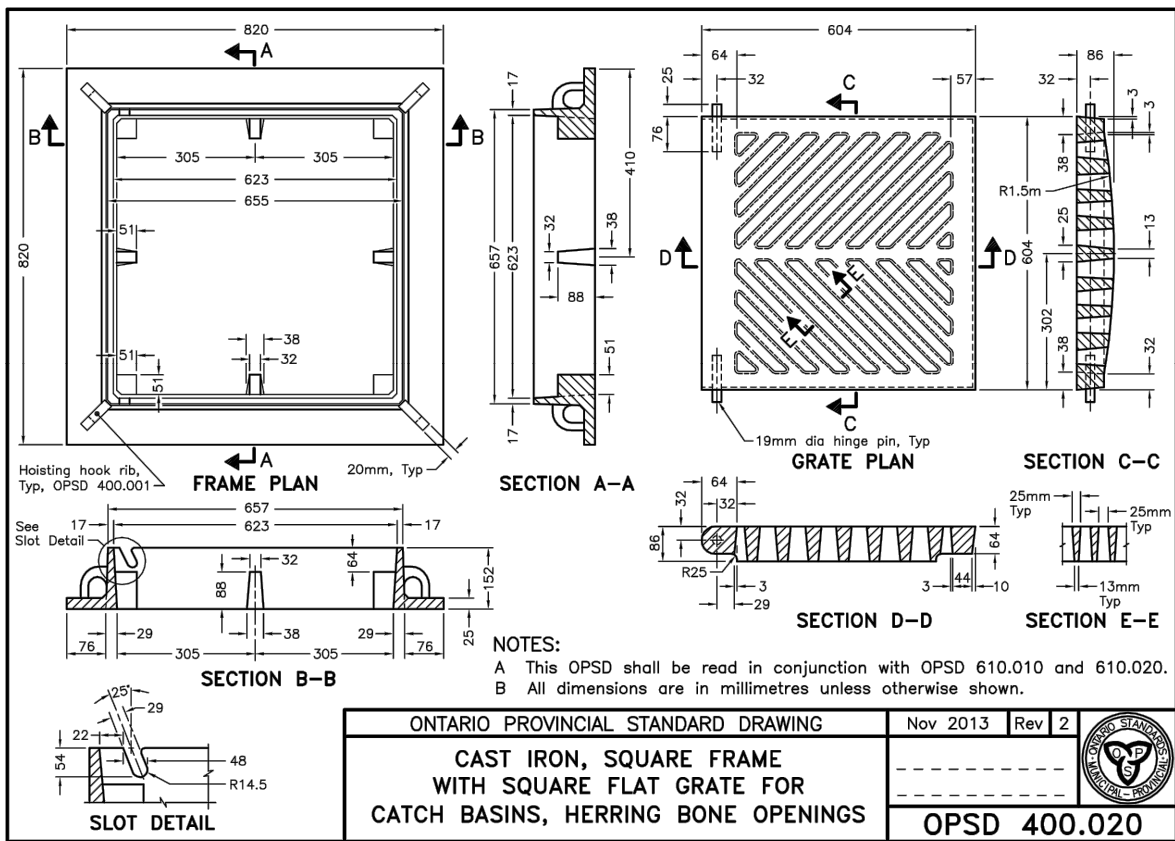
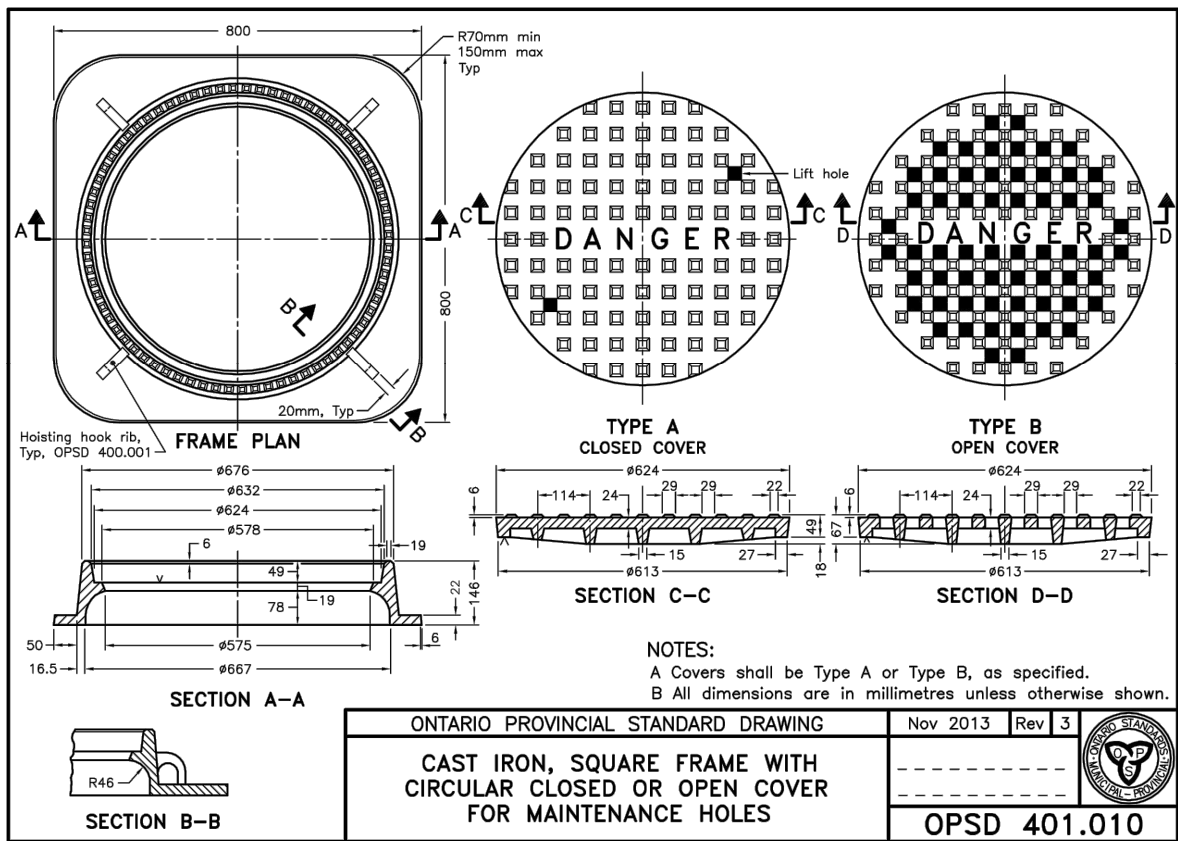
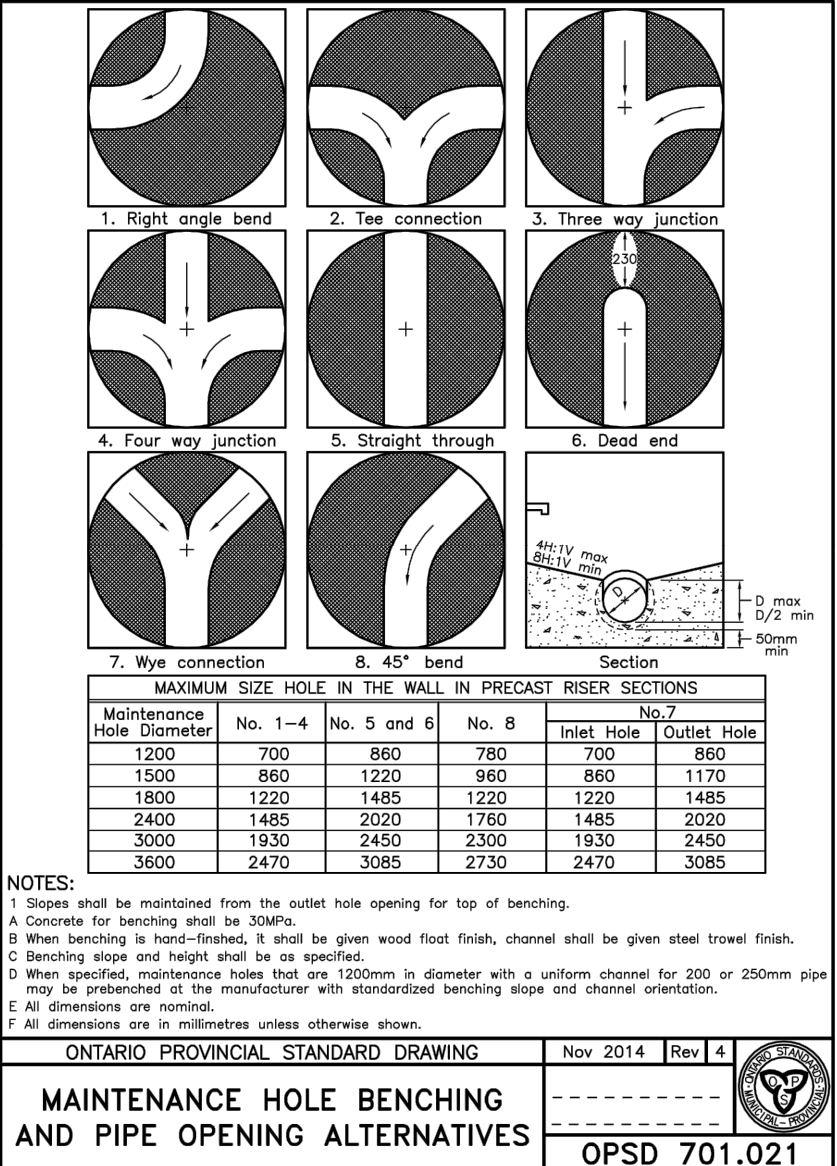
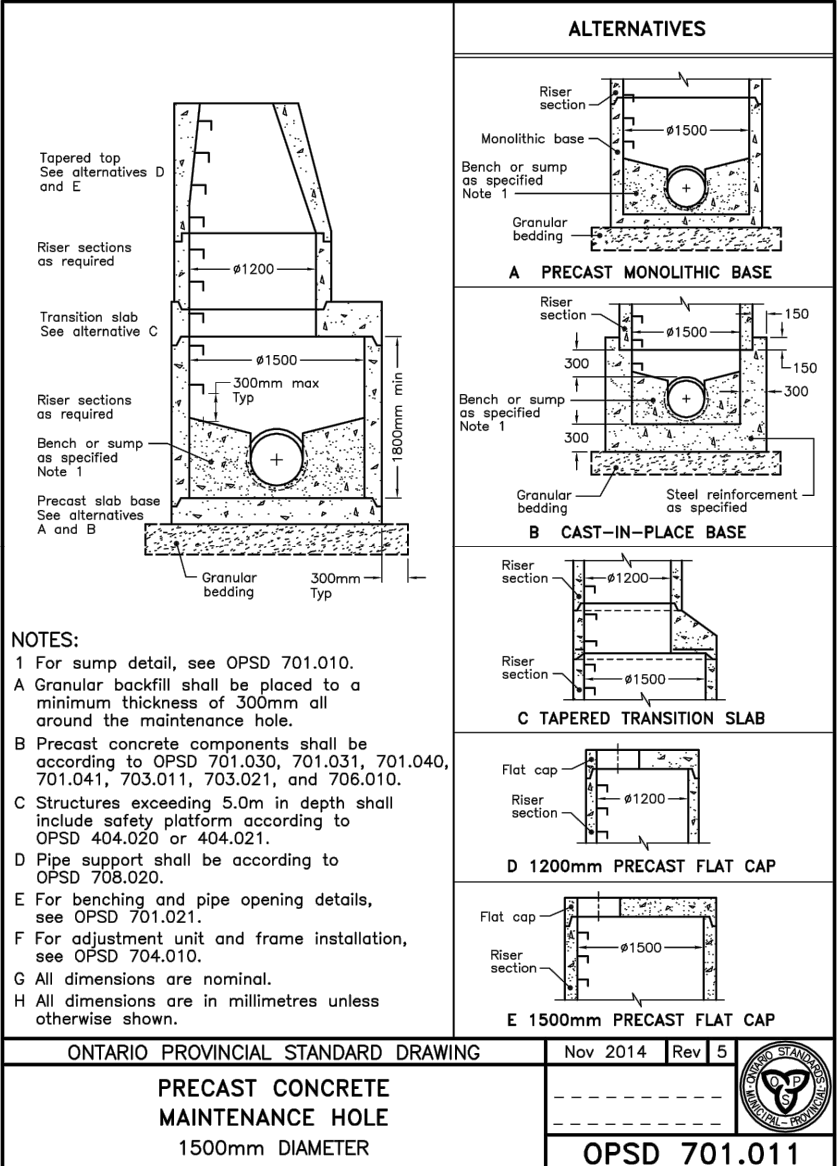
