279 HILL STREET, PORT STANLEY

MUNICIPALITY OF CENTRAL ELGIN

PRELIMINARY SERVICING AND STORMWATER MANAGEMENT REPORT

CJDL
Consulting Engineers

19084
13 April 2021
Rev. 29 March 2022

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TABLE OF CONTENTS

CJDL Consulting Engineers

CYRIL J. DEMEYERE LIMITED
John D. Wiebe, P. Eng. | Andrew Gilvesy, P. Eng.
Peter J. Penner, P. Eng. | Deren Lyle, P. Eng.

261 Broadway, P.O. Box 460, Tillsonburg, ON N4G 4H8 T: 519-688-1000 F: 519-842-3235 www.cjdleng.com

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1.0 Introduction

The property at 279 Hill Street is located on the northeast side of Port Stanley, west of the intersection of Hill Street and East Road (County Road 23). The site is 0.81 ha of land, currently occupied by a single residence with a gravel driveway. The property owner of 279 Hill Street intends to develop the site as an infill residential development. The development proposal includes constructing six 4-unit townhouse buildings and one 3-unit townhouse, for a total of 27 units, fronting an internal private access road and associated surface level parking.

The site is relatively flat, with the property generally draining westerly over the existing bluff and southerly into the ravine adjacent to Hill Street, at the top end of the Siebenmorgen Municipal Drain, all of which eventually outlets to Kettle Creek. The site falls under the jurisdiction of the Kettle Creek Conservation Authority.

This report has been prepared for the Developer of 279 Hill Street, Morgan Pavia, for the purposes of accompanying the second submission of Zoning By-Law Amendment (ZBA) and concurrent Draft Plan of Condominium applications for the subject lands. Please refer to the Site Plan (Drawing 1) and the Preliminary Servicing Plan (Drawing 3), enclosed in Appendix A.

2.0 Geotechnical Investigation

The native soil at the site is predominantly comprised of silty clay till as witnessed by a Geotechnical Investigation and Slope Assessment Report (MTE, 15 December 2020). The soil has a relatively low permeability, therefore is generally unsuitable for groundwater recharge.

The valley which contains the Siebenmorgen Drain varies in size and slope in the vicinity of the subject lands. At the southern limits of 279 Hill Street, the valley is 5m deep with an approximate side slope inclination of 2:1 (H:V).

At the northwest corner of the property the top of bank of a 31m high slope is approximately 20m from the nearest proposed townhouse. The inclination of this slope is approximately 3:1 (H:V). The Slope Assessment Report concluded that the valleylands have a slope instability rating of “low potential” requiring a “site inspection only, confirmation, and report letter”.

Refer to Geotechnical Investigation and Slope Assessment Report (MTE, 15 December 2020) for further details on the subsurface conditions and slope assessment.

3.0 Sanitary Sewage

"Sunset Road Sanitary Sewer Extension: Tributary Service Area Analysis" (CJDL, 8 September 2015) was completed to study the design sanitary servicing tributary areas to the proposed Sunset road (County Road No. 4) sanitary sewer extension, including Sunset Bluffs Subdivision and surrounding area (incl. 279 Hill Street lands). In accordance with recommendations of the study, in spring 2016 the trunk sanitary sewer extension on Sunset Road (County Road No. 4) was constructed to provide a sanitary sewer outlet for Sunset Bluffs Subdivision and surrounding area.

The 200mmø sewer was since extended southerly on Larry Street, on Hill Street (from East Road to High Street), and southerly on High Street in summer 2020 concurrent with development of the Landings Port Stanley Subdivision. To provide sanitary service to 279 Hill Street, a 90±m long sanitary sewer extension on Hill Street, west from High Street is required, and is anticipated to include associated road reconstruction along Hill Street.

The 279 Hill Street property is within the design tributary area for the proposed 200mmø Hill Street sewer. Design flows have been evaluated to consider the proposed 27 residential townhouse units at 279 Hill Street. At 3.5 people/unit (Pop = 95), the Hill Street sanitary sewer and its outlet at Larry Street have sufficient capacity to service the proposed development at 279 Hill Street. The existing sewer stub has been installed to provide gravity basement drainage to all proposed townhome units.

4.0 Storm Drainage

4.1 Existing Site Conditions

The site is relatively flat, with the property generally draining westerly over the existing bluff and southerly into the ravine adjacent to Hill Street, at the top end of the Siebenmorgen Municipal Drain, all of which eventually outlets to Kettle Creek. The site currently includes a single family residence, gravel driveway, and associated accessory buildings, equating to approximately 8% impervious level and a pre-development run-off coefficient of C = 0.38. In post-development conditions, the run-off is increased to C = 0.70, reflective of the increased level of site imperviousness of proposed buildings and asphalt roadway. Refer to Appendix B for calculations.

Referring to the Seibenmorgen Drain (Spriet Associates, 1981) drawing included in Appendix A, approx. 0.52 ha of the 0.81 ha site is currently tributary to the Siebenmorgen Drain, via the existing ravine north of Hill Street, developing at the westerly limit to the existing driveway at 279 Hill Street.

Storm sewers are not present on Hill Street west of 279 Hill Street, and rather surface run-off discharges directly to the existing ravine on the north side of Hill Street, prior to discharge to the Siebenmorgen Municipal Drain. Although intermittent catchbasins with informal outlet treatments have been installed by the Municipality over the years to varying degrees of effectiveness, concentrated flows over the ravine bank appear to remain a cause of erosion. Concurrent with eventual storm sewer construction at 279 Hill Street, it is proposed that surface flows at the most problematic areas of the Hill Street ravine will be re-routed to a common outlet, at the confluence of the existing Beamish Street drain and the proposed 279 Hill Street storm sewer. A proper outlet headwall structure and cable concrete matting for erosion control is proposed to help alleviate existing erosion concerns along the ravine side slopes.

4.2 Stormwater Management Concept

The storm drainage outlet for the site will be the Hill Street ravine, and eventually the Siebenmorgen Municipal Drain. It is proposed that stormwater from the 279 Hill Street development will outlet to a new storm manhole, prior to discharge to Kettle Creek at the entrance to the site, which will also act as the outlet for the sewer improvements proposed by Central Elgin and the Hill Street Municipal Drain, as described in the section above.

It is proposed that post-development discharge from the site (0.81± ha @ C = 0.70) will be restricted to pre-development run-off from the site, for up to the 100-year storm event, in accordance with Municipality of Central Elgin Design Guidelines and MECP accepted stormwater management (SWM) practices.

Site Plan design for the development includes a proposed 'StormTech SC-740 Chamber' to provide both quantity and quality control of the effluent storm water. This underground storage facility will be located in the proposed access road at the entrance of the site and has been selected for use in this application to not conflict with other proposed underground infrastructure, while still ensuring that the necessary SWM requirements are met. Refer to Appendix 'B' for further product information.

Quantity control for the 5 to 100-year design storm will be provided via a 150mmø orifice plate at the outlet of the underground storage chamber. Refer to Appendix 'A' for Post-Development Flow Calculations, and as summarized by the following Table 1.

Table 1 - Stage-Storage-Discharge Relationship

Design Storm	5-Year	100-Year
Pre-Development Outflow (l/s) Tributary Area = 0.81 ha	46.5	105.8
Post-Development Outflow (l/s) Tributary Area = 0.81 ha	41.6	65.9
Storage Required (m^3)	78	182
Storage Provided (m^3)	190	190
Max. Water Elev. in SWM Chamber (m)	210.26	210.85

It is therefore demonstrated that sufficient storage is provided within proposed underground SWM chamber to control post-development flows from the Site to pre-development levels.

5.0 Watermain

The existing Port Stanley elevated storage tank is located northeast of the subject 279 Hill Street property, at the intersection of Dexter Line and East Road. An existing 300mmø trunk watermain runs south from the Port Stanley water tower along the west side of East Road. An existing 250mmø watermain runs from East Road westerly along Hill Street and connects to an existing 200mmø watermain on Colborne Street/Sunset Drive.

The 2000 Dillon Water and Sanitary Servicing and Traffic/Roads Report concluded that there is sufficient available capacity in the existing trunk watermains on Hill Street, East Road and Dexter Line to service the near-term development area which included the Little Creek Subdivision and surrounding Beamish/Larry/Hill Street development areas.

The existing 250mmø watermain along Hill Street can provide water service to the site. One (1) 200mmø point of connection is proposed to provide water service to the two (2) fire hydrants and the seven (7) buildings proposed within the development. Individual 25mmø water services will be provided to each unit from the proposed 200mmø internal watermain.

6.0 Electrical and Utilities

279 Hill Street is currently within the electrical service area of Hydro One Networks Inc. (HONI). It is anticipated that HONI will be the electrical service provider for the proposed development.

Bell, Rogers and Engbridge also provide utility service to this area Port Stanley, and it is further anticipated that they will have adequate capacity on Hill Street to service the proposed development.

Street lights will be designed to Municipality of Central Elgin design criteria, ensuring that light trespass to neighbouring properties will be minimized and that a detailed lighting distribution plan will be provided as part of the Site Plan Application package. The classification of roadways and their recommended luminance light levels will be as per IESNA RP-8-14 and TAC 2006 Guide for the Design of Roadway Lighting.

7.0 Traffic

Vehicular connection for the 27 units at the site will have one (1) point of access provided from Hill Street at the southern limit of the site. The Traffic Impact Assessment by F. R. Berry & Associates (January 2022) concluded that the proposed development at 279 Hill Street will have no significant impact on the operation of the intersection of Hill Street and East Road (County Road 23).

The development will provide a parking supply of 54 off-street parking spaces, including driveways and garages, which meets the zoning requirement of 1.5 off-street parking spaces per unit.

