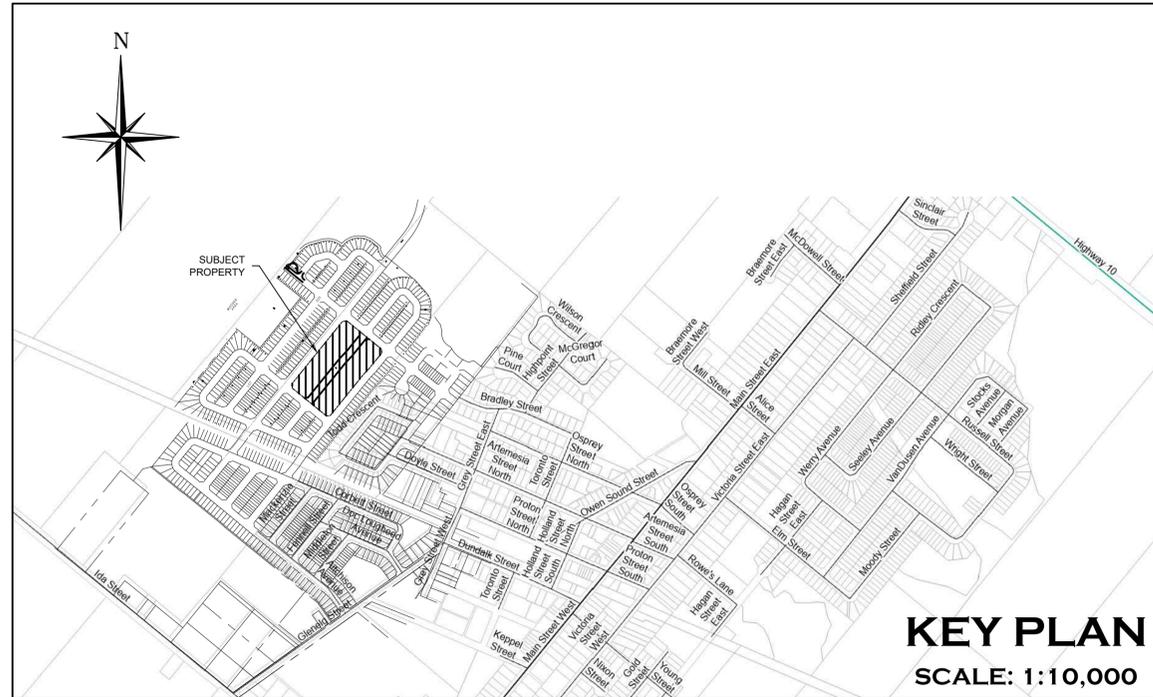


BWDSB NEW SCHOOL COMMUNITY OF DUNDALK TOWN OF SOUTHGATE COUNTY OF GREY



MASTER LEGEND	
EXISTING FEATURES (EX.)	
	EX. CONTOUR
	EX. GRADE
	EX. TREELINE
	EX. WATERCOURSE
	EX. DITCH
	EX. WATERMAIN
	EX. WATER SERVICE
	EX. FIRE HYDRANT & VALVE
	EX. SANITARY SEWER & MANHOLE
	EX. SANITARY FORCEMAIN
	EX. SANITARY SERVICE
	EX. STORM SEWER & MANHOLE
	EX. STORM CATCHBASIN
	EX. STORM DOUBLE CATCHBASIN
	EX. STORM CATCHBASIN MANHOLE
	EX. STORM DOUBLE CATCHBASIN MANHOLE
	EX. GAS MAIN
	EX. BELL LINE
	EX. BELL PEDESTAL
	EX. CABLE TELEVISION PEDESTAL
	EX. HYDRO POLE
	EX. LIGHT STANDARD
	EX. SIGN
	EX. BUILDING
	TEST PITS - GROUND WATER ELEVATIONS (AZIMUTH, 2006)
	BOREHOLE NUMBER & LOCATION (SOIL ENGINEERS LTD., 2015)
PROPOSED FEATURES (PR.)	
	PR. PROPERTY LIMITS
	PR. ELEVATION
	PR. ELEVATION (MATCH EX. ELEVATION)
	PR. SWALE & SLOPE
	PR. SWALE
	PR. MAJOR OVERLAND FLOW
	PR. DITCH DRAINAGE
	PR. WATERMAIN & VALVE
	PR. WATER SERVICE
	PR. FIRE HYDRANT, ANCHOR TEE & VALVE
	PR. SANITARY SEWER & MANHOLE
	PR. SANITARY FORCEMAIN
	PR. SANITARY SERVICE
	PR. SANITARY CATCHMENT
	SANITARY CATCHMENT AREA ID
	SANITARY CATCHMENT POPULATION (3.5ppu)
	SANITARY CATCHMENT AREA (ha)
	PR. STORM SEWER & MANHOLE
	PR. CATCHBASIN
	PR. DOUBLE CATCHBASIN
	PR. CATCHBASIN MANHOLE
	PR. DOUBLE CATCHBASIN MANHOLE
	PR. FOUNDATION DRAIN SERVICE
	PR. STORM CATCHMENT
	STORM CATCHMENT AREA ID
	STORM CATCHMENT RUN-OFF CO-EFFICIENT
	STORM CATCHMENT AREA (ha)
	PR. CURB CUT
	PR. CANADA POST COMMUNITY MAIL BOX
	PR. STOP SIGN
	PR. NAME SIGN
	PR. NO PARKING SIGN
	PR. TRANSFORMER
	PR. FENCE
	PR. BUILDING ENVELOPE
	PR. LIGHT DUTY SILT FENCE
	PR. STRAW BALE CHECK FLOW
	PR. HEAVY DUTY SILT FENCE
	PR. SLOPE (3:1 MAX.)
	PR. GATE
	PR. SWM FACILITY ACCESS ROAD
	PR. CONCRETE SIDEWALK RAMP

DRAWING	TITLE
C100	TITLE SHEET
C101	GENERAL SITE SERVICING PLAN
C102	SITE GRADING PLAN
C103	STORMWATER MANAGEMENT CONCEPT PLAN
C104	SANITARY DRAINAGE PLAN
C105	STORM DRAINAGE PLAN
C106	EROSION AND SEDIMENT CONTROL PLAN
C107A	CONSTRUCTION NOTES, DETAILS & MUNICIPAL STANDARD DRAWINGS
C107B	ONTARIO PROVINCIAL STANDARD DRAWINGS
C107C	ONTARIO PROVINCIAL STANDARD DRAWINGS
C107D	ONTARIO PROVINCIAL STANDARD DRAWINGS
C107E	STORMWATER MANAGEMENT FACILITIES DETAILS

MUNICIPALITY

TOWNSHIP OF SOUTHGATE
185667 GREY COUNTY ROAD 9,
DUNDALK, ONTARIO, NOC 1B0

DEVELOPER

FLATO INC.
3621 HIGHWAY 7 EAST, SUITE 503
MARKHAM, ONTARIO, L3R 0G6

DEVELOPER'S ENGINEER

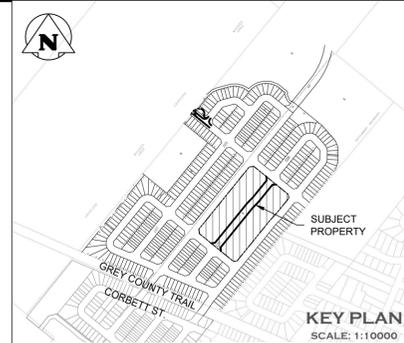
CROZIER
CONSULTING ENGINEERS

70 HURON STREET, SUITE 201
COLLINGWOOD, ON, L9Y 4L4
705-446-3510 T
705-446-3520 F
WWW.CFCROZIER.CA
INFO@CFCROZIER.CA

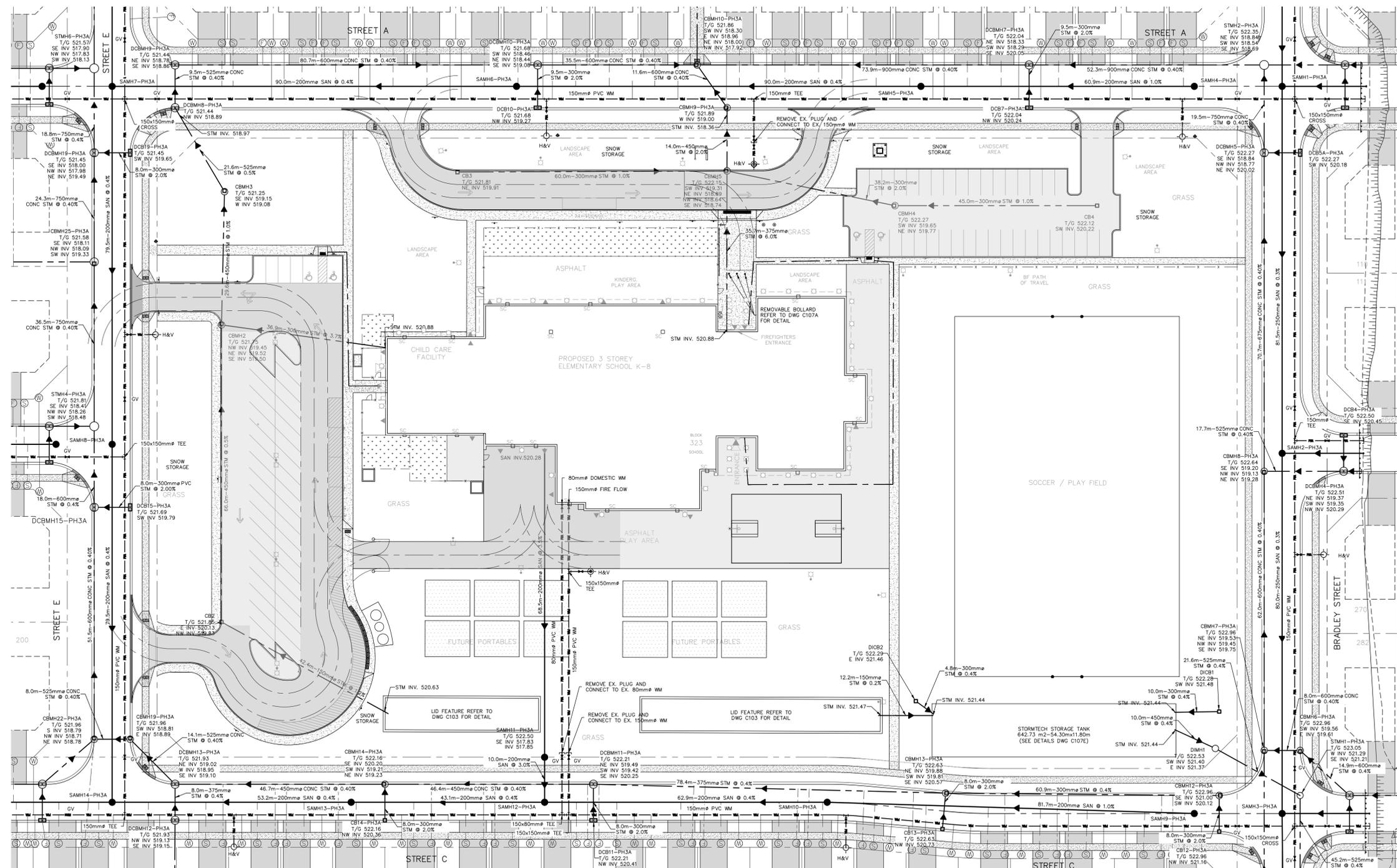
LANDSCAPE ARCHITECT

**PROJECT No.: 2243-7223
2ND SUBMISSION**

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LEGEND
 SC ROOF OVERFLOW (SCUPPER)



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BENCHMARKS
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No.	ISSUE	DATE: YYYY/MM/DD
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3	ISSUED FOR 2nd SUBMISSION	2025/JUL/07

Engineer
A.L. WEST
 100190189
 PROVINCE OF ONTARIO

Engineer
J.Y. WANG
 100178087
 PROVINCE OF ONTARIO

Project
BWDSB NEW SCHOOL
TOWNSHIP OF SOUTHGATE

Drawing
GENERAL SITE SERVICING PLAN

Drawn By: V.P.
 Check By: A.W./R.W.

Design By: V.P./A.W./R.W.
 Check By: A.W./R.W.