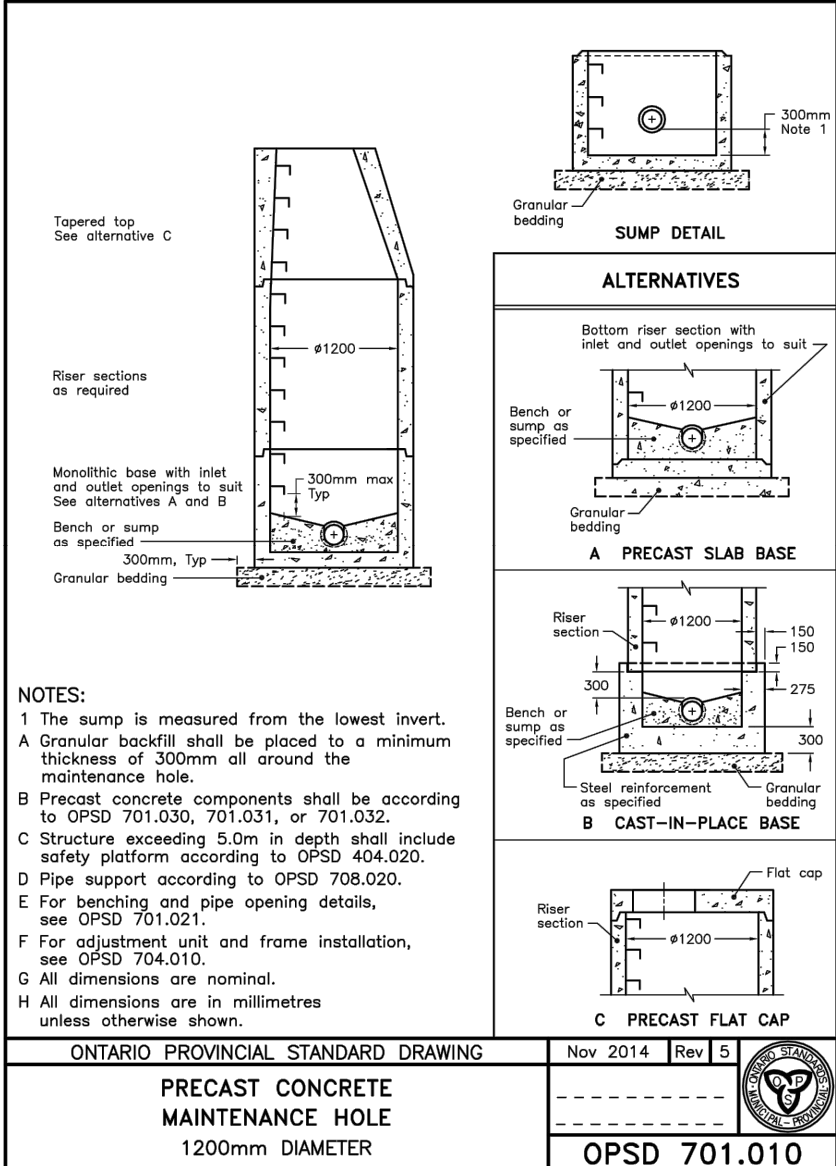
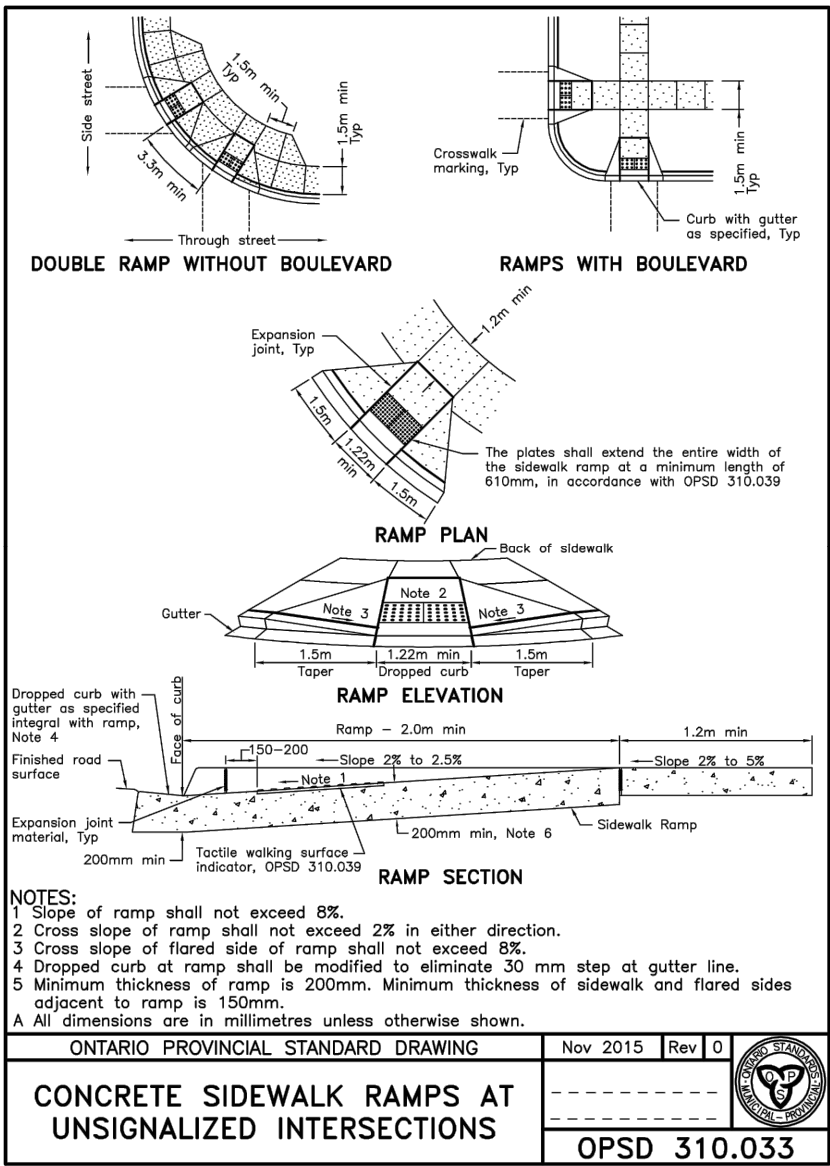
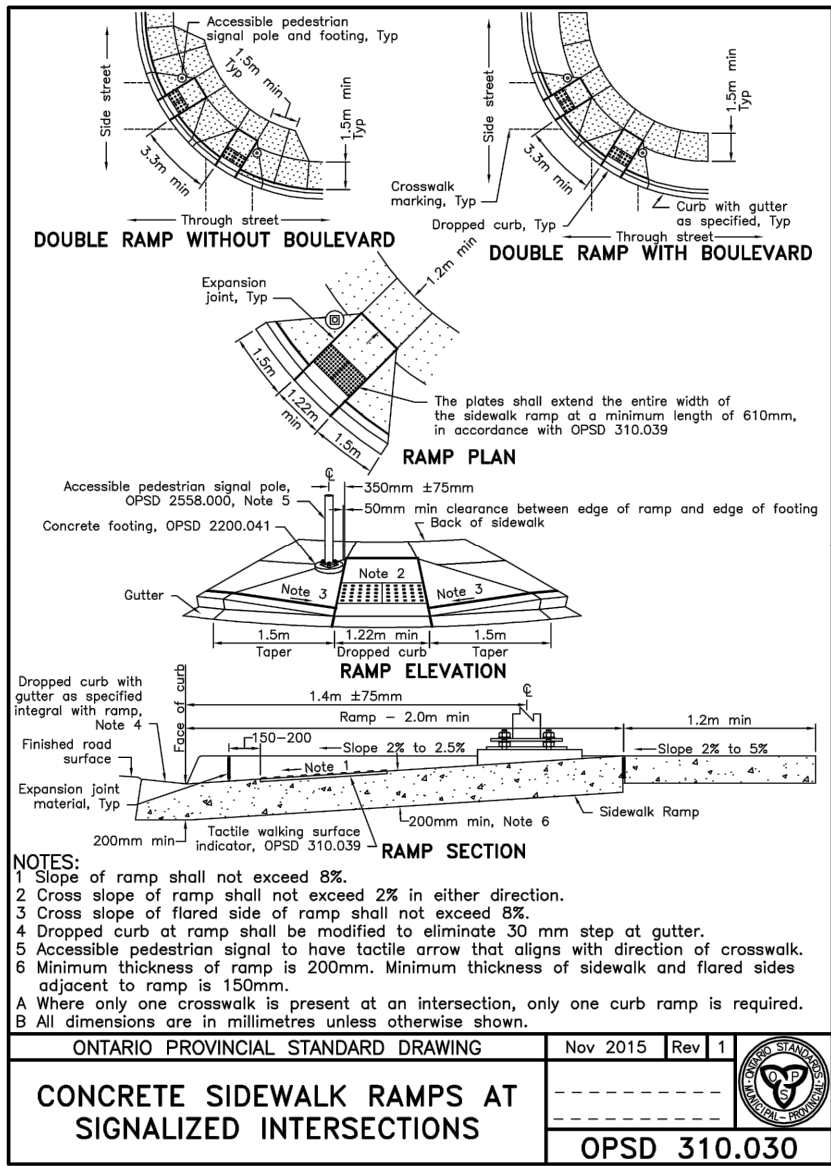
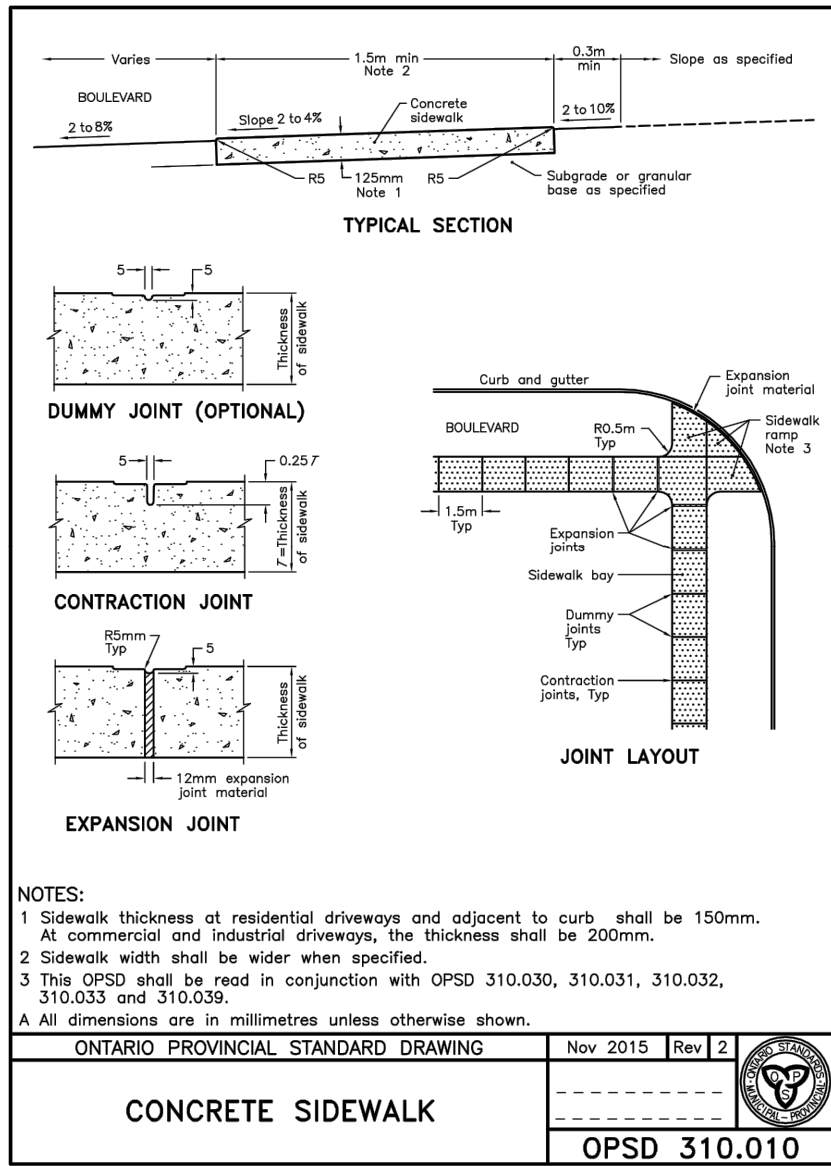
1 MILBURN STREET
CITY OF BARRIE

