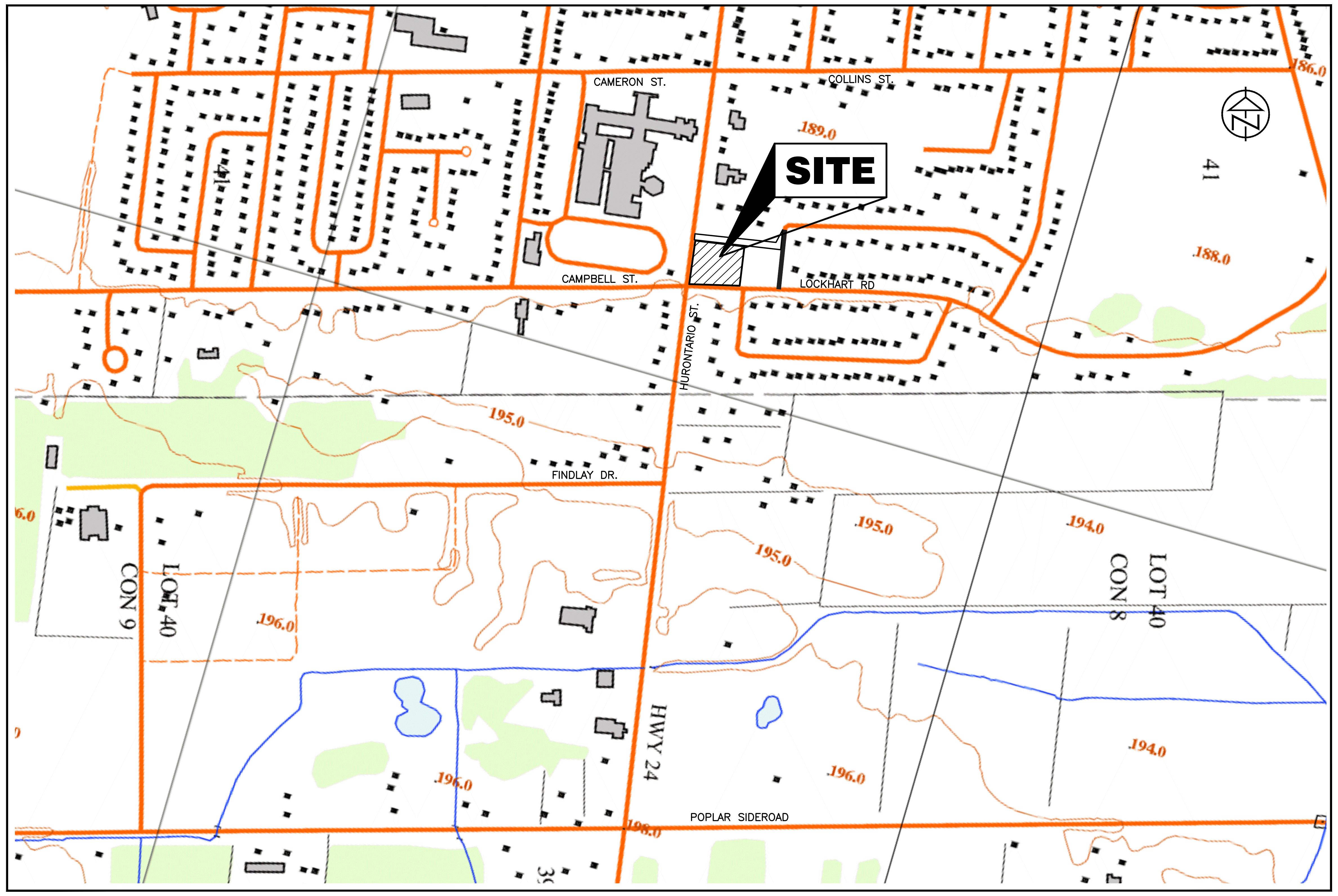
RDL EXPORT
655 HURONTARIO STREET
TOWN OF COLLINGWOOD



KEY PLAN

NTS

TATHAM
ENGINEERING

"NINTH SUBMISSION"

FILE: 118197

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PROPERTY LINE	
EXISTING CENTERLINE	
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EXISTING EDGE OF ASPHALT	
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EXISTING EDGE OF SHOULDER	
PROPOSED EDGE OF SHOULDER	
EXISTING DITCH/DIRECTION OF FLOW	
PROPOSED DITCH/DIRECTION OF FLOW	
EXISTING SANITARY SEWER/SIZE/DIRECTION OF FLOW	200ø SAN
PROPOSED SANITARY SEWER/SIZE/DIRECTION OF FLOW	200ø SAN
EXISTING SANITARY SERVICE	
PROPOSED SANITARY SERVICE	
EXISTING SANITARY FORCEMAIN/SIZE/DIRECTION OF FLOW	200ø SAN F/M
EXISTING WATERMAIN/SIZE	150ø W/M
PROPOSED WATERMAIN/SIZE	150ø W/M
EXISTING WATER SERVICE	
PROPOSED WATER SERVICE	
EXISTING STORM SEWER/SIZE/DIRECTION OF FLOW	375ø STM
PROPOSED STORM SEWER/SIZE/DIRECTION OF FLOW	375ø STM
EXISTING CULVERT	
PROPOSED CULVERT	
PROPOSED JOINT HYDRO, BELL AND ROGERS	
EXISTING GAS MAIN	
PROPOSED GAS MAIN	
EXISTING FENCELINE	
PROPOSED FENCELINE	
EXISTING BUSHLINE	
EXISTING CONTOUR	179.00
EXISTING SPOT ELEVATION	× 179.00
PROPOSED SPOT ELEVATION	× 179.00
EXISTING GRADING DIRECTION	
PROPOSED GRADING DIRECTION	
PROPOSED OVERFLOW ROUTE	
PROPOSED SWALE LOCATION	
EXISTING TEMPORARY BENCHMARK	TBM
EXISTING STANDARD IRON BAR	SIB
EXISTING BOREHOLE/NUMBER	BH9
PROPOSED UNDERGROUND PARKING ELEVATION	×187.40
PROPOSED UNDERGROUND PARKING DRAINAGE DIRECTION	1.0%
EXISTING HYDRO TRANSFORMER	H
EXISTING CABLE PEDESTAL	C
EXISTING BELL PEDESTAL	B
EXISTING BELL MAINTENANCE HOLE	○ BELL MH
EXISTING BELL POLE	○ BP
EXISTING HYDRO POLE	○ HP
EXISTING HYDRO GUY WIRE	
PROPOSED LIGHT STANDARD	●LS
EXISTING TRAFFIC SIGN	TS
PROPOSED TRAFFIC SIGN	TS
PROPOSED STOP SIGN	STOP SIGN
EXISTING DECIDUOUS TREE	
EXISTING CONIFEROUS TREE	
EXISTING SANITARY MAINTENANCE HOLE/NUMBER	○ SAN MH 17
PROPOSED SANITARY MAINTENANCE HOLE/NUMBER	● SAN MH17
EXISTING HYDRANT AND VALVE	HYD & WV
PROPOSED HYDRANT AND VALVE	HYD & WV
EXISTING WATER VALVE	⋈ WV
PROPOSED WATER VALVE	WV
PROPOSED CURB STOP VALVE	
EXISTING BLOW–OFF	⃠ BLOWOFF
PROPOSED BLOW–OFF	BLOWOFF
EXISTING WATERMAIN PLUG AND THRUST BLOCK	]
PROPOSED WATERMAIN PLUG AND THRUST BLOCK	]
EXISTING STORM MAINTENANCE HOLE	○ STM MH20
PROPOSED STORM MAINTENANCE HOLE/NUMBER	● STM MH9
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EXISTING CATCH BASIN	☐ CBMH 18
PROPOSED CATCH BASIN	■ CB
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PROPOSED AREA DRAIN	■ AD
PROPOSED RIP–RAP	
PROPOSED DOWNSPOUT	DS
PROPOSED RAMP TO UNDERGROUND PARKING	
PROPOSED SOLID SUBDRAIN	

TOWN APPROVAL

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BENCHMARKS

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ENGINEER STAMP

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DRAWING INDEX AND LEGEND

TATHAM
ENGINEERING

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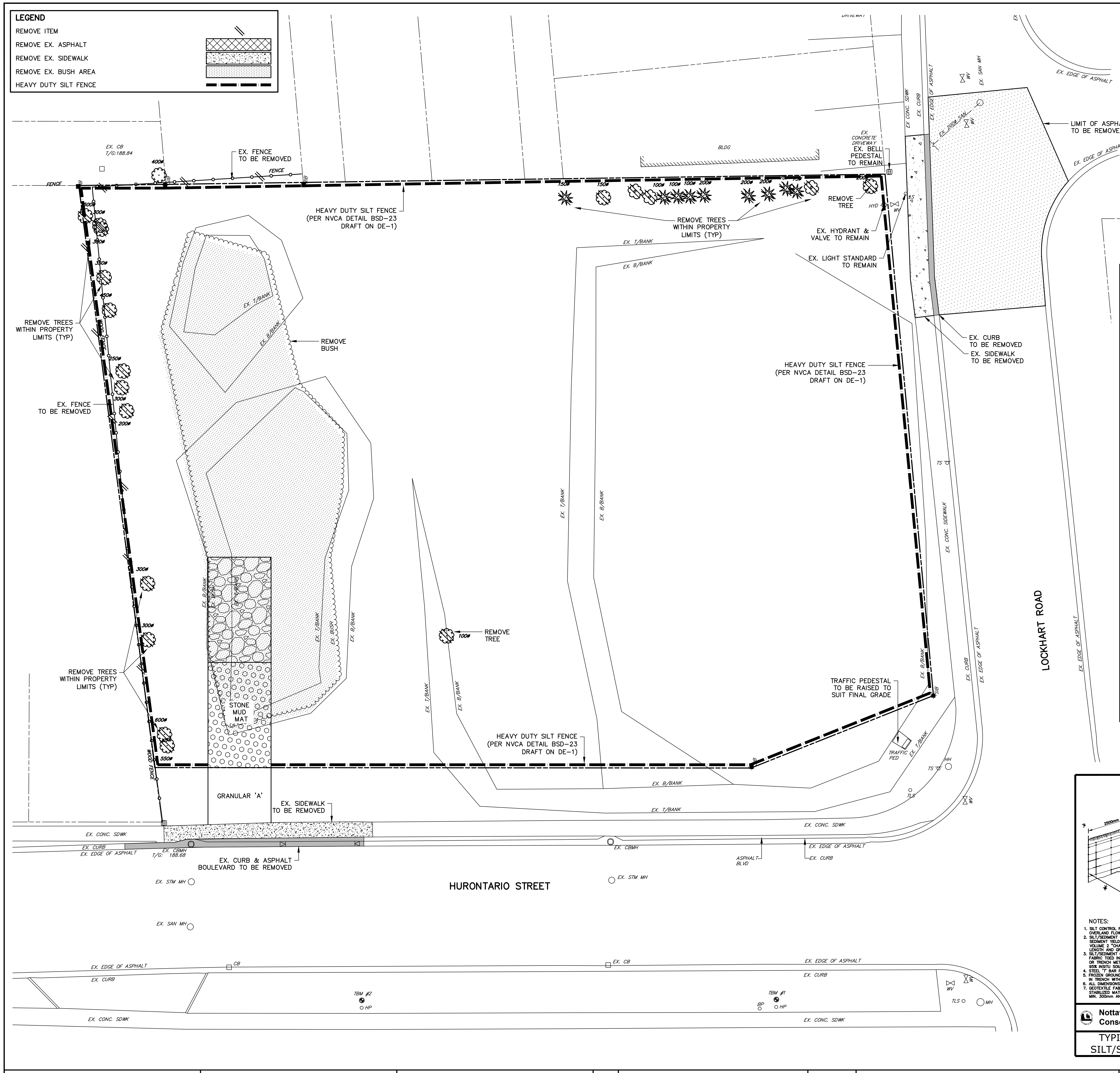
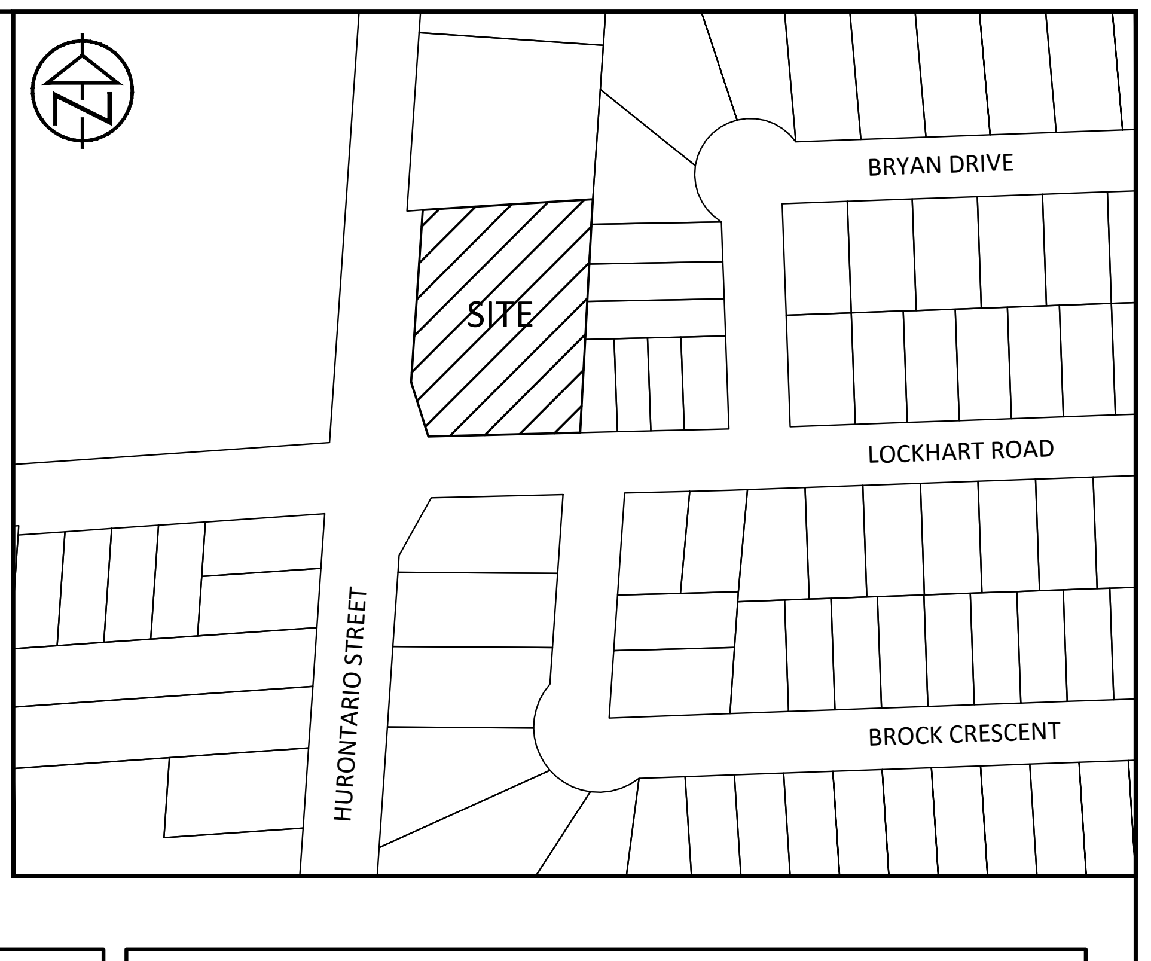




