

**BROKESHIRE FARMS SUBDIVISION**  
**MUNICIPALITY OF DUTTON DUNWICH**  
**PRELIMINARY**  
**SERVICING REPORT**

**CJDL**  
Consulting Engineers

18007  
7 February 2020

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**1.0 Introduction**

Brokenshire Farms Subdivision property consists of approximately 10.69 ha (26.4 ac) of land, being part of Lot 13, Concession A, Geographic Township of Dutton, Municipality of Dutton Dunwich, County of Elgin. The proposed subdivision lands are located within the settlement boundary of Dutton, are currently vacant farmland and are considered developable. The subject lands are proposed to be developed into an 82 lot (92 unit) low density residential subdivision.

The farm is bounded to the north by agricultural land and eventually Pioneer Line, to the east by agricultural land, and to the west and south by existing residential development.

The site generally consists of silty clay soils and is generally flat terrain, with contours ranging from elevation 219 to 220±m.

An overview of the proposed development is provided in the following report and referenced on the attached Preliminary Servicing Plan. The report will provide a practical servicing concept for Brokenshire Farms Subdivision and has been authored to accompany the Draft Plan and Zoning By-Law Amendment Applications.

At this time, the subdivision is proposed to be developed in three (3) phases, summarized as follows;

Phase No.	Lots	Total # of Units
1 (Nancy & Lila Streets)	1-39, 62, 63, 82	35 single <u>7 semi-detached</u> 49 units
2 (Street 'A')	54-61, 64-81	23 single <u>3 semi-detached</u> 29 units
3 (Street 'B')	40-53	14 single <u>0 semi-detailed</u> 14 units
Total	82 lots	72 single <u>10 semi-detailed</u> 92 units

## **2.0 Parks and Trails**

The Municipality of Dutton Dunwich's policy recommends that 5% of the development area be dedicated as parkland for low-density residential subdivisions or that cash-in-lieu be provided. After consultation with Municipality of Dutton Dunwich staff, it is understood that cash-in-lieu is preferred, as these funds can be used to upgrade existing municipal park facilities.

## **3.0 Transportation**

Brokenshire Farms Subdivision property is proposed to contain 92 residential units (72 single family and 10 semi-detached lots) will include two (2) points of access for vehicular and pedestrian connections; Nancy Street from the west and Lila Street from the south. These streets form part of a looped internal street network.

All internal streets of the subdivision development are proposed as a 'local' designation, with 8.1 m asphalt width (2 x 3.0 travel lanes, 1 x 2.1m parking lane) and 8.98 m back-to-back OPSD 600.010 mountable curb. Right-of-way widths are proposed primarily either as 20m or 20.117m (66') for Nancy Street, Lila Street, and Street 'A', and as 18m for Street 'B', a cul-de-sac inclusive of only fourteen (14) residential units.

The Draft Plan also provides for the easterly extension of Nancy Street, to provide a point of access for possible future expansion of the settlement area. The Draft Plan does not provide for a northerly street connection, as lands are outside the settlement area; if the settlement area is expanded north, suitable point(s) of access will be provided directly from Pioneer Line.

Given that both Nancy Street and Lila Street were designed and constructed in anticipation of future extension to the subject lands and terminate at the Brokenshire Farms Subdivision property line, a Traffic Impact Assessment was not required to be completed in support of these applications.

## **4.0 Grading & Geotechnical**

Existing contours range in elevation from 219 to 220±m, indicating generally flat terrain gently sloping from 0.5-1%, with localized areas of 1-2±% slopes. Steeper grades will be softened under post-development conditions, where centreline road grades are typically anticipated to fall within the 0.5-1.0% range. Road grades may be set in a saw-tooth pattern, as required, to suit proposed SWM wet pond drainage areas. Pre-development major flow paths are generally required to be maintained in post-development conditions.

Lot grading will be designed to minimize the number of rear-yard catchbasins, where practical. Back-to-back lots on parallel streets will generally be designed as back-to-front drainage, where catch basins are not required for lot drainage. Earth grading will raise boulevards and rear property lines to grade prior to sewer servicing. Surplus fill stripped from high points will be placed in low lying areas where it can be accommodated.

'Geotechnical Test Pit Investigation' (Englobe, 3 September 2019) found native material onsite to be predominately silty clay till, with test pits advanced dry upon completion. The silty clay native material is also conducive to the proposed SWM wet pond facility. Refer to Englobe 2019 for further detailed information.

## **5.0 Watermain**

Brokenshire Farms Subdivision will be provided with municipal water by extending the Municipality of Dutton Dunwich's existing distribution system.