CONSTRUCTION NOTES & STANDARD DETAILS



THE HARBOUREDGE BUILDING,
40 HURON STREET, SUITE 301,
COLLINGWOOD, ON L9Y 4R3
705 446-3510 F
705 446-3520 F
WWW.CROZIER-CA.COM
INFO@CROZIER-CA.COM

Drawn By	CS/SC	Design By	ML	Project	892-4431
Check By	ML	Check By	JK	Scale	1:250
				Drawing	106



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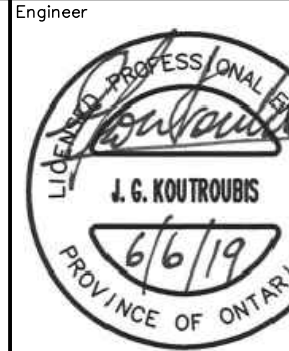
BM V010605457 – LOCATED IN CONCRETE RETAINING WALL ON SOUTH SIDE OF BURTON AVENUE HAVING AN ELEVATION OF 232.772.

HORIZONTAL CONTROL MONUMENTS:

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5	ISSUED FOR FINAL SUBMISSION	June 6, 2019	



Project

1 MILBURN STREET
CITY OF BARRIE

STANDARD DETAILS 1

Drawing

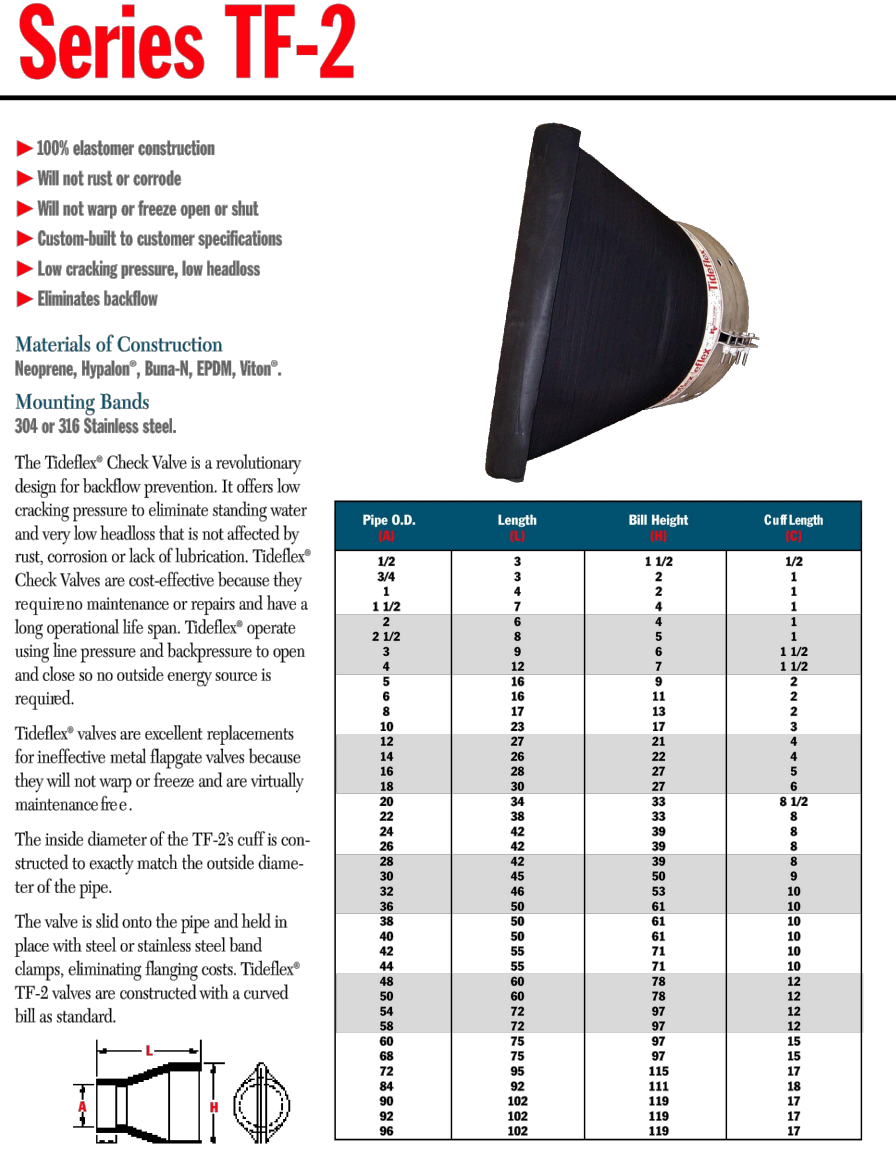
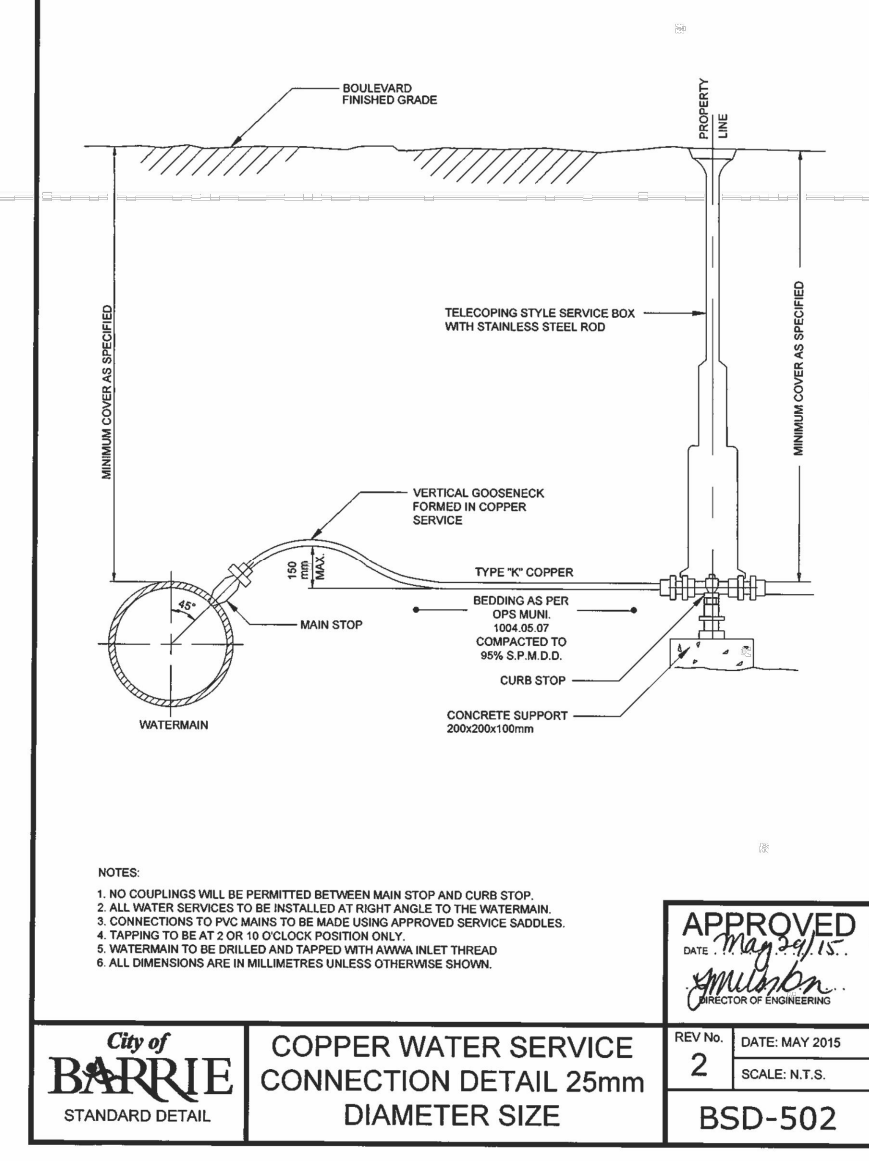
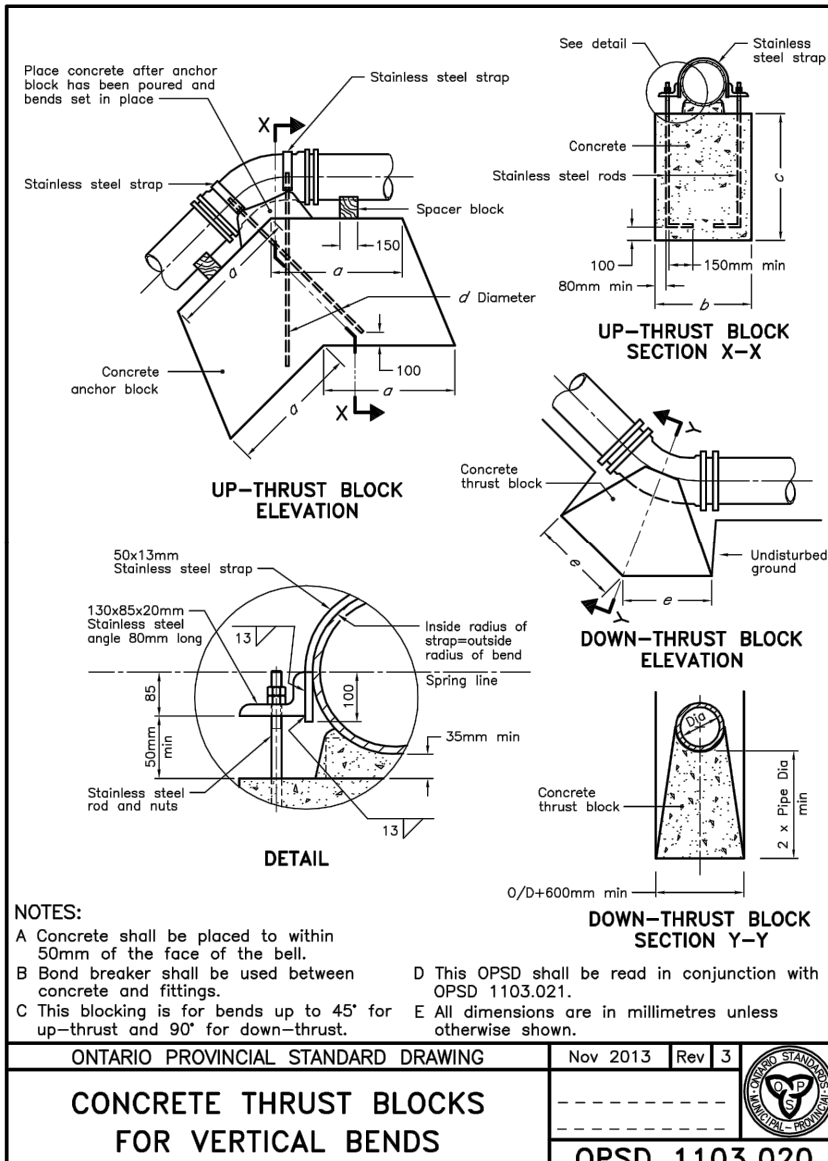
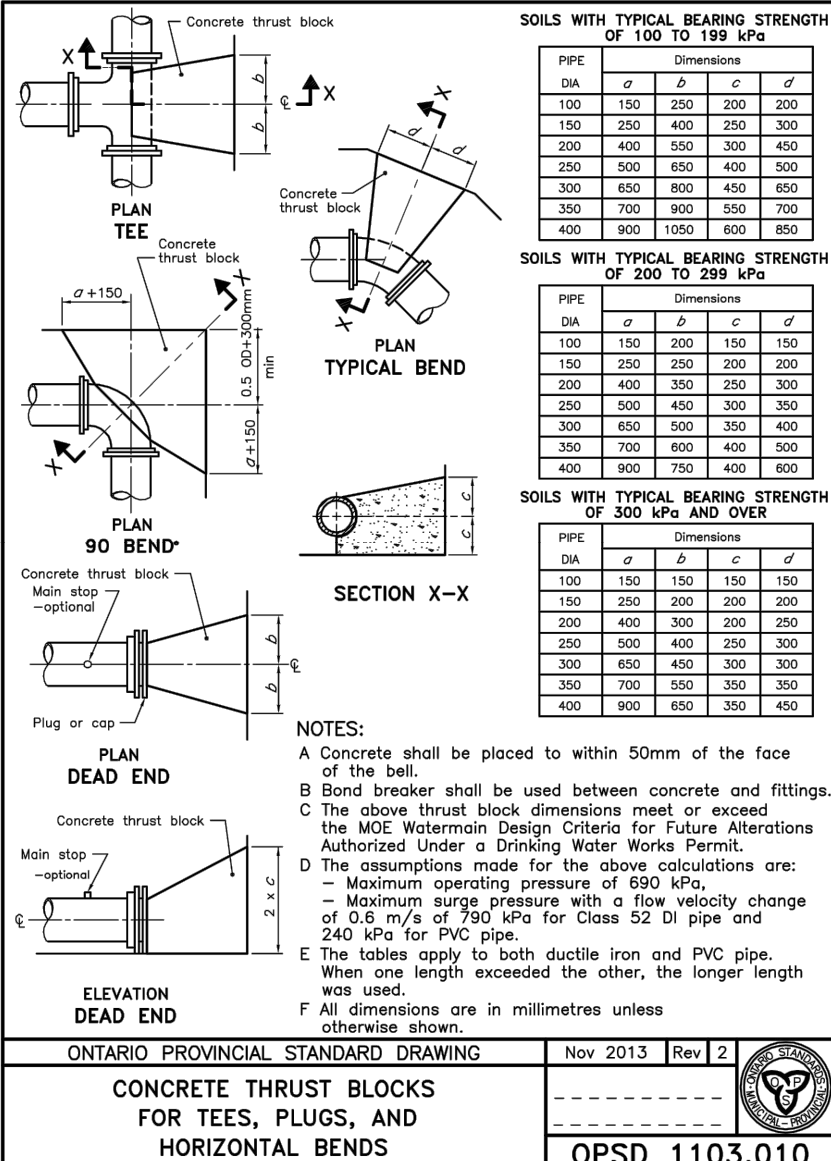
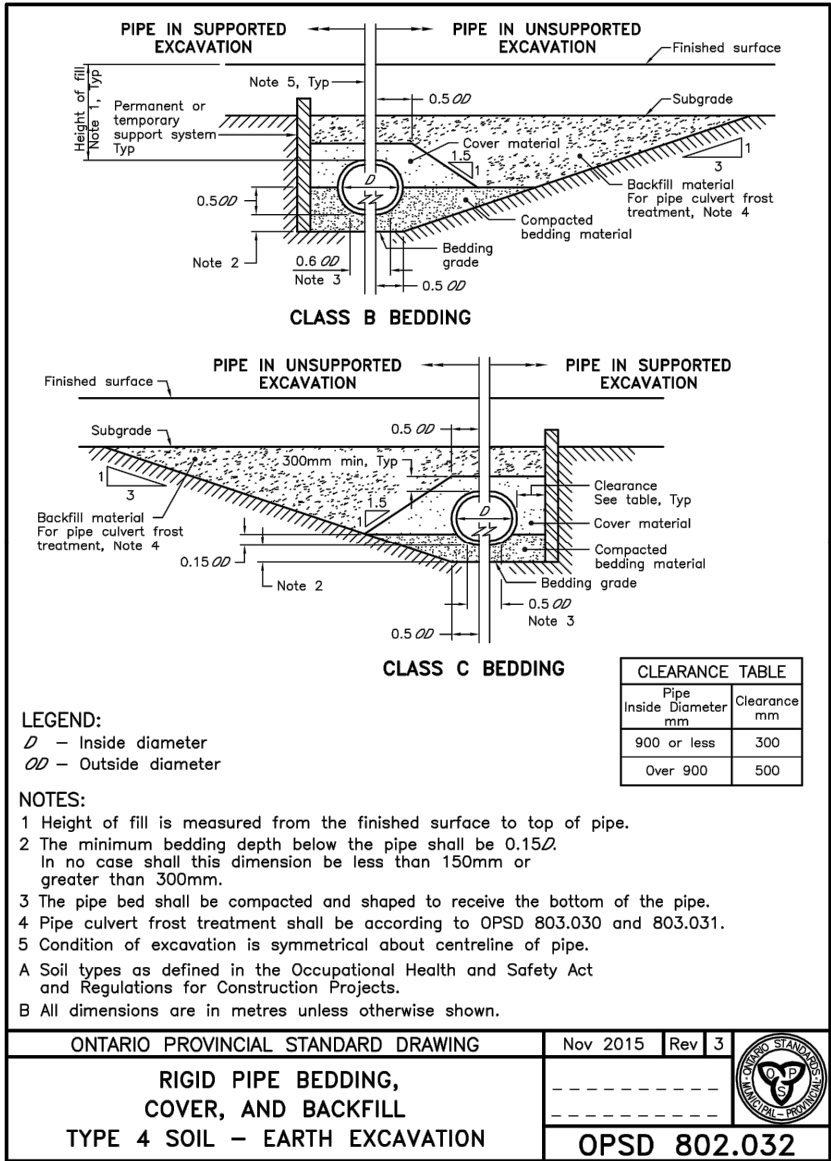
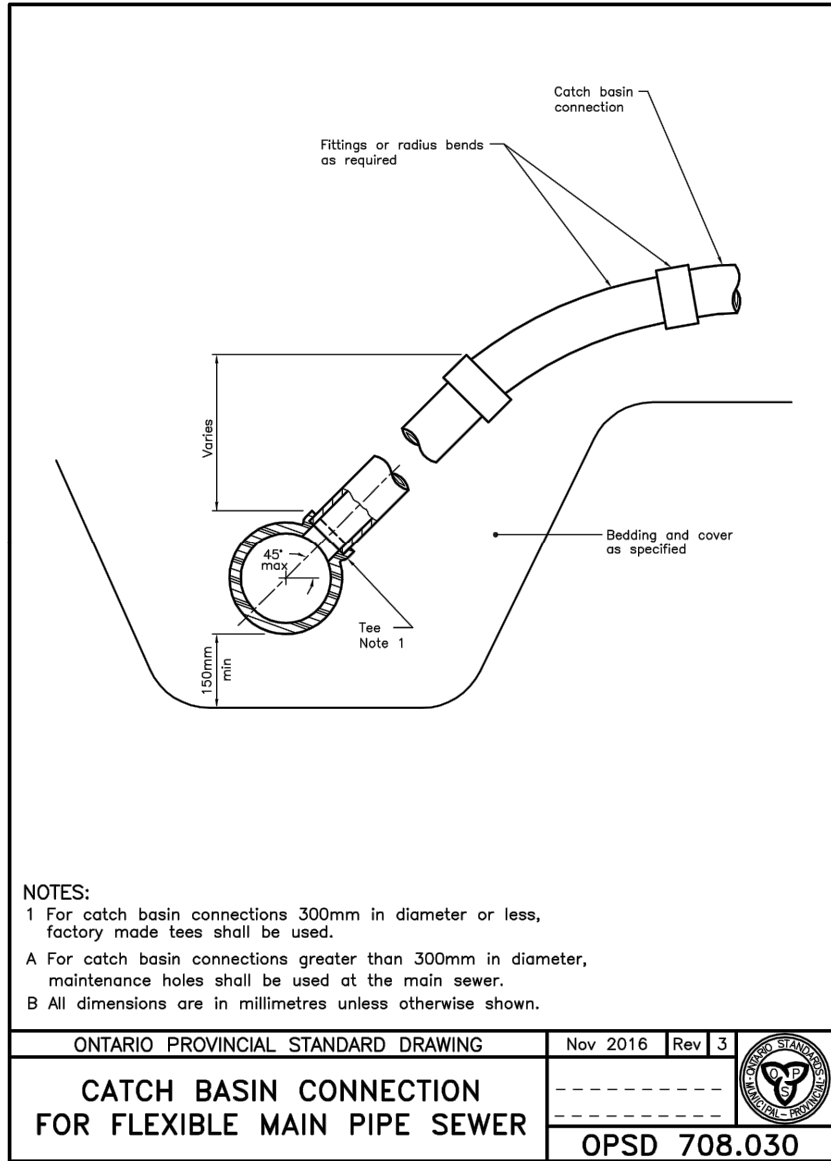