Project
2243-7223

Drawing
C101

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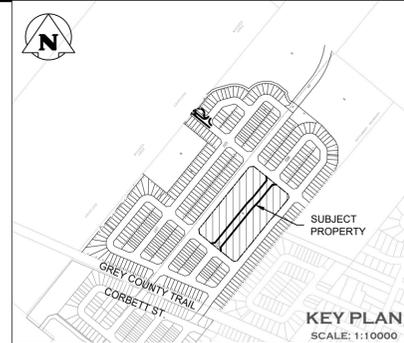
HEAVY DUTY PAVEMENT STRUCTURE:

- 40mm HL3 SURFACE ASPHALT
- 50mm HL4 BASE ASPHALT
- 150mm GRANULAR 'A'
- 450mm GRANULAR 'B'

LIGHT DUTY PAVEMENT STRUCTURE:

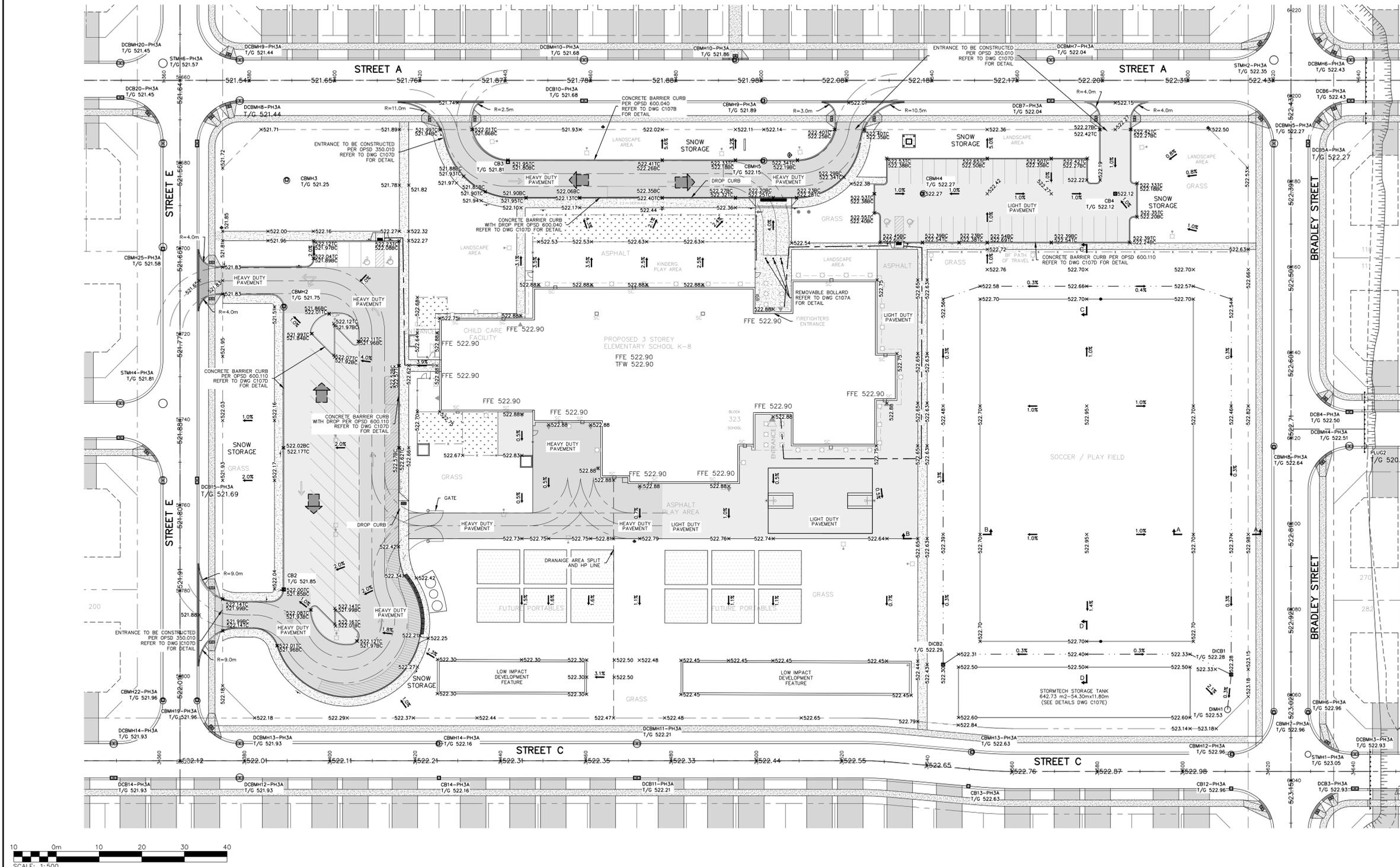
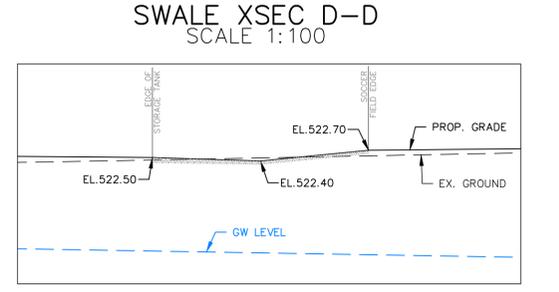
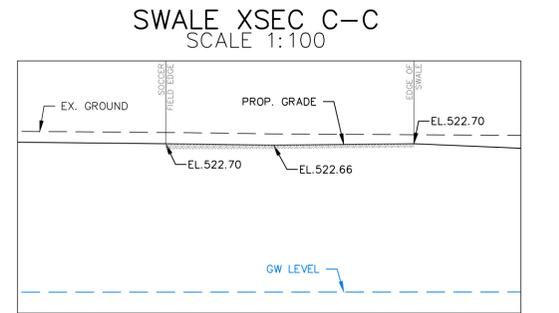
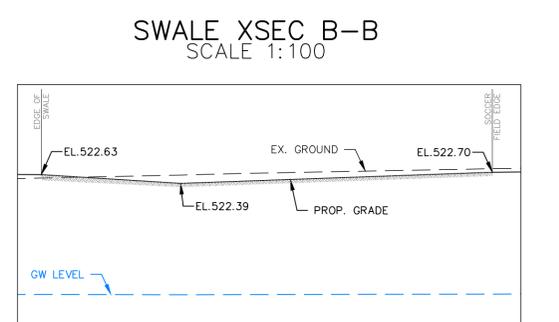
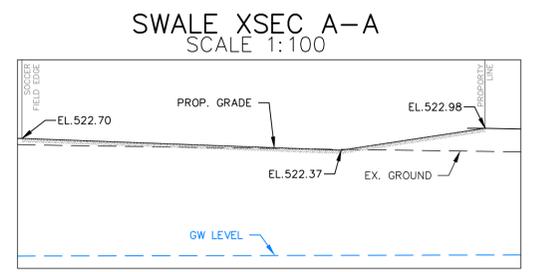
- 75mm HL3 ASPHALT
- 200mm GRANULAR 'A'
- COMPACTED SUBGRADE

REFER TO DETAIL ON DWG C107A



LEGEND

- SC ROOF OVERFLOW (SCUPPER)



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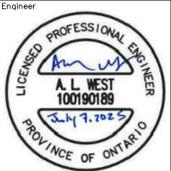
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5. DO NOT SCALE DRAWINGS.

BENCHMARKS

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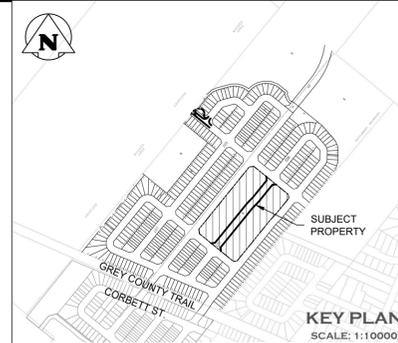
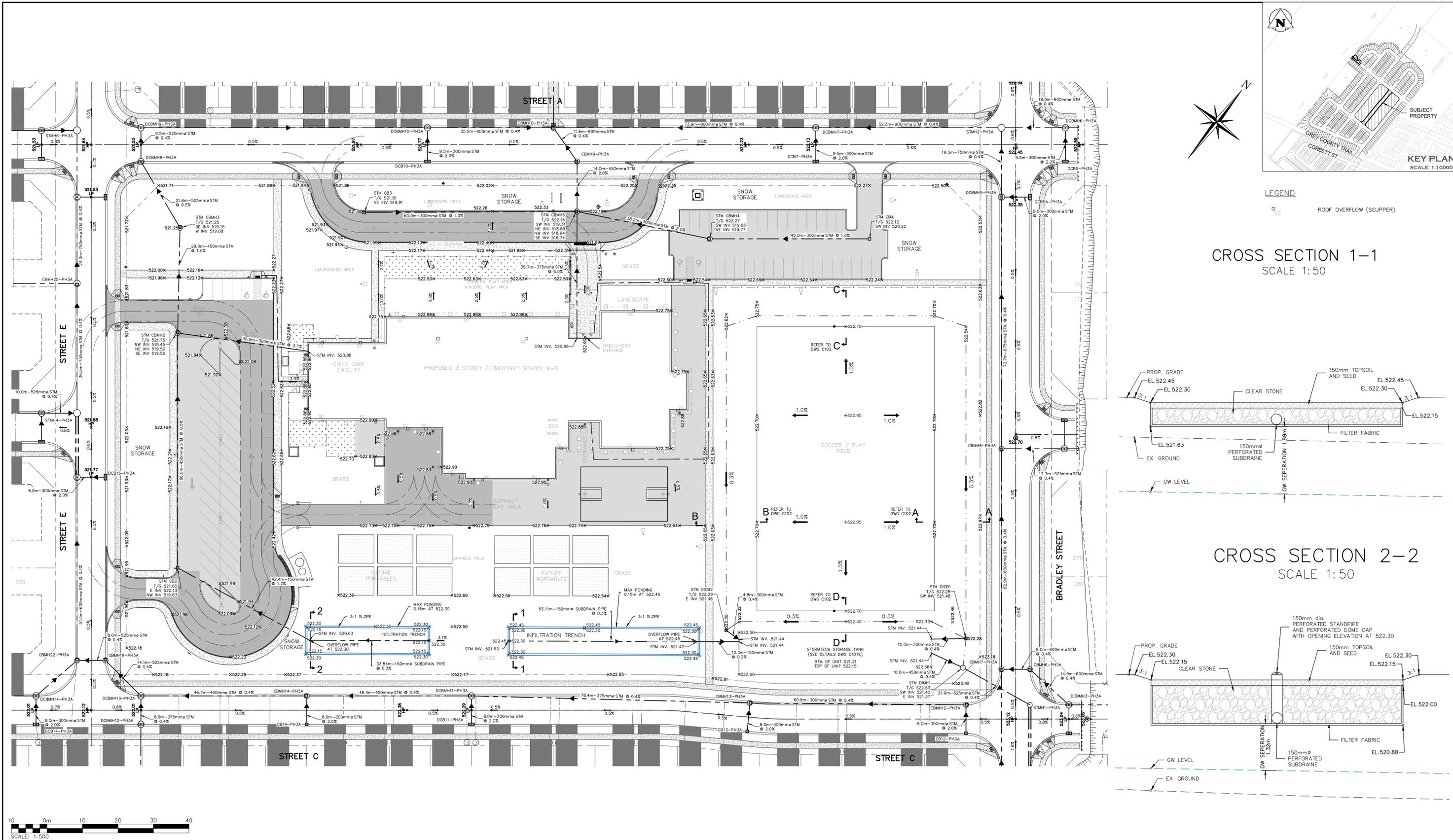
Project: **BWDSB NEW SCHOOL TOWNSHIP OF SOUTHGATE**

Drawing: **PRELIMINARY SITE GRADING PLAN**

Drawn By: V.P. Design By: V.P./A.W./R.W. Project: **2243-7223**

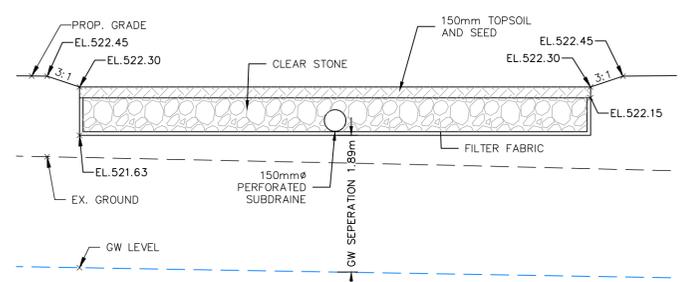
Check By: A.W./R.W. Check By: A.W./R.W. Drawing: **C102**

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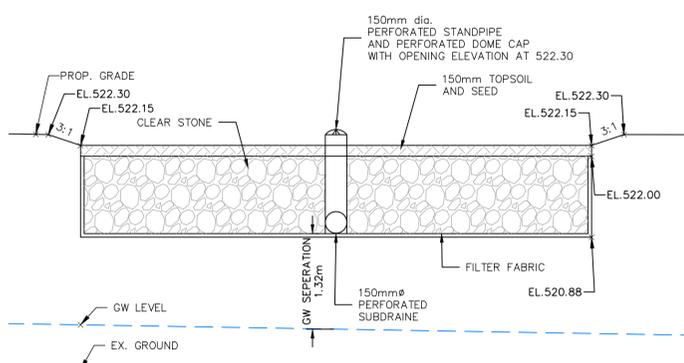


LEGEND
 ROOF OVERFLOW (SCUPPER)