SILTATION & EROSION CONTROL:

A. ALL SEDIMENT AND EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO THE COMMENCEMENT OF CONSTRUCTION AND SHALL REMAIN IN PLACE UNTIL ALL DISTURBED AREAS HAVE BEEN STABILIZED. SEDIMENT AND EROSION CONTROL MEASURES THAT ARE DESIGNED TO CONTROL RUNOFF FROM SPECIFIC AREAS MUST BE INSTALLED PRIOR TO ANY DISTURBANCE OF THAT PART OF THE SITE. THE LOCATION OF ALL SILTATION AND EROSION CONTROL WORKS TO BE REVIEWED ON SITE AND MAY BE REVISED AS DIRECTED BY THE ENGINEER.

B. THE CONTRACTOR MAY CONSIDER ALTERNATIVE SEDIMENT AND EROSION CONTROL MEASURES. SUCH MEASURES MUST BE PRESENTED IN WRITING TO THE ENGINEER FOR APPROVAL FROM THE TOWN OF COLLINGWOOD.

C. THE CONTRACTOR SHALL HAVE MATERIALS AVAILABLE ON-SITE TO REPAIR SEDIMENT AND EROSION CONTROL MEASURES IN THE EVENT OF UNFORESEEN CONDITIONS: HIGH WATER, EXTREME RAINFALL EVENTS, ETC.

D. ALL EROSION AND SEDIMENT CONTROL MEASURES MUST BE INSPECTED, CLEANED AND MAINTAINED BY THE CONTRACTOR AFTER EACH STORM EVENT. ALL WORKS WILL BE INSPECTED BY THE ENGINEER BI-WEEKLY AND AFTER EACH MAJOR STORM EVENT.

E. CONSTRUCTION OF ALL SILTATION AND EROSION CONTROL WORKS ARE TO BE IN ACCORDANCE WITH THE FOLLOWING STEPS:

1. INSTALL STONE MUD MAT AS PER DETAIL.
2. INSTALL SILT FENCE IN ACCORDANCE WITH OPSD 219.021
3. INSTALL ROCK CHECK DAMS IN ACCORDANCE WITH OPSD 219.210.
4. INSTALL TEMPORARY CATCH BASIN SEDIMENT TRAPS ON ALL NEW AND EXISTING CATCH BASIN STRUCTURES. SEDIMENT TRAPS TO BE RECTANGULAR CBST BY LAYFILED OR APPROVED EQUAL. ALL CATCH BASINS TO REMAIN SCREENED UNTIL BASE COURSE ASPHALT IS PLACED AND LOT GRADING IS COMPLETE.

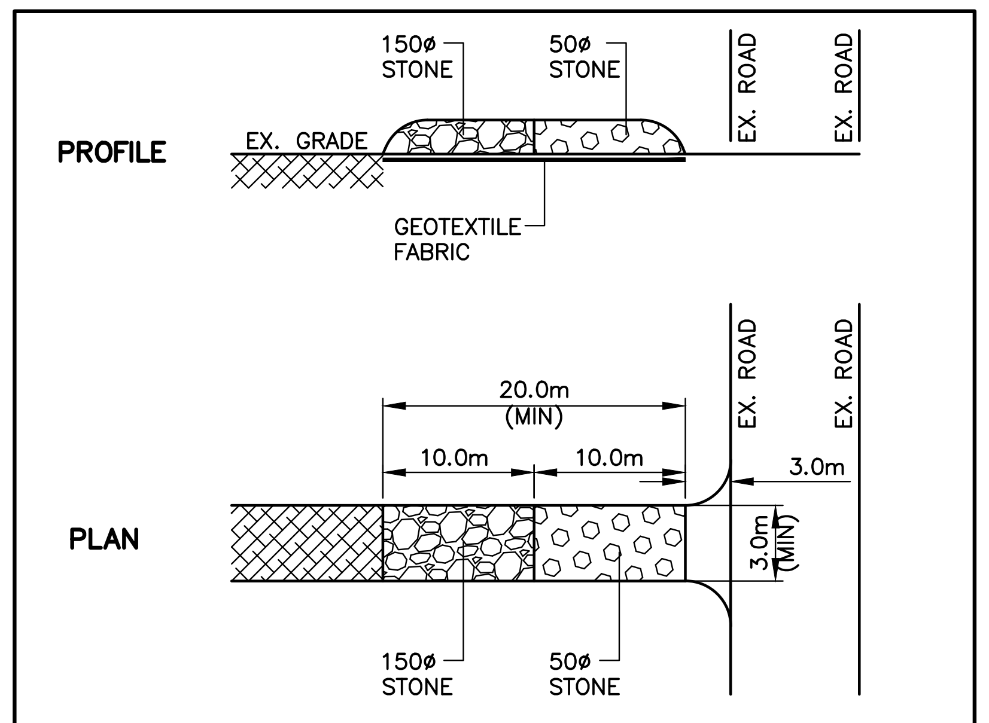
F. ALL CONSTRUCTION VEHICLES TO ACCESS SITE USING THE DESIGNATED CONSTRUCTION ACCESS.

G. EROSION AND SEDIMENT CONTROL MEASURES TO BE REMOVED BY THE CONTRACTOR ONCE GROUND COVER IS ESTABLISHED AND LANDSCAPING IS COMPLETE AND AS APPROVED BY THE ENGINEER.

H. STOCKPILE LOCATIONS ARE TO BE APPROVED BY THE ENGINEER.

I. PROVIDE SNOW FENCE OR APPROVED EQUAL ACROSS ALL CONSTRUCTION ENTRANCES DURING PERIODS OF INACTIVITY.

J. CONSTRUCTION AREAS THAT EXCEED 30 DAYS OF INACTIVITY SHALL BE STABILIZED BY SEEDING AS DIRECTED BY THE TOWN. THIS IS TO INCLUDE STOCKPILES OF FILL AND TOPSOIL.



MUD MAT DETAIL

NTS

STONE SIZE: THE STONE PAD SHALL BE A MIN. 450 mm THICK. USE 50ø mm STONE OR RECLAIMED CONCRETE EQUIVALENT FOR FIRST 10 m FROM ADJACENT ROAD & 150 mmø STONE FOR REMAINDER OF STONE PAD.

LENGTH: AS REQUIRED BUT NOT LESS THAN 20 m.

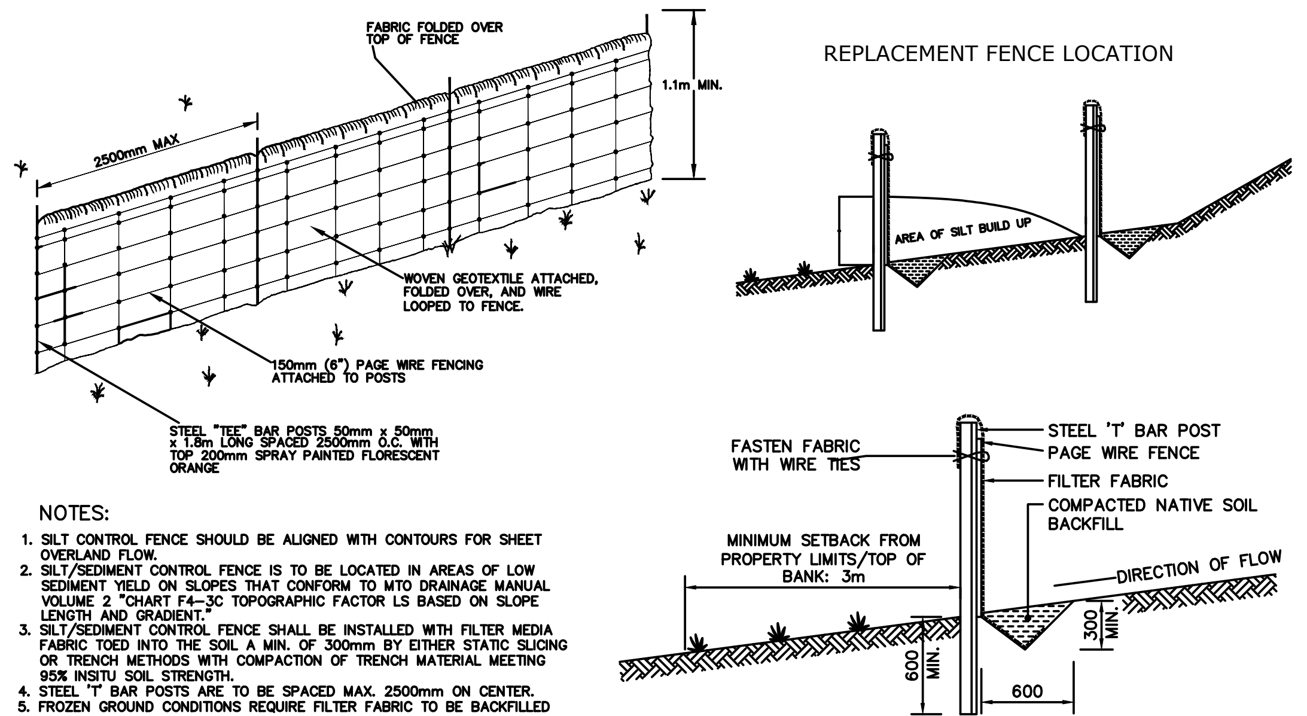
WIDTH: 5.0 m MIN. BUT NOT LESS THAN THE WIDTH AT POINTS WHERE INGRESS AND EGRESS OCCURS.