8.0 Natural Heritage

An Issue Scoping Report was completed by Vroom + Leonard (formerly Leonard & Associates) in June 2020 (Rev. April 2022). The report concluded that the proposed development of the site does not pose any potential issues from a natural heritage perspective as long as the recommended mitigative measures noted in the report are followed. A full Environmental Impact Study (EIS) is not required for the site.

9.0 Other Related Studies

The following related studies have been prepared in support of the proposed Zoning By-Law Amendment application:

- Planning Justification Report, Zelinka Priamo (Rev. May 2022)
- Archaeological Assessment, Lincoln Environmental Consulting Group (November 2020)

Please refer to the aforementioned reports for further information on their respective topics.

** ** **

All of which is respectfully submitted by,

Cameron Cluett, P. Eng. Deren Lyle, P. Eng.

CJC/kc

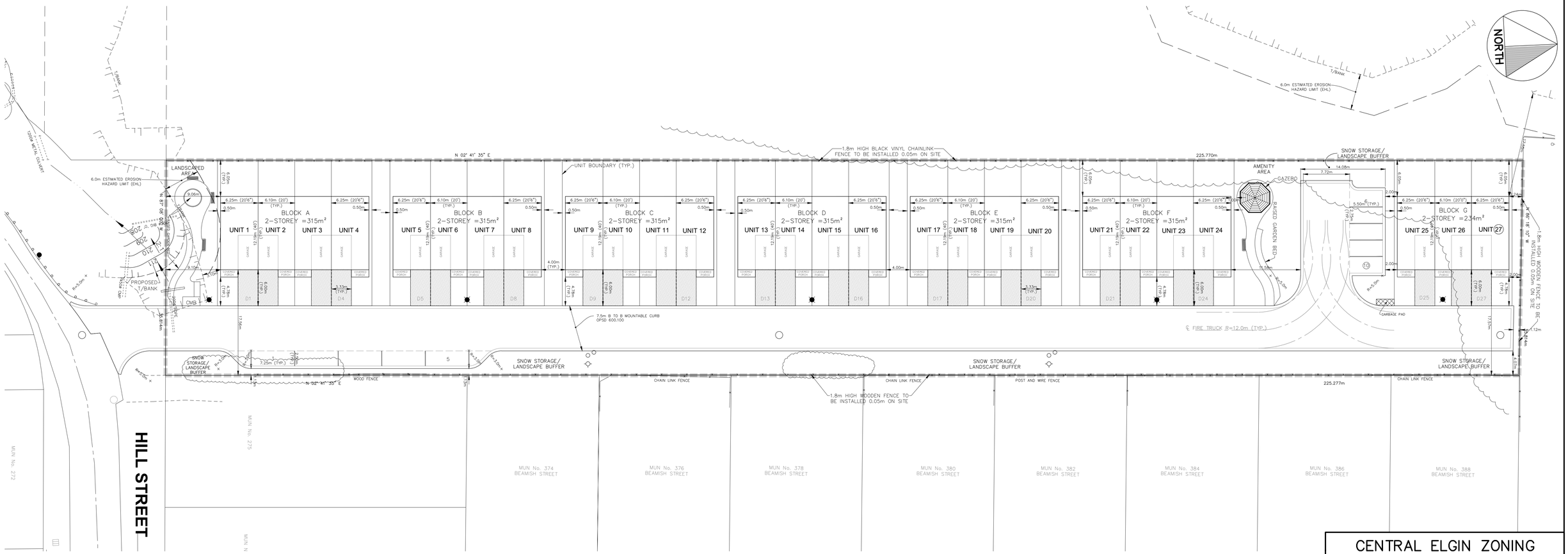
APPENDIX ‘A’ - DRAWINGS

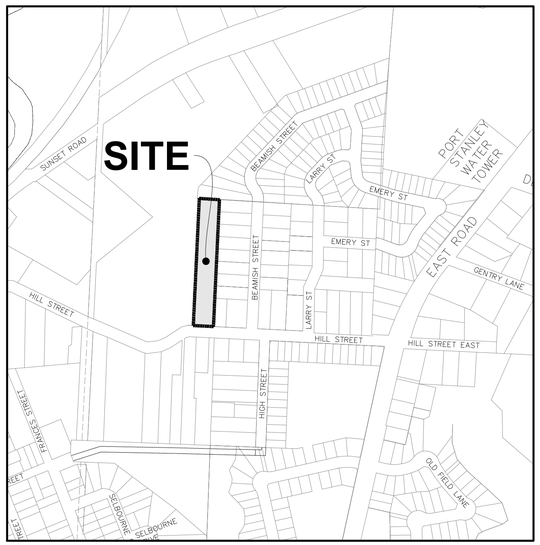
DRAWING 1 – SITE PLAN (29 MARCH 2022)

DRAWING 3 – SERVICING PLAN (29 MARCH 2022) – PRELIMINARY

Municipal Drain & Storm Sewer Reference Drawings:

- Hill Street Drain (Spriet Associates, 1997)
- Siebenmorgen Drain (Spriet Associates, 1981)





KEY PLAN SCALE 1:5,000

SEE DRAWING No. 4 FOR GENERAL NOTES

CENTRAL ELGIN ZONING REQUIREMENTS

	EXAMPLE ZONING	PROVIDED ON CONCEPT PLAN	
		OVERALL	PER UNIT
ZONING	R2-4	R2-XX	
LOT AREA (MIN.)	–	8080m²	147m²
LOT FRONTAGE (MIN.)	–	35.8m HILL STREET	6.1m
BUILDING HEIGHT (MAX.)	2 STOREY	2 STOREY	
LOT COVERAGE (MAX.) (INCL. COVERED PORCHES & GARAGE)	50%	26.3%	66.0%
DWELLING UNITS	–	27	–
TOTAL UNIT AREA DENSITY (MAX.)	75/ha	33.42/ha	
BUILDING SETBACKS			
FRONT (MIN.): SOUTH SIDE	7.5m	9.08m	FRONT (MIN.): EAST SIDE 4.78m PORCH, 6.00m BLDG
INTERIOR SIDE (MIN.): EAST SIDE	3.0m	17.57m	INTERIOR (MIN.): NORTH SIDE 0.00m
INTERIOR SIDE (MIN.): WEST SIDE	1.0m	6.05m	INTERIOR (MIN.): SOUTH SIDE 0.00m
REAR (MIN.) NORTH SIDE	1.0m	2.00m	REAR (MIN.): WEST SIDE 6.05m
PERMITTED DECK IN WEST SIDE YARD, 1.0m (MIN.) SETBACK FROM WEST ℄ AND 2.0m FROM REAR PROPERTY LINE			
GROUND FLOOR AREA (MIN.)			
1 STOREY	74m²	N/A	–
2 STOREY	42m²	74m²	–
PARKING			
RESIDENT DRIVEWAY	41 (1.5/UNIT)	54 INCL. GARAGE	2 INCL. GARAGE
VISITOR PARKING		10	–
TOTAL OFFSTREET PARKING (1.5 SPACES/UNIT)	41	64	–
STANDARD PARKING STALL SIZE (PARALLEL)	2.5m WIDE x 7.25m LONG		–
STANDARD PARKING SPACE SIZE (PERPENDICULAR)	2.75m WIDE x 5.5m LONG		–
GARBAGE/ RECYCLING/ ORGANICS STORAGE:		INTERNAL CURBSIDE COLLECTION	–

LEGEND

- PROPOSED SANITARY SEWER
- EXISTING SANITARY SEWER
- PROPOSED STORM SEWER
- EXISTING STORM SEWER
- PROP. MANHOLE, EXISTING OR AS CONSTRUCTED
- PROP. CATCHBASIN, EXISTING OR AS CONST.
- PROPOSED WATERMAIN
- EXISTING WATERMAIN
- HYD ◇ , ◇ HYD — PROPOSED HYDRANT, EXISTING OR AS-CONST.
- WV ○ , ○ WV — PROPOSED WATERVALVE, EXISTING OR AS-CONST.
- 6 — LOT NUMBER
- G — EXISTING GASMAIN
- (A) , (R) , (F) — ADJUST, REMOVE, FUTURE
- T/E — OVERHEAD TELEPHONE CABLE
- C U/H T — EXISTING JOINT UTILITY TRENCH
- PROPOSED DRIVEWAYS
- SUBDIVISION PHASE LIMITS
- 213 — ORIGINAL CONTOURS PRIOR TO CONSTRUCTION (MAY NOT BE VALID NOW)
- PROPOSED SILT FENCE
- B.O. ⊗ , ✖ B.O. — PROPOSED BLOW-OFF, EX. OR FUT.
- CMB , CMB — PROPOSED COMMUNITY MAIL BOX, EXISTING
- EXISTING/PROPOSED TRANSFORMER, EXISTING PEDESTAL
- TACTILE WALKING SURFACE INDICATORS (OPSD 310.039)
- REMOVE CURB AND SIDEWALK
- BH , TP,TH — BOREHOLE, TESTPIT, TESTHOLE
- EX. HYDRO POLE AND ANCHOR, EX. STREETLIGHT
- ○ TB — HYDRO TEST BOX
- EXISTING DECIDUOUS TREES, REMOVAL
- EXISTING CONIFEROUS TREE, REMOVAL – BY OTHERS
- MB — EXISTING MAILBOX
- NP — NO PARKING SIGN
- PROPOSED STREET LIGHT
- 1.0mx3.0m TURFSTONE WASTE COLLECTION PAD

LICENSED PROFESSIONAL ENGINEER — D.J. LYLE 100174772 — PROVINCE OF ONTARIO

METRIC SCALE 1:300

No.	REVISION	DATE	BY
2.	ZONING BY-LAW AMMENDMENT APPLICATION	29 MAR 2022	DJL
1.	ZONING BY-LAW AMMENDMENT APPLICATION	13 APR 2021	DJL