CROSS SECTION 1-1
 SCALE 1:50



CROSS SECTION 2-2
 SCALE 1:50



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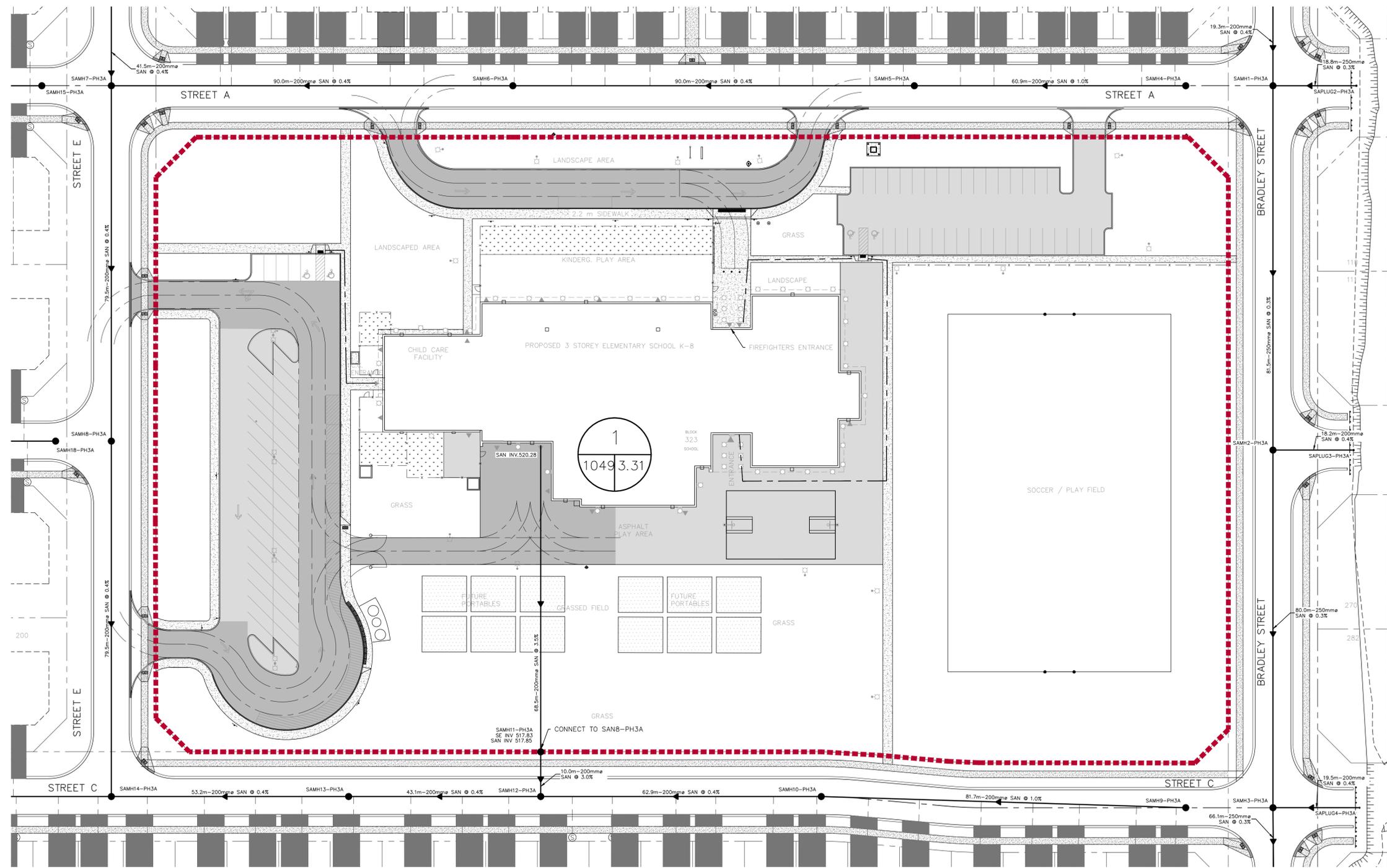
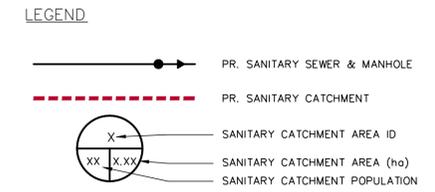
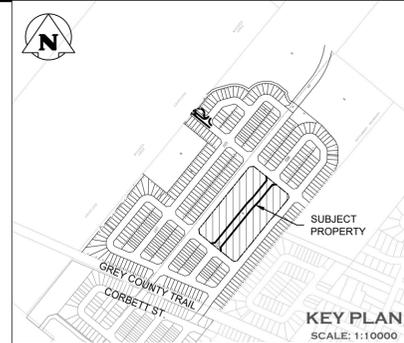


BWDSB NEW SCHOOL
 TOWNSHIP OF SOUTHGATE

Project: **STORMWATER MANAGEMENT CONCEPT PLAN**

Drawn By: V.P. Design By: V.P./A.W. Project: **2243-7223**
 Check By: A.W. Check By: A.W./R.W. Drawing: **C103**

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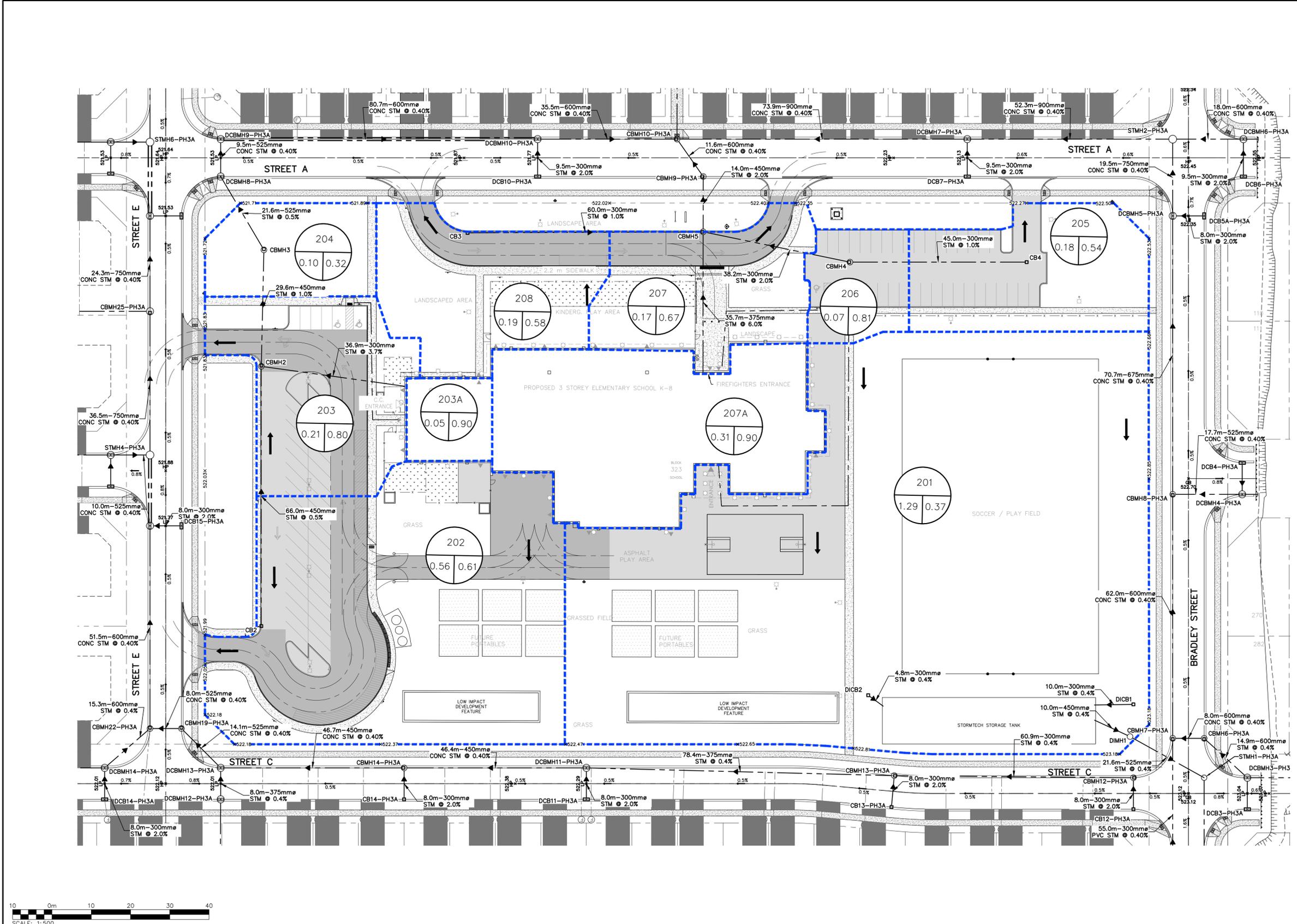
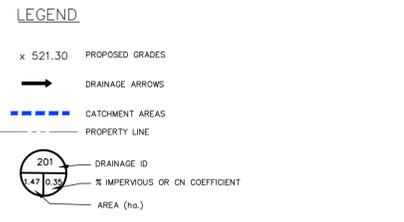
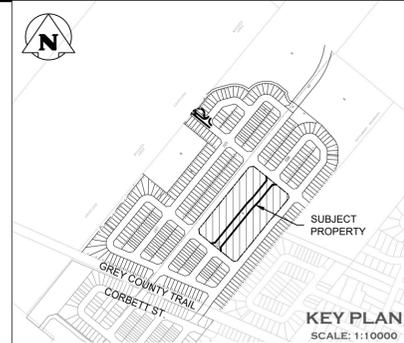
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3	ISSUED FOR 2nd SUBMISSION	2025/JUL/07

Town

Engineer

Project
**BWDSB NEW SCHOOL
 TOWNSHIP OF SOUTHGATE**
 Drawing
SANITARY DRAINAGE PLAN

Drawn By: V.P. Design By: V.P./A.W./R.W. Project: **2243-7223**
 Check By: A.W./R.W. Check By: A.W./R.W. Drawing: **C104**



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Engineer
A.L. WEST
 100190189
 PROVINCE OF ONTARIO

Engineer
J.Y. WANG
 100178087
 PROVINCE OF ONTARIO

Project
BWDSB NEW SCHOOL TOWNSHIP OF SOUTHGATE

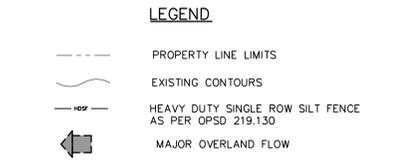
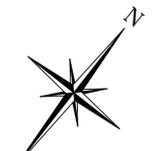
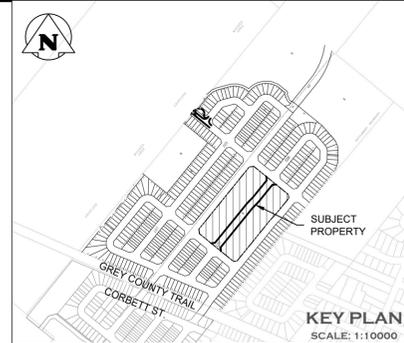
Drawing
STORM DRAINAGE PLAN

Drawn By: V.P.
 Check By: A.W./R.W.

Design By: V.P./A.W./R.W.
 Check By: A.W./R.W.

Project: **2243-7223**
 Drawing: **C105**

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GENERAL NOTES:

- ALL WORKS SHALL BE COMPLETED IN ACCORDANCE WITH THE OCCUPATIONAL HEALTH AND SAFETY ACT. THE GENERAL CONTRACTOR SHALL BE DEEMED TO BE THE "CONSTRUCTOR" AS DEFINED IN THE ACT.
- ALL SEDIMENT AND EROSION CONTROL FACILITIES AND WORKS ARE TO BE CONSTRUCTED AND IN PLACE TO THE APPROVAL OF THE SITE ENGINEER PRIOR TO ANY GRADING OPERATIONS COMMENCING. TYPICAL WORKS INCLUDE SILT FENCES, INTERCEPTOR SWALES, STRAW BALE CHECK DAMS AND SEDIMENT TRAPS.
- ALL TEMPORARY TOPSOIL STOCKPILES ARE TO BE PROVIDED WITH THE NECESSARY SEDIMENT AND EROSION CONTROL FEATURES.
- ALL INTERCEPTOR SWALES ARE TO BE SEED TO STABILIZE THEIR BANKS IMMEDIATELY FOLLOWING CONSTRUCTION.
- REFER TO APPLICATION FORM FOR GRUBBING OF TREES WITHIN LIMITS OF FILL AREA.
- NO GRADING OF LANDS WILL OCCUR WITHIN SPECIFIED BUFFERS ALONG PROPERTY LINES AND INTERNAL TO SITE.
- THE LOCATION OF ALL UNDERGROUND AND ABOVEGROUND UTILITIES AND STRUCTURES ARE NOT NECESSARILY SHOWN ON THE CONTRACT DRAWINGS, AND WHERE SHOWN, THE ACCURACY OF THE LOCATION OF SUCH UTILITIES AND STRUCTURES IS NOT GUARANTEED. BEFORE STARTING WORK, THE CONTRACTOR SHALL INFORM HIMSELF OF THE EXACT LOCATION OF ALL SUCH UTILITIES AND STRUCTURES AND SHALL ASSUME ALL LIABILITY FOR DAMAGE TO THEM.

MAINTENANCE & OPERATIONS OF SEDIMENT CONTROLS

SILT FENCE

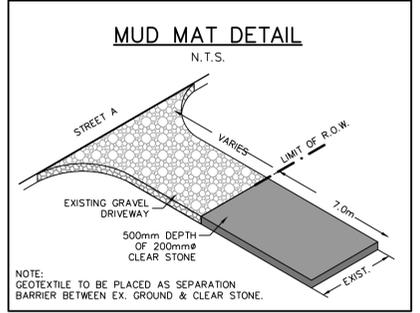
- SILT FENCE MUST BE INSPECTED WEEKLY FOR RIPS OR TEARS, BROKEN STAKES, BLOW-OUTS AND ACCUMULATION OF SEDIMENT.
- SILT FENCE MUST BE INSPECTED FOLLOWING ALL 15mm OR GREATER RAIN STORM EVENTS OR AS DIRECTED BY SITE ENGINEER.
- SEDIMENT MUST BE REMOVED FROM SILT FENCE WHEN ACCUMULATION REACHES 50% OF THE HEIGHT OF THE FENCE.
- ALL SILT FENCES MUST BE REMOVED ONLY WHEN THE ENTIRE SITE IS STABILIZED AND AS DIRECTED BY THE SITE ENGINEER.