GEOTEXTILE FABRIC: TERRAFIX 270R OR EQUAL TO BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING STONE.

SURFACE WATER: ALL SURFACE WATER FLOWING OR DIRECTED TOWARD CONSTRUCTION ACCESS SHALL BE PIPED ACROSS THE ACCESS.

MAINTENANCE: THE CONTRACTOR SHALL MAINTAIN THE ACCESS IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAY. THIS MAY REQUIRE PERIODIC DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHT-OF-WAY MUST BE REMOVED IMMEDIATELY BY THE CONTRACTOR. UPON OBSERVATION OF CONTINUOUS MUD TRACKING ONTO ADJACENT STREETS, THE STONE MAT IS TO BE FULLY REPLACED. INSPECTION AND REQUIRED MAINTENANCE AFTER EACH RAIN EVENT SHALL BE PROVIDED BY THE CONTRACTOR.

WASHING: WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.



NOTES:

1. SILT CONTROL FENCE SHOULD BE ALIGNED WITH CONTOURS FOR SHEET OVERLAND FLOW.
2. SILT/SEDIMENT CONTROL FENCE IS TO BE LOCATED IN AREAS OF LOW SEDIMENT YIELD ON SLOPES THAT CONFORM TO MTO DRAINAGE MANUAL VOLUME 2 "CHART F4-3C TOPOGRAPHIC FACTOR LS BASED ON SLOPE LENGTH AND GRADIENT."
3. SILT/SEDIMENT CONTROL FENCE SHALL BE INSTALLED WITH FILTER MEDIA FABRIC TOED INTO THE SOIL A MIN. OF 300mm BY EITHER STATIC SLICING OR TRENCH METHODS WITH COMPACTION OF TRENCH MATERIAL MEETING 95% INSITU SOIL STRENGTH.
4. STEEL 'T' BAR POSTS ARE TO BE SPACED MAX. 2500mm ON CENTER.
5. FROZEN GROUND CONDITIONS REQUIRE FILTER FABRIC TO BE BACKFILLED IN TRENCH WITH CLEAR STONE.
6. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SHOWN.
7. GEOTEXTILE FABRIC TO BE COMPRISED OF WOVEN OR NON-WOVEN U.V. STABILIZED MATERIAL. FABRIC TO BE FOLDED OVER TOP OF FENCE MIN. 300mm AND WIRE FASTENED.

Nottawasaga Valley Conservation Authority

TYPICAL DETAIL OF SILT/SEDIMENT FENCE

NO.	REVISION	APR'D	DATE

APR'D:
DATE: 03.03.06
DRAWN: A.S.C
SCALE: NTS
BSD-23 DRAFT

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BENCHMARKS

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ENGINEER STAMP

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PROVINCE OF ONTARIO

RDL EXPORT
655 HURONTARIO STREET
TOWN OF COLLNGWOOD

SILTATION AND EROSION CONTROL AND REMOVALS PLAN

TATHAM ENGINEERING

DESIGN: AS/RD	FILE: 118197	DWG:
DRAWN: RD	DATE: MAY 2020	RM-1
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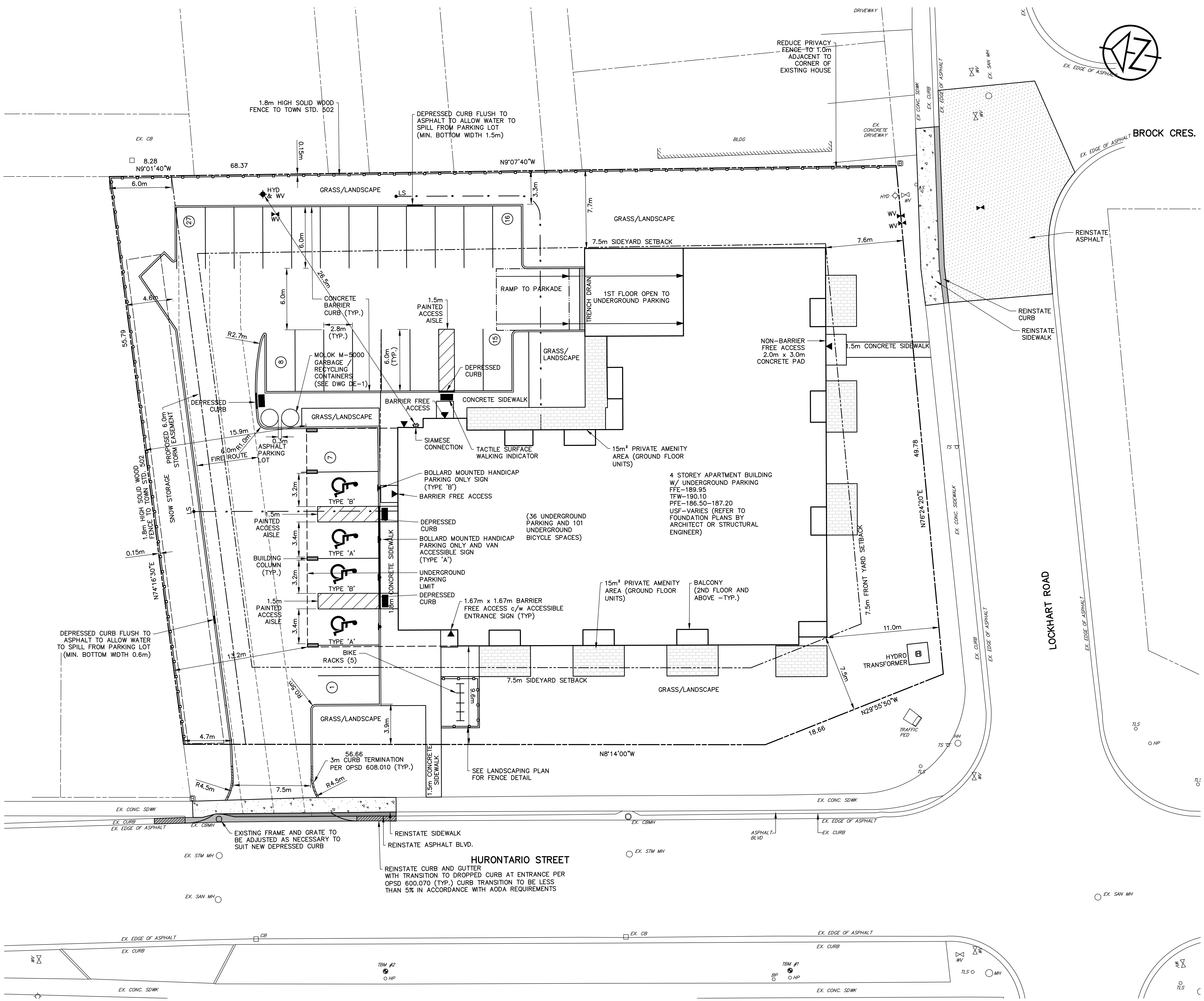

SITE INFORMATION

LOCATION: 655 HURONTARIO STREET, COLLINGWOOD

ZONING: R4-2

ITEM:	REQUIRED	PROVIDED
MIN. LOT AREA (m²)	NIL	4,170
MIN. LOT FRONTAGE (m)	30.0	49.8
FRONT YARD SETBACK (m)	7.5	7.6
EXTERIOR SIDE YARD SETBACK (m)	7.5	7.5
INTERIOR SIDE YARD SETBACK (m)	7.5	7.7
REAR YARD SETBACK (m)	7.5	13.2
MAX. LOT COVERAGE	40% (1,664.5m²)	30.6% (1,270.3m²)
MAX. HEIGHT OF PRINCIPAL BLDGS AND STRUCTURES	14.0m	13.2m
MIN. LANDSCAPE OPEN SPACE	40% (1,668m²)	41% (1,713m²)
PARKING SPACES (SEE NOTE 1)	63	63
BICYCLE SPACES (SEE NOTE 2)	100	111

NOTES:

1. PARKING REQUIREMENT BASED ON COLLINGWOOD ZONING BY-LAW ENACTED APRIL 12, 2010. DWELLING APARTMENT: 1 SPACE PER UNIT, PLUS 0.25 SPACES PER UNIT OF VISITOR PARKING; 3 ACCESSIBLE PARKING SPACES. A TOTAL OF 27 VEHICULAR PARKING SPACES ARE EXTERNAL OF THE BUILDING AND 36 ARE INTERNAL. REFER TO ARCHITECHURAL PLANS FOR DETAILS OF INTERNAL VEHICULAR PARKING.

2. PER SECTION 8G(5) 'BICYCLE CIRCULATION' OF THE UDM, 2 BICYCLE SPACES ARE REQUIRED FOR EACH APARTMENT UNIT. A TOTAL OF 10 BICYCLE SPACES ARE EXTERNAL OF THE BUILDING AND 101 ARE INTERNAL. REFER TO ARCHITECHURAL PLANS FOR DETAILS OF INTERNAL BICYCLE PARKING.

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SITE PLAN

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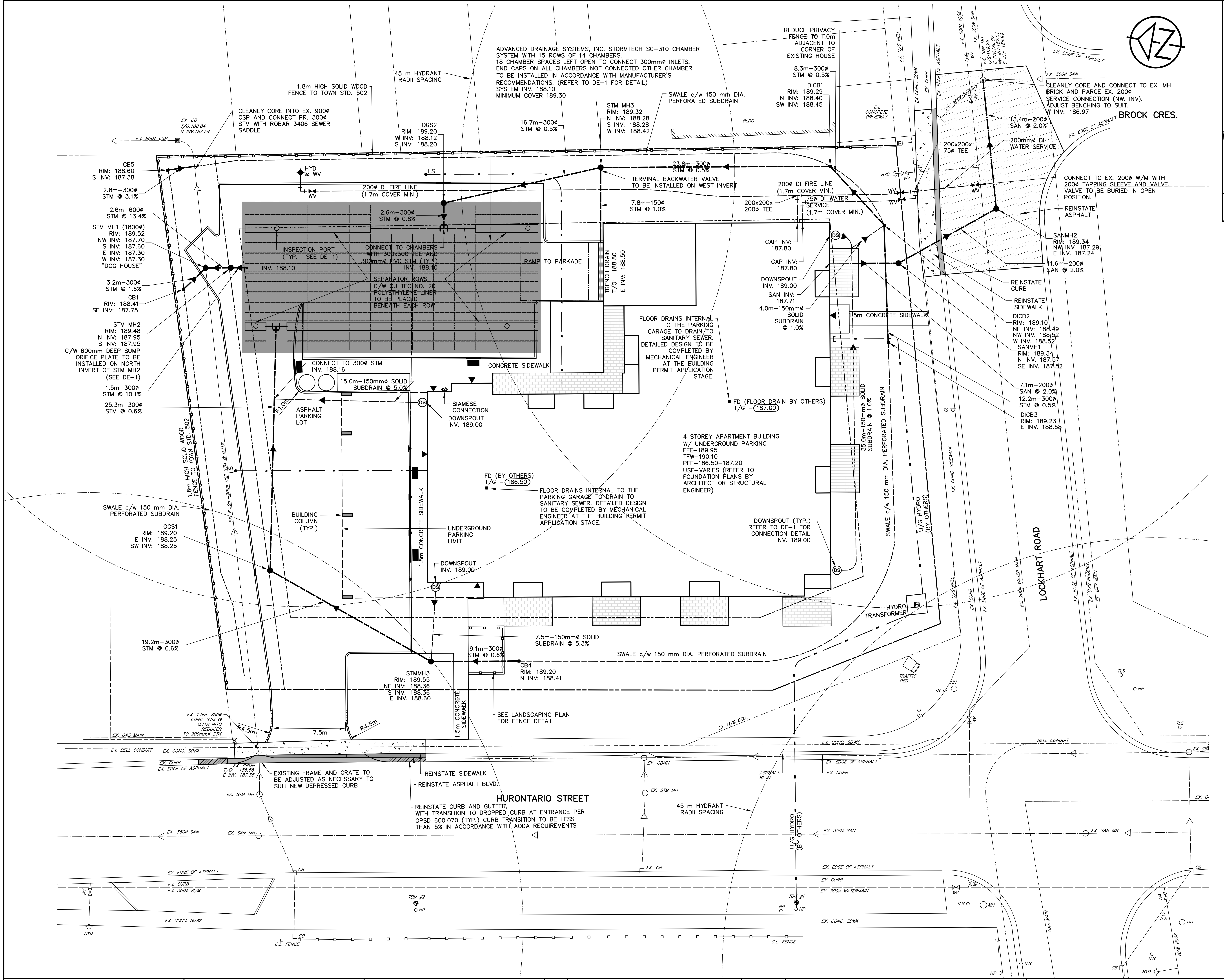