MUNICIPALITY OF CENTRAL ELGIN

CJDL Consulting Engineers
Cyril J. Demeyere Limited
P.O. Box 460, 261 Broadway
Tillsonburg, Ontario. N4G 4H8
Tel: 519-688-1000
866-302-9886
Fax: 519-842-3235
cjdl@cjdleng.com

DESIGN BY: CJC | DRAWN BY: TTA | CHECKED BY: DJL
PROJECT NO. 19084 | SURVEY BY: TPM | DATE: 29 MAR 2022

279 HILL STREET
RP 11M-???
MORGAN PAVIA

SITE PLAN

DRAWING No. 1

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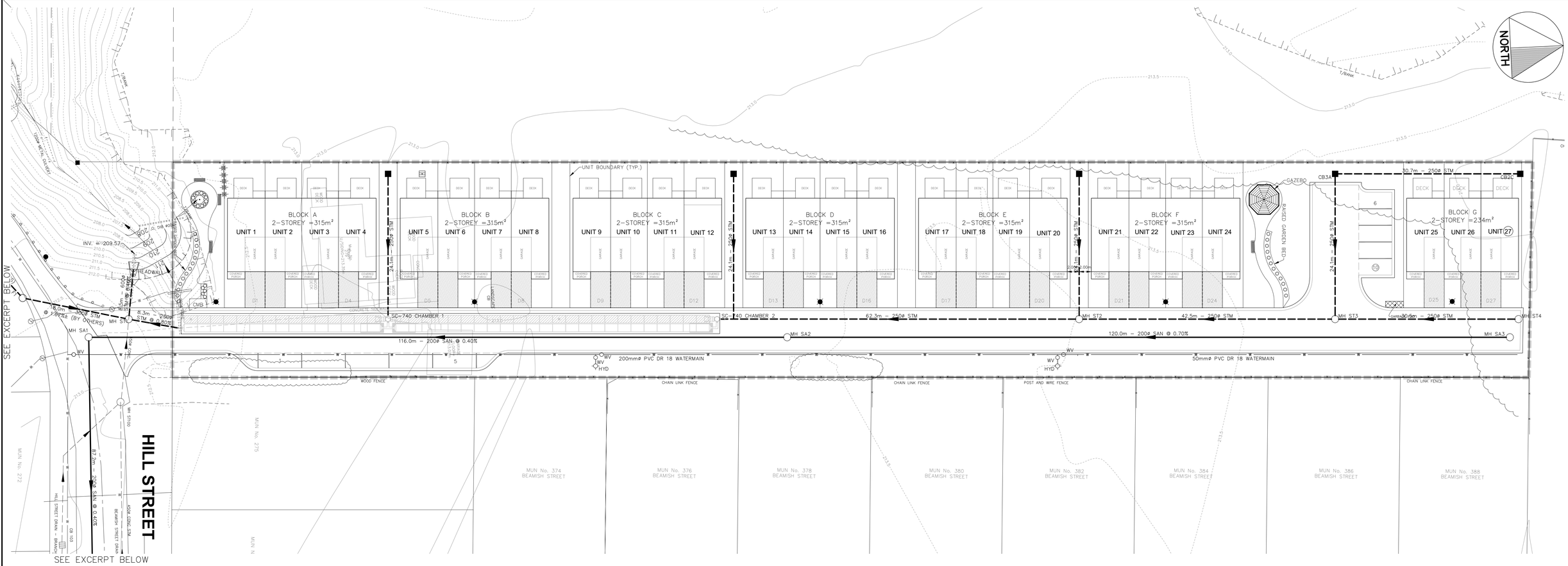

SEE DRAWING No. 4 FOR GENERAL NOTES

LEGEND

- PROPOSED SANITARY SEWER
- EXISTING SANITARY SEWER
- PROPOSED STORM SEWER
- EXISTING STORM SEWER
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- PROP. CATCHBASIN, EXISTING OR AS CONST.
- PROPOSED WATERMAIN
- EXISTING WATERMAIN
- PROPOSED HYDRANT, EXISTING OR AS-CONST.
- PROPOSED WATERVALVE, EXISTING OR AS-CONST.
- LOT NUMBER
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- ADJUST, REMOVE, FUTURE
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- HYDRO TEST BOX
- EXISTING DECIDUOUS TREES, REMOVAL
- EXISTING CONIFEROUS TREE, REMOVAL – BY OTHERS
- EXISTING MAILBOX

PRELIMINARY 29 MAR 2022

METRIC SCALE 1:300

No.	REVISION	DATE	BY

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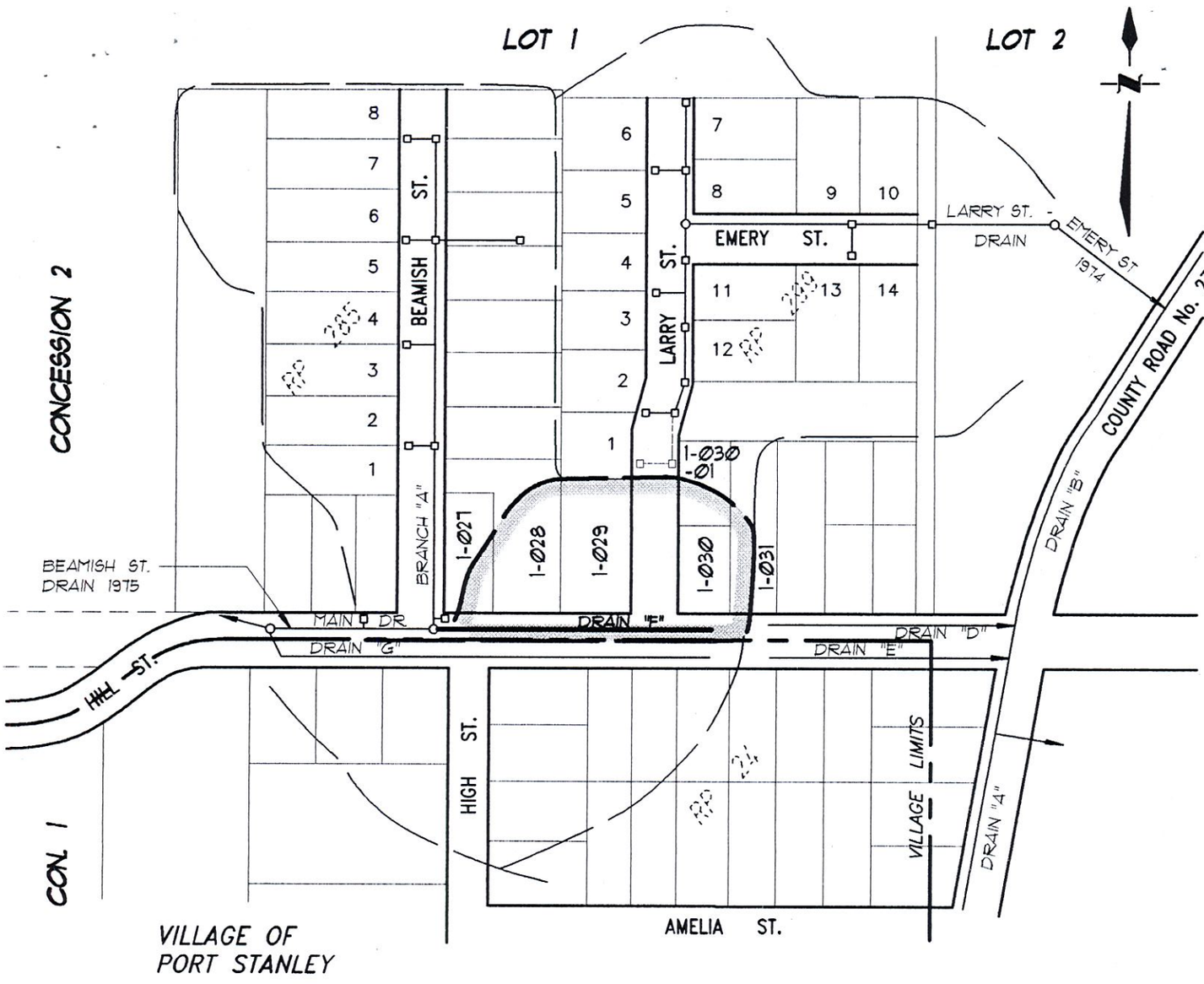
Cyril J. Demeyere Limited
P.O. Box 460, 261 Broadway
Tillsonburg, Ontario. N4G 4H8
Tel: 519-688-1000
866-302-9886
Fax: 519-842-3235
cjdl@cjdleng.com

279 HILL STREET
RP 11M-???
MORGAN PAVIA

SERVICING PLAN

DESIGN BY: CJC	DRAWN BY: TTA	CHECKED BY: DJL
PROJECT NO. 19084	SURVEY BY: TPM	DATE: 29 MAR 2022

DRAWING No. 3



PLAN SCALE 1 : 2,500

PLAN LEGEND

- LIMIT OF WATERSHED AREA
- PROPOSED DRAINAGE WORKS
- EXTERIOR OR INTERIOR WATERSHED
- DRAIN BY TOWNSHIP
- EXIST. MUNICIPAL DRAIN