150mm $\varnothing$  PVC DR18 watermain stubs exist at the subdivision connection points to each Nancy Street and Lila Street, and will be extended through the subdivision to complete the loop and eliminate the existing dead-ends. 150mm $\varnothing$  PVC DR18 watermain will also be provided on Street 'A', also looped with connections to each Nancy Street and Lila Street. Street 'B' cul-de-sac will also be provided with a 150mm $\varnothing$  PVC DR18 watermain to the last hydrant, followed by a 50mm $\varnothing$  watermain loop around the cul-de-sac.

Each housing unit will be provided with an individual 25mm $\varnothing$  PEX DR9 water service. Hydrants will be spaced throughout the subdivision in accordance with Ontario Building Code (OBC) and municipal requirements.

## **6.0 Sanitary Sewage**

Sanitary sewage from Brokenshire Farms Subdivision is part of the design tributary area for the existing sanitary sewage pumping station located southerly on Lila Street, near the intersection of Ridge Street. This pumping station was constructed c. 2007 as part of servicing of Ridge Woods Estates Subdivision.

This pumping station consists of two (2) alternating-duty submersible pumps located within a 2400mm $\varnothing$  precast concrete wet well. Pumps are controlled with an ultrasonic level transducer equipped with back-up floats connected to the Municipality's SCADA control system. Valving is located in a separate precast concrete valve chamber. The 100mm $\varnothing$  forcemain outlets south on Lila Street to an existing 200mm $\varnothing$  sanitary sewer, all of which is eventually tributary to the municipality waste water treatment facility.

Sanitary sewage will be conveyed to the pumping station by extending the existing 200mm $\varnothing$  sanitary sewer stub on Lila Street northerly. Internal sewers within the proposed subdivision generally will be 200mm $\varnothing$  at 0.40%.

Each housing unit will be provided with an individual sanitary PDC. The existing Lila Street stub was installed with sufficient depth to provide main floor gravity service to each unit; however, is too shallow to provide gravity basement service to units in the northwest area of the subdivision development. Units with main floor gravity service only may be equipped with a sewage ejector pump in the basement, if a downstairs washroom is desired by the homeowner. Further information will be provided as detailed engineering design of the subdivision is advanced.

## **7.0 Storm Drainage Including Stormwater Management**

The 'Preliminary Stormwater Management Report' (CJDL, February 2020) has been authored in support of the Draft Plan Application for Brokenshire Farms Subdivision. The following is a summary of findings presented in the report:

- i. Brokenshire Farms Subdivision is located within the jurisdiction of the Lower Thames Valley Conservation Authority (LTVCA). Drainage of the site is currently provided through a series of existing Municipal Drains; the north 5.16 ha is tributary to the Bennett Drain, and the south 5.53 ha is tributary to the Brown Drain (via the Ossel Drain). Both Drains generally flow southwest to the Mennie Drain, ultimately outletting to Lake Erie.
- ii. In post-development conditions, storm run-off from the entirety of Brokenshire Farms Subdivision lands is proposed to be conveyed north to the Bennett Drain. The Brown Drain is not proposed for use as a drainage outlet for the subdivision lands due to existing capacity concerns identified by the Municipality of Dutton Dunwich. Immediately downstream of Brokenshire Farms Subdivision the Brown Drain open channel is enclosed as a 1,825mmØ CSP pipe through the Village of Dutton.
- iii. An end-of-pipe SWM wet pond facility is proposed to be constructed near the northeasterly limit of the property and will be the primary vehicle to provide quantity and quality control for the development. Storm runoff from the subdivision will be conveyed to the SWM facility via a network of storm sewers, catchbasins, and storm PDCs, to be designed in accordance with Municipal Design criteria.
- iv. The permanent pool volume in the wet pond will allow Ministry of the Environment, Conservation and Parks (MECP) targets for 'normal level' quality control to be achieved (suspended solids settlement, biological removal of pollutants, etc.), and the outlet control structures will restrict peak flows to pre-development levels from storm events up to 100-year design frequency. All proposed works will be designed in general accordance with MECP Stormwater Management Planning and Design Manual design guidelines.
- v. The SWM wet pond and piped outlet are proposed to be formally incorporated as a Branch to the Bennett Drain. The Developer will file a Petition for Drainage Works by Owner concurrent with these planning applications.

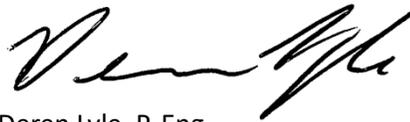
Please refer to the 'Preliminary Stormwater Management Report' (CJDL, February 2020) for more detailed information.