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SITE SERVICING PLAN

TATHAM
ENGINEERING

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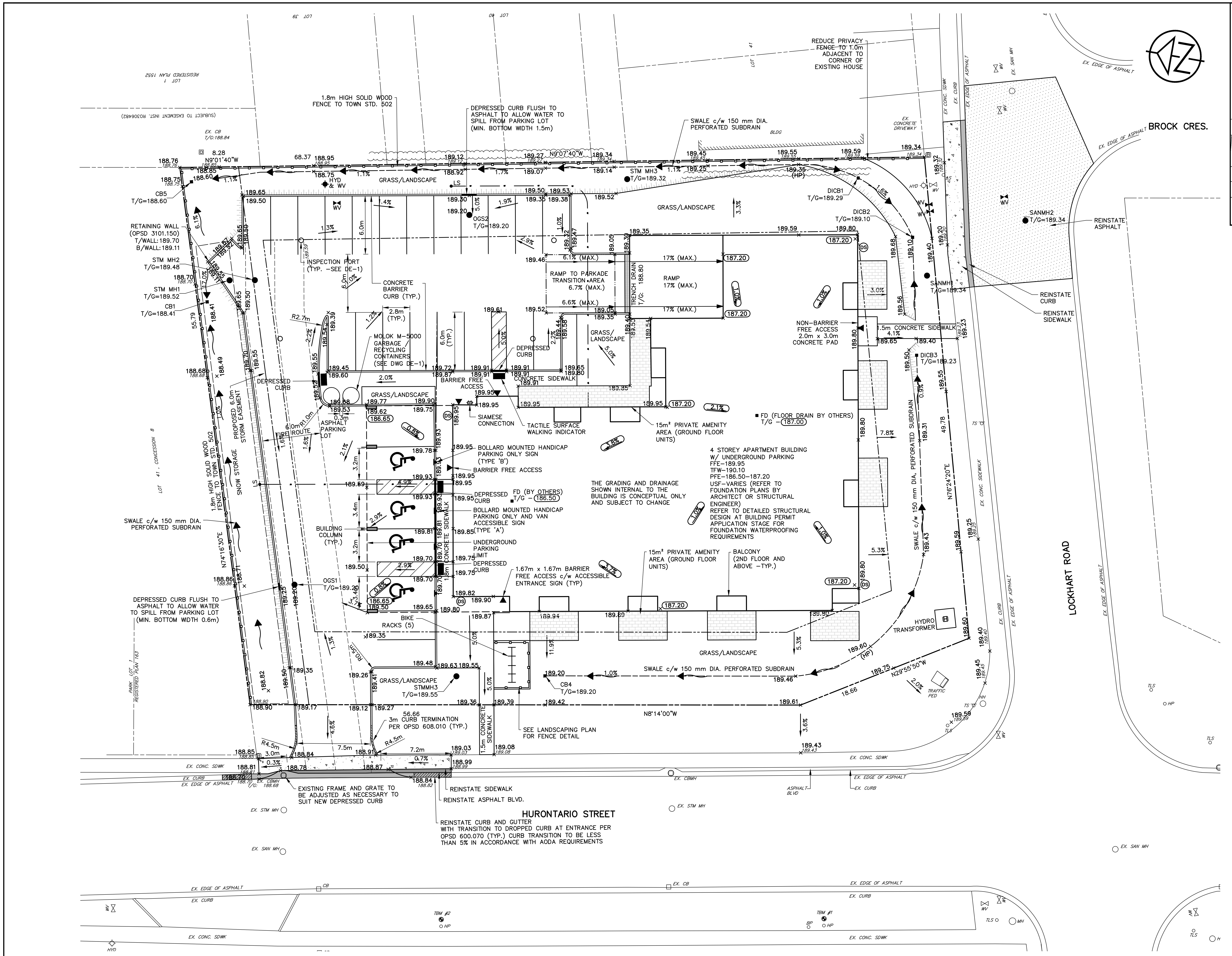

LEGEND

FFE = FIRST FLOOR ELEVATION
TFW = TOP OF FOUNDATION WALL
PFE = UNDERGROUND PARKING ELEVATION
USF = UNDER SIDE OF FOOTINGS
ALL BUILDING ELEVATIONS ARE CONCEPTUAL AND ARE SUBJECT TO CHANGE BASED ON FINAL BUILDING PLANS. TO BE CONFIRMED BY BUILDING DESIGNER.

LS ●	PROPOSED LIGHT STANDARD
× 192.51	EXISTING GROUND ELEVATION
×191.28	PROPOSED GROUND ELEVATION
×(187.40)	CONCEPTUAL UNDERGROUND PARKING ELEVATION
(1.0%)	CONCEPTUAL UNDERGROUND PARKING DRAINAGE
← 2.0%	PROPOSED DRAINAGE DIRECTION
←	PROPOSED DRAINAGE SWALE
⊕	TEMPORARY BENCHMARK
HYD & WV ⌖	EX. FIRE HYDRANT
HP ○	EX. HYDRO POLE
▶	BUILDING ENTRANCE

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SITE GRADING PLAN

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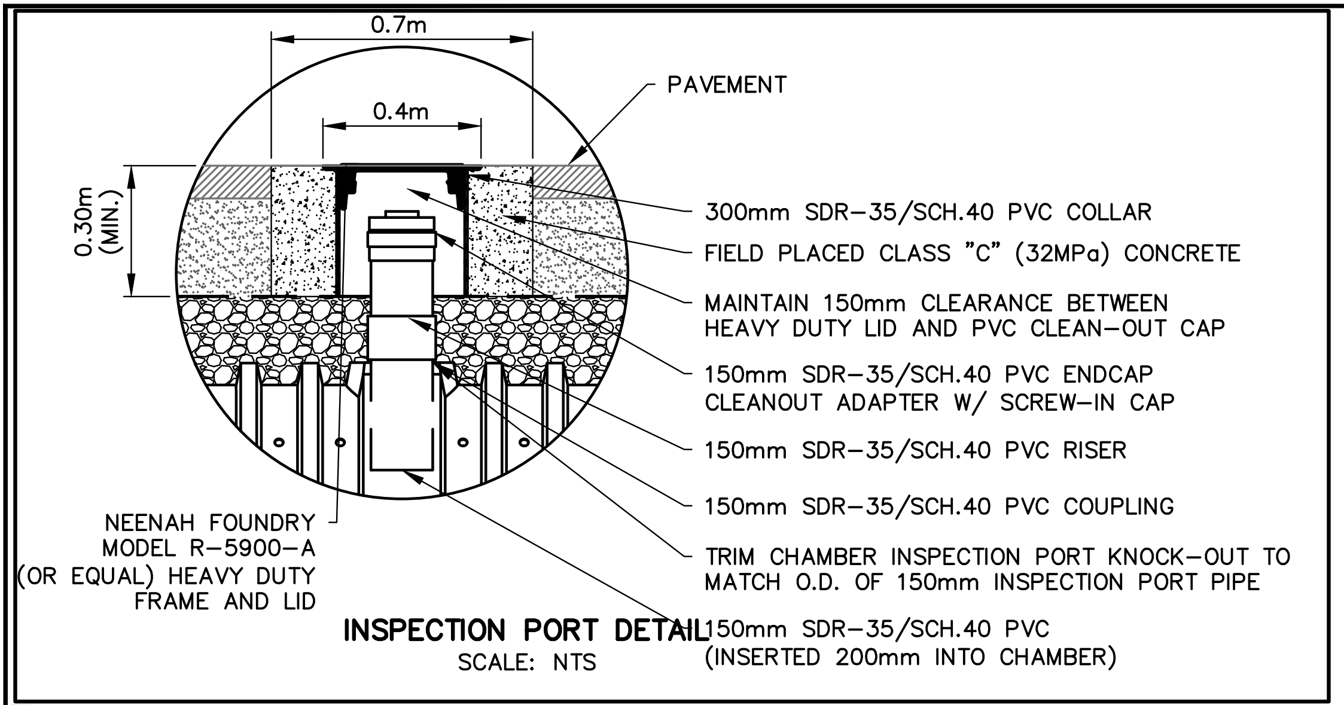
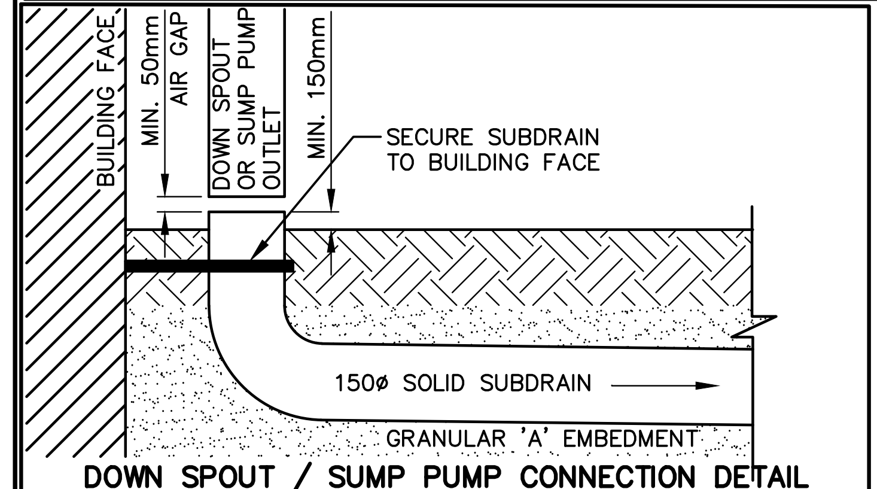
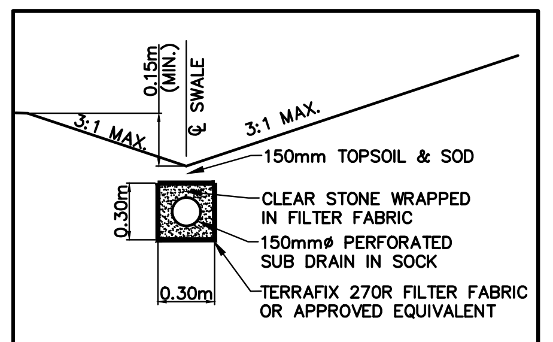