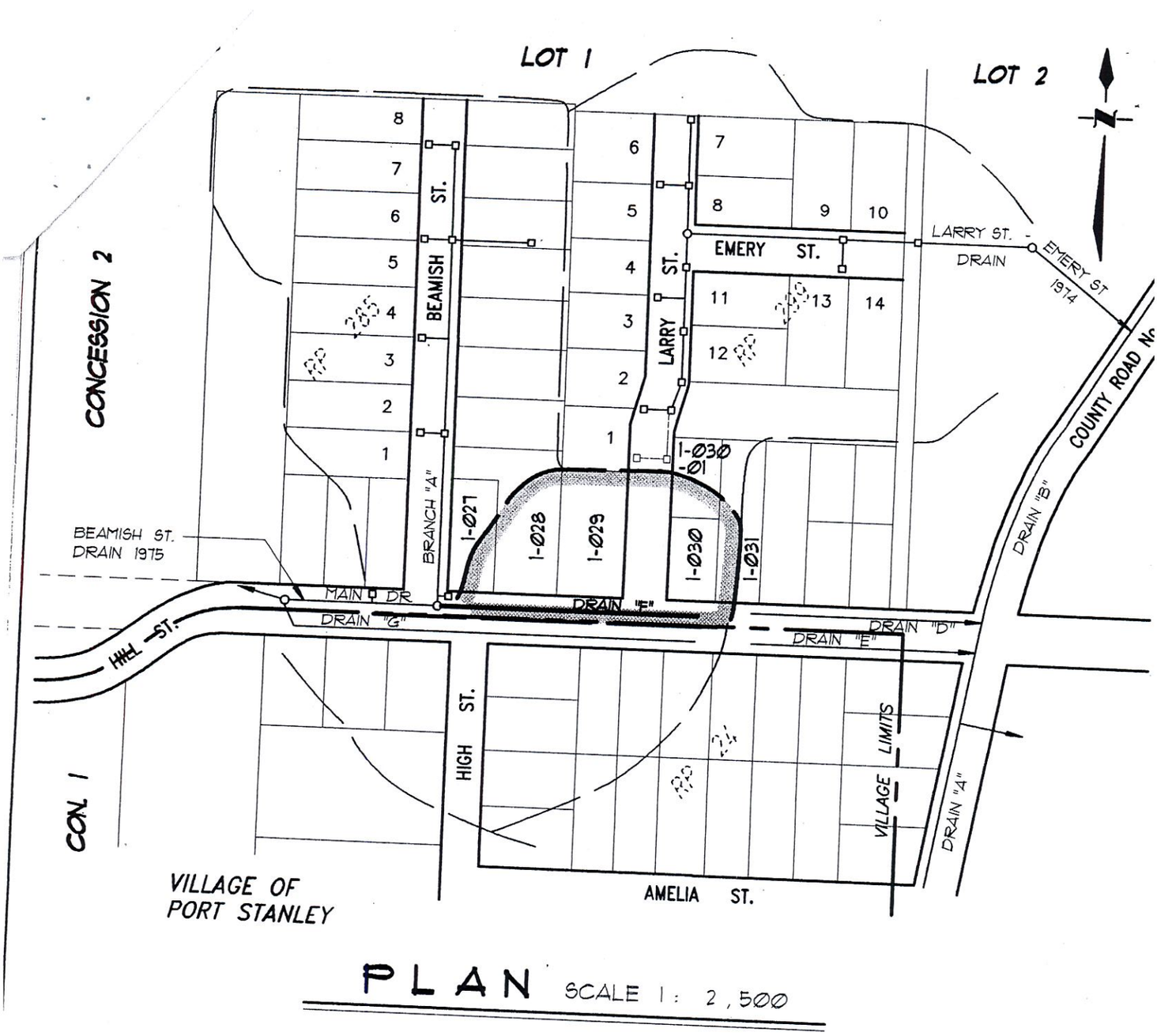
HILL STREET DRAIN 1953

TOWNSHIP OF YARMOUTH

Drawn By: J. N. H.	Field Book	JOB No.	Drawing No.
Date: NOV. 17, 1997	N/A	97269	1 of 1

BRANCH "F" REPAIRS 1997

SPRIET ASSOCIATES
LONDON CONSULTING LIMITED ENGINEERS
155 YORK STREET -- LONDON (519) 672-4100 -- N6A 1A8



PLAN SCALE 1 : 2,500

PLAN LEGEND

- LIMIT OF WATERSHED AREA
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HILL STREET DRAIN 1953

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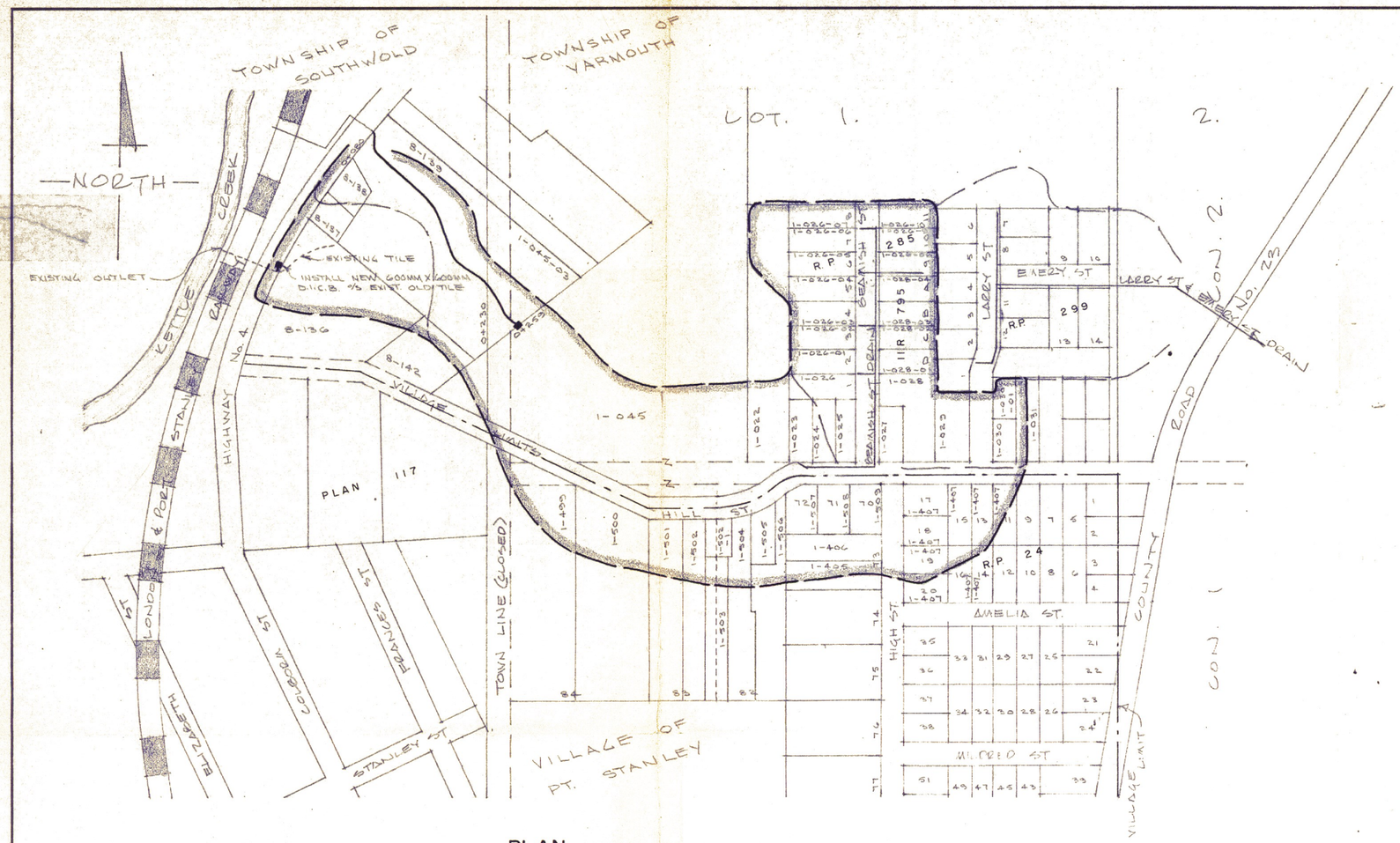
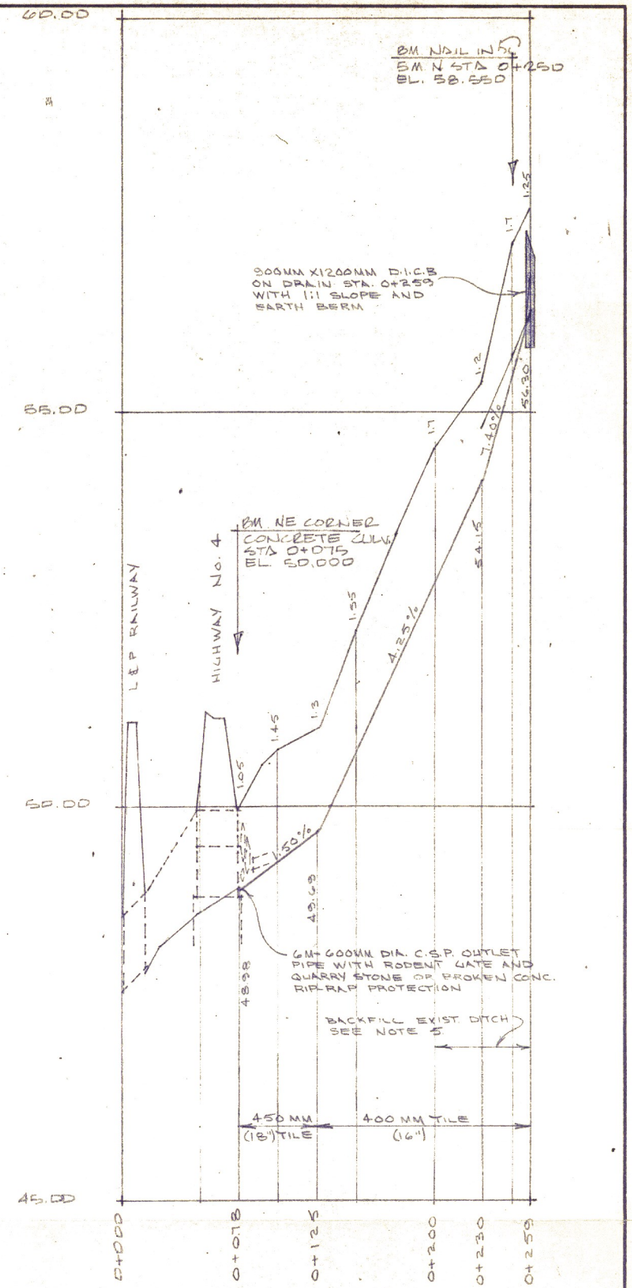
LONDON CONSULTING LIMITED ENGINEERS
155 YORK STREET - LONDON