MUD MAT MAINTENANCE

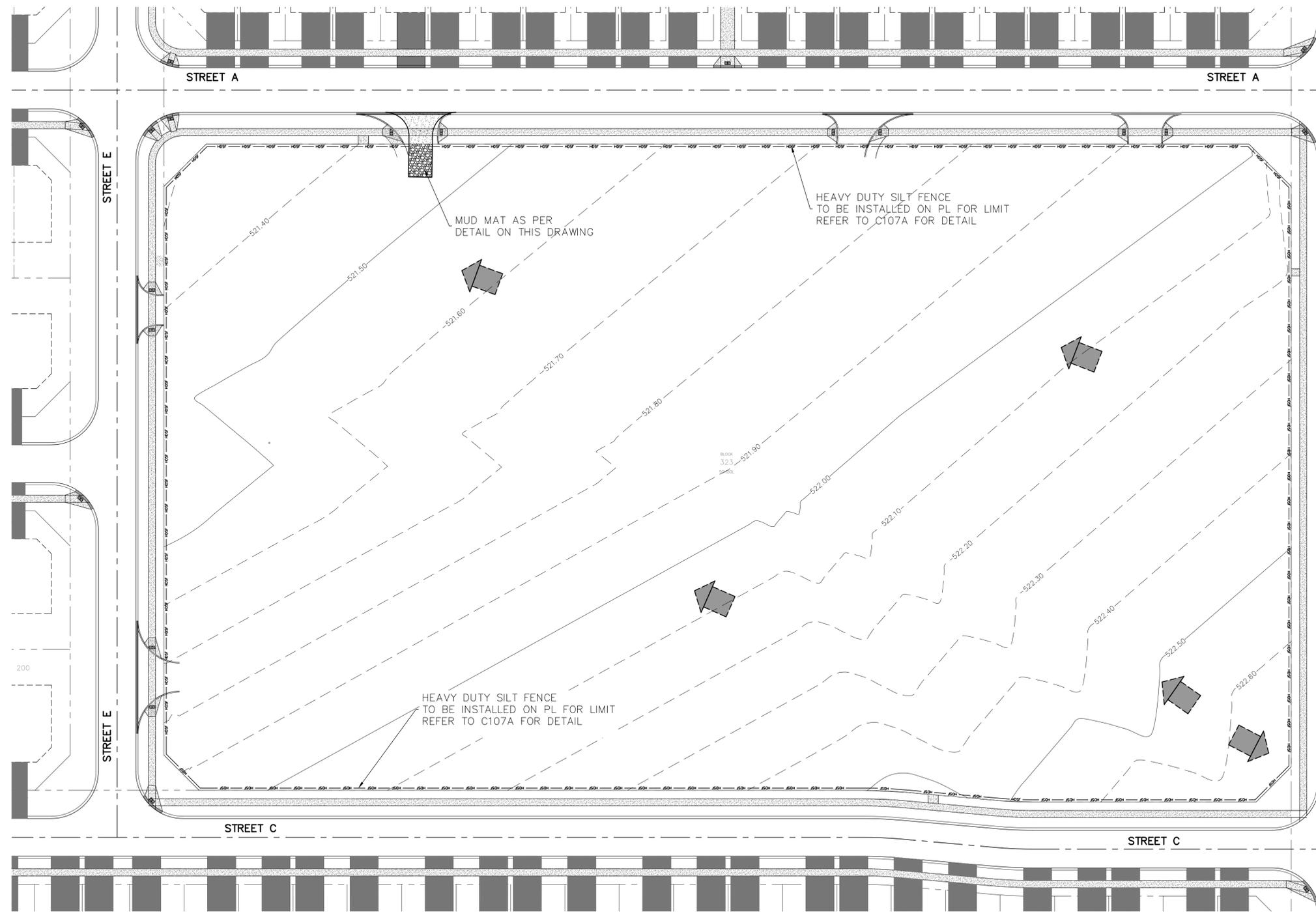
- INSPECT MUD MAT WEEKLY TO ASSESS CONDITION AND ENSURE OPERATION EFFICIENCY.
- SUPPLY AND PLACE ADDITIONAL CLEAR STONE AS DIRECTED BY SITE ENGINEER.
- MAT TO REMAIN IN PLACE UNTIL SITE IS STABILIZED OR AS DIRECTED BY SITE ENGINEER.

DECOMMISSIONING / RESTORATION

- FOLLOWING COMPLETION OF CONSTRUCTION AND AS DIRECTED BY SITE ENGINEER, ALL EROSION AND SEDIMENT CONTROL WORKS ARE TO BE REMOVED INCLUDING ANY ACCUMULATED SEDIMENT.
- ALL WORKS LOCATED ON LANDS OUTSIDE THE PROPOSED DEVELOPMENT AREA ARE TO BE GRADED TO MATCH EXISTING SURROUNDING GROUND AND HYDROSEDED.
- ALL SEDIMENT BUILD-UP TO BE REMOVED FROM SEDIMENT BASINS. DISTURBED AREAS AND SEDIMENT BASINS TO BE TREATED WITH 25mm OF TOPSOIL AND HYDROSEDED AS DIRECTED BY SITE ENGINEER.



NOTE: GEOTEXTILE TO BE PLACED AS SEPARATION BARRIER BETWEEN EX. GROUND & CLEAR STONE.



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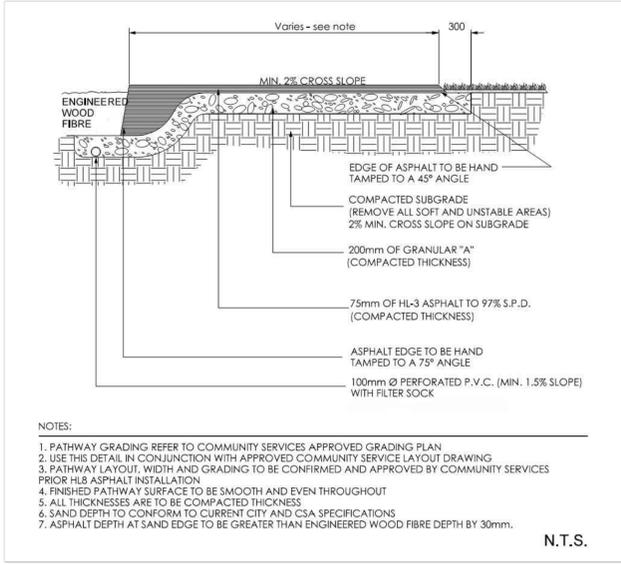


Project: **BWDSB NEW SCHOOL TOWNSHIP OF SOUTHGATE**
Drawing: **EROSION AND SEDIMENT CONTROL PLAN**

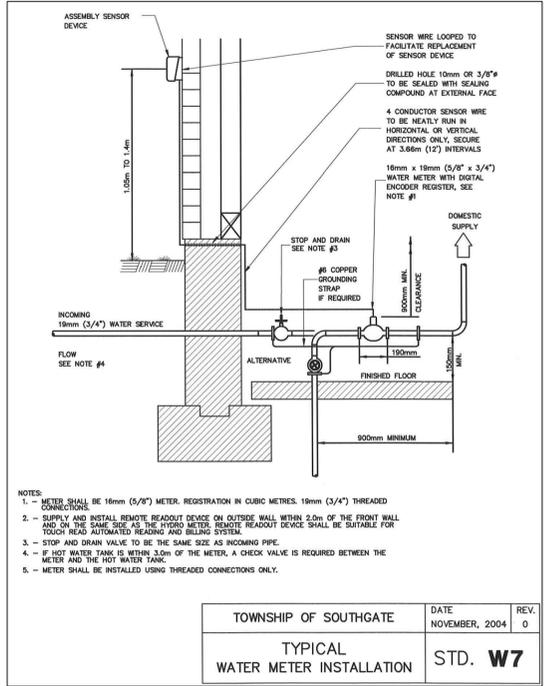
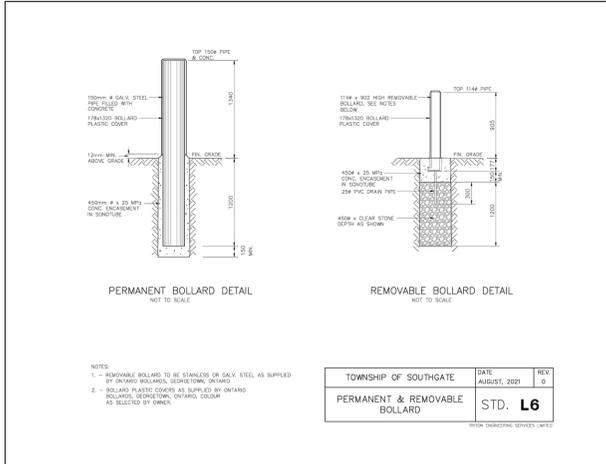
Drawn By: V.P. Design By: V.P./A.W./R.W. Project: **2243-7223**
Check By: A.W./R.W. Check By: A.W./R.W. Drawing: **C106**

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ASPHALT PLAY AREA DETAIL

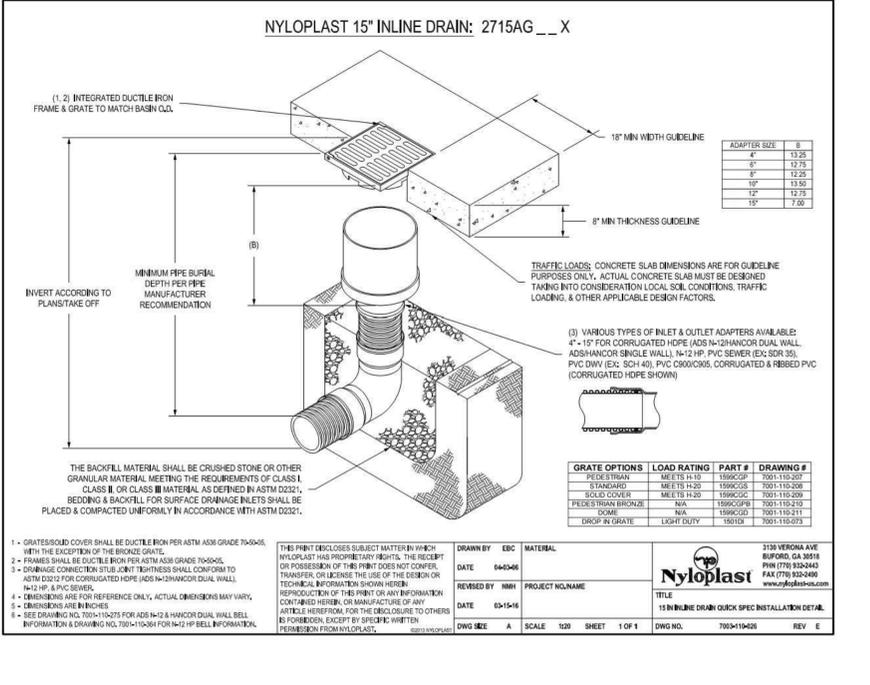
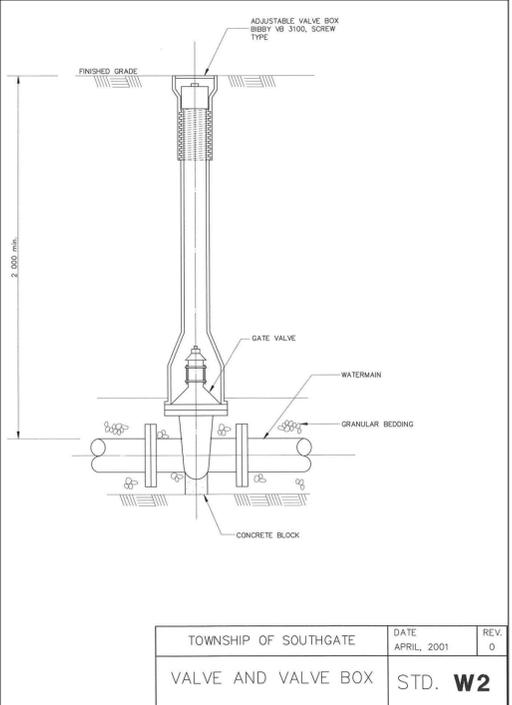
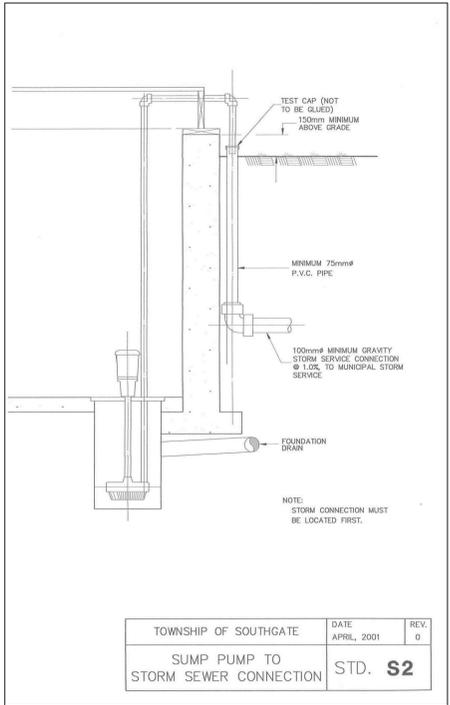
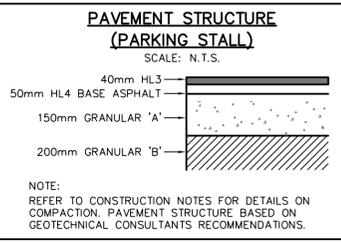
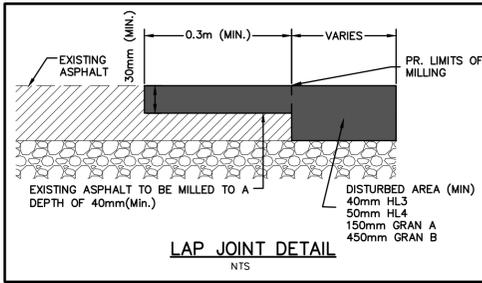


N.T.S.