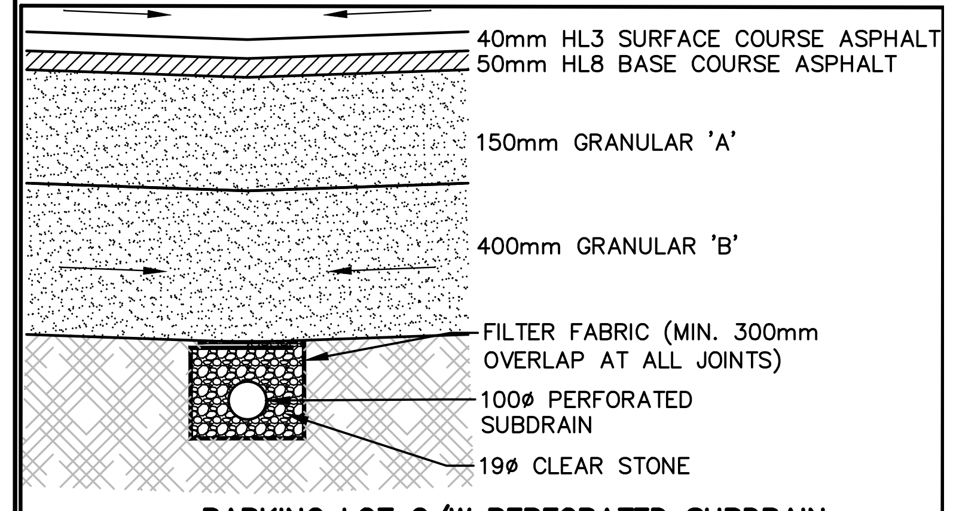
INSPECTION PORT DETAIL
SCALE: NTS



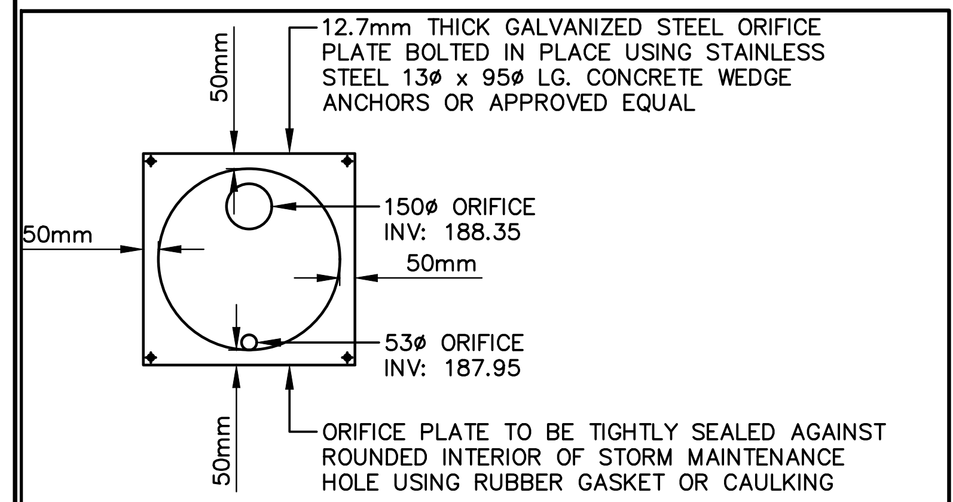
DOWN SPOUT / SUMP PUMP CONNECTION DETAIL
SCALE: NTS



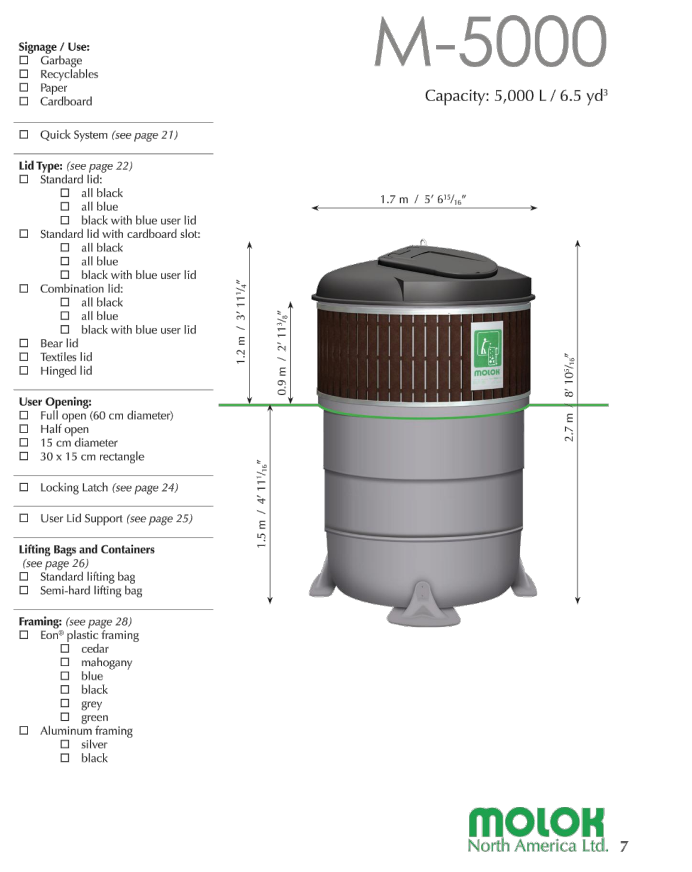
TYPICAL SWALE WITH SUB DRAIN DETAIL
SCALE: NTS



PARKING LOT C/W PERFORATED SUBDRAIN
SCALE: NTS



ORIFICE PLATE DETAIL
SCALE: NTS



M-5000

Capacity: 5,000 L / 6.5 yd³

Signage / Use:
☐ Garbage
☐ Recyclables
☐ Paper
☐ Cardboard

☐ Quick System *(see page 21)*

Lid Type: *(see page 22)*
☐ Standard lid:
  ☐ all black
  ☐ all blue
  ☐ black with blue user lid
☐ Standard lid with cardboard slot:
  ☐ all black
  ☐ all blue
  ☐ black with blue user lid
☐ Combination lid:
  ☐ all black
  ☐ all blue
  ☐ black with blue user lid
☐ Bear lid
☐ Textiles lid
☐ Hinged lid

User Opening:
☐ Full open (60 cm diameter)
☐ Half open
☐ 15 cm diameter
☐ 30 x 15 cm rectangle

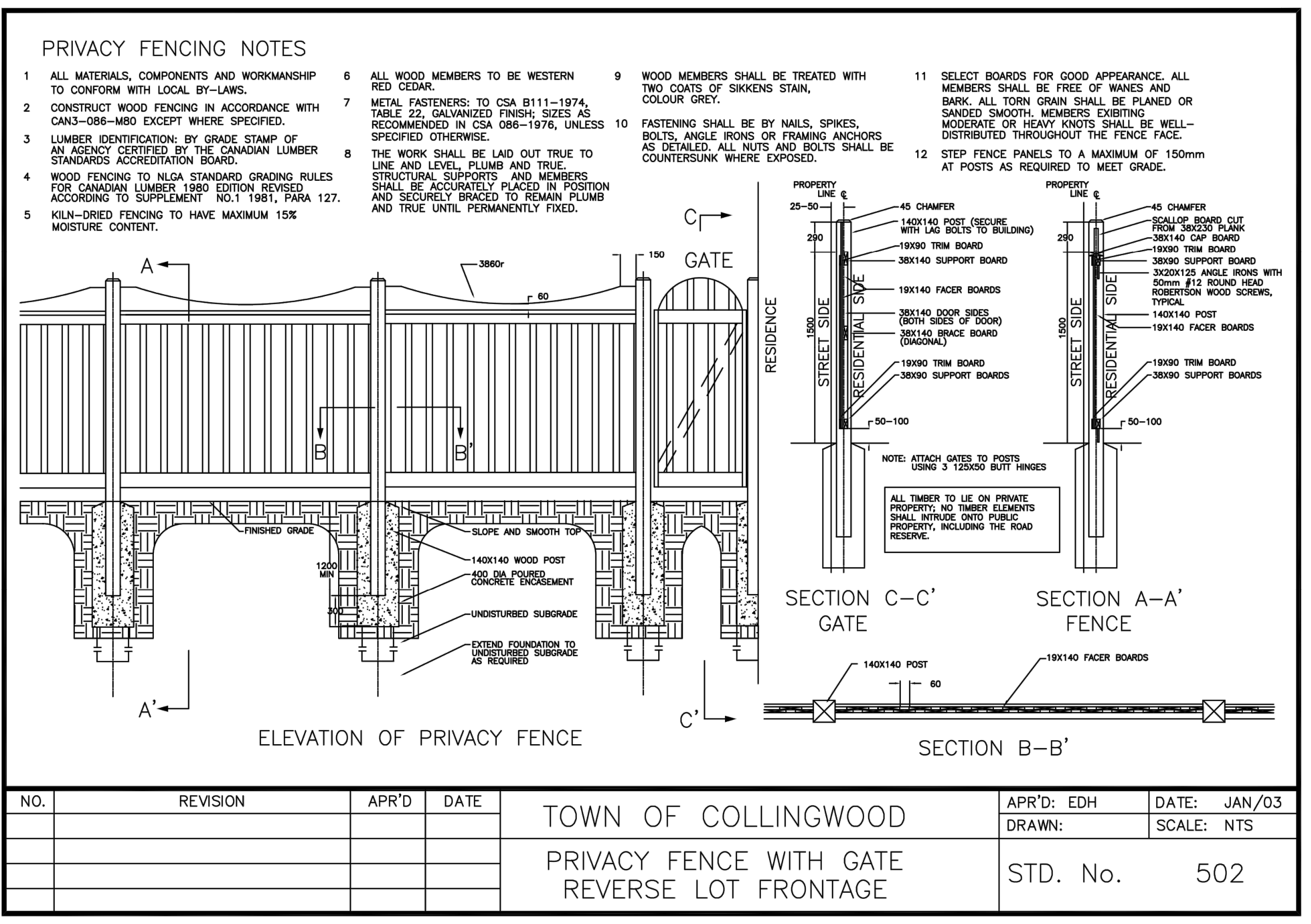
☐ Locking Latch *(see page 24)*

☐ User Lid Support *(see page 25)*

Lifting Bags and Containers *(see page 26)*
☐ Standard lifting bag
☐ Semi-hard lifting bag

Framing: *(see page 28)*
☐ Eon® plastic framing
  ☐ cedar
  ☐ mahogany
  ☐ blue
  ☐ black
  ☐ grey
  ☐ green
☐ Aluminum framing
  ☐ silver
  ☐ black

MOLOK North America Ltd. 7



PRIVACY FENCING NOTES

1 ALL MATERIALS, COMPONENTS AND WORKMANSHIP TO CONFORM WITH LOCAL BY-LAWS.
2 CONSTRUCT WOOD FENCING IN ACCORDANCE WITH CAN3-086-M80 EXCEPT WHERE SPECIFIED.
3 LUMBER IDENTIFICATION: BY GRADE STAMP OF AN AGENCY CERTIFIED BY THE CANADIAN LUMBER STANDARDS ACCREDITATION BOARD.
4 WOOD FENCING TO NLGA STANDARD GRADING RULES FOR CANADIAN LUMBER 1980 EDITION REVISED ACCORDING TO SUPPLEMENT NO.1 1981, PARA 127.
5 KILN-DRIED FENCING TO HAVE MAXIMUM 15% MOISTURE CONTENT.
6 ALL WOOD MEMBERS TO BE WESTERN RED CEDAR.
7 METAL FASTENERS: TO CSA B111-1974, TABLE 22, GALVANIZED FINISH; SIZES AS RECOMMENDED IN CSA 086-1976, UNLESS SPECIFIED OTHERWISE.
8 THE WORK SHALL BE LAID OUT TRUE TO LINE AND LEVEL, PLUMB AND TRUE. STRUCTURAL SUPPORTS AND MEMBERS SHALL BE ACCURATELY PLACED IN POSITION AND SECURELY BRACED TO REMAIN PLUMB AND TRUE UNTIL PERMANENTLY FIXED.
9 WOOD MEMBERS SHALL BE TREATED WITH TWO COATS OF SIKKENS STAIN, COLOUR GREY.
10 FASTENING SHALL BE BY NAILS, SPIKES, BOLTS, ANGLE IRONS OR FRAMING ANCHORS AS DETAILED. ALL NUTS AND BOLTS SHALL BE COUNTERSUNK WHERE EXPOSED.
11 SELECT BOARDS FOR GOOD APPEARANCE. ALL MEMBERS SHALL BE FREE OF WANES AND BARK. ALL TORN GRAIN SHALL BE PLANED OR SANDED SMOOTH. MEMBERS EXIBITING MODERATE OR HEAVY KNOTS SHALL BE WELL-DISTRIBUTED THROUGHOUT THE FENCE FACE.
12 STEP FENCE PANELS TO A MAXIMUM OF 150mm AT POSTS AS REQUIRED TO MEET GRADE.