## **8.0 Electrical and Utilities**

Brokenshire Farms Subdivision lands are currently within the electrical service territory of Entegrus Powerlines Inc. (EPI). It is anticipated that the proposed subdivision will receive electrical power from EPI by extending their existing plant on Nancy Street and Lila Street.

Contact with EPI, telephone, cable TV, and natural gas utility companies will continue following submission of this Draft Plan Application.

All of which is respectfully submitted by,

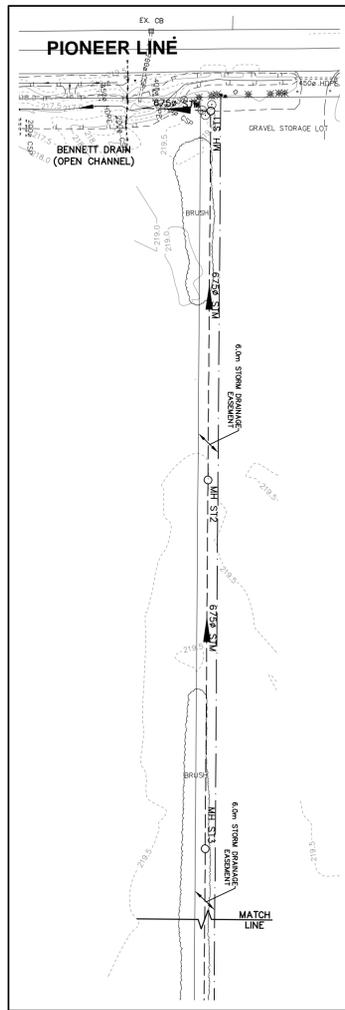
A handwritten signature in black ink, appearing to read 'Deren Lyle', written in a cursive style.

Deren Lyle, P. Eng.

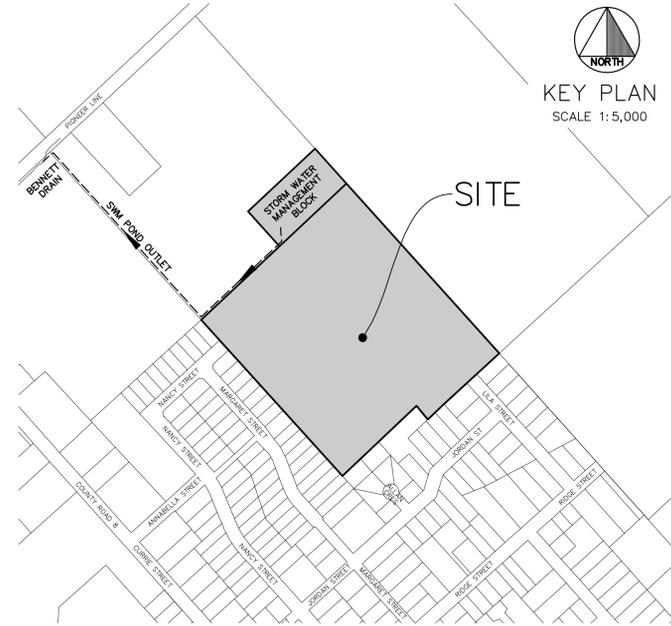
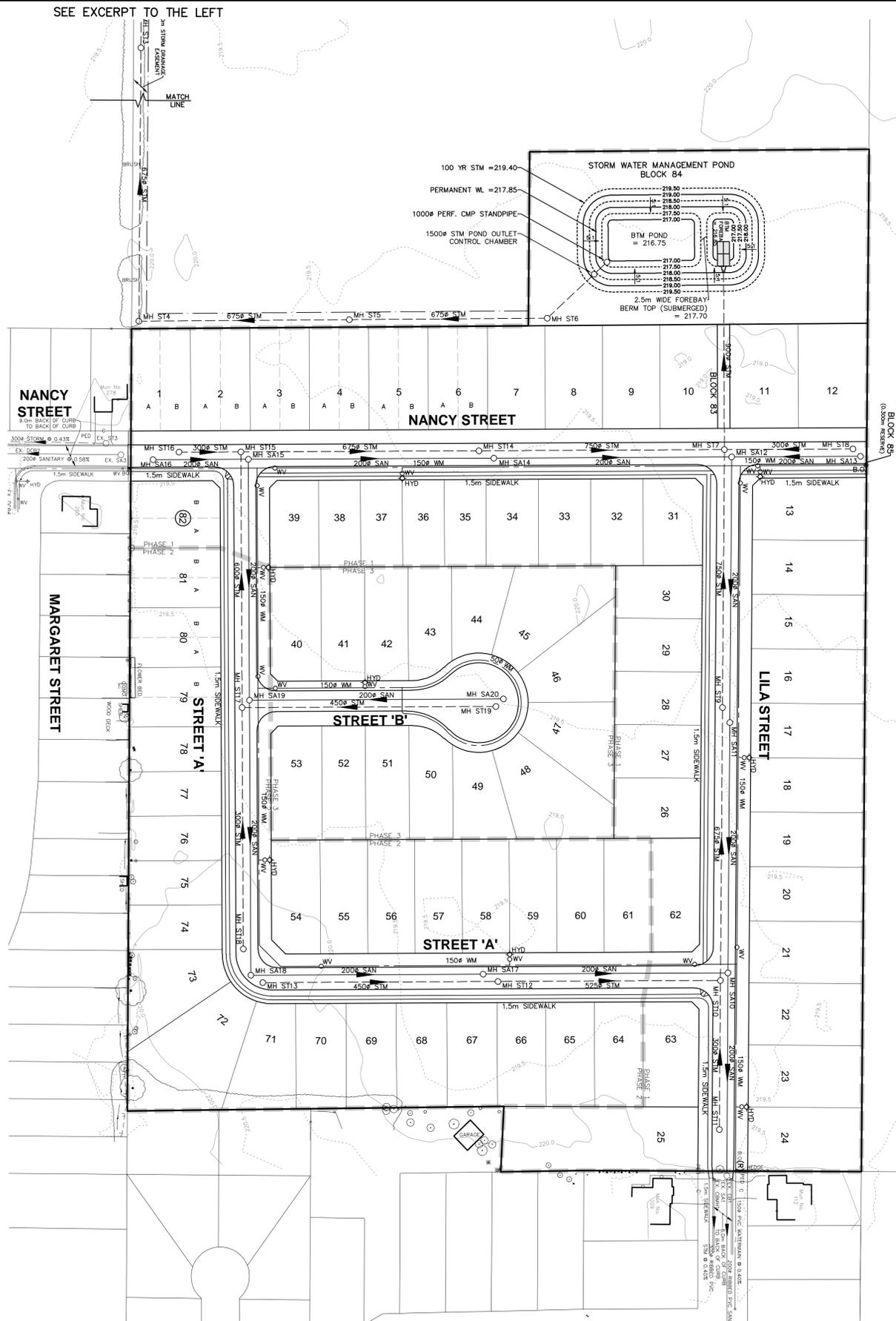
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## **LIST OF FIGURES**