CONSTRUCTION NOTES:

- A) GENERAL - CONSTRUCTION**
1. ALL WORK TO BE CARRIED OUT IN ACCORDANCE WITH TOWNSHIP OF SOUTHGATE STANDARDS, OPSD AND OPSS. WHERE CONFLICT OCCURS, TOWNSHIP OF SOUTHGATE TO GOVERN.
 2. TRENCH BACKFILL (OPSD 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 (SPMDD).
 3. PIPE COVER AND BEDDING TO BE CLASS 'B' COMPOSED OF COMPACTED GRANULAR IF EXTENSIVE DEWATERING IS REQUIRED CLASS 'A'.
 4. ALL TOPSOIL AND EARTH EXCAVATION TO BE STOCK PILED OR REMOVED TO AN APPROVED SITE AS DIRECTED BY ENGINEER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DETAILED LAYOUT OF THE WORK. THE DEVELOPER'S ENGINEER WILL CONFIRM ALL BENCH MARK ELEVATIONS AND HORIZONTAL ALIGNMENT FOR THE CONTRACTOR.
 5. ALL PROPERTY BARS TO BE PRESERVED AND REPLACED BY O.L.S. AT CONTRACTOR'S EXPENSE IF REMOVED DURING CONSTRUCTION.
 6. THE CONTRACTOR SHALL MAKE HIS OWN ARRANGEMENTS FOR THE SUPPLY OF TEMPORARY WATER AND POWER.
 7. DEWATERING TO BE CARRIED OUT IN ACCORDANCE WITH OPSS-517 AND 518 TO MAINTAIN ALL TRENCHES IN A DRY CONDITION. CONTRACTOR RESPONSIBLE FOR OBTAINING MECP PERMIT IF REQUIRED.
 8. ALL ENGINE DRIVEN PUMPS TO BE ADEQUATELY SILENCED, SUITABLE FOR OPERATION IN A RESIDENTIAL DISTRICT.
 9. ALL DISTURBED AREAS OUTSIDE THE DEVELOPABLE LANDS TO BE REINSTATED TO PREVIOUS CONDITION OR BETTER.
 10. THE CONTRACTOR IS RESPONSIBLE TO NOTIFY ALL UTILITY COMPANIES PRIOR TO COMMENCING WORK AND CO-ORDINATE CONSTRUCTION ACCORDINGLY.
 11. ALL EXCAVATION MUST BE CARRIED OUT IN FULL COMPLIANCE WITH MOST RECENT GUIDELINES OF OHSA. NATIVE SOILS ARE CLASSIFIED AS TYPE 2, 3 & 4 SOIL AS PER GEOTECHNICAL REPORT (SIRATI & PARTNERS CONSULTANTS LIMITED, JANUARY 2017)
- B) PARKING LOT AND ENTRANCES**
1. SUBGRADE TO BE COMPACTED TO A MINIMUM DRY DENSITY OF AT LEAST 95% SPMDD.
 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 SPMDD AND PLACED IN MAX. 150mm LIFTS.
 4. REFER TO PAVEMENT STRUCTURE DETAILS FOR INTERNAL ROADWAY, DRIVEWAYS AND PARKING AREAS.
 5. SELECT SUBGRADE MATERIAL, OR IMPORTED GRANULAR MATERIAL APPROVED BY ENGINEER, COMPACTED TO 98% SPMDD 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.
 8. CONCRETE CURB TO OPSD 600.110 AND OPSS 353. CONCRETE CURB AND CUTTER TO OPSD 600.040 AND OPSS 353.
 9. CONCRETE SIDEWALK TO OPSD 310.010, 310.030, 350.010 AND OPSS 351. SUBBASE TO CONSIST OF MIN. 150mm of GRANULAR 'A' UNLESS THROUGH DRIVEWAYS.
- C) SANITARY SERVICING CONNECTION**
1. BACKFILL AND EMBEDMENT TO OPSD - 802.010 CLASS 'B', GRANULAR 'A' BEDDING. IF EXTENSIVE DEWATERING IS REQUIRED, A CLASS 'A' BEDDING MAY BE REQUIRED (SUBJECT TO GEOTECHNICAL RECOMMENDATIONS.)
 2. TRENCH BACKFILL TO BE SELECT NATIVE MATERIAL AS APPROVED BY ENGINEER OR IMPORTED GRANULAR MATERIAL.
 3. SERVICE CONNECTIONS TO OPSD - 1006.020 (200mm), GRANULAR 'A' BEDDING, TERMINATE AT SERVICING CORRIDOR LIMITS WITH A TEST FITTING, PLUG AND 2x4 MARKER POST PAINTED GREEN REFER TO TOWNSHIP STANDARD S3. MINIMUM GRADE TO BE 2.0% SERVICE CONNECTIONS TO TOWNSHIP STD S4.
 4. SANITARY SERVICING PIPE 200MM SDR 35 PVC.
- D) WATERMAIN SERVICING CONNECTION**
1. BACKFILL AND EMBEDMENT TO OPSD - 802.010 CLASS 'B', GRANULAR 'A' EMBEDMENT. REFER TO GENERAL NOTES.
 2. TRENCH BACKFILL TO BE SELECT NATIVE MATERIAL AS APPROVED BY ENGINEER OR IMPORTED GRANULAR MATERIAL.
 3. SERVICE CONNECTIONS TO OPSD - 1104.010, 100mm GRANULAR 'A' EMBEDMENT AND COVER OVER PIPE. TERMINATE AT SERVICING CORRIDOR LIMITS C/W CURB STOP AND BOX.
 4. BACKFILL AND EMBEDMENT MATERIAL TO BE COMPACTED TO A DRY DENSITY OF AT LEAST 95% OF THE MATERIAL'S STANDARD PROCTOR MAXIMUM DRY DENSITY (SPMDD).
 5. MINIMUM COVER ON WATERMAIN AND SERVICES TO BE 2.0m.
 6. GATE VALVES, BENDS AND HYDRANT LEADS AND FITTINGS TO BE CONNECTED WITH ROLMAC GRIPPER RING RESTRAINING GLANDS. MECHANICAL RESTRAINTS ARE TO BE ONE OF THE FOLLOWING:
 - a. UNI-FLANGE SERIES 1300 MANUFACTURED BY FORD METER BOX COMPANY INC.
 - b. MEGALUG SERIES 1100 FOR DUCTILE IRON PIPE
 - c. MEGALUG SERIES 2000 PV FOR PVC C900 PIPE
 - d. STARGRIP SERIES 3000 FOR DUCTILE IRON PIPE
 - e. PVC STARGRIP SERIES 4000 FOR PVC C900 PIPE
 - f. ALL SERVICES TO BE DIRECT TAPPED.
 7. FOLLOWING TESTING, CONTRACTOR SHALL OPERATE EACH WATER SERVICE TO VERIFY FULL FLOW AND PRESSURE AT THE 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. COMPLETE WATER SYSTEM SHALL BE DISINFECTED IN ACCORDANCE WITH REQUIREMENTS OF AWWA STANDARD C651-99. REFER TO DETAIL ON DWG 1130 FOR TYPICAL TEMPORARY CONNECTION. ALL WATERMAIN TESTING & CHLORINATION WILL BE CONDUCTED BY THE TOWNSHIP AT CONTRACTORS COST. WATERMAINS ARE NOT TO BE CONNECTED TO EXISTING WATERMAINS UNTIL BACTERIOLOGICAL TESTING HAS BEEN SUCCESSFULLY COMPLETED & CERTIFIED BY CPU.
 9. WATERMAIN - C900 PVC CLASS 235 (DR 18), B 137.3 WITH RING-TIE JOINTS AND TRACER WIRE. TRACER WIRE IS TO BE #12 AWG CLAD STEEL WITH MINIMUM 450mm BREAK BURIAL AND COLOR CODED BLUE. DIRECT BURY WIRE SHOULD HAVE 3-WAY LOCABLE CONNECTORS. ABOVE GROUND TRACER WIRE ACCESS BOXES SHALL BE ATTACHED TO UNDERSIDE OF BOTTOM FLANGE OF FIRE HYDRANTS.
 10. MAIN STOPS ARE TO BE ONE OF THE FOLLOWING:
 - a. CAMBRIDGE BRASS, BALL STYLE, SERIES 301NL (NO LEAD), AWWA X CB COMPRESSION ASSEMBLY
 - b. MUELLER CANADA, MUELLER 300, BALL TYPE, NO LEAD, B-25008, AWWA X MUELLER "CC" COMPRESSION ASSEMBLY
 - c. FORD METER BOX COMPANY, BALL STYLE, FB-1000-NL, NO LEAD, AWWA X "CC" COMPRESSION ASSEMBLY
 - d. CURB STOPS TO 203-H3H3, BALL STYLE WITH DRAIN. BLOW OFFS AS PER TOWNSHIP STD W1.
 - e. CURB STOPS ARE TO BE ONE OF THE FOLLOWING:
 - a. CAMBRIDGE BRASS, BALL STYLE, SERIES 202NL (NO LEAD), CB COMPRESSION X CB COMPRESSION ASSEMBLY
 - b. MUELLER CANADA, MUELLER 300, BALL TYPE, NO LEAD, MUELLER "CC" X MUELLER "CC" COMPRESSION ASSEMBLY
 - c. FORD METER BOX COMPANY, BALL STYLE, B44 SERIES, NO LEAD, "CC" COMPRESSION ASSEMBLY
 - f. A CURB STOP & EXTENSION SERVICE BOX & MAIN STOP MUST BE INSTALLED ON EACH SERVICE USING COMPRESSION JOINT FITTINGS.
 - g. ALL CURB STOPS FOR SERVICES WITHIN ASPHALT TO BE LOCATED IN VALVE BOXES INSTALLED FLUSH TO FINISHED GRADE OF ASPHALT. CAP FOR VALVE BOX TO BE MARKED WITH 'W' & PAINTED BLUE.
 - h. SERVICE BOXES TO NUMBER 7, D-1 CLOW OR MUELLER, 24" BLACK ROADS STRAIGHT C/W CAP PAINTED BLUE.
 - i. ALL SERVICES SHALL BE METERED AS PER TOWNSHIP STD W7. METERS TO BE COMPLETE WITH REMOTE READOUT OR RADIO READ AS DETERMINED BY THE TOWNSHIP.
 - j. VALVES - RESILIENT SEATED, RSGV MECHANICAL JOINT, OPEN LEFT CLOW OR MUELLER WITH 5-SL-48 SLIDING VALVE BOX C/W CAP PAINTED BLUE. VALVE AND VALVE BOX PER TOWNSHIP STD W2.
 - k. MECHANICAL JOINT DUCTILE FITTINGS - AWWA/ANSI C153/A21.53.
 - l. ALL VALVES TO BE OPERATED BY THE TOWNSHIP (IF REQUIRED). CONTRACTOR TO PROVIDE MIN. 48hr NOTIFICATION FOR REQUEST.
 - m. ALL WATERMAIN FITTINGS TO BE LEAD FREE.
 11. MECHANICAL JOINT RESTRAINTS TO BE USED DURING TRANSITION OF WATERMAIN INSTALLATION IN NATIVE SOILS TO ENGINEERED FILL. MECHANICAL JOINT RESTRAINTS TO BE UNI-FLANGE SERIES 1300, MANUFACTURED BY FORD METER BOX COMPANY INC. OR APPROVED EQUAL. FINAL LIMITS TO BE FIELD DECISION.
 12. MECHANICAL JOINTS ARE REQUIRED ON ALL FITTINGS AND BENDS.
 13. CATHODIC PROTECTION REQUIRED ON ALL METALLIC FITTING AND PIPE AS PER OPSS 702 & TOWNSHIP STANDARDS.
 14. THE PVC PIPE INSTALLATION SHALL INCLUDE TRACER WIRE. TRACER WIRE TO BE 12 GAUGE, MULTI-STRAND SHALL BE PLACED ON TOP & ATTACHED IN TWO PLACES ON EACH LENGTH OF PVC WATERMAIN. ALL CONNECTIONS SHALL BE MADE WITH "DORCYONA WATERPROOF CONNECTORS" OR APPROVED EQUAL. MUNICIPALITY MUST BE ON SITE DURING ANY TRACER WIRE CONTINUITY TESTING. ABOVE GROUND TRACER WIRE ACCESS BOXES SHALL BE ATTACHED TO UNDERSIDE OF BOTTOM FLANGE OF FIRE HYDRANTS.
 15. CLEARANCE BETWEEN WATERMAINS AND SEWER TO BE AS PER MECP GUIDELINES. THE MINIMUM HORIZONTAL SEPARATION BETWEEN THE WATER MAIN AND ANY SEWER SHALL BE 2.5m. A MINIMUM VERTICAL SEPARATION OF 0.5m MUST BE MAINTAINED BETWEEN WATER MAIN AND SEWERS. CLEARANCES ARE MEASURED FROM OUTSIDE EDGES OF PIPES.
- E) STORM SEWERS**
1. MH TO OPSD 701.010 AND DCBMH TO OPSD - 701.011, 701.012, 701.013.
 2. SUMPS - 450mm PIPES AND UNDER REQUIRE 600mm SUMP IN CATCHBASINS AND MAINTENANCE HOLES
 3. BENCHING - REQUIRED FOR PIPES OVER 450mm DIAMETER.
 4. STEPS TO OPSD 405.010.
 5. M.H. FRAMES AND GRATES TO OPSD - 401.01 OPEN COVER.
 6. DIG'S TO OPSD - 705.030, 705.040 (TYPE A).
 7. DCBMH FRAMES AND GRATES TO BE OPSD - 400.100, & OPSD-400.110 (SQUARE)
 8. PIPE SUPPORT AT DCBMH'S TO OPSD - 708.020.
 9. DCB LEADS MINIMUM 300mm x CONNECTION FOR RIGID & FLEXIBLE MAIN PIPE SEWER AS PER OPSD - 708.010, 708.030.
 10. PROTECTION DURING CONSTRUCTION OPSD - 808.010
 11. BACKFILL AND EMBEDMENT TO OPSD - 802.010 (FLEXIBLE PIPE) CLASS 'B', GRANULAR 'A' EMBEDMENT OR OPSD - 802.030, 802.031 AND 802.032 (RIGID PIPE) GRANULAR 'A' EMBEDMENT. REFER TO GENERAL NOTES.
 12. BACKFILL AND EMBEDMENT MATERIAL TO BE COMPACTED TO A DRY DENSITY OF AT LEAST 95% OF THE MATERIAL'S SPMDD.
 13. FROST STRAPS PER OPSD 701.100.
 14. STORM SEWERS 375mm or LESS TO BE PVC DR35. STORM SEWERS 450mm OR MORE TO BE CONCRETE CL-650 UNLESS OTHERWISE NOTED.
 15. STORM SERVICES TO BE 100mm PVC DR28 COLORED WHITE. WHERE SHARED STORM SERVICES ARE USED, SERVICE BETWEEN STORM SEWER CONNECTION AND PIPE TO BE 125mm. MINIMUM SLOPE TO BE 1% MINIMUM COVER 1.2m.
 16. CATCHBASIN LEADS TO REAR YARD CATCHBASINS TO BE CONCRETE CL-100D.
 17. INLINE AREA DRAINS (AD) TO BE NYLOPLAST 15" (DWG NO. 7003-110-026)