ELEVATION OF PRIVACY FENCE

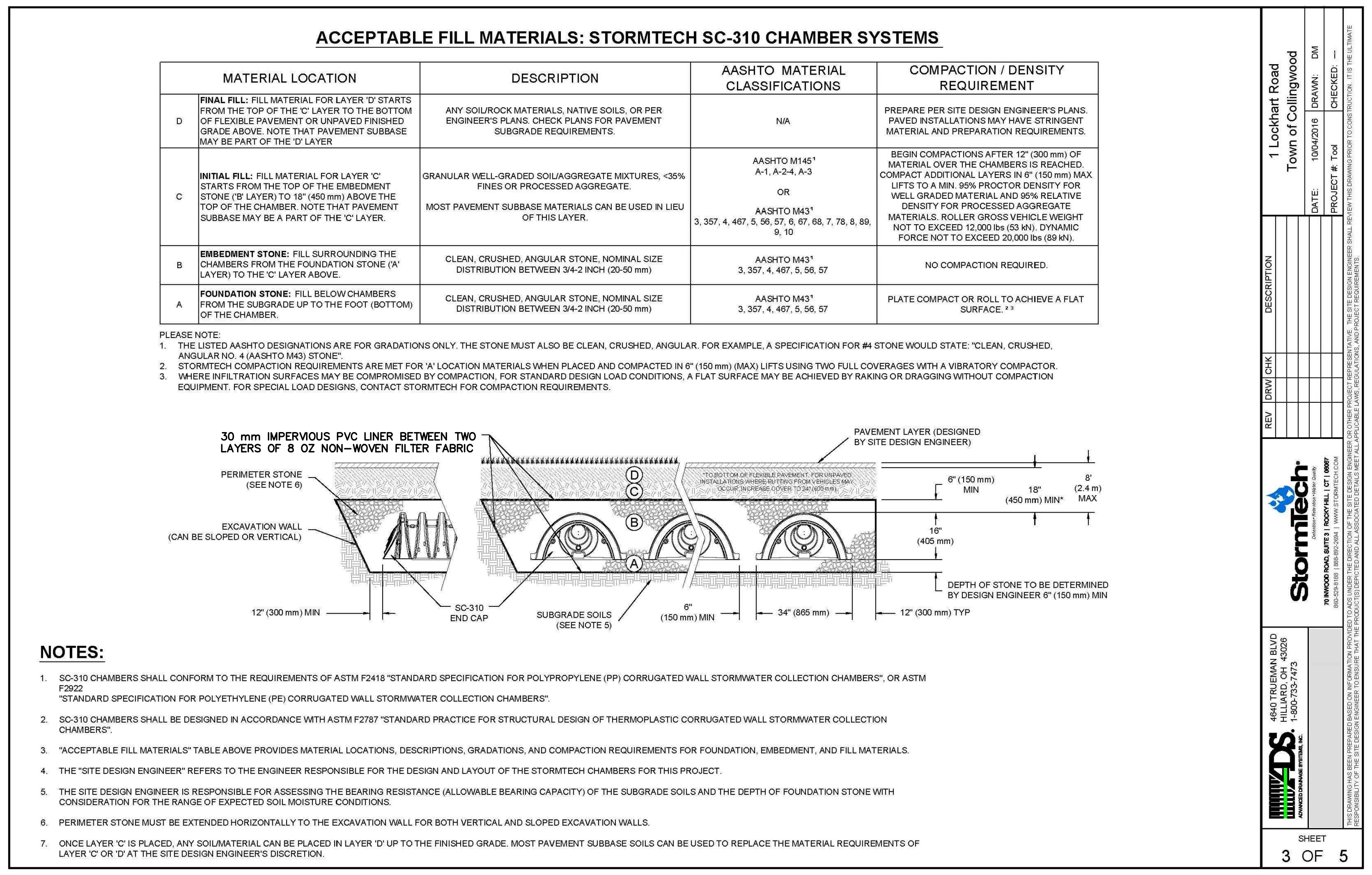
SECTION C–C' GATE

SECTION A–A' FENCE

SECTION B–B'

NO.	REVISION	APR'D	DATE

TOWN OF COLLINGWOOD
PRIVACY FENCE WITH GATE
REVERSE LOT FRONTAGE
APR'D: EDH
DATE: JAN/03
DRAWN:
SCALE: NTS
STD. No. 502



ACCEPTABLE FILL MATERIALS: STORMTECH SC-310 CHAMBER SYSTEMS

MATERIAL LOCATION		DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	**FINAL FILL:** FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	**INITIAL FILL:** FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 18" (450 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145[1] A-1, A-2-4, A-3 OR AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (150 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (53 kN). DYNAMIC FORCE NOT TO EXCEED 20,000 lbs (89 kN).
B	**EMBEDMENT STONE:** FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE, NOMINAL SIZE DISTRIBUTION BETWEEN 3/4-2 INCH (20-50 mm)	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A	**FOUNDATION STONE:** FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE, NOMINAL SIZE DISTRIBUTION BETWEEN 3/4-2 INCH (20-50 mm)	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE.[2,3]

PLEASE NOTE:
1. 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 NO. 4 (AASHTO M43) STONE".
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (150 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.

NOTES:

1. SC-310 CHAMBERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2418 "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS", OR ASTM F2922 "STANDARD SPECIFICATION FOR POLYETHYLENE (PE) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
2. SC-310 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. "ACCEPTABLE FILL MATERIALS" TABLE ABOVE PROVIDES MATERIAL LOCATIONS, DESCRIPTIONS, GRADATIONS, AND COMPACTION REQUIREMENTS FOR FOUNDATION, EMBEDMENT, AND FILL MATERIALS.
4. THE "SITE DESIGN ENGINEER" REFERS TO THE ENGINEER RESPONSIBLE FOR THE DESIGN AND LAYOUT OF THE STORMTECH CHAMBERS FOR THIS PROJECT.
5. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
6. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
7. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.

1 Lockhart Road
Town of Collingwood

REV | DRW | CHK | DESCRIPTION

StormTech®
70 INWOOD ROAD, SUITE 3 | ROCKY HILL | CT | 06067

ADS ADVANCED DRAINAGE SYSTEMS, INC.
4640 TRUEMAN BLVD
HILLIARD, OH 43026
1-800-733-7473

SHEET
3 OF 5

GENERAL REQUIREMENTS

LL WORK TO BE CARRIED OUT IN ACCORDANCE WITH TOWN OF COLLINGWOOD STANDARDS, OPSD AND OPSS. WHERE CONFLICT CCURS, TOWN STANDARDS TO GOVERN.

HE OWNER'S ENGINEER SHALL PROVIDE BENCHMARK ELEVATIONS AND HORIZONTAL REFERENCE ALIGNMENT FOR THE CONTRACTOR.

HE CONTRACTOR IS RESPONSIBLE FOR THE DETAILED LAYOUT OF THE WORK.

HE CONTRACTOR SHALL OBTAIN A ROAD OCCUPANCY PERMIT FROM PUBLIC WORKS PRIOR TO THE COMMENCEMENT OF ONSTRUCTION.

LL SIGNAGE MUST COMPLY WITH TOWN BYLAW 2012-110. A SIGN PERMIT SHALL BE OBTAINED FROM THE CBO WHERE APPLICABLE.

HE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF, AND FOR THE COST OF REPLACING, LAYOUT STAKES, BENCHMARKS ND SURVEY BARS, IF DISTURBED DURING CONSTRUCTION.

HE CONTRACTOR IS RESPONSIBLE FOR PRESERVATION OF ALL EXISTING FACILITIES AS WELL AS NOTIFYING ALL UTILITY COMPANIES RIOR TO COMMENCING WORK AND CO-ORDINATE CONSTRUCTION ACCORDINGLY.

NGINEERED FILL COMPACTED TO 98% SPMDD TO BE USED AS FILL IN ALL AREAS WHERE PROPOSED PIPE INVERTS ARE HIGHER HAN EXISTING GRADE AND WITHIN BUILDING ENVELOPES, OR AS INSTRUCTED BY THE ENGINEER.

OCK EXCAVATION TO BE IN ACCORDANCE WITH OPSS 515. EXCAVATION AND GRADING TO BE IN ACCORDANCE WITH OPSS.MUNI 06 AND OPSS.MUNI 510.

HE CONTRACTOR IS RESPONSIBLE FOR NOTIFYING ALL UTILITY COMPANIES PRIOR TO COMMENCING WORK AND FOR OBTAINING IFORMATION IN REGARD TO EXACT LOCATION OF BURIED UTILITIES. THIS SHALL INCLUDE EXCAVATION OF INSPECTION HOLES IF ECESSARY. THE CONTRACTOR MUST EXERCISE NECESSARY CARE IN CONSTRUCTION OPERATIONS INCLUDING, IF NECESSARY, HAND IGGING TO SAFEGUARD UTILITIES FROM DAMAGE. THE CONTRACTOR SHALL ARRANGE FOR TEMPORARY SUPPORT OF UTILITY POLES S MAY BE REQUIRED TO COMPLETE THE WORK. THE CONTRACTOR IS LIABLE FOR ALL DAMAGE TO UTILITIES OCCURRING WITHIN OR UTSIDE THE CONTRACT LIMITS CAUSED BY THEIR OPERATIONS.

HE CONTRACTOR IS TO SUBMIT SAMPLES AND A GRADATION ANALYSIS OF THE PROPOSED GRANULAR MATERIALS FOR APPROVAL Y THE ENGINEER PRIOR TO COMMENCING WORK.

ONTRACTOR TO PERFORM ALL WORKS IN ACCORDANCE WITH RECOMMENDATIONS AS SPECIFIED IN THE GEOTECHNICAL REPORT, NLESS OTHERWISE APPROVED BY THE ENGINEER.

OMPACTING TO OPSS.MUNI 501 (METHOD A).

RAFFIC CONTROL AND SIGNAGE DURING CONSTRUCTION SHALL CONFORM TO MUNICIPAL REQUIREMENTS AND THE MOST CURRENT NTARIO CONSTRUCTION REGULATIONS INCLUDING REGULATION NO. 213 UNDER OHSA AND REFERENCE TO MTO TEMPORARY ONDITIONS MANUAL BOOK NO. 7.

HE CONTRACTOR SHALL SUPPLY ALL NECESSARY WATER AND/OR CALCIUM CHLORIDE AS REQUIRED FOR COMPACTION AND/OR UST CONTROL.

LEAR, GRUB AND DISPOSE ALL SCRUB, BUSHES, AND TREES IN ACCORDANCE WITH OPSS.MUNI 180 AND OPSS 201 AS REQUIRED O INSTALL WORKS. LIMITS TO BE APPROVED BY THE ENGINEER PRIOR TO PROCEEDING.

TRIP AND DISPOSE ALL TOPSOIL WITHIN ROADWAY CONSTRUCTION IN ACCORDANCE WITH OPSS.MUNI 510.

XCESS OR UNSUITABLE MATERIALS TO BE DISPOSED OF BY THE CONTRACTOR IN ACCORDANCE WITH OPSS.MUNI 180 AT AN PPROVED LOCATION AS PART OF THE WORK.