PLAN Scale: 1 cm = 30 M (1:3,000)

GENERAL NOTES

1) EXACT LOCATION OF NEW TILE DRAIN TO BE VERIFIED IN FIELD BY COMMISSIONER
2) ALL OWNERS OF LAND WHERE THE DRAIN IS TO BE CONSTRUCTED SHALL MAKE AN ACCESS ROUTE AVAILABLE TO THE CONTRACTOR FROM THE NEAREST ROAD ALLOWANCE TO THE DRAIN LOCATION. THE AVERAGE WIDTH OF THE ROUTE SHALL NOT EXCEED 8 METERS.
3) THE WORKING WIDTH AVAILABLE TO THE CONTRACTOR TO CONSTRUCT THE DRAIN CONSISTS OF THOSE LANDS IMMEDIATELY ADJACENT TO THE COURSE OF THE DRAIN AND CONNECTIONS AND SHALL NOT EXCEED AN AVERAGE WIDTH OF 20 M.
4) 900MM X 1200 MM DITCH INLET CATCHBASIN TO BE PRECAST WITH 20 MPa CONCRETE AND HAVE A 1:1 SLOPING GRATE. WALLS AND FLOOR TO BE 150MM THICK. (TYPICALLY AS MANUFACTURED BY CAN-TARIO PRECAST LTD.)
5) BACKFILL EXISTING DITCH STA. 0+200 TO 0+259 WITH DOZER FROM HIGH GROUND TO NORTH OF RUN
6) INSTALL NEW 600MM X 600 MM D.I.C.B. C/S FROM OLD TILE AT LOCATION SHOWN ON PLAN.
7) 600MM X 600MM DITCH INLET CATCHBASIN TO BE M.T.C. TYPE DO-7.1G-A WITH STANDARD HEAVY DUTY MUNICIPAL GRATE AND A 2:1 SLOPE. (TYPICALLY AS MANUFACTURED BY COLDSTREAM CONCRETE LTD.)
8) ALL LAWN AREAS TO BE RESTORED WITH 100 MM OF TOPSOIL SEEDING TO BE BY OWNER.



PROFILE Scale: Hor. 1 cm = 25 M (1:2,500)
Vert. 1 cm = 0.5 M (1:50)

J. R. SPRIET — J.K.S.

SIEBENMORGEN DRAIN
TOWNSHIP OF SOUTHWOLD

Scale: METRIC	Approved By: F.B. B-47	JOB NO. 80185	Drawn By: KJS
Date: SEPT 30/1981			Revised:

PLAN & PROFILE

SPRIET ASSOCIATES CONSULTING ENGINEERS — LONDON SUDBURY

Drawing Number 1

APPENDIX 'B' – STORMWATER MANAGEMENT CALCULATIONS

279 HILL STREET
PORT STANLEY, ON

CJDL Consulting Engineers
Cyril J. Demeyere Limited
P.O. Box 606, 261 Broadway
Tillsonburg, Ontario. N4G 4J1
Tel: 519-688-1000
866-302-9886
Fax: 519-842-3235
cjdleng@oxford.net

19084
29-Mar-22

PRE-DEVELOPMENT FLOW CALCULATIONS

TRIBUTARY AREA = 0.81 Ha
RUNOFF COEF. = 0.3900

Item	Area (Ha)	C Value
Gravel	0.03	0.70
Building	0.04	0.95
Sod	0.74	0.35
Asph/Conc	0.00	0.85
Agricultrual - Row Crop	0.00	0.25
Total	0.81	0.39

PREDEVELOPMENT RUNOFF COEF. = 0.3900

$Q = 0.0028*C*I*A$

TC = (3.26 * (1.1-f*C)*(L)^1/2)/Sw^1/3

WATERSHED LENGTH (m) 150
WATERSHED SLOPE (%) 1

Intensity Factors	2 year	5 year	100 year
a:	23.6	31.1	51.1
b:	-0.699	-0.699	-0.699

Predevelopment Flows - 1 in 5 Year Storm Event

Rainfall Intensity **MTO - IDF Curve Lookup**

Intensity=a(t+b)$^{-c}$ mm/hr

a= 31.1
b= -0.699
Intensity = 52.5 mm/hr

Time of Concentration TC = (3.26 * (1.1-1.0*C)*(105)^1/2)/1.6^1/3 = 28.3
Predevelopment Flow Qpre = 0.0028 * C * I * A = 46.5 l/s

Predevelopment Flows - 1 in 100 Year Storm Event

Rainfall Intensity **MTO - IDF Curve Lookup**

Intensity=a(t+b)$^{-c}$ mm/hr

a= 51.1
b= -0.699
Intensity = 95.7 mm/hr

Time of Concentration TC = (3.26 * (1.1-1.25*C)*(126.31)^1/2)/1.25^1/3 = 24.5
Predevelopment Flow Qpre = 0.0028 * C * I * A = 105.8 l/s

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19084
29-Mar-22

POST-DEVELOPMENT FLOW CALCULATIONS

RAINFALL STORAGE CALCULATIONS - 5 YEAR QUANTITY CONTROL

TRIBUTARY AREA = 0.81 Ha
RUNOFF COEF. = 0.70
PRE-DEVELOP. MAX. OUTFLOW = 46.5 l/s

POST-DEVELOP. MAX. OUTFLOW = 41.6 l/s

Item	Area (Ha)	C Value
Gravel	0.00	0.70
Building	0.25	0.95
Sod	0.29	0.35
Asph/Conc	0.27	0.85
Agricultrual - Row	0.00	0.25
Total	0.81	0.70

Rainfall Intensity

Intensity=$a(t+b)^{-c}$ mm/hr

a= 31.1
b= -0.699

Total

MTO - IDF Curve Lookup

Intensity Factors	2 year	5 year	100 year
a:	23.6	**31.1**	51.1
b:	-0.699	**-0.699**	-0.699

TIME [hrs]	RAINFALL INTENSITY [mm/hr]	TOTAL VOLUME [m^3]	INFLOW [m^3/s]	MAX. RATE OF RELEASE [m^3/s]	VOLUME RELEASED [m^3]	VOLUME STORED [m^3]	
0.083	177.1	84	0.280	0.0416	12	71	
0.167	108.7	103	0.172	0.0416	25	**78**	**←Max Storage required**
0.333	67.1	127	0.106	0.0416	50	77	
0.50	50.5	144	0.080	0.0416	75	69	
0.667	41.3	157	0.065	0.0416	100	57	
0.833	35.3	167	0.056	0.0416	125	43	
1	31.1	177	0.049	0.0416	150	27	
1.5	23.4	200	0.037	0.0416	224	-25	
2	19.2	218	0.030	0.0416	299	-81	
3	14.4	246	0.023	0.0416	449	-203	
4	11.8	268	0.019	0.0416	598	-330	
8	7.3	331	0.011	0.0416	1197	-866	
12	5.5	374	0.009	0.0416	1795	-1421	
18	4.1	422	0.007	0.0416	2692	-2270	
24	3.4	460	0.005	0.0416	3590	-3130	

279 HILL STREET
PORT STANLEY, ON

CJDL Consulting Engineers
Cyril J. Demeyere Limited
P.O. Box 606, 261 Broadway
Tillsonburg, Ontario. N4G 4J1
Tel: 519-688-1000
866-302-9886
Fax: 519-842-3235
cjdleng@oxford.net

19084
29-Mar-22

POST-DEVELOPMENT FLOW CALCULATIONS

RAINFALL STORAGE CALCULATIONS - 100 YEAR QUANTITY CONTROL

TRIBUTARY AREA = 0.81 Ha
RUNOFF COEF. = 0.88 (C Value x 125%)
PRE-DEVELOP. MAX. OUTFLOW = 105.8 l/s

POST-DEVELOP. MAX. OUTFLOW 65.9 l/s

Item	Area (Ha)	C Value
Gravel	0.00	0.70
Building	0.25	0.95
Sod	0.29	0.35
Asph/Conc	0.27	0.85
Agricultrual - Row	0.00	0.25
Total	0.81	0.70

Rainfall Intensity

Intensity=$a(t+b)^{-c}$ mm/hr

a= 51.1
b= -0.699

Total

MTO - IDF Curve Lookup

Intensity Factors	2 year	5 year	100 year
a:	23.6	31.1	**51.1**
b:	-0.699	-0.699	**-0.699**

TIME [hrs]	RAINFALL INTENSITY [mm/hr]	TOTAL VOLUME [m^3]	INFLOW [m^3/s]	MAX. RATE OF RELEASE [m^3/s]	VOLUME RELEASED [m^3]	VOLUME STORED [m^3]	
0.083	291.1	172	0.575	0.0659	20	152	
0.167	178.5	212	0.352	0.0659	40	172	
0.333	110.2	261	0.218	0.0659	79	**182**	**←Max Storage required**
0.50	83.0	295	0.164	0.0659	119	176	
0.667	67.8	321	0.134	0.0659	158	163	
0.833	58.1	344	0.115	0.0659	198	146	
1	51.1	363	0.101	0.0659	237	126	
1.5	38.5	410	0.076	0.0659	356	55	
2	31.5	447	0.062	0.0659	474	-27	
3	23.7	505	0.047	0.0659	711	-206	
4	19.4	551	0.038	0.0659	948	-397	
8	11.9	679	0.024	0.0659	1897	-1218	
12	9.0	767	0.018	0.0659	2845	-2078	
18	6.8	867	0.013	0.0659	4268	-3401	
24	5.5	945	0.011	0.0659	5691	-4746	