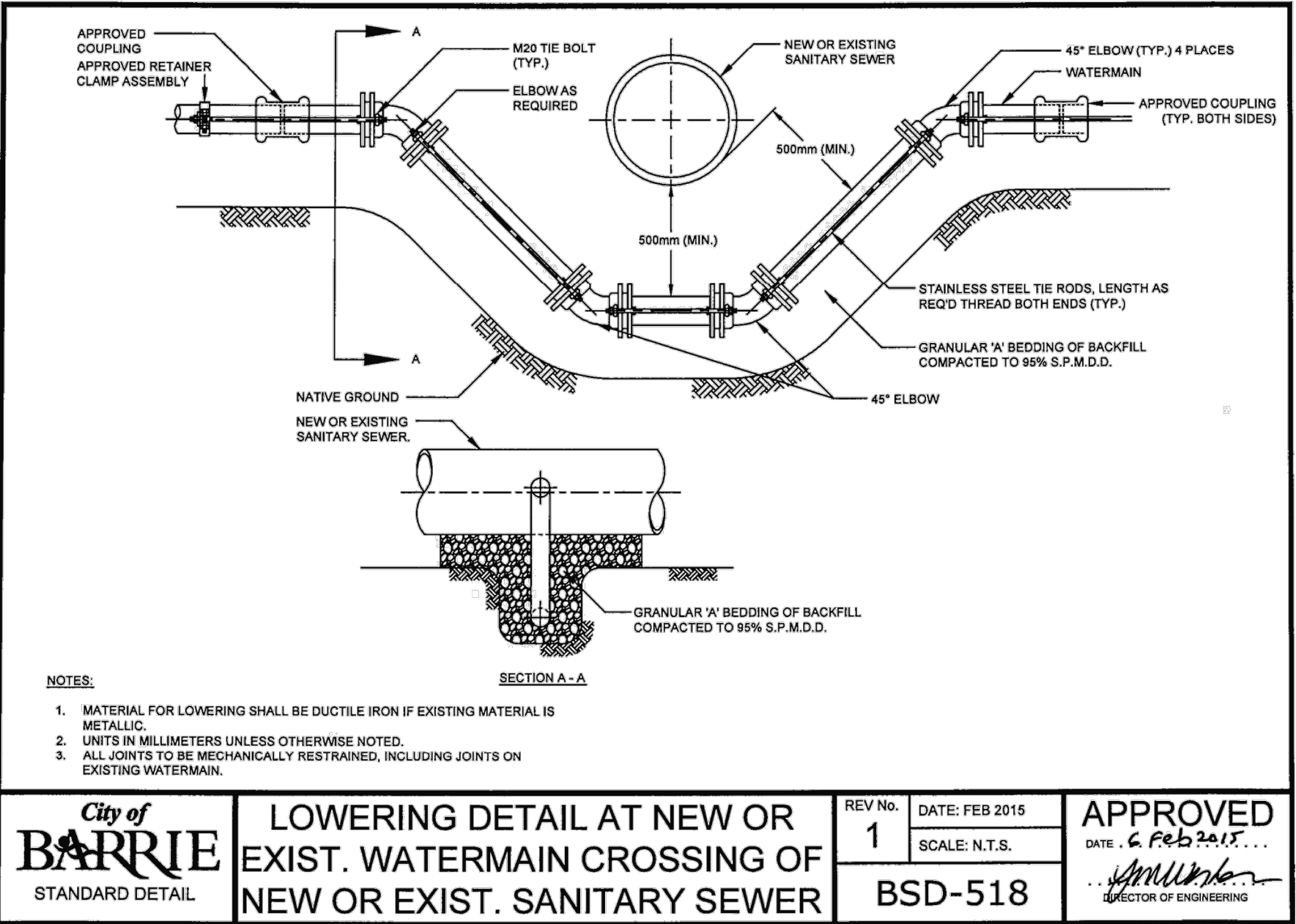
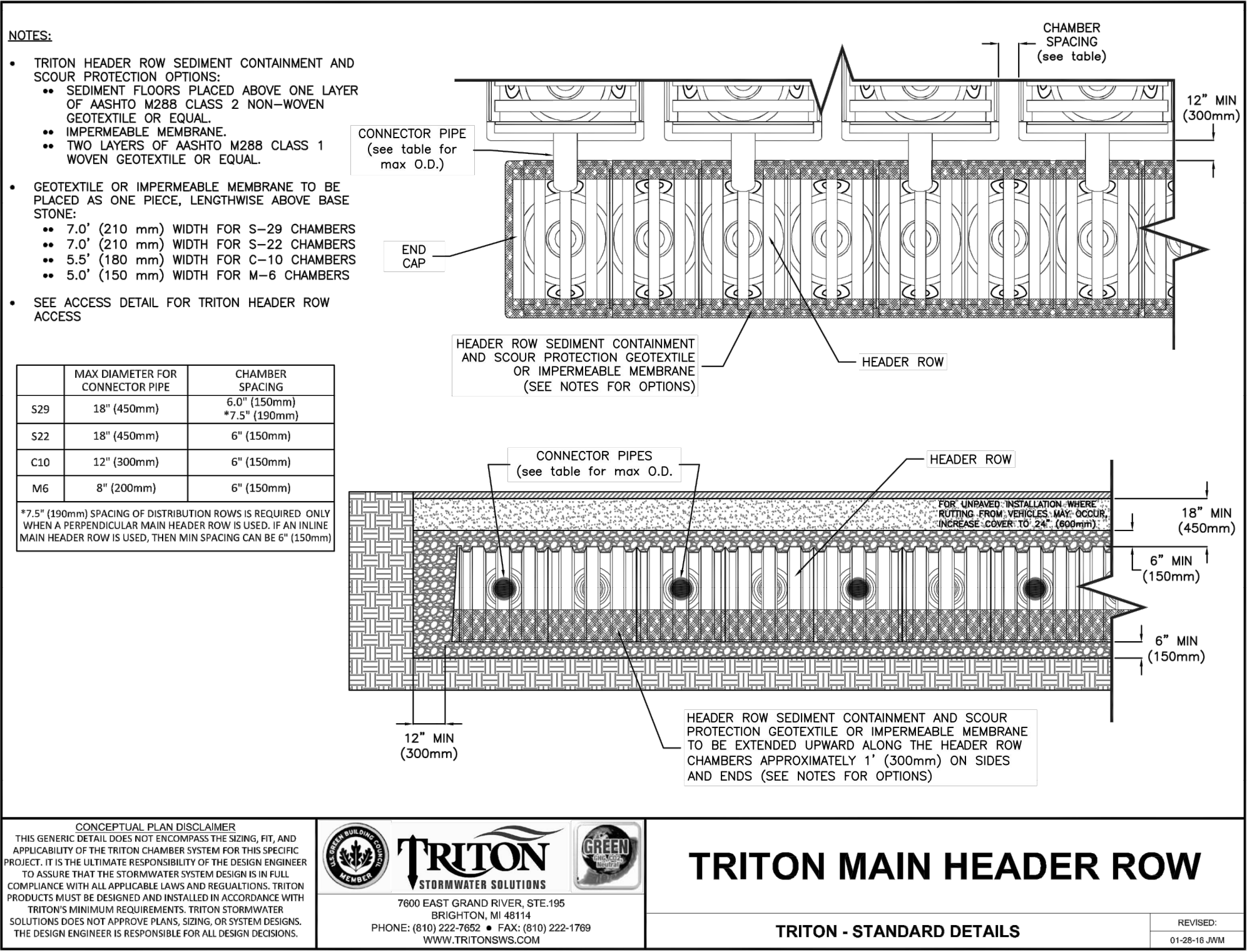
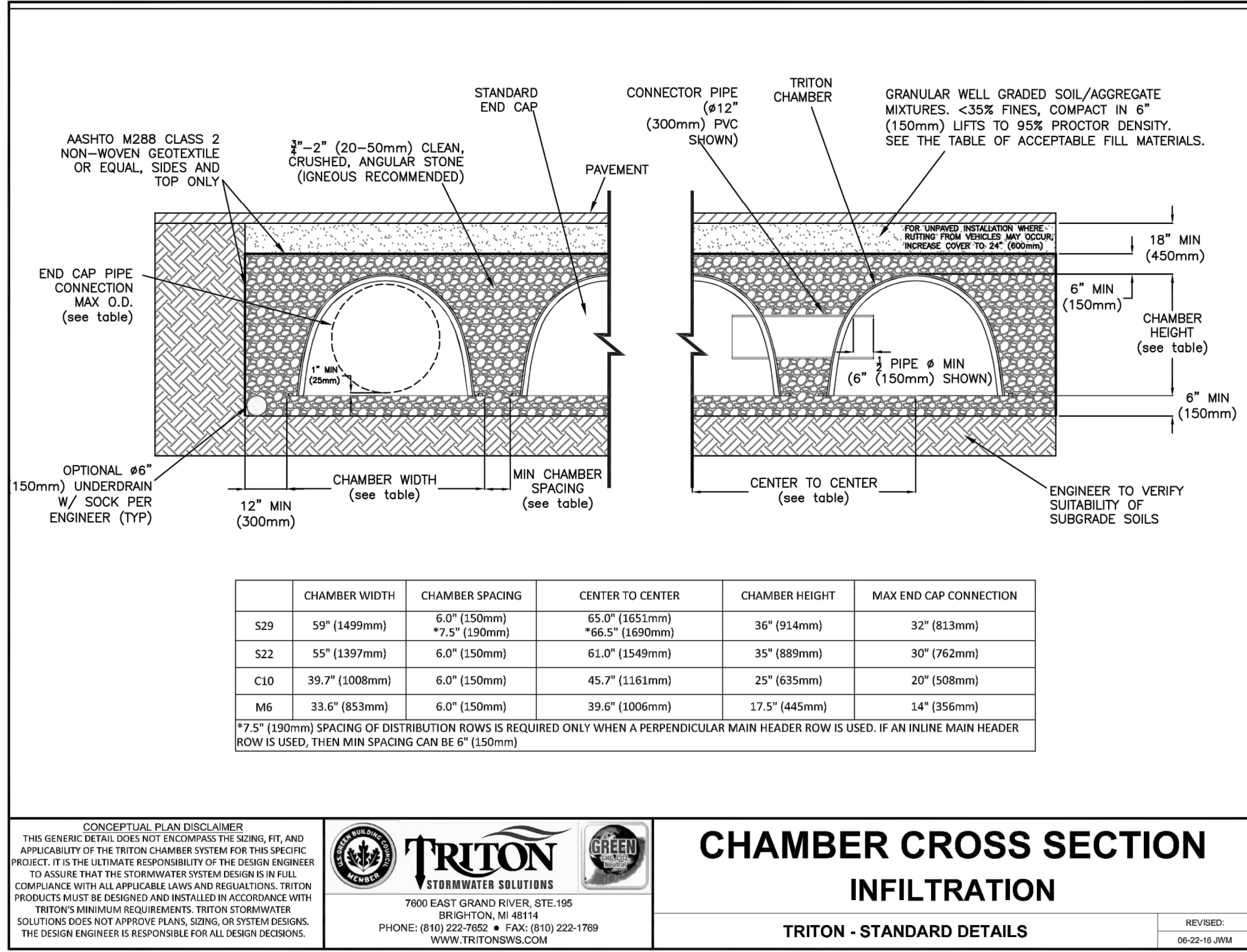
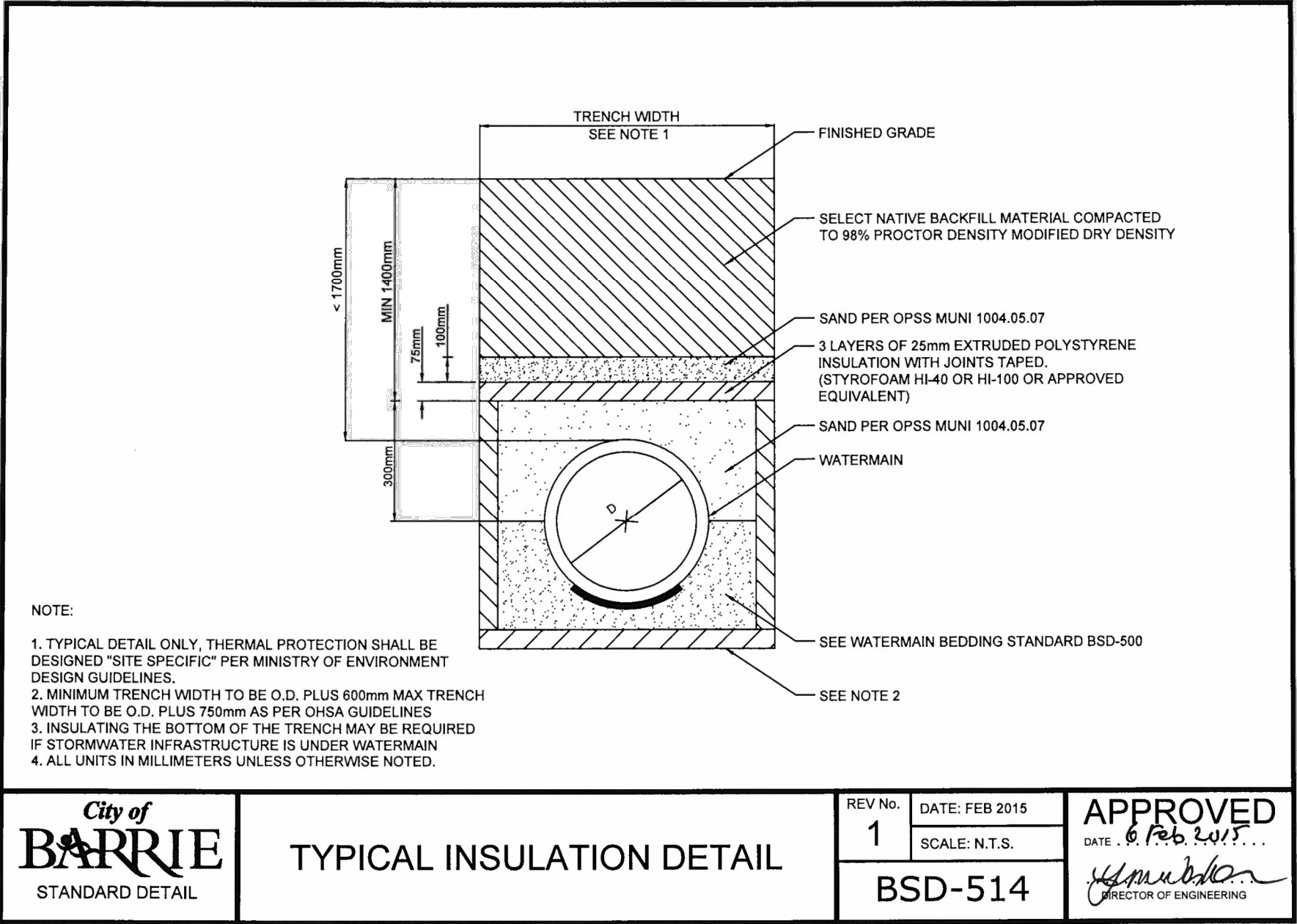
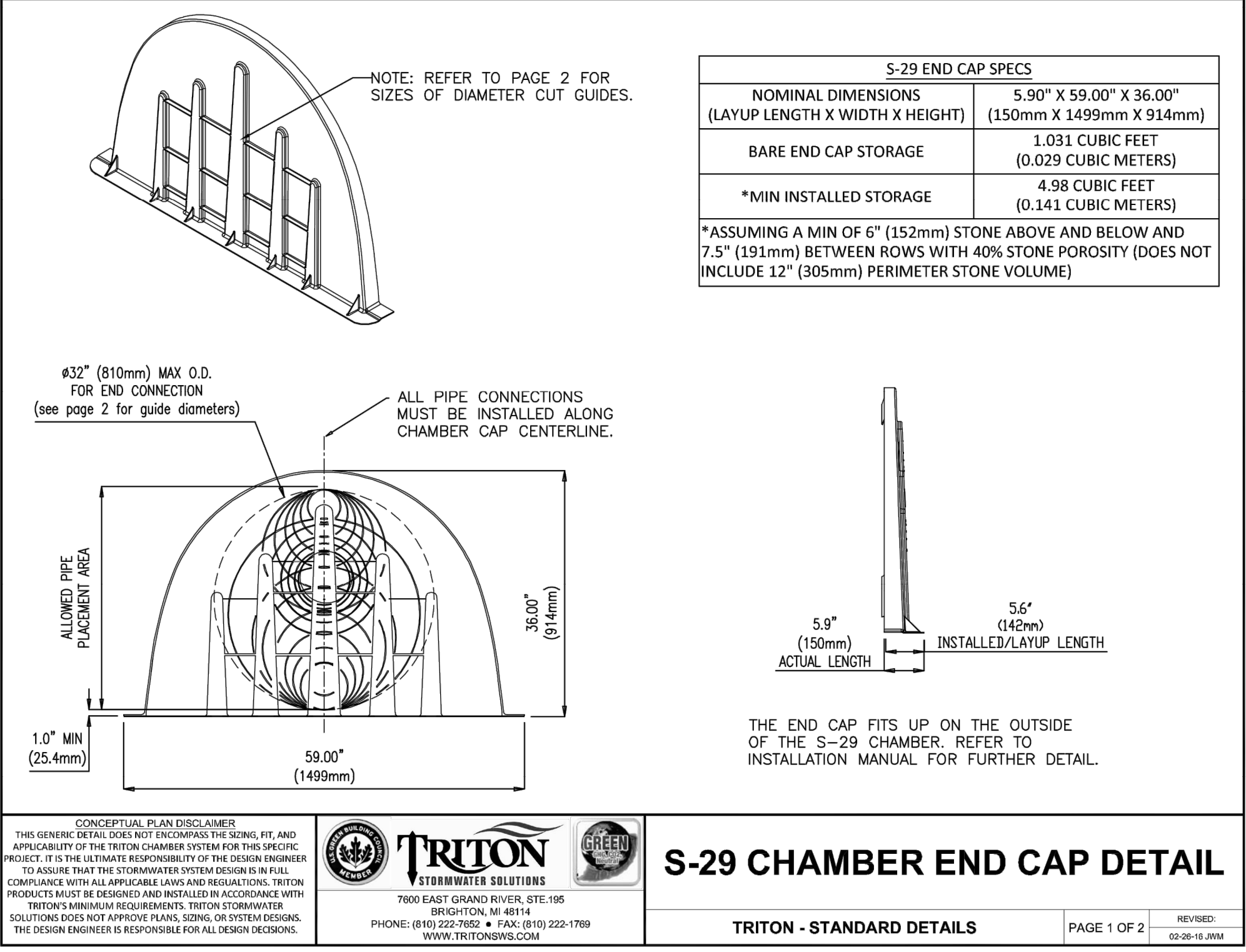
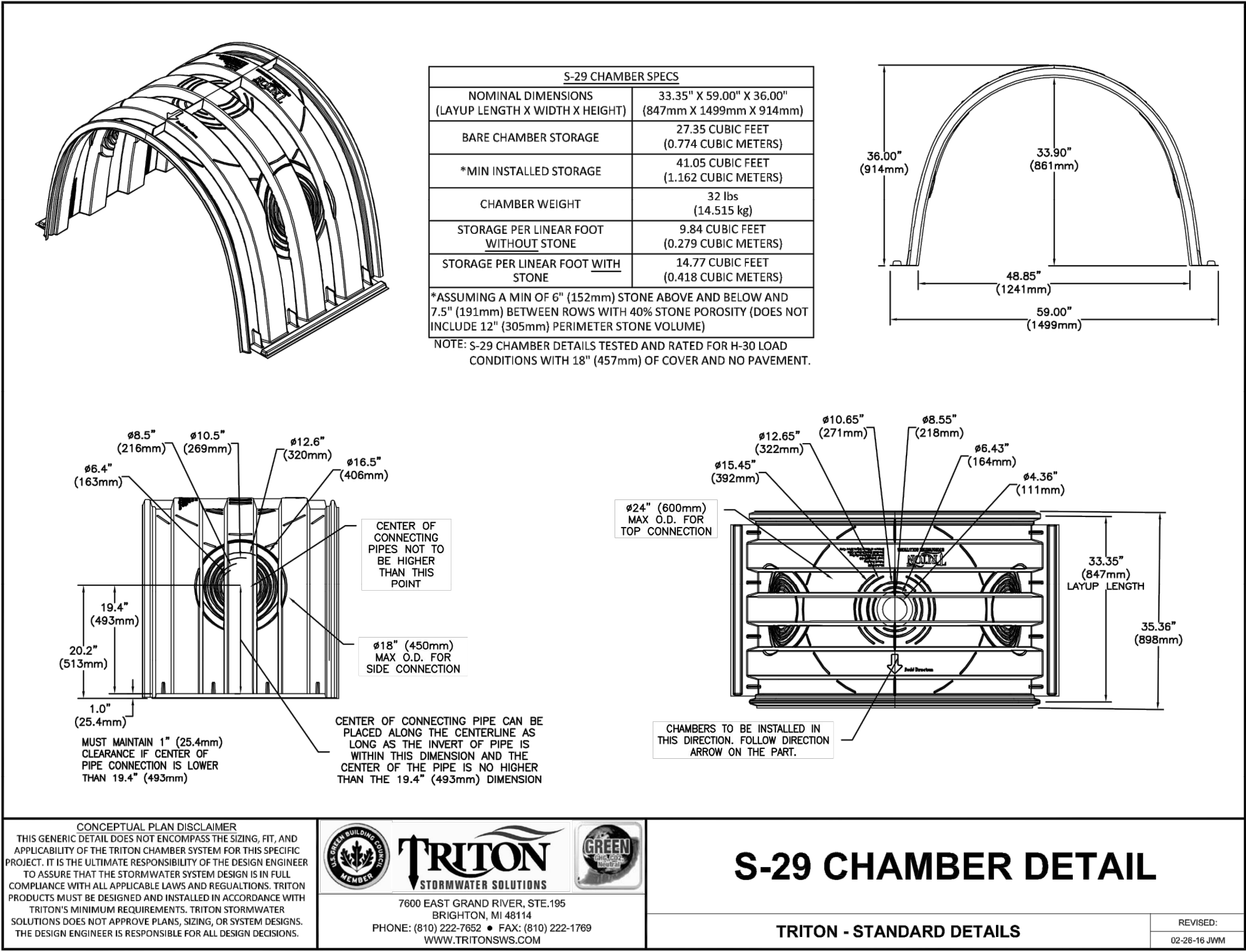
THE HARBOUREDGE BUILDING,
40 HURON STREET, SUITE 301,
COLLINGWOOD, ON L9Y 4R3
705 446-3510 T
705 446-3520 F
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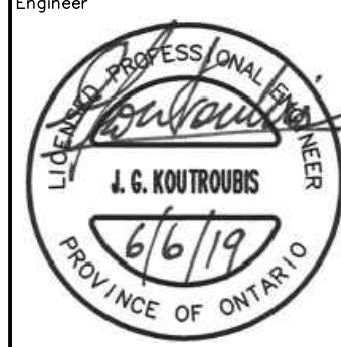
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TEMPORARY BENCHMARKS