OR THE DURATION OF THE CONTRACT, MATERIAL THAT BECOMES CONTAMINATED DUE TO CONTRACTOR'S ACTIVITY SHALL BE EMOVED AND REPLACED AT NO EXTRA COST TO THE CONTRACT.

EWATERING TO BE CARRIED OUT IN ACCORDANCE WITH OPSS.MUNI 517 AND OPSS.MUNI 518 TO MAINTAIN ALL TRENCHES IN A DRY ONDITION.

LL ENGINE DRIVEN PUMPS TO BE ADEQUATELY SILENCED, SUITABLE FOR OPERATION IN A RESIDENTIAL AREA.

LL PIPE HANDLING AND INSTALLATION MUST BE IN STRICT COMPLIANCE WITH MANUFACTURERS INSTALLATION GUIDES. ALL PVC PIPE O BE COVERED WHILE STORED ON SITE.

IPE DEFLECTIONS SHALL NOT EXCEED MANUFACTURER'S SPECIFICATIONS.

IGID PIPE BEDDING, COVER AND BACKFILL TO OPSD 802.030 OR OPSD 802.031 CLASS B WITH GRANULAR 'A' FOR BEDDING AND OVER MATERIAL. BACKFILL SHALL BE PLACED IN LIFTS, A MAXIMUM OF 200 mm THICK.

LEXIBLE PIPE EMBEDMENT AND BACKFILL TO OPSD 802.010 WITH GRANULAR 'A' FOR EMBEDMENT MATERIAL.

IGID PIPE BEDDING, COVER AND BACKFILL AND FLEXIBLE PIPE EMBEDMENT AND BACKFILL MATERIAL TO BE COMPACTED TO A DRY ENSITY OF AT LEAST 95% OF THE MATERIAL'S STANDARD PROCTOR MAXIMUM DRY DENSITY (SPMDD). MINIMUM BEDDING DEPTH 50mm, MINIMUM COVER 300 mm.

LEAR STONE WRAPPED IN FILTER FABRIC MAY BE SUBSTITUTED FOR EMBEDMENT MATERIAL IF APPROVED BY THE ENGINEER.

RENCH BACKFILL TO BE SELECT NATIVE MATERIAL. WHERE NATIVE MATERIAL IS CONSIDERED BY THE ENGINEER TO BE UNSUITABLE, RENCH BACKFILL SHALL BE IMPORTED SELECT SUBGRADE MATERIAL FROM A LICENSED PIT OR QUARRY.

LL IMPORTED FILL MATERIAL MUST MEET THE REQUIREMENTS IN TABLE 1 AND/OR TABLE 8 OF O.REG. 153/04 (AMENDED JULY 011) AND MUST BE CAPABLE OF PERFORMING AS ENGINEERED FILL.

LL DISTURBED AREAS TO BE REINSTATED TO PREVIOUS CONDITION OR BETTER.

ENERAL INSTALLATION AND TESTING OF SEWERS, WATERMAIN AND APPURTENANCES TO BE IN ACCORDANCE WITH OPSS 407, OPSS 08, OPSS.MUNI 409, OPSS.MUNI 410, OPSS.MUNI 421, AND OPSS.MUNI 441 AND ALL SPECIFICATIONS REFERENCED WITHIN THESE ECTIONS.

LL STRUCTURES ARE 1200 mm DIA. UNLESS OTHERWISE NOTED.

ROST STRAPS SHALL BE INSTALLED ON ALL MAINTENANCE HOLES AS PER OPSD 701.100.

TEPS IN ALL STRUCTURES TO OPSD 405.010.

IPE SUPPORT AT ALL STRUCTURES TO OPSD 708.020.

HE CONTRACTOR SHALL MAKE THEIR OWN ARRANGEMENTS FOR THE SUPPLY OF TEMPORARY WATER AND POWER.

ATER VALVE BOXES, MAINTENANCE HOLE AND CATCH BASIN FRAME AND GRATES TO BE SET TO BASE COURSE ASPHALT LEVATION AND RAISED PRIOR TO THE PLACEMENT OF SURFACE COURSE ASPHALT.

EMOVE AND DISPOSE ORGANIC MATERIAL WITHIN THE EXISTING RIGHT OF WAY AND/OR AS REQUIRED TO COMPLETE THE WORK.

IGNS INCORPORATING THE INTERNATIONAL SYMBOL OF ACCESSIBILITY SHALL BE INSTALLED WHERE NECESSARY TO INDICATE: THE OCATION OF A BARRIER FREE ENTRANCE AND THE LOCATION OF RAMPS LOCATED IN A REQUIRED BARRIER FREE PATH OF TRAVEL.

ROADS

OINTS WITH EXISTING ASPHALT TO BE SAW CUT STRAIGHT AS DIRECTED BY ENGINEER PRIOR TO PLACING NEW ASPHALT AND TACK OAT APPLIED TO EXISTING ASPHALT. WHERE EXISTING ASPHALT IS THICKER THAN 75 mm, A 350 mm WIDE BY 40 mm DEEP LAP OINT SHALL BE GROUND INTO EXISTING ASPHALT, OTHERWISE A BUTT JOINT SHALL BE USED.

ACK COAT TO BE APPLIED TO ENTIRE SURFACE OF BASE COURSE ASPHALT AT THE TIME OF PLACEMENT OF SURFACE COURSE SPHALT. APPLICATION RATE SHALL BE 0.35 kg/m².

ASPHALT SURFACES SETTLE IN EXCESS OF 20 mm OR DIFFERENTIALLY DURING THE WARRANTY PERIOD, THE ENGINEER SHALL RDER THE AREA CUT OUT AND REPLACED AT NO EXTRA COST TO THE CONTRACT.

ENERAL AGGREGATES TO OPSS.MUNI 1001 AND OPSS.MUNI 1010.

UBGRADE AND BOULEVARD MATERIAL TO BE COMPACTED TO A MINIMUM DRY DENSITY OF 95% OF THE MATERIAL'S STANDARD ROCTOR MAXIMUM DRY DENSITY (SPMDD). SUBGRADE TO BE PROOF ROLLED, INSPECTED AND CERTIFIED BY A GEOTECHNICAL NGINEER PRIOR TO PLACING GRANULAR 'B'.

LL GRANULAR AND ASPHALT MATERIAL TO BE PLACED IN ACCORDANCE WITH OPSS.MUNI 314 AND OPSS.MUNI 310.

00 mm DIA. PIPE SUBDRAIN SHALL BE PROVIDED WHERE SHOWN ON DRAWINGS, CONSTRUCTED IN ACCORDANCE WITH OPSS 405 ND OPSD 216.021, UN-WRAPPED GRANULAR 'A' EMBEDMENT.

UBDRAIN TO BE PERFORATED OTHER THAN THE 2.0 m SECTION IMMEDIATELY UPSTREAM OF ALL STRUCTURES WHICH SHALL BE ON-PERFORATED.

RANULAR 'A' AND 'B' TO BE COMPACTED TO 100% OF EACH MATERIAL'S SPMDD.

SPHALT TO BE COMPACTED TO A MINIMUM OF 92% OF THE MATERIAL'S MAXIMUM RELATIVE DENSITY.

ONCRETE BARRIER CURB TO OPSD 600.110 AND OPSS.MUNI 353.

URB DEPRESSIONS AT DRIVEWAY IN ACCORDANCE WITH OPSD 350.010.

URB TERMINATIONS IN ACCORDANCE WITH OPSD 608.010.

IDEWALKS TO OPSD 310.010, OPSD 310.030 AND OPSS 351. SUBBASE TO CONSIST OF 150mm GRANULAR 'A'.

IDEWALKS AND CONCRETE PADS ADJACENT TO BUILDING ENTRANCES SHALL BE CONSTRUCTED ON 150mm GRANULAR 'A' AND 25mm GRANULAR' B' WITH SUBDRAIN CONNECTION TO STORM SEWER OR PROPERLY INSULATED WITH 75 mm STYROFOAM OR QUIVALENT.

EINSTATEMENT OF DISTURBED AREAS WITHIN BOULEVARDS TO INCLUDE A MINIMUM OF 150 mm OF SCREENED TOPSOIL AND NO. 1 URSERY SOD IN ACCORDANCE WITH OPSS 802 AND OPSS.MUNI 803.

EINSTATEMENT OF SIDEWALK ON HURONTARIO STREET, ADJACENT TO CURB SHALL INCLUDE 150 mm GRANULAR 'A' BASE AND 200 m THICK CONCRETE. REINSTATEMENT OF SIDEWALK ON LOCKHART ROAD TO INCLUDE 150mm GRANULAR 'A' BASE AND 125 mm HICK CONCRETE TO OPSD 310.010.

EINSTATEMENT OF CURB ON HURONTARIO STREET AND LOCKHART ROAD TO OPSD 600.040.

EINSTATEMENT OF ASPHALT BOULEVARD HURONTARIO STREET TO INCLUDE 50 mm HL3 SURFACE COURSE ASPHALT ON 150 mm RANULAR 'A' AND 300 mm GRANULAR 'B' SUBBASE.

ARKING LOT TO BE CONSTRUCTED OF MIN. 400mm GRANULAR B, 150mm GRANULAR A, 50mm HL8 AND 40mm HL3

3. PAVEMENT MARKINGS

A. PAVEMENT MARKINGS REQUIRE 2 APPLICATIONS OF PAINT FOR NEW ASPHALT. THE SECOND APPLICATION SHALL NOT BE APPLIED UNTIL THE FIRST IS TACK FREE.
B. PAVEMENT MARKINGS SHALL ONLY BE APPLIED WHEN TEMPERATURE IS ABOVE 10 DEGREES CELSIUS, THE PAVEMENT IS PERFECTLY DRY AND UPON THE AUTHORIZATION OF THE ENGINEER.
C. WORK TO BE IN ACCORDANCE WITH OPSS 532, OPSS 1712, OPSS 1713 AND OPSS 1714 AND THE ONTARIO TRAFFIC MANUAL BOOK 11, MINISTRY OF TRANSPORTATION OF ONTARIO.
D. PARKING SPACES ARE TO BE PAINTED WITH ORGANIC SOLVENT BASED TRAFFIC PAINT (YELLOW), PARKING SYMBOLS TO BE THERMOPLASTIC PAVEMENT MARKINGS.