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No.	ISSUE	DATE: YYYY/MM/DD
1	ISSUED FOR 1st SUBMISSION	2025/JAN/30
2	ISSUED FOR BUILDING PERMIT	2025/MAY/01
3	ISSUED FOR 2nd SUBMISSION	2025/JUL/07

No.	ISSUE	DATE: YYYY/MM/DD
1	ISSUED FOR 1st SUBMISSION	2025/JAN/30
2	ISSUED FOR BUILDING PERMIT	2025/MAY/01
3	ISSUED FOR 2nd SUBMISSION	2025/JUL/07

Engineer

A.L. WEST
100180189
PROVINCE OF ONTARIO

Engineer

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100178087
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Project

BWDSB NEW SCHOOL
TOWNSHIP OF SOUTHGATE

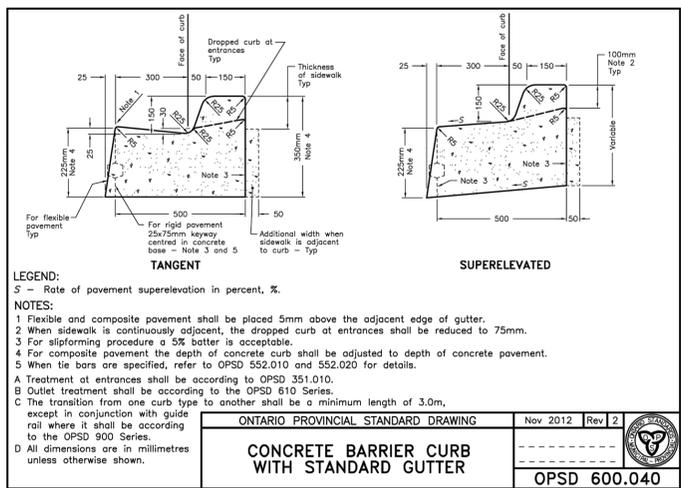
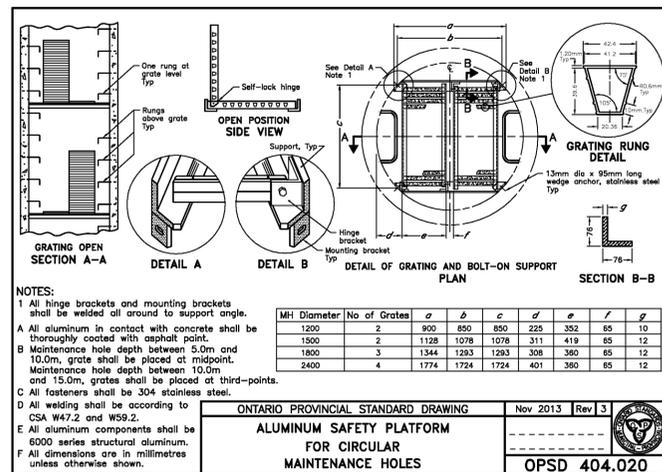
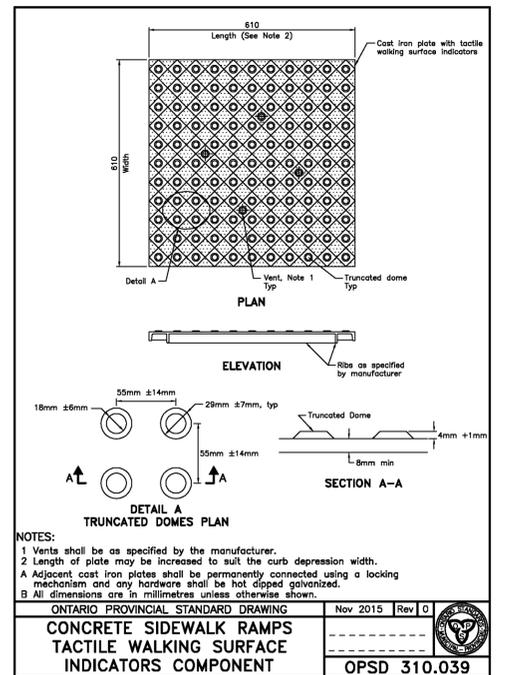
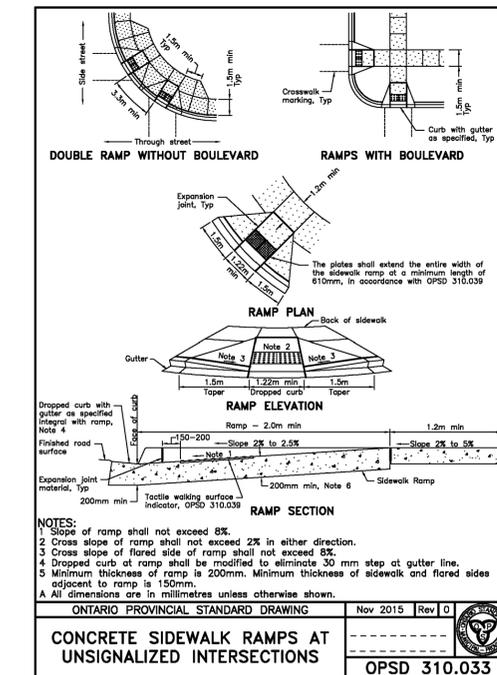
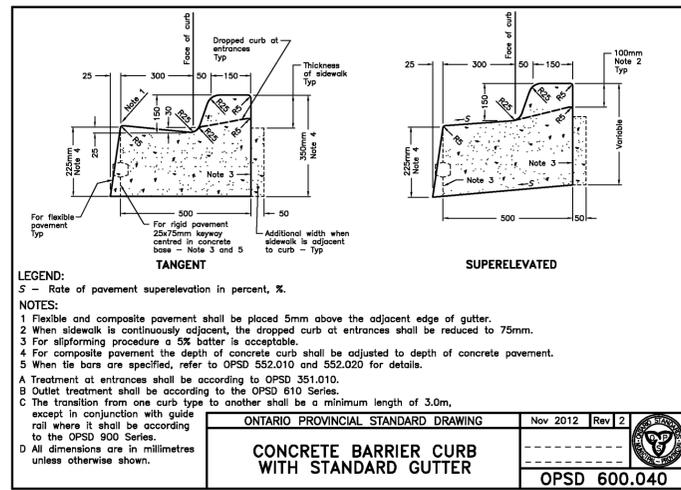
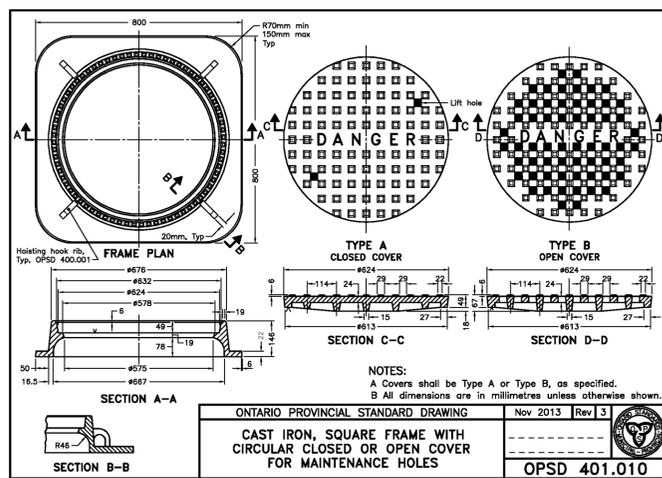
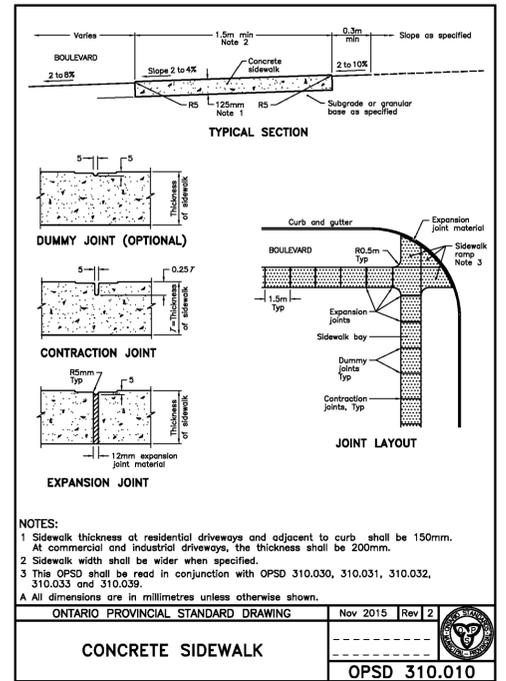
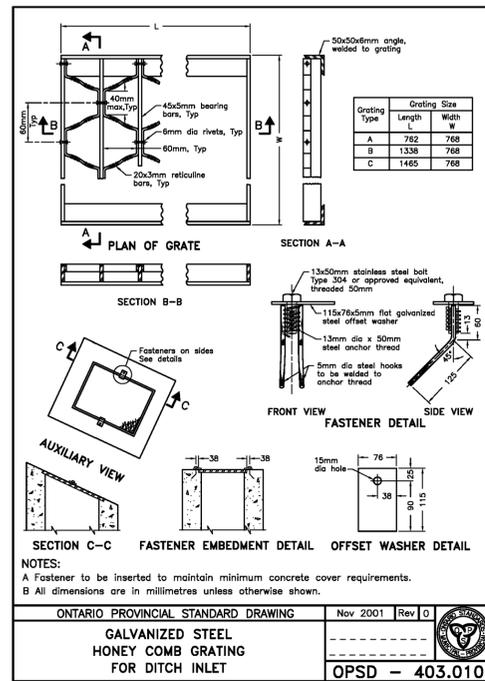
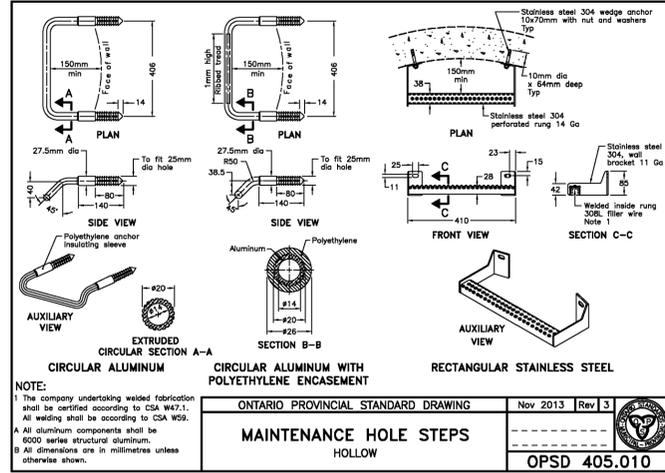
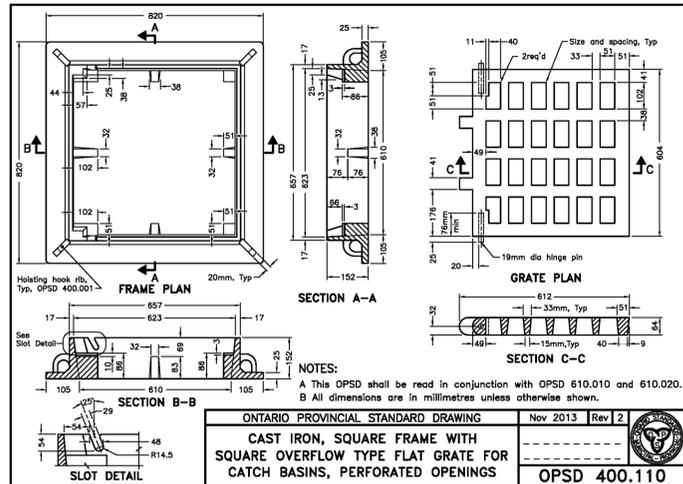
CONSTRUCTION NOTES, DETAILS & MUNICIPAL STANDARD DRAWINGS

Drawn By: V.P.
Check By: A.W./R.W.