SITE BENCHMARK IS THE TOP OF THE IB AT THE EAST SIDE OF MILBURN STREET HAVING AN ELEVATION OF 227.84
VERTICAL CONTROL MONUMENTS:
BM 03120030025 - LOCATED IN THE SOUTH FACE OF CONCRETE WALL AT SOUTH SHORE COMMUNITY CENTRE, 205 LAKESHORE DRIVE HAVING AN ELEVATION OF 227.84.
BM V010865457 - LOCATED IN CONCRETE RETAINING WALL ON SOUTH SIDE OF BURTON AVENUE HAVING AN ELEVATION OF 232.772.
HORIZONTAL CONTROL MONUMENTS:
BM 03120080001 - LOCATED IN CENTENNIAL PARK APPROXIMATELY 291m NORTH OF TIFFIN STREET AND LAKESHORE DRIVE INTERSECTION AND APPROXIMATELY 75m EAST OF LAKESHORE DRIVE AT E=604486.685 AND N=4914612.840.
BM 03120040029 - LOCATED IN THE SOUTH SHORE PARK, NORTH OF LAKESHORE DRIVE BETWEEN THE PRODUCTION OF MULCASTER STREET AND POYNITZ STREET AT E=604906.449 AND N=4914293.679.

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Project
Drawing

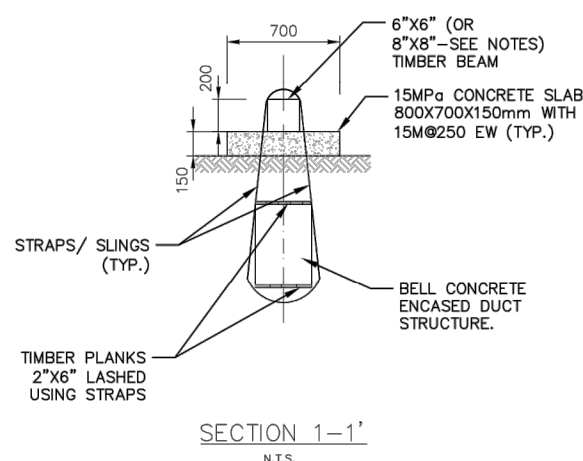
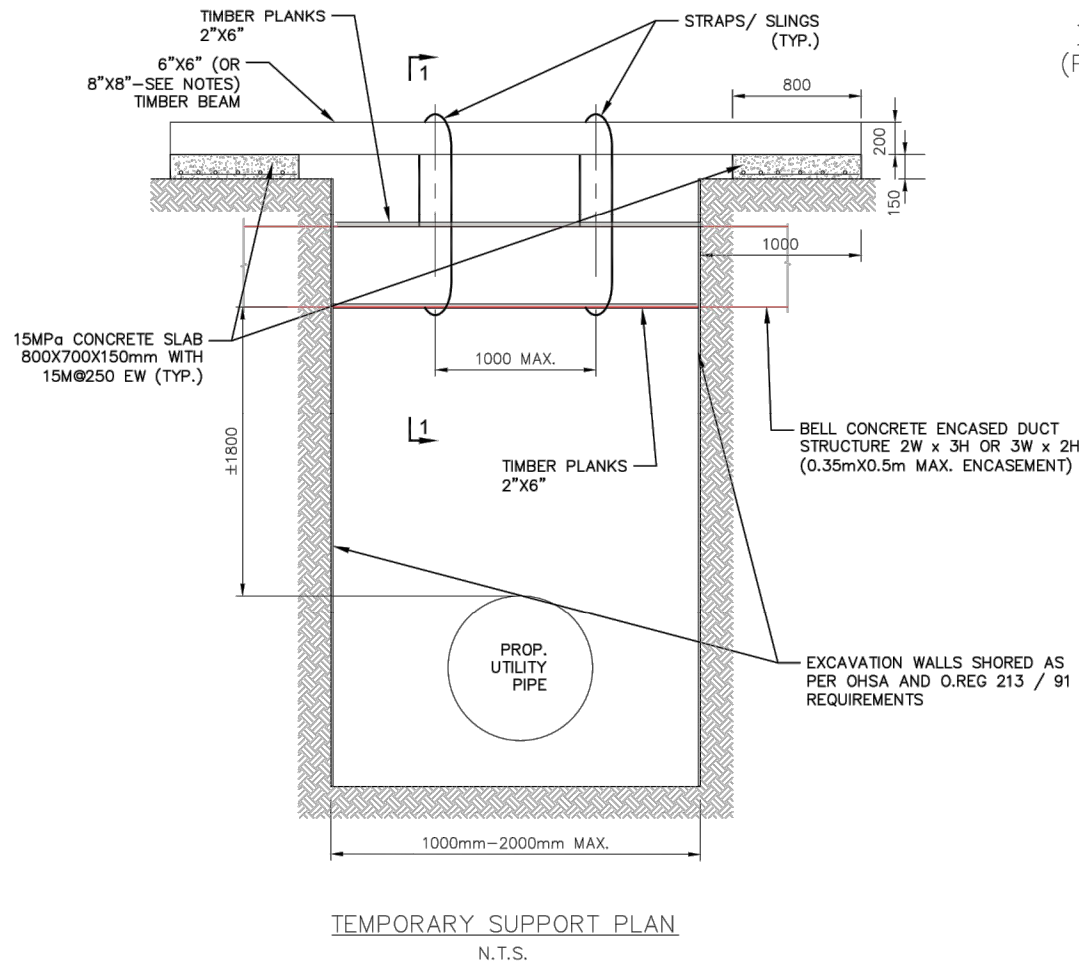
1 MILBURN STREET
CITY OF BARRIE