4. WATERMAIN

A. ALL WATERMAIN AND SERVICES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE TOWN OF COLLINGWOOD WATER DEPARTMENT STANDARDS AND SHALL CONFORM TO NFPA24.
B. THRUST PROTECTION TO BE PROVIDED BY THE USE OF THRUST BLOCKS AND RESTRAINING GLANDS AS IF EACH ARE INDEPENDENT OF ONE ANOTHER. THRUST BLOCKS TO OPSD 1103.010 AND OPSD 1103.020 WHERE SUITABLE SOILS ARE ENCOUNTERED. RESTRAINT SYSTEM TO BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
C. CLEARANCE BETWEEN WATERMAINS AND SEWERS TO BE A MINIMUM OF 0.50 m VERTICAL OR 2.5 m HORIZONTAL.
D. CONTRACTOR SHALL PROVIDE CATHODIC PROTECTION ON THE WATER DISTRIBUTION SYSTEM. IN DETERMINING THE MODE OF PROTECTION, AN ELECTRICAL RESISTIVITY OF 3500 OHM-CM SHOULD BE USED. HOWEVER TO BE CONFIRMED BY TESTING SOIL IN WATERMAIN TRENCH AT TIME OF CONSTRUCTION. THE CONTRACTOR SHALL PROPOSE THE METHODS AND MATERIALS TO BE USED FOR APPROVAL BY THE ENGINEER AND TOWN OF COLLINGWOOD ENVIRONMENTAL SERVICES DEPARTMENT.
E. TERMINATE WATER SERVICE AND FIRE LINE 1.0 m FROM BUILDING C/W CAP, 25 mm DIA. TESTING BLOWOFF WHICH EXTENDS 500 mm ABOVE GRADE AND A 2"x4" MARKER POST PAINTED BLUE.
F. MINIMUM COVER ON WATERMAIN AND SERVICES TO BE 1.7m AT ALL POINTS.
G. ALL GATE VALVES, BENDS AND FITTINGS TO BE CONNECTED WITH RESTRAINING GLANDS (REGARDLESS IF THRUST PROTECTION IS REQUIRED).
H. FOLLOWING TESTING, CONTRACTOR SHALL OPERATE WATER SERVICE TO VERIFY FULL FLOW AND PRESSURE AT THE CURB STOP TO THE SATISFACTION OF THE ENGINEER.
I. GENERAL INSTALLATION AND TESTING OF WATERMAIN TO BE IN ACCORDANCE WITH OPSS.MUNI 441 AND TOWN STANDARDS.
   - ALL WATERMAINS ARE TO BE SWABBED BY THE CONTRACTOR.
   - ALL WATERMAINS ARE TO BE PRESSURE TESTED BY THE CONTRACTOR, WITH A COPY OF THE PRESSURE TEST REPORT SENT TO THE TOWN OF COLLINGWOOD WATER DEPARTMENT.
   - TOWN OF COLLINGWOOD WATER DEPARTMENT WILL PERFORM WATERMAIN DISINFECTION AND MICROBIOLOGICAL TESTING AT THE DEVELOPER'S EXPENSE.
   - WATERMAINS ARE NOT TO BE CONNECTED TO THE EXISTING WATERMAIN UNTIL BACTERIOLOGICAL TESTING HAS BEEN SUCCESSFULLY PASSED AND AUTHORIZED BY ENGINEER.
   - ALL CONNECTIONS TO THE TOWN WATER SYSTEM ARE TO BE INSTALLED BY THE TOWN OF COLLINGWOOD WATER DEPARTMENT BY LIVE TAP, AT THE DEVELOPER'S EXPENSE.
   - TOWN OF COLLINGWOOD WATER DEPARTMENT TO RECEIVE AT LEAST 48 HOURS NOTICE OF TESTING, FLUSHING, CHLORINATION, ETC. OF THE WATERMAINS.
   - THE WATER AND LABOUR USED IN THE TESTING OF THE WATERMAINS WILL BE RECORDED AND BILLED TO THE CONTRACTOR.
J. EACH PROPERTY SHALL HAVE ONE SERVICE AND ONE METER (FIRE SERVICE IS NOT METERED). ADDITIONAL METERS CAN BE ADDED INTERNALLY TO MEASURE THE WATER USE FOR EACH UNIT.
K. BACKFLOW PREVENTION DEVICES PER CSA B64.10-11/B64.10.1-11, OBC AND THE TOWN'S BACKFLOW PREVENTION BYLAW 2017-056 TO BE PROVIDED INTERNAL TO THE BUILDING. IT IS A REQUIREMENT THESE DEVICES BE TESTED AND CERTIFIED ANNUALLY AT OWNERS EXPENSE.
L. THE FIRE DEPARTMENT CONNECTION IS REQUIRED TO PROVIDE TWO 65 mm HOSE CONNECTIONS WITH FEMALE SWIVEL HOSE COUPLINGS IN ACCORDANCE WITH SECTION 3.2.5.16(3) OF THE ONTARIO BUILDING CODE.
M. A SEPARATE PERMIT (SITE SERVICING) IS REQUIRED FOR THE FIRE SERVICE MAIN. INSPECTION AND TESTING OF THE FIRE SERVICE MAIN IS REQUIRED UNDER SECTION 1.3.5.1(2)(H), DIVISION C OF THE ONTARIO BUILDING CODE.

5. STORM SEWER

A. PRECAST MAINTENANCE HOLES SHALL BE IN ACCORDANCE WITH OPSD 701.010, OPSD 701.012, C/W BENCHING TO OPSD 701.021. FRAMES AND GRATES TO OPSD 401.010 (TYPE A), CLOSED COVER.
B. MH TO BE INSTALLED AS A "DOG HOUSE" UNIT OVER EXISTING 900mmø MAIN PER OPSD 701.012 WITH FROST STRAPS PER OPSD 701.100 WITH "QUICK ANCHORED BOLTS.
C. CATCH BASIN TO BE 600 mm SQUARE PRECAST CONCRETE TO OPSD 705.010. FRAME AND GRATE TO OPSD 400.020 AND OPSD 400.120 (GRASSED AREAS).
D. DITCH INLET CATCH BASINS SHALL BE 600mm SQUARE PRECAST CONCRETE AND SHALL BE IN ACCORDANCE WITH OPSD 705.030, UNLESS OTHERWISE SPECIFIED. FRAME AND GRATE TO OPSD 403.010. SLOPE TO BE 4:1 UNLESS OTHERWISE NOTED.
E. SUMP PUMP FOR BUILDING (IF REQUIRED) SHALL OUTLET ABOVE GRADE AND BE DIRECTED SUCH THAT IT DOES NOT ENTER THE STORM SEWER SYSTEM/UNDERGROUND STORAGE FACILITY.

6. SANITARY SEWERS

A. PRECAST MAINTENANCE HOLES SHALL BE IN ACCORDANCE WITH OPSD 701.010 C/W BENCHING TO OPSD 701.021. FRAMES AND GRATES TO OPSD 401.010 (TYPE 'A'), CLOSED COVER.
B. SANITARY SERVICE TO TERMINATE 1.0 m FROM THE BUILDING WITH WATERTIGHT CAP AND 38 mm x 89 mm MARKER POST PAINTED GREEN.
C. RADIUS BENDS TO BE USED ON ALL SEWER CONNECTIONS WHERE THE ANGLE OF CONNECTION BETWEEN THE SERVICE AND SEWER EXCEEDS 90°.
D. KOR-N-SEAL GASKETS TO BE USED AT ALL MAINTENANCE HOLE CONNECTIONS.

7. MATERIALS

A. SANITARY SEWER/SERVICES – SDR 35 PVC, 200mm, COLOUR GREEN.
B. WATERMAIN – DUCTILE IRON CLASS 52, CONDUCTIVITY CONNECTORS TO BE USED ON ALL JOINTS.
C. VALVES – RESILIENT SEATED, RSGV, MECHANICAL JOINT, OPEN LEFT CLOW OR MUELLER WITH 5 SL-48 SLIDING VALVE BOX. PROVIDE VALVE STEM EXTENSIONS WHERE WATERMAIN EXCEEDS 1.7m DEPTH.
D. MECHANICAL JOINT DUCTILE FITTINGS – AWWA/ANSI C153/A21.53.
E. RESTRAINT SYSTEM – ROMAC GRIPPING FOR JOINT RESTRAINTS, ROMAC 600 SERIES FOR BELL RESTRAINTS.
F. LIVE TAP SADDLES – EPOXY COATED WITH STAINLESS STEEL BOLTS.
G. LIVE TAP VALVE – RESILIENT SEATED RSGV, LIVE TAP VALVE, OPEN LEFT MUELLER.
H. TRACER WIRE – SOLID CORE, 12 GAUGE.
I. FILTER FABRIC – TERRAFIX 270R OR APPROVED EQUAL.
J. AREA DRAINS – TUF-TITE AD1 AREA DRAIN WITH ADA GRATE OR APPROVED EQUIVALENT.
K. TRENCH DRAIN – WATTS TD-920 12" WIDE HEAVY DUTY SECTIONAL TRENCH DRAIN.
L. SUBDRAINS – PERFORATED BIG 'O' SUBDRAIN OR SOLID BIG 'O' SUBDRAIN (AS SPECIFIED) WITH GEOTEXTILE FILTER SOCK OR APPROVED EQUAL.
M. STORM SEWER – HDPE OPEN PROFILE BELL & SPIGOT (BOSS 2000 AND MIN. PIPE STIFFNESS = 320 kPa).
N. OIL GRIT SEPARATOR – STORMCEPTOR STC 300i.
O. ALL SPECIFIED AGGREGATES TO OPSS.MUNI. 1010.
P. INSULATION – STYROFOAM HIGHLOAD 40 EXTRUDED POLYSTYRENE FOAM INSULATION, 50mm THICK SHEETS.
Q. HYDRANTS – CANADA VALVE, CENTURY NO. 1 OPEN LEFT WITH 2 CSA HOSE PORTS, ONE STORZ 4" PUMPER PORT, AND A BREAK AWAY TYPE 6" MJ BASE, SELF DRAINING. YELLOW BASE WITH SILVER BONNET AND PORTS. MARKER'S FLEX STAKE MODEL FHV804, REFLECTIVE HYDRANT DECAL ON EACH SIDE, YELLOW, 48" LENGTH WITH ANTI TAMPER DEVICE, BLUE.
R. ALL CHEMICALS AND MATERIALS USED IN THE ALTERATION OR OPERATION OF THE DRINKING WATER SYSTEM THAT COME INTO CONTACT WITH WATER WITHIN THE SYSTEM SHALL MEET ALL APPLICABLE STANDARDS SET BY BOTH THE AMERICAN WATER WORKS ASSOCIATION ("AWWA") AND THE AMERICAN NATIONAL STANDARDS INSTITUTE ("ANSI") SAFETY CRITERIA STANDARDS NSF/60, NSF/61 AND NSF 372.
S. TERMINAL BACKWATER VALVE – 180G06 BY GALAXY PLASTICS OR APPROVED EQUAL.
T. GARBAGE/RECYCLING CONTAINERS TO BE MOLOK M-5000. TO BE INSTALLED AS PER MANUFACTURE'S MOST CURRENT INSTALLATION INSTRUCTIONS.

TOWN APPROVAL

DISCLAIMER AND COPYRIGHT

CONTRACTOR MUST VERIFY ALL DIMENSIONS AND BE RESPONSIBLE FOR SAME. ANY DISCREPANCIES MUST BE REPORTED TO THE ENGINEER BEFORE COMMENCING WORK. DRAWINGS ARE NOT TO BE SCALED.

BENCHMARKS

TBM1 – ELEVATION 189.177
ELEVATIONS HEREON ARE GEODETIC AND REFER TO THE NAIL & WASHER IN SECOND HYDRO POLE NORTH OF THE INTERSECTION OF LOCKHART ROAD AND HURONTARIO STREET ON WEST SIDE OF ROAD.

TBM2 – ELEVATION 189.682
ELEVATIONS HEREON ARE GEODETIC AND REFER TO THE NAIL & WASHER IN FIRST HYDRO POLE NORTH OF INTERSECTION OF LOCKHART ROAD AND HURONTARIO STREET ON WEST SIDE OF ROAD.

NOTES

LEGAL SURVEY INFORMATION AND LOT DIMENSIONS SHOWN ON THIS PLAN ARE TAKEN FROM A SURVEY PLAN PREPARED BY ZUBEK, EMO, THOMSEN & PATTEN, DATED 2019. WHICH MAY NOT BE FINAL AND ARE NOT GUARANTEED. THE FINAL REGISTERED PLAN OF SUBDIVISION SHALL BE REFERRED TO FOR CONFIRMATION OF THE DATA.
TOPOGRAPHIC INFORMATION ON THIS PLAN FROM SURVEY PREPARED BY C.C. TATHAM & ASSOCIATES DATED OCT 13/2016.

No.	REVISION DESCRIPTION	DATE
3.	3RD SUBMISSION	FEB 2021
4.	6TH SUBMISSION	MAR 2021
5.	7TH SUBMISSION	JUL 2022
6.	8TH SUBMISSION	JAN 2023
7.	9TH SUBMISSION	MAR 2023

ENGINEER STAMP

23 03 22
R. S. SIMPSON

RDL EXPORT
655 HURONTARIO STREET
TOWN OF COLLNGWOOD

TATHAM ENGINEERING

DETAILS & NOTES

DESIGN: AS/RD
DRAWN: RD
CHECK: JPA/RS
FILE: 118197
DATE: MAY 2020
SCALE: 1:200
DWG: **DE-1**

Drawing Name: 118197–DE01.dwg, Plotted: Mar 22, 2023