Design By: V.P./A.W./R.W.
Check By: A.W./R.W.

Project: **2243-7223**
Drawing: **C107A**

CROZIER CONSULTING ENGINEERS



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Engineer: **BWDSB NEW SCHOOL TOWNSHIP OF SOUTHGATE**
 Project: **ONTARIO PROVINCIAL STANDARD DRAWINGS**
 Drawing: **2243-7223 C107B**

CROZIER CONSULTING ENGINEERS
 Drawn By: V.P. Design By: V.P./A.W./R.W. Project: 2243-7223
 Check By: A.W./R.W. Check By: A.W./R.W. Drawing: C107B

SUMP DETAIL

ALTERNATIVES

A PRECAST SLAB BASE

B CAST-IN-PLACE BASE

C PRECAST FLAT CAP

NOTES:

- 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.
- Precast concrete components shall be according to OPSD 701.030, 701.031, or 701.032.
- Structure exceeding 5.0m in depth shall include safety platform according to OPSD 404.020.
- Pipe support shall be according to OPSD 708.020.
- For benching and pipe opening details, see OPSD 704.021.
- For adjustment unit and frame installation, see OPSD 704.010.
- All dimensions are nominal.
- 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

ALTERNATIVES

A PRECAST MONOLITHIC BASE

B CAST-IN-PLACE BASE

C TAPERED TRANSITION SLAB

D 1200mm PRECAST FLAT CAP

E 1500mm PRECAST FLAT CAP

NOTES:

- For sump detail, see OPSD 701.010.
- A Granular backfill shall be placed to a minimum thickness of 300mm all around the maintenance hole.
- Precast concrete components shall be according to OPSD 701.030, 701.031, 701.040, 701.041, 703.011, 703.021, and 706.010.
- Structure exceeding 5.0m in depth shall include safety platform according to OPSD 404.020 or 404.021.
- Pipe support shall be according to OPSD 708.020.
- For benching and pipe opening details, see OPSD 704.021.
- For adjustment unit and frame installation, see OPSD 704.010.
- All dimensions are nominal.
- All dimensions are in millimetres unless otherwise shown.

Maintenance Hole Diameter	No. 1-4			No. 5 and 6		No. 8	
	Inlet Hole	Outlet Hole		Inlet Hole	Outlet Hole		
1200	700	860	880	780	700	880	
1500	860	1220	960	860	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		

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

1. Right angle bend **2. Tee connection** **3. Three way junction**

4. Four way junction **5. Straight through** **6. Dead end**

7. Wye connection **8. 45° bend**

Maintenance Hole Diameter	No. 1-4			No. 5 and 6		No. 8	
	Inlet Hole	Outlet Hole		Inlet Hole	Outlet Hole		
1200	700	860	880	780	700	880	
1500	860	1220	960	860	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		

ONTARIO PROVINCIAL STANDARD DRAWING Nov 2014 Rev 4
MAINTENANCE HOLE BENCHING AND PIPE OPENING ALTERNATIVES
 600x800mm
 OPSD 701.021

ALTERNATIVE	DIMENSION
A	1980
B	1830
C	1520
D	1380

ONTARIO PROVINCIAL STANDARD DRAWING Nov 2014 Rev 3
PRECAST CONCRETE CATCH BASIN
 600x800mm
 OPSD 705.010

PIPE DIA	No. of RODS
450	1
525	1
600	2
675	3
750	3
825	4
900	4
975	5
1050	6
1200	7

ONTARIO PROVINCIAL STANDARD DRAWING Nov 2018 Rev 2
GRATING FOR CONCRETE ENDWALL
 OPSD 804.050

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

Alternate	Dimension
A	1980
B	1520
C	1380

ONTARIO PROVINCIAL STANDARD DRAWING Nov 2014 Rev 3
PRECAST CONCRETE DITCH INLET
 600 x 800mm
 OPSD 705.030

ONTARIO PROVINCIAL STANDARD DRAWING Nov 2011 Rev 2
SEWER SERVICE CONNECTIONS FOR FLEXIBLE MAIN PIPE SEWER
 OPSD 1006.020

ONTARIO PROVINCIAL STANDARD DRAWING Nov 2010 Rev 2
FROST STRAP INSTALLATION
 OPSD 701.100

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No.	ISSUE	DATE: YYYY/MM/DD
1	ISSUED FOR 1st SUBMISSION	2025/JAN/30
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3	ISSUED FOR 2nd SUBMISSION	2025/JUL/07

DATE: 2025/JAN/30
 2025/MAY/01
 2025/JUL/07

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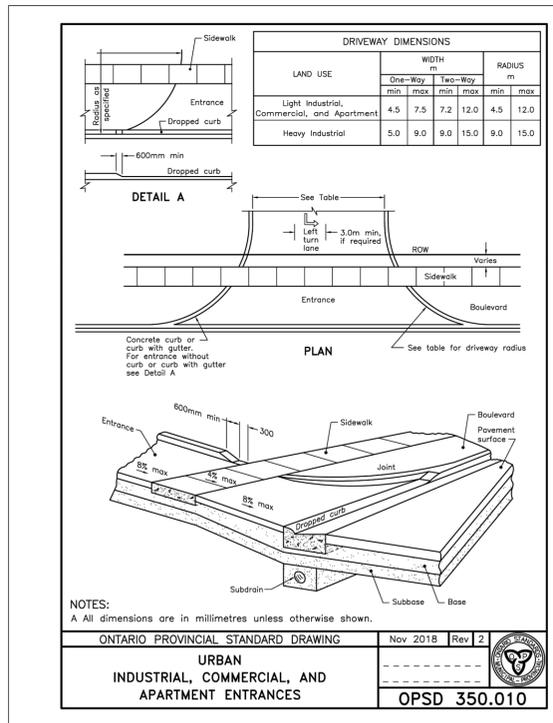
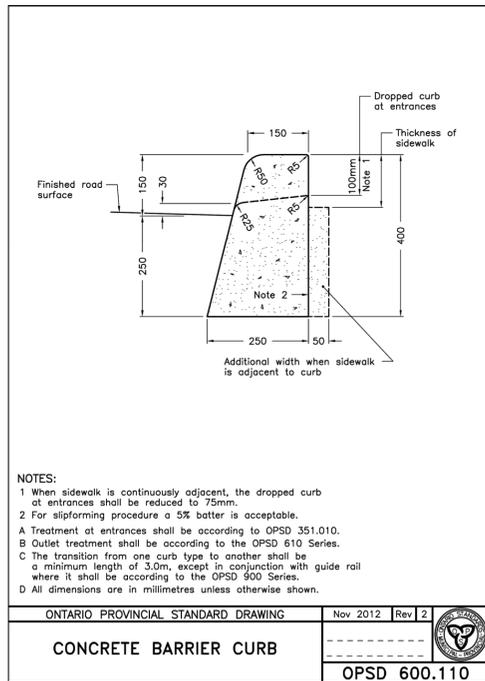
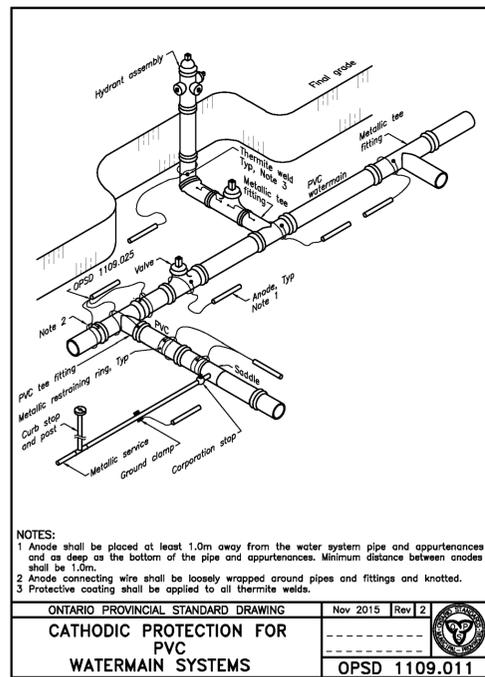
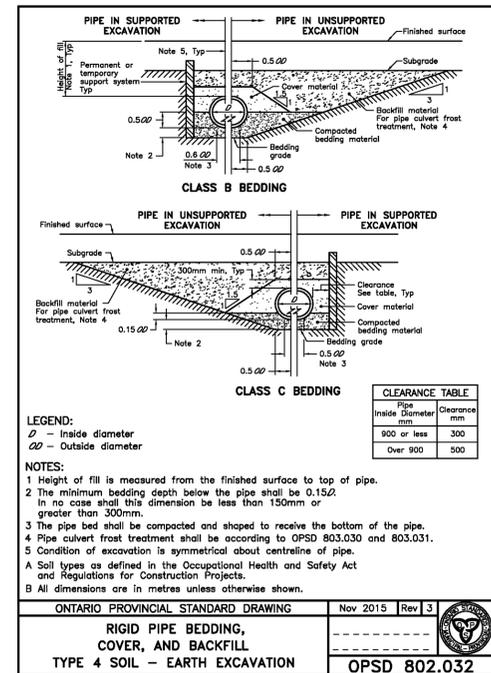
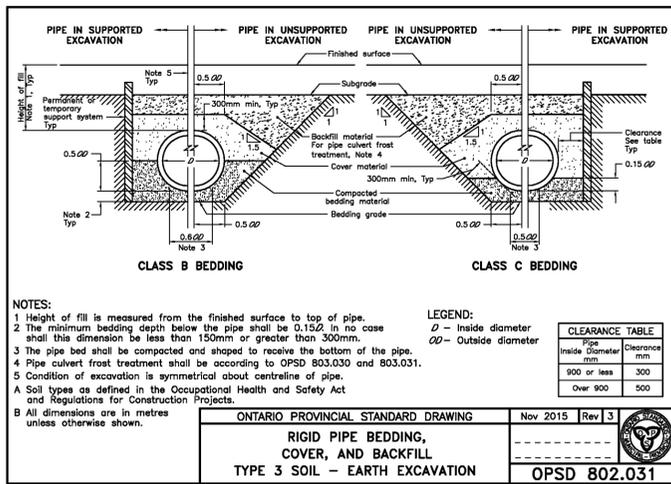
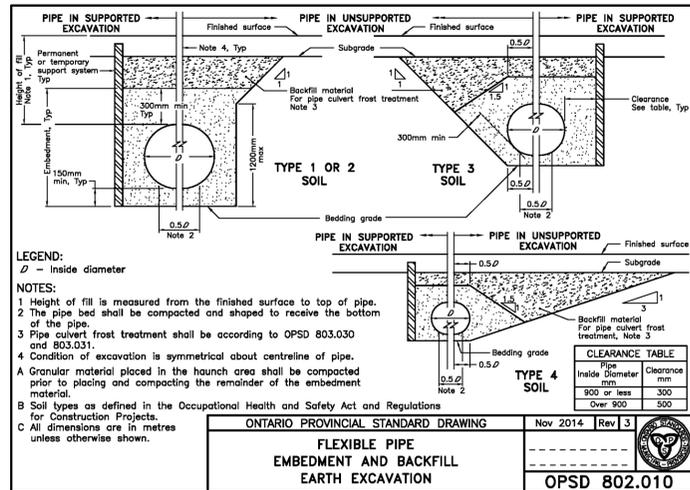
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Project
BWDSB NEW SCHOOL TOWNSHIP OF SOUTHGATE

Drawing
ONTARIO PROVINCIAL STANDARD DRAWINGS

Drawn By: V.P.
 Design By: V.P./A.W./R.W.
 Check By: A.W./R.W.
 Project: **2243-7223**
 Drawing: **C107C**

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 07/07/2025
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Project
BWDSB NEW SCHOOL TOWNSHIP OF SOUTHGATE

Drawing
ONTARIO PROVINCIAL STANDARD DRAWINGS

CROZIER CONSULTING ENGINEERS

Drawn By: V.P. Design By: V.P./A.W./R.W. Project: **2243-7223**
 Check By: A.W./R.W. Check By: A.W./R.W. Drawing: **C107D**

PROJECT INFORMATION

ENGINEERED PRODUCT MANAGER

ADS SALES REP

PROJECT NO

ADS
Advanced Drainage Systems, Inc.