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QUANTITY CONTROL REQUIREMENTS: 5YR STORM

ORIFICE PLATE 1

Q=CA √(2gH1) d = √((4Q/(3.14C(√(2gH1))

H1 = E1-E2

E1=	210.26	MAXIMUM PONDING ELEVATION
E2 =	209.87	CENTERLINE OF ORFICE OUTLET
H1 =	0.39	m
C =	0.85	CONSTANT
g =	9.81	GRAVITATIONAL CONSTANT
d=	0.150	USE DIAMETER OF ORFICE (m)

Q= 0.0416 m^3/s (Total)

QUANTITY CONTROL REQUIREMENTS: 100-YR STORM

ORIFICE PLATE 1

Q=CA √(2gH1) d = √((4Q/(3.14C(√(2gH1))

H1 = E1-E2

E1=	210.85	MAXIMUM PONDING ELEVATION
E2 =	209.87	CENTERLINE OF ORFICE OUTLET
H1 =	0.98	m
C =	0.85	CONSTANT
g =	9.81	GRAVITATIONAL CONSTANT
d=	0.150	USE DIAMETER OF ORFICE (m)

Q= 0.0659 m^3/s (Total)

APPENDIX 'C' – STORMTECH SC-740 SWM CHAMBER DRAWINGS

PROJECT INFORMATION	
ENGINEERED PRODUCT MANAGER:	CODY NEATH 519-465-9958 CODY.NEATH@ADS-PIPE.COM
ADS SALES REP:	ANDREW OKOLISAN 519-670-0564 ANDREW.OKOLISAN@ADS-PIPE.COM
PROJECT NO:	S224081

ADVANCED DRAINAGE SYSTEMS, INC.

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279 HILL STREET

PORT STANLEY, ON

SC-740 STORMTECH CHAMBER SPECIFICATIONS

1. CHAMBERS SHALL BE STORMTECH SC-740.
2. CHAMBERS SHALL BE ARCH-SHAPED AND SHALL BE MANUFACTURED FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE COPOLYMERS.
3. CHAMBERS SHALL BE CERTIFIED TO CSA B184, "POLYMERIC SUB-SURFACE STORMWATER MANAGEMENT STRUCTURES", AND MEET THE REQUIREMENTS OF ASTM F2418-16a, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
4. CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORTS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
5. 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 12.12, 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.
6. 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.
7. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 50 mm (2").
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2418 SHALL BE GREATER THAN OR EQUAL TO 550 LBS/IN/IN. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 23° C / 73° F), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.
8. 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 SEALED 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 SECTIONS 3 AND 12.12 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS FOR THERMOPLASTIC PIPE.
   - THE TEST DERIVED CREEP MODULUS AS SPECIFIED IN ASTM F2418 SHALL BE USED FOR PERMANENT DEAD LOAD DESIGN EXCEPT THAT IT SHALL BE THE 75-YEAR MODULUS USED FOR DESIGN.
9. CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.

IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF THE SC-740 SYSTEM

1. STORMTECH SC-740 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
2. STORMTECH SC-740 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
3. CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR AN EXCAVATOR SITUATED OVER THE CHAMBERS. STORMTECH RECOMMENDS 3 BACKFILL METHODS:
   - STONESHOOTER 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.
4. THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
5. JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
6. MAINTAIN MINIMUM - 150 mm (6") SPACING BETWEEN THE CHAMBER ROWS.
7. EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE 20-50 mm (3/4-2").
8. THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
9. 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

1. STORMTECH SC-740 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
2. THE USE OF CONSTRUCTION EQUIPMENT OVER SC-740 CHAMBERS IS LIMITED:
   - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
   - NO RUBBER TIRED LOADERS, DUMP TRUCKS, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
   - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
3. FULL 900 mm (36") 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 1-888-892-2694 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.

CONCEPTUAL LAYOUT

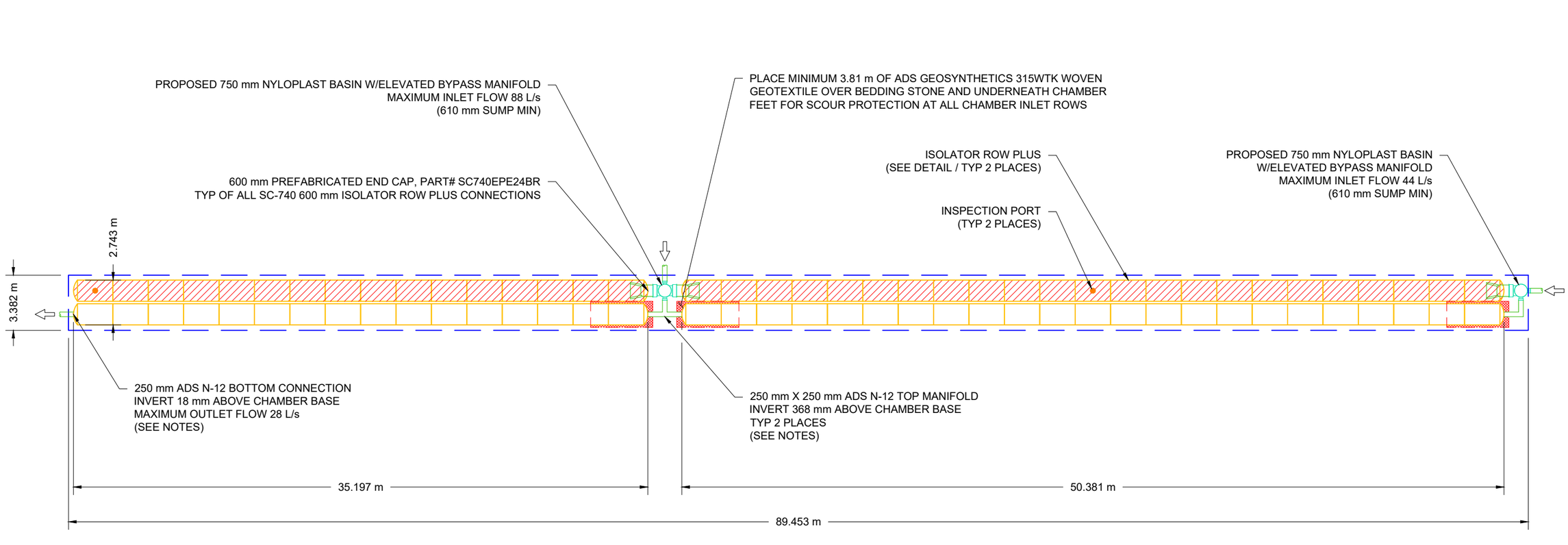
78	STORMTECH SC-740 CHAMBERS
8	STORMTECH SC-740 END CAPS
152	STONE ABOVE (mm)
152	STONE BELOW (mm)
40	% STONE VOID
190.0	**INSTALLED SYSTEM VOLUME (m³) (PERIMETER STONE INCLUDED)**
302.6	SYSTEM AREA (m²)
185.7	SYSTEM PERIMETER (m)

CONCEPTUAL ELEVATIONS

213.197	MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED):
211.369	MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC):
211.216	MINIMUM ALLOWABLE GRADE (UNPAVED NO TRAFFIC):
211.216	MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT):
211.216	MINIMUM ALLOWABLE GRADE (TOP OF RIGID PAVEMENT):
210.911	TOP OF STONE:
210.759	TOP OF SC-740 CHAMBER:
210.365	250 mm TOP MANIFOLD INVERT:
210.015	250 mm BOTTOM CONNECTION INVERT:
210.000	600 mm ISOLATOR ROW PLUS INVERT:
209.997	BOTTOM OF SC-740 CHAMBER:
209.845	BOTTOM OF STONE:

NOTES

- MANIFOLD SIZE TO BE DETERMINED BY SITE DESIGN ENGINEER. SEE TECHNICAL NOTE 6.32 FOR MANIFOLD SIZING GUIDANCE.
- DUE TO THE ADAPTATION OF THIS CHAMBER SYSTEM TO SPECIFIC SITE AND DESIGN CONSTRAINTS, IT MAY BE NECESSARY TO CUT AND COUPLE ADDITIONAL PIPE TO STANDARD MANIFOLD COMPONENTS IN THE FIELD.
- THE SITE DESIGN ENGINEER MUST REVIEW ELEVATIONS AND IF NECESSARY ADJUST GRADING TO ENSURE THE CHAMBER COVER REQUIREMENTS ARE MET.
- THIS CHAMBER SYSTEM WAS DESIGNED WITHOUT SITE-SPECIFIC INFORMATION ON SOIL CONDITIONS OR BEARING CAPACITY. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR DETERMINING THE SUITABILITY OF THE SOIL AND PROVIDING THE BEARING CAPACITY OF THE INSITU SOILS. THE BASE STONE DEPTH MAY BE INCREASED OR DECREASED ONCE THIS INFORMATION IS PROVIDED.
- THE SITE DESIGN ENGINEER MUST REVIEW THE PROXIMITY OF THE CHAMBERS TO THE BUILDING/STRUCTURE. NO FOUNDATION LOADS SHALL BE TRANSMITTED TO THE CHAMBERS. THE SITE DESIGN ENGINEER MUST CONSIDER EFFECTS OF POSSIBLE SATURATED SOILS ON BEARING CAPACITY OF SOILS AND SEEPAGE INTO BASEMENTS.
- **NOT FOR CONSTRUCTION**: THIS LAYOUT IS FOR DIMENSIONAL PURPOSES ONLY TO PROVE CONCEPT & THE REQUIRED STORAGE VOLUME CAN BE ACHIEVED ON SITE.