STANDARD DETAILS 3



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109



TEMPORARY SUPPORT FOR BELL CANADA CONCRETE ENCASED DUCTS FOR SPANS UP TO 2.0m
(PROP. 300mm STM. CROSSING BELL, PROP. 250mm SAN. CROSSING BELL AND PROP. 200mm W.M. CROSSING BELL. REFER TO CROZIER & ASSOCIATES PROJECT 892-4431 PLAN 105)

- GENERAL NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETERS (mm) UNLESS OTHERWISE INDICATED.
 2. USE ONLY THE LATEST ISSUES OF ANY APPLICABLE CODES, STANDARDS, OR REGULATIONS REFERENCED IN THESE NOTES.
 3. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO SAFEGUARD ALL EXISTING STRUCTURES AFFECTED BY THIS CONSTRUCTION.
 4. ALL CONSTRUCTION ACTIVITY SHALL BE IN FULL CONFORMANCE WITH ALL APPLICABLE FEDERAL AND PROVINCIAL LAWS, REGULATIONS, SAFETY STANDARDS AND REQUIREMENTS, INCLUDING, BUT NOT LIMITED TO:
 - a. OCCUPATIONAL HEALTH AND SAFETY ACT AND O.REG 213/91 "CONSTRUCTION PROJECTS".
 - b. GUIDELINES FOR SAFE EXCAVATION IN THE VICINITY OF THE BELL NETWORK.
 - c. THIRD PARTY REQUIREMENTS IN THE VICINITY OF NATURAL GAS FACILITIES.
 - d. GUIDELINES FOR EXCAVATION IN THE VICINITY OF UTILITY LINES.
 5. GHSG WORK PROTECTION CODE.
 6. CSA C22.3 NO. 1 OVERHEAD SYSTEMS.
 7. CSA C22.3 NO. 7 UNDERGROUND SYSTEMS.
 8. ELSA RULE BOOK.
 9. ONTARIO TRAFFIC MANUAL - BOOK 7.
 10. CONTRACTOR TO VERIFY, THAT EXCAVATION WALLS ARE ADEQUATELY SHORED TO MEET THE REQUIREMENTS OF O.REG 147 "CONSTRUCTION PROJECTS" AT THE LOCATION OF THE SUPPORTING BEAMS.
 11. ARRANGEMENTS SHALL BE MADE TO HAVE A CITY/THES AND BELL INSPECTORS PRESENT AT THE TIME OF INSTALLATION OF THE TEMPORARY SUPPORTS.
 12. IN UNSHORED EXCAVATION, THE STRAPS/SLINGS SHALL START IMMEDIATELY ADJACENT TO THE EXCAVATION FACE. FOR A SHORED EXCAVATION, THE STRAPS/SLINGS SHALL START NO FURTHER THAN 1 METER FROM THE EXCAVATION FACE.
 13. THE CONTRACTOR SHALL CHECK AND VERIFY ALL CONDITIONS AND MEASUREMENTS AT THE SITE AND REPORT TO THE ENGINEER ANY DISCREPANCIES OR UNSATISFACTORY CONDITIONS WHICH MAY ADVERSELY AFFECT THE PROPER COMPLETION OF THE JOB BEFORE PROCEEDING WITH THE WORK.
 14. APPROVED SHALL MEAN APPROVED IN WRITING BY THE STRUCTURAL ENGINEER OF RECORD.
 15. DELIVER, HANDLE AND STORE MATERIALS TO AVOID DAMAGE IN ANY MANNER.
 16. MAINTAIN A SET OF DRAWINGS ON SITE AND UPDATE AS NECESSARY WITH CONSTRUCTION RECORD INFORMATION.
 17. CONFORM TO THE REQUIREMENTS OF THE LATEST ISSUE OF ALL PERTINENT BELL CANADA PRACTICES.
 18. IF PARTICULAR CONDITIONS ARE FOUND ON THE WORKING SITE (OUTSTANDING STANDARDS: CRACKED EXISTING CONCRETE DUCT STRUCTURE, SOFT SOILS, OVERLOADING, MINIMUM COVER, TRENCH WIDTH MORE THAN STATED ON THIS PLAN ETC.) THE CONTRACTOR MUST INFORM THE CITY/THES AND BELL INSPECTORS AND SIGNING ENGINEER TO ADAPT THE PLANS ACCORDINGLY WITH EXISTING CONDITION.

- MATERIAL NOTES:
- STRAPS/SLINGS ATTACHMENT:
- STRAPS/SLINGS ATTACHED TO BEAMS SHALL HAVE AT LEAST 2500lbs (11.2kN OR 1140 kg) CAPACITY. ANY LOOPS ON THE STRAPS/SLINGS ARE RECOMMENDED TO BE AVOIDED. IN CASE OF ANY LOOPS ON THE ATTACHED STRAPS/SLINGS - THEY SHALL HAVE min. 1800lbs (8.1 kN OR 820kg) CAPACITY (TO BE TESTED ON SITE OR CONFIRMED BY MANUFACTURER).
- TIMBER SHAPES:
- TIMBER BEAM SHALL BE NO.1 GRADE OR SELECT STRUCTURAL GRADE OF D.Fir-L, Hem-Fir, S-P-F OR NORTHERN SPECIES, 6"x8" (140mmX140mm) OR 8"x8" (191mmX191mm) NO.2 GRADE. TIMBER PLANKS SHALL BE 2"x6" SOLID SAWN.

- CONSTRUCTION NOTES:
1. CONTRACTOR TO PROVIDE SCHEDULE TO BELL MANAGER PRIOR TO IMPLEMENTATION OF SUPPORT. BELL CONTACT IS ANDY PAPPAS - 416-575-0860 OR ANDY PAPPAS@BELL.CA.
 2. CONTRACTOR SHALL NOT UNDERMINE BELL CONDUIT BEFORE APPLYING TIMBER PLANKS AND STRAPS.
 3. AFTER EXCAVATION TO THE BOTTOM OF BELL CONDUIT STRUCTURE FOR THE REQUIRED WIDTH (2000mm MAX.) IT SHALL BE STIFFENED BY PLACING TIMBER PLANKS 2"x6" TO THE BOTTOM PART OF BELL CONDUIT STRUCTURE AS SHOWN ON TEMPORARY SUPPORT PLAN AND SECTION 1-1'.
 4. STRAPS SHALL BE PLACED UNDER THE STRUCTURE AND TIMBER PLANKS 2"x6" AND SECURELY ATTACHED (HANGED) OVER THE SUPPORT TIMBER BEAM AS SHOWN ON SECTION 1-1'. IN ORDER TO PLACE STRAPS UNDER THE BOTTOM PART OF BELL CONDUIT STRUCTURE IT CAN BE EXPOSED FOR NOT MORE THAN 200mm. DEEMED SUFFICIENT FOR PULLING STRAP UNDER THE STRUCTURE.
 5. TIMBER BEAM 6"x6" (OR 8"x8") CAN BE OMITTED FOR SPANS OF 1.0m OR LESS. TIMBER PLANKS 2"x6" LASHED WITH STRAPS TO TOP AND BOTTOM OF DUCTS STRUCTURE SHALL BE USED TO STIFFEN THE STRUCTURE.

CAUTION: DIRECT BURIED LIVE CABLE (VISIBLE IN MULTIVIEW REPORT'S TPD) IS TO BE EXPOSED USING HYDRO-VAC ONLY. THOUGH BELL'S MAPPING DATABASE ISN'T ALWAYS ACCURATE OF WHAT'S IN THE FIELD, "BUMP 200-24" DIRECT BURIED CABLE SHOWN AT 2.0m OFF PROPERTY LINE MAY BE ON TOP OF THE ENCASED BELL STRUCTURE AT THE PROP. CROSSING OF 300mm STM., PROP. CROSSING OF 250mm SAN. AND PROP. CROSSING OF 200mm W.M.

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Engineer

Engineer

Project

1 MILBURN STREET
CITY OF BARRIE

Drawing

TEMPORARY SUPPORT FOR BELL CANADA
CONCRETE ENCASED DUCTS



**CROZIER
& ASSOCIATES**
Consulting Engineers

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Drawn By	CS/SC	Design By	ML	Project	892-4431
Check By	ML	Check By	JK	Scale	1:250
				Drawing	111



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Engineer

J. G. KOUTROUBIS

PROVINCE OF ONTARIO

Project

**1 MILBURN STREET
CITY OF BARRIE**

Drawing

**SIGHT LINE PLAN AND
DISPOSAL TRUCK TURNING MOVEMENT**



CROZIER & ASSOCIATES
Consulting Engineers

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Drawn By CS/SC Design By ML Project **892-4431**

Check By ML Check By JK Scale 1:250 Drawing **301**

PAVEMENT MARKINGS LEGEND

1	SOLID YELLOW, 10cm
2	SOLID DOUBLE YELLOW, 10cm
3	363 BROKEN YELLOW, 10cm
4	SOLID YELLOW, 20cm
5	SOLID WHITE, 10cm
6	333 BROKEN WHITE, 10cm
7	363 BROKEN WHITE, 10cm
8	393 BROKEN WHITE, 10cm
9	SOLID WHITE, 20cm
10	111 BROKEN WHITE, 20cm
11	333 BROKEN WHITE, 20cm
12	333 BROKEN WHITE, 30cm
13	SOLID WHITE, 30cm
14	SOLID WHITE, 45cm
15	SOLID WHITE, 60cm
20	SYMBOLS
] [LIMITS OF MARKINGS	

- NOTES:
1. 333, 363, 393, DENOTES PAVEMENT MARKING SPACING. (ie. 3m LINE, 3m GAP, 3m LINE)
 2. USE TO DENOTE PAVEMENT MARKING, PAINT
 3. USE TO DENOTE PAVEMENT MARKING, TEMPORARY
 4. USE TO DENOTE PAVEMENT MARKING, TEMPORARY-REMOVABLE
 5. USE TO DENOTE PAVEMENT MARKING, DURABLE

LEGEND

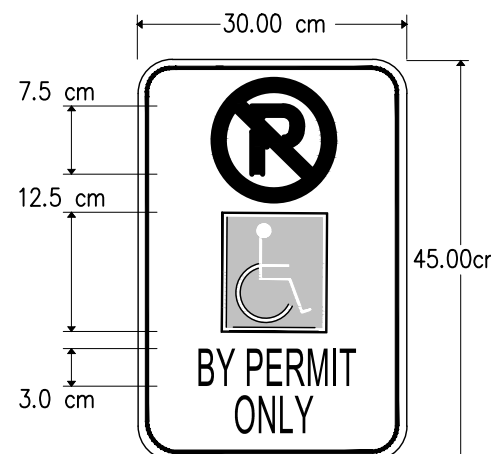
SIGNAGE

- Rb-93 ACCESSIBLE PARKING, SEE DETAIL 1
- NP NO PARKING/FIRE ROUTE SIGN, SEE DETAIL 2
- Ra-1 STOP SIGN
- SOLID WHITE 10cm HATCHED LINES, 1m SPACING

NOTE:

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH BOOK 5 (REGULATORY SIGNS) AND BOOK 11 (PAVEMENT, HAZARD & DELINEATION MARKINGS).
2. PAVEMENT MARKINGS FOR PARKING STALLS TO CONFORM TO OPSS 1712.

ACCESSIBLE PARKING SIGNAGE AND INSTALLATION SPECIFICATIONS



CIRCLE TO BE RED IN COLOR
NON A WHITE BACKGROUND
WITH BLACK LETTERING

WHEELCHAIR SYMBOL TO BE BLUE
IN BACKGROUND AND OUTLINE,
AND WHITE IN SYMBOL AND
BORDER

SIGN REQUIREMENTS

- SIGNS SHALL COMPLY WITH THE ATTACHED FIGURE 5.
1. ALL SIGN SHALL HAVE APPROPRIATE RADIUS. CORNER AS PER DIAGRAM OR 4 cm RADIUS.
 2. ALL SHARP EDGES REMOVED FROM SIGN BLANKS. COMPLETED SIGNS SHALL HAVE 11mm X 18mm SLOTTED HOLES TO ACCEPT METRIC OR IMPERIAL MOUNTING WITH HOLES 3cm-12cm FROM OUTER EDGE OR AS PER DIAGRAM.
 3. CENTRE OF MOUNTING SLOTS SHALL BE EQUAL TO MULTIPLE OF 5.08cm (2 INCHES) CENTRALLY LOCATED ON BLANK. ON STEEL BLANKS, FABRICATIONS SHALL BE FABRICATED BEFORE GALVANIZING AS TO PREVENT CORROSION. ON ALUMINUM BLANKS, FABRICATING SHALL BE PERFORMED PRIOR TO PAINTING AND BAKING.
 4. FINISHED SIGNS AND SYMBOLS SHALL BE APPLIED TO 1.63mm UTILITY GRADE ALUMINUM WITH BRIGHT WHITE MILL BAKED FINISH ON BOTH SIDES. ALL INKS SHALL BE FACES TO CONFORM TO REG. 486 OF THE HIGHWAY TRAFFIC ACT.
 5. ALL LETTERING TO MEET M.T.O. STANDARDS.
 6. ALL COLOURS TO MEET M.T.O. STANDARDS.

INSTALLATION REQUIREMENTS

1. SIGN MUST BE PLACED MIDWAY BETWEEN THE LATERAL LIMITS OF THE PARKING STALL.
2. SIGN SHOULD BE MOUNTED AT A HEIGHT OF 1.5m TO 2.5m, MEASURED FROM THE TOP OF THE CURB TO THE BOTTOM OF THE SIGN.

DETAIL 1
ACCESSIBLE PARKING SIGN DETAIL

SCALE: N.T.S.