Drawing 1 – Preliminary Servicing Plan



SEE PLAN TO THE RIGHT



KEY PLAN  
SCALE 1:5,000

# BROKENSHERE FARMS PRELIMINARY SERVICING PLAN

MUNICIPALITY OF DUTTON DUNWICH  
COUNTY OF ELGIN

DWG	DESCRIPTION
1.	COVER SHEET – GENERAL PLAN
2.	GRADING AND LANDSCAPE PLAN (NORTH HALF)
3.	GRADING AND LANDSCAPE PLAN (SOUTH HALF)
4.	SANITARY DRAINAGE SYSTEM AND AREAS
5.	STORM DRAINAGE SYSTEM AND AREAS
6.	COMPOSITE UTILITY PLAN
7.	NANCY STREET PLAN & PROFILE
8.	LILA STREET PLAN & PROFILE
9.	STREET 'A' (WEST HALF) PLAN & PROFILE
10.	STREET 'A' (SOUTH HALF) & STREET 'B' PLAN & PROFILE
11.	STORM OUTLET EASEMENT (SOUTH HALF) PLAN & PROFILE
12.	STORM OUTLET EASEMENT (WEST HALF) PLAN & PROFILE
13.	STORMWATER MANAGEMENT AREA
14.	MISCELLANEOUS DETAILS – SEWERS AND ROADWORK
15.	MISCELLANEOUS DETAILS – ROAD CROSS-SECTIONS AND GENERAL NOTES

**LEGEND**

- PROPOSED SANITARY SEWER
- EXISTING SANITARY SEWER
- PROPOSED STORM SEWER
- EXISTING STORM SEWER
- PROPOSED MANHOLE, FUT, EX.
- PROPOSED CATCHBASIN, FUT, EX.
- PROPOSED WATERMAIN
- EXISTING WATERMAIN
- PROPOSED HYDRANT, EXISTING, BLOW-OFF
- PROPOSED WATERVALVE, EXISTING
- HARVEST GATE SUBDIVISION LIMITS
- △ GEODETIC/GS BENCHMARK MONUMENT
- ORIGINAL CONTOURS PRIOR TO CONSTRUCTION (MAY NOT BE VALID NOW)

SCALE 1:1000

No.	REVISION	DATE	BY

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