ADS
SiteAssist
FOR STORMTECH
INSTALLATION INSTRUCTIONS
VIB CHAMPS

SCHOOLBLOCK_APRIL2024

SOUTHGATE, ON, CANADA

SC-310 STORMTECH CHAMBER SPECIFICATIONS

- CHAMBERS SHALL BE STORMTECH SC-310
- CHAMBERS SHALL BE ARCH-SHAPED AND SHALL BE MANUFACTURED FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE OR POLYETHYLENE COPOLYMERS.
- CHAMBERS SHALL BE CERTIFIED TO CSA B114, "POLYMERIC SUB-SURFACE STORMWATER MANAGEMENT STRUCTURES", AND MEET THE REQUIREMENTS OF ASTM F2922 (POLYETHYLENE) OR ASTM F2418 (POLYPROPYLENE), STANDARD SPECIFICATION FOR CORRUGATED WALL STORMWATER COLLECTION CHAMBERS.
- CHAMBER ROWS SHALL PROVIDE CONTINUOUS UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORTS THAT WOULD IMPIDE FLOW OR LIMIT ACCESS FOR INSPECTION.
- THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 15.12 ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE CSA S6 CL 625 TRUCK AND THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
- CHAMBERS SHALL BE DESIGNED, TESTED AND ALLOWABLE LOAD CONFIGURATIONS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS". LOAD CONFIGURATIONS SHALL INCLUDE: 1) INSTANTANEOUS (1) MIN. AASHTO DESIGN TRUCK LIVE LOAD ON MINIMUM COVER; 2) MAXIMUM PERMANENT (75 YR) COVER LOAD AND 3) ALLOWABLE COVER WITH PARKED (1) WEEK, AASHTO DESIGN TRUCK.
- REQUIREMENTS FOR HANDLING AND INSTALLATION:
 - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LOGS.
 - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 52 mm (2").
 - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 8.2.4 OF ASTM F2922 SHALL BE GREATER THAN OR EQUAL TO 400 LB/FT² IN. AND 1) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 20 °C / 70 °F), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.
- ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. UPON REQUEST BY THE SITE DESIGN ENGINEER OR OWNER, THE CHAMBER MANUFACTURER SHALL SUBMIT A STRUCTURAL EVALUATION FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE AS FOLLOWS:
 - THE STRUCTURAL EVALUATION SHALL BE DEMONSTRATED BY A REGISTERED PROFESSIONAL ENGINEER.
 - THE STRUCTURAL EVALUATION SHALL DEMONSTRATE THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY SECTION 15.12.12 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS FOR THERMOPLASTIC PIPE.
 - THE TEST OBSERVED CREEP MODULUS AS SPECIFIED IN ASTM F2922 SHALL BE USED FOR PERMANENT DEAD LOAD DESIGN EXCEPT THAT IT SHALL BE THE 75-YEAR MODULUS USED FOR DESIGN.
- CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.
- MANHOLE SIZE TO BE DETERMINED BY SITE DESIGN ENGINEER. SEE TECH NOTE #6.33 FOR MANHOLE SIZING GUIDANCE. DUE TO THE ADAPTATION OF THE CHAMBER SYSTEM TO SPECIFIC SITE DESIGN CONDITIONS, IT MAY BE NECESSARY TO CUT AND COUPE ADDITIONAL PIPE TO STANDARD MANHOLE COMPONENTS IN THE FIELD.
- ADS DOES NOT DESIGN OR PROVIDE MEMBRANE LINER SYSTEMS. TO MINIMIZE THE LEAKAGE POTENTIAL OF LINER SYSTEMS, THE MEMBRANE LINER SYSTEM SHOULD BE DESIGNED BY A REGISTERED PROFESSIONAL ENGINEER AND INSTALLED BY A QUALIFIED CONTRACTOR.

IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF THE SC-310 SYSTEM

- STORMTECH SC-310 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
- STORMTECH SC-310 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310SC-740DC-780 CONSTRUCTION GUIDE". STORMTECH RECOMMENDS 3 BACKFILL METHODS:
 - STONE/HOOTER LOCATED OFF THE CHAMBER BED.
 - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
 - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
- THE FOUNDATION STONE SHALL BE LEVELLED AND COMPACTED PRIOR TO PLACING CHAMBERS.
- JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
- MAINTAIN MINIMUM 80 mm (3") SPACING BETWEEN THE CHAMBER ROWS.
- EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE, AASHTO M43 #3, 357.4, 467.5, 58 OR 57.
- THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
- ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

NOTES FOR CONSTRUCTION EQUIPMENT

- STORMTECH SC-310 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310SC-740DC-780 CONSTRUCTION GUIDE".
- THE USE OF CONSTRUCTION EQUIPMENT OVER SC-310 & SC-740 CHAMBERS IS LIMITED:
 - NO EQUIPMENT IS ALLOWED ON BASE CHAMBERS.
 - NO RUBBER TYRED LOADERS, DUMP TRUCKS, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH SC-310SC-740DC-780 CONSTRUCTION GUIDE".
 - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH SC-310SC-740DC-780 CONSTRUCTION GUIDE".
- FULL 900 mm (30") OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.

USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO THE CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.

CONTACT STORMTECH AT 1-800-821-6710 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.

SCALE = 1 : 200

SHEET 2 OF 5

PROPOSED LAYOUT		CONCEPTUAL ELEVATIONS		PART TYPE		ITEM ON LAYOUT		DESCRIPTION	
277	STORMTECH SC-310 CHAMBERS	MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED)	3.372						
278	STORMTECH SC-310 END CAP	MINIMUM ALLOWABLE GRADE (COVERED WITH TRAFFIC)	1.112						
293	STONE ABOVE	MINIMUM ALLOWABLE GRADE (UNPAVED)	1.041						
294	STONE BELOW	MINIMUM ALLOWABLE GRADE (BASE OF RIGID CONCRETE PAVEMENT)	0.970						
492	FLAME	MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT)	0.940						
300	INSTALLED SYSTEM VOLUME (V)	TOP OF STONE	0.941						
	PRIMER STONE INCLUDED	TOP OF SC-310 CHAMBERS	0.928						
	COVER STONE INCLUDED	100 mm (4") BOTTOM MANHOLE INVERT (300 mm PIPE)	0.858						
814	SYSTEM AREA	100 mm (4") SC-310 CHAMBERS	0.928						
102	20% FILL PERCENTAGE	100 mm (4") BOTTOM MANHOLE INVERT (400 mm PIPE)	0.828						
		BOTTOM OF STONE	0.000						

NOTES

THE SITE DESIGN ENGINEER MUST REVIEW ELEVATIONS AND IF NECESSARY ADJUST GRADING TO ENSURE THE CHAMBER COVER REQUIREMENTS ARE MET FOR CONSTRUCTION. THIS LAYOUT IS FOR DIMENSIONAL PURPOSES ONLY TO PROVIDE CONCEPT & THE REQUIRED STORAGE VOLUME CAN BE ACHIEVED ON SITE.

SCALE = 1 : 200

SHEET 2 OF 5

ACCEPTABLE FILL MATERIALS: STORMTECH SC-310 CHAMBER SYSTEMS

MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D FILL FILL: FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'C' LAYER.	ANY SOURCE ROCK MATERIALS, NATIVE SOIL, OR PER ENGINEER'S PLANS. CHECK PLANS FOR NATIVE SOIL SUBBASE REQUIREMENTS.	NA	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRENGTH MATERIAL AND PREPARATION REQUIREMENTS.
C EMBEDMENT STONE: FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE OR LAYERS TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE.	AASHTO M43#1 A-1, A-2, 4, A-3	BEgin COMPACTIONS AFTER 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 1" (25 mm) MAX LIFT TO A MINIMUM PROCTOR DENSITY OF 98%. WELL-GRADED MATERIAL AND/OR RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 20,000 LB (9,000 kg).
B FOUNDATION STONE: FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE.	AASHTO M43# 3, 357.4, 467.5, 58, 57, 6, 67, 66, 7, 8, 8, 8, 9, 10	NO COMPACTION REQUIRED.

PLEASE NOTE:

- THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR #4 (AASHTO M43) STONE".
- STORMTECH COMPACTOR REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (150 mm) MAX LIFT USING TWO FULL COVERSAGES WITH VIBRATORY COMPACTOR.
- WHERE INSTALLATION REQUIREMENTS MAY BE COMPROMISED BY CONTRACTOR FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAMPING OR DRAGGING WITHOUT COMPACTOR EQUIPMENT. FOR SPECIAL LOAD DESIGN, CONTACT STORMTECH FOR COMPACTOR REQUIREMENTS.
- ONCE LAYER 'C' IS PLACED, ANY SUBGRADE CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOLS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.
- WHERE RECYCLED CONCRETE AGGREGATE IS USED IN LAYERS 'A' OR 'B' THE MATERIAL SHOULD ALSO MEET THE ACCEPTABILITY CRITERIA OUTLINED IN TECHNICAL NOTE 6.20 "RECYCLED CONCRETE STRUCTURAL BACKFILL".

NOTES:

- CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2922 (POLYETHYLENE) OR ASTM F2418 (POLYPROPYLENE), STANDARD SPECIFICATION FOR CORRUGATED WALL STORMWATER COLLECTION CHAMBERS.
- SC-310 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS. REFERENCE STORMTECH DESIGN MANUAL FOR BEARING CAPACITY GUIDANCE.
- PERMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
- REQUIREMENTS FOR HANDLING AND INSTALLATION:
 - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LOGS.
 - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 2".
 - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, THE ARCH STIFFNESS CONSTANT SHALL BE GREATER THAN OR EQUAL TO 400 LB/FT² IN. THE ABC IS DEFINED IN SECTION 8.2.4 OF ASTM F2922 AND 1) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 20 °C / 70 °F), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.

SC-310 ISOLATOR ROW PLUS DETAIL

INSPECTION & MAINTENANCE

STEP 1: INSPECT ISOLATOR ROW PLUS FOR SEDIMENT

- INSPECTION PORTS IF PRESENT
- REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
- USING A FLASHLIGHT AND STADIUM ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
- LOWER CAMERA AND ISOLATOR ROW PLUS FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
 - IF SEDIMENT AT OR ABOVE 7" (180 mm) PROCEED TO STEP 2
 - IF SEDIMENT AT OR ABOVE 7" (180 mm) PROCEED TO STEP 2
 - IF SEDIMENT AT OR ABOVE 7" (180 mm) PROCEED TO STEP 2

STEP 2: CLEAN OUT ISOLATOR ROW PLUS USING THE JETAC PROCESS

- A FRESH CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 40" (1.1 m) OR MORE IS PREFERRED
- APPLY MULTIPLE PASSAGES OF JETAC UNTIL MOSTLY CLEAR WATER IS CLEAN
- VACUUM STRUCTURE TO BE CLEANED

STEP 3: REPLACE ALL COVERS, GRATES, FILTERS, AND LEVELS. RECORD OBSERVATIONS AND ACTIONS.

STEP 4: INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

NOTES

- INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.
- CONDUCT JETTING AND VACUUMING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.

SC-310 TECHNICAL SPECIFICATION

PART #	STUB	B	C
SC310PE01PC	6" (150 mm)	3.0" (76 mm)	0.5" (13 mm)
SC310PE02PC	8" (200 mm)	3.0" (76 mm)	0.5" (13 mm)
SC310PE03PC	10" (250 mm)	3.0" (76 mm)	0.5" (13 mm)
SC310PE04PC	12" (300 mm)	3.0" (76 mm)	0.5" (13 mm)

NORMAL CHAMBER SPECIFICATIONS

CHAMBER STORAGE	34" X 14" X 6" (864 mm X 400 mm X 219 mm)
MINIMUM INSTALLED STORAGE	14" CUBIC FEET (0.42 m ³)
WEIGHT	35 lb (16 kg)

*ASSUMES 6" (152 mm) ABOVE, BELOW, AND (75 mm) BETWEEN CHAMBERS

ALL STUBS EXCEPT FOR THE SC310E04PC ARE PLACED AT BOTTOM OF END CAP SUCH THAT THE OUTSIDE DIAMETER OF THE STUB IS FLUSH WITH THE BOTTOM OF THE END CAP. FOR ADDITIONAL INFORMATION CONTACT STORMTECH AT 1-888-892-2684.

*FOR THE SC310E02PC THE 12" (300 mm) STUB LIES BELOW THE BOTTOM OF THE END CAP APPROXIMATELY 2.20" (56 mm) BACKFILL MATERIAL SHOULD BE REMOVED FROM BELOW THE 12" (300 mm) STUB SO THAT THE FITTING IS LEVEL.

NOTE: ALL DIMENSIONS ARE NOMINAL. PRE-CORED END CAPS END WITH 1/4"

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BWDSB NEW SCHOOL
TOWNSHIP OF SOUTHGATE

STORMWATER MANAGEMENT FACILITIES DETAILS

CROZIER
CONSULTING ENGINEERS

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Check By	A.W.	Check By	A.W./R.W.	Drawing	C107E