FIRE ROUTE SIGNAGE AND INSTALLATION SPECIFICATIONS



CIRCLE TO BE RED IN COLOR
NON A WHITE BACKGROUND
WITH BLACK LETTERING

SIGN REQUIREMENTS

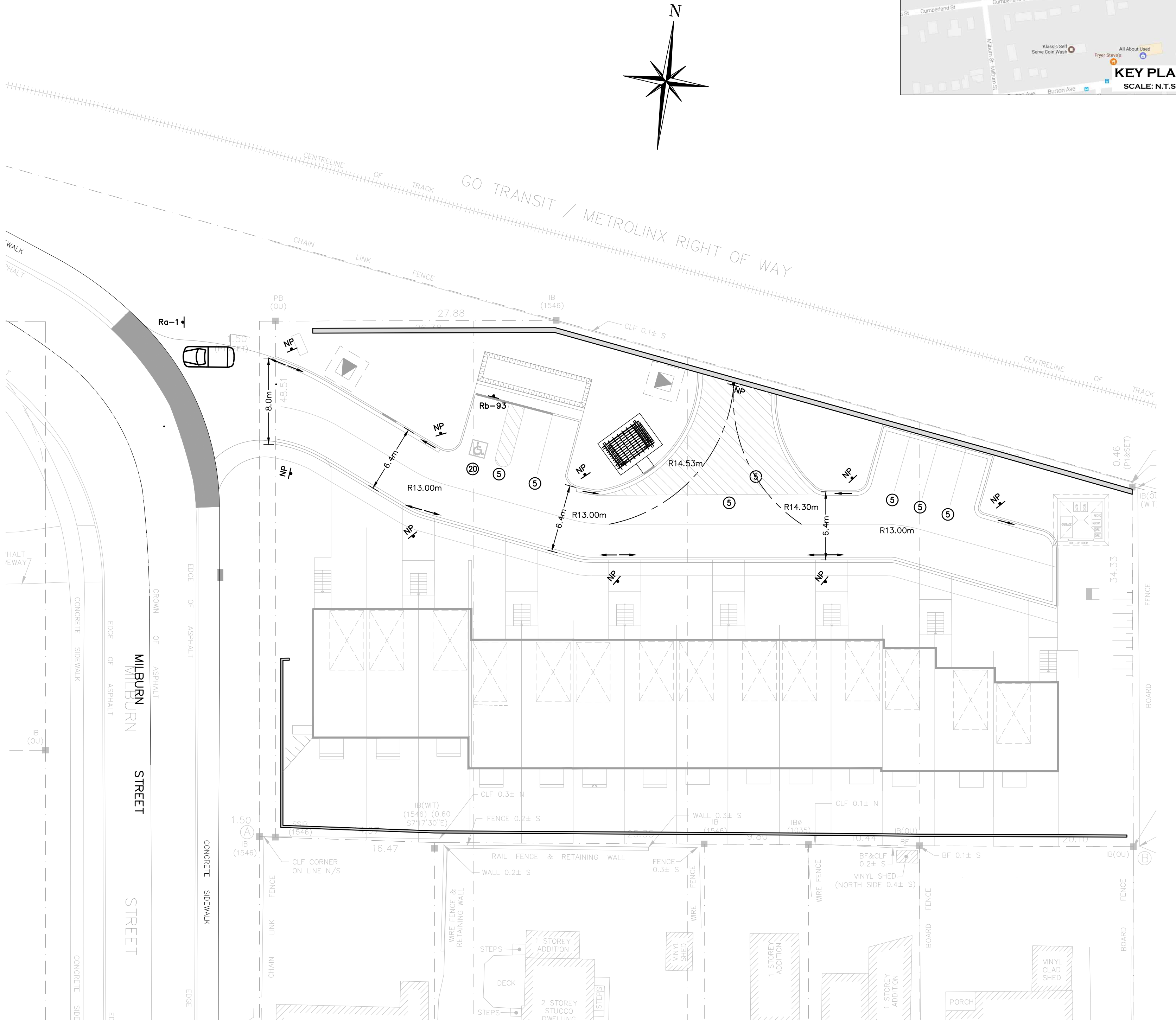
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 6. ALL COLOURS TO MEET M.T.O. STANDARDS.

INSTALLATION REQUIREMENTS

1. SHALL BE POSTED ON BOTH SIDES OF THE FIRE ROUTE FACING THE FLOW OF TRAFFIC AT A 45 DEGREE ANGLE, 2.13m (7FT) ABOVE GROUND LEVEL AND AT DISTANCES SO THEY CAN BE CLEARLY SEEN BY THE MOTORIST AND NOT MORE THAN 22.86m (75FT) APART.
2. MAY BE MOUNTED FLUSH ON THE BUILDING FACE ALONG THE FIRE ROUTE, 2.13m (7FT) ABOVE GROUND LEVEL AND AT DISTANCES SO THEY CAN BE CLEARLY SEEN BY THE MOTORIST AND NOT MORE THAN 15.24m (50FT) APART.
3. IF A FIRE ROUTE EXCEEDS 6m (19.67') IN WIDTH OR IN APPROVED CIRCUMSTANCES, POSTING OF SIGNAGE ON ONE SIDE OF THE ROUTE IS PERMISSIBLE.
4. SIGNS SHALL INDICATE WHERE THE FIRE ROUTE STARTS AND ENDS. IN SOME SITUATIONS WHERE BOTH NO STOPPING/NO PARKING SIGNS ARE REQUIRED, TWO SIGNS MAY BE REQUIRED ON THE SAME POST.

DETAIL 2
FIRE ROUTE SIGN DETAIL

SCALE: N.T.S.



SCALE: 1:500

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BM 03120030025 - LOCATED IN THE SOUTH FACE OF CONCRETE WALL AT SOUTH SHORE COMMUNITY CENTRE, 205 LAKESHORE DRIVE HAVING AN ELEVATION OF 227.684.

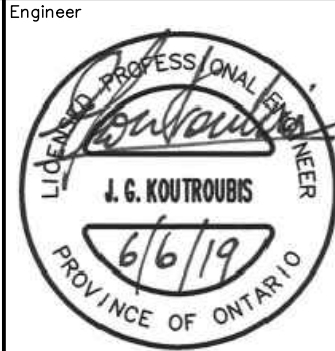
BM V010665457 - LOCATED IN CONCRETE RETAINING WALL ON SOUTH SIDE OF BURTON AVENUE HAVING AN ELEVATION OF 232.772.

HORIZONTAL CONTROL MONUMENTS:

BM 03120080001 - LOCATED IN CENTENNIAL PARK APPROXIMATELY 291m NORTH OF TIFFIN STREET AND LAKESHORE DRIVE INTERSECTION AND APPROXIMATELY 75m EAST OF LAKESHORE DRIVE AT E=604486.665 AND N=4914612.840.

BM 03120040029 - LOCATED IN THE SOUTH SHORE PARK, NORTH OF LAKESHORE DRIVE BETWEEN THE PRODUCTION OF MULCASTER STREET AND POYNITZ STREET AT E=604906.449 AND N=4914293.679.

No.	ISSUE	DATE: MM/DD/YYYY	Engineer
0	ISSUED FOR 1st SUBMISSION	Oct. 5, 2017	
1	ISSUED FOR INTERNAL REVIEW	Aug. 08, 2018	
2	ISSUED FOR 2nd SUBMISSION	Oct. 5, 2018	
3	ISSUED FOR DISCUSSION	Dec. 20, 2018	
4	ISSUED FOR 3rd SUBMISSION	Jan. 31, 2019	
5	ISSUED FOR FINAL SUBMISSION	June 6, 2019	

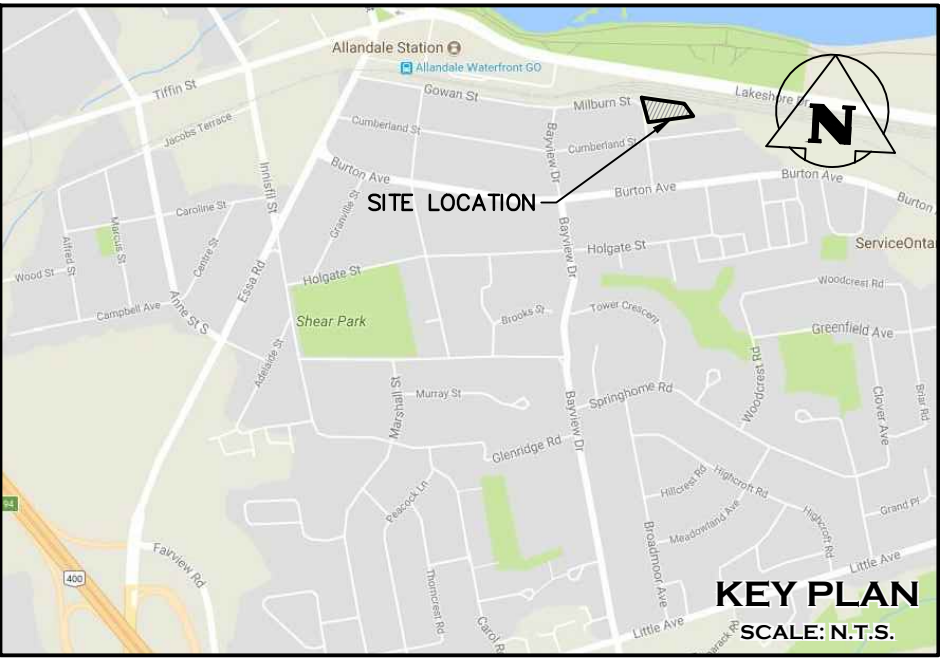
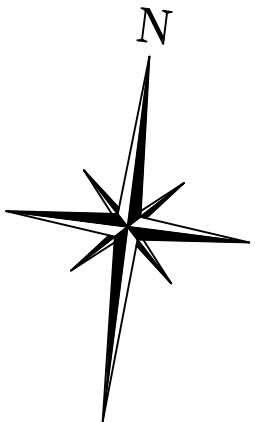
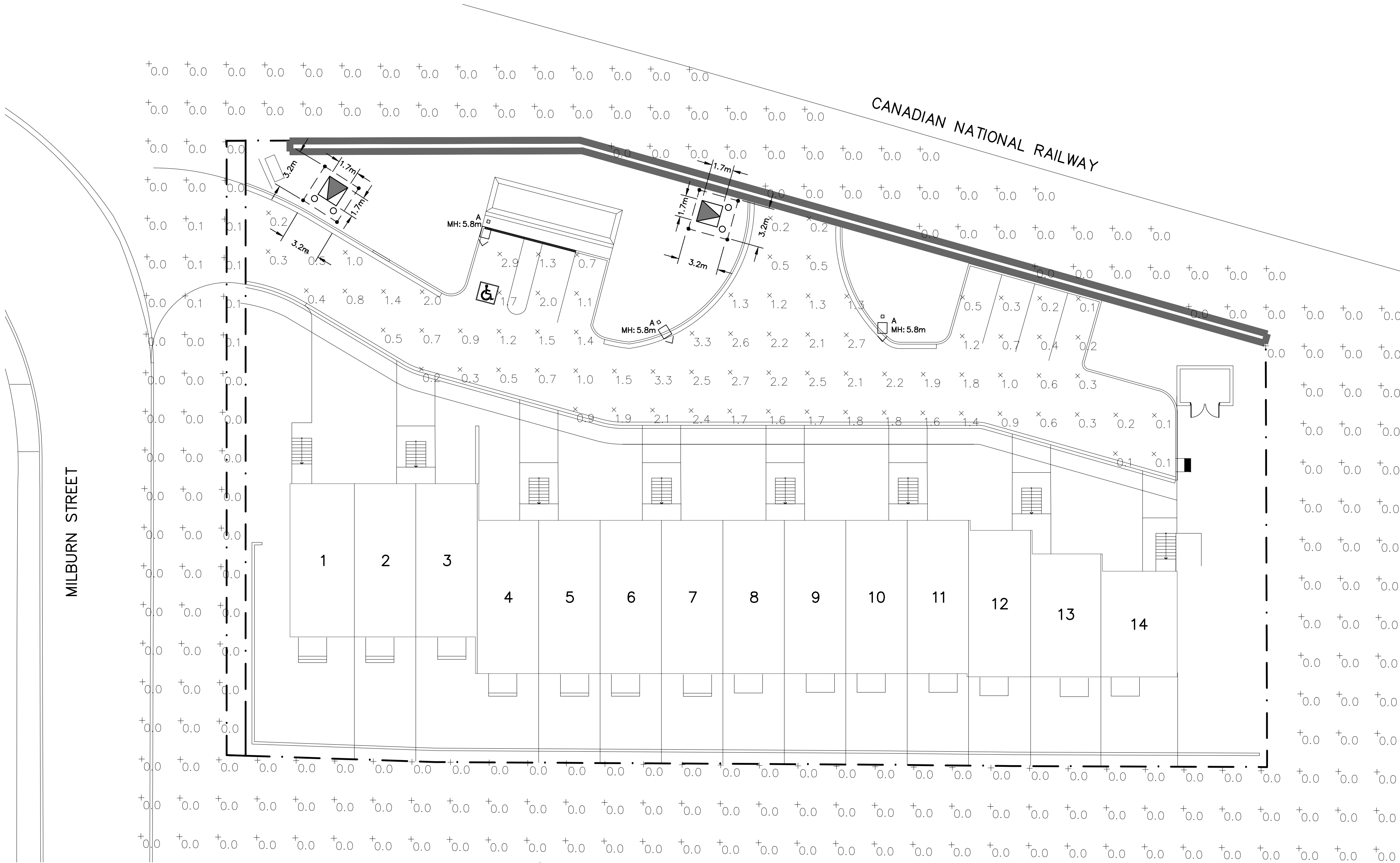


Project	1 MILBURN STREET CITY OF BARRIE
Drawing	PAVEMENT MARKING AND SIGNAGE PLAN

Drawn By	CS/SC	Design By	DL	Project	892-4431
Check By	AF	Check By	AF	Scale	1:250
				Drawing	302



THE HARBOUREDGE BUILDING,
40 HURON STREET, SUITE 301,
COLLINGWOOD, ON L9Y 4R3
705 446-3510
705 446-3520 F
WWW.CFCROZIER.CA
INFO@CFCROZIER.CA



ELECTRICAL DRAWING LIST	
E100	SITE PLAN – PHOTOMETRIC
E101	LIGHTING DETAILS

ELECTRICAL LEGEND	
LIGHTING	
	POLE MOUNTED LIGHT FIXTURE
POWER SYSTEMS	
	PAD MOUNTED TRANSFORMER WITH GROUNDING GRID AND BOLLARDS, ARROW INDICATES OPERATING SIDE (DIRECTION OF APPROACH)
LINETYPES	
	PROPERTY LINE

SITE PLAN – PHOTOMETRIC

SCALE: 1:200

LUMINAIRE SCHEDULE						
SYMBOL	LABEL	MANUFACTURER	CATALOG NUMBER	MOUNTING HEIGHT	DESCRIPTION	VOLTAGE
	A	CREE	OSQ-A-DA-3ME-B-40K-UL-R-Q3	MOUNTED ON 3' BASE AND 16' POLE	OSQ SERIES, VERSION A, TYPE III MEDIUM, 4000K, BACKLIGHT SHIELD, FIELD ADJUSTABLE Q3, C/W PHOTOCELL	120V

STATISTICS SCHEDULE					
DESCRIPTION	SYMBOL	AVG	MAX	MIN	AVG/MIN
DRIVE AISLE	X	1.2 fc	3.6 fc	0.1 fc	12.4:1

THE FOLLOWING NOTATIONS APPLY TO ALL LUMINAIRES IN SCHEDULE, UNLESS OTHERWISE NOTED:

1. ELECTRICAL CONTRACTOR IS RESPONSIBLE TO PROVIDE PHOTOCELLS AS REQUIRED. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH LIGHT MANUFACTURER.