279 HILL STREET
PORT STANLEY, ON

DATE: 02/23/21 | DRAWN: BRE | CHECKED: NAB | PROJECT #: S224081

DATE	DRWN	CHKD	DESCRIPTION

THIS DRAWING HAS BEEN PREPARED BASED ON INFORMATION PROVIDED TO ADS UNDER THE DIRECTION OF THE SITE DESIGN ENGINEER OR OTHER PROJECT REPRESENTATIVE. THE SITE DESIGN ENGINEER SHALL REVIEW THIS DRAWING PRIOR TO CONSTRUCTION. IT IS THE ULTIMATE RESPONSIBILITY OF THE SITE DESIGN ENGINEER TO ENSURE THAT THE PRODUCT(S) DEPICTED AND ALL ASSOCIATED DETAILS MEET ALL APPLICABLE LAWS, REGULATIONS, AND PROJECT REQUIREMENTS.

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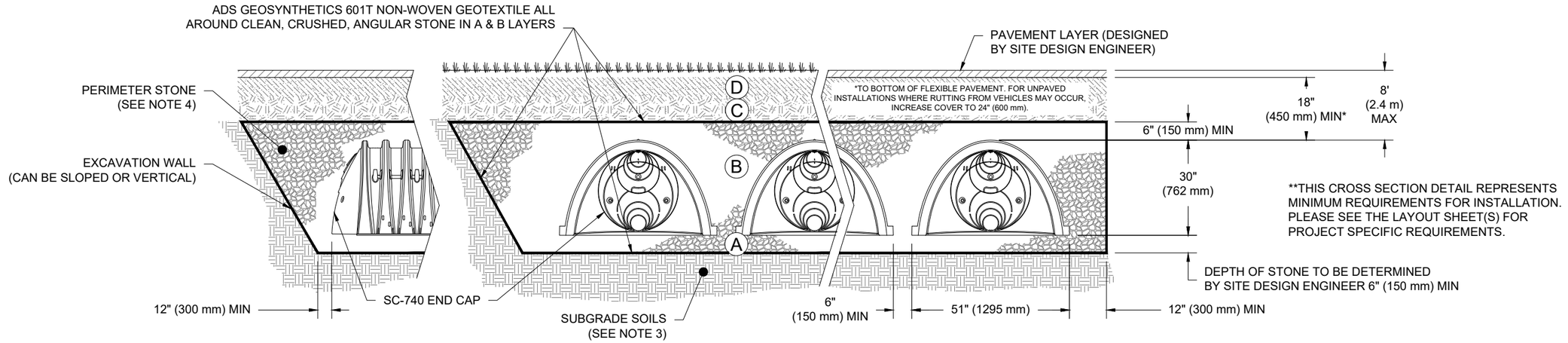
ADS
ADVANCED DRAINAGE SYSTEMS, INC.
4640 TRUEMAN BLVD
HILLIARD, OH 43026

SCALE = 1 : 250

ACCEPTABLE FILL MATERIALS: STORMTECH SC-740 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	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	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.
4. 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.



NOTES:

1. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418-16a, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
2. SC-740 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. 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.
4. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
5. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - 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, a) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2418 SHALL BE GREATER THAN OR EQUAL TO 550 LBS/IN/IN. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.

279 HILL STREET
PORT STANLEY, ON

DATE: 02/23/21 | DRAWN: BRE | CHECKED: NAB | PROJECT #: S224081

DATE	DRWN	CHKD	DESCRIPTION

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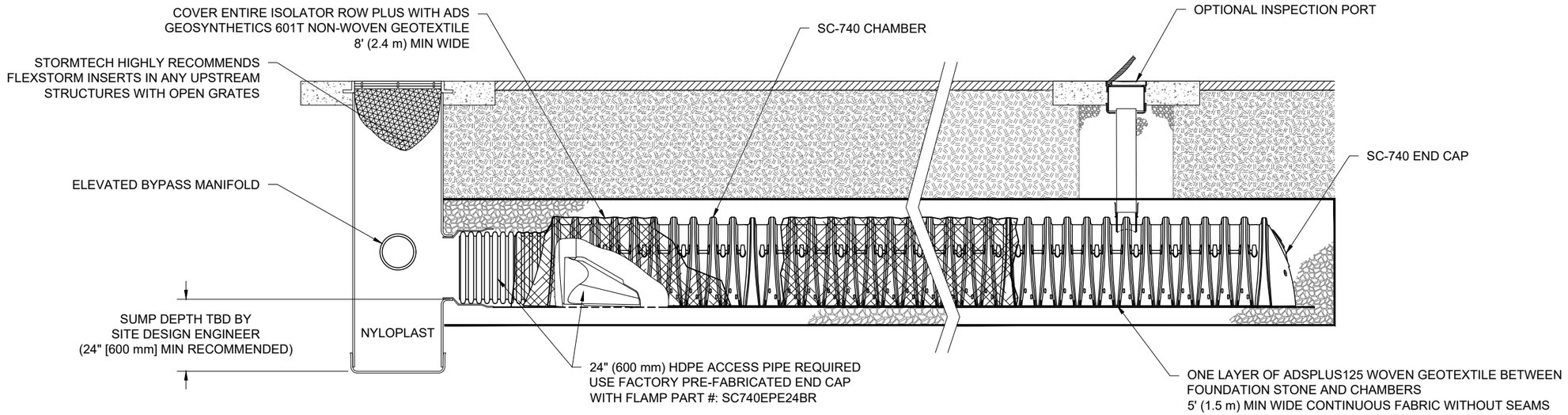


SC-740 ISOLATOR ROW PLUS DETAIL
NTS

INSPECTION & MAINTENANCE

STEP 1) INSPECT ISOLATOR ROW FOR SEDIMENT
- A. INSPECTION PORTS (IF PRESENT)
  - A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
  - A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
  - A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
  - A.4. LOWER A CAMERA INTO ISOLATOR ROW FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
  - A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- B. ALL ISOLATOR ROWS
  - B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW
  - B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW THROUGH OUTLET PIPE
    - i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
    - ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
  - B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.

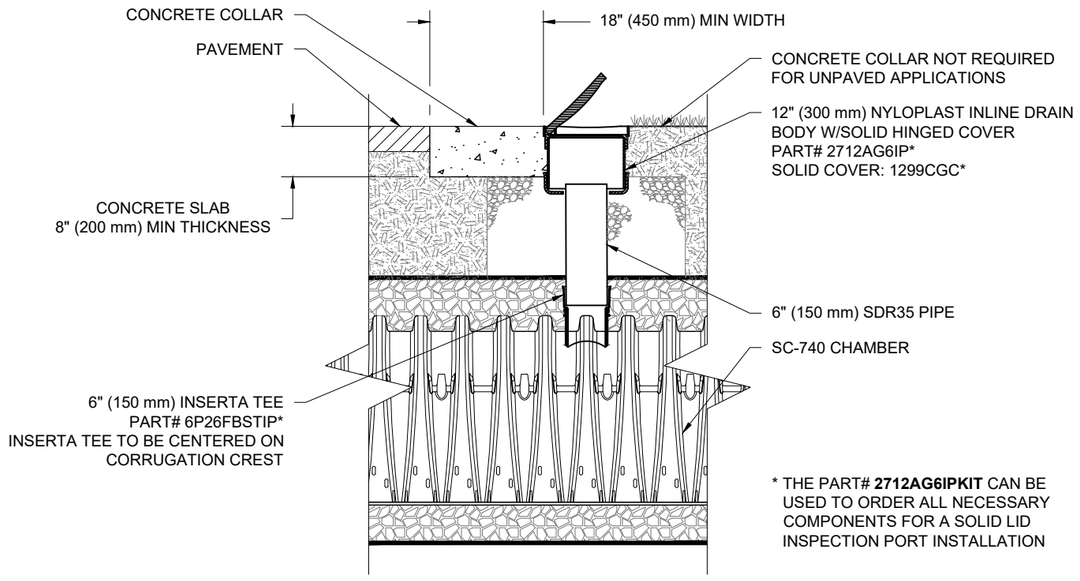
STEP 2) CLEAN OUT ISOLATOR ROW USING THE JETVAC PROCESS
- A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45" (1.1 m) OR MORE IS PREFERRED
- B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
- C. VACUUM STRUCTURE SUMP AS REQUIRED

STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.

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

NOTES

1. 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.
2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.