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			No.	ISSUE	DATE: MM/DD/YYYY																																						
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Check By		Check By	M.S.	Scale	1:250	Drawing	E100																																				

OSQ Series

OSQ™ LED Area/Flood Luminaire - Medium

Product Description

The OSQ™ Area/Flood luminaire blends extreme optical control, advanced thermal management and modern, clean aesthetics. Built to last, the housing is rugged cast aluminum with an integral, weatheright LED driver compartment. Versatile mounting configurations offer simple installation. Its slim, low-profile design minimizes wind load requirements and blends seamlessly into the site providing even, quality illumination. The "B" input power designator is a suitable upgrade for HID applications up to 250 Watt, and the "K" input power designator is a suitable upgrade for HID applications up to 400 Watt.

Applications: Parking lots, walkways, campuses, car dealerships, office complexes, and internal roadways

Performance Summary

NanoOptic® Precision Delivery Grid™ optic

Assembled in the U.S.A. or U.S. and imported parts

Initial Delivered Lumens: Up to 77,291

Efficacy: Up to 134 LPW

CRI: Minimum 70 CRI (4000K & 5700K, 3000K asymmetric optics), 80 CRI (5000K symmetric optics)

CCT: 3000K (+/- 300K), 4000K (+/- 300K), 5700K (+/- 500K)

Limited Warranty*, 10 years on luminaire/10 years on Colorfast DetailGuard® finish

* See <http://lighting.cree.com/warranty> for warranty terms

Accessories

Field-Installed	Hand-Held Remote
Backlight Shield UL 94 V-0 rated - Front facing optics OSQ-BL-SH05 - Retained optics	UL-60950ESD - For successful implementation of the programmable multi-level option, a minimum of one hand-held remote is required

Ordering Information

Fully assembled luminaire is composed of two components that must be ordered separately:

Example: Mount, OSQ-A55V - Luminaire, OSQ-A-NM-2ME-B-40K-UL-5V

Mount Luminaire must be ordered separately*

OSQ-	Color Options:	SV Silver	BZ Bronze	WW White
OSQ-AA Adjustable Arm OSQ-SH Shield Arm				

* Reference EPH and pole configuration suitability data beginning on page 7

Luminaire (Mount must be ordered separately)											
OSQ	A	NM									
Product	Version	Mounting	Optic	Input Power Designator	CCT	Voltage	Color Options	Options			
OSQ	A	NM	Asymmetric Type II Type IV Medium Type III Medium	B 2ME K X Medium Type III Medium	30K UL 200-240V 400K 60K Universal 240-480V 5700K	UL Black BZ Bronze SV Silver WW White	DIM 0-10V Dimming - Control by remote - Refer to ULC/ETC/CSA spec sheet for details - Available with UL voltage only - Can't exceed wattage of specified input power designator - 4'x7' ft. F Fuse - When code dictates fusing, use time delay fuse - Available for U.S. applications only R NEMA® Photocell Receptacle - Refer to ULC/ETC/CSA spec sheet for details - Available with UL voltage only - Intended for downlight applications at 4'x7' ft. PKL Programmable Multi-Level, 25-40° Beam Angle - Refer to ULC/ETC/CSA spec sheet for details - Available with UL voltage only - Intended for downlight applications at 4'x7' ft. RL Rotate Left - LED and optic are rotated to the left - LED and optic are rotated to the right	PM2 Programmable Multi-Level, 10-30° Beam Angle - Refer to ULC/ETC/CSA spec sheet for details - Available with UL voltage only - Intended for downlight applications at 4'x7' ft. D1 Field Adjustable Output - Refer to ULC/ETC/CSA spec sheet for details - Available for U.S. applications only - Intended for downlight applications at 4'x7' ft. D2 Field Adjustable Output - Refer to ULC/ETC/CSA spec sheet for details - Available for U.S. applications only - Intended for downlight applications at 4'x7' ft.	120V	120V	

* Available with Backlight Shield when ordered with field-installed accessory (see table above)



Rev. Date: V12 09/06/2017



Canada: www.cree.com/canada T (800) 473-1234 F (800) 890-7507

For use with XSP1™, XSP2™, XSPR™, LEDway® High Output, OSQ™ and RSW™ LED Street and Area Luminaires

Description:

The Field Adjustable Output option enables luminaires within the OSQ Series on this page to be tuned to the exact needs of a particular application through multiple levels of adjustment.

OSQ™ LED Area Luminaires – Input Power Designators B & K

Q Option Setting	System Watts 120-480V ¹	Input Power Designator B	Input Power Designator K	Lumen Multiplier ²	Optics Qualified on the DesignLights Consortium Qualified Products List
Q0A	86	120	120	1.00	3000K ³
Q0B	86	120	120	1.00	4000K ³
Q0C	86	120	120	1.00	5700K ³
Q0D	77	117	117	0.88	3000K ³
Q0E	72	110	110	0.83	4000K ³
Q0F	62	93	93	0.72	5700K ³
Q0G	53	80	80	0.61	3000K ³
Q0H	45	67	67	0.51	4000K ³
Q0I	34	51	51	0.39	5700K ³

OSQ™ LED Area Luminaires – Input Power Designator T

Q Option Setting	System Watts 120-480V ¹	Input Power Designator T	Lumen Multiplier ²	Optics Qualified on the DesignLights Consortium Qualified Products List
Q0A	166	1.00	1.00	3000K ³
Q0B	166	1.00	1.00	4000K ³
Q0C	166	1.00	1.00	5700K ³
Q0D	151	0.91	0.91	3000K ³
Q0E	135	0.82	0.82	4000K ³
Q0F	115	0.73	0.73	5700K ³
Q0G	96	0.63	0.63	3000K ³
Q0H	79	0.53	0.53	4000K ³
Q0I	56	0.42	0.42	5700K ³

OSQ™ LED Area Luminaires – Input Power Designator U

Q Option Setting	System Watts 120-480V ¹	Input Power Designator U	Lumen Multiplier ²	Optics Qualified on the DesignLights Consortium Qualified Products List
Q0A	276	1.00	1.00	3000K ³
Q0B	191	0.92	0.92	4000K ³
Q0C	171	0.84	0.84	5700K ³
Q0D	152	0.77	0.77	3000K ³
Q0E	133	0.70	0.70	4000K ³
Q0F	113	0.61	0.61	5700K ³
Q0G	94	0.52	0.52	3000K ³
Q0H	77	0.44	0.44	4000K ³
Q0I	53	0.30	0.30	5700K ³

¹ Electrical and lumen data at 25 °C (77 °F). Actual wattage and lumen output may differ by +/- 10% when operating between 120-480V +/- 10%.

² LDC Standard Specification

³ LDC Premium Specification



U.S.: lighting.cree.com T (800) 234-6800 F (262) 504-5415

Canada: www.cree.com/canada T (800) 473-1234 F (800) 890-7507

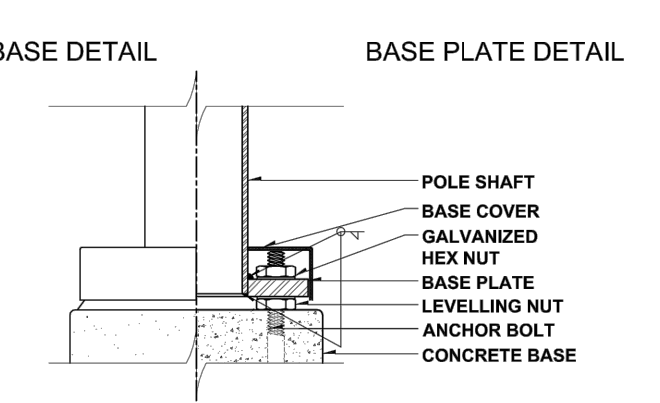
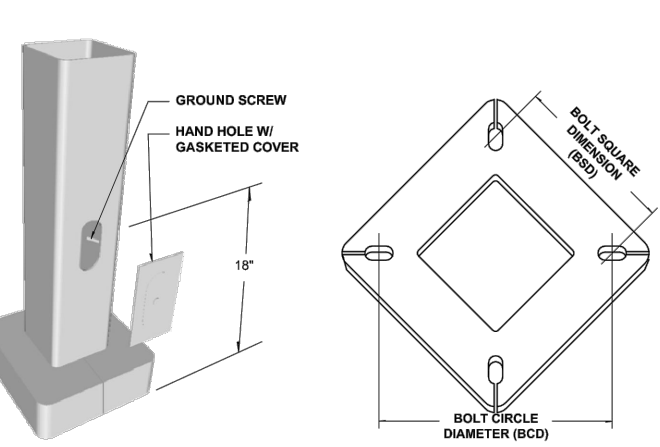
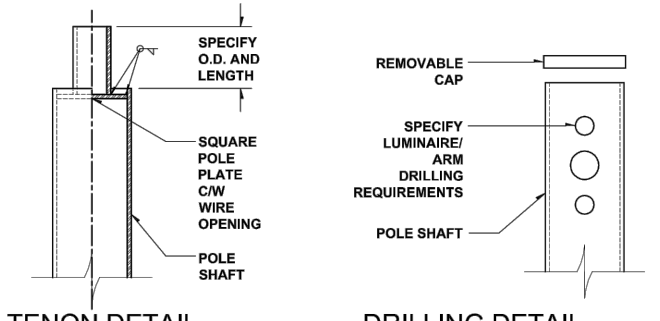


SSS series

straight square steel

TECHNICAL DETAILS

POLE TOP FINISHING OPTIONS



ELEVATION

BASE PLATE WELD DETAIL



W W W . d y n a p o l e . c o m
2425 Lockwood Drive, Mississauga, ON L5S 1H1 Canada
Tel. (905) 671-1507 Fax (905) 671-4508 Toll-Free 1-877-DYNAPOLE

DRAWING TITLE:

STRAIGHT SQUARE STEEL

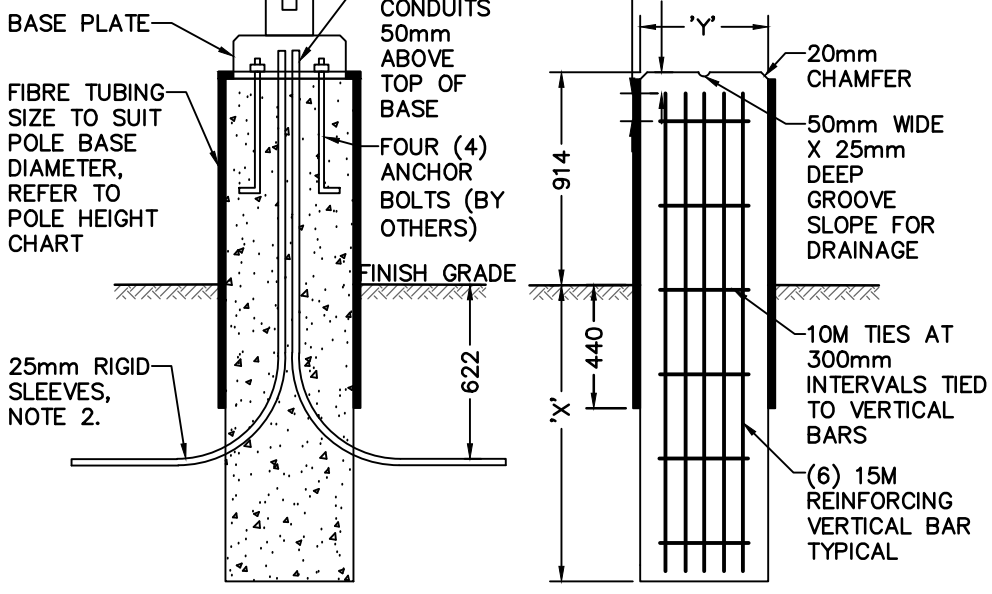
MODEL: SSS

REVISION: CGT

DATE: 06/28/04

SHEET: NTS

NOTES: MATERIAL: STEEL
SHAFT: 48,000 PSI MIN. YIELD
BASE PLATE: 44,000 PSI MIN. YIELD

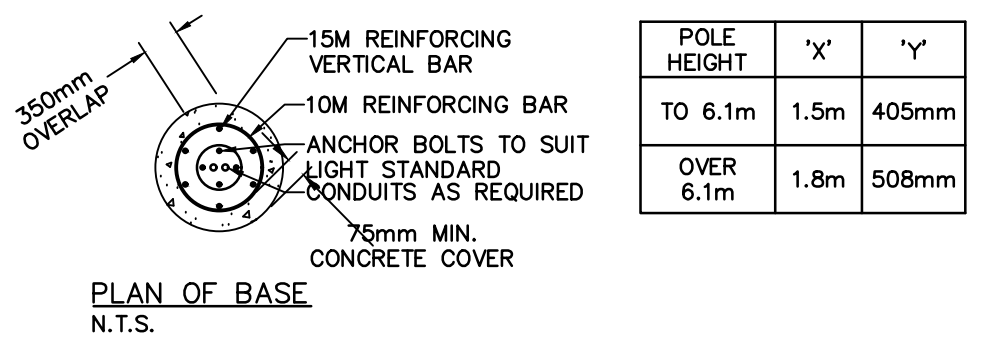


ELEVATION LAYOUT

N.T.S.

ELEVATION REINFORCEMENT

N.T.S.



PLAN OF BASE

N.T.S.

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN.
2. MINIMUM OF TWO SLEEVES REQUIRED FOR EACH CONCRETE FOOTING. THREE SLEEVES AS SPECIFIED.
3. SET TEMPLATE LEVEL. REMOVE TO FINISH CONCRETE AFTER INITIAL SET.
4. CONCRETE SHALL CONFORM TO CAN/CSA A23.1
5. MINIMUM CONCRETE COMPRESSIVE STRENGTH SHALL BE NO LESS THAN 25MPa; EXPOSURE CLASS C1.
6. ALL STEEL WORKS SHALL CONFORM TO CAN/CSA S16-01.
7. BEARING SURFACES SHALL BE REVIEWED AND APPROVED BY A GEOTECHNICAL ENGINEER.
8. COORDINATE ANCHOR BOLTS SIZE & EXACT LOCATIONS WITH LIGHT POLE MANUFACTURER PRIOR TO ROUGH-INS.

LIGHT POLE BASE DETAIL

SCALE: N.T.S.

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Town

No.	ISSUE	DATE: MM/DD/YYYY
0	ISSUED FOR 1st SUBMISSION	11/08/2017
1	ISSUED FOR 2nd SUBMISSION	10/05/2018

DATE: MM/DD/YYYY

Engineer

Engineer



Project

1 MILBURN STREET
CITY OF BARRIE

Drawing

LIGHTING DETAILS



2800 HIGH POINT DRIVE
SUITE 100
MILTON, ON L9T 6P4
905-875-0026 T
905-875-4915 F
WWW.CFCROZIER.CA

Drawn By J.R.B./N.B.

Design By N.J.M.

Project

Check By

Check By M.S.

Scale

N.T.S.

Drawing

892-4431

E101