SC-740 6" (150 mm) INSPECTION PORT DETAIL
NTS

279 HILL STREET
PORT STANLEY, ON

DATE: 02/23/21 | DRAWN: BRE | CHECKED: NAB
PROJECT #: S224081

DATE	DESCRIPTION	DRWN	CHKD

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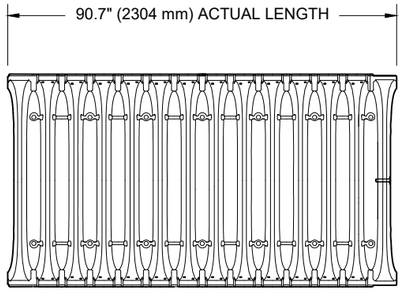
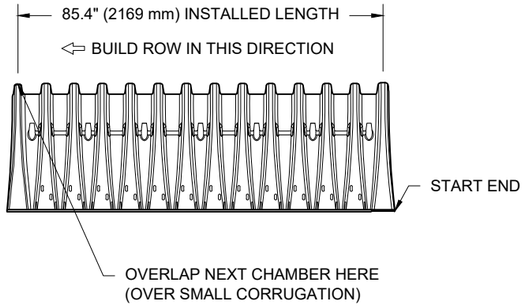
860-529-8188 | 888-892-2694 | WWW.STORMTECH.COM

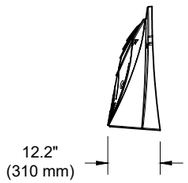
ADS
ADVANCED DRAINAGE SYSTEMS, INC.
4640 TRUEMAN BLVD
HILLIARD, OH 43026

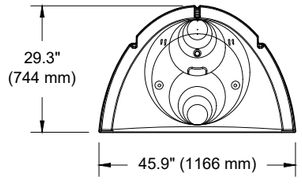
SC-740 TECHNICAL SPECIFICATION

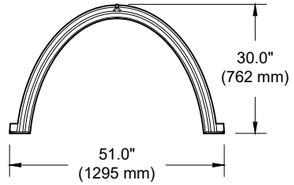
NTS







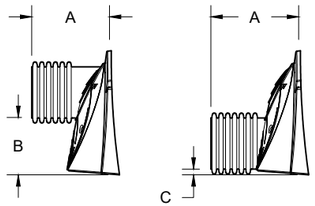




NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	51.0" X 30.0" X 85.4"	(1295 mm X 762 mm X 2169 mm)
CHAMBER STORAGE	45.9 CUBIC FEET	(1.30 m³)
MINIMUM INSTALLED STORAGE*	74.9 CUBIC FEET	(2.12 m³)
WEIGHT	75.0 lbs.	(33.6 kg)

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



PRE-FAB STUB AT BOTTOM OF END CAP WITH FLAMP END WITH "BR"
PRE-FAB STUBS AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"
PRE-FAB STUBS AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"
PRE-CORED END CAPS END WITH "PC"

PART #	STUB	A	B	C
SC740EPE06T / SC740EPE06TPC	6" (150 mm)	10.9" (277 mm)	18.5" (470 mm)	---
SC740EPE06B / SC740EPE06BPC			---	0.5" (13 mm)
SC740EPE08T /SC740EPE08TPC	8" (200 mm)	12.2" (310 mm)	16.5" (419 mm)	---
SC740EPE08B / SC740EPE08BPC			---	0.6" (15 mm)
SC740EPE10T / SC740EPE10TPC	10" (250 mm)	13.4" (340 mm)	14.5" (368 mm)	---
SC740EPE10B / SC740EPE10BPC			---	0.7" (18 mm)
SC740EPE12T / SC740EPE12TPC	12" (300 mm)	14.7" (373 mm)	12.5" (318 mm)	---
SC740EPE12B / SC740EPE12BPC			---	1.2" (30 mm)
SC740EPE15T / SC740EPE15TPC	15" (375 mm)	18.4" (467 mm)	9.0" (229 mm)	---
SC740EPE15B / SC740EPE15BPC			---	1.3" (33 mm)
SC740EPE18T / SC740EPE18TPC	18" (450 mm)	19.7" (500 mm)	5.0" (127 mm)	---
SC740EPE18B / SC740EPE18BPC			---	1.6" (41 mm)
SC740EPE24B*	24" (600 mm)	18.5" (470 mm)	---	0.1" (3 mm)
SC740EPE24BR*	24" (600 mm)	18.5" (470 mm)	---	0.1" (3 mm)

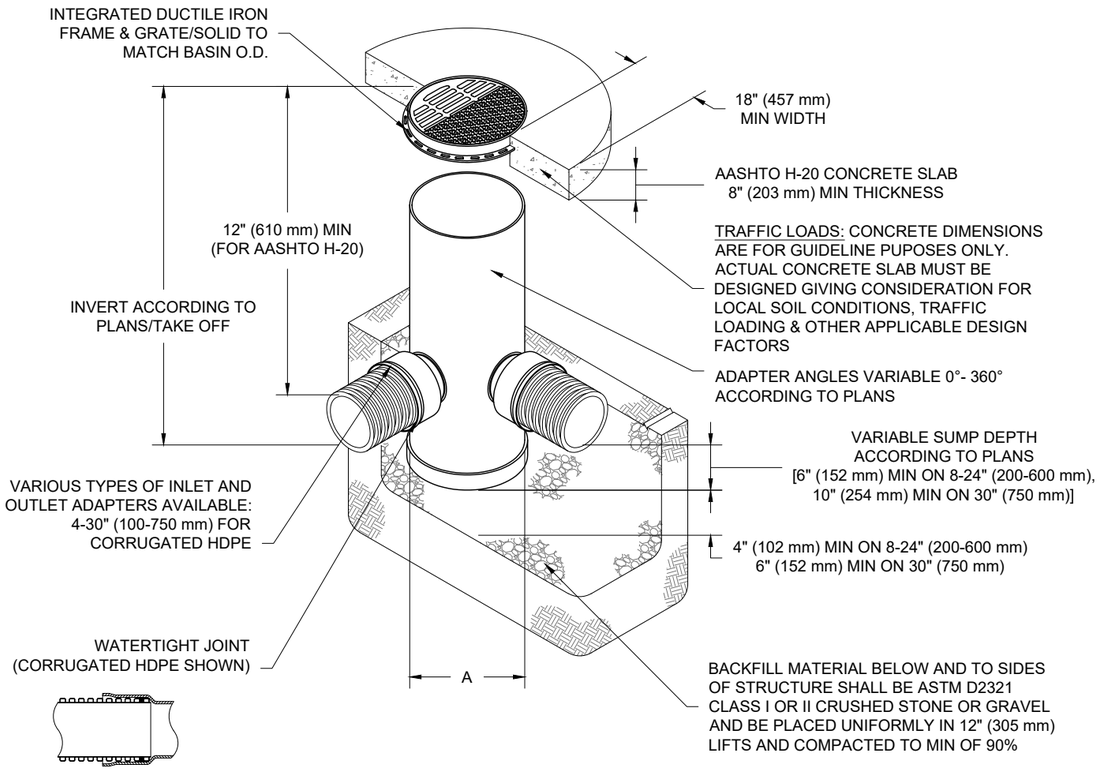
ALL STUBS, EXCEPT FOR THE SC740EPE24B/SC740EPE24BR ARE PLACED AT BOTTOM OF END CAP SUCH THAT THE OUTSIDE DIAMETER OF THE STUB IS FLUSH WITH THE BOTTOM OF THE END CAP. FOR ADDITIONAL INFORMATION CONTACT STORMTECH AT 1-888-892-2694.

* FOR THE SC740EPE24B/SC740EPE24BR THE 24" (600 mm) STUB LIES BELOW THE BOTTOM OF THE END CAP APPROXIMATELY 1.75" (44 mm). BACKFILL MATERIAL SHOULD BE REMOVED FROM BELOW THE N-12 STUB SO THAT THE FITTING SITS LEVEL.

NOTE: ALL DIMENSIONS ARE NOMINAL

NYLOPLAST DRAIN BASIN

NTS



NOTES

1. 8-30" (200-750 mm) GRATES/SOLID COVERS SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05
2. 12-30" (300-750 mm) FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05
3. DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS
4. DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS & HANCOR DUAL WALL) & SDR 35 PVC
5. FOR COMPLETE DESIGN AND PRODUCT INFORMATION: **WWW.NYLOPLAST-US.COM**
6. TO ORDER CALL: **800-821-6710**

A	PART #	GRATE/SOLID COVER OPTIONS		
8" (200 mm)	2808AG	PEDESTRIAN LIGHT DUTY	STANDARD LIGHT DUTY	SOLID LIGHT DUTY
10" (250 mm)	2810AG	PEDESTRIAN LIGHT DUTY	STANDARD LIGHT DUTY	SOLID LIGHT DUTY
12" (300 mm)	2812AG	PEDESTRIAN AASHTO H-10	STANDARD AASHTO H-20	SOLID AASHTO H-20
15" (375 mm)	2815AG	PEDESTRIAN AASHTO H-10	STANDARD AASHTO H-20	SOLID AASHTO H-20
18" (450 mm)	2818AG	PEDESTRIAN AASHTO H-10	STANDARD AASHTO H-20	SOLID AASHTO H-20
24" (600 mm)	2824AG	PEDESTRIAN AASHTO H-10	STANDARD AASHTO H-20	SOLID AASHTO H-20
30" (750 mm)	2830AG	PEDESTRIAN AASHTO H-20	STANDARD AASHTO H-20	SOLID AASHTO H-20

279 HILL STREET
PORT STANLEY, ON

DATE: 02/23/21 | DRAWN: BRE | CHECKED: NAB
PROJECT #: S224081

DATE	DRWN	CHKD	DESCRIPTION

3130 VERONA AVE
BUFORD, GA 30518
PHN (770) 932-2443
FAX (770) 932-2490
www.nyloplast-us.com

Nyloplast

4640 TRUEMAN BLVD
HILLIARD, OH 43026

ADS
ADVANCED DRAINAGE SYSTEMS, INC.

T/BANK

T/BANK

209.57

MAILBOX
SHELTER
GAZEBO

HEADWALL

CMB

8.5m – 600ø
STM @ 0.40%

10.0m – 250ø
STM @ 0.56%

MH ST1

OGS

BLOCK A
315m²

BLOCK B
315m²

BLOCK C
315m²

DECK

UNIT 1

UNIT 2

UNIT 3

UNIT 4

GARAGE

PORCH

WOOD DECK

CONC.

24.1m – 250ø STM @ 0.56%

D1

D4

D5

D8

D9

D12

D13

LANDSCAPE CB

CONCRETE SIDEWALK

106.0m – 250ø STM @ 0.56%

118.0m – 200ø SAN @ 0.40%

MH ST2

MH SA2

MH ST100

GARAGE FLOOR 213.07

WV

HYD

W

WOOD FENCE

CHAIN LINK FENCE

MUN No. 275

HILL STREET

BEAMISH STREET

450ø CONC. STM

450ø